SCIENCE OF VEDIC

YOGA

योग

Jadranko Miklec

Author:	Jadranko Miklec
Cover & Book Design/Layout:	Martina Gulan MBA, MFA
Ilustrations and pictures:	Marisa Lehrman, Pika Vončina, Jadranko Miklec
Text redaction:	Ivanka Golić
Proofreader:	Jan Müller
Publisher:	Jadranko Miklec
Published by:	Društo za športsku rekreaciju "SUNCE" Mikleci 25, 10040 Zagreb Croatia
Printed in:	Grafički zavod Hrvatske d.o.o. Radnička c. 210, 10000 Zagreb Croatia

FIRST EDITION, 2012

Copyright © Jadranko Miklec, 2012
All rights reserved. No part of this book may be reproduced in any form or by any electronic or mechanical means including information storage and retrieval systems without permission in writing from the publisher, except by a reviewer who may quote brief passages in a review.

A CIP catalogue record for this book is available from the National and University Library in Zagreb under 760144
ISBN 978-953-97980-5-3

A NOTE TO READER
The information in this book is not intended as a substitute for the advice of physicians or other qualified health professionals. It is not intended to be prescriptive with reference to any specific ailment or condition or to the general health of the reader, but rather, descriptive of one approach to fostering health and wellness. The reader is advised to consult with his or her physician before undertaking any of the practices contained in this book. The reader should also continue to consult regularly with his or her physician in matters relating to his or her health, particularly in respect to any symptoms that may require diagnosis or medical treatment. Neither the author nor the publisher shall be liable or responsible for any loss, injury, or damage allegedly arising from the use of any information contained in this book.



THIS BOOK IS DEDICATED TO

ĪŚVARA

TABLE OF CONTENTS

ACKNOWLEDGMENTS 13

FORWARD 14

PREFACE 16

INTRODUCTION 19

AUTHOR'S INTRODUCTION 21

YOGA PHILOSOPHY, PSYCHOLOGY OF YOGA, THE YOGIC LIFESTYLE 23

- The Yoga philosophy 24
- Yoga in the light of Maharishi's Vedic Science 27
- The Psychology of Yoga 34
- The Yogic lifestyle 40
- Maharishi's Vedic Science - Veda and Vedic literature 49
- Vedic recitation 58
- Sthapatya Veda of human body 63
- Vedic literature on Yoga (Sankhya, Yoga sutras of Maharishi Patanjali, Bhagavad Gita, Vijnanabhairava - Shiva sutras, Hatha Yoga Pradipika, Yoga Yajnavalkya Samhita, Taittiriya Upanishad, etc.) 76
- Sanskrit Terminology - a familiarization with key words and concepts to facilitate and retain authenticity in teaching 88
- Ethics for Yoga teachers 90

ANATOMY AND PHYSIOLOGY 91

- The Anatomy and Physiology (bodily systems, organs, etc.) 93
- Veda in the Human Physiology 147
- Vedic anatomy (koshas, shariras, shrotas, nadis, prana, tejas, ojas, chakras, marmas, granthis, etc.) 149

ASANA 181

- Asana in the light of Maharishi's Vedic Science 186
- Biomechanics of asanas and their classification 189
- Five fundamentals of progress in the practice of Yoga asanas 199
- Who, why, when, and how to practice Yoga 200
- Yoga practice through the life span 204
- The main principles of the correct practice of asanas: Training into principles and practicing them in asanas 206
- Abhyanga - massage 234
- Sun salutation - Suryanamaskaram, Moon salutation - Chandranamaskaram 242

- Practicing asanas in water - Aqua Yoga 245
- Yoga exercises for the spine 247
- Learning and practicing: bandha, mudra and kriya 279
- Developing strength, flexibility and structural alignment through practice of different series of asanas 303
- Personalizing the practice of asanas. 326
- The concept of Brmhana and Langhana in Yoga and Ayurveda 326
- The seven steps of mastering Yoga asana 327

PRANAYAMA 333

- Asana-Pranayama link 338
- Prana and Kundalini 339
- Types of prana 341
- The main principles of the proper practice of pranayama 342
- Types of pranayama 349
- The seven steps of mastering pranayama 363

YOGA PURIFICATION EXERCISES – YOGA SHUDHI KRIYAS 366

- Learning and practicing: shatkarma, shankhaprakshalana, kaya kalpa 367

YOGA THERAPY - THE THERAPEUTIC APROACH OF ASANA AND PRANAYAMA 397

- Assessing flexibility, alignment, strength and function of body and state of mind 404
- Asana and pranayama for structural and functional problems 430
- The Placebo effect in Yoga therapy 446
- Yoga nidra 450
- Menstrual problems, pregnancy and menopause 453
- Scientific research on asana and pranayama 467

MEDITATION 473

- The theory of meditation 477
- The development of higher states of consciousness 478
- Practice of meditation 482
- The scientific research about benefits of Transcendental meditation 486
- The seven steps of mastering Transcendental meditation 492

AYURVEDA 493

- Yoga and Ayurveda 499
- The basic principles of Ayurveda 499
- Asana and pranayama in Ayurveda 510
- Panchakarma 514
- Ayurvedic and herbal remedies for common ailments 525
- Ayurvedic and yogic recommendations for routine and diet 530

YOGA AND AYURVEDA IN SPORT 547

- Principles of application 550
- Scientific research 552

TEACHING METHODOLOGY 553

- Principles of demonstration, observation, personalization, sequencing of the individual needs, assisting/correcting, instruction, teaching styles 555
- Qualities of a teacher and the student's process of learning 555
- Establishing a personal practice with guidance 555
- Conducting classes for small and for larger groups 556

CONSIDERING DIFFERENT SYSTEMS OF YOGA 557

- Different styles of asana, pranayama and meditation practice 559
- Raja Yoga, Hatha Yoga, Kundalini Yoga (Laya Yoga), Mantra Yoga, Kriya Yoga, Solar (Surya) Yoga, Christian Yoga, Tummo Yoga, etc. 559

CONCLUSION 573

REVIEW 577

APPENDIX 579

- Glossary of Sanskrit terms 581
- Literature 589
- Transcendence and Health / List of Methods to Manage Stress - Demetrios Kanellakos, Ph.D.,E.E. 591
- Research in subtle matter explains the working of "energy medicine" and of a variety of physical anomalies - Dr. Klaus Volkamer 599
- The Yoga Sutra of Maharishi Patanjali 608
- The Hatha Yoga Pradipika 616
- The program of the DŠR "SUNCE" 638
- Experiences of the participants of Science of Vedic Yoga courses 639
- About the Author 641

ACKNOWLEDGMENTS

I would like to thank Maharishi Mahesh Yogi, Maharishi Swami Dev Murti, A.G.Mohan and Indra Mohan (personal students of Sri T. Krishnamacharya), Vaidyacharya Dr.J.R.Raju, David Williams and other Yoga Masters from whom I learned different aspects and approaches to Yoga and Ayurveda that I am presenting in this book.

Also, I thank all my friends, specialy Edith and Dieter Junk, Dr. Ernst and Stefan Schrott, Gudrun Buchzik, Jan Müller, Prof. Inge Seefluth, Bettina Beinvogl, Antje Plagge, Marisa Lehrman, Daniela Čeliković and others who contributed to the development of the ideas in this book.

I am grateful to the participants of my yoga seminars because they inspired me to go deeper into unbounded ocean of Yoga.

Finally greathest appreciation goes to my family for being so patient and giving me loving support in writing this book.

मोरारजी देसाई राष्ट्रीय योग संस्थान
(भारत सरकार के स्वास्थ्य एवं परिवार कल्याण मंत्रालय, आयुष विभाग के अन्तर्गत स्वायत्तशाषी संस्थान)
MORARJI DESAI NATIONAL INSTITUTE OF YOGA
(An autonomous organization under Deptt. of AYUSH, Ministry of Health & F. W., Govt. of India)

एमडीएनआईवाई
MDNIY

Dr. Ishwar V. Basavaraddi
Director

Foreword

I am happy to go through the Book **"SCIENCE OF VEDIC YOGA"** written by Jadranko Miklec from Zagreb, Croatia. The book Science of Vedic Yoga underlines the very essence of Yoga in the synchronisation of individual mind and the ultimate path to tranquillity, mental balance and clarity. Yoga, an ancient art and science of healthy living, offers valuable, effective and rational practices to maintain and enhance health.

To rejuvenate the mechanism of body, mind and soul, there is a need of stress management, control of bad emotions and shedding out inhibition. Yoga Therapy, a refreshing process, try to find out the very root cause of diseases by restoring harmony among various components of Yogic lifestyles- physical, mental, social, emotional as well as spiritual. Even the developed society is now fervidly realizing the relevance of Yoga after seeing the multitude of side effects of modern drugs.

The book "SCIENCE OF VEDIC YOGA" is giving a comprehensive knowledge of the theory and practice of Yoga philosophy, Psychology of Yoga, Yogic lifestyle; Anatomy and physiology; Asana; Pranayama; Yogic purification practices- Shudhi kriyas; Yoga therapy– therapeutic approach of asana, pranayama and meditation; Ayurveda; Yoga and Ayurveda in sport; Teaching methodology and considering different systems of Yoga. The book highlighting Yoga as a science in making a synergy among body, mind and soul in coordination with environment.

The very motto of the book is harmonizing unity in all fields of life. More thrust has been given on consciousness in practicing Yogasana and Pranayama. It narrates that Yoga is universal and surpasses all cultural, traditional, religious and space-time limitations. Yoga is a unity in diversity, source of universe is the source of Yoga.

Contd...

68, अशोक रोड, गोल डाकखाना के समीप, नई दिल्ली - 110 001
68, Ashok Road, Near Gole Dak Khana, New Delhi-110 001
Tel. Fax : (011)23711657, 23351868 M : 9810800289 E-mail :mdniy@yahoo.co.in; ibasavaraddi@yahoo.co.in
Website : www.yogamdniy.com

The Pranayama section has been elaborated very systematically. The different aspects of pranayama like qualities of pranayama; designing personal pranayama practice; bandhas and mudras to be usedin pranayama; The use of sound (mantra) in pranayama; principle of visualization in pranayama; Pranayama for therapy and pranayama practices during pregnancy have been intelligibly covered. It emphasized on the simplest way to feel the prana by just observing the breath, feel how the breath goes in and out, observe the movements of the chest and abdomen.

The various aspects of Maharishi Patanjali's Ashtanga Yoga has been lucidly explained in the book. Yoga sutras will explain the whole principles of integration of life. Patanjala Yoga emphasises on Citta Shuddhi and many practices which leads to meditation and samadhi. Vedic Yoga connects practices of all limbs of Patanjala Yoga (Ashtanga Yoga) with pure consciousness which is the source of pure knowledge (Veda).

Teaching of Yoga is based on the cognition of ancient seers and rishis which has been getting recognition of modern science. Everyday practise of Yoga enables the human beings to develop their full potential of mind and body. The ancient Yoga Darshana provides us the mechanism of normalization and integration of life in all its segments. These are some of the important aspects that have been incorporated in the teaching methodology section.

I congratulate Jadranko Miklec and his team for ingenuity of such a fine publication and wish the very best in their endeavours. Hope more such publications will be carried out by the writer to strengthen the efficacy of Yoga before the world fraternity.

Om Shantih, Shantih, Shantih

VBasavaraddi 06/10/2011

(Dr. Ishwar V. Basavaraddi)
Director



PREFACE

Human mind, in its evolutionary process, has been cleared by light of consciousness, creating systems which purpose is the improvement of human condition.
Circumstances, sometimes, determine geographic location where these systems appear more clearly to the world. So, Yoga finds in India the historical location of its birth. This becomes determining to purposes of researcher, who, today, must necessarily pass through Indian culture to understand the purpose and to use techniques that create the system of "liberation" called Yoga. When I say "liberation" I mean liberation from the yoke of human suffering, but for a Hindu it also represents the way to free oneself of cycle of samsara or of re-births tightly tied to distorted view of senses that impedes the dissolution of union with suffering and the access to knowledge of absolute oneself.
So, the word Yoga belongs to spiritual Indian world, even if ancient Yoga, someone says, didn't present any cultural or religious connotation. The ancient origin of Yoga certainly is pre-era, as archaeological findings of Harrappa and Mohenjo-daro prove, cities belonged to the culture of Indo Valley, that come before development of Veda's India.

Classical Yoga, instead, sees the light in the first centuries of our period, and it is considered one of the six Darshana, or points of view, of the philosophical-religious Hindu thought which coding, as everyone knows, is ascribed to Patanjali, writer of Yoga-sutra or Aphorisms of dating Yoga, as always happens when we are in contact with Indian history, that is very uncertain.

As has been said several times, Yoga is a Sanskrit word that comes from the root of verb Yuj and indicates the act of subjugating. Example: to subjugate oxen to an oxcart. Its meaning accords to this system the role of discipline where we think to subjugate the instinctive personality present in human nature, to orientate and direct it to higher purposes represented by other meanings, that we'll see afterwards, attributable to Yuj verb. Promoters of this discipline at the beginning prepare (on a psycho-somatic level) to subjugate mind and body to obtain a perfect unity, operating, in deep levels, to a single idea.

So, they test a first sensation of harmonic aggregation that corresponds to a pleasant stage where mind results partially re-organized. To go back to Sanskrit verb Yuj, we find other meanings, not only the intrinsic "subjugate" that I think can represent precise stages and related experiences of conscience, as the one that I described above, linked to verb "to unite" or to union, if referred to the word Yoga.

A third interpretative proposal is in the word "fusion" that for Yoga represents the conscience's level of experience more advanced, that usually follows the complete realization of the psychophysical union. In this stage, the subject, after taking note of dynamic interrelation between oneself and what is around him, strongly realizes it, also as a sensation. That let the last oppositions and provocations fall towards aspects of manifestation, also towards men, feeling in fusion and linked to them because of something in common. His view of world changes, at this point a more evident emotional stability is shown in him.

Memories, especially through the practice of meditation, are re-organized and unspoiled from the emotional aspect. The heavy burden, that in several occasions forms a depressing past, is melted and often we notice the disappearance of senses of guilt. So, the man can walk to a fourth stage of realization that will bring it to search endless joy and what is above ordinary, transcendental. Along the way he could test the supreme calm, know and rest with the true essence of its being.

Through an uninterrupted meditation on the true oneself that is pure eternal conscience and is beyond the psychosomatic complex and beyond the world's oppressions he could achieve freedom. In the full success of this stage, the subject should integrate in community, we think without oppositions, and with a very clear view of reality.

In conclusion of this first part, I have to say that science of Yoga wants to teach a method that permits to achieve a complete union of oneself, that is the spiritual reality present in everyone of us, with the universal one, which constitution would be, in according to an hypothesis of ancient literature, reality, consciousness, bliss (Satchitananda). This union would be the only Yoga. The point from where we start for this experience: A state of consciousness in which mysticism intends to meet and know God. A way, maybe going backwards, through which the procreated, we can say, would come back to generator's womb, melting himself in the same nature of it, surely loosing his individual identity.

This book, written by Jadranko Miklec, presents in all its chapters the knowledge very refined in Yoga and also in Ayurveda, practical and theoretical. It becomes an important tool for those who approach or already practice and loves these disciplines. I consider the author a serious person involved in the investigation of the true.

Amadio Bianchi
(Mahamandaleshwar Swami Suryananda Saraswati)

President
World Movement for Yoga
European Yoga Federation

Scuola Internazionale di Yoga e Ayurveda C.Y.Surya
Vice President
International Yog Confederation Delhi
General Coordinator
World Movement for Ayurveda
Official Italian Confederation of Yoga
Ambassador
The World Community of Indian Culture and Traditional Disciplines
Founder Member
European Ayurveda Association

DEUTSCHE
AYURVEDA AKADEMIE
AKADEMIE DER DEUTSCHEN GESELLSCHAFT FÜR AYURVEDA

Deutsche Ayurveda Akademie GmbH
Kursbüro: Puricellistr. 11, D-93049 Regensburg

Regensburg, 11.11.11

Preface

Jadranko Miklec is one of the most outstanding yoga teachers in the world. He not only has the practical knowledge and skills for yoga as a physical health system but has extraordinary knowledge and experience in all fields of Vedic Science including Ayurveda and Sthapatya Veda. He had excellent and most appreciated teachers in the fields of Veda and Yoga like Maharishi Swami Dev Murti, A.G. Mohan and Maharishi Mahesh Yogi. He is regularly invited by leading Yoga Associations in many countries of Europe and India. He is member of the board of the European Yoga Federation and certified for teaching yoga teacher training courses. He is International Secretary General of World Academy of Ayurveda, Delhi, India.
This his latest book is a very complete and comprehensive summary of different fields of Vedic Science, Ayurveda and Yoga. It gives deep philosophical and practical insights into all aspects of practical application of yoga for health of mind and body. This is a very recommendable book for everyone who wants to get profound knowledge and practical guidelines in the Science of Yoga.

Jadranko Miklec has been practising and teaching in the last years all over Europe and published 5 books about Yoga and Transcendental Meditation.

May this book be a lighthouse for everyone who is interested not only in Yoga as an all day physical therapy, but who wants to dive deeper into the secrets of life, the knowledge of Veda and Vedic approaches and finally desires moksha, liberation, spiritual fulfillment.

Dr. med. Ernst Schrott

Vice President German Association of Ayurveda
Director German Ayurveda Academy
Secretary of European Ayurveda Medical Association (EURAMA)

German Ayurveda Academy Ltd.
Course Office: Puricellistraße 11

D- 93049 Regensburg
Germany

T: +49 (0) 941 29 70 8-0
F: +49 (0) 941 29 70 8-29

M: info@ayurveda-seminare.de
W: www.ayurveda-seminare.de

Bank Connection:
Sparkasse Regensburg

BLZ 750 500 00
KTO 00 360 690 45

Place: Regensburg HRB 11200
USt-IdNr. (VAT N0): DE 263018650
Executive secretary:
Dr. Wolfgang Schachinger
Dr. Ernst Schrott
Dieter Baumgartner

आयुर्वेद विश्व परिषद्
WORLD ACADEMY OF AYURVEDA
(Regd. Under Societies ACt-1860)
Founded at Kurukshetra in the presence of
Dr. Rajendra Prasad, Ex-President of India,
on Jan. 12, 1957
प्रधान कार्यालय : सी-121, कीर्तिनगर, नई दिल्ली-110015
C-121, Kirti Nagar, New Delhi-110015 (India)
Phone : 25100929 eks-& 09818066603
डा आचार्य प्रभाकर मिश्र

INTRODUCTION

Jadranko Miklec was born and brought up in Croatia. He was introduced to me by Col. Dalmir Singh, a direct disciple of Maha Avatar Baba Ji. During one of his stays in India, Jadranko met Maharishi Swami Dev Murti. He stayed with Swami Ji for some time at his Ashram in Kanpur, Delhi and Kaleshwarmath – Jamunanagar (India). Later, inspired by Swami Ji, Jadranko organized visit of Swami ji to Croatia so that European people could directly receive and benefit from his teachings. Jadranko stayed also with Maharishi Mahesh Yogi for over thirthy years and became an expert in teaching the Transcendental Meditation. He has taught thousands of people to practice Transcendental Meditation. He has been teaching yoga for over twenty years in Croatia, Germany, Italy, Holland, India and many other countries.

His latest book is a result of the serious studies, practice and teaching yoga. This book successfully brings out a detailed practice of Yoga, Vedanta, Mudras, Asanas, Pranayamas, Marma therapy and gives elaborated instructions on a number of varietes of Asanas (Yogic Postures) and Pranayamas (Yogic Breathing). Jadranko has clearly painted pictures of Yoga therapy, he follows a systematic approach to Asanas and Pranayamas along with interrelationship of Ayurveda and Yoga.

He is keen to undertake research into Yoga and Ayurveda through a unique Yoga and Ayurveda University to be established in Croatia, as this country is very rich in medicinal plants and herbs, but their uses and preparation are not completely known in Europe. The philosophy of Ayurvedic Herbal Remedies, along with Diet and Yogic exercises and their effect on health is an important factor. Jadranko remarkably reveals these facts in this rare book.

I am sure all sections of the population will get benefit from the scientific approach that Jadranko has brought out in Science of Vedic Yoga.

11.11.2011, Delhi, India

(Dr. Acharya Prabhakar Mishra)

Acharya: Vyakaran – Sahitya – Ayurveda – Dharma Shastra – Jyotish – Shiksha Shastri (B.Ed), BIMS, M.Sc., and D.Sc.(Ayur.), Sri Lanka
President: World Academy of Ayurveda; Brahmin International, Saarav Bhaum Sanatan Dharm Sabha (Universal Sanatan Dharm Foundation-USF); World Religious Parliament (INDIA). Patron Member of All India Ayurvedic Congres.

"When you are inspired by some great purpose,
some extraordinary project, all your thoughts break their bonds;
Your mind transcends limitations, your consciousness expands in every direction,
and you find yourself in a new, great and wonderful world.
Dormant forces, faculties and talents become alive,
and you discover yourself to be a greater person by far than you ever dreamed yourself to be".

Maharishi Patanjali

AUTHOR'S INTRODUCTION

Yoga is an ancient science, dating back thousands of years. In simple words, the essence of classical Yoga is the process of bringing the individual mind in tune with the cosmic mind. It is the ultimate path to tranquility, mental balance and clarity. However, this is impossible without a healthy body and well-being. Ill health is the greatest barrier to a tranquil mind. Therefore, Yoga involves consideration of body health, and the various other factors that influence it, like diet and lifestyle as well. Yoga offers valuable, unique, effective and rational methods and practices to regain and enhance health of the body and tranquility of the mind. The scope of Yoga is vast – there is always something to be offered to everyone, on every stage of the life.

The purpose of life is evolution, moving towards bliss and Self-realization. To carry out that purpose, the Creator manifested his energy which is giving life to everything. The life energy that we have is God's gift to us to fulfill the purpose of our existence. If we use that energy in accord with His will (Natural Law) then we'll be happy, healthy, and fulfilled. If we don't use His energy according to His will then the result will be illness and suffering. His will is expressed as Sanathana Dharma (eternal righteousness). The principles of Sanathana Dharma are found in the Yoga Sutras of Maharishi Patanjali, expressed in the laws of Yama and Niyama. Practicing the eight limbs of Yoga makes us able to spontaneously live Sanathana Dharma. There are four basic qualities of the Absolute which are expressed as four basic features of our life that need to be realized and actualized: Dharma (acting in accord with Natural Law), Artha (full expression of creative intelligence in individual life; it is the greatest wealth), Kama (uniting quality of love which harmonizes and unites all diversity), Moksha (liberation, Self-realization).

This book presents a comprehensive knowledge of the theory and practice of Yoga asanas, pranayama and meditation as well as the ability to observe and identify special needs or conditions of the person, in order to practice Yoga in a safe, effective and confident manner. This book is promoting Yoga as a science of developing mind and body, their perfect coordination and relationship with the environment, apart from any religion. Yoga is not a religion but it can be recognized as part of different religions. The aim of religion is to reestablish the lost connection of a person with its source, God. To achieve that, the mind and the body must be healthy and completely functional. Therefore, the religions implemented the elements of Yoga practice to their structure, and today we can find such mixture in some religions, for example in Hinduism. Yoga can be practiced by any person, regardless of lifestyle, culture, religion etc.

The science of Vedic Yoga is based on the ancient and traditional knowledge brought by the Rishis and Maharishis and the recent findings of modern science. Yoga is establishing unity in all areas of life. The Science of Vedic Yoga teaches us that body is an expression of consciousness. Because of that every movement of the body, every asana starts from the movement of consciousness towards the direction suggested by the name of the asana and that movement of consciousness initiates movement of vital energy and breath which moves the spine and body in the specific direction or position. When we practice Yoga asanas and pranayama in such a way, we achieve the unity of mind, breath and body, and practicing of Yoga asanas becomes a moving meditation. The aim of this book is to inspire us for the greatest purpose of our life – the achievement of Enlightenment (Kaivalya).



CHAPTER 1

YOGA PHILOSOPHY

PSYCHOLOGY OF YOGA

YOGIC LIFESTYLE

The yoga philosophy

Yoga is the philosophy of union, of integration. The meaning of the word Yoga derives from the Sanskrit word YUJ which means "to unite", "unity". The similar word is yoke. People used to put a yoke on bulls to unite their strength. Without a yoke each bull would pull to his side and there would be no useful effect. By uniting the differences we create the unity of differences. In the unity abides the strength for the realization of our endeavors. The most picturesque exposition of Yoga would be the universe - a unity of diversity. We all live in the universe in unity of diversity, in Yoga. Yoga is universal and it surpasses all cultural, traditional, religious and space-time limitations. Yoga is the unity of diversity, the Universe. The source of the universe is the source of Yoga. Before the action there was knowledge. Before the creation of the universe there was total knowledge (Veda), the basis of everything. Veda is the source of Yoga and the Universe. The Vedic sounds perfectly express the orderly progression of the manifestation of the universe. On every stage of the progression the wholeness is present. The memory of source, course and goal are entirely enlivened (Smriti) on every stage of the progress. This is the reason why an apple seed will only grow into an apple tree, etc. Yoga is the practical aspect of Veda which makes Smriti (memory) fully enlivened in our consciousness, so that the functioning of all aspects of our physiology is orderly, following the progression of the intelligence expressed in the Vedic sounds. Then there is perfect balance among the three basic forces (the force of creation, maintenance, destruction) that are responsible for evolution and health. This balance results from one's being established in the inner Self (Yoga).

Yoga is as old as mankind. The seals of Mohenjodaro of the Indus Valley Civilization (ca. 3300 – 1300 B.C.) depict Yoga practice such as mulabandasana.



A seal of Mohenjodaro depict Yoga practice



T. Krishnamacharya in the same pose as the one in the seal

Teaching of Yoga is based on the cognition of the nature of life by the ancient seers (Rishis). Today, those ancient cognitions have been recognized by the modern science, Quantum physics, in the light of the discovery of the Unified field. The unified field represents the state of Yoga in which all the diversity of the whole universe is expressed. In the Unified field all the differences are potentially present in a completely unified state of infinite correlation. This is the state of Yoga in the

unmanifest field of life, in the source of life. The manifest universe also represents the state of Yoga because whatever is manifested lives in unity. This is the state of Yoga in the expressed field of life. The recognition that the unified field is omnipresent and that it can be located in every point of the expressed universe, tells us about the final meaning of Yoga as the most natural state of life, in which we live the fullness of life, the unity of extreme differences of the infinite silence and the infinite dynamism. Through everyday practice of Yoga we develop our full potential of mind and body and we become normal human beings created in the image of God. Yoga is full coordination of mind and body which are functioning in their full potential, and this coordination also extends to the whole environment. This is achieved when one's Self is completely realized and lived in daily life:

„Yoga can only be known through Yoga"– Vyasa.

Yoga is the ancient science of natural living. It provides us with the technology of the normalization and integration of life in all its segments. Our body and nervous system must be extremely pure so that our mind is fully expanded and that within our awareness we can simultaneously live the individuality and the universality. All the aspects of life must be incorporated in every phase of living. To reach the state of wholeness (Yoga) we can start from anywhere, any part of that wholeness. For that purpose the teaching of Yoga has to be looked at from various approaches (different systems of Yoga).



Maharṣi Patañjali

The great seer Maharishi Patanjali, the author of the Yoga Sutras, divided the whole field of life into eight fields - Maharishi Patanjali Ashtanga Yoga, eight limbs of Yoga of Maharishi Patanjali: The outer limbs which extend to the very end of the universe and the inner limbs which reach our Self.

The outer limbs of Yoga (Bahiranga Yoga) are:

1) Yama ethics (moral codes of behavior, life in accord with the laws of nature). Living life in accord with these moral codes (Natural Law) is the purpose of our existence and because of that, it is our most important duty in life. Christ said: *"And you will know them by their actions"* (not titles, etc.). The five moral codes are: nonviolence, truth, non-covetousness, celibacy (living purity of life), and nonattachment (non-possessiveness).
2) The Niyama principles, in contrast to those of Yama, are more personal, and they teach us about the responsibility towards all aspects of our own life. By living according to the principles of Niyama, we are a good example and support to our family and society. The five principles of Niyama or "healthy living" are: Purity, contentment, austerity, study of the Self, and having Cosmic Intelligence ("God") as the only support in our life ("Ishvara Pranidhana")
3) Asana represents excercises of Yoga postures
4) Pranayama represents exercises of yogic breathing

The inner limbs of Yoga (Antaranga Yoga) are:

5) Pratyahara is turning the attention from the outer to the inner field of life, towards the mind itself and its source
6) Dharana is steadiness of attention in its inward march
7) Dhyana is a process of reduction of mental activity
8) Samadhi is the state of pure consciousness, Self

They are all contained in meditation.

Any of these limbs can be used and by working on that limb the whole body of life can be purified and pure consciousness can be an all time reality. For example Hatha Yoga, practiced in an effortless manner, will purify our body. For that it is important what we eat and what we make out of what we eat, to practice Yoga asanas and pranayama to make the body flexible and strong , and to achieve structural and material purity of the nervous system. Then all stresses will go out, a person will feel lighter and cosmic consciousness will be lived. To achieve this by practicing Hatha Yoga one has to go through very rigorous discipline for a very long period what is really not possible for most people today. The purification of one aspect of life will influence and purify the other aspects of life. Yoga is the state of integration of all the aspects of life.

Maharishi Patanjali in Yoga sutras has explained the whole principles of integration of life. Patanjali did not speak about any system of Yoga, but about principles - what happens in the state of Yoga or on the path to Yoga. For example in the first chapter of the Yoga Sutra, Patanjali has brought to light the principles of reaching the state of transcendental consciousness (Samadhi) through the process of nirodha and samapati. Patanjali explained different progressive levels of Samadhi (from Samprajnata to Asamprajnata) and achievement of Nirbija Samadhi which is the state of pure, transcendental consciousness. The second chapter of the Yoga Sutra explains the principles of stabilization of transcendental consciousness in activity (Kriya Yoga), lists the obstacles for achieving the state of

cosmic consciousness, and describes how to remove them. Patanjali has explained what happens in the main eight areas of life (Asthanga Yoga) when one is stabilizing Samadhi, gaining the state of Nitya Samadhi. In the second part of the second chapter of the Yoga Sutra, Patanjali has described perfections (siddhi) as the result of stabilizing of Samadhi in outer limbs of Yoga (Bahiranga Yoga). In the third chapter of the Yoga Sutra, Patanjali has described perfections (siddhi) with respect to stabilizing Samadhi in the inner limbs of Yoga (Antaranga Yoga), developing God Consciousness and leading to Kaivalya (liberation), Unity Consciousness (Dharma Megha Samadhi), as described in the fourth chapter of the Yoga Sutra. The range of Yoga is from Atman (individual Self) to Brahman (Cosmic Self). Yoga can be defined as the different higher states of consciousness, as the path of reaching those states, and as the practices (Hatha Yoga, Mantra Yoga, Laya Yoga, Raja Yoga, etc.), involving different aspects of life as a starting point to reach the state of Yoga. The Transcendental Meditation and TM-Sidhi programs are the unique practices which bring fulfillment to all the above mentioned approaches and develop the highest state of consciousness (Unity Consciousness).

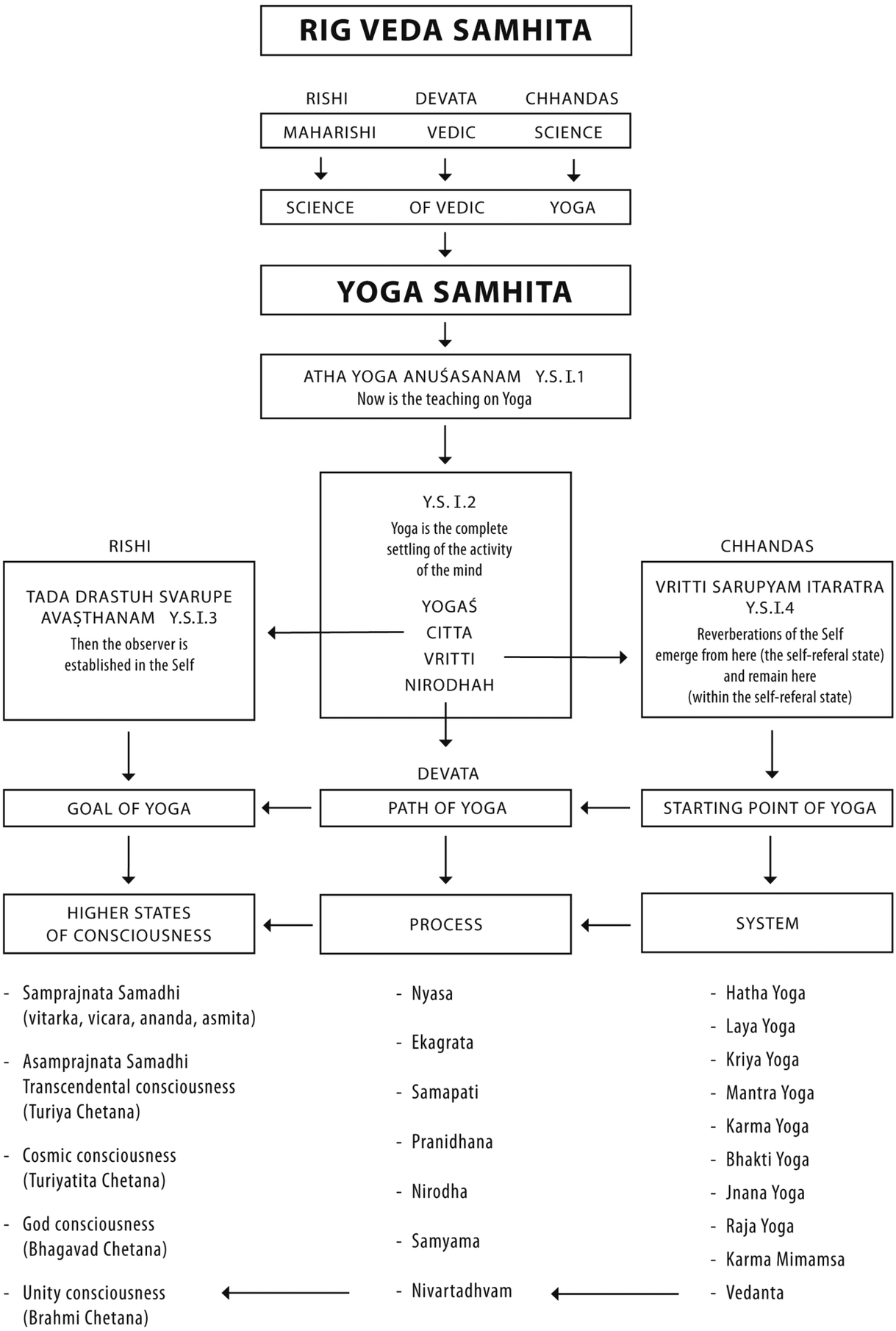
Yoga in the light of Maharishi's vedic science

Veda speaks about diversity in unity. It establishes the awakening from unity to diversity, while retaining memory of the unity at every stage of progress in the diversity. Yoga speaks about unity in diversity. It establishes the awakening from diversity to unity, finding all diversity in the state of unity and cognizing that unity, singularity, is all that exists (Kaivalya). Yoga is inherent in Veda and Veda is inherent in Yoga. Yoga is the basis of Veda and Veda is the basis of Yoga. Through practice of Yoga we achieve *"Vedo 'ham", I am the Veda – Devi Upanishad,* 1, and *"aham brahmasmi", I am totality – Brhadaranyaka Upanishad, 1.4.10*. Yoga is process of silencing (nirodha) and belongs to the infinite silence level of the Absolute (Atma). Veda is fully awakened intelligence (dynamism) of the Absolute (Atma). In the sequence: Absolute, Self (Atma) – Veda – Universe (Vishva) – Cosmic Self (Brahm), we see that Atma (Samadhi – state of Yoga) is the basis of Veda, and Veda is the basis of the Universe (Vishva) which is again the state of Yoga (the unity of the diversity – the Universe). Yoga is at the beginning and at the end. Maharishi Patanjali expressed this in his eight limbs of Yoga where he places Samadhi at the beginning (Yama – satya...) and at the end as the last limb. Yoga is the source and goal of creation, and in between we have Veda Lila (playful expression of Veda). The final stage of Yoga is to guide us beyond Veda Lila, to reach Vedanta, to stop the vrittis of the Chit, of Sat Chit Ananda. The complete meaning of Yoga is explained by Maharishi's Vedic Science.

Maharishi's Vedic Science is the science of Veda, complete knowledge. Knowledge is the Unified Field (Samhita) of the knower (Rishi), knowing (Devata) and known (Chhandas). Samhita of Rishi, Devata and Chhandas are available in Rig Veda. Rig Veda is pure wakefulness, fully awake self-referral level of reality, singularity. This is Vedanta. All the aspects of Vedic Science (Vedangas, Upangas, etc.) are structured within and are sprouting from Rig Veda. Yoga, Karma Mimamsa, and Vedanta are together expressed in Rig Veda. These three disciplines constitute the organizing power of the pure knowledge latent within Rig Veda, whereas the other disciplines of Upangas (Nyaya, Vaisheshika and Samkhya) highlight pure knowledge latent within Rig Veda. All the six Darshanas (Upangas) together unfold the total path of gaining enlightenment. Yoga (Rishi), Karma Mimamsa (Devata) and Vedanta (Chhandas) present the experiential nature of the path to enlightenment; and the other three Darshanas, Nyaya (Rishi), Vaisheshik (Devata), and Sankhya (Chhandas) present the intellectual aspect of the path to enlightenment. In the first word of Rig Veda, AGNIM, the letter A expresses the totality and equates with *Swarupe avasthanam (Remaining in its own Self-referral nature - Y.S.I.3)*; and the other letters GNIM express the frequencies within the structure of A, *Vritti*

sarupyam itaratra ("what you see, you become" - Y.S.I.4). This means that the fluctuations of A arise from the fullness of A and remain submerged within the structure of A. This means that the entire diversity is held on the ground of wholeness, unity – Yoga.

Science of Vedic Yoga is sprouting from Maharishi's Vedic Science, Rig Veda. This is Brahma Vidya, the knowledge of totality. In Maharishi's Vedic Science, Maharishi, which means the great seer, the one who is the living embodiment of Veda, is the Rishi aspect of Samhita. Vedic means pertaining to Veda. Vedic represents the Devata aspect of Samhita (fully awakened Pure Intelligence). It represents Veda as a process of cognition because it includes the whole path of knowledge from the knower (Rishi) to the known (Chhandas), the whole field of subjectivity, objectivity, and their relationship, the whole range of knowledge from its source to its goal. Science represents the Chhandas aspect of Veda (pure existence of Samhita). Veda is its own object of cognition and it is scientific, eternal, reliable, non-changing, and systematic. Pure existence (Samhita), when it is enlivened in consciousness, it becomes the cognizer of its own value. It becomes the Rishi in the Science of Vedic Yoga. The science of Vedic Yoga represents wholeness (Samhita) of knowledge in the same way as Maharishi Vedic Science does. In the science of Vedic Yoga, "science" refers to the objective, fully awakened state of consciousness, fully awakened Cosmic Intelligence of the Yogi (Rishi) who, through "Vedic" (Devata), fully enlivened holistic approach of pure intelligence, gains knowledge of the full range of life "Ashtanga Yoga (Chhandas)". Science of Vedic Yoga, scientifically and systematically unfolds, on the level of personal experience, the total value of life – the knowledge of the Absolute and the Relative and their relationship.


RIG VEDA SAMHITA
RISHI
DEVATA
CHHANDAS
MAHARISHI
VEDIC
SCIENCE
SCIENCE
OF VEDIC
YOGA
YOGA SAMHITA
ATHA YOGA ANUŚASANAM Y.S.I.1
Now is the teaching on Yoga
Y.S. I.2
Yoga is the complete settling of the activity of the mind
YOGAŚ CITTA VRITTI NIRODHAH
RISHI
TADA DRASTUH SVARUPE AVAṢTHANAM Y.S.I.3
Then the observer is established in the Self
CHHANDAS
VRITTI SARUPYAM ITARATRA Y.S.I.4
Reverberations of the Self emerge from here (the self-referal state) and remain here (within the self-referal state)
DEVATA
GOAL OF YOGA
PATH OF YOGA
STARTING POINT OF YOGA
HIGHER STATES OF CONSCIOUSNESS
PROCESS
SYSTEM
- Samprajnata Samadhi (vitarka, vicara, ananda, asmita)
- Asamprajnata Samadhi Transcendental consciousness (Turiya Chetana)
- Cosmic consciousness (Turiyatita Chetana)
- God consciousness (Bhagavad Chetana)
- Unity consciousness (Brahmi Chetana)
- Nyasa
- Ekagrata
- Samapati
- Pranidhana
- Nirodha
- Samyama
- Nivartadhvam
- Hatha Yoga
- Laya Yoga
- Kriya Yoga
- Mantra Yoga
- Karma Yoga
- Bhakti Yoga
- Jnana Yoga
- Raja Yoga
- Karma Mimamsa
- Vedanta

The Science of Vedic Yoga is the practical technology of Maharishi's Vedic Science and its purpose is for Veda to become a living reality. Since Veda (Knowledge) is structured in consciousness, it is necessary to achieve full awakening of consciousness, to develop the higher states of consciousness. The practice of Yoga is a process of developing the subtlest level of individual consciousness which knows only the truth (rtambhara prajna). Only on that level Vedic sounds will reveal their true and complete meaning. The Vedic sounds are the holographic record of the whole creation. Each sound contains the wholeness, just like every part of the holographic record contains the whole picture. Only the completely coherent state of settled consciousness, which is like a laser beam, can reveal the meaning of Vedic sounds. That is the reason why the practice of Yoga is a prerequisite for Vedic study. The principles of Yoga are derived from Rig Veda and are structured in Maharishi Patanjali Yoga Sutras.

The first sutra of Maharishi Patanjali Yoga Sutras represents Samhita value and its nature is further elaborated in the next sutras. First sutra says that knowledge of Yoga is born from the direct experience (perception without use of senses) of Yoga (yogija pratyaksha). This gives us a total value of the meaning of the word Yoga. Knowledge of Yoga is born from Yoga.

From the point of view of Rishi, the meaning of Yoga is in the different higher states of consciousness: Samprajnata Samadhi (Vitarka, Vicara, Ananda and Asmita), Asamprajnata Samadhi (Transcendental Consciousness, Turiya Chetana), Cosmic Consciousness (Turiyatita Chetana), God Consciousness (Bhagavan Chetana), and Unity Consciousness (Brahmi Chetana).

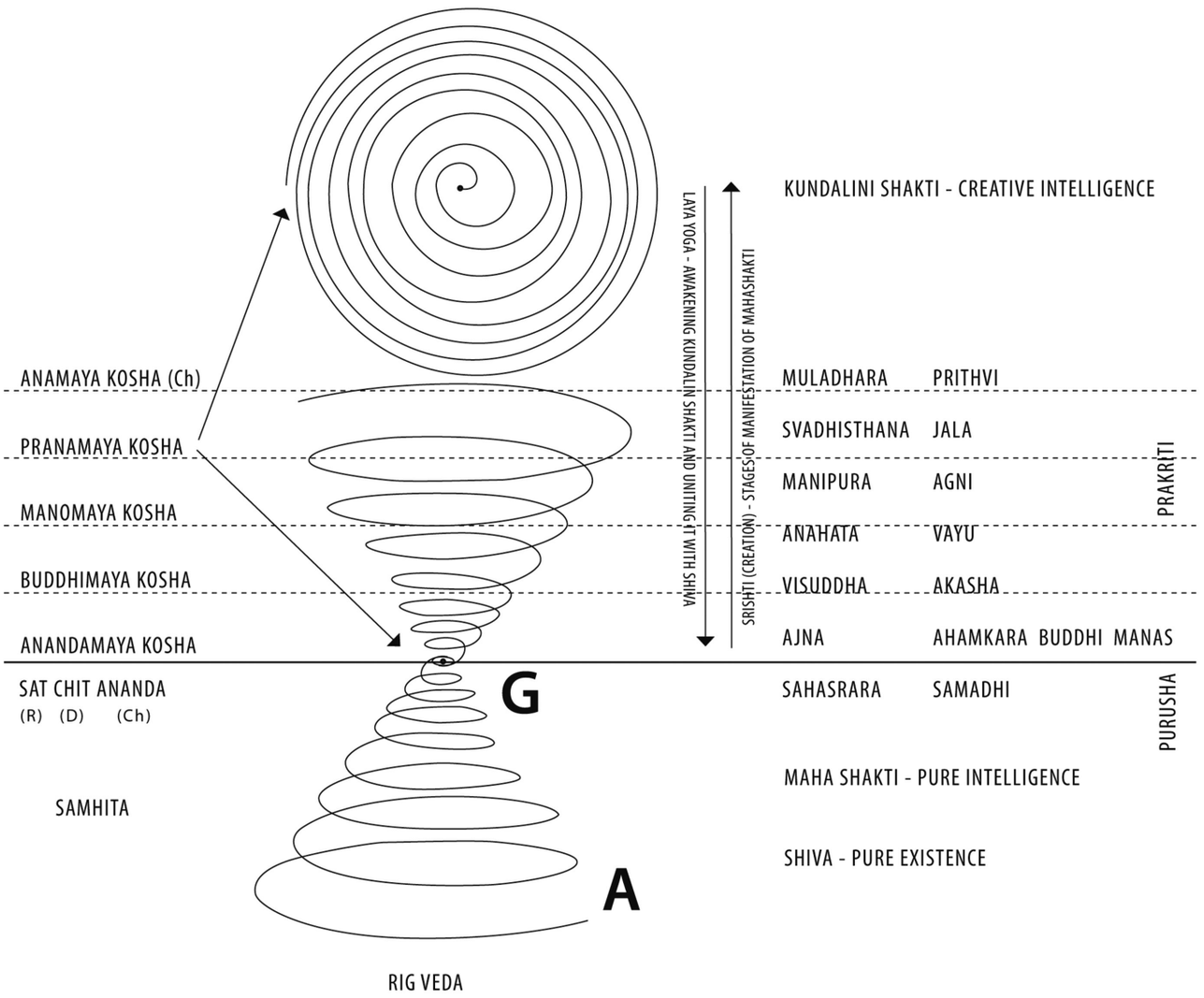
From the point of view of Devata, Yoga is the process of transcending (nirodha). From the point of view of Chhandas Yoga means the objective level of life (vrtti) from where the journey to Yoga starts and is finishing.

Maharishi Mahesh Yogi used to say:

"The path of Yoga is from here to here, it is only necessary to pass through there which is also here".

From the point of view of Chhandas, on the objective level of life, Yoga has a name of a system depending from which level of life we start to transcend in order to reach the goal (Samadhi). Any system which takes our awareness to more refined values of perception and transcends the finest perception (nirodha), giving the direct cognition of unbounded pure awareness (Samadhi) state of Yoga, that is a system worthy of the name "Yoga system". The science of Vedic Yoga ensures that on every level of elaboration of the word Yoga, the wholeness (Samhita) is contained.

Rig Veda is the basis of Yoga and the Yoga is the basis of Rig Veda. Yoga is the unifying quality of consciousness which is in Rig Veda expressed as Samhita (unified, holistic) of Rishi, Devata and Chhandas. Yoga is the ultimate unifying power that is expressed by the last Yoga Sutra: "*Chiti Shaktiriti" Y.S.IV.34*. The power of consciousness is infinite; its content is Veda – Samhita of Rishi, Devata and Chhandas. Without Yoga, Rig Veda cannot become living reality. Only through Yoga we can reach Vedanta, starting from Rig Veda.



When Pure Existence of Pure Consciousness (Atma) becomes conscious of its Existence than Pure Intelligence becomes intelligent and intelligent Aspect of Pure Intelligence becomes Creative Intelligence (Veda) which creates Univers (Vishwa).

Now we will consider the meaning of Yoga from the perspective of the union between Shiva and Shakti.

The nature of the absolute state of life is pure existence (Shiva) and pure intelligence (Maha Shakti). The ultimate reality is Pure Consciousness (Purusha – Shiva - Chit – Samadhi – Atman – Brahman). From there and through the power inherent in it (Maha Shakti), Prakriti (Mind and Matter) emerges. Maharishi Mahesh Yogi in his Science of Creative Intelligence describes the progress of the path of pure intelligence (Maha Shakti) from the first step to the last one that is the creative intelligence.

"In its preparation to assume the role of creative intelligence, the unmanifest value of pure intelligence through its own nature, by the virtue of its own existence, becomes intelligent. When pure existence becomes conscious, then pure intelligence becomes intelligent. This intelligent aspect of the unmanifest value of pure intelligence then assumes the role of creative intelligence".

Maharishi Mahesh Yogi, SCI - Lecture 8

This explains the mechanism of how the unmanifest value of the intelligence becomes creative intelligence and from within itself many, many manifest values. Creative Intelligence is Maha Shakti. It

is like a spider which from within itself, creates a web and then enters into it. Like this Maha Shakti creates all the forms in the manifest universe and enters into them and remains in them in the form of Kundlini Shakti. Kundalini Shakti is a state of Maha Shakti that has lost its memory and has gone to sleep. But it remains as a potential (seed) which can be realized when consciousness regains its memory (Smriti). Mother Nature nourishes this seed force in every creature and makes it evolve generation after generation. It is going on evolving. Right from the vegetable and egg born kingdom up to the human species the evolution depends on the kindness of Mother Nature (Mother of the Universe) – Natural Law. In the creatures lower than the human species Kundalini Shakti develops in a natural way governed by the laws of Mother Nature, with this up-going stream of Mother Nature, which pushes every generation of the creature towards higher and higher evolution, developing Kundalini Shakti bit by bit. In human nervous system Kundalini Shakti can be fully developed and activate subtle parts of the brain, which are capable of giving rise to the experience of the absolute. Then the human individual brain is said to be established in the cosmic consciousness.

The existing Spirit in a human being is the one that is present in everything and that is, as the object of worship, the Lord (Ishvara) or God. The states of Consciousness that create (Brahma), sustain (Vishnu) and dissolute (Shiva) the worlds, are the names for functions of the one (Ishvara) Universal Consciousness operating (existing) in our inner selves. There is no need to throw one's eyes into the heavens to find God. He is within, known as the "Ruler within" (Antaryamin) or "Inner Self" (Antaratma). Maha Shakti (power of Shiva) is active and changes in the form of Mind and Matter. Maha Shakti is the Mother of the Universe, who as the life force (Kundalini Shakti) resides in the lowest centre of the human body, at the basis of the spine (Muladhara chakra). Shiva is seated in the highest brain centre, the cerebrum or Sahasrara chakra. Yoga is the union of Her (Maha Shakti – kinetic, active aspect of Pure consciousness) and Him (Shiva – changeless, silent, static aspect of Pure consciousness) in the body of a person. This is Laya or dissolution, the reverse of Srishti or involution of Pure consciousness in Mind and Matter. Laya Yoga teaches that as long as the Kundalini Shakti is sleeping, so long human evolution would not be complete. The life will be in bondage of coming and going, will be in the grip of death.

The nature of the Absolute is Sat Chit Ananda (Eternal Being – Consciousness – Bliss). Ananda is defined as "resting in the inner Self" (Svarupa) – the Self referral bliss of the Absolute. Chit manifests itself in various ways and degrees. The degree of this manifestation is determined by the nature and the development of the mind and body in which it is enshrined. In the mineral world Chit manifests as the lowest form of sentiency evidenced by the reflex response to stimuli, and that is the physical consciousness that is called the atomic memory. The sentiency of plants is more developed. This is further manifested in those micro-organisms that are intermediate stages between the vegetable and the animal worlds, and have a psychic life of their own. In the animal world consciousness becomes more centralized and complex, reaching its fullest development in the human being/man, who possesses all psychic functions such as cognition, perception, feeling and will. Behind all these particular changing forms of sentiency or consciousness, there is the one formless, changeless Chit (Swarupe Avasthanam). It is distinguished from the particular form of its manifestation.

Maya Shakti (Maha Shakti) is the one which seemingly (changes, turns) makes the Whole (Purna) into the "not whole" (Apurna), the infinite into the finite, the formless into forms. The consciousness veils itself to itself, and projects from the store of its previous experiences (Samskara) the notion of a world in which it suffers and enjoys. The Universe is the creative imagination of Ishvara. Maya is that power by which things are "measured" – i.e, formed and made known. Maya is born from the self-referral dynamics of pure consciousness - the collapse of the infinity of A to a point (Bindu) G. Then, from Maya, Prakriti is born and from Prakriti the Universe is born. Maya severs the united consciousness so that the object is seen as other than the Self (self-referral dynamics) and then as split up into the multitudinous objects of the universe.

Shakti, coiled around Shiva and connected with Him through one point (Bindu), is called Maha Kundalini Shakti, to distinguish it from the same power which exists in the individual bodies. In the individual body this power is called Kundalini Shakti. Through Yoga practice Kundalini Shakti is united with Maha Kundalini Shakti (Cosmic Shakti), who in turn is essentially one with Shiva. Because the nature of Cosmic Shakti (power) is a vortex (coiled up around Shiva), she is manifesting herself as such in the worlds – the spheroids or "eggs of Brahma" (Galaxies), and in their circular or revolving orbits. We can also see this vortex structure in all phenomena in nature, such as whirlpools in water or in a tornado. The vortex is energy (Kundalini Shakti). The vortex (spiral movement) in tree dimensions forms a swirling ball of energy (spherical vortex) which forms elementary particle. The two types of electric charge, positive and negative, arise from the two types of vortex – winding and unwinding. In the process of manifestation, Cosmic Shakti first creates Prakriti (Buddhi, Ahamkara, Manas and the five elements). When Cosmic Shakti has entered the last and grossest Tattva (earth) – solid matter – there is nothing further for Her to do. Her creative activity then ceases, and She rests. She rests in Her last emanation, the "earth" principle. She is coiled up again and now sleeps. In the human body, she is called Kundalini Shakti and resides in the earth centre or Muladhara chakra. In the supreme state She lays coiled up as Maha Kundalini Shakti around the Supreme Shiva. In the human body she is again coiled up around the Svayambhu-Linga in Muladhara. This last centre or Chakra (Muladhara) and the four chakras above it, are centers of the five forms of matter. The sixth centre is that of Mind. Pure Consciousness is realized in the seventh lotus (Sahasrara chakra).

The same process of manifestation of the universe is described in the Bible.
In Sahasrara chakra is the seat of the Creator, the One Formless Heavenly Father within every human being.

- *"In the beginning God created the Heaven and Earth." (Genesis 1.1).* This polarization is expressed in Ajna chakra.
- *"And the Earth was without form and void; and darkness was upon the face of the deep. " (Genesis 1.2).* This corresponds to creation of the vacuum - space, the first of the primary gross elements of God's creation. It is formless, void, and dark. This corresponds to Vishudhi chakra.
- *"And the Spirit of God moved upon the face of the waters." (Genesis 1.2).* Air (movement) is the second primary gross element of God's creation. The breath of God. This corresponds to Anahata chakra.
- *"And God said: Let there be light; and there was light." (Genesis 1.3).* The third primary gross element of God's creation is solar light (fire element). This corresponds to Manipura chakra.
- *"And God said: Let the waters under the Heaven be gathered together unto one place." (Genesis 1.9).* Water is the fourth primary gross element of God's creation. This corresponds to Swadisthana chakra.
- *"And let the dry land appear; and it was so. And God called the dry land Earth." (Genesis 1.9-10).* This corresponds to Muladhara chakra.
- Every human being is a microcosm of the universe. God creates human life according to the same fundamental procedures by which He created Heaven and Earth.

Just as the atom consists of a static centre round which moving forces revolve, so in the human body Kundalini-Shakti in the (Earth) Muladhara chakra is the static centre (Kendra). From there she manifests her kinetic energy as the vital forces of the body (pranas) which are responsible for all bodily processes. The whole body as Shakti is in ceaseless movement. Kundalini Shakti is the static form of the creative energy in the body which is the source of all energies, including Prana. Kundalini Shakti is some force which is distinct from Prana, understanding this term to mean the vitality or life-principle which, on entrance into the body shows itself in various manifestations of life. These manifestations are the minor pranas. Kundalini Shakti is Prana Devata and She maintains all beings of the world by means of inspiration and expiration. All forces are in Kundalini Shakti. She is the

Shabda Brahman or "Word of God" in bodies. Kundalini Shakti is the immobile support of all these operations. When She is aroused and Herself moves upwards, She withdraws with and into Herself these moving Shaktis, and then unites with Shiva in the Sahasrara chakra. The upward process (evolution) is the reverse of the involution. Worlds are dissolved (Laya) from time to time for all beings. The enlightened Yogi dissolves the Universe for himself forever. Yoga is thus Laya.

The psychology of yoga

As early as 1912, in „Transformation and symbols of the Libido," C.G. Jung provided psychological interpretations of passages in the Upanishads and the Rig Veda, and this opened the possibility of a comparison between the practice of analysis and that of Yoga. Jung's aim was to develop a cross-cultural comparative psychology of inner experience. The first explicit comparison between the practice of analysis and that of Yoga was made 1918 by F.I. Winter in „The Yoga System and Psychoanalysis". He contrasted psychoanalysis, as depicted in the work of Freud and Jung, with Patanjali's Yoga Sutras. The comparison between Yoga and psychoanalysis was further explored 1923 by Oskar Schmitz in „Psychoanalyse und Yoga". In 1927 Wilhelm Hauer gave a lecture on „Yoga in the light of psychotherapy" and thereby drew the attention of C.G. Jung. Later, both of them gave seminars on Yoga in the light of psychotherapy. Hauer stated that the way of gaining an understanding of Yoga was through grasping it on the basis of one's own inner experience:

„I understand an inner reality only in so far as I have it within myself and am able to look at this reality that has come up into my conscious from the depth of my subconscious; or if it has come from without, it must have become absolutely living in my own conscious". Hence he stated: „I freed myself to a great extent in the beginning from the Indian way of looking at things. I find that I do not reach the inner meaning if I do not look at them in my own way, from my own point of view".

- The Psychology of Kundalini Yoga by C.G.Jung

The psychology of Yoga is based on the ancient science of Yoga explained in Maharishi Patanjali Yoga Sutras. According to Patanjali, Yoga means Samadhi (pure consciousness) which is our Self. The purpose of Yoga is to be established in our Self and not to be out of ourselves. This is described in the first four sutras of the first chapter of the Yoga Sutras. To be established in our self is explained in the third sutra and to be out of ourselves is explained in the fourth sutra. Consequence of being out of ourselves is explained in the fifth sutra. The fourth sutra of the first chapter is the cause of ignorance (avidya). In Ayurveda it is called *"mistake of the intellect" (pragyaparadha)*. In Vedanta it is called *"that which is not" (maya)*. Activity of the mind (vrtti) can narrow unbounded awareness into small boundaries (klishta) or can cause expansion of consciousness to its unbounded status (aklishta). Kleśas are the basis of klishta vrttis.

The first three sutras of the second chapter are identifying the main cause of not being established in our Self and also the obstacles which keep us away from our Self. The first two sutras of the second chapter define the practice to remove these obstacles and the third sutra enumerates five basic obstacles, afflictions (kleśas) which are the five basic operators of our subconscious mind, responsible for all our conscious mental experiences (feelings, thoughts, perception, etc.). Kleśas are roots in the subconscious, the forces which make the ailment; they are the causes of suffering. They are at the root of the storehouse of past actions, which become expressed in the present or future life. As long as its root exists, the storehouse of past action will generate more births, more life spans, and more experiences. The kleśas are urges, a natural instinctive form in which libido (psychological energy), in its simplest form of manifestation, first appears from the unconscious.

Kleśas with Samskaras in our unconscious and collective unconscious represent the inner matrix which is governing our conscious thinking, understanding and feeling. The unconscious mind is full of a rich world of archetypal images. These archetypes are conditions, laws or categories of creative fantasy, and therefore the psychological equivalent of the samskara. To be free from that matrix we should, by the practice of Yoga, remove the influence of the kleshas and burn Samskaras in the fire of knowledge. Only then our life becomes free (kaivalya) from conditioning and suffering and reflects the true nature of cosmic life.

From the perspective of Maharishi's Vedic Science, the seeds of the kleshas can be found in the analysis of the self-referral dynamism of the Absolute. The sound A symbolizes the Absolute and Avidya (A-Vidya), the first klesha, can be understood as vidya (knowledge) of A (Absolute). In Sat-yuga (enlightened era) Avidya means Knowledge of A. In Kali-yuga, Avidya means ignorance. Avidya (ignorance) comes out from the knowledge of A. When the Absolute becomes conscious of itself and is cognizing itself, it becomes three (rishi – knower, Devata – process of knowing, Chhandas – object of knowing). This is Maya (that which is not), the basic ignorance (illusion) and becomes the source of all other kleshas. Three in the structure of one (Absolute) becomes the source of self referral dynamism from which the Universe (Vishva) is created. In relation to the first word of Rig Veda, AGNIM, Avidya is corresponding to letter A, and is the result of the collapse of A to G. Individuality is the point value of the Absolute, the point in which the Absolute becomes awake to itself. The point value is G and this letter represents the klesha Asmita. The point value in the Absolute is emptiness of fullness, and life is naturally running away from emptiness and moves to fullness. The letter I represents the movement from emptiness to fullness, from G to A. This is the force of evolution, the nature of the mind to move to a field of greater happiness. The letter I represents the klesha Raga (desire for happiness). Attachment to happiness is the desire to reach fullness. In this movement to happiness, the movement from G to A, there is also the negation of G, the avoidance of emptiness (running away from emptiness). This is expressed through the letter N which represents the klesha Dvesha. Dvesha is repulsion from suffering, from remaining point value. This self referral dynamism of the Absolute is eternally going on and this is expressed by the letter M which signifies the klesha Abhinivesha (clinging to life, immortality). Abhinivesha is the urge of life to continue, the fear of death. All five kleshas, in their seed form, can be located in the Absolute, the source of life. Therefore all created beings are under the influence of the kleshas. Kleshas, from the collective subconscious level, are expressed as natural instincts, urges of life. Only by transcending all relative existence and realizing in our consciousness the true meaning of AGNIM, we can be free from the binding influence of the kleshas.

In his commentary on the Patanjali Yoga Sutras, Jung stated that the kleśas are *„the instinctive urges and oppressions. These are the compulsive mechanisms which lie at the base of the human being.... Not knowing our true being is the foundation of all other kleśas"*. Animals do not have free will and they are under the influence of natural urges (kleshas) as they are directly and undistortedly expressed from universal collective subconscious level. They are not violating laws of Nature. Humans have free will and can influence the expresion of kleshas as basic urges. Expressions of kleshas can be colored with stress and strain in the nervous system. The kleshas can be expressed in the form of negative thoughts, speech and actions. If we allow this expression of kleshas, it will bring our life into even a stronger domination of the kleshas, suffering and illness. Then the man is worse than the animals. The purpose of Yoga practice is to clean the nervous system, to reduce the binding influence of the kleshas, to understand them as some basic urges of life, to learn how to not promote negativity, and to live life in accord with the laws of Nature. Then we can rise above our animal instincts and our actions are not any more motivated by our urges. Cosmic Creative Intelligence becomes the motivation for our actions (*"brahma bhavati sarathih" – Brahma is the charioteer of our life)*. Then we become *"made by the image of God"*, free from the influence of kleshas, because only God (Ishwara) is forever free from the influence of kleshas.

Kleshas on the level of the collective and individual unconscious are the forces of nature. They are ingrained in the Smriti (memory) of the sequential flow of the self-referral dynamism of the Abolute. They are a consequence of the manifestation of individuality from the universal level of life. That is why even in the highest level of consciousness (Unity consciousness) there is still some remaining of ignorance (lesha avidya) present, without which individual life would not be possible to exist. By the practice of Yoga we are attaining samadhi and thus weakening and minimizing afflictions. These afflictions (kleshas) become very subtle and weakened and do not cause suffering. The fire of discriminative knowledge sterilizes the attenuated kleshas like roasted seeds. Just as a fried seed does not sprout, so the klesha, reduced to an unproductive state by Samprajnana or Viveka, does not give rise to modifications of the mind. When they are attenuated, they cannot obscure the realization of the distinction between Buddhi and Purusha. When subtle, kleshas are removed by returning to one's original state (transcending). Then the kleshas are no longer functional. The memory is still there, but they remain in their original state and cannot express themselves anymore. They are like roasted seeds that cannot germinate. Samskaras can assume the same state of "roasted seeds".

Transcendental Consciousness (Asamprajnata Samadhi) and Ishvara (God) are beyond the influence of the kleshas. Active kleshas are removed by meditation. When in meditation we reach samadhi we are beyond the influence of the kleshas, but when we return back to the active waking state of consciousness, the kleshas start to operate once again, dominating our mind. That is why the second chapter of Yoga Sutras speaks about the necessity of the practice of kriya Yoga, to weaken the kleshas and establish the state of Yoga in activity (kriya), to develop Cosmic and God consciousness, and thereby to be free from the binding influence of the kleshas.

The kleshas are the five forms of wrong cognition. When they become active, manifest, they strengthen the sway of the Gunas and the real nature of the self remains unseen. Gunas, in turn, set in motion the chain of mutations from Avyakta (unmanifested) to Mahat (pure I-sense) etc. The Gunas change continually into Mahat, Ahamkara, etc. and the afflictions underlying the mutations bring about the fruition of actions. The three gunas constitute the basic ingredients of the fluctuations of the mind. Each mental modification is a change caused by the combination of the three Gunas. The three Gunas being without a cause are without a beginning. Therefore, the flow of fluctuations resulting from their mutations must also be without a beginning. The first klesha is avidya (ignorance). According to the 4th sutra of the second chapter of the Yoga Sutras, ignorance is the basis of the other kleshas (fertile field on which other kleshas can sprout and grow), whether they are dormant, weak (attenuated), suspended (interrupted) or active. A klesha is considered dormant (Prasupti) when it remains in the mind in a potential state. Such a klesha awakens, i.e. manifests itself when it turns towards its object. A dormant klesha awakens with an appropriate stimulus. In the case of one who has acquired discriminative knowledge, the seeds of affliction do not sprout or become active even if the object comes before him. In that state, the seeds of kleshas do indeed exist, but have lost their power of producing action and fail to germinate even when brought in proximity to appropriate objects. Tanu or weak (attenuated) klesha is one that is thinned by kriya Yoga. When kleshas occasionally get suppressed by other kleshas, but come back again, they are known as interrupted kleshas (Vicchinna). That which is manifest with reference to an object is called active. Udara means active. The fifth state of kleshas is when they are burnt in the fire of knowledge. They do not sprout again and cannot affect the Atman again. When the klesha becomes like a parched seed, then a Yogin becomes Jivan-mukta (liberated though alive). Such a Yogin is not born again.

Ignorance (Avidya) is when we mistakenly regard the non-eternal to be eternal, the impure to be pure, suffering to be happiness, and the non-self to be the Self. Avidya is the source from which all kleshas flow and correspondingly latent impressions are produced. Avidya is neither right cognition nor the mere absence of cognition, but cognition that is contrary to correct cognition. Avidya can

also be understood as cognition or knowledge (Vidya) of A which represents the absolute state of life. This cognition causes self referral activity of the Self which starts to express as object referral activity and becomes the source of all other kleshas. The stronger the Avidya (ignorance), the more strongly pronounced the other kleshas become (udara – very dominating and obsessive thoughts). To weaken the kleshas, we must reduce Avidya (ignorance about our self, about who we think we are) and this is possible only through experiencing our true Self.

If you don't use your full mental potential then you are ignorant about your true identity (Atman - Self) and you are aware of you wrong identity (ego). This wrong identity is the second klesha called Asmita. Individuality is identifying, as it were, the capacity of seer and seen. The apparent identity of "Purusha", the subjective power of the seer, and "buddhi", the power of the instrument of cognizing, is called egoism (asmita). Individual consciousness (chitta) which consists of ahamkara (ego), buddhi (intellect) and manas (mind) is the instrument of Purusha through which Purusha perceives the outer world. So Purusha is like the sun which is self-illuminated and the individual consciousness is like the reflection of the light of the sun through the nervous system (like the light of the moon). That is why the sun is identified with the Self (Purusha) and the moon with the individual consciousness (chitta).

We can see the relationship between universal consciousness and individual consciousness, as described in the different religions in different languages. For example in the Bible, the sun which is the source of light, is representing God and the individual consciousness which is the carrier of the light, is represented by lucifer (the meaning of word lucifer is "carrier of light"). In the story, when lucifer turned his back on God, means that individual conciseness is not being aware of its connection with universal consciousness as its source. With that the first kleśa manifested and is the cause of the fall of lucifer. On that basis he developed the other four kleśas in their maximum gross value (sthula), representing the demonic ways of behavior. This is happening in every human being when he is ignorant about his Self. Then he starts to behave in a demonic way (egoistic, etc.). The stronger the kleshas are in his individual consciousness, the more demonic his behavior. The purpose of Yoga is to weaken and remove the binding influence of the kleśas. With less kleśas in a person has, he becomes more godly in his behavior. When he completely eliminates all kleshas from his individual consciousness, only then does he become a real human being created in the image of God.

There is an urge to produce a personality, something that is centered and divided from other beings, and that is the kleśa of discrimination – Asmita. Asmita is an urge or instinct of individuation. The instinct of individuation is found everywhere in life, for there is no life on earth that is not individual. An innate urge of life is to produce an individual as complete as possible. So the urge of realization naturally pushes man to be himself. Given a chance to be himself, he would most certainly grow into his own form, if there were not obstacles and inhibitions (kleśas) that hinder him from becoming what he is really meant to be (created in the image of God). Asmita that contains the germ of personality can be called the kleśa of individuation. Individuation only takes place when you are conscious of it, but individuality is always there from the beginning of your existence.

On the basis of wrong identification (Asmita) the third klesha which is called Raga appears. Raga is desire, attachment and craving for things which can fulfill our thirst for happiness and growth, because the small ego wants to grow and thereby becomes egoistic. Two basic wishes (Raga) based on Asmita are desire for food and procreation. Our original state (which we lost) was the state of pure bliss. That is why everything that is manifested has the inherent tendency to move to a field of greater happiness. This is the nature of life, and on that basis we have desires to experience pleasure. The desire or thirst for, or hankering after pleasure or the means leading to it, which is entertained by one who has experienced pleasure and has an inclination to it, is called Raga or attachment. Desire born of the latent impressions of pleasure, is what is meant by „that which re-

sults from remembrance of pleasure". Raga which in its subtle (sukshma) aspect is desire to grow to realize ones own totality, when it is manifested on the gross level of life (sthula) it becomes the cause of egoistic behavior. Hankering after a thing or greed is that state which brings about a longing to obtain it. In greed the sense of right and wrong is vitiated. In attachment, desire and senses are drawn unconsciously towards objects. This occurs through the force of evolution. The subject gravitates towards the object and the power to consciously resist desire is lost. Love in the state of ignorance is demanding / expecting and is thus a kind of attachment. True love is called Prema and is free from any expectation and attachment.

If there is any obstacle on the way to realize fulfillment of life (unity state of consciousness) then the fourth klesha (Dvesha) appears. Dvesha is hatred, repulsion, and aversion accompanied by anger. Anger leads to delusion, delusion to aggressiveness and destruction. Aversion is the feeling of opposition, mental disinclination, propensity to hurt and anger towards misery or objects producing misery, arising out of the recollection of the misery experienced earlier. To one who has no aversion there is nothing to oppose, but to one who has aversion, opposition comes at every step. Hatred is the thing that divides, the force which discriminates. It is so when two people fall in love; they are at first almost identical. So they need hatred in order to separate themselves. Otherwise they remain in a common unconsciousness which they simply cannot stand and the force of evolution will not allow this unconscious state of unity to stay for long. We love some person until he is fulfilling our desires, and when he is refusing to fulfill our desires we start to hate him. In the case of an exaggerated transference, when we spread ourselves over other people until we become identical with them (possessiveness), after a while there are corresponding resistances, certain hatred, because we violated the principle of individuality. Those resistances are a most useful and important instinct, so that we may become finally conscious of ourselves, and then hatred is no more.

The fifth klesha is Abhinivesha which is the urge for survival. In the ignorant as well as in the learned, the firmly established inborn fear of annihilation is the affliction called Abhinivesha. This fear is found to exist because, devoid of true knowledge, both the learned and the fool have the same Vasana arising out of the experience of the pain of death. Every creature always has this craving „Let me never be non-existent; let me be alive". If we feel that our existence is in danger then on the basis of that klesha our autonomous nervous system is reacting with fight and flight reaction (stress reaction). Because we have a wrong identity, we are identifying our life and existence with anything from outside of us which is always changing. Because of that we feel constantly insecure and under stress. Once when we realize our true identity, then avidya is removed and then all other kleshas are removed and our life becomes relaxed and free from suffering and disease.

There are two aspects of the kleśa in chitta. In the imperfect condition, that we experience in ordinary life (sthula aspect), the urge to dominate someone (possessiveness, expression of the klesha Raga on the surface level) is answered with hatred. This hatred is the expression of the klesha Dwesha on the surface level, as a response to the possessiveness. But in the sukshma aspect the same urge is the power to become a personality. When we understand the difference between the sthula and sukshma aspects of the manifestation of kleshas, then we understand ourselves and are able to forgive ourselves for our mistakes. On that basis we can understand others and forgive them for their wrong behavior, and not become angry and develop hatred. Zarathustra said that to forgive means to understand. Only through the practice of Yoga we can refine our perception and become able, in the surface expression of the klesha, to perceive its subtle aspect which is a natural urge or need in that person. That basic need of life, due to stress in the nervous system and undeveloped state of mind, is not expressed in the accord with the laws of nature and causes suffering.

Through the stressed nervous system natural urges are expressed in a negative way (negative thinking, feeling, etc.). When we become aware of some negativity expressing in our mind, we should not

take action on the basis of that negative thinking. For removing negativity, Yoga recommends that the opposite should be cultivated (pratipaksha bhavana).

„Negativity, such as injury and so on – whether done directly, caused to be done, or approved of – is preceded by greed, anger and delusion. Whether mild, moderate or intense, its fruits are unending suffering and ignorance. Thus the opposite should be cultivated". Y.S.II. 34

Instead of jealousy, hatred, envy, injuring others, etc., Yoga sutra recommends cultivation of positive emotions:

„The mind becomes purified by cultivating friendliness toward the happy, compassion toward the unhappy, delight in the virtuous and equanimity toward the unvirtuous". Y.S. I. 33

There are three aspects of reality: sthula, sukshma and para. The sthula aspect is the reality as it appears to our senses. Behind this, or working as the dynamic force within this sthula aspect, we have the sukshma aspect which, literally translated, means the subtle, fine aspect. The para aspect is the cause and real character of those centers of energy. For beyond those dynamic forces of the subtle kind there is a power which can no longer be conceived in mere terms of cosmic energies.

The sthula aspect is simply the things as we see them. The sukshma aspect is what we guess about, the abstractions or philosophical conclusions we draw from observed facts. When we see people who make efforts to consolidate themselves, to be egos, and therefore resist and hate one another, we see the sthula aspect, and we are only aware of the kleśa hatred, called Dvesha. But if we go a step higher, we suddenly understand that this foolish kind of hatred, all these personal resistances, are merely external aspects of a very important and profound tendency, the urge to grow as individual and to merge in the conscious state of unity. That is the sukshma aspect. If a person thoroughly understands this, he will agree and not worry. The analytical process tears up hatred by the roots, by explaining the sukshma aspect, the aspect on the level of understanding, of abstraction, wisdom. And so we learn that what is a regrettable habit, for instance, or impossible moods or inexplicable disagreements in the sthula aspect, is something quite different in the sukshma aspect.

The psychology of Yoga is very simple because it finds only one cause for all problems and suffering in life, whether problems are of mental or physical health. This main cause of all problems is Avidya (ignorance). Ignorance can be overcome only by direct experience of our true nature (identity), experience of Transcendental Consciousness. The Psychology of Yoga is giving one solution for all problems in life and this is summarized in one verse of the Yoga Sutra: *„Yogas chitta vrtti nirodhah"– transcend and reach Transcendental Consciousness*. The same solution is presented in Vedic Psychology, in Rig Veda X.19.1 *„nivartadhwam"– transcend,* and also in the Bhagavad Gita II.45 *„nistraigunyo bhava..."– transcend*.

The yogic lifestyle

Whatever we do in life influences the functioning of the three doshas. According to Ayurveda (Charaka Samhita) there are three activities or lifestyle habits that influence our health more than anything else, because they support physiological functioning on a day to day basis. These are known as the three pillars of life: diet, proper rest, and balanced behavior. The main focus of prevention should be on establishing daily health routines that are suitable to the individual's unique dosha proportions and current state of dosha imbalances, and strengthen these three sources of physiological nourishment.

Guidance for a yogic lifestyle can be found in the text of the peace chant *"Saha navavatu…"* in which we have the expression *"Ma vidvishavahai"* which means that we should not go in action on the basis of negative thoughts. On the subconscious level, samskaras, under the influence of different kleshas assume certain form of thoughts which then appear on our conscious mind and influence our understanding, thinking, feeling, reasoning, and shapes our character. Yoga practice changes our character by weakening kleshas and creating yogic samskaras which replace the old samskaras that were binding us and leading to suffering. It is explained in Yoga sutra I.50 that experiences on the level of "*ritam bhara pragya",* gained through practice of Transcendental Meditation and the TM-Sidhi program, are removing old samskaras. The experience of transcending burns the seeds of old samskaras, so they are not able to sprout and give rise to desires of old habits. By creating new yogic samskaras, healthy routine of life in accord with principles of Yama and Niyama, will lead to purity in life. When you know something to be wrong, don't do it, even if you burn out in the effort to abstain from that activity. This is the significance of tapas (inner heat generated from resisting wrong actions). It purifies our mind and body. Always do well, think positive, be regular in the practice of asana, pranayama and meditation and follow the recommendations of Acharya rasayana (behavior to strengthen purity of life).

The key term when we consider behavior is moderation. Too much of any one thing will overload our system and create imbalance in the physiology. This is beautifully explained in the teaching of Lord Krishna in Bhagavad Gita:

"Yoga, indeed, is not for him who eats too much nor for him who does not eat at all, O Arjuna; it is not for him who is too much given to sleep nor yet for him who keeps awake."

"For him who is moderate in food and recreation, moderate of effort in actions, moderate in sleep and waking, for him is the Yoga which destroys sorrow."

Bhagavad Gita chapter VI, verse 16 and 17

The use of medicinal rasayana restores tissue deficiencies, prevents aging, promotes health, and cures many diseases. Behavioral rasayanas (non medicinal rasayana) strengthen life by creating happiness, positive emotions and experiences, which in turn promote the production of Ojas, a vital substance that creates balance and health in our physiology. The behavioral rasayanas are actions and attitudes to be aspired for in various areas of life. By favoring such actions and attitudes, when one has a choice in the present moment, using one's free will, they will promote purity and clarity of the mind and aid in the development of consciousness. Refined emotions and a positive, loving approach to life are qualities that develop over time, from the inside out, through a deep integration of mind and body. The most important trigger of this process is the regular experience of Pure Consciousness.

There are many behavioral rasayanas; here are a few examples:

1. Ma vidvishavahai – do not entertain negativity. It is good to avoid getting caught up in any negative emotion, be it anger, hostility, cynicism, or indignation, no matter how justified it may seem. Do good, be silent; accept well and sing the giver's praise. Never spread gossip. Don't loose balance trough wealth. Do not oppose, because in opposing the tenderness of the feeling level is crushed. All actions should be to nourish the fine feelings, ours and of the other. Be as delicate as possible. If communication accomplishes something on the gross, but damages something on the level of feeling, then it is a spiritual loss. The feeling is more important for life. Nourishment of the feeling level is the basis for growth of spiritual holistic value. Delicate behavior on the surface should be such as to nourish, uphold and enhance the transcendental value where feelings merge into a common source. Do not oppose. Opposition is dangerous to immortality.

2. Akro dhinah – do not be angry. As the way we walk, stand, and sit eventually turns into hab its, so too do our mental and emotional reactions become habitual. We can get into the habit of reacting with anger to everything, of being bad-tempered, of scowling rather than smiling. We can get into the habit of feeling sorry for ourselves, believing that nothing is going in the right way – or by contrast, we can develop a habit of positive thinking. Anger, fear, sorrow, unrest, depression, euphory, impairs the function of the liver, kidneys, lungs, blood, stomach-pancreas-spleen, heart, respectively. Do *"pratipaksha bhavanam*" – using free will in the present moment to think the opposite of any negative thoughts that may come to our mind. Always make a conscious choice for something positive and good, something that can strengthen life. If a negative feeling comes up do not turn your attention to the object to which that feeling is directed, but look back to the very feeling which manifests in you. Then this negative feeling will start disappearing and it can be replaced with a positive feeling. This is our choice. It is best to invest one's energy in thoughts and actions that help the growth of positivity, and whenever possible, to make a choice for happiness. Bliss is the best recipe for eliminating impurities (ama). With the practice of meditation root out kleshas and burn old samskaras and by the practice of *"pratipaksha bhavanam"* replace bad, negative habits with good, positive ones (yogic samskaras). Only a new seed (yogic samskaras) can bring a new crop. This will help you achieve your full mental, physical, emotional and spiritual potential.

3. Marithuna Nivratli – observe brahmacharya (celibacy, or sexual act according to the code). Too much sensual pleasure causes a depletion of Shukra dhatu (reproductive tissue), subtle end product of the metabolic process from which Ojas is produced. Ojas is the subtlest physical essence of our bodies. This essence is closely linked to our sense of vitality and zest for life. Be faithful to your partner.
4. Ahimsa – do not be violent.

5. Anrashamsya – do not be cruel to anyone, not thinking of doing harm.

6. Nitya karuna vedinah – be merciful to all who are in need of your help. Help people in need, especially those who have no livelihood and those in grief. Help even those who might have mistreated you.

7. Anayasaka – avoid overexertion

8. Prashantam – be calm and peaceful in mind. Cultivate a clean mind. For that the regular practice of meditation is important.

9. Dheera – be courageous and do not lose patience in any situation. Be simple.

10. Satsang - Keep the company of the wise – we are influenced by the environment and the people around us. Our perception, judgment, choice of activities, and lifestyle habits are all affected in both subtle and obvious ways by the people with whom we spend time. Choos - ing to be with those who uplift and inspire us, leads us to strive for greater knowledge, con - sideration of others, charity, and wisdom. Do not believe in all the stories you might hear (places and persons).

11. Satya vadinah - Speak the truth, but speak it sweetly. Speech - short, coherent, melodious and sweet. Greet another first. No harsh, no piercing speech, never lie and do not speak in a non-sweet way. Do not disclose enmities. Never disclose insults inflicted on you (like Shiva, swallow the poison and be silent)

12. Śauća - Observe cleanliness in all things – mentally, physically, and environmentally. Keep hair, nails, feet, ears, and the nose neat and clean.

13. Madya Nivratli – do not indulge in alcoholic drinks

14. Dana nityam - be charitable in all areas of life. Do unselfish work. Charity passes on what you earn through life supportive actions. Adopt an attitude of giving, whether it will be sharing one's knowledge, food, giving advice, anonymous donating money, to charities, or some thing as simple as a smile of encouragement. Avoid greed. The corruption of the kingdom arises from the greed of the king.

15. Vasudhaiva kutumbakam – the world is my family. In elders see your father and mother, in people your age see your brother and sister and in younger see your son or daughter.

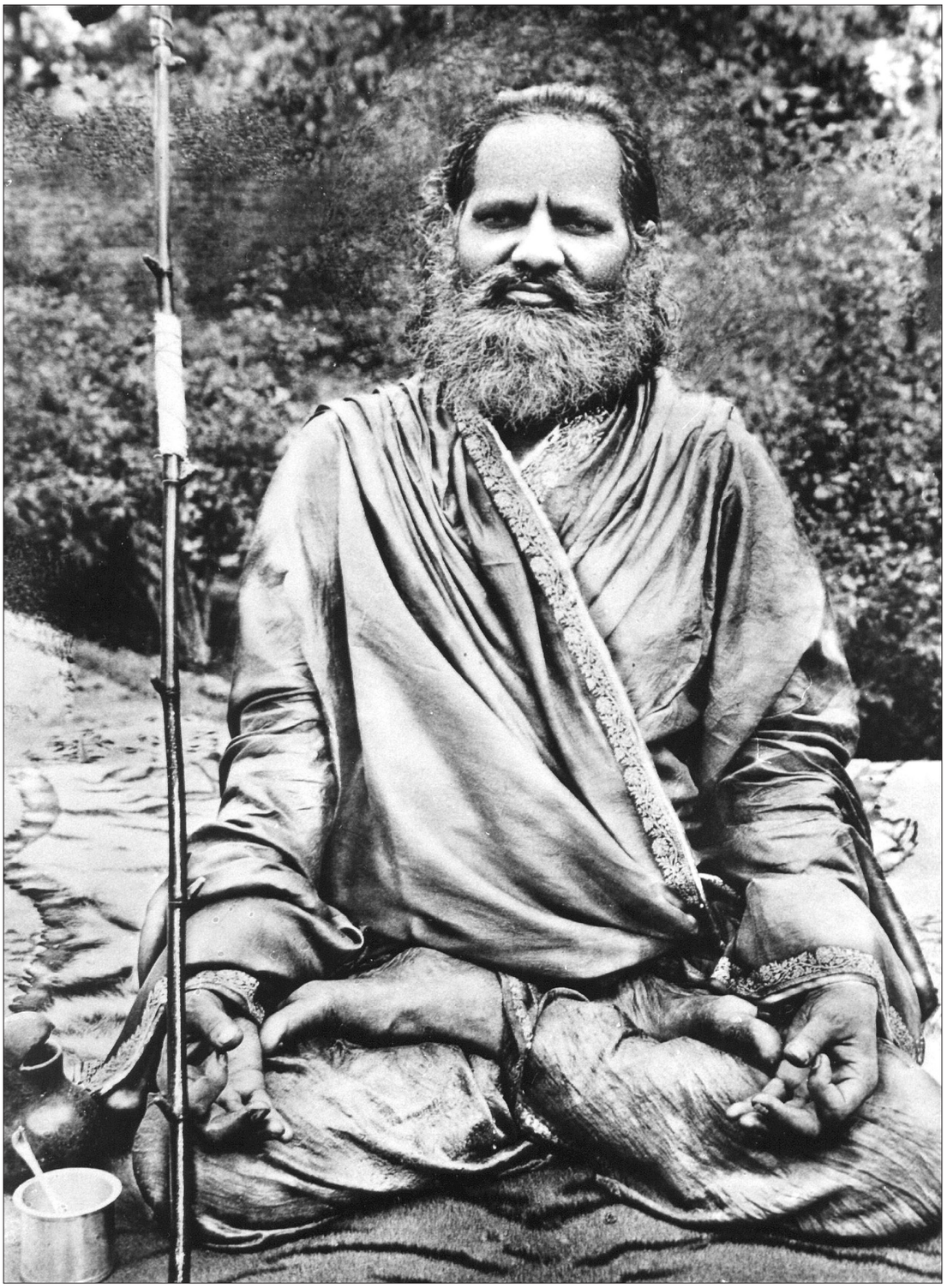
16. Addhyatma Parayanam – engage all the time in the achievement of pure consciousness, Bramhichetana. All senses on spiritual development. Through any uncontrolled sense, wis - dom flows out through that channel.

17. Ishvara pranidhana – let God be the only support in your life. Respect life and the Guru. Surrender to Cosmic Intelligence which is governing all of life in the whole universe. The higher emotions associated with God are the most noble and refined ones that humans can experience. To support and inspire these emotions, the psychophysiology must maintain a high level of integrated functioning through tapas (increasing glow of life) and svadhyaya (study of the Self).

18. Dinacharya – daily routine. Sama jagrana – swapna: Maintenance of proper balance in the rest and activity cycle. Alignment to nature's cycles. Mind time and place (promptness, ap- propriateness and regularity). Take walks in the morning. Expose the back (spine) to the sun before 10:00 am (nourishes and strengthens the function of the nervous system). Do Sun gazing at sunrise and sunset.

19. Sattvic diet – eating the right foods in the right quantity at the right time is preventing dis - ease and extends the life span.

20. Shastrachara – maintain good behavior established by the great sages and saints of society.



His divinity
Swami Brahmananda Saraswati Maharaj Agad - Guru Shankaracharya of Jyotir Math

The following Droplets of Nectar ("Amrita-Kana") give some taste of the yogic lifestyle from His Divinity Swami Brahmananda Saraswati Maharaj Jagad – Guru Shankaracharya of Jyotir Math:

1. "To get a human body is a rare thing – make full use of it. There are eighty-four-hundred-thousand kinds of lives which a soul can gather. After that one gets a human body. Therefore, one should not waste this chance. Every second in human life is very valuable. If you don't value this, then you will have nothing in hand and you will weep in the end. Because you're human, Paramatma has given you the power to think and decide what is good and bad. Therefore, you can do the best possible kind of action. You should never consider yourself weak or a fallen creature. Whatever may have happened up to now may be because you didn't know, but now be careful. After getting a human body, if you don't reach Paramatma, then you have sold diamond at the price of spinach."

2. It is said that in September 1945, when the Second World War was over, newspaper reporters wanted to know the reaction of Shankaracharya Swami Brahmananda Saraswati, Shankaracharya of Jyotirmath (Guru Dev). Allegedly he gave them the following statement, parts of which match other published quotes of Guru Dev:

"Real victory is that, after which there can never be a reversal. Nobody can call himself a victor forever merely by crushing an external foe, because such foes can spring up again. Real victory is achieved by bringing under control the internal foes. A check over the internal enemies is therefore the only way of conquering the external enemies forever, because we should bear in mind that it is our own internal enemies which create the external enemies.

These inner enemies are ambition, anger, greed, false attachment, vanity and jealousy. It is this hexagon sitting inside us which makes a cat's paw (duping) of anything in the outer world in order to create enemies for us. Therefore if anybody wants to enjoy peace and happiness through victory over all enemies, then he should raid the very source of all physical enemies - the subtle hexagon living in us. Destruction of enemies by their root is not possible without breaking up this hexagon (ambition, anger, greed, false attachment, vanity and jealousy). This is axiomatic.

It is a fact established by practical experience that anyone who has conquered these subtle inner enemies, has broken up the central source of all external enemies. Therefore, all enemies are nipped in the bud. Then he has no enemies left to be defeated. It is only such a victor who can be called a real victor. Then the gates of true and lasting peace and happiness are opened for him. For a nation which desires to be completely free from enemies and to build a world of peace and happiness, it is necessary to have such men at the helm of its affairs - that have conquered their inner hexagon. Otherwise they would destroy themselves along with many others. The history of the last several centuries shows that the rulers of powerful nations have given a bloodbath to the world under the influence of their hexagon. This is brutish. Those who carry the burden of guiding a nation should particularly act with insight. It is no greatness or humanism to be carried away by one's hexagon and spread a wave of suffering over the earth.

After all, how long can we go on destroying the external enemies?
As soon as we get rid of one, another one is ready to engage us.
In this way we not only remain ourselves perpetually disturbed, but we also keep a cold war going on which threatens the peace and happiness of the whole of mankind all the time. This is certainly neither a sign of any victory nor of the suppression of any enemies. Hence it is most essential that people who rule nations should be those who have conquered their inner hexagon. It is these really victorious leaders who can successfully guide the societies, the nations and the world on to the path of lasting peace and happiness.

It is not too difficult to win over the hexagon. But people take it to be impossible without giving thought. Most of them hold the belief that only a perfect saint who has renounced all worldly concerns can break up the inner hexagon. This belief is based on complete ignorance. A renounciate renounces the very cause of the hexagon, so in his case the question of conquering the hexagon does not arise at all. A victor over the hexagon is one who maintains his worldly attitudes but does not allow himself to be subordinated by them.

Let the enemy have an occasion to strike, but let him find that he cannot do so because he finds you too strong for it. Only then can he be treated as defeated. Mere engagement in bona fide worldly activities is no hindrance in keeping the inner hexagon in a state of subjugation. For liquidation of the subtle cell of inner enemies, it is not necessary to make warlike preparations over a number of years and then start a slaughter which keeps the world hanging between life and death. The only thing necessary for this is to become unbiased and to act with imagination. To be unbiased is to look correctly. A person who sees things as they are is called an unbiased person. There is no difference between what a thing is and how he sees it. His outlook is completely balanced. His appreciation of a thing is correct - in other words, he never misunderstands. If the world is unreal, he does not give it any reality. If Brahman is real, he takes it as real. When one is convinced of the unreality of the world and the perpetuity of the Atman, then he becomes unbiased. Then he sees things in their true shape.

By saying that the world is unreal, we mean that it can exist as it looks only for the time being, and that it would look different hereafter. Everybody is actually seeing that everything in the world perishes and that we shall have to miss it one day - the smallest and the biggest - all are destined to change. Everyone sees clearly how many go on being born and how many go on dying constantly before our eyes. This is what we call the transitoriness of the world. We see all this going on but we do not think it over.

One who has set in his heart the concept of the transitoriness of the world through a process of reasoning and deep thought, is the person competent to win over the inner hexagon. Because, one who is convinced of the transitoriness of the entire world complex cannot be susceptible to greed or attachment to anything, for he knows that the object of his greed or attachment today will be something different tomorrow. Conscious of this disappointment, desires and attachments do not germinate in his mind. Nay, their very seed is destroyed.

Then jealousy also is gone. He is no longer vain about his greatness, learning or wealth. When greed, attachment, vanity and jealousy disappear, there is no cause left for anger and anger goes away automatically. His desires recede and turn to God, with the result that now his worldly actions are dictated by a sense of duty rather than by passion. His behavior automatically becomes proper and he lives in the world without being affected by it, just as a lotus leaf lives in water without getting wet. Such a man has no external enemies left, and his sameness rules over the whole Nature. None is capable of disturbing his kingdom of peace. It is such a person who is "samadarshi" (impartial, dispassionate) and a great victor, who can carry the world towards the goal of lasting peace and happiness.

Therefore, a victory over the inner hexagon is the highest form of victory, and it is to achieving this great victory that man should direct his efforts."

Rishi's principles of yogic lifestyle

Folowing principles were given by the Rishis, the Spiritual Masters of all times. They found these principles in their deep meditations when they were searching for simpler and shorter ways to reach enlightenment and higher states of consciousness.

1. Vishwamitra Maharishi: spreading Ananda.
We carry Ananda (Divine energy) in our Spiritual body called Anandamaya Kosha. We, as souls, live in the golden light field of this Divine energy. The first principle is to bring out this Divine energy from our Spiritual body and spread it around us. When we bring this out, it fills in the bodies around it first, which are the Intellectual body, the Mental body and lastly the Physical body and then it spreads around. Practice of the first principle, as the practice of each principle separately and individually, transforms us into perfect beings. The First Principle helps us to establish harmony with people and places. We will have no enemies. We enjoy perfect health. We are always clear in our expression. There will be no confusion, no conflicts within and without. We vibrate Peace.

2. Kanva Maharishi: spreading Love.
Love is the soul's finest vibration. It manifests itself as the finest emotion and the finest thought. The soul inside the Anandamaya kosha is a very bright particle of white light. Experience Love as a very bright white light coming out of the soul, filling in the next bodies and spreading out of our system and spreading around, as in the practice of the First principle. Apart from practising spreading of Love, we can also practise the other aspects of Love. Love all. Forgive. Do not judge others. Respect everyone and everything. Relate to others at the level of the soul, not at the level of emotions or thoughts. The benefits are: No enemies. Even plants and animals respond positively. Peace always. Good health.

3. Agastya Maharishi: experiencing the Divine Oneness in everyone and everything.
We, the others and everything in the whole creation are all Consciousness at the deepest level. As is the macrocosm, so is the microcosm. As is the atom, so is the universe. As is the human mind, so is the cosmic mind. The Consciousness manifested itself as space, galaxies, planets, intellect, mind, bodies and everything else. It is the same Consciousness (white light), the one Consciousness. Experience yourself, all other human beings and everything else in creation as light. *„Sarvam khalvidam brahma", all this is brahman – Chandogya Upanishad 3.14.1.* Keep yourself and everything around you beautiful. Keep your body beautiful. Keep your emotions and thoughts positive. Keep your surroundings clean. Fill the world with positive vibrations. This practice is bringing you peace, expansion of consciousness and wisdom.

4. Markandeya Maharishi: execute decisions first in the mind and then physically.
After morning meditation, established in silence of our Being, we have to make Sankalpa (define the purpose) for our activity throughout the day. We have to decide and arrange our Spiritual and material activities for the day in the mind. This strengthened or energized thought-force helps in executing the decision. At the end of the day, before going to bed, we should not fail to cross check if we have attended to all the activities that we had decided. The major benefit from practising the Fourth Principle is developing a strong will power (iccha shakti).

5. Vasishtha Maharishi: maintain secrecy before accomplishing a goal.
Secrecy is not hiding but not talking too much about a goal, material or Spiritual, before accomplishing it. If we go on talking about the goals, the field of energy that is created gets disturbed and weakened. Then, achieving the goal becomes difficult. Here, secrecy is sacred. There is dignity and

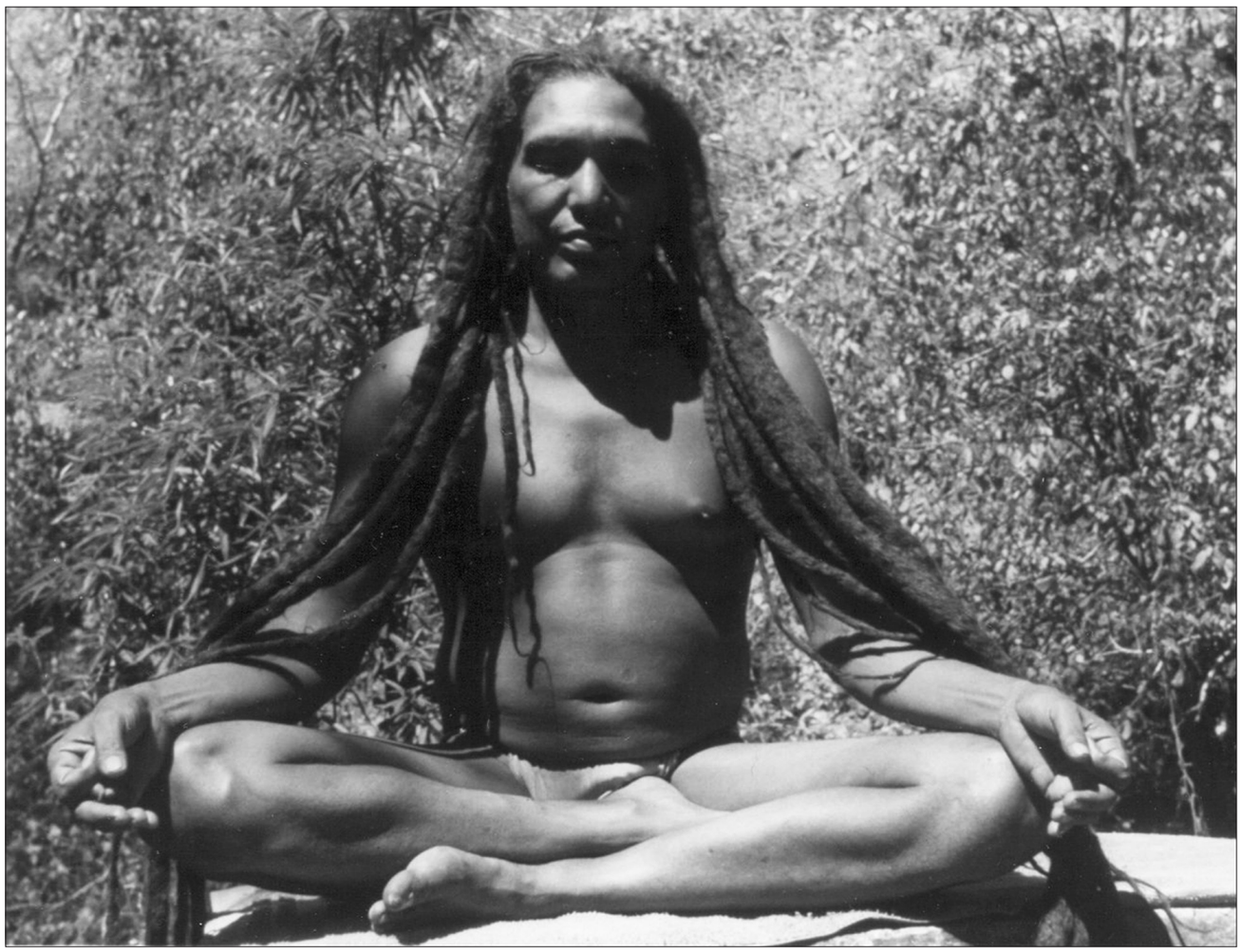
majesty in accomplishing an objective without advertising it. It is like a tree growing out of a seed. By practising the Fifth Principle, we do not waste energies unnecessarily and develop strength at all levels.

6. Pulastya Maharishi: unify the forces of the body, mind and intellect.

The forces of the body, mind and intellect have to be unified to move towards the Divine. In one-pointedness and strength, there is also wisdom and clarity of the goal. Meditation unifies all the three forces. People on the Spiritual path should know and feel that we are all one, harmonious and unified wholeness. *„Vasudhaiva kutumbakam", the world is my family – Manu Smriti, 11.12.22.* When we do this we derive the strength of the whole group. When we practise the Sixth Principle we remain strong and wise and can manage the affairs of life in a proper way so as to live in peace and happiness.

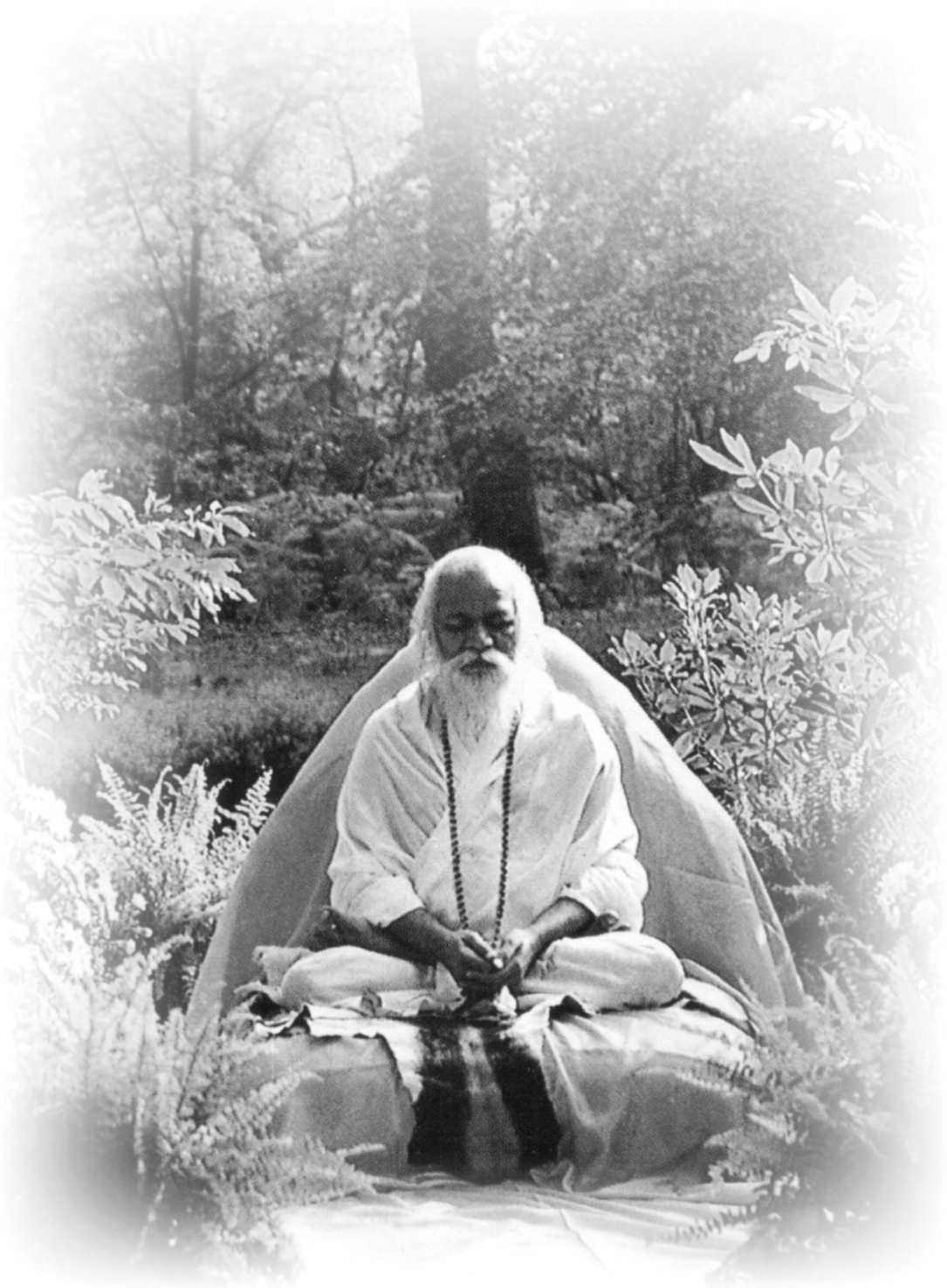
7. Maharishis Pulaha and Kratu: draw the lines of contentment.

We can lead a balanced life without neglecting any aspect. Vairagya (detachment) is not throwing away the material comforts. It is drawing the lines of contentment. Practice of the Seventh Principle brings us freedom from attachement to material wealth. Then, we can share things happily with others. The practice shifts our focus from only the material to the Spiritual. Without such a shift, we cannot begin our Spiritual journey.



Shri Tat Wale Baba

Maharishi's Vedic Science - veda and vedic literature



Maharishi Mahesh Yogi

We are the most fortunate generation, because in our time Maharishi Mahesh Yogi brought to light the knowledge of ancient Vedic Science which is known as Maharishi's Vedic Science. There is a big contrast between modern science and Maharishi's Vedic Science. In modern science we are studying individual laws of nature all in separation from each other. The tendency of modern science is to go deeper and deeper into values of isolation so that one loses the whole. Modern science was discovering only fragmented values of knowledge, because of its limited means of gaining knowledge, and this has lead to problems in every area of life.

All knowledge involves three ingredients: knower, knowing, and known. These three must be connected or integrated for knowledge of something to exist. Any change in quality of any of these three will change the quality of knowledge. Absence of any of these three will result in the absence of knowledge. In our normal waking state of consciousness nature appears as a diversity of things, as objects and events that enjoy their own separate existence, separate from us and also separate from each other. This is the picture that we see, in waking state of consciousness, and the one that objective modern science relies on. Maharishi explains, however, that the picture changes as consciousness changes, because knowledge is structured in consciousness. In different states of consciousness, knowledge of an object is different, that is why we say that knowledge resides in the knower, not in the known.

Through its objective approach modern science emphasizes purely on the known, on the object of knowledge, it leaves out the knower and the process of knowing. Modern science focuses on one third of knowledge, the known, but it does not touch at all the field of the knower and the spontaneous process of knowing.

The whole of our modern educational system is based on the objective standpoint of modern science, giving only fragmented and incomplete knowledge. That is why no educational system in the world today is capable of creating an ideal, problem-free life for the individual and society.

Today the most advanced level of modern science needs a complete approach to investigation, which includes the two other values of knowledge – the value of the knower and the value of the process of knowing. For a new era for mankind a new complete knowledge is needed, because only a new seed will yield a new crop. In Maharishi's Vedic Science all the three values, knower, process of knowing and the known are uncovered in their totality.

Maharishis Vedic Science is the science of Veda. Veda is pure knowledge, and because knowledge is structured in consciousness, pure knowledge is structured in pure consciousness. Therefore Maharishi's Vedic Science is the science of our own pure consciousness, the unified field of all the laws of nature which is the basis of all creation. Veda is the infinitely dynamic structure of natural law within the unified field, as directly cognized by the ancient Vedic seers during their direct experience of the unified field. The following verse of Rg Veda itself explains the nature and location of the Veda:

"richo akshare parame vyoman yasmin deva adhi vishve nisheduh".

Rig Veda I.164.39

"The verses of the Veda exist in the collapse of fullness (the kshara of "A") in the Transcendental Field, in which reside all the impulses of creative intelligence (devas), the laws of nature responsible for the whole manifest universe".

Maharishi's Vedic Science provides a detailed description of the structure and internal self-referral dynamics of the Veda. The key to study Maharishi's Vedic Science is in the experience of pure consciousness as described in another verse of RG Veda:

"yo jagara tam richah kamayante" Rig Veda V.44.14
"The hymns seek out him who is awake".

To be fully awakened means to be established in pure consciousness. The development of pure consciousness is the key to all knowledge and the prerequisite of Vedic study. The purpose of knowing the Veda is to live the wholeness of life. The Rig Veda says:

"yastanna veda kimricha karishyati ya ittadvidusta ime samasate" Rig Veda I .164.39
"He whose awareness is not open to this field, what can the verses accomplish for him?
He who knows it (pure consciousness) is established in evenness, wholeness of life".

The study of the Veda has its purpose in structuring the home of all knowledge in one's awareness.

Rig Veda gives a practical formula for achieving this goal, in one word:
"nivartadhwam" Rig Veda X.19.1
"Transcend"

Maharishi's Vedic Science not only provides a complete description of the infinite dynamism of Veda, but also provides the technology, practical techniques, by which every individual can become fully awake, and realize his full potential, a state of life in which the Veda is fully enlivened in human consciousness. Every individual can become a living Veda.

If we are not aware of the underlying unity and wholeness of life because the attention is too engrossed in the parts, then our intellect is making a mistake which, in Vedic terminology, is called pragyaparadha. Modern science is making pragyaparadha very firm and real in our lives, because it helps our intellect only to be lost in more and more diversified values of life and to lose the true perspective of life which is unity. This mistake of the intellect, pragyaparadha, in forgetting the unity of creation is said in Vedic Science to be the cause of all disease, suffering, ignorance and problems in life.

Maharishi's Vedic Science provides a means to dissolve this fundamental mistake which is responsible for all that is wrong in our lives and in the world, and to discover, to remember again the unity of creation which is our own nature, the unbounded ocean of consciousness. Through Maharishi's Vedic Science we are discovering in our own consciousness that this universe is one unbounded ocean of consciousness in motion. This is the basic reality of creation. Because this basic unified field is consciousness, it is fully awake within itself, and being fully awake it fully knows itself, and when consciousness knows itself it becomes both knower and known, and when the knower knows the known the dynamics are called a process of knowing. Three values: knower, knowing and known emerge as concepts within the unified field, within the unbounded ocean of consciousness. These three values arise as concepts because of the self-referral nature of pure consciousness which is completely open to itself. This is that self-interaction of the unified field. In that pure consciousness we have three values knower, known and process of knowing and we have one unified state of the three. In the language of the Veda the knower is Rishi, the knowing is Devata, the known is Chhandas, and the unified state of the three is called Samhita. Here we have one and three at the same time. When we have one and the three together in that self-referral state of pure consciousness, then there is infinite contraction for remaining one and there is that quick expansion to become three. When they are simultaneously three and one, there is infinite dynamism. This infinite dynamism of the self-referral nature of pure consciousness causes unmanifest noise, vibrations, sounds within that unbounded ocean of pure consciousness.

Veda is a clear script of that self-interacting dynamics of pure consciousness. Vedic sounds are unfolded in a very precise and orderly sequence, one arising from the other and in this way the whole Vedic literature emerges from within the one unbounded ocean of consciousness. Each sequentially unfolding branch of Vedic literature elaborates on, or comments, on the proceeding Vedic sounds. This is called Maharishi's Apaurusheya Bhashya, the self-expressed commentary of the Veda. Maharishi's Apaurusheya Bhashya explains how the whole structure of knowledge emerges from the first word of Rig Veda – AGNIM. In this word each syllable is the commentary of the previous syllable, G explains the total value of A and so on. In this spontaneous sequential unfoldment of knowledge each word is an elaboration of the previous syllables, each Richa is an elaboration of previous words, and each Sukta is a commentary on previous Richas. The word AGNIM is the seed expression of total knowledge, the Veda. The expression of complete knowledge is so perfect, orderly, and sequential, because it expresses the silent, evolutionary nature of self referral consciousness in terms of the four Vedas.

One Sutra of the Apaurusheya Bhashya is explaining the sequence of commentary. It is "*An purvi kramena*" - "*Follow the sequence*". Only Veda can know the Veda, only Veda can comment Veda. That is why Apaurusheya Bhashya is also called uncreated commentary of Veda, because the commentary is in the gaps between syllables and words, in the transcendental field of pure consciousness, Samhita. Samhita is between each Vedic syllable, where the wholeness has curved back within itself. This gap is divided into four stages.

The first stage of the gap is called pradhvansabhava. In this stage, the previous state (expression) perishes, becomes unmanifest. The next stage, atyantabhava is the state of absolute silence. The third stage anyonyabhava is the stage of creative transformation within the gap. The manifestation of a new state is called pragabhava.

In our personal experience this process is comparable with the process by which the flow of thought or speech is computed in the brain: the brain computes the next syllable in the gap following the preceding syllable. Through the TM and TM-Sidhi program we are consciously experiencing the gap and its four stage dynamics and thus are enlivening in our individual consciousness the total intelligence of nature, all the laws of nature which are contained in the Veda.

Veda or Samhita is Shruti, that which is heard. What is heard is the mechanics of transformation of consciousness from one aspect to another. Veda hears itself through the mechanics of self-interaction. Here is liveliness of Veda in our own self-interacting dynamics of consciousness. When Veda is the matter of study, then study is the field of consciousness, when Veda is a matter of living reality in the daily life then Veda is the whole universe, because the universe is the expressed version of Veda. Veda reverberating within itself is spontaneously expressed as "vishwa" (the universe).

In Veda Lila Maharishi gave an insight into the self-interacting dynamics of natural law which are eternally going on in the unified field, in a perfectly orderly and sequential manner. Veda means pure knowledge and Lila means display or activity. The whole universe is all consciousness – unmanifest reality is all that there is.

Veda Lila displays why and how all creation of all forms appear from that unbounded ocean of consciousness. The unbounded ocean of consciousness, in its absolutely unified state, has its internal dynamics, due to which all the Vedic sounds that constitute all areas of Vedic literature, are sequentially unfolded. And ultimately when all the Vedic sounds are unfolded within the unbounded ocean of consciousness, the sounds express themselves as the actual form of creation, the actual matter of creation. The material creation is really the expression of these primordial sounds which in turn are nothing but the unbounded ocean of consciousness in its intelligent state, interacting within itself.

The infinite dynamism of the self-referral structure of the unbounded wholeness of consciousness, Samhita, creates all areas of Vedic Science, and all branches of Vedic literature are illuminating different aspects of the self-referral structure of the Samhita. The Samhita is expressed in its full value in the Rig Veda. The Rig Veda Samhita is the structure of Vedic Science. "Rig" is structured in its sequentially progressing, self-referral, cyclical motion. This is expressed in the first word of Rig Veda "AGNIM" and expanded in the entirety of Rig Veda, in which is structured the entirety of each of the areas of Vedic Science.

Maharishi Mahesh Yogi in his course on Vedic Study and SCI gives analysis of word "AGNIM" and provides an example of the magnificent richness and completeness of the expressions of the Veda in bringing to light the fullness of knowledge.

"A" is the one-syllable expression of pure knowledge. "A" as derived from the root "anju" has the values of: gyan – knowledge; gaman – action (progression); prapti – achievement; moksha – fulfillment. "A", expression of the fullness of the unmanifest, has the knowledge of its goal, infinity. To achieve its goal, fullness, by becoming aware of itself, finds within itself its point value (emptiness) – a state which is expressed by "G". Thus, the whole course of infinity is measured by the first two letters of Rig Veda. From letters "AG" Rig Veda is emerging. "N," indicating negation, negates the state of the unmanifest as indicated by "G" and this stimulates the unmanifest value of "A" in "G" to manifest. From the letters "AGN" Sama Veda is emerging. This stimulus to manifest is led on to progression, indicated by "I." From this it is clear that all the fundamental values of creation and evolution are contained in "A" and that their first elaboration are the three qualities of "G," "N," and "I." In this way "AGNI" contains the seed and the first sprouting of all knowledge and the mechanics of creation and evolution. "A" also signifies sattva, "G" tamas and "NI" rajas. "N" refers to tamas and "I" referes to sattva. "I" is the movement from "G" to "A" and this movement creates HAM which is the sound "M". Also, AGNIM, the first word of Rig Veda is the seed of all the four Vedas: Rig, Sama, Yajur and Atharva. AG is the seed (first syllable) of Rig Veda; N is the seed (first letter) of Sama Veda; I is the seed (first letter) of Yajur Veda; M is the seed (first letter) of Atharva Veda. From the letters "AGNI" Yajur Veda is emerging. From the letters "AGNIM" Atharva Veda is emerging. The evolution "A", into "AGNIM" illustrates the mechanics whereby the self-referral state of the unified field, being fully awake within itself is aware of its point value. This simultaneous awareness of boundlessness and its own point value sets up the principle of the process of quantification in the self-referral structure of the unified field, whereby the wholeness of the unified field creates within itself infinite diversity of cosmic life. The fullness expressed by the first sound, "A," is further clarified and illuminated by each successive letter, word, hymn, sukta, mandala, and by all ten mandalas of Rig Veda.

Note: In later years, Maharishi Mahesh Yogi was describing the Veda as emerging from the collapse of A to K (rather than from A to G) – K being a full stop of speech. He explained that the entire Rik Veda is contained in that first syllable AK. In the flow of the Rik Veda, the syllable AK becomes AG. K is a full stop, while G is a stop but still allows the flow to continue. But both G and K really represent the same point value of consciousness. In this book the letter G has been chosen for simplicity reason, as the first word of Rik Veda is AGNIM.

Rig Veda is traditionally divided into ten parts called mandalas. The first mandala contains the fullness of knowledge of natural law (Purusha and Prakrti together). The second through the sixth mandalas contain the laws responsible for governing the five subtle elements – tanmatras (2 – Earth; 3 – Water; 4 – Fire; 5 – Air; 6 – Space). The seventh to the ninth mandalas govern the subjective aspect of life (7 – Mind; 8 – Intellect; 9 – Ego). In this way the mandalas from 2 to 9 present the fullness of knowledge of Prakrti (Nature). The tenth mandala contains the fullness of knowledge of the Absolute (Purusha).

Each mandala is divided into parts called suktas, ranging in number from 43 to 192 in each mandala (the average is about 100 suktas per mandala). Each sukta consists of approximately 10 verses, totalling about 10,000 verses for all of Rig Veda. Each verse has an average of 10 words.

Because Rig Veda, the first of the four Vedas, contains within it the totality of knowledge and unfolds the knowledge of Rishi, Devata and Chhandas, all these three values are present within Rig Veda. Within the Samhita of Rishi, Devata, and Chhandas, all possibilities of interactions can be found, providing a basis for the sounds of Veda and the entire Vedic literature.

Maharishi says that anyone who sees something becomes that thing. This principle is derived from the fourth sutra of the Patanjali Yoga Sutra *"vrtti sarupyam itaratra*." When one of the aspects of Veda looks at another aspect, it is transformed. The mechanics of the transformation creates activity and this activity is perceived as sounds, which are the sounds of the next part of the Veda. Like that the structure continues. The first sequence of transformation gives rise to the other three Vedas.

When Samhita sees Rishi in its own structure, then Samhita becomes Rishi, and in this transformation Samhita (of Rig Veda) becomes the Samhita of Sama Veda. Like that Samhita sees Devata and becomes Samhita of Yajur Veda, and when Samhita sees Chhandas, Samhita (of Rig Veda) becomes Samhita of Atharva Veda. The four Vedas represent complete knowledge: the knowledge of the Absolute, the relative, and the link between them.

At the same time while Samhita sees Rishi in its own structure, Rishi also sees Samhita, and in this transformation Rishi becomes Samhita and this brings out the Upanishads. When Devata sees Samhita, this transformation of Devata becoming Samhita brings out the Aranyakas and when Chhandas sees Samhita this transformation brings out Brahmanas. The Brahmanas display the eternal mechanics of transformation of Samhita, the self-referral dynamics of the organizing power of the Samhita. The Upanishads are a filter that extracts from the Vedas the absolute aspect of Vedic knowledge. The Aranyakas are the filter that extracts from the Vedas the knowledge of the link between the Absolute and relative. The Brahmanas are the filter that extracts from the Vedas the knowledge which reveals the relative values of life and the natural attraction of these values towards the Absolute.

The Vedangas or limbs of the Veda are the six structural principles of intelligence in the singularity of the Rig Samhita. They are created from the mechanics of transformation resulting from the interactions between Rishi, Devata and Chhandas.

When Chhandas looks at Rishi, Chhandas becomes Rishi and this transformation brings out Shiksha. When Rishi looks at Devata, Kalpa comes out. When Devata looks at Chhandas, Vyakaran comes out. When Chhandas looks at Devata, Nirukta comes out. When Devata looks on Rishi and becomes Rishi, this transformation brings out the aspect of Vedic literature called Chhandas, and when Rishi looks at Chhandas, Jyotish comes out. The six Vedangas are the "limbs of the body of the Veda", bringing out three elements: how to preserve the Veda, how to know the Veda, and how to use Veda.

In the next sequence of transformation, the Upangas are created from Samhita looking on each of the Vedangas: when Samhita looks at Shiksha, Nyaya comes out; when Samhita looks at Kalpa, Vaisheshika comes out; when Samhita looks at Vyakaran, Sankhya comes out; when Samhita looks at Nirukta, Yoga comes out; when Samhita looks at Chhandas, Karma Mimansa comes out; when Samhita looks at Jyotish, Vedanta comes out. The six Upangas are subordinate to the limbs and supportive of them. They are also commonly known as the "six systems of Indian philosophy." They present the principles underlying true and complete knowledge by establishing the criteria of validity for all knowledge.

In the final transformation, the Itihasas, Puranas and Smritis emerge. The Itihasas, Puranas and Smritis present the holistic value of all the specific values of transformation of Rishi, Devata and Chhandas respectively. The Itihasas are comprised of the Ramayana and Mahabharata. The central part of Mahabharata is the Bhagavad Gita which presents the whole field of Vedic Science available in one compact vision. The eighteen chapters of the Bhagavata Gita together reveal all knowledge and organizing power inherent in the Samhita and displayed in the entire Vedic literature. The Puranas represent the embodiment of Vedic knowledge, a concrete presentation of the laws of nature and their functioning in terms of dialogues and activities of living beings. The Puranas can be said to represent the illustrated version of Vedic wisdom. The Smritis represent a mirror to clearly see one's level of awareness in terms of one's actions, with which one is so familiar.

In the sequential growth consciousness becomes matter, and we find that the field of Veda as consciousness is over. The field of Upa Veda has come up to deal with matter. There are four Upavedas. Each of the four Upavedas corresponds to one of the four Vedas. Ayurveda corresponds to Rig Veda, bringing out Rishi, Devata and Chhandas. Gandarva corresponds to Sama Veda, bringing out the Rishi Value. Dhanur Veda corresponds to Yajur Veda, bringing out Devata and Sthapatya corresponds to Atharva Veda, bringing out Chhandas. The Upaveda or Subordinate Vedas, present the knowledge of how to enliven Veda as a living reality on the level of one's own existence. The Upavedas handle the most expressed value of natural law in which consciousness has assumed the quality of matter, where Rishi, Devata and Chhandas, the three components of pure consciousness, become expressed as the Vata, Pitta and Kapha the three doshas (impurities), the values of material creation. The Upavedas provide principles and techniques through which matter can be re-enlivened with the full value of consciousness. The Upavedas provide all the practical technologies to bring about the dissolution of the mistake of the intellect, by creating perfect balance on the material level of creation. Maharishi has revived the Upavedas, and most particularly Ayurveda, the principal of the four Upavedas. Maharishi Ayurveda is the Veda or knowledge of Ayu ("life span"). It gives us the complete knowledge of how, through the specific technologies on the level of consciousness (TM and TM-Sidhi program), physiology, behavior and environment, to bring perfect balance to life and restore the memory of that immortal unified field of consciousness, the unbounded ocean of consciousness. To achieve this state of perfect balance, Maharishi Ayurveda advocates 20 complementary approaches. When used together, the 20 approaches of Maharishi Ayurveda ensure perfect health for the individual, the family, the nation, and the world, because they are quickly removing the mistake of the intellect, pragyaparadha and restoring the memory of the unity of creation, the experience of the unified nature of creation. This 20 approaches are: Consciousness, Primordial Sound, Intellect, Emotions, Language, Maharishi Gandharva Veda, Senses, Psycho-physiological Integration, Neuro-muscular Integration, Neuro-respiratory Integration, Physiological Purification, Diet, Herbs and Minerals, Rasayana, Behavior, Pulse Diagnosis, Maharishi Jyotish, Maharishi Yagya, Environment and World Health, and World Peace.

Through these 20 approaches, of which the first and most fundamental is the approach through consciousness, the doshas come into balance. And when the material aspect comes into the balance, then also consciousness comes into the balance. Rishi, Devata and Chhandas which are the origin of Vata, Pitta and Kapha also achieve perfect balance. Rishi, Devata and Chhandas come into their normal state of Samhita, the unity of the three. The memory that Rishi, Devata and Chhandas are three concepts of the unity of the unbounded ocean of consciousness is restored. The mistake of the intellect is corrected and life begins to be lived in Unity consciousness which is the state of perfect health. Technology of Maharishi's Vedic Science eliminates pragyaparadha and develops higher states of consciousness.

Various techniques of Maharishi's Vedic Science

The Transcendental Meditation technique

Transcedental Meditation is an effortless procedure for allowing the excitation of the mind to gradually settle down until the least excited state of the mind is reached. This is a state of inner wakefulness with no object of thought or perception, just pure consciousness, aware of its own unbounded nature. It is wholeness aware of itself, devoid of difference, beyond the division of object and subject, transcendental consciousness, Samhita of Rishi, Devata and Chhandas.

TM-Sidhi Program

Based on the experience of Samhita, the self-interacting dynamics of consciousness, Maharishi has brought forth an advanced program for gaining mastery over all laws of nature, based on the formulations found in the ancient Yoga Sutras of Patanjali. Through the TM-Sidhi program the mind gains the ability to function from the level of the self-interacting dynamics of the unified field. The purpose of the TM-Sidhi program is to consciously create activity from that level from where nature performs.

Maharishi Ayurveda

Maharishi Ayurveda is a complete science of health based on the classical Ayurvedic knowledge of ancient India, brought to light in modern form by Maharishi Mahesh Yogi. The main focus of Maharishi Ayurveda is the refinement and optimization of the physiology using a variety of measures that promote both resistance to disease and development of the full potential of the individual. The knowledge of Ayurveda is first for prevention and second for cure. Maharishi Ayurveda emphasize prevention on the basis of the principle of elimination of pragyaparadha (mistake of the intellect). Pragyaparadha is imbalance in the field of consciousness, the Samhita of Rishi, Devata and Chhandas. This imbalance in consciousness disrupts the self-interacting dynamics of nature and results in imbalance of the physiology. Maharishi Ayurveda removes Pragyaparadha through the study of Maharishi's Vedic Science which is a very simple study of all aspects of the Vedic literature in one stroke. Maharishi Ayurveda includes within its range all disciplines of Maharishi's Vedic Science.

Maharishi Jyotish

Maharishi Jyotish unfolds the full potential of the organizing power of nature, inherent in the Veda, enabling anyone to command the full authority of natural law with mathematical precision. We see in the Veda Lila how from the field of pure Veda, pure consciousness, unbounded ocean of pure consciousness, all aspects of Vedic literature sequentially emerge. Jyotish is that aspect of the Vedic literature which calculates the quality of the sequential development of sounds of the Rig Veda, and is concerned with all values of the past, present and future. Nature manifests itself through sequential development. If we know one point, we can know everything that came before and comes after that point, and also we can calculate all possible angles that this point can take. Jyotish has a language of its own. With a few symbols we know how much deviation there is from the evolutionary path and how to rectify it. Maharishi Jyotish is the predictive science that allows one to calculate the influence of past actions and prescribes measures to neutralize any undesirable influence before they arise *(heyam dukham anagatam – avert the danger that has not yet come, Yoga Sutras of*

Patanjali II.16). The ultimate value of studying Jyotish is to enliven that aspect of pure knowledge in the awareness (Jyotish-mati-pragya) which will make the individual a living embodiment of Jyotish, containing within his awareness the entire span of past, present and future. Such awareness is able to compute spontaneously that action which is most appropriate in every given circumstance.

Maharishi Gandharva-Veda

Gandharva Veda music is a precious discipline of Maharishi's Vedic Science, the science of life, to create balance in nature, eliminate stress in the atmosphere, and produce a healthy influence for the individual and peace for the world family. Gandharva-Veda music uses sound, melody, and rhythm to restore balance and harmony in the mind, body, behavior and environment. Gandharva-Veda music is the eternal melody of nature spontaneously sung on all levels of creation, from the minute to the huge, enormous, ever-expanding universe. Gandharva-Veda music is a most refined evaluation of the sound value, the frequency. Ultimately, it is the self-referral dynamics of consciousness which is infinite frequency. Infinite frequency is on the level of the unified field of natural law which terms of Vedic Science is called Samhita of Rishi, Devata, and Chhandas. Gandharva music is that eternal melody of nature which is ever lively in Transcendental Consciousness. From there it reverberates and constructs different levels of creation. Gandharva music is the basic of all order and harmony in nature. Therefore it has that most harmonizing, most integrating influence. Gandharva music is a precious gift of the ancient Vedic civilization for whole world to create Heaven on Earth for all times.

Maharishi Sthapathya Veda

Maharishi Sthapathya Veda is the ancient science of constructing buildings and cities in accordance with Natural Law. Maharishi Sthapathya Veda deals with creating an environment which allows us to experience that self-referral experience of Samhita of pure consciousness even on the level of environment. The word Sthapathya is derived from the root "sthaphana" which means "to establish" and Veda means "knowledge". Thus Maharishi Sthapathya Veda provides maximum support of all the laws of nature to the individual. It provides knowledge on how to design an environment that reflects boundlessness, immortality, invincibility and bliss on all levels. Maharishi Sthapathya Veda gives the perfect design for a perfect environment for people to live in. The principles of Maharishi Sthapathya Veda are concerned with all aspects of our interaction with the environment, especially with planning and building of ideal houses, ideal villages, and ideal cities. On the principles of Maharishi Sthapathya Veda, Maharishi's cities of Immortals will be built, making Heaven feel comfortable on earth.

Maharishi Yagya

Maharishi Yagya is that which helps evolution. Yagya is putting the sacrifice within ones Self. The self-interacting dynamics is the activity within ones Self. That activity is Yagya. "Ya" mean "that which is" and "Gya" is knowledge. So Yagya means "that which is pure knowledge". Pure knowledge is the self-interacting dynamics of pure consciousness, Samhita. From this self-interaction all the laws of nature come out and structure the universe. Yagya is the infinite organizing power of nature which maintains and sustains the universe. Maharishi Yagya is the technology of using the organizing power of nature, inherent in pure knowledge, Veda, to generate all possibilities in life. In reconstructing the value of natural law we must whisper to nature in her language. Maharishi Yagyas are performed in the language of the Veda, because nature understands its own language. In

taking recourse to the richas of Rig Veda, Maharishi Yagyas accomplish their goals. Maharishi Yagyas are those precise procedures that utilize the primordial sounds of nature to realign the patterns of intelligence so that harmony can be restored between the rhythms of the individual with those of the cosmos. Maharishi Yagyas are concerned with the Devata value of life, with fundamental laws of nature, impulses of creative intelligence. When the richas of Rig Veda are recited properly, one influences that Devata value of life. Each primordial sound creates its own Devata, its own impulse of creative intelligence. Each letter, each richa, each sukta, each mandala of the Veda has its own Devata, and put together in specific ways, these impulses of creative intelligence get enlivened on the level of the Transcendent, to fulfill the target of human intention. In Maharishi Yagyas we attend to the Devata which is the intermediary between the subject and object, Rishi and Chhandas. And attending to the Devata takes place where they all reside, in akshara, pure consciousness. Maharishi Yagyas are technologies for managing the Devata value of consciousness, and thus we gain mastery over natural law. As masters of natural law we can live life in its full potential, and this is Vedic life, life in accord with all the laws of nature, Heaven on Earth.

All the technologies of Maharishi's Vedic Science are precise methodologies of eliminating pragyaparadha from every aspect of life, and thus raising the totality of life to fulfillment and perfection in Unity Consciousness. Maharishi's Vedic Science is the perfect science of this total potential of life which is eternally lively in the self-referral consciousness of everyone. Maharishi's Vedic Science offers to everyone the fruit of all knowledge so that everyone live perfection, life lived spontaneously in accord with natural law, life in waves of fulfillment, life in bliss, Heaven on Earth.

Vedic recitation

„The perfect orderliness of the Sanskrit language creates orderliness and balance in the brain physiology, expands the memory, and purifies the physiology. When reciting the Vedic language, the brain functions from more silent levels, increasing peace and harmony in the mind".

-Maharishi Mahesh Yogi

Through daily recitation of Vedic literature, the brain physiology of every individual will become habituated to function in the same precise, orderly sequence in which the Samhita is eternally flowing at the unmanifest basis of all creation, spontaneously promoting evolution of all life. The structure and function of the physiology itself reflects the sequential unfolding of the structuring dynamics of intelligence displayed within the Vedas. Enlivening the impulses of the Vedas in the physiology therefore provides a powerful means of reactivating the healing intelligence in all parts of the body. When listening to or reciting various aspects of the Vedic literature and taking the awareness to the Transcendent, the physiology over time gets cultured to reflect the total organizing power of pure knowledge within itself.

The Vedas are one of the most ancient texts preserved intact today. They form the basis for most of the Indian philosophy and psychology, including Yoga. The recitation of the Vedas has gained popularity today and many are interested in learning it.

Human languages are phonetic in nature and they are a medium for communication. Language acquisition involves mastering rules to connect sound and meaning. These phonological rules connect phonetic surface structures to underlying lexical representations. The phonological system is theorized to be independent of the lexical systems. The phonological system is computed pre-lexically and automatically and is necessary for lexical access. In human languages, the relation between phonology and meaning is not inherent in the sound itself. Most languages can be modeled by a two-step process. The first involves the mapping of the inherently variable acoustical speech signal onto representational units or phonetic categories. The second step includes the integration of higher-level contextual information with the first level of processing to produce speech. In most languages, the connection between acoustical sound and meaning is derived from the shared social context and agreed-upon conventions of sound/meaning.

The Sanskrit language of the Vedic literature is different from other languages. In Sanskrit, the sound (phonology) is predicted to contain the form (meaning). This different status of Sanskrit gives a different value to reading Sanskrit than to reading other languages. The primary value of reading other languages is for communication. The primary value of reading Sanskrit is to enliven within the individual the fundamental frequencies expressed in the Sanskrit texts. Based on this principle, an individual may not need to know the meaning of the Sanskrit texts to benefit from reading Sanskrit.

A study conducted at Maharishi University of Management, in Fairfield, Iowa, tested the hypothesis that reading Sanskrit (without knowledge of the meaning of the text) creates different physiological patterns than those found during reading Spanish, French, or German, when also read for sound rather than meaning.

"Physiological patterns during practice of the Transcendental Meditation technique compared with patterns while reading Sanskrit and a modern language"

– Frederic Travis, Theresa Olson, Thomas Egenes and Hemant K. Gupra, 2 February 2001).

To understand the significance of the physiological patterns observed while reading Sanskrit and modern languages, these patterns were compared to those found during the practice of the Transcendental Meditation technique. This comparison was made because the TM technique has been shown to take the attention to the level of inner awareness that contains the reverberations of the Veda within each individual. Such a comparison may give insights into the mechanics of transformation that occurs while reading Vedic Sanskrit.

The research data supports the hypothesis that speaking out the sounds of Sanskrit, without knowledge of their meaning, produces distinct physiological patterns. The EEG and autonomic patterns while reading Sanskrit texts were similar to the patterns during the TM practice, but significantly different from the patterns found while reading a modern language.

The study showed significant increases in alpha amplitude and coherence during the reading of Sanskrit compared to reading modern languages. It seems reasonable to conclude that the increased alpha activity observed while reading Sanskrit probably reflects processes other than phonological processing.

Since the physiological patterns were similar during the reading of Sanskrit and practicing the TM technique, it is possible that similar processes may be occurring during these two conditions. The TM practice is marked by the process of „transcending", defined as the mind moving inwards, resulting in finer levels of thinking. During the process of transcending, one is more engaged with inner phenomena and less engaged with outer stimuli and behavior. Transcending during the TM practice is marked by heightened alpha activity and coherence values, decreased breath rates and increased respiratory sinus arrhythmia. The observed increase in alpha activity while reading Sanskrit could suggest that a greater range of the mind is being activated and integrated. Obviously the person is processing written script and speaking out sounds, yet their attention may simultaneously be „deeper" in the system, simultaneously experiencing inner quiet and outer activity. Similar physiological patterns during eyes-open reading of Sanskrit and eyes-closed practice of the TM technique could suggest that the state gained during the TM practice may be integrated with active mental processes while reading Sanskrit.

It is of vital importance to know texts by heart. Even when a translation is available along with it, it is good to know the original text itself and not to care too much about meaning. Knowing the sounds in a purely mechanical way extols their musical component. You don't need to learn forcefully by heart. Just take your time and repeat little by little. Recite loudly or in a low voice. It is very important to pronounce correctly. Later you can recite mentally.

Vedic grammarians divide speech into four stages from unmanifest to the most expressed level. The subtlest level is para, the transcendental level where speech is not yet expressed but contained in seed form. At the level of the Self or para (Samhita or wholeness level of creation), the speaker, speech, and the process of expressing speech are one, even though the three aspects of speech can be conceptually differentiated. The next level of speech is pashyanti, the subtle level of speech in which speech is not yet expressed, but the level of transcendental consciousness has been so enlivened that it is beginning to rise in impulses. This occurs close to the borderline between the Self and the finest level of the ego. The third level of speech is madhyama or the level of mental speech or verbal thought. The madhyama level of speech comprises the levels of mind and intellect where memory, thought, and discrimination function. Madhyama itself can be differentiated into numerous sub-stages through which speech emerges from the impulse level all the way to the fourth and most manifest level, vaikhari, where it is spoken and can be heard. Vedic recitation starts from vaikhari and progressively goes to the mental level (madhyama) and pashyaniti and finally enlivens the para level.

Vedic recitation - peace chant

Recitation should be with understanding and meaning.

saha nāvavatu |
saha nau bhunaktu |
saha viryam karavāvahai |
tejasvi nāvadhitamastu mā vidvisāvahai |
oṃ śantiśśāntiśśāntiḥ ||

Let us be together,
Let us eat together,
Let us be vital together,
Let us be radiating truth,
radiating the light of life,
Newer shall we denounce anyone,
Never entertain negativity.
OM Peace, Peace, Peace.

Introductory verse for the Upanishads of the Taittiriya Samhita of Yajur Veda

Being together on the level of the group means to practice together the TM and TM sidhi program, to be together in the simplest form of awareness which is the seat of immortality. Rig Veda 10.191.2-4 gives more light on that expression of being together.

„Go together, speak together, know your minds to be functioning together from a common source, in the same manner as the impulses of creative intelligence, in the beginning, remain together united near the source".
"Integrated is the expression of knowledge, an assembly is significant in unity, united are their minds while full of desires. For you I make use of the integrated expression of knowledge. By virtue of unitedeness and by means of that which remains to be united, I perform action to generate wholeness of life.
United be your purpose, harmonious be your feelings, collected be your mind, in the same way as all the various aspects of the universe exist in togetherness, wholeness."

– From 12.40 of the Rig Veda, Tenth Mandala, translation by Maharishi

For individual, expression of being together will mean to come back to self, to transcend.

Let us eat together, means that we experience and metabolize the experience of the transcendental value of life. "Eating" in Yoga means: "experiencing". What ever you are experiencing you are putting that in your consciousness and on that basis you create a psycho-neuro-endrocrinological effect in your body. Your body is digesting all your experiences. Experiences are the food for the mind. Whether on the level of the group or individual, from the yogic perspective, eating means eating the fruit of pure knowledge. This is creating Ojas in the physiology which in turn creates Virya (vitality, life force). Let us be vital together. In togetherness vitality comes from coherence created by the group. And this vitality is the seat of all possibilities, immortality. The group, while practicing the TM and TM-sidhi program, becomes a powerful generator of vitality and coherence and is radiating that to its surroundings. The group is radiating the light of life that removes the darkness of non-coherence and ignorance. On the level of the individual, the production of Ojas is a result of transcending and there is a glow emanating from the person. The person is radiating the life force and light. At the end there is the warning that never shall we denounce anyone, never shall we entertain any negativity or express any negativity to anyone – no conflict in thinking and behavior. We should not act on the basis of kleshas but sympathize with others and "do good". In our heart we do not entertain any negativity to anyone,

we do not discard anyone. Enlightening ourselves we radiate light. Our attitude is like the attitude of an ocean: All the rivers from all sides pour mud into the ocean. The ocean very quietly allows all mud to settle down on the bottom of the ocean and offers clean waves for all the ships that may be floating on the ocean and doesn't allow the mud from any direction to move on to any other direction. Our status is the status of the ocean, it is enlightened awareness. At the end we are invoking peace for all three levels of our body (shariras). Repeating shanti three times means that we really achieved peace.

Live, let others live, give and forgive.

Asato mā sat gamaya |
sato mā amṛtam gamaya |
tamaso mā jyotirgamaya |
mṛtyormā amṛtam gamaya |
oṃ śāntiśśāntiśśāntiḥ ||

From non-existence lead us to eternal, pure existence,
Establish us in eternity to drink the nectar of immortality,
From darkness lead us to light,
From death lead us to immortality.
OM Peace, Peace, Peace.
Brihad-Āraṇyak Upanishad, 1.3.28

This peace chant continues with the theme of transcending and stabilizes (sato ma...) the experience of Transcendental Consciousness, reaching Cosmic Consciousness. In Cosmic Consciousness the nervous system is functioning with its full potential and produces amrita, the drink of the Gods. The Gods in our physiology are drinking amrita and do their function better, they improve and refine the faculty of perception and we are starting to live God Consciousness in which everything we see is in a celestial, divine light. And then the person progresses to achieve the state of Unity Consciousness, the state of immortality.

Pūrṇamadah pūrṇamidam pūrṇāt pūrṇamudacyate |
pūrṇasya pūrṇamādāya pūrṇamevāvaśisyate |
oṃ śāntiśśāntiśśāntiḥ ||

That is full; this is full; from fullness, fullness comes out;
taking fullness from fullness, what remains is fullness.
OM Peace, Peace, Peace.
Brihad-Āraṇyak Upanishad, 5.1.1

This text explains the nature of life in the state of Unity and Brahman Consciousness when everything is perceived in terms of Unity.

One beautiful peace chant comes from Upanishads that belong to Atharva Veda: Mundaka; Mandukya and Prasna Upanishads

Oṃ bhadraṃ karṇebhiḥśṛṇuyāma devāḥ |
bhadraṃ paśyemākṣabhiryajatrāḥ ||
Sthirairaṅgaistuṣṭuvāṁsastanūbhiḥ |
vyaśema devahitaṃ yadāyuḥ ||
Svasti na Indro vṛddhaśravāḥ |
svasti naḥ Pūṣā viśvavedāḥ ||
Svasti nasTārkṣyo ariṣṭanemiḥ |
svasti no Bṛhaspatirdadhātu ||

Oṃ śāntiśśāntiśśāntiḥ ||
May we hear with our ears what is auspicious, O Devas,
May we see with our eyes what is auspicious, O Yajatrā.
May we live with contentment with strong body and limbs,
May we praise God and sing His glories during our lifespan alloted to us by the Devas.
May Lord Indra of great fame increase our well-being and prosperity,
May Lord Pūṣā, who is all-knowing, bless us with well-being and prosperity.
May Lord Tārkṣya (Garuda), who is the protector, bless us with well-being and prosperity,
May Lord Bṛhaspati also bless us with well-being and prosperity.
OM Peace, Peace, Peace.

Gāyatrī mantra

Gāyatrī mantra is a prayer to the supreme infinite Divine Reality for the enlightenment of the Intelligence (Dhi) of all human beings to enable them to realize the Supreme Truth.

Sāvitrī signifies that which is related to Savitṛ (Savitā) which means the source or originator of the universe, as well as the Sun. The Sāvitrī-Mantra is composed in the Gāyatrī metre, and it being the best and most significant of Mantras in that metre it has become famous as the Gāyatrī. This Mantra occurs in the Vedas (Ṛg-Veda. III.62.10) and is considered to be their very essence, or even their Mother (Gāyatrī Veda-mātā).

Oṃ bhūḥ bhūvaḥ suvaḥ
tat savitur vareṇyaṃ
bhargo devasya dhīmahi
dhiyo yo naḥ prachodayāt |

Om, we meditate (dhīmahi) on the Spiritual Effulgence (bhargo) of that Adorable Supreme Divine Reality (vareṇyaṃ devasya), the Source or Projector (savitur) of the three phenomenal world-planes – the gross or physical (bhūḥ), the subtle or psychical (bhūvaḥ), and the potential or causal (suvaḥ), both macrocosmically (externally) and microcosmically (internally). May that Supreme Divine Being - Iśvara (tat) stimulate (prachodayāt) our (naḥ) intelligence (dhiyo), so that we may realize the Supreme Truth.

It is also very helpful to learn recitation of Maharishi Patanjali Yoga sutras.

A story in the Upanishads and Purana illustrates the value of the sounds of Veda and the Vedic Literature, as brought to light in Maharishi's Vedic Science and Technology:

A Rishi called Vishwamitra wanted to be addressed as Brahmarshi – or Rishi in Brahmi Chetana. Vasistha, a Brahmarshi himself, would not address him as such, but at every one of their encounters he would speak to him in such a way as to project onto Vishwamitra whatever value was deficient in him. If the unifying character was lacking, a Yoga value would be projected, if the expanding nature was missing, a Vyakaran value would be impressed upon him. Sometimes Vasistha would express Nyaya, sometimes Samkhya, etc.

As a result of that projection, Vishwamitra's physiology was further transformed in the direction of a Brahm physiology, leading to the transformation of a Rishi into a Brahmarshi.

Maharishi explains that this story is an example of how the physiology can be transformed through the specific sounds of Veda and the Vedic Literature – Human Physiology Expresion of Veda and the Vedic Literature.

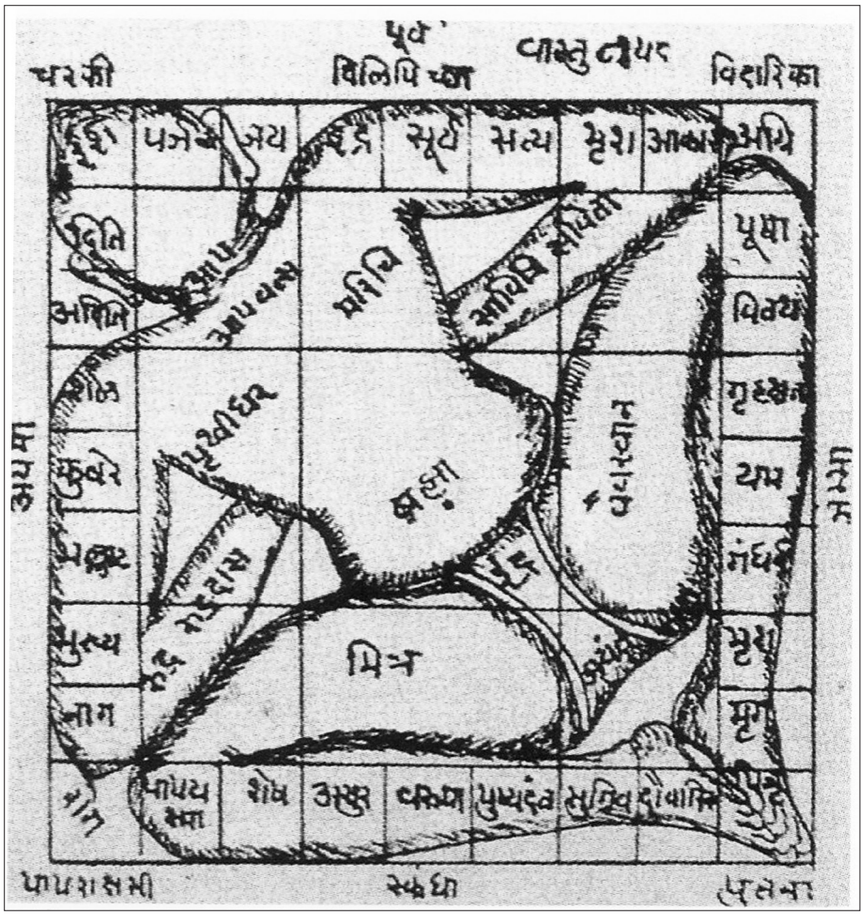
Sthapathya veda of the human body

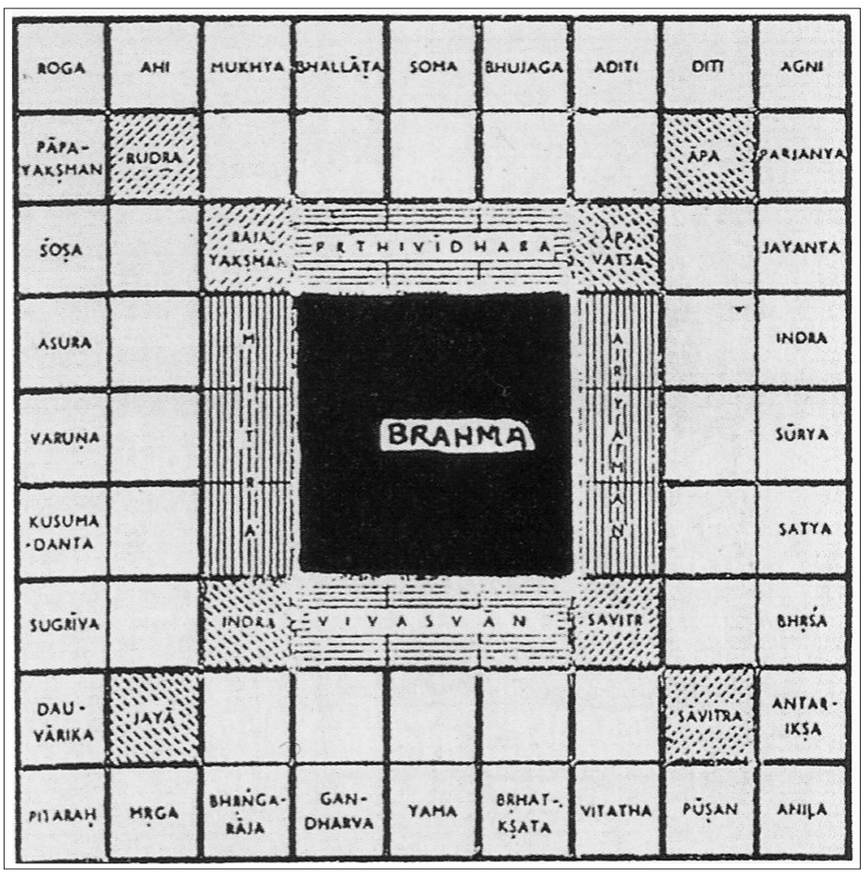
For a building to have a life supporting influence it must be situated in a good Vastu (site), according to the principles of Sthapathya Veda. Also, the character of the building and the quality of the building in which one lives or resides or works, has a very strong influence on the coherence of our thinking and the quality of life. Orientation of the building its proportions, etc., have a direct, measurable influence on the coherent functioning of the brain, on the firing of the neurons. The firing of the neurons can be very scattered or incoherent in a building that is not designed in an orderly way. Conversely a highly orderly, intelligent, and coherent style of brain functioning for maximum creativity, achievement, and success, will be the result if the building is properly oriented, in harmony with nature's intelligence.

The ancient Vedic science of architecture contains the complete knowledge of how to build structures that are maximally life supporting, fortune creating, and health promoting, in order to bring the life of the occupants in harmony with the laws of Nature. The orientation along the cardinal axes is the key, and the house itself should face east for maximum life supporting benefits from the Sun. Orientation to the North is also considered to be in tune with Natural Law, aligning the house with the orbital rotation of the Earth.

The laws of nature are those orderly principles that govern the function of the universe, uphold human health and the functioning of our physiology, including our digestion and our cycles of waking and sleeping. The laws of nature also govern the environment around us, terrestrial, astrophysical and cosmological, on every level. Nature is structured in layers of creation from superficially diverse to fundamentally unified ones. In the language of modern physics, this unity is described as the unification of all the different laws of nature, the different components in unified wholeness. This fountainhead of Natural Law is the source of all the order displayed throughout the universe, the entire structure of the galactic universe. The structure of the elementary particles, the whole geometry of the universe, the cosmic architecture, unfolds from that unified level. By understanding the symmetry and structure of unity, we also understand the symmetry and structure of diversity.

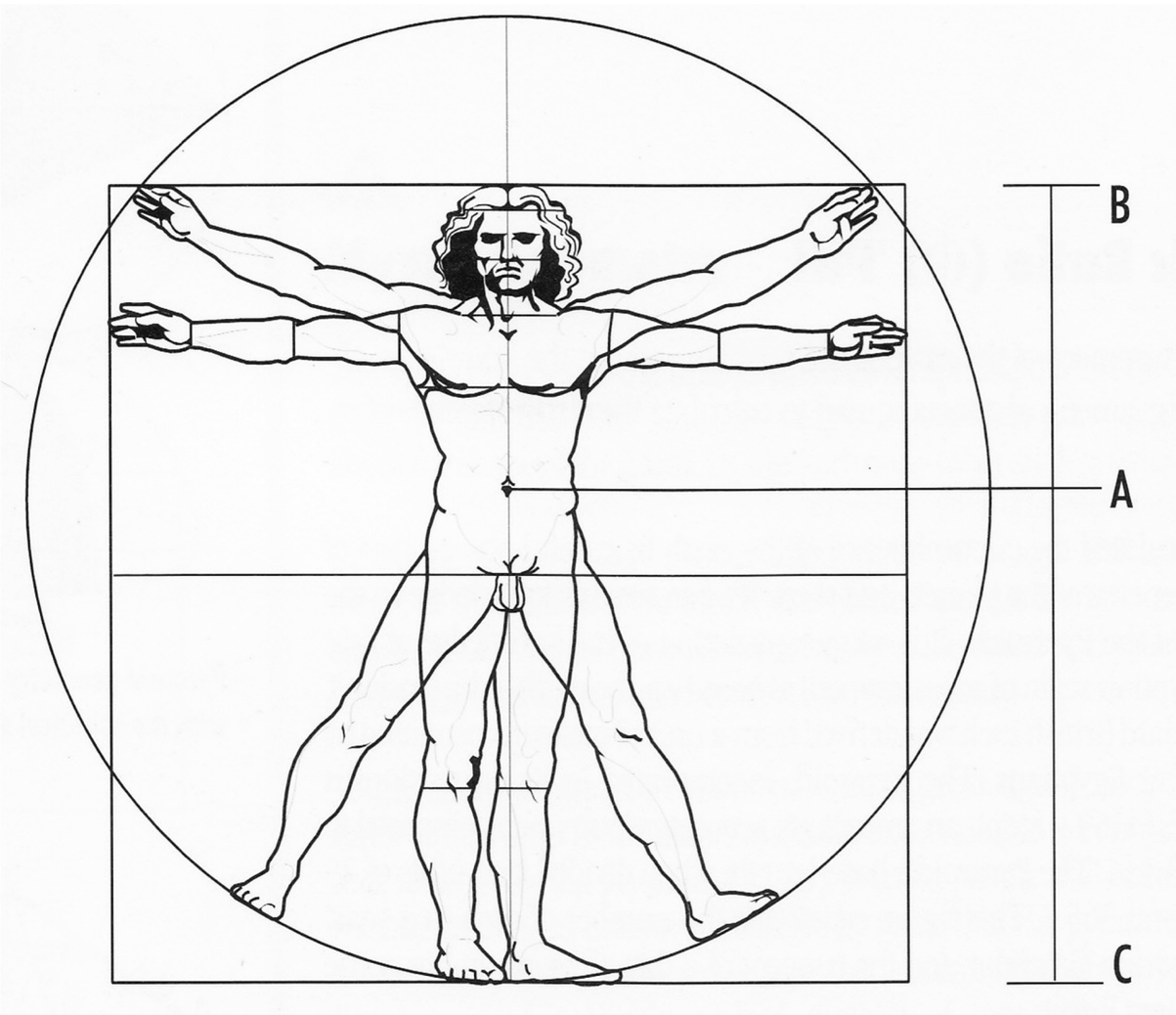
There's architecture to the elementary particles and that architecture of the elementary particles is a reflection of the fundamental architecture of the universe. The architecture of the universe is mirrored in the geometry of the elementary particles and also in the architecture and geometry of the human physiology. The human physiology is a reflection of the cosmic architecture which means that the blueprint of creation is reflected directly in the structure of the human brain and central nervous system. This human structure is a cosmic structure. It is an embodiment of the geometry of the universe. The structure of the self-interacting dynamics of unity in the Unified field of all the laws of Nature is perfectly mirrored in the very structure of the neurons of the brain and all the other organs of the human body. Even the human DNA mirrors the same cosmic structure which means that human beings are really a living, breathing embodiment of total Natural Law. We carry within us the architecture of the universe, the infinite organizing power of the laws of nature that uphold the global universe.


पूर्व
वास्तुपुरुष
चरकी
विलिपिच्छा
विदारिका
पूषा
वितथ्य
गृहक्षत
यम
गंधर्व
मृग
अयमा
ब्रह्मा
मित्र


ROGA
AHI
MUKHYA
BHALLĀṬA
SOMA
BHUJAGA
ADITI
DITI
AGNI
PĀPA-YAKṢMAN
RUDRA
ĀPA
PARJANYA
ŚOṢA
RĀJA-YAKṢMAN
PṚTHIVĪDHARA
ĀPA-VATSA
JAYANTA
ASURA
MITRA
ĀRYAMAN
INDRA
VARUṆA
BRAHMA
SŪRYA
KUSUMA-DANTA
SATYA
SUGRĪVA
INDRA
VIVASVAN
SAVITṚ
BHṚŚA
DAU-VĀRIKA
JAYĀ
SĀVITRA
ANTAR-IKṢA
PITARAḤ
MṚGA
BHṚṄGA-RĀJA
GAN-DHARVA
YAMA
BṚHAT-KṢATA
VITATHA
PŪṢAN
AṆIJA

The Parmasayika grid is a fundamental diagram which divides up the Hindu Pantheon according to the measures of Purusha, the cosmic primal man. The lotus grows from the central point of his navel, and from it emerges Brahma, the vital principle of the universe. The greatest deities are grouped around the centre, the lesser around the edge. The diagram was used as a ground plan for temple buildings and also for the arrangements of cities, with the places of the divine hierarchies corresponding to the district of human classes or castes. It was the architect's task to reproduce the human prototype of the universe in his consciousness.

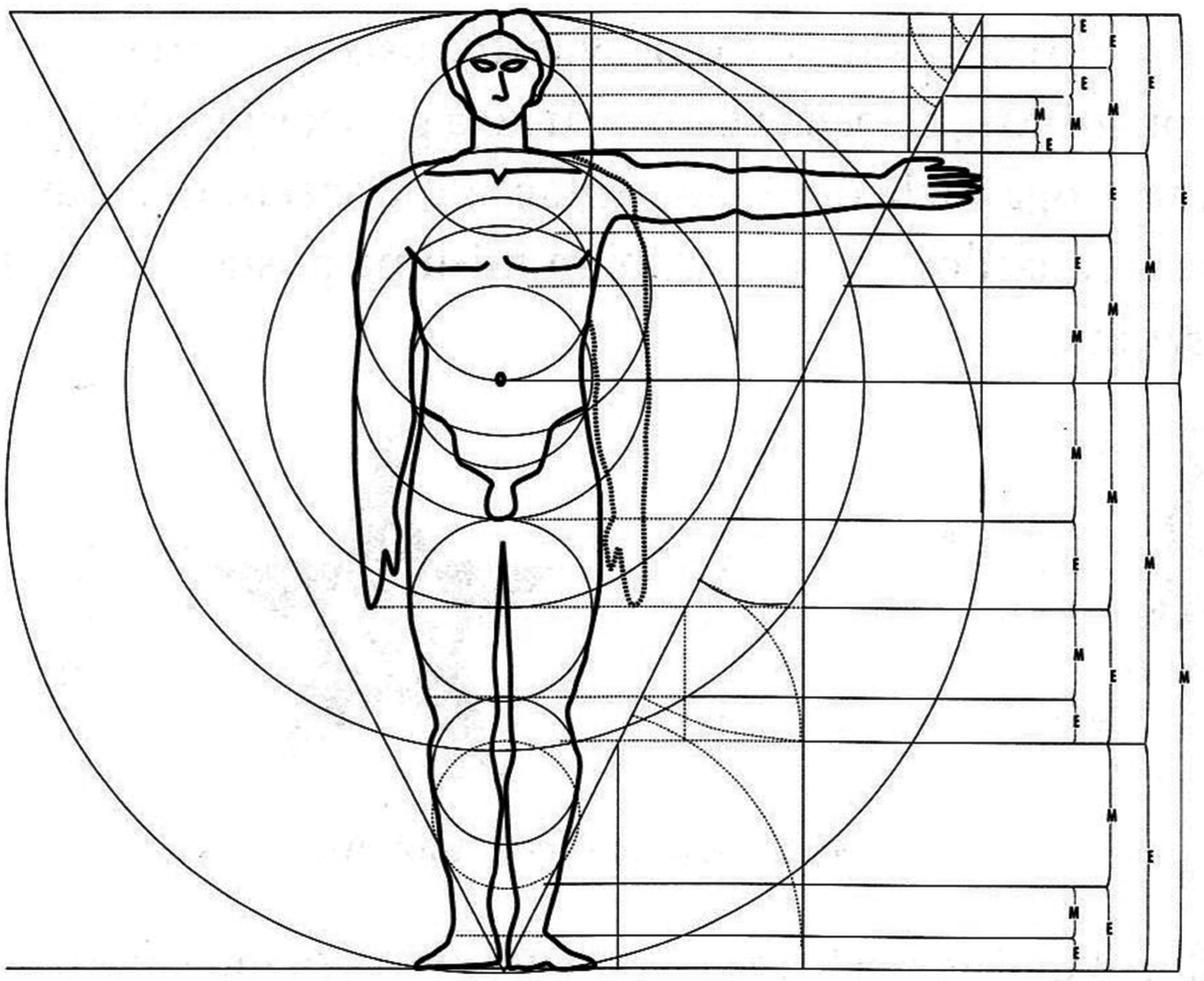
The geometry of the human body is indicative of the highest mysteries of the cosmos. The circle may be formed from a person lying on his back, with a compass placed at the navel. The square is formed from the measurement of the height from the head to toe and the width of the out-stretched arms. Man is a microcosm, the perfect image of the universe.



Human body ratio: AC/AB or BC/AC = 1.618 i.e. same as pyramid

In the above drawing by Leonardo De Vinci, ca.1510, we can see the golden section as a basis of the measurements on the human body. If you open your legs so much as to decrease your height by 1/14 and spread and rise your arms so that your middle fingers are on a level with the top of your head, you must know that the navel will be the centre of a circle of which the outspread limbs touch

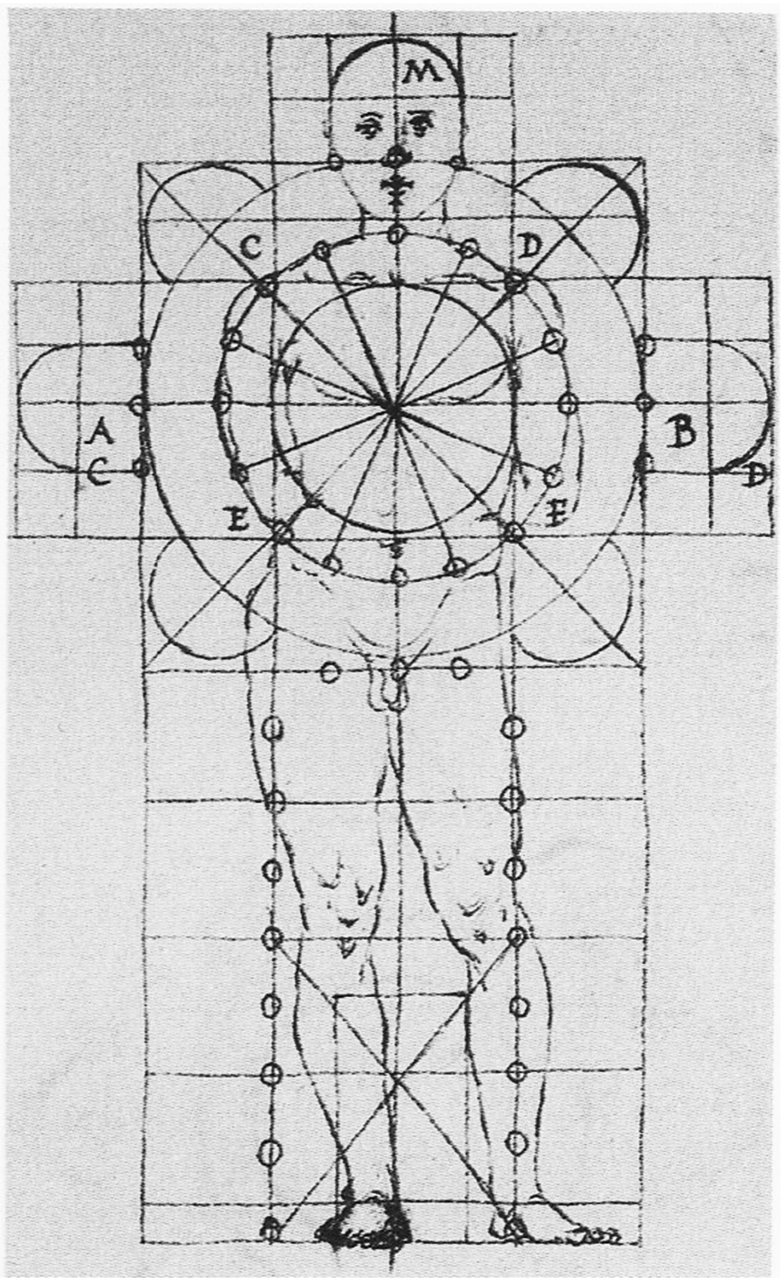
the circumference; and the space between the legs will form an equilateral triangle. The span of a man's outspread arms is equal to his height. The proportions of the human body are here related to the most perfect geometric figures and may be said to be integrated into the spherical cosmos. Geometry is infinite because every continuous quantity is divisible into infinity in one direction or the other. Every part of the whole must be in proportion to the whole. This is applying to humans, animals, plants, etc. The secret proportion appears throughout nature and is also the governing ratio in the Great Pyramids.



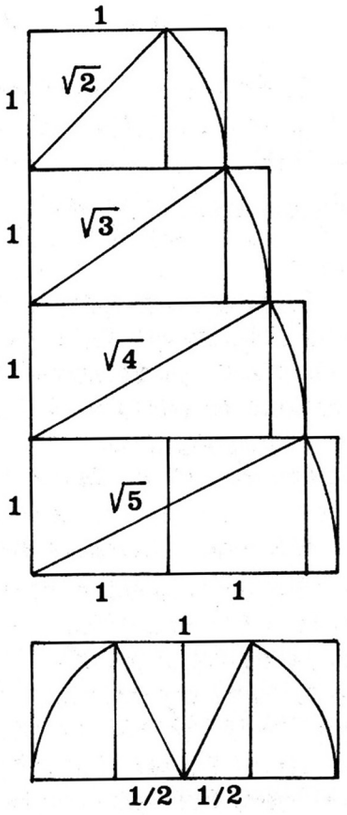
Through the golden section Euklid discovered that the centre of gravity (brahmastan) of human body is in the navel area. From the roots of the hair to the bottom of the chin is the tenth part of a man's height; from the bottom of the chin to the crown of the head is the eighth of a man's height; from the top of the chest to the crown of the head equals a sixth of his height; from the chest to the roots of the hair is one seventh; from the nipples to the crown of the head is a fourth. The maximum width of the shoulders is a fourth of the height; from the elbow to the tip of the middle finger is one fifth; from the elbow to the end of the shoulder is one eight. The complete hand is one tenth. The penis begins at the centre of the man. The foot is one seventh of a man's height. From the sole of the foot to just below the knee is one fourth. From below the knee to where the penis begins is also one fourth. The distance between the chin and the nose and that between the eyebrows and the beginning of the hair is equal to the height of the ear and is a third of the face. The length of the foot from the end of the toes to the heel goes twice into that from the heel to the knee, that is, where the lower leg-bone joins the thigh bone. The hand to the wrist goes four times into the

distance from the tip of the longest finger to the shoulder-joint. A man's width across the hips is equal to the distance from the top of the hip to the bottom of the buttock, when he stands equally balanced on both feet; and there is the same distance from the top of the hip to the armpit. The waist or narrower part above the hips will be half-way between the armpits and the bottom of the buttock. The distance from the shoulder joint to the elbow, and from the elbow to the tip of the thumb, and from one shoulder to the other, are all equal to two widths heads.

Vitruvius, the architect, says in his work on architecture that the measurements of the human body are distributed by nature as follows: 4 fingers make 1 palm; 4 palms make 1 foot; 6 palms make 1 cubit; 4 cubits make a man's height; and 4 cubits make one pace; 24 palms make a man. These measures he used in buildings. The ancients divided their temples, public buildings, and the like according to the structure of the human body, just as God himself gave the whole machinery of the universe the symmetry of the human body.



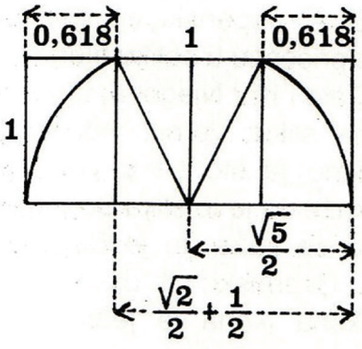
The blueprint of the Basilica, as measured in terms of the proportions of a human figure.

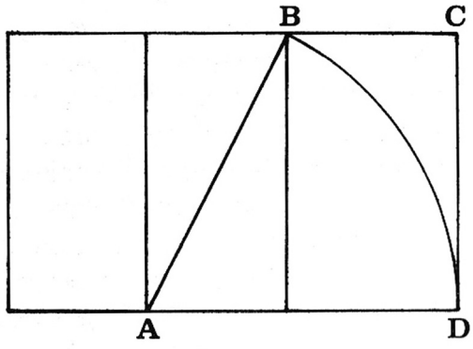


$$\frac{\sqrt{5}}{2}+\frac{1}{2}=\frac{\sqrt{5}+1}{2}=\varphi$$

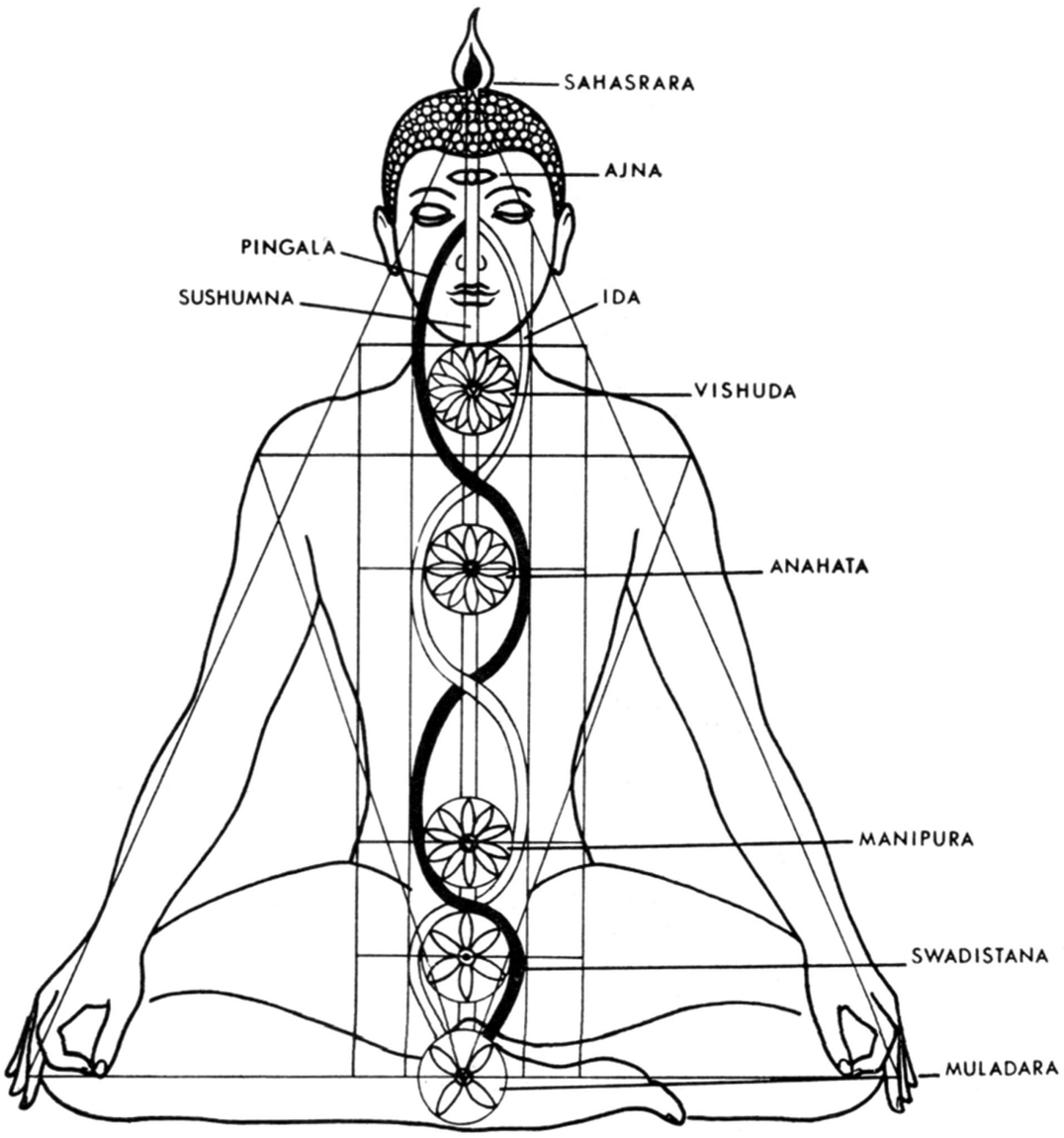
$$\varphi = 1{,}618$$

$$\frac{1}{\varphi}=0{,}618$$





Above is an example of how a golden rectangle is derived from a square, by applying the rules of a golden section. Each shape brims with vibrant energy. We live in the world of shapes and forms, there are innumerable shapes around us and in us. The aim of the practice of asanas is to generate balance and harmony inside the shape into which we put our body during a specific asana. Down the ages, shapes have placed a great role in our lives. Different shapes can be useful to us in our daily life. E.g. if you store water in a round vessel and then bathe with that water, it gives you relaxation. Whereas if you bathe with water stored in triangular vessel it gives you strength. Rishis had the complete information about shapes and their effects. For the health of the person, the proper alignment and symmetry of all aspects of the gross physical body (musculoskeletal structure, spine, etc.) and of the energy body (chakras and proper distance between them) is very important. The head of the human body is North, feet are South, back side of the body is West and the front side of the body is East. Function and position of different parts of the body is naturally in accord with the principles of Sthapatya Veda. Anus and excretion is positioned in South-West as it should be according to principles of Sthapatya Veda for the house. Mouth, nostrils, eyes, and all senses have their entrance from the front part of the body, East, etc. From that we can see that the Sthapatya Veda of the human body is based on the Sthapatya Veda principles of orientation and disposition of rooms in a house.



In Sukhasana the beautiful proportions, harmony, and symmetry of the human body gives a feeling of happiness, wholeness and stability (sthira) on the mental level, that starts to be consciously experienced in every cell of the body. In Sukhasana we achieve this perfect posture with the power of inner awareness and intelligent use of breath.

The practice of asanas is for the reconstruction of a perfectly Sthapatya-Vedic human body. Our consciousness and all the impulses of creative intelligence (devas) are living in our body and they will be happy and have a life supporting influence only if their temple (our body) is rebuilt and structured in accord with the principles of the Sthapatya Veda of the human body – perfect symmetry of all parts of the body and especially of the spine. Wholeness is present in every part of the body and every part of the body is in perfect alignment with wholeness. Then the body is in the state of sthira and sukha. Experience of happiness in every cell of the body comes automatically when the body is experienced as a perfectly symmetric wholeness. When no part of the body is isolated from the wholeness, then each part experiences the nature of wholeness and that is sukha.

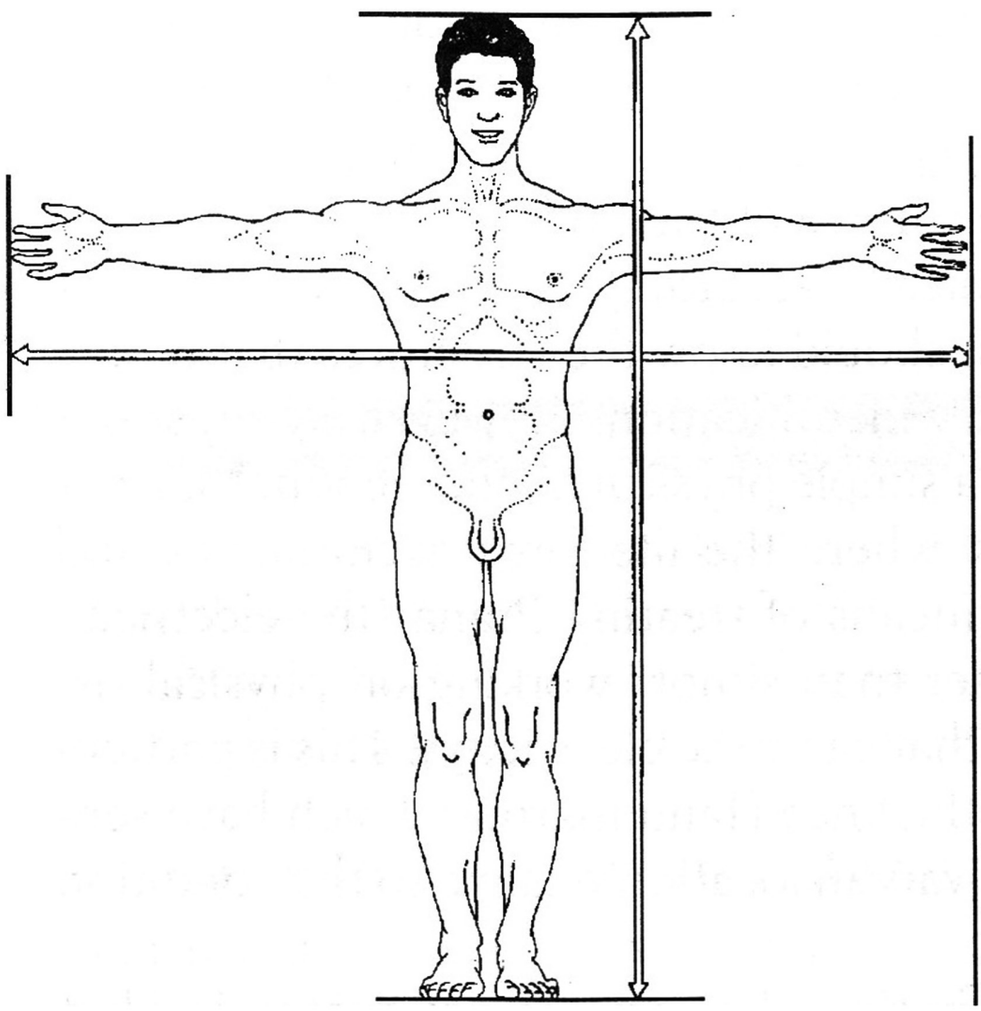
Yo vai bhūmā tat sukhaṃ nālpe sukham asti
„That which is unbounded is happy. There is no happiness in the small".
Chhāndogya Upanishad 7.23

Symmetry is omnipresent. It is visible as well as invisible. We exist in symmetry and symmetry exist in us. Visible symmetry is in things surrounding us, things which we see and recognize. Symmetry can exist in numerous ways. For simplification, it is presented in five basic patterns: bilateral symmetry, rotational symmetry, spiral symmetry, branching symmetry, and divine order.

The Vedic tradition utilizes the following proportions of measures: Balagra (tip of the hair) = 8 trasarenu (dust particle in Sun's ray) = 8 pramanu (can be seen only by yogi); 8 balagra = 1 liksha (egg of louse); 8 liksha = 1 yuka (louse); 8 yuka = 1 yava (grain of barley); 8 yava = 1 angula (finger unit: width of a finger at its base); 12 angula = 1 vitasti (when the palm is spread: distance from the tip of the little finger to the tip of the thumb)); 2 vitasti = 1 hasta (lower arm).

For measuring the symmetry of the body, one of the sizes for measurement is a finger unit (anguli parimana) of the respective individual. It was used to measure the proper distance between the chakras and marmas. To determine the individual finger unit, follow these instructions:

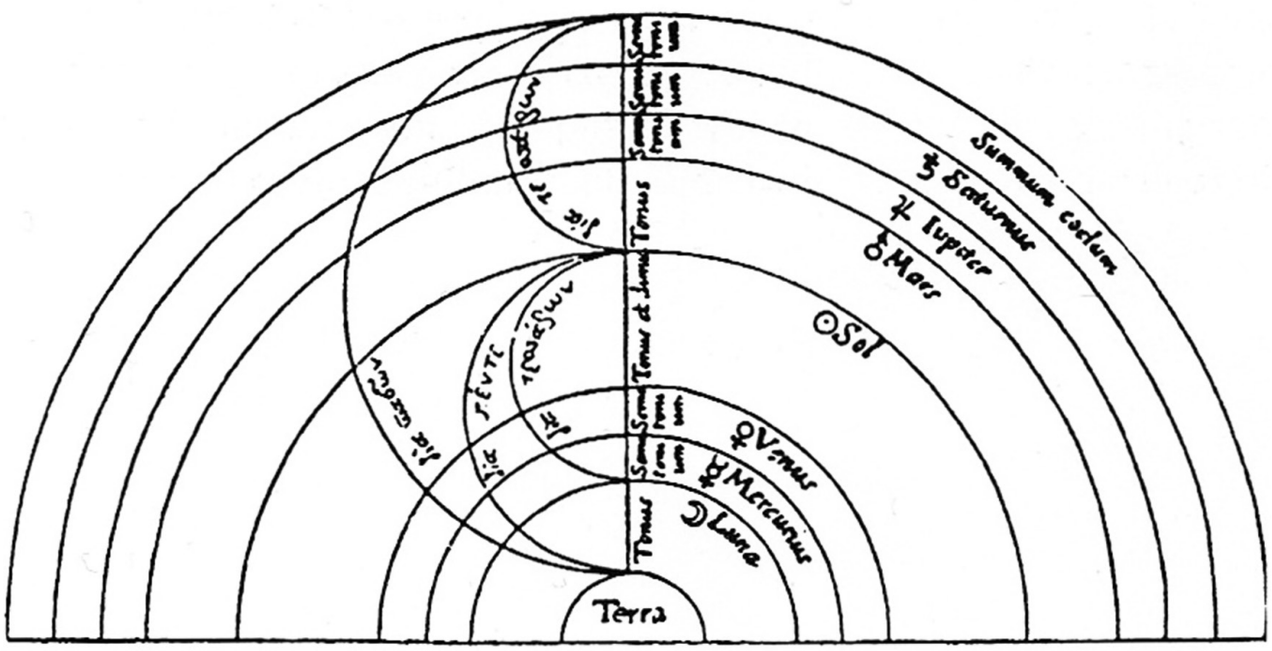
- Join both open palms at ulnar (little finger) side.
- Measure the width of both palms at metacarpo-phalangial joints (base of the fingers).
- Divide this by 8 (as this width is average for 8 fingers).
- This is individual finger unit.



Generally the height and breadth of a person is around 84 times the individual finger unit (angula).

Another form of symmetry which we experience, but rarely ever recognize is the symmetry of pranamaya kosha. There is also the symmetry on the mental level, expressed as coherence. Our way of seeing things, perceiving them, and our cognitive process are deeply engrossed with principles of symmetry. This is the Sthapatya Veda of human consciousness. Consciousness is the house of our Atman (soul) and the soul will feel liberated and blissful only when our consciousness achieves the state of infinite coherence, the state of perfect symmetry. From this analysis we see that the practice of asana, pranayama, and meditation are all equally important for a complete Vedic lifestyle, apart from living in a Sthapatya Veda house.

Symmetry is not only a realm of material things, even colors and music constituting it. They are potent triggering factors for a fountain of feelings. The altering notes of differing pitches and volumes create harmony within themselves and a soothing effect in us.

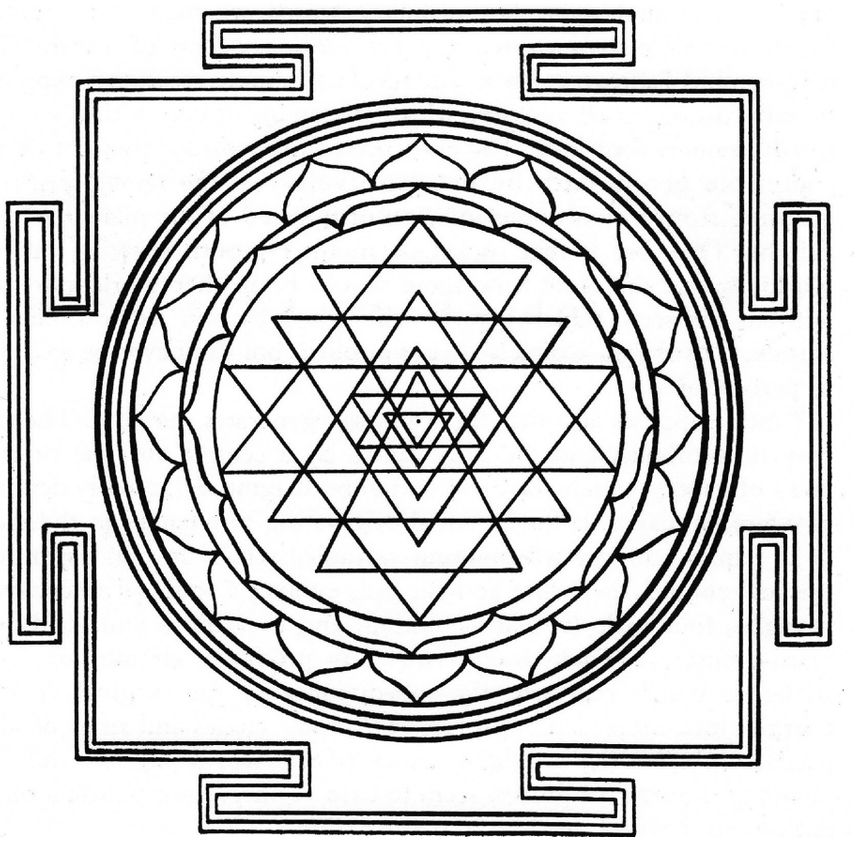


Reconstruction of the Pythagorean cosmos according to the plan of the octave.

The theory of the harmony (music) of the spheres dates back to the Greek philosopher Pythagoras (570 - 496 B.C.). The whole world, according to Pythagoras' theory, consists of harmony and number. Both the microcosmic soul and the macrocosmic universe were assembled according to ideal proportions, which can be expressed in a sequence of tones.

The combination of different shades of different colors though seeming opposite, create balance. Invisible forces can affect us to an extent where it can create feelings and emotions. These basic principles were very wisely understood by the ancient cultures. Knowing their exact effect on us, they designed certain patterns (yantras) to enhance the quality of life.

Our body can be considered as a yantra. These designs were picked up from nature and its forces. Yantras are potent and dynamic sacred geometric configurations and concepts. For a definitive purpose, a specific configuration is generated and with the help of our inbuilt power, we can use it to obtain specific results. These yantras start from a secret point (the bindu), the core, and unfold to concentric circuits. Though it is a complex symbolic construction with multiple layers of metaphysical meaning, it also aids man to return to his original wholeness.



The greatest, the most powerful of all yantras is accepted to be the Sri Chakra (Shri Yantra), the central object of worship of Sri Vidya. Sri Chakra is conceived as the form of Shri Devi. While the mantra is a revelation of the godhead in sound, the yantra is a revelation in lines. If mantra is the soul of the initiate's chosen deity, yantra is the deity's body. Yantra is also a drastically reduced image of the universe, since the universe is a theophany, a manifestation of the Divine. Sri Chakra is a symbol of Sri Devi in her true and real form as Siva and Sakti in one, and also of her phenomenal forms – the universe, the human body and the alphabet of articulate speech. A complicated diagram of interlocked triangles, Sri Chakra consists of a circle with a point, bindu, at the centre. This is the matrix of creation and the point at the source of the yantra. The central point (bindu), which is also called the „wheel entirely made of bliss" (sarva ananda maya chakra) represents the great goddess Tripurā Sundarī herself, to whom the yantra as a whole is dedicated. On the vertical diameter of this circle, five triangles are arranged with downward apexes. The downward triangles indicate Sakti and the upward four ones Siva. The intersection of these nine major triangles (called yonis, or „wombs") creates forty-three small triangles. The circle in which these nine triangles are interlocked is again enclosed in two other concentric circles (lotuses). The first one is of eight petals and the other of 16 petals. The second circle's circumference is marked by four lines close to one another. This figure is enclosed in a quadrilateral. Its walls are formed by three parallel lines close to one another. It also has four openings, one at the centre of each side. The diagram thus formed consists of nine parts called chakras.

According to the ascending order (laya krama) they are:
The three-lined quadrilateral: Bhupura.
The 16-petalled lotus: Sodasadala padma.
The eight-petalled lotus: Ashtadala padma.
The chakra of 14 triangles: Chaturdasara.
The chakra of 10 outer triangles: Bahirdasara.
The chakra of 10 inner triangles: Antardasara.
The chakra of eight triangles: Ashtakona.
One inner triangle: Trikona.
The central point: Bindu.

The central Bindu is called the "sarva anandamaya" with red as its color. The various parts of the shri-yantra are said to correspond to the various parts of the human body. Thus the three lines composing the outer square correspond to the feet, knees, and thighs respectively; the three con-

centric circles correspond to the abdomen; the sixteen - petal lotus to the lower half of the trunk; the eight - petal lotus to the navel; and the various triangles to different parts of the upper body, particularly the head. The central point is correlated to the thousand – petal lotus at the crown of the head, which contains the opening to the divine dimension. Nine parts of Sri Chakra have a relationship with the tattvas of the universe, the letters of the alphabet, the chakras of the human body, the tithis of the month, and the days of the year. All the nine parts have technical names, special colors and "avarana devatas". Each part is guarded by avarana devatas or subordinate shaktis, having different functions. For example, in the Bindu there are 15 subordinate shaktis called Nityas, surrounding the presiding Devi. The complex figure of Shri Yantra is enclosed by the square design of the bhu-pura, made of three parallel lines, and also is often surrounded by three concentric circles, called tri-vritta. The first circle stands for twenty-nine Matrikas, or mother deities; the second circle represents another sixteen Matrikas; the third circle symbolizes the sixteen eternal beings called Nityas (who are related to the fifteen phases (tithis) of the moon in the outer cosmos; the sixteenth signifying completion and the lunar ambrosia). Then follows a sixteen-petal lotus, whose every petal accommodates one of the Kala deities. This is followed by an eight-petal lotus, each of whose petals contains one of eight divinities. The forty-three interlaced triangles form a fourteen-corner structure, and the fourteen corners also house one deity each. In fact, each of the triangles is the dwelling place of a deity. During the early stages of yantropasana practice, these devatas ruling over the various pats of Sri Chakra are to be looked as separate deities. As practice progresses, all of them are realized as only fragments of one primordial shakti which created the microcosm and macrocosm and resides in them. And finally the practitioner himself is not different but one with this universal matrix. Thus the Sri Chakra is conceived as a symbolic representation of all the fundamental principles of Devi worship.

According to Maharishi's Vedic Science the dot (bindu) in the middle of the Shri Yantra represents the collapse from A to G (point value of the absolute pure consciousness. This creates the cognition of its own structure as three (Rishi, Devata and Chhandas), within pure consciousness (Samhita). Thus around the dot is formed the first triangle and then the self interacting dynamics continues to create more and more triangles, representing the evolution of dot to its unbounded, infinite value, as represented by outer circle. Shri Yantra is showing us the process of evolution from unmanifest to manifest and back to its fullness of the unmanifest, realized in higher states of consciousness.

Construction of shri yantra



dissolution of dissolution



preservation of dissolution



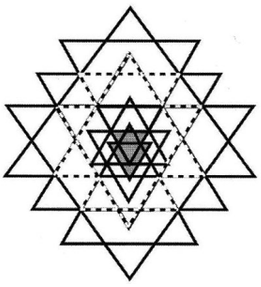
evolution of dissolution



dissolution of preservation



preservation of preservation



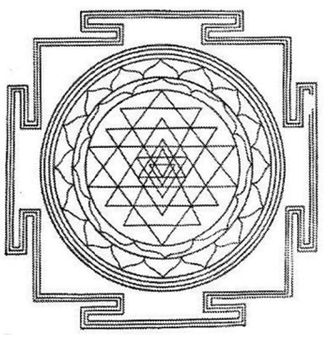
evolution of preservation



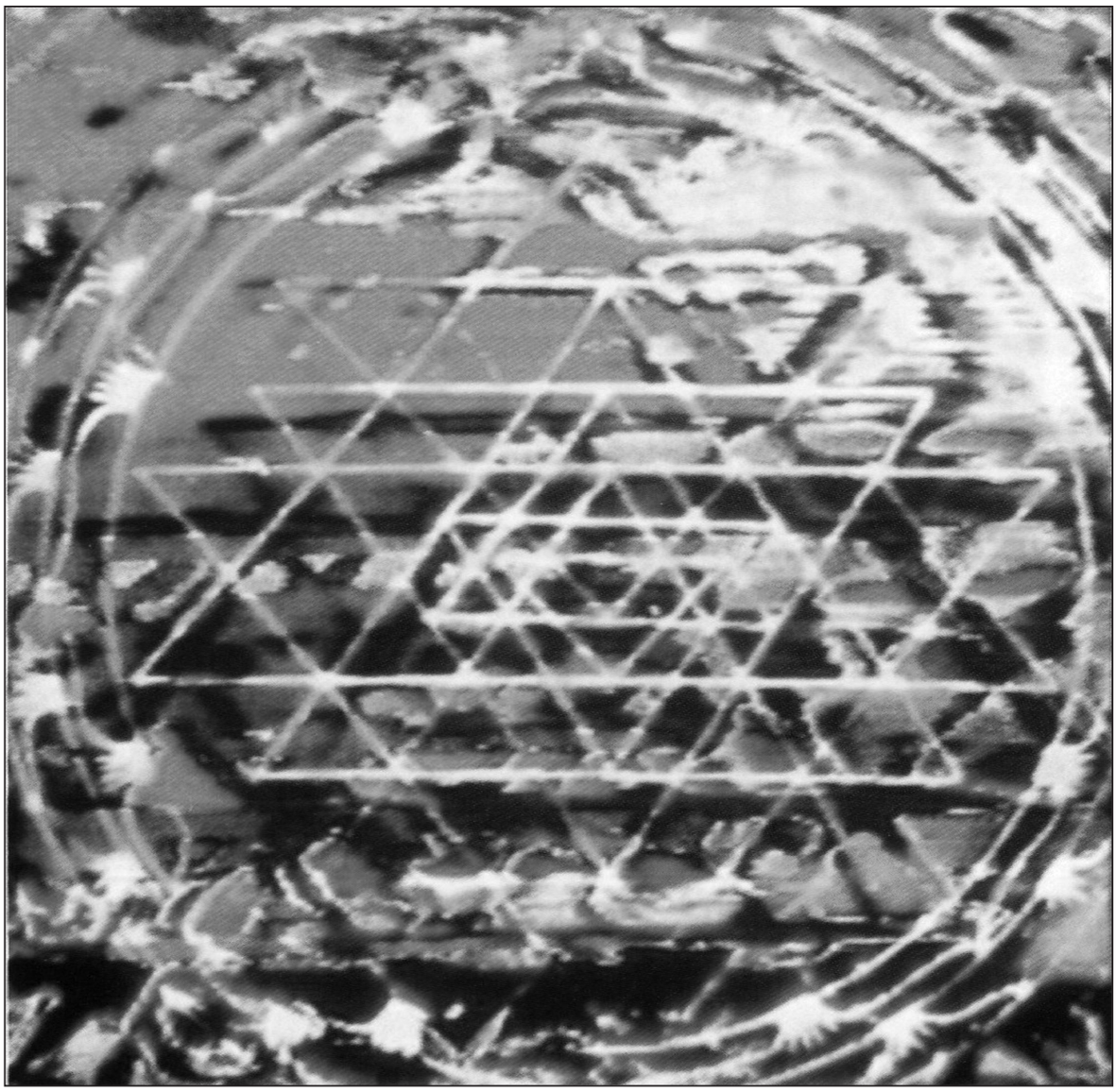
dissolution of evolution



preservation of evolution



evolution of evolution



The sacred geometry of Sri Chakra continually emits powerful energy. A close up through Kirilian photography of Sri Chakra shows the vibrant energy within a distant infra red range and the radiation of power at the tip of the triangles. Sri Chakra has a field of dynamic, autonomous, self generating energy that supports all levels of existence.

Vedic literature on yoga: sankhya; yoga sutras of Maharishi Patanjali; bhagavad gita; vijnanabhairava (shiva sutras); hatha yoga pradipika; yoga yajnavalkya; taittiriya upanishad; etc.

Sankhya

Sankhya is the most ancient of all systematized Vedic philosophies. Yoga, and in fact most other Indian philosophies, have accepted most of Sankhya as it is. Yoga is most closely related to Sankhya. It is not possible to understand Yoga in its entirety without a thorough grasp of Samkhya. The Sankhya Karika is the fundamental surviving text on Sankhya, authored by the sage Isvara Krishna thousands of years ago.

Sankhya means pertaining to number. This system of philosophy, expounded by Kapila, holds that knowledge of an object will not be complete without the knowledge of its components. In its analysis of life and creation, Sankhya establishes twenty-five categories at the basis of the entire creation and of the process of cosmic evolution. The teaching concerning these categories can be verified by direct experience through the practice of Transcendental Meditation, in which the mind travels through all the gross and subtle levels of creation to the state of pure Transcendental Consciousness.

1. Purusha

Purusha, or Cosmic Spirit, is the Transcendental Reality which comes into direct experience during Transcendental Meditation, at the point where even the subtlest level of creation is transcended and pure Transcendental Consciousness alone remains. Purusha forms the basis of the subjective aspects of life. He is the eternal silent witness of all that was, is, and will be.

2. Prakriti

Prakriti, or Nature, is the primal substance out of which the entire creation arises. Its constituents are the three gunas (sattva, rajas, and tamas). They are responsible for all change and form the basis of evolution.
As long as the three gunas are in equilibrium, they do not present themselves as three, they do not demonstrate any activity, and there is no process of creation and evolution. When they have begun to be active, they appear in a whole multitude of permutations and combinations.

3. Mahat

Mahat is that first state of evolution where the previously undifferentiated primal substance, prakriti, begins to move towards manifestation, taking a specific direction. It is the cosmic will in operation, satisfying the urge for manifestation that has been created by the disturbance of the perfect equilibrium of the three gunas.

4. Ahamkara
Ahamkara is the principle responsible for the individuation of mahat.

5. Manas

Manas is the cosmic mind which provides the object for the individuating principle, ahamkara. In the state of manas, the urge of prakriti towards manifestation becomes clearly defined.

6-15. Indriyas

The next ten principles are called indriyas, or senses: five senses of perception (gyanendriya) and five organs of action (karmendriya). They connect the mind with the manifested world of objects.
16-20. Tanmatras

The tanmatras constitute the five basic realities or essences of the objects of the five senses of perception. They express themselves in the five elements which go to make up the objects of the senses and which provide the material basis of the entire objective universe. Thus the essence of sound (shabda tanmatra) expresses itself in space, the essence of touch (sparsha tanmatra) in air, the essence of form (rupa tanmatra) in fire, the essence of taste (rasa tanmatra) in water, and the essence of smell (gandha tanmatra) in earth.

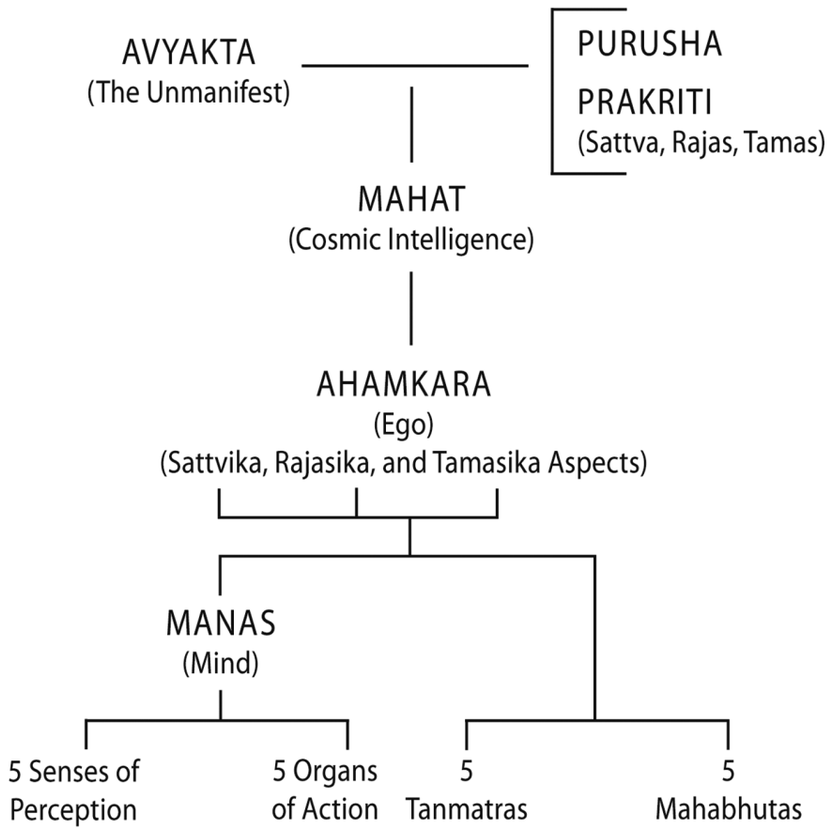
The tanmatras mark the dividing line between the subjective and objective creation. In the process of evolution, as the influence of tamas increases, the subjective creation comes to an end and the objective creation begins. The tanmatras, forming the basis of the five elements, lie in the grossest field of the subjective aspect of creation.

21-25. Mahabhutas

The five mahabhutas, or elements out of which material creation is constituted, are space (akasha), air (vayu), fire (tejas), water (apas) and earth (prithivi).

From Bhagavad Gita - A New Translation and Comentary – Chapters 1-6; - MIU Press

TRANSFORMATION OF CONSCIOUSNESS TO MATTER (ACCORDING TO SANKHYA)



It may be noted that the whole teaching of Kapila's Sankhya can be verified by direct experience through Transcendental Meditation, because in order to reach the state of Transcendental Consciousness, the mind has to traverse all the gross and subtle levels of creation.

Yoga sutras of Maharishi Patanjali

The purpose of Yoga is to gain knowledge by direct perception. Yoga is a practical science of life which lays open to direct experience not only the field of absolute Being but all the different levels of relative creation as well. The text of the Yoga sutras is the text in which Yoga is speaking about itself and has a meaning for those who practice and experience Yoga. Experience and understanding constitutes knowledge. That is why the consideration of the meaning of the Yoga sutras will enrich our experience and give us the full value of the knowledge of Yoga. Knowledge is different in different states of consciousness that is why each sutra will have a different meaning looking at it from different a level of consciousness. For example each of the first four sutras can have at least a dual meaning. Like this the first sutra: *"Atha Yoganusasanam"* can be translated as *"Now is the teaching on Yoga"*, but considering the deeper meaning, we find that it speaks about the nature of knowledge which will be elaborated in all the rest of the sutras. It expounds that the teaching of knowledge is Transcendental Knowledge which is not gained on the level of the mind, but by transcending all activity of the mind and by reaching Samadhi, the state of Yoga. Only Yoga can cognize Yoga and the person who is expanding knowledge of Yoga is Yoga incarnated and this is giving authority (Atha) for starting the exposition on Yoga. The first sutra also says that this knowledge is in the category of Shastra (anushasanam), that text which is giving you a correct path to liberation (Kaivalja). There are two Sanskrit roots for the word Yoga. One is YUJ – to yoke, join, unite (Yujir Yoge) and the other is Samadhi (Yuja Samadhau).

The second sutra *"Yogas citta vrtti nirodhah"* can be translated as *"Yoga is the complete settling of the activity of the mind"*. There we can find Yoga described as the state of Samadhi which is described in the third sutra "*Tada drashtuh svarupe avasthanam", "Then the observer is established in the Self"*, or we can define Yoga as the process of transcending (nirodha). The third and fourth sutra can also have a dual meaning regarding Yoga, depending from which level of consciousness you are interpreting the sutras. Third sutra on one level is speaking about transcendental consciousness (Samadhi) as a state which results after arresting all the activities of citta (citta vritti). Then in that self-referral state of consciousness (Cit) we discover self-referral activity (Cit vritti) which is mentioned in fourth sutra *"Vritti sarupyam itaratra", "Reverberations of the Self emerge from here (the self-referral state) and remain here (within the self-referral state)"*. By arresting all the self-referral activity (Chit vritti) on the level of Sat Chit Ananda, Self, the third sutra is speaking about Yoga as a state of Unity Consciousness.

In the first four sutras of Maharishi Patanjali Yoga Sutras we have in condensed form the representation of all the teachings of Veda and the different aspects of Vedic literature. The expanded version of knowledge of the first four sutras we find in the four chapters of the Yoga sutras. The last sutra of a chapter stands as a summary, unifying the whole chapter. The first chapter represents the Samhita value and speaks about establishing Transcendental Consciousness. The second chapter represents the Rishi value and speaks about establishing Cosmic Consciousness. The third chapter represents the Devata value and is the continuation of the theme from second chapter. It speaks about establishing God Consciousness. The fourth chapter represents the Chandas value and speaks about the state of final liberation, Unity Consciousness. In each part of the Vedic literature wholeness is included. Like that, each sutra contains wholeness which is more elaborated in the next sutra and the next chapter.

The first four sutras of Chapter 1 contain the entire message of the Yoga sutras in a nutshell. The remaining one hundred and ninety sutras are an expansion of this brief introductory statement. The first chapter proceeds by returning to the initial theme: the mind of the seeker. The fluctuations (vrittis) of the mind are defined (1.4-12) and then the stabilizing effect of Yoga is presented as a

counterbalance (1.13-16). Yoga is Samadhi (1.17-18). The next ten sutras (1.19-29) explain the pre-requisites of Samadhi, with particular attention to devotion as a means of approaching the Self. In this way some relationship is established between the seeker and the goal which could otherwise remain too abstract and intangible. But the path is not always straightforward and the continuation of the sutras, warn about the obstacles to be encountered (1.30-31) and expound the way to overcome them (1.32). Sutra 33 to the end of the chapter presents a more detailed expansion of the essential process, Samadhi. Sutras 33-40 deal with various ways of establishing the settled mind and finally describe the actual mechanics of mental absorption (samapati) (1.41-47). These ways are for those who have satvic mind. Clear experience of the subtlest level of absorption brings us to ritambhara, the threshold of the unbounded. As this is a subject of considerable importance, it is picked up again and expanded in the third chapter.

Chapter 1 ends by returning to the freedom described in the opening sutras, now redefined as Nirbija Samadhi – the unbounded consciousness of the Self. This experience of the mind's dissolving into the Self (Transcendental Consciousness) is not the same as enlightenment (Cosmic Consciousness). Thus the second chapter applies both to the realization of the state of boundlessness and to the stabilizing of this state in activity. The second chapter starts with the practical steps which must be taken by the aspirant to remove tamas and rajas and make the mind more satvic and continues by explaining the five causes of suffering (2.3). These are balanced by the remedy of the eight limbs of Yoga (2.29). Suffering is the consequence of our past action, returned to us by the inevitable operations of the law of karma (2.12-14). As long as we are ignorant of our real nature, we shall continue to suffer.

The eight limbs take us to the end of the second chapter and into the third which begins with a definition of samyama. It is the practice of samyama that results in unfolding the perfection (siddhi) of the functioning of the simplest state of awareness. The stages in the process of expansion are the transformations (parinamas) (3.9-12). Samyama is applied on all 24 tatvas (aspects of Nature – Prakriti) and then on the twenty-fifth tatva (Purusha). Tatvas are eliminated from gross to subtle. In this way Yoga is fulfilling the need for direct experience of the understanding of the tatvas expounded in Samkhya. By mastering Samyama on tatvas we are overcoming them. By being detached from them (Vairagya), we achieve liberation (Kaivalya).

The same process of transcending to the Absolute (neti, neti) is described in the Taittiriya Upanishad. When the finest level of chhita (buddhi, sattva) cognizes its difference from Purusha, then all three gunas are in perfect balance (samya avastha) and the mind doesn’t have any more vrittis. Chitta comes back to its original state (mula prakriti), described in sutra 3.55, and this is the state of Liberation (Kaivalya). This is Kaivalya for chitta and Purusha. This is Nirvikalpa Samadhi.

Chapter four speaks that our tendencies which operate continuously to shape our lives (4.9), are the results of our past actions. It is the cycle of cause and effect maintained by the mind's bondage to its objects that conditions all our thought and activity. The way to destroy this bondage is to take the mind out of the realm of experience, the prison of time, causation, and space, and allowing it to become unrestricted and universal. The more this universality is incorporated into the individual mind, the less that mind retains impressions of past actions. It will therefore be ruled less by desire. As the practice of Yoga matures, desires cease to be the expression of a need and become instead the spontaneous unfoldment of love. Sutras 1 to 17 speak about Samskara and Vasana. The second half of the chapter (17-34) deals with the relationship of the mind, intellect, Self, and the process of discrimination (viveka), leading to the highest Samadhi – Dharma Megha Samadhi, “the state of Unclouded Truth”. The final uprooting of the avidya with its vasanas directly follows the attainment of true knowledge called prajna in which state the seed of false knowledge is altogether burned and cannot be revived again. When the state of buddhi becomes almost as pure as the purusha

itself, all self-enquiry subsides, the vision of the real form of the purusa arises, and false knowledge, together with the klesas and the consequent fruition of actions, ceases once for all. This is that state of chitta which, far from tending towards the objective world, tends towards the kaivalya of the purusha. Yogin passing through Dharma Megha Samadhi is like a pilot who comes out of a cloudbank and begins to see everything clearly. The potency, however, of this state of consciousness lasts until the purusha is finally liberated from the wounds of prakrti and is absolutely free. The purusha in this state may be called the emancipated being (jivanmukta). The last six sutras describe the final transformation into Enlightenment, eternal freedom, in which *"consciousness remains forever established in its own absolute nature." (Y.S. 4.34).*

Patanjali, in his exposition of Yoga, divides life into eight spheres (eight aspects of the state of union) in order to deal thoroughly and completely with the subject of Yoga:

1. *Yama represents the entire field of creation, lying outside the individual but constantly influenced by his thoughts and actions. The state of Yoga or perfect harmony is established in this field when man's life is naturally upheld by the five qualities of observance. Yama is the administrator. Being is the administrator of life. Being becomes a living reality and is represented by five administrators (yamas):*

    1. *Truthfulness (satya)*
    2. *Non-violence (ahimsa)*
    3. *Non-covetousness (asteya)*
    4. *Celibacy (brahmacharya)*
    5. *Non-acceptance of others' possessions (aparigraha)*

Satya (truth) is that which never changes. Only Being never changes. Being (Yoga) is at the beginning (Satya) and at the end (Samadhi). When the truth begins to open in our awareness (experiencing transcendental consciousness) then the practice of Yoga begins, and when the truth is fully established in our awareness then the state of Yoga is achieved (Cosmic Consciousness). Speaking truth cannot be practiced – what can be practiced is development of that state of consciousness which will always speak the truth. The teaching of Satya is not limited to practicing speaking truth or seeing truth, but it is meant to be the state of awareness established in Yoga, so that one spontaneously lives truth through all five senses. Whatever you do will be the wave of truth.

Ahimsa is another quality of Being. It is nonviolence. The state of nonviolence is state of consciousness in which one always produces life-supporting influences. Every step of action is for evolution. Everything that the person thinks, speaks or does is in the direction of evolution. Only then, in that state, nonviolence is lived, otherwise violence is inevitable. When one is not capable of hurting anything in creation, then nonviolence is a living reality. As with Satya (Truth), nonviolence really means gaining Cosmic Consciousness.

Asteya means non-covetousness, non-stealing. As long as one is identified and captivated by any object of perception, stealing is vivid. Anyone is a thief if one owns that which does not belong to him. Only the absolute value of life (Being) belongs to the person. When the person is identified with an object of perception, then he is steeling because the object of perception enters and occupies his home (consciousness). In Cosmic Consciousness one is only the witness to everything. One does not own anything, and this is Aparigraha.

Aparigraha is not accepting others' property. If one usurps the value of change, then one takes others' possessions – that which does not belong to him. He is bringing to his home the property which belongs to someone else. The property belongs to the three gunas.

Non-covetousness is the quality of life in the state of Yoga. In the state of Yoga (Unity) anything is not out of ones own Being. Everything is in terms of one's own Self (Being). Having everything owned by one's Self then one has gone beyond the covetousness. This is Unity Consciousness.

Brahmacharya is the state of the individual where life-force is always found directed upwards. One is living the state of Yoga (Brahman Consciousness).

2. The physical structure of the individual body and the nervous system. The state of Yoga is found established in the field of the body and nervous system when man's life is naturally upheld by the five rules of life (Niyama):

1. *Purification (shaucha)*
2. *Contentment (santosha)*
3. *Austerity (tapas)*
4. *Study (svadhaya)*
5. *Devotion to God (Ishvara-pranidhana)*

3. Different limbs of the body, the sphere of posture (asana). The state of Yoga is found established in the sphere of the limbs of the body when there is a perfect functioning of all the limbs in good co-ordination with each other. In this state, the body is capable of remaining in a steady posture for any length of time.

The state of Yoga, the state of Transcendental Consciousness is when all the limbs of the body are in perfect accord with each other, fully alert, but not yet set in action.

4. Sphere of the individual breath, the sphere of breathing exercises (pranayama). In the state of Yoga, the activity of the breath automatically comes to rest. The five breaths are: prana, apana, vyana, udana and samana — functioning in different parts of the body. In the state of Yoga there is steadiness of all the five breaths.

5. The sphere of life which lies between the senses and their objects. The state of Yoga in this sphere is marked by complete self-sufficiency on the part of the senses so that they are no longer projected outwards towards their objects. Yoga here means retirement from the field of the objects of the senses.

Pratyahara is the turning away of the senses from their objects.

6. The sphere of life that lies between the senses and the mind. The state of Yoga in this sphere is marked by the withdrawal of the mind from the realm of the senses. Steadiness of mind (dharana) is when the mind is no longer associated with the senses.

7. The sphere of life that lies between the mind and Being. The state of Yoga in this sphere is marked by the refinement of the mental impulses until the most refined state of mental activity is transcended and the mind gains the state of Pure Consciousness, Absolute Existence, or Eternal Being. This process is called meditation (dhyana).

A close scrutiny of Patanjali's exposition of Yoga reveals that the actual process of attaining the state of Yoga belongs not only to dhyana, or meditation (which alone appears to result directly in Samadhi or Transcendental Consciousness), but also to all other limbs of his eightfold Yoga. Each limb presents the principle underlying the practices that bring about the state of Yoga in the sphere of life pertaining to that limb.

For hundreds of years these different limbs of Yoga have been mistakenly regarded as different steps in the development of the state of Yoga, whereas in truth each limb is designed to create the

state of Yoga in the sphere of life to which it relates. With the continuous practice of all these limbs or means, the state of Yoga grows simultaneously in all the eight spheres of life and eventually becomes permanent.

8. Sphere of Absolute Being, the state of Transcendental Consciousness (Samadhi). In the state of Sa - madhi the self is experienced as the Transcendent, uninvolved with anything.

It seems necessary to point out here that even Samadhi which is already the state of Yoga in the sense of Transcendental Consciousness serves as a means to the ultimate state of Yoga, Cosmic Consciousness. In the state of Cosmic Consciousness, Transcendental Consciousness has become permanently grounded in the nature of the mind or, to phrase it in Indian terms, kshanika (momentary) Samadhi has become nitya (perpetual) Samadhi. It is in this sense that Maharishi Patanjali has placed Samadhi along with the other seven limbs or means of Yoga.

Types of samadhi:

Two types of Samadhi, one is Nirvikalpa, that is eternal, that never breaks, and the other is Savikalpa. Savikalpa means that which breaks. Which is impermanent, sometimes it comes, sometimes it breaks. Nirvikalpa never breaks, it is eternal.

Savikalpa Samadhi is of four types: Vichara, Vitarka, Ananda, and Asmita.

Vichara is when the mantra begins to be slow and becomes slower and slower, this is Vichara Samadhi, the first state of Samadhi.

Second, Vitarka is that where the mantra ceases to be a specific thought, it becomes only a rhythm.

That is Vitarka Samadhi.

And when that hum, that humming sound is also gone and one is left in that glow, that is Ananda Samadhi, the third type of Samadhi, the feeling of glow and pure happiness. The experience of bliss consciousness is Ananda Samadhi.

And when that glow is also gone and you are left in a state which words can not describe, that is Asmita Samadhi, just am-ness, is-ness, pure existence. Pure Consciousness is Asmita Samadhi.

And when this Asmita Samadhi becomes uninterrupted, then it is not broken up by any state of consciousness, whether waking, dreaming or deep sleep. When the nature of the mind is pure consciousness at all times, during all experiences of the wakeful state and the dream state and the deep sleep state, then that Samadhi is called Nirvikalpa Samadhi. That is Cosmic Consciousness. The word Nirvikalpa means uninterrupted, continuous, unbreakable, eternal, ever lasting. It is called Jivan Mukti, life eternal, divine life.

From Bhagavad Gita - A New Translation and Comentary – Chapters 1-6; - MIU Press and Maharishis lectures on Yoga.

In order to connect the principle of dhyana with practice it may be mentioned that the most valuable practice in the sphere of dhyana is the simple system of Transcendental Meditation. In Transcendental Meditation you experience all these four types of Savikalpa Samadhi and you begin to grow by degrees in Nirvikalpa Samadhi. Transcendental Meditation belongs to the sphere of dhyana, but at the same time transcends that sphere and gives rise to the state of Transcendental Consciousness, Samadhi. After this state has been gained the attention returns to the sphere of dhyana, which is a sphere of activity. This regular passing of the attention from one sphere to the other enables Transcendental Consciousness to be maintained even during activity, first at a very subtle level and later in the gross activity of daily life, so that it may eventually become permanent.

In this way the simple system known as Transcendental Meditation which is a specific type of practice, forms the most effective working tool of these two spheres of life, dhyana and samadhi.

Bhagavad gita

The Bhagavad Gita is one of the oldest texts on Yoga consisting of 700 verses in 18 chapters. The Bhagavad Gita is set on a battlefield and narrates a dialogue between Arjuna, the greatest archer of his time, a man of great integrity, clarity of mind, and compassion, and Lord Krishna, who is acting as Arjuna's charioteer. The central event of the narrative is the dilemma in which Arjuna finds himself as the battle approaches, and the subsequent transformation that he undergoes as a result of his interaction with Lord Krishna. The events leading to the battle, as well as its resolution, are related in the Mahabharata, of which Arjuna is a hero and of which the Bhagavad Gita is the central part. Mahabharata is part of Itihasa.

At this time, Dhritarashtra, the blind king of the Kuru family, had delegated to his younger brother Pandu the management of his kingdom. On Pandu's death, Dhritarashtra has decided to give his throne to Yudhishthira, the eldest of the five sons of Pandu, who was renowned for his righteousness, rather than giving it to his own eldest son, Duryodhana, who lacked the qualities of an ideal leader. Duryodhana seized the throne for himself and sought to destroy the five sons of Pandu, one of whom was Arjuna. Lord Krishna attempts to resolve the conflict peacefully. However, his attempts fail and war seems inevitable as Duryodhana's forces prepare for battle and the sons of Pandu prepare to defend themselves.

Arjuna's dilemma is outlined in the first chapter of the Bhagavad Gita, which narrates his situation as the armies are preparing for battle. Feeling indignant when faced on the battlefield with the forces of Duryodhana, Arjuna asks Lord Krishna to draw his chariot between the two armies so that he might more closely observe the opposing army. After doing so, Lord Krishna, knowing that Arjuna's anger will weaken him, induces a sudden change in Arjuna's attitude in order to make him receptive to the knowledge that Lord Krishna has to offer him. Lord Krishna induces this sudden change through a series of skilled actions and words. Having brought Arjuna to view the forces of Duryodhana, Lord Krishna says: *„Partha, behold those Kurus gathered together"*. Lord Krishna refers to Arjuna as „Partha", that is, the son of Pritha, Arjuna's mother. In doing so, he stirs Arjuna's tender feelings. He also reinforces his emotion by describing the army of Duryodhan as „Kurus"- Arjuna's kinsmen. The immediate result is that Arjuna begins to view his opponents as kinsmen rather than as enemies. His anger subsides and in a wave of compassion his resolve for battle is completely lost and he feels overwhelmed by the dilemma of his situation.

Arjuna's dilemma is that the call of duty and freedom requires him to defeat the forces of Duryodhana and remove the oppression which the kingdom has suffered under him, while the love and compassion he experiences makes him feel that it would be wrong to kill his kinsmen. Unable to act, Arjuna drops his bow, and prompted by another phrase of Lord Krishna, turns to him for guidance. Lord Krishna has created in Arjuna a natural state of receptivity to knowledge by making him aware of a dilemma that he cannot resolve from his present level of knowledge. When Arjuna surrenders to Lord Krishna's wisdom and becomes receptive to his guidance, Lord Krishna responds with the solution to Arjuna's dilemma. This response forms the remainder of the 18 chapters of the Bhagavad Gita.

In Vedic texts, the chariot has a special metaphysical meaning. It refers to the physiology. The chariot stands on the battlefield of life as a vehicle for the natural process of evolution. Yoked to the chariot, in the classic Vedic picture, are 10 horses. Five are the sense organs, and five are the organs of action (the mouth for speech; the hands and legs for movement; the organs of elimination; and the organs of procreation). The yoked horses are white, the color symbolizing purity. Two passengers are in the chariot – the small self (the ego), and the large Self (Atma or soul). The reins are the mind. Science of Vedic Yoga can install white horses and hand the reins over to the larger Self. A well-known Vedic proverb says, *"brahma bhavati sarati,"* which translates as *"For those established in pure consciousness (Samadhi), the infinite organizing power of the creator becomes the charioteer of all actions."* When you surrender to the abstract universal Self and are established in your own being, then the universal Self becomes the charioteer of your life.

The way in which surroundings and circumstances influence the individual mind is demonstrated at the very beginning of the text, where, the most highly evolved man, the greatest archer of his time, Arjuna, the hero of the Mahabharata, although awake to a most complete knowledge of right and wrong in the world, is unable to rise to the occasion before him and falls into a state of utter dejection. The surroundings have so strong an effect upon his mind that all persuasion and suggestion are powerless to help him.

The Bhagavad Gita teaches that the effect of surroundings and circumstances upon the mind depends upon its strength – the intensity of the effect of an impression is in inverse ratio to the strength of the mind. At one time Arjuna is found in a perilous state of indecision, but, after putting into practice the psychological teaching of the Gita, it is not long before he is found in full power of confidence and decision, although the circumstances remained quite unchanged. A close study of Lord Krishna's discourse reveals a great depth of psychological insight. It shows that the individual mind, however intelligent it may be on the superficial conscious level, can be overcome by its failure to understand and encompass a situation which obviously lies beyond its control, unless it is in tune with the unlimited cosmic mind. The establishment of conscious coordination between the individual and the cosmic mind is the only way to ensure that the individual becomes entirely free of the possibility of failing to understand a threatening situation and of successfully rising above its adverse effect. A pond is apt to dry out in the heat of summer, but for the ocean the question does not arise. The psychology of the Bhagavad Gita presents one master technique for bringing out this coordination of the individual mind with the cosmic mind; the attention is to be brought to the field of the transcendental absolute existence. *„Be without the spur to activity (three gunas) – get to the home of all the impulses of creative intelligence (and from there perform action) ". – "nistraigunyo bhava" – B.G.II.45.* This is to transform the weakness and limitation of the individual mind into the unbounded strength of cosmic intelligence. This great accomplishment is the solution to all problems in life and can be easily achieved.

After approximately two hours, Arjuna is ready to resume his role as the leading warrior of his army. In those two hours Arjuna has gained from Lord Krishna the knowledge and direct experience of Yoga – „union", enlightenment. This is the strength and efficiency of Vedic Psychology.

Arjuna learns from Lord Krishna that before enlightenment one is never able to determine all of the rights and wrongs of action and that the key to performing right action is to establish one's awareness in the field of pure consciousness, in the state of Yoga, or union, and then act on that basis. *„Established in Being, perform action" – Yogastah kuru karmani – B.G. II.48.* Only action from the level of the Unified Field of Natural Law is capable of creating the most evolutionary effect for the actor and the whole environment. Further more, the Bhagavad Gita says that there is no obstacle to realizing this status. The process is natural and free from any resistance. *„There is no obstacle" – pratyavayo na vidyate – B.G. II.40.* The path being free from resistance, even *„a little of the practice results in freedom from great fears, problems, and weakness." – B.G. II.40.*

Vijnanabhairava (shiva sutras)

T*he Shiva Sutras and the Bhagavad Gita are considered the main textbooks of Yoga. The Shiva Sutras present 112 ways of transcending, 112 types of Yoga or means of communion with Bhairava (Self-referral state of Pure Consciousness). Vijnanabhairava has utilized all the traditional techniques of Yoga-postures, mudras (gestures), development of pranashakti, awakening of kundalini, mantra japa, bhakti, jnana, dharana, meditation, bhavana (creative contemplation), looking vacantly at the dark night, the condition of consciousness before falling asleep, etc. It has recommended 112 techniques according to the mode of the recipients, keeping in view the fitness or competence of the aspirants so that any technique that may suit a particular aspirant may be adopted by him. The ultimate goal is identification with Bhairava – undifferentiated Universal Consciousness. The essence of Yoga according to Vijnanabhairava is dissolution of citta or absorption of the individual mind into cit or Universal Consciousness.*

Now will come the explanation of the derivation of the 112 techniques, the "spring-boards" for transcending into the unbounded ocean of consciousness. We have seven means of perception (intellect, mind, and 5 senses). Also we have 4 different levels of consciousness (waking, dreaming, deep sleep and Cosmic Consciousness) in which the 7 means of perception have different values. We want to transcend these 4 levels of consciousness. Cosmic Consciousness develops into the Unity Consciousness when we transcend the relative aspect of Cosmic Consciousness. We cannot transcend Transcendental Consciousness. That is why it is not counted within the 4 levels of consciousness. These 4 levels of consciousness are constantly influenced by 7 means of perception and the 4 different kinds of basic influence of life. These 4 different influences (born of the 3 gunas) are influencing 7 means of perception. These 4 basic influences of life are a combination of Satva, Rajas, and Tamas as displayed in the human existance (Satva is predominant and Rajas is secondary; Satva is predominant and Tamas is secondary; Rajas is predominant and Satva is secondary; Rajas is predominant and Tamas is secondary). The 4 states of consciousness are under the influence of the 4 different kinds of influences of the three gunas. When we multiply 4 levels of consciousness with 4 influences of the 3 gunas we are gaining 16 qualities of consciousness. Each quality of consciousness is subjected to 7 means of perception. Multiplying 16 with 7 we are getting 112 ways through which transcending is possible. There are 112 different starting points but the goal is the same.

Another way of coming up with 112 techniques is as follows: We multiply 3 gunas with 5 elements (space, air, fire, water, earth) and add the Absolute level of life, thereby getting the number 16. This we multiply with 7 levels of consciousness and again come up with 112. The purpose here is to see that whatever state of life one is in, it should be possible to transcend from that state. One can accomplish this by following a simple principle of life: „be good, do good". Leading a good life in every area of living contains the method for inducing an impulse to transcend, using any of these 112 ways of transcending. In this way, from every level and tendency of life, life is inspired to move to the Transcendental level. Doing good 24 hours is the means of development of Creative Intelligence. Regular practice of Yoga (meditation, pranayama, asana) and doing good all the time, avoiding that which we know not to be good, spontaneously contains and engages all 112 ways of transcending.

Based on the lecture of Maharishi Mahesh Yogi

Hatha yoga pradipika

Hatha Yoga Pradipika (H.Y.P.) appeared later than the Yoga Sutras. It was writen around the fifteenth century and contains many useful pointers for practicing Yoga, in addition to explanations of breathing techniques in the form of pranayama, cleansing techniques, and a few other practices. HYP states that there are innumerable asanas, but describes only a few dozen: several seated asanas for meditation, headstand, shoulder stand, some forward and backward bends, and the peacock pose. The text does not form a complete practice manual, because in those days, a student always learned directly from a teacher, never from a book.

Yoga yajnavalkya samhita

The Yoga Yajnavalkya is one of the most important ancient texts on Yoga. Other classical texts on Yoga like the HathaYogapradipika have borrowed many verses from the Yoga Yajnavalkya. Among these other Yoga texts, Yoga Yajnavalkya is the most organized presentation, dealing with the eight limbs of Yoga in sequence. A unique feature of this text is the extensive discussion of Pranayama in as many as a hundred verses.

Taittiriya upanishad

The Taittiriya Upanishad is one of the major, ancient philosophical works in the Vedic tradition. It is one of the ten important Upanishads. The relation that exists between the unified field and the physiology is clearly brought out in the Taittiriya Upanishad which states:
Tat srishtva tadevanupravishat.
„ Having created, the Creator entered into the creation". One builds a house and then lives in it.
The model of the five mayas or koshas, have its basis in this text.

Other vedic literature on yoga:

Rig Veda, Yoga Vasishta, Kena Upanishada, Mandukya Karika, Shwetashwatara Upanishada, Brihad-Aranyaka Upanishada, Shandilya Upanishada, Mandalabrahman Upanishada, Tejobindu Upanishada, Dhyana Upanishada, Amritabindu Upanishada, Jabaladarshan Upanishada, Saubhagyalakshmi Upanishada (S.L.U.), Yogashika Upanishada, Yogatattva Upanishada (Y.T.U.), Yogakundali Upanishada (Y.K.U.), Yogacudamani Upanishada (Y.C.U.), Paramadam Upanishada, Shiva Samhita, Gheranda Samhita, Shankara, Bhaja Govindam, Shrimad Bhagavat Purana, Shrimad Devi Bhagavatam, Garuda Purana, Brahma Vaivarta Purana, Aparokshanubhuti, Siddhanta Darshanam, Manu Smriti.

Sanskrit terminology – a familiarization with key words and concepts to facilitate and retain the authenticity in teaching

Sanskrit is primarily a language, the transmission of which is still partially oral, and was written only relatively late in history. The term "Sanskrit" means "perfected". Samskrta means put together (sam – together, krta – put). Sanskrit is divided into two principal parts: Vedic Sanskrit and Classical Sanskrit. The older language is Vedic Sanskrit, or Vedic, the language of the Samhita and Brahmana, the two principal parts of the Veda. Vedic Sanskrit begins with Rig Veda. Classical Sanskrit which includes several aspects is the language of the Bhagavad Gita, Ramayana, and the rest of the Sanskrit literature.

During the Vedic period Sanskrit was called Daivi vak – language of Natural Law. The rituals and modes of worship mentioned in the Vedas are directly related to the Laws of Nature (Devas – gods). Speech is all-important in the Vedic civilization. Living beings (devas, humans, animals) are often characterized as being composed of "thought, speech and body". Between these three, Veda systematically gives priority to speech. The structure of the universe is the structure of Vedic speech. Many names for the Absolute such as brahman, akshara, originally refer to an indivisible, absolute Word, Formula or Syllable, whereas other deep and meaningful words like bindu or nāda connote the mysterious efficiency of speech. Currents of efficient speech flow through the universe: Vāc "the Word" or the "Voice" is a self-existent current that manifests the world. Since speech is all-important, enunciation and correct pronunciation became a very special and primary field of interest. Sanskrit is efficient speech when it is correctly pronounced by the appropriate person in the right place and at the right time.

The Vedic Rishis have directly cognized these words. Then brahmans and pundits would repeat these primordial sounds directly from them. Only lately did they have recourse to writings so they can learn and remember them. In Sanskrit, speech commands over writing. No major work in Sanskrit was first composed directly through writing. Therefore when it was written, the main concern was to ensure that there would be no ambiguity in the pronunciation of the written words (correct pronunciation without distortion would be perpetuated like that). The system is based on 3 simple rules: we write everything we speak; we speak every single sign; each sign is always spoken in the same way. This system is very strict because Sanskrit was transmitted orally and its writing system was naturally subservient to its oral form: written signs had to reflect sounds perfectly. No spelling mistake is ever possible: whatever you hear, you write. Accents consist of higher and lower tones (svara). There is a raised tone (udatta), an unraised tone (anudatta), and a "moving" tone (svarita). In Rig Veda the udatta is unmarked, the anudatta is marked by a low horizontal bar, and the svarita is marked by a high vertical bar.

Panini, the great grammarian endowed this language with his famous grammar in the 7th century B.C. From then on, this language was known as "Samskrtam". The study of grammar is from Vyakarana, of which the primary text is Ashtadhyayi of Panini. The Ashtadhyayi of Panini is a concise and complete grammar of Sanskrit, containing about 4000 sutras, or aphorisms. While Samskrta means to "put together", Vyakarana means to "undo" or to "take apart". It gives the details of the structure of the language.

Acording to Yaska's Nirukta (the Vedanga dealing with word meaning), all Sanskrit words can be divided into four categories: verbs (akhyata), nominals (nouns, pronouns, and adjectives) (naman), prefixes (upasarga), and indeclinables (nipata). Verbs, as well as nominals, are systematically derived from verb roots (dhatu), of which there are about 2000.

Veda and Vedic Literature were written in Sanskrit. Sanskrit is written in the Devanagari script, the script of the "City of Immortals," or the script of the abode of the impulses of creative intelligence, the home of all the Laws of Nature. Each letter in the Devanagari script represents one syllable, which can be either a vowel or a consonant followed by a vowel. When Atma (pure consciousness) want to describe itself using the human ability of speech, then it is expressed in Vedic sounds (Sanskrit). The Sanskrit alphabet systematically unfolds from the vowel "A," from which all other vowels and the consonants are derived. The alphabet is systematically arranged according to the structure of the mouth. There are two basic divisions of the alphabet: vowels and consonants. Vowels can be either short or long. Short vowels are held for one count and long vowels are held for two counts. Some vowels are called simple, and some are called complex. The consonants are systematically derived from "ka," which is a complete closure. The first 25 consonants, called stops, are arranged according to five points of articulation: lips, teeth, roof, palate, throath. Each consonant automatically contains a vowel, both in spoken and written form. Each syllable must have a vowel, either by itself or following a consonant. When a vowel follows a consonant, it is written in a modified form. The script is written in a more economical way by abbreviating the vowels following consonants. Consonants are combined into syllables by eliminating the vowels from the first consonants, but maintaining the vowel after the last consonant. Each syllable ends with a vowel, providing a vehicle for its expression.

"Vedic study is the study of speech. The study of speech is the study of the process of manifestation of the Atman, the Self – the systematic progression of the expansion of the unified wholeness of the Self. In the field of speech we understand how the totality of unbounded wakefulness, from its unbounded nature, gets quantified into small and big boundaries. "A", the totality, is quantified in a systematic way, and this is how the letters of the alphabet have been systematized. There is a relationship between the tongue and the mouth; between the tongue and palate; the tongue and the teeth; and the lips and the mouth. From these relationships the vowels and the consonants are pronounced. In this we see a system of quantification of totality.

Pronouncing means transformation of consciousness into speech - all the syllables are reverberations of the Self. The entire Vedic Literature presents the most sequential evolvement of unity into diversity - the most systematic, most natural development of the unfoldment of the Self into the field of speech. From speech arises the reality of matter. From sound, form is generated, and from form, the entire universe in a very systematic way."

– Maharishi

In Sanskrit name (mantra - sound) and form (manifest structure - asana), are identical. That is why it is recommended to learn the names of asana and pranayama in Sanskrit, because it enables the full value of the name to be expressed in mind and body, leading to perfect health.

Ethics for yoga teachers

Yoga teachers should live what they teach. Yoga is to be expressed in their behavior (principles of Yama), their way of life (Niyama – yogic life style), their body, breath and mind. Yoga teachers should never criticize. The ego looks for what to criticize. The ego searches for shortcomings and weaknesses. Love watches for any sign of strength. Have patience and tolerance. Focus only on positive, uplifting and life-supporting. By appreciating only the good qualities in ourselves and others and overlooking the shortcomings and mistakes, all other positive qualities grow as well. Never let your ego come on the forefront. The Yoga teacher is not in the position to criticize anything, but in the position to adore everything. Under all circumstances it is necessary to have a loving, kind, and sympathetic heart. Our outward behavior should be based on that principle. Love everything, encourage everyone. We create a quality of life in the atmosphere according to the quality of our hearts. Be careful not to think bad because that brings mud on our hearts and we have to wash it off. Yoga teacher should be simple, natural and kind. Naturalness is the basis of effectiveness. If one poses to be something else, one losses the charm of naturalness. The result is that one accumulates stress.

If one is in a position of authority one should practice what one preaches. One must become a model to others. The following story illustrates this principle:

"A mother took her son to see a Master to cure him of the habit of eating sweets. The master told them to return after a month. They waited for this time and then went back to the Master. He said they must come back after two months. This they did and were told to come back after another four months. On the next visit, they were told eight months. When they returned after eight months, the Master said to the boy: 'Do not eat sweets'. The mother and the boy went home, and soon the parents could see that the boy was not eating any sweets, but storing them in a cupboard in his room. Any money he was given was also saved up. The parents could not understand the change that had occurred and went to see the Master. They asked him why he had waited so long before advising the boy. He replied that when they had first come to him, he, too, used to eat sweets. After a month he had given them up, but he still had a nagging desire to eat them. Not until this had been completely overcome, did his mind become so clean, that simply by telling the boy not to eat sweets, he could influence the boy's mind in the same way."

योग

CHAPTER 2

ANATOMY AND PHYSIOLOGY

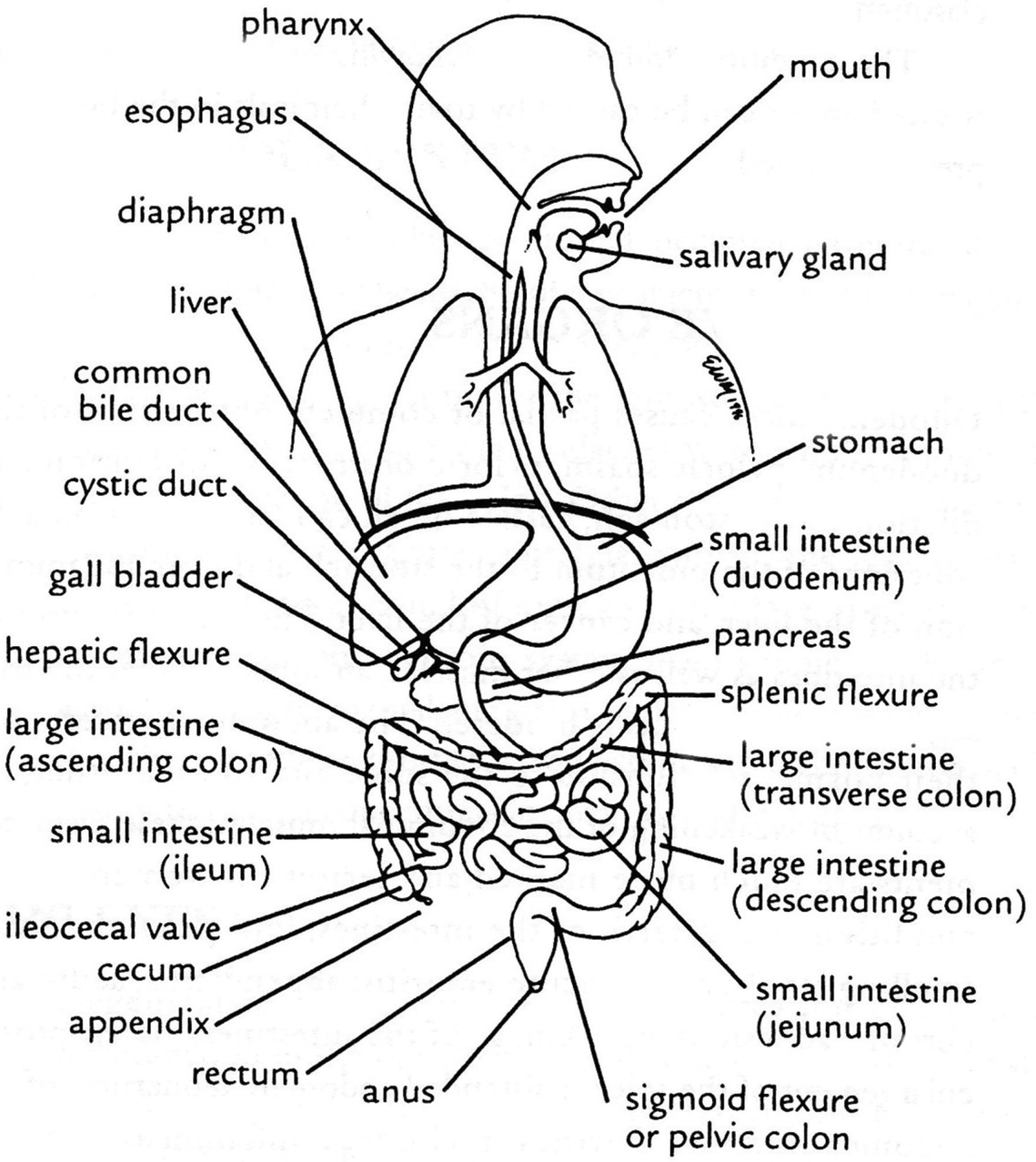
The anatomy and physiology (body systems, organs, etc.)

Anatomy is the science of the structure of a living organism and physiology is the science of the functions of the body.

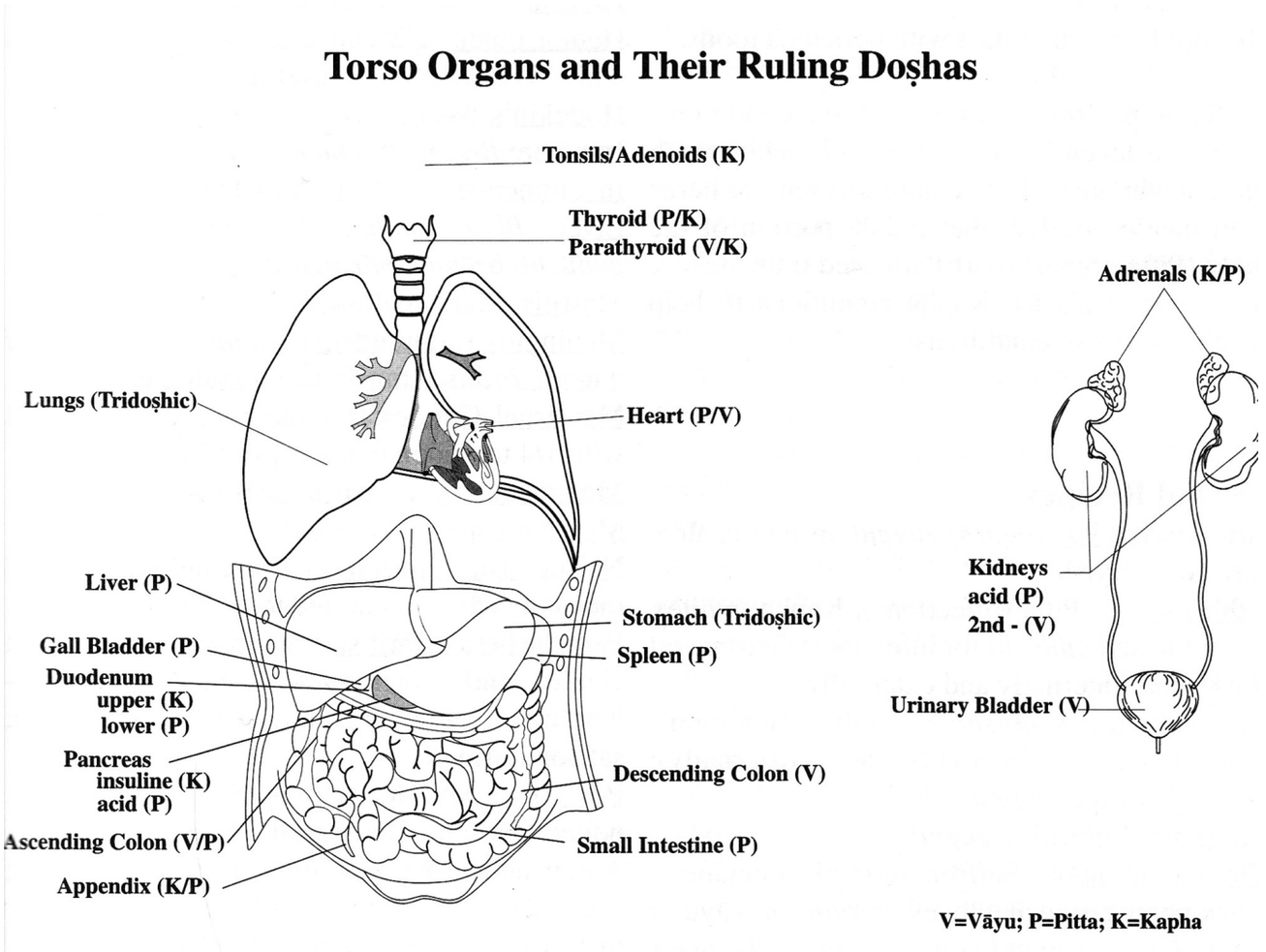
The human body consists of three distinct parts: head, trunk and extremities. The trunk is differentiated into the chest (thoracic) part and the abdominal part. These two parts are separated internally by a muscular curtain called the diaphragm. The human body is well organized for its different vital functions. Such functional organization of the organs in the body is known as a system. For example, the digestive system for the function of digestion, the respiratory system for the function of exchange of oxygen and carbon dioxide between the air and the blood, etc. The total function of the body depends on the integration of these systems. A system is constructed of some parts which are grouped together for a specific function. For example, mouth, teeth, stomach, liver, intestine, pancreas and colon work together as digestive system to provide nutrition to the body. There are eleven main systems: skeletal system, muscular system, digestive system, respiratory system, nervous system, circulatory system, urinary system, endocrine system, reproductive system, integument system (skin) and immune system. Every organ is composed of specific tissues. Tissues are made up of a group of specialized cells. Every tissue has its specialized function to perform. The tissues of our body are classified into four principal types according to their structure and function. These are: epithelial tissue, connective tissue, muscular tissue, nervous tissue. Now we will consider some of the important systems and their relevance to the yoga practice.

The digestive system

Once the liquid food material enters the stomach, it will be digested and later absorbed in the small intestine within half an hour. Solid food (e.g., lunch) will take 2-2.5 hours for the main digestion and 4-6 hours for complete absorption. That is why yoga practices should be done either in the morning or in the evening with an empty stomach. The central nervous system has no direct control on the digestive function but the appetite and satiety centers lie in the hypothalamus. Our emotional balance and behavior are also controlled by the hypothalamic centers. It has been found that even the muscular tone of the smooth muscles of the visceral parts is affected due to our emotional status. Digestion is affected by the state of our nervous system which is influenced by the state of mind. Tense, unsatisfied mind and the negative thinking cause indigestion, acidity, and gastric troubles. If the digestive function is disturbed, our health is also affected. It is therefore advisable to maintain mental peace and balance all the time, with a positive approach, contentment and happiness, which can be achieved through Yoga. Almost all the asanas as well kriyas, bandhas and pranayamas influence the stomach, colon, urinary bladder and the liver. The colon contents are greatly influenced during uddiyana bandha, nauli and basti kriyas. Dhauti is mainly related to the esophagus and stomach while Basti is concerned with the anus, rectum and the colon. The external sphincters of the anus are contracted and relaxed
alternately in Ashwini mudra.

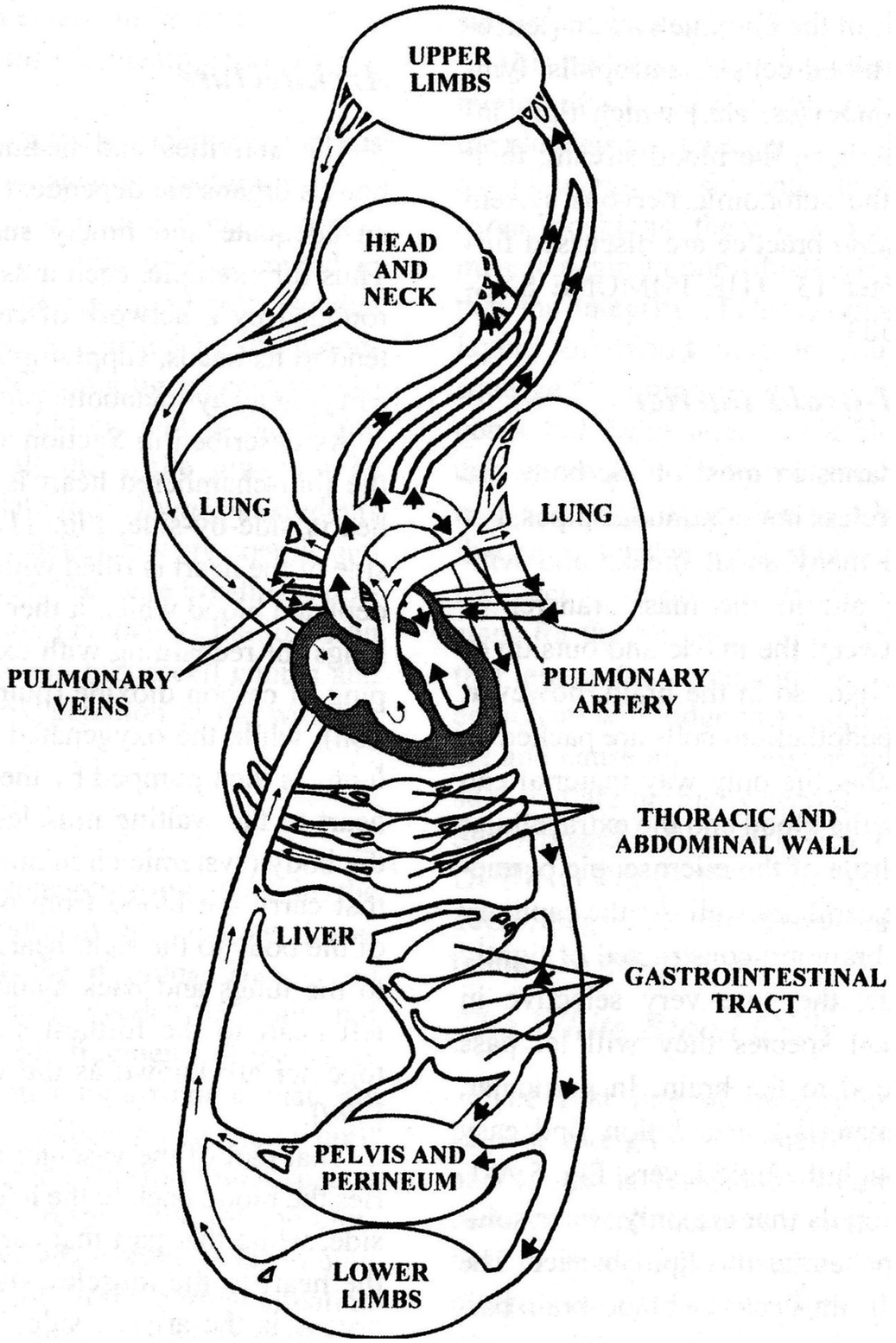


The alimentary canal, thirty feet in length, consists of the mouth, pharynx, esophagus and the organs of digestion – the stomach, and the small and large intestines.

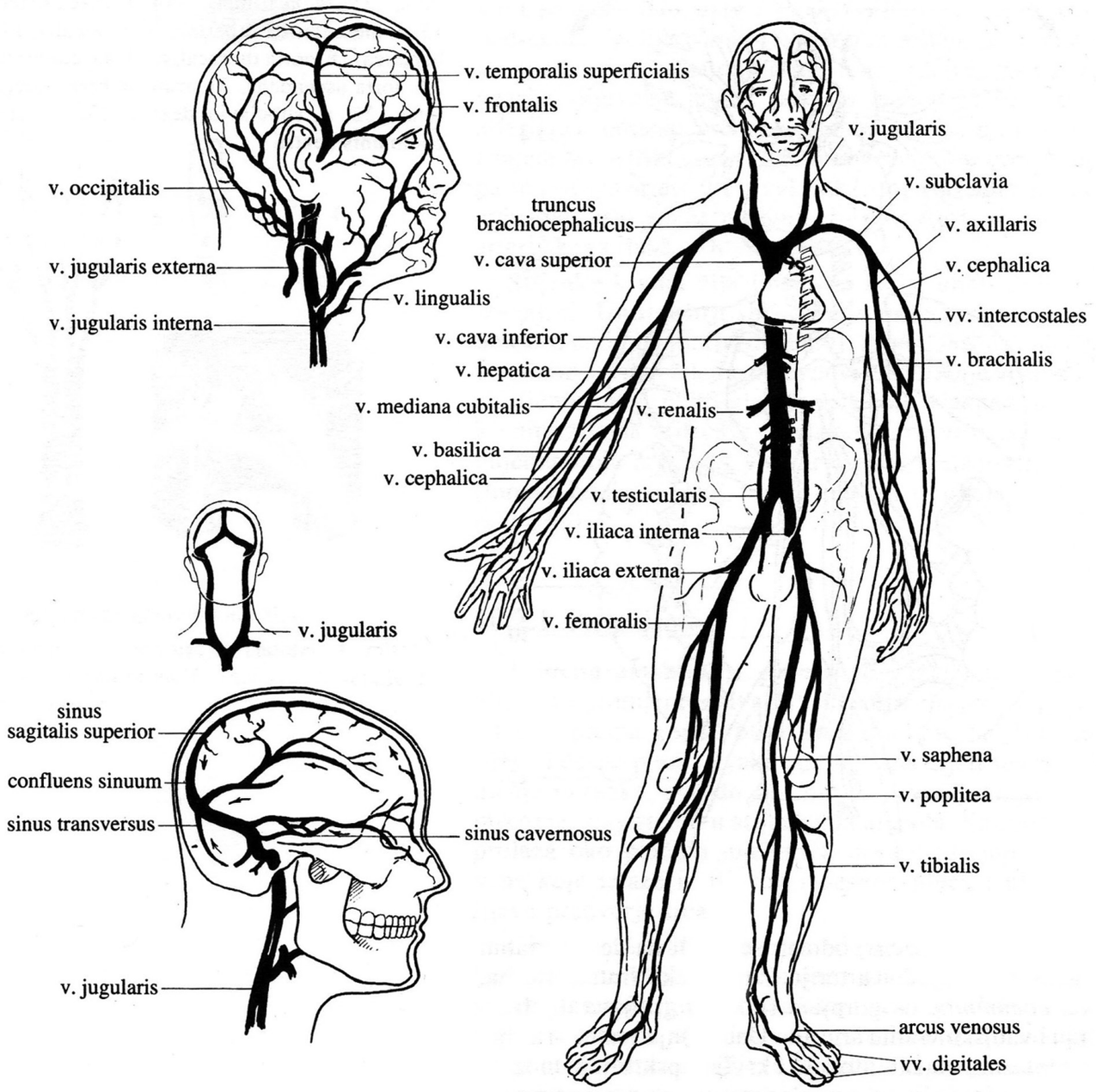


The circulatory system

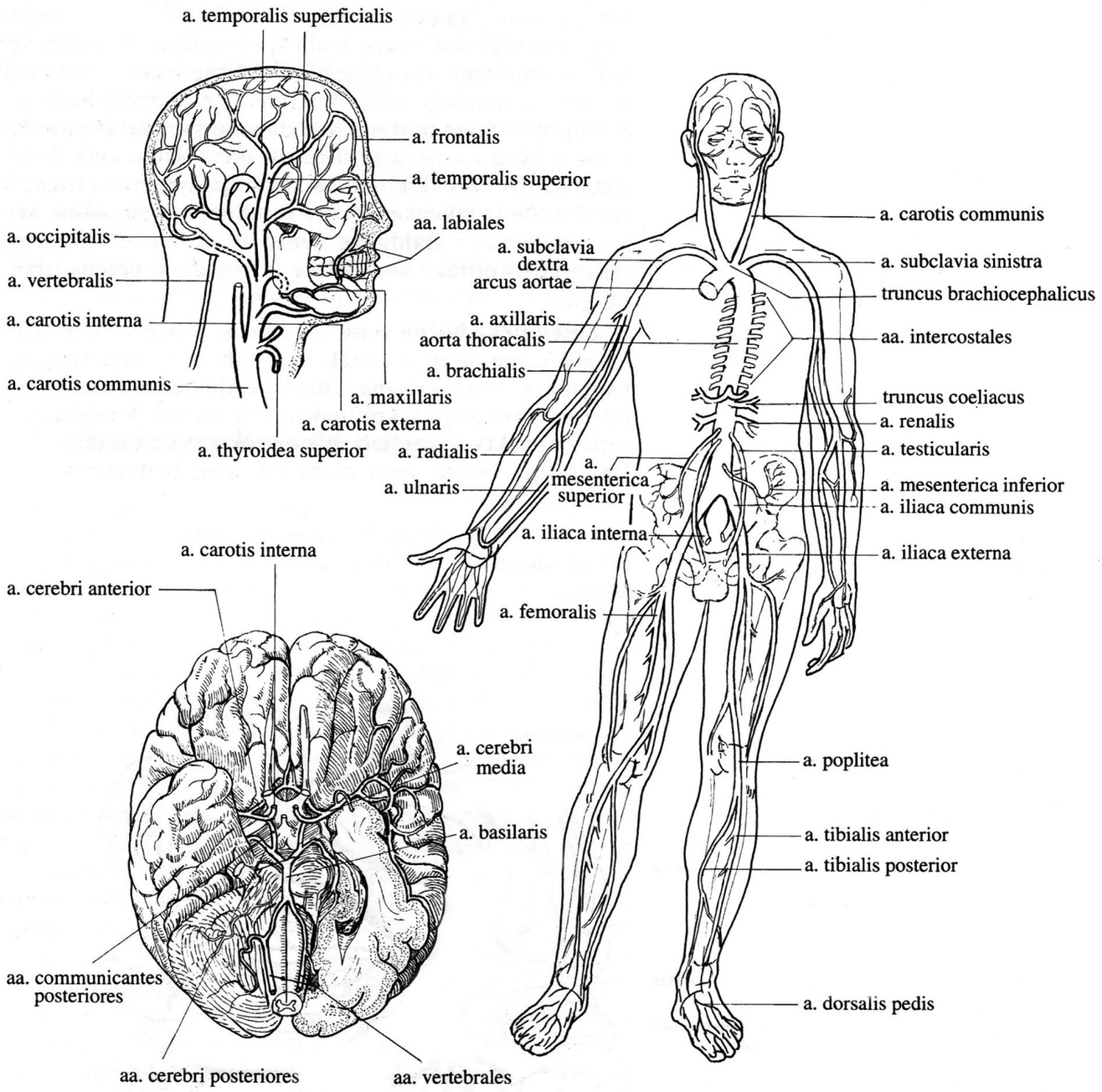
Many asanas e.g., Shirshasana, Sarvangasana, Viparita karani asana, Halasana, Mayurasana, pranayamas like Ujjayi, Bhastrika, Kapalabhati as well as uddiyana bandha, Nauli, Jalandhara bandha specially influence the blood circulation. Those who are suffering from high blood pressure should not practice the above mentioned asanas, pranayamas, and kriyas without previously consulting their doctor and expert for yoga therapy approach. Congestion of blood is caused in various parts of the body due to lack of circulation. The congested organs lose their efficiency, leading to a variety of ailments. Such ailments can be checked effectively by exercising the affected parts, by doing asanas, pranayama, and bandhas. The heart rate and the blood pressure should not increase too much while doing asana or pranayama. It has been observed that the workload on the cardiac function during Padmasana and Vajrasana is less than just sitting on a chair. When the body and mind are properly relaxed and mental peace is experienced, then muscle tone is reduced. Then blood vessels which are otherwise constricted due to tension are also relaxed. The heart rate is reduced. Blood pressure comes to a normal level. This is possible by regular practice of Anandasana. It has been observed that the peripheral blood circulation is reduced and that the circulation in a particular body part (e.g., the endocrine glands, the facial muscles) is purposely enhanced to supply blood to the specific tissue. That is why yoga practitioners always looks fresh and energetic and have brightness on their face.


UPPER LIMBS
HEAD AND NECK
LUNG
LUNG
PULMONARY VEINS
PULMONARY ARTERY
THORACIC AND ABDOMINAL WALL
LIVER
GASTROINTESTINAL TRACT
PELVIS AND PERINEUM
LOWER LIMBS

This picture shows a schematic of the general flow pattern of blood through the various capillary beds of the vascular system. The heavy and light arrows represent the directions of blood flow at high pressure (arterial) and low pressure (venous), respectively.



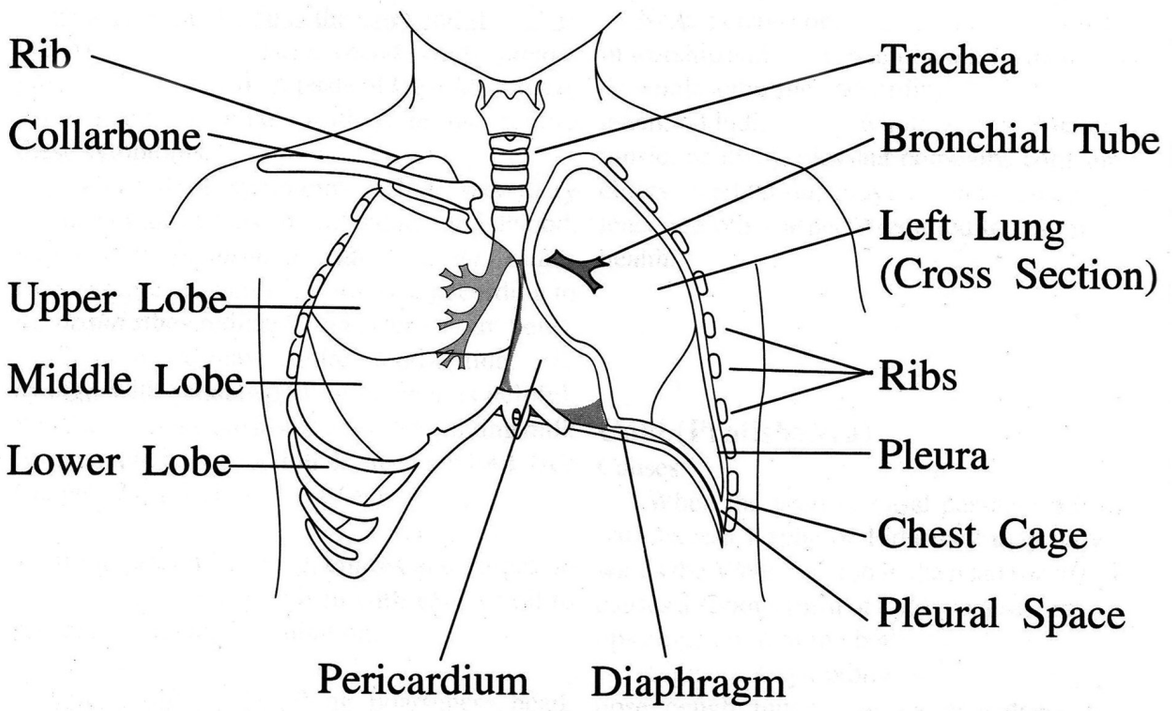
Picture shows the major arteries of the body

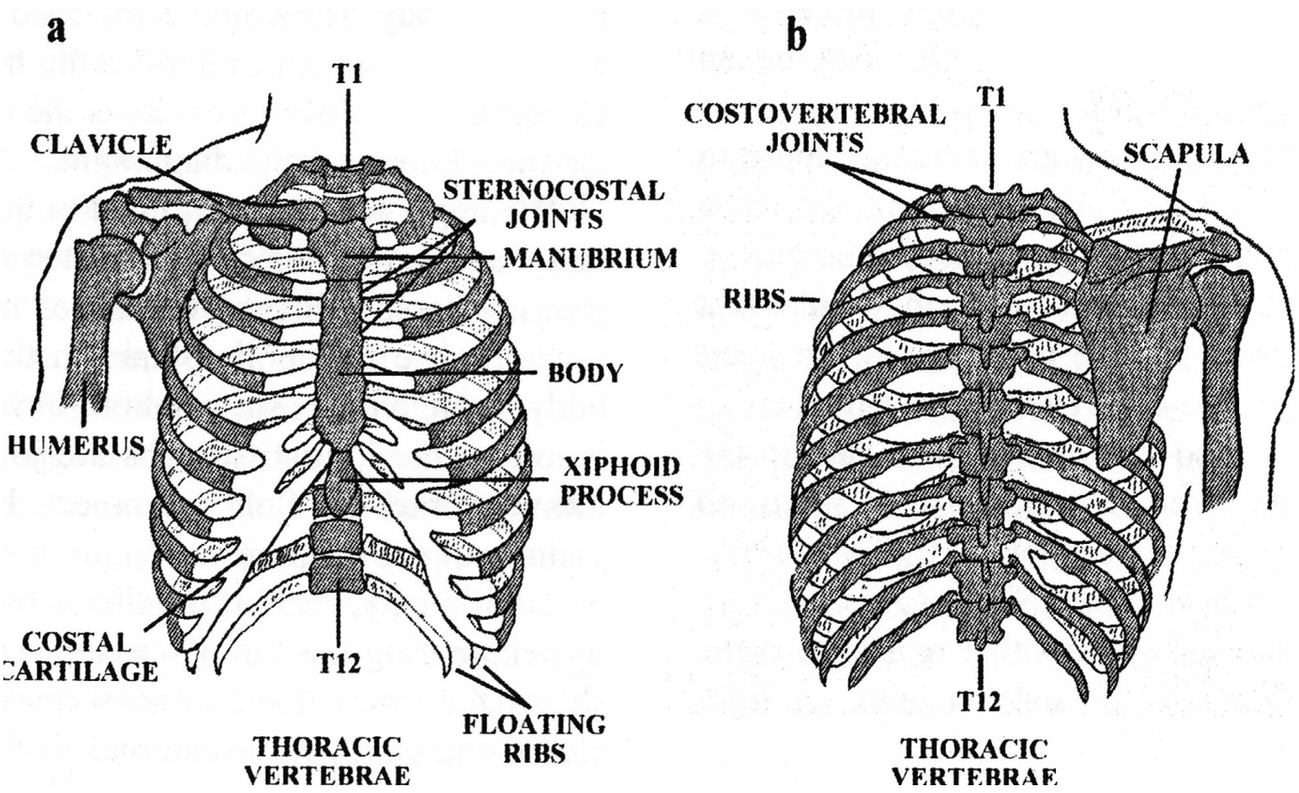


Picture shows the major veins of the body

The respiratory system

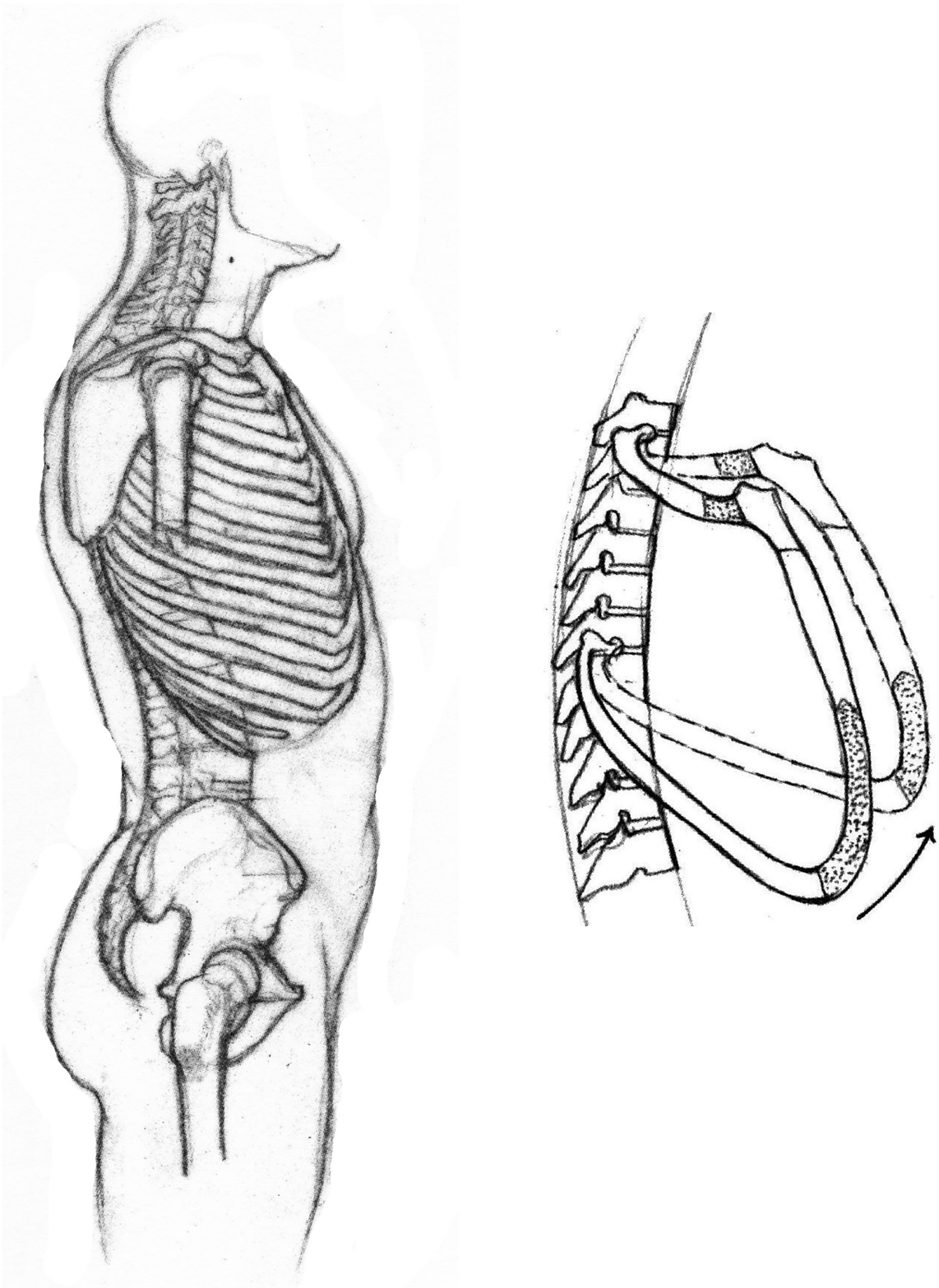
Besides supplying oxygen, the respiratory system also contributes to the state of consciousness, awareness and attention. In pranayama we are dealing with this aspect. The breathing cycle differs from one person to another in respect of the depth, rate of respiration, the movements of the chest and abdomen, pauses, ratio between the duration of inspiration and expiration. This also depends on the postural habits, type of physical and mental activities, behavior, psychological state, mood, and emotional conditioning of the individual. A silent and slow breathing, when the air flows easily, without producing any sound is an indication of good health. Respiration is semi-involuntary in nature. Therefore, we can breathe in or out deeply, hold the breath, move our chest or the abdomen voluntarily. Most of the time the breathing takes place either from the left or the right nostril. Rarely is found that both the nostrils are equally open. This is because the closing and opening of the nostrils occurs alternately every one to four hours, without our notice. This is known as the nasal cycle. Our breathing is related to the life force (prana) on one side and the mind, on the other. Therefore pranayama is like a bridge between the physical and the mental activity.





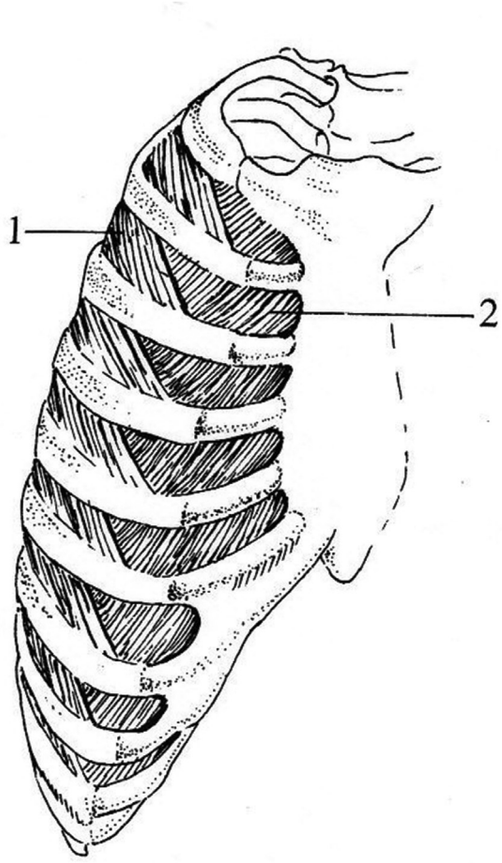
a. The attachment of the ribs to the sternum (manubrium, body and xiphoid process) via the ster nocostal joints and the costal cartilage, as seen from the front.

b. The attachment of the ribs to the twelve thoracic vertebrae via the costovertebral joints, as seen from the back.



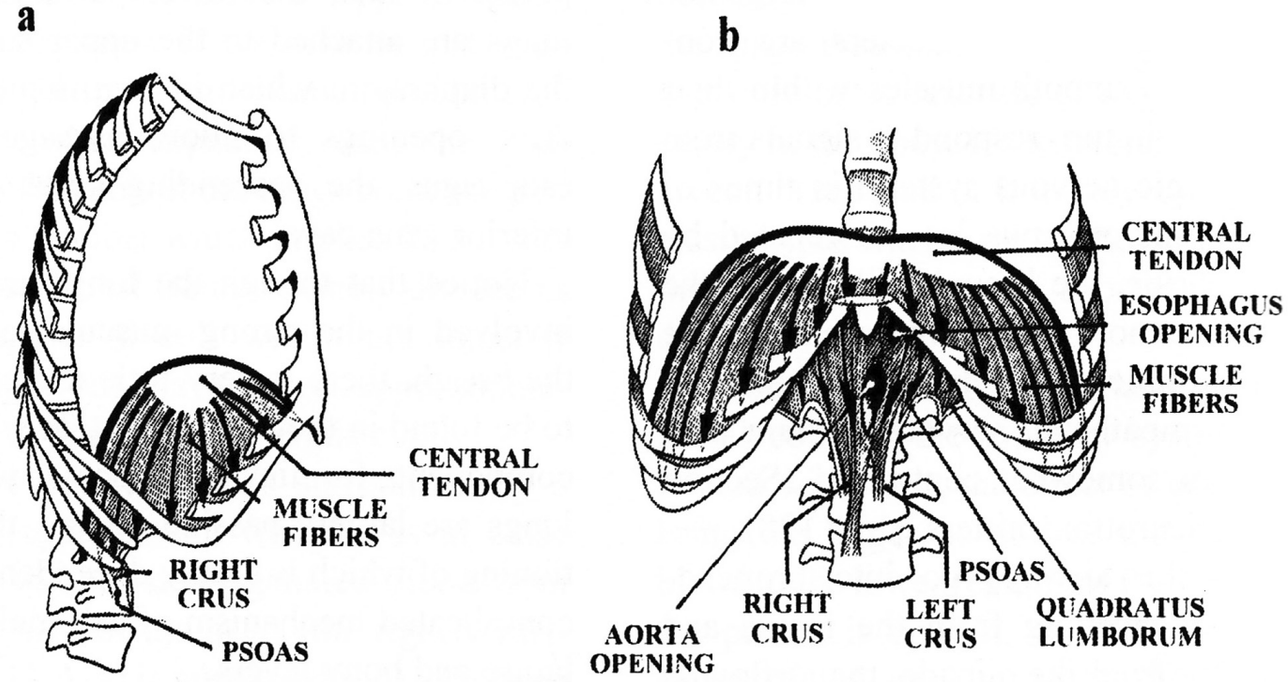
Ribs during exhalation and inhalation

The movement of the ribs is crucial to breathing. When we breathe, the sternum moves slightly up and down, and the ribs, by rotating where they articulate with the spine, move like pail handles being raised slightly. The raising of the ribs increases the lateral dimension of the thorax, and the raising of the sternum in front increases the antero-posterior dimensions of the thorax as well. This increases the entire circumference of space within the thorax, causing air to flow into the lungs. Not all the ribs move in the same way: the first ribs move very little, and there is in general more movement in the lower ribs. The final two floating ribs are quite mobile. When the muscles of the trunk are functioning properly, the ribs are able to move flexibly, but because of tension and postural distortion, they are typically fixed and quite rigid and the rib cage becomes a real cage restricting normal breathing and life.



Intercostal muscles: 1. mm. intercostals externi
2. mm. intercostals interni

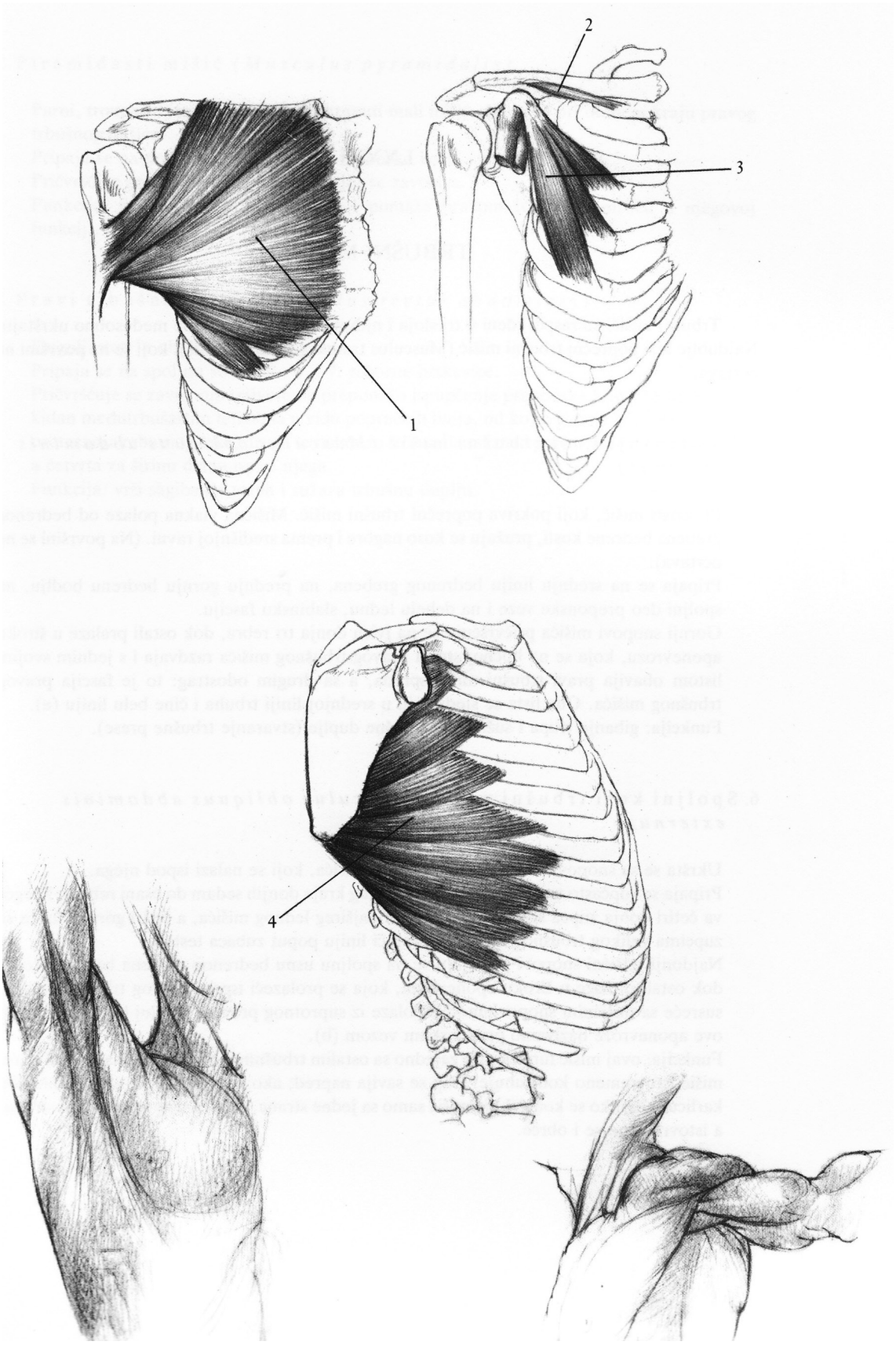
There are two layers of rib or intercostal muscles which are responsible for breathing. The external intercostals arise from the lower border of each rib and attach to the upper border of the rib below, running obliquely down and forward. Underneath this layer are the internal intercostals, which arise from the inner surface of each rib and slant down and back, in the opposite direction to the external intercostals, to attach to the rib below. The external intercostals function mainly to elevate the ribs, which increases the width of the thoracic cavity and therefore causes inspiration. The internal intercostals depress the ribs when actively breathing out. The Transversus thoracis lies on the inner surface of the lower part of the sternum. Its fibers extend up and out, like the spread fingers of a hand, and insert into the costal cartilages of the second, third, fourth, fifth, and sixth ribs. This muscle, which aids in forceful expiration, is the muscle that you can sometimes feel gripping in the inner chest; it contributes to the rigidity of the chest in many people who raise and fix the chest in speech and breathing.



(a) lateral view of the diaphragm within the thoracic cavity, showing its central tendon, the radiallyaligned muscle fibers, attachments to the anterior sides of the lower vertebrae, and the direction of the tension (arrows) when the diaphragm is contracted.

(b) The anterior view of the diaphragm within the thoracic cavity, showing more clearly its attachments to the lumbar vertebrae. Also shown are the openings through which the aorta and the esophagus pass.

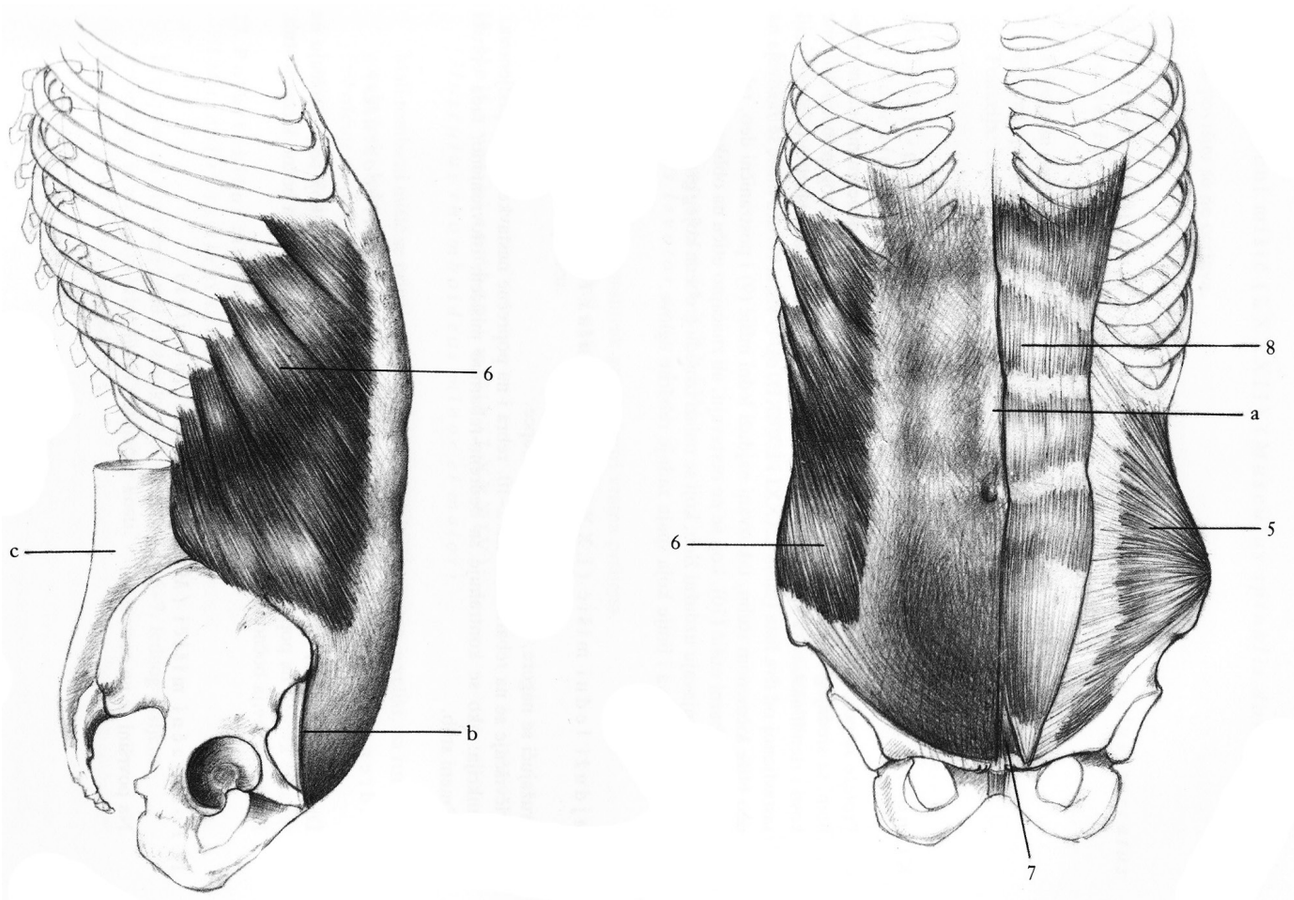
The diaphragm is the main muscle of breathing. It is basically dome-shaped, formed by muscular fibres that attach all around the circumference of the lower thorax and converge upward into a central peak which is tendinous. When the fibers of the diaphragm contract – particularly the portion of the muscle attached to the lumbar vertebrae which pull the central tendon of the diaphragm down – the dome is depressed, which enlarges the space inside the rib cage. This makes the inhale complete. When the ribs return to their lower position and the diaphragm ascends, air rushes out. The active movement of diaphragm is downward, not upward. Even the ribs rise as the diaphragm descends. The upward movement of the diaphragm is the passive phase. When the diaphragm relaxes, the ribs descend, and air is forced out of the lungs. When we hold our breath, we are holding the diaphragm down. Learning to let go of the breath means to allow the full ascent of the diaphragm.



Thoracic muscles:
1. Musculus pectoralis maior, 2. Musculus subclavius, 3. Musculus pectoralis minor,
4. Musculus serratus anterior

Supporting the upper rib cage are the scalene muscles. The scalene muscles originate at the upper cervical vertebrae and attach to the upper ribs. They are considered muscles of respiration because they come into play in forceful inhalation and because they support the ribs from above. The upper ribs, however, do not actually contribute much to breathing, being quite squat and immobile. The scalene muscles are not so much involved in breathing as they are in supporting and suspending the upper rib cage.

One of the most important muscles on the front of the body and rib cage is the sternocleidomastoid muscle. This muscle is the flexor of the head and neck, and assists in rotation of the head and for performance of Jalandhara bandha. However, it would be more accurate to say that the sternocleidomastoid muscle provides tensile support for the thorax as a whole and in this sense is a crucial suspensory muscle for the rib cage and the front of the body.

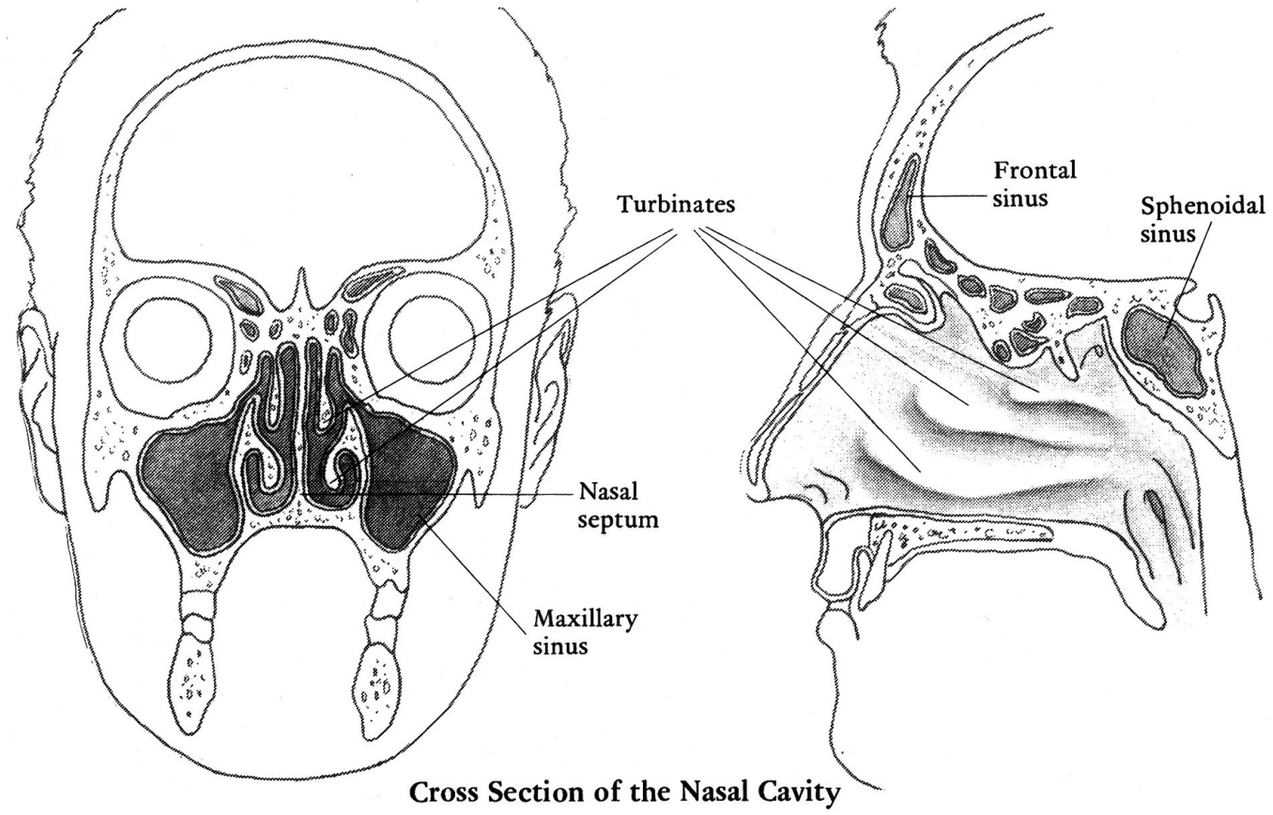


Abdominal muscles:
5. Musculus obliquus abdominis internus, 6. Musculus obliquus abdominis externus, 7. Musculus pyramidalis, 8. Musculus rectus abdominis, a. White middle line of abdomen, b. Inguinal bond, c. Musculus sacrospinalis

At the bottom end of the rib cage and acting on the ribs from below, the rectus abdominis forms part of the flexor sheet on the front of the body that supports the rib cage. It is a powerful flexor of the trunk and assists in expiration. The rectus abdominis is the longitudinal muscle which forms the muscular bumps along the front of the abdomen. It originates at the pubic symphysis and runs vertically up each side of the linea-alba at a slightly outward angle to insert into the fifth, sixth, and seventh ribs; it is enclosed within a sheath of tendon formed by the oblique and transversalis muscles. The pyramidalis muscle lies in front of the rectus abdominis at the pubic bone. It is a tensor of the linea-alba.

External oblique, internal oblique, rectus abdominis, and transversalis form the front and side walls of the abdomen. These walls tend to sag with age, not only because the muscles lose tone, but also because of the loss of support in torso and shortening at the front of the body which allow the internal organs to sag forward. The posterior wall of the abdominal region is formed by the muscles on the front of the spine – the back or lumbar portion of the diaphragm, the iliacus and psoas muscles, as well as the quadratus lumborum. To have a proper disposition of the internal organs in the abdominal region and also to maintain normal breathing, it is important to exercise and strengthen those muscles.

Anatomy and physiology of the nose



Cross Section of the Nasal Cavity

The most prominent structures of the nasal cavity are the three seashell-like bulges that one can catch a glimpse of as one looks up inside the nose. These are called the turbinates. As their name imlies, their function is to stir and circulate the air as it enters the nose, and the result is that the stream of air passes over a much greater surface than it would otherwise. The turbinates thereby have a marked effect on the moisture content and temperature of the entering air, for as the air enters, it passes over the warm, moist turbinates, picking up humidity and heat. This prepares it so that it will not be a shock to the delicate tissues of the lung. As the air leaves the lung, the opposite reaction occurs. As it passes over the turbinates, which have just been cooled and dried by the incoming air, the outgoing air now re-warms and moistens them. In that way the turbinates help prevent the loss of heat and moisture from the body. The turbinates also serve to baffle the air, to stir it up and to creat a certain amount of turbulence.

As the turbulent air is brought more thoroughtly into contact with the surface of the turbinates and nasal lining, this also results in a more effective deposition of dust and other particles. To cope with this, the inside of the nose is lined with a covering called a mucus membrane, so-named because it has the special property of being able to secrete mucus. Nasal mucus performs a very vital function, for it picks up dust, microbes, bacteria, viruses, fungi and debris and carries it out of the nose. The consistency of the mucus is very important. As long as it is of the correct composition and viscosity, everything goes fine. One of the primary factors determining the composition of the nasal mucus is diet. If not disturbed by overeating, a bad diet, or constipation, the mucus and mucus membranes

function in a very neat, tidy and orderly way. But when we disturbe their normal function, they become accesory routes of excretion. Then the composition of the mucus is no longer determined by what is ideal in terms of its protective function. Rather, it is determined by what needs to be thick, or otherwise abnormal. The result is not only the discharge of quantities of mucus, but also the absence of the effective protection by the mucus membranes, with subsequent irritation, inflammation and often infection.

The sinuses are cavities in the facial structure that are adjacent to and open into the nasal cavity. The largest sinuses are located above each eye and in each cheek bone. Lined with mucus membrane, the sinuses can also secrete mucus, but they should remain hollow. Sinuses lend resonance to the voice by vibrating with the vocal cords. Besides the two main parts of sinuses, there are others deeper in the head, behind the nose, up under the brain and behind the eyes. These are smaller than the main sinuses. Tiny passageways lead from each sinus down into the nasal cavity, and it is through these tiny passageways that the sinuses are able to drain and rid themselves of their own mucus blanket. Inflamation and problems in the sinuses result when one of the tiny passageways becomes obstructed, or clogged up, and the sinus cannot maintain a free circulation of air and mucus between itself and the nasal cavity. The little passageways leading from the sinuses into the nasal cavity generally enter underneath the turbinates, and when these areas collect mucus that is dried or crusted, it may obstruct the passageways to the sinuses and provoke sinus problems. One way to prevent, and gradually eliminate, such problems is the systematic use of a technique called Neti (nasal wash). Nasal wash should be done with water that is of same composition as tears. It should be exatly that salty, and it should be at body temperature. When done this way the nasal wash is soothing and does not irritate the linings of the nose. Iodized salt, chlorinated and chemicalized water are unnatural and may be irritating.

The muscular system

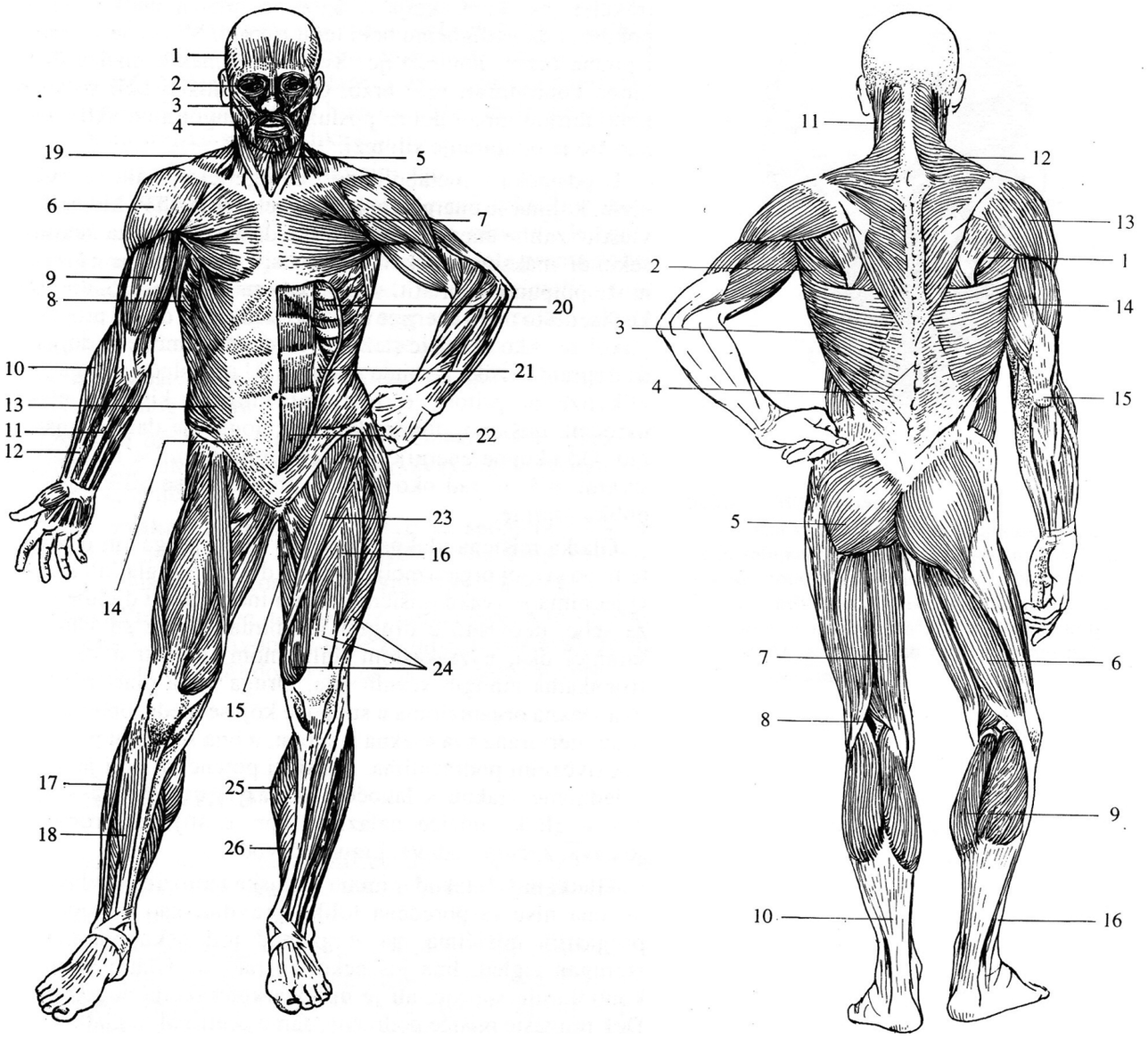
The bones are the static, unchangeable part of the body. The skeletal system provides the rigid framework for the body, as well as the joints at which movement can occur. The role of muscles is to cause control of the movement. The muscles are the dynamic component, giving movement and life to the body. There are three major types of muscle: skeletal (striated), cardiac and smooth muscle. It is beyond the scope of this book to consider cardiac and smooth muscles, found in the heart and the walls of blood vessels and gut, as they have no direct role in human movement.

Skeletal muscles, as their name implies, are predominantly attached to bone and their functions are to produce movement of one bone on another, to control movement produced by external forces or to hold bones still in order to maintain posture and balance. Skeletal muscles are under both voluntary and reflex control and their activity is central to human movement. Back muscles are controllable elements responding to the environment and controlled by our conscious thought processes.

A muscle is basically a contractile tissue. It functions and carries out messages by contracting or shortening and relaxing or lengthening. The more a muscle is used or worked, the more it develops and gains strength. If it is not used as much as it should be, it weakens and becomes flabby or loose. If it is not used at all, it atrophies or wastes away. The muscle is weakened if it becomes shorter or longer than its normal size. A muscle lengthens if continuously stretched over a period, a common example being the stretching of abdominal muscles during pregnancy. When the abdominal mus-

cles are thus weakened, other muscles that control the back are overburdened, resulting into discomfort, pain or even spasms. A muscle shortens if it remains in a state of continuous contraction over a period. For example, following an injury to the back (or any other part of the body), the back muscles go into spasm, which is a protective reaction to prevent movement. A muscle in spasm is in a contracted state. Even after the injury has healed and pain has subsided, the muscles tend to remain shortened and weak. Also due to emotional impact the muscle tone is affected which in turn disturbs the functions of the body. Spastic muscles may pull the spine into an abnormal shape, resulting in mechanical malfunction and other potential problems. When a muscle is contracted in some way, because of this continuous contracted state, the small blood vessels that supply nutrients to the muscles or which drain away waste products, are squeezed shut. It is because of such accumulation of waste products and the cutting off of nutrition that muscles in spasm become very tender and painful. Any muscle which remains contracted for a long time, first tires and then hurts. A muscle spasm, in a sense, is a protective mechanism. It can be triggered by a number of factors like obesity, a sudden jerk or strain from lifting, stretching or an accident resulting in an injury to ligaments, joints or bones in the spine, prolonged immobility, incorrect body-position while driving or reading, pregnancy or may even have a psychological cause like nervous tension, depression, anxiety, fear, etc. A muscle spasm is at the root of most backaches. But these precipitating factors are rendered ineffective if the various muscles associated with the back are strong so that they always hold the pelvis in a balanced position.

If asanas are performed in a relaxed way, the coordination between the nervous and the muscular systems increases, the muscle tone is corrected and thus the emotions are balanced. If the muscle is stretched forcefully beyond its limits and such stretch is maintained, the muscle also tries to contract with force and shows its resistance. This tug-of-war gives rise to tremors in the muscle. With this increased muscular work, the breathing and circulation also increase. Therefore, do not perform asanas with jerks or undue force. Know your basic muscle tone and practice asanas accordingly. If the movements are done with minimum force and efforts, the muscular tension and resistance do not increase. Flexibility and the degree of movement of the joints improve. That is why the warm-up exercises, done prior to asanas, are beneficial. When the muscles are warmed up and relaxed, the muscle tone is reduced and in this way, there is no cause for worries and tensions. Otherwise if the muscles are cold, they are stiff and stretching is restricted. We can reduce the energy expenditure during asanas, by reducing the muscular efforts while practicing them in a peaceful and relaxed way.



Muscles of the body (front):

1. m. temporalis, 2. m. orbicularis oculi, 3. m. orbicularis oris, 4. m. masseter, 5.m. sternocleidomastoideus, 6. m. deltoideus, 7. m. pectoralis major, 8. m. serratus anterior, 9. m. biceps brachii, 10. m. brachioradialis, 11. m. flexor carpi, 12. m. extensor carpi, 13. m. obliquus abdominis externus, 14. aponeurosis abdominalis, 15. m. adductor longus, 16. m. rectus femoris, 17. m. peroneus longus, 18. m. tibialis anterior, 19. m. trapezius, 20. m. intercostales, 21. m. obliquus abdominis internus, 22. m. rectus abdominis, 23. m. sartorius, 24. m. quadriceps femoris, 25. m. gastrocnemius, 26. m. soleus.

Muscles of the body (back):

1. m. teres minor, 2. m. teres major, 3. m. latissimus dorsi, 4. fascia lumbodorsalis, 5. m. gluteus maximus, 6. m. biceps femoris, 7. m. semitendinousus, 8. m. semimembranousus, 9. m. gastrocnemius, 10. tendo Ahilis, 11. m. sternocleidomastoideus, 12. m. trapezius, 13. m. deltoideus, 14. m. triceps brachii, 15. olecranon ulnae, 16. m. soleus.

Muscle contraction

When we speak of a particular movement, the muscle which produces it is called an **agonist**, and a muscle which produces the opposite movement is called **antagonist**. For example in the case of hip flexion, the psoas major is the agonist and the gluteus maximus (a hip extensor) is the antagonist.

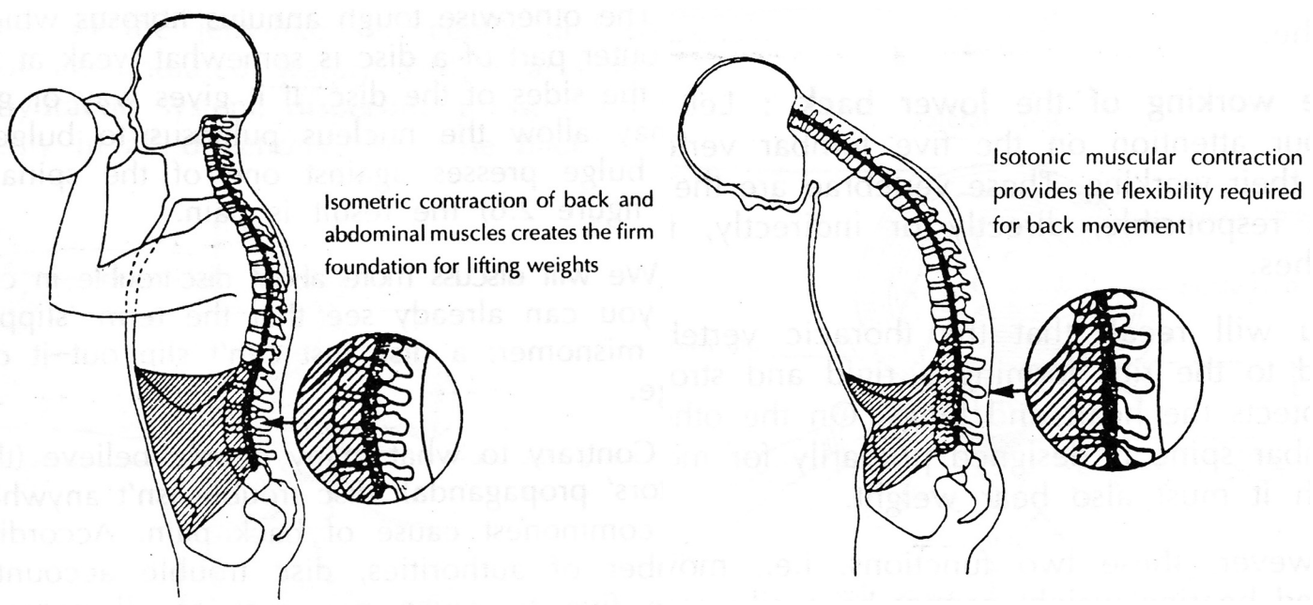
Mutually opposing muscles often function together to fix or stabilize a bone. For example the serratus anterior and rhomboids have opposite actions; they protract and retract the scapula, respectively, i.e., move it away from and toward the vertebral column. By contracting at the same time, these two muscles work together to fix the scapula.

Different muscles which cooperate to produce the same action are called synergetic. For example, in dorsiflexion of the ankle, three muscles work **synergically**: tibialis anterior, extensors hallucis, and extensor digitorum longus.

When a muscle contracts it tends to draw its origin and insertion points closer together. Anything that opposes this tendency is called **resistance**. For example, the brachialis and biceps brachii are the major flexors of the elbow. Their action can be opposed by several types of resistance: the weight of the forearm itself, the weight of some external object attached to the forearm, the force of another person pulling on your arm, or contraction of antagonist muscles.

When a muscle actually shortens in length, and its origin and insertion are drawn together, we use the term **"isotonic contraction"** (e.g., in bending forward, or in the case of trunk flexion from a supine position, the rectus abdominis is undergoing isotonic contraction). This means that the force of contraction is constant and the length of the muscle changes.

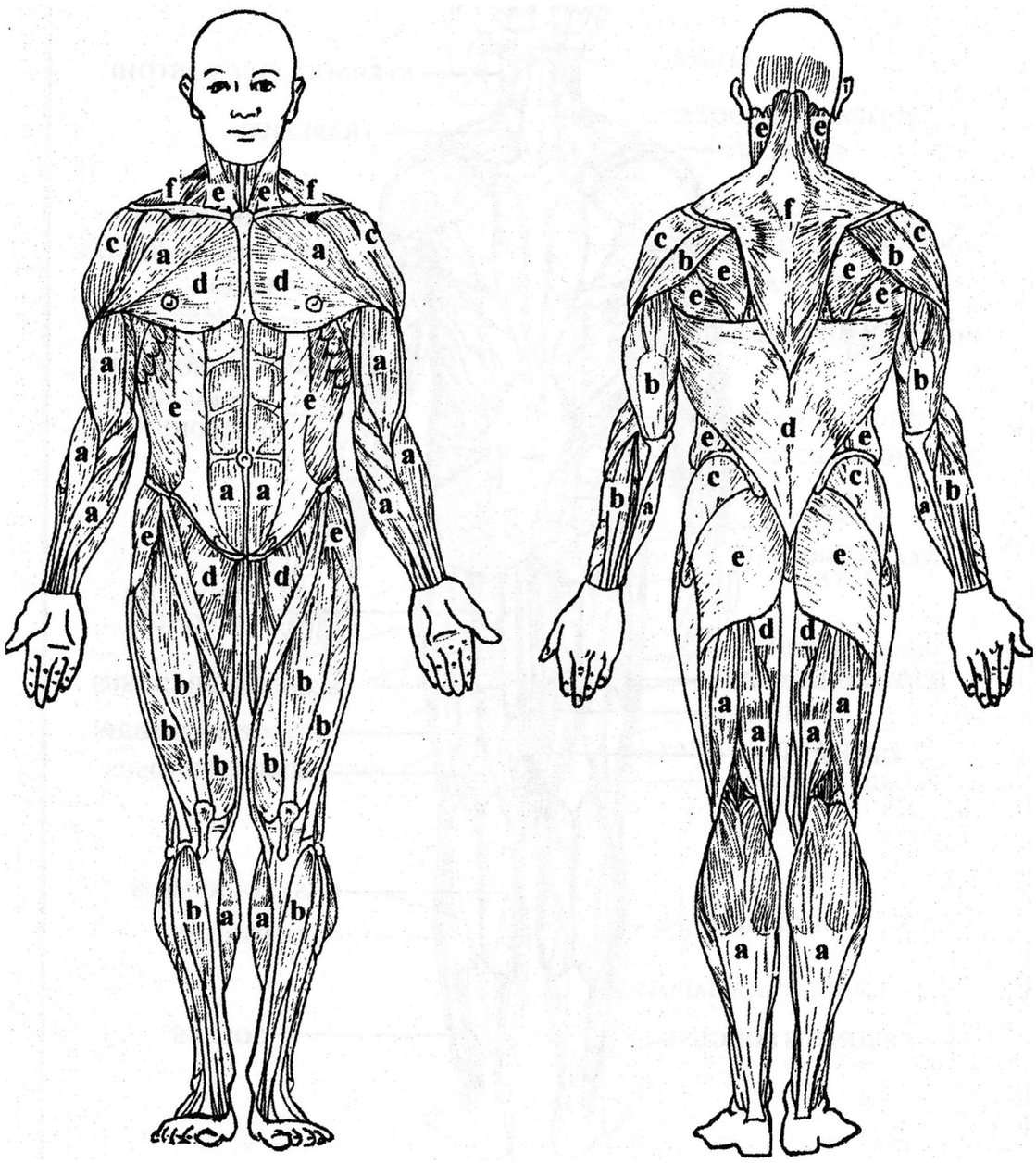
When a muscle strains against some resistance but does not change in length (e.g., in pushing outward against a doorframe with both hands), we use the term **"isometric contraction"**. It means that the length stays the same but the force changes. During complex movements, various isometric and isotonic contractions occur simultaneously.



The above picture shows examples of isotonic and isometric muscle contraction.

It is also possible for a muscle to be working even as it is increasing in length. This means that it is opposing or acting as a "brake" for a movement which would otherwise happen faster. In the example of trunk flexion from the standing position, gravity is pulling the trunk forward. If all the muscles of the body were limp, this flexion would happen quickly. However, the movement can be slowed down by the action of the trunk extensors (e.g. quadratus lumborum). The extensors, even though they are being stretched, are actively contracting.

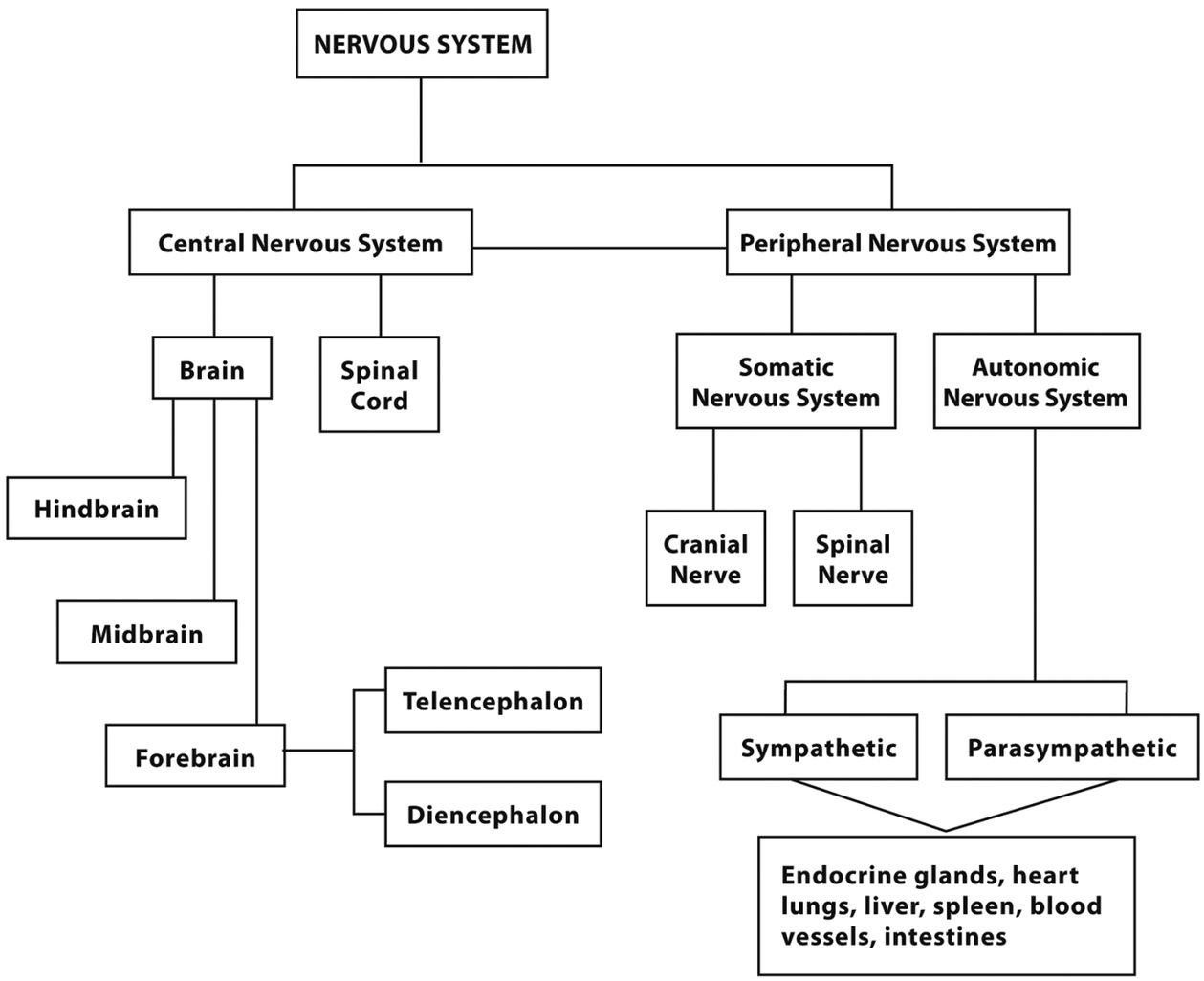
During squatting, flexion of both the hip and knee joints is slowed down by isometric contraction of the rectus femoris and hamstring muscles. Although the bones of the upper and lower leg are changing their position, and the muscles are active, the length of the muscle does not increase or decrease significantly. In this case, the simultaneous flexion of the hip and knee "cancels out" the change in muscle length which would occur if only one of these joints were involved.



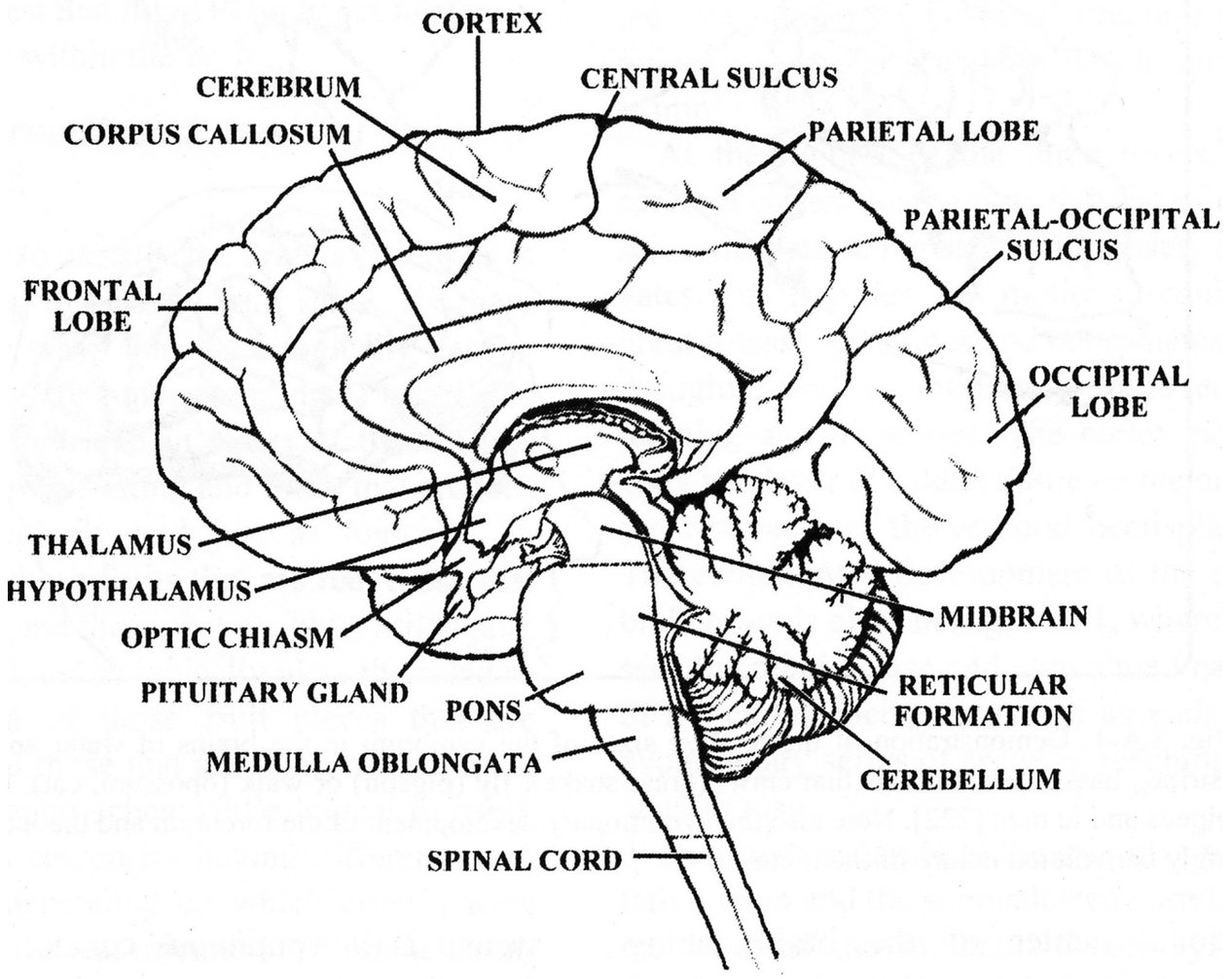
The picture shows the muscles of the body as related to their modes of action: the flexors are labeled a, the extensors are labeled b, the abductors are labeled c, the adductors are labeled d, rotators are labeled e, and the scapula stabilizers are labeled f.

The nervous system

The nervous system is arbitrarily divided into two major components: the central nervous system and the peripheral nervous system. The central nervous system is then subdivided into its two major components, the brain and the spinal cord. The cord conducts impulses to and from the brain, and is the only route to the brain from the rest of the body.



The brain is composed of approximately a hundred billion to a trillion neurons, or nerve cells, imbedded in a supportive network of glial cells. The glial cells form the neurons' only access to nutrients from the blood, and they act to filter, synthesize, and store materials for use by the neurons. The three divisions of the brain are forebrain, midbrain, and hindbrain. The forebrain consists of the telencephalon and diencephalon. The telencephalon areas are the cerebral cortex and the limbic system. The diencephalon includes the thalamus, the hypothalamus, and the pituitary gland, among other things. The midbrain contains both visual and auditory pathways, and areas related to muscular control. The hind-brain contains the cerebellum, the pons, and the medulla oblongata areas that are rich in neural pathways.

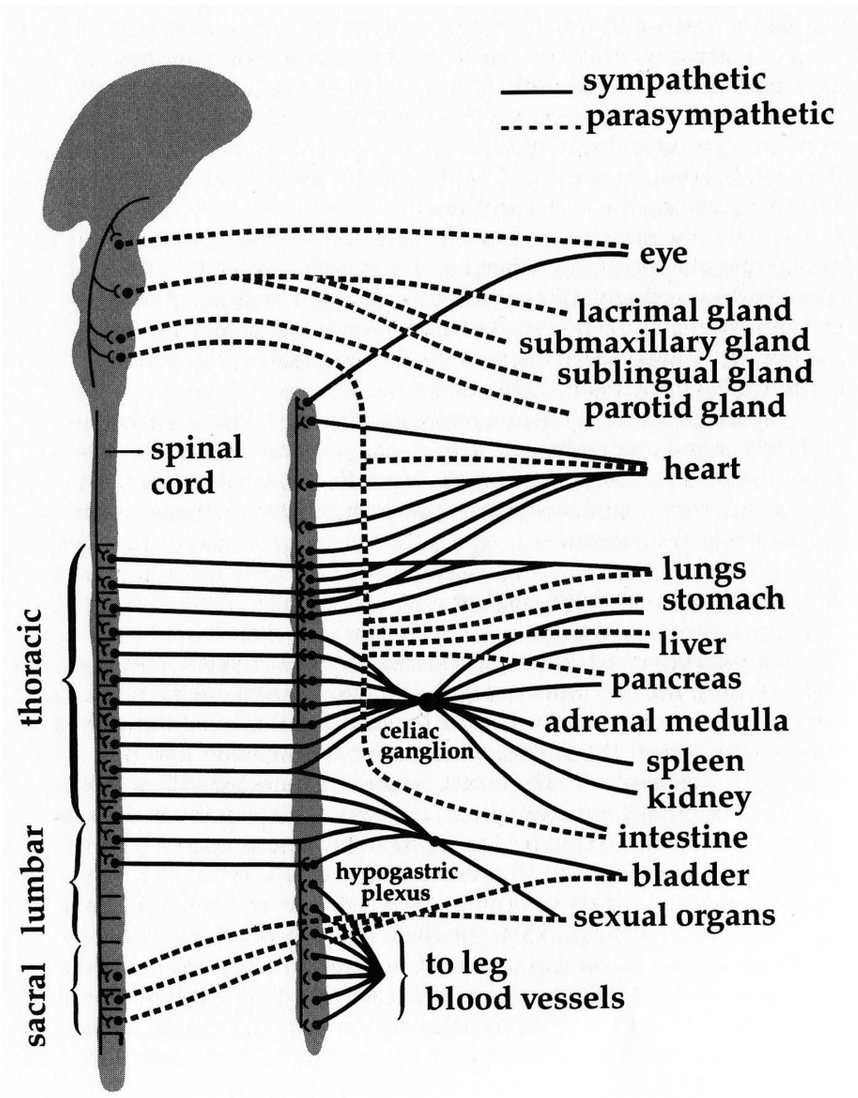


The peripheral nervous system consists of the somatic nervous system (SNS) and the autonomic nervous system (ANS). The SNS has twelve pairs of cranial nerves and thirty-one pairs of spinal nerves. The function of this branch is to maintain contact with the outside world. It delivers impulses from the central nervous system to striated muscles, enabling very discreet types of voluntary actions. The ANS was believed to be involuntary and beyond conscious control. Now we know that this is only partially true because yogis demonstrated their conscious control over the ANS (i.e., stopping the heart beat, etc.). The heart, liver, spleen, pancreas, intestines, blood vessels, glands, and the urogenital system are all influenced by the ANS, and hence, within reach of conscious determination. The ANS is generally responsible for the maintenance of the internal environment, whereas the SNS is involved in reacting to stimuli of the external world. We have a ready-made physiological dualism that conforms to the notion of a higher (i.e. cortical) control versus a lower (subcortical, or more primitive) control.

The ANS can be divided into two systems—the sympathetic and the parasympathetic. While there is great overlap in the function of these two systems, the sympathetic branch can be thought of as taking over when action is needed, and the parasympathetic when balance or homeostasis is required. Both systems are activated by releasing factors manufactured in the hypothalamus. These in turn signal the production and release of hormones in the pituitary gland, and subsequently, the secretion of all the endocrine glands.

The autonomic nervous system

The sympathetic nervous system (SNS) and the parasympathetic nervous system (PNS), the two branches of the autonomic nervous system, are both under direct control of the brain. All of the areas mentioned above – the cortex, the limbic system, the hypothalamus and the pituitary – are involved. The target organs are depicted in the picture below.



The autonomic nervous system pathways between the brain and behavior are usually discussed in terms of stress response, although similar pathways, but different chemicals, could be just as readily described for states of sexual arousal, fear, anger, depression, and elation. The point is the body/mind responds as a unit. No thought, no emotion, is without biochemical and electrochemical activity. The activity leaves no cell untouched. This follows logically from the facts of how the autonomic nervous system operates. Furthermore, when the chemicals of the target glands are secreted or even injected, they influence one's emotional state.

In tracing the pathways from the brain to behavior in a stressful situation, we begin with the perception and conscious recognition that a danger of some sort is present. The danger, of course,

doesn't have to be "out there" – it's sufficient if it is “fantasized” or imagined. Vivid mental images of a nuclear attack are completely capable of eliciting a fear response. On a more pleasant note, fantasizing about making love can lead to the same hormonal responses as the "real thing”. In terms of stress-related disease, it's not the occasional thoughts of unlikely danger that is credited for causing insidious body deterioration, but rather the constant nagging, hassles, and pressures, the persistent imagery of worrisome events, as well as cumulative life changes.

A simple model for both emergency stress reactions and chronic stress has been provided by the life work of Hans Selye. In emergency reactions, the sympathetic nervous system predominates, acting in concert with the adrenal glands. The hormones secreted by these glands, adrenalin and noradrenalin, have diffuse mobilization effects on the body. Heart rate increases, sugar is released from the liver for energy, pupils dilate so that vision is enhanced in dim areas, blood clots more rapidly and moves from the peripheral vessels and organs to the muscles and the brain. White blood cell activity increases, preparing the body for emergency repair. The body has primed itself for a war that may never happen, and therefore the state of readiness must dissipate rapidly or else becomes the enemy within. It is suspected that people with health conditions that involve the cardiovascular system, such as hypertension and migraine headaches, cannot shed the effects of emergency stress quickly. The prolonged reaction may account for the disease itself.

During chronic stress the mechanisms change. The emphasis is on the secretion of mineralocorticoids and glucocorticoids, the adrenal hormones that are under the influence of the anterior pituitary hormones, including the adreno-cortico-tropic hormone (ACTH). Again, it is the hypothalamus, serving as a confluence of conscious function that influences ACTH release.

When stress is prolonged, the glucocorticoids (hydrocortisone, corticosterone, and cortisone) try to continue the job of maintaining a body fit to fight and repair itself. Non sugars are transformed into sugar, and blood vessels are sensitized to the adrenal hormones so that action can take place even in the face of fatigue. However, to the great and ultimate detriment of individuals suffering from long-term stress, the primary action of ACTH and the glucocorticoids is to reduce inflammatory activity, i.e. the work of the immune system. What was adaptive in the short run can eventually become the cause of every conceivable disease that involves the immune system, including cancer, infection, and autoimmune disorders such as rheumatoid arthritis and multiple sclerosis. The massive changes sustained during prolonged stress go far beyond immune activity to every gland targeted by the pituitary, including those involved in reproduction, growth, and the integrity and well-being of the body at the cellular level.

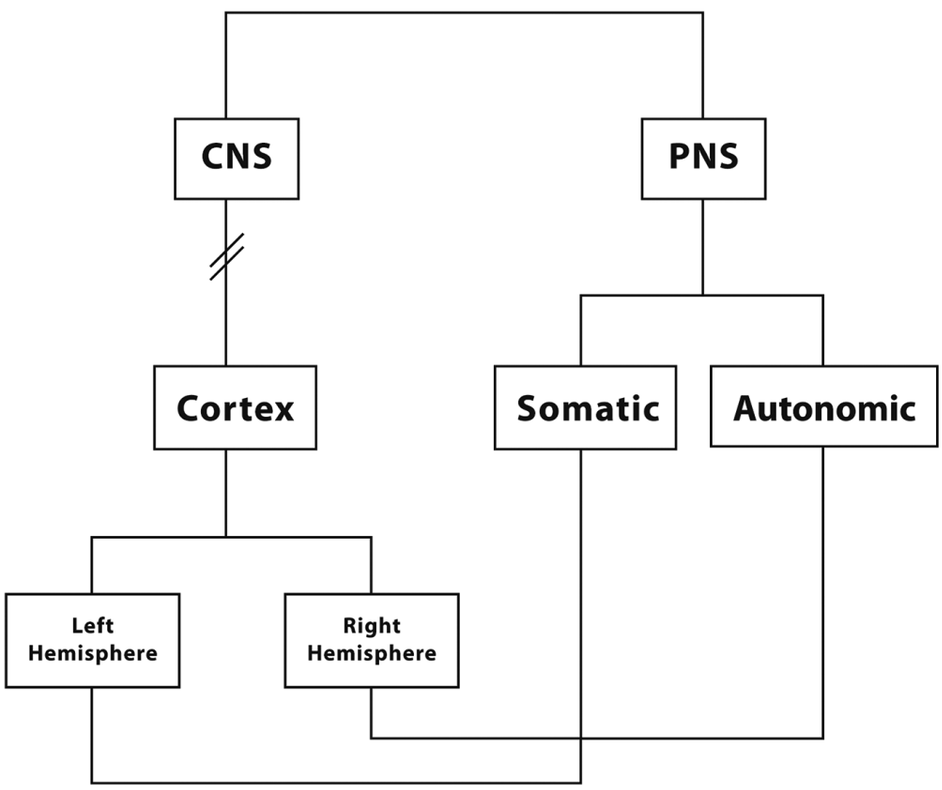
Transmission of information

Information in the central nervous system is carried from one structure to another via fiber tracts or bundles of neurons, whose properties are electrochemical in nature. Think of the neuron as a bag of fluid that has an information receiving area (the dendrites), and an information sending area (the axon) – often a long, filamentous snaky-looking affair. A neuron "fires" or becomes active when the dendrites are stimulated by chemicals (transmitter substances), released in its environment. If enough chemicals are released, then the bag develops holes. A migration of chemicals from inside and outside the neuron takes place, and the neuron loses its negative electric charge as the positively charged chemicals, such as sodium, enter into the holes. The positive charge travels down the axon, and more chemicals are released. The neuron then returns to its normal resting state within a few milliseconds. In order for information to travel from one neuron to the next, this process must

be repeated. The chemicals just released enter into a space between the neurons, called the synaptic cleft (or synapse), neighboring dendrites receive the information, and the message goes forth. While this seems to be a rather complex process, it is the only way that neurons fire off, with the exception that sometimes the whole business may start up spontaneously, and also that the message from some neurons to their neighbors "don't fire". These are called inhibitory neurons, whereas the others are referred to as excitatory neurons, for obvious reasons.

Either a neuron fires off or it doesn't – it has what is called an "all or nothing" property. Strong stimulation or a lot of chemicals bathing its dendrites doesn't cause the neuron to fire any differently, only more often. Everything we see, smell, hear – all those images stored up in our memory banks – is based on how many times the neurons fire off or how many times they don't, as well as how many and which ones fire at the same time. It's a matter of quantity, not quality. Within this amazing bio-computer called the brain, pathways and structures are consistently linked by the transmission of information by the neurons. There is inevitably “crosstalk”, so all systems have a modulating influence upon each other.

It is the interrelatedness among neurons and their activities that is critical to the assumption that imagery serves as an integrative mechanism between mental and physical processes. The brain areas associated with image storage, when sufficiently activated by thought (which occurs when vivid, powerful images are created), can theoretically cause enough neurons to fire repeatedly so the message reverberates through the brain. Thus imaging a performance of certain yoga asana activates all those muscles involved. Imaging eating a lemon calls into play glandular secretion, swallowing, grimacing.



Autonomic/Right Hemisphere = “Unconscious” or Involuntary Functions
Somatic/Left Hemisphere = “Conscious” or Voluntary Functions

The cortex

The cerebral cortex consists of multilayers of nerve cells, distributed and distinguished by the recency with which they appeared in the evolutionary development. The cortex is made up of two hemispheres connected by a large fiber bundle called the corpus callosum. The cortical areas involved in sensory and motor functions of the left side of the body, tend to be located on the right side of the cortex and vice versa. Communication between the two hemispheres is maintained by neurons traversing the corpus callosum, as well as by fibers known as the anterior and posterior commissures, which bridge the thalami.

The right and left hemispheres have developed specialized functions as a consequence of both the evolution of the species and the events of an individual's own developmental history. When the fiber bands that connect the hemispheres are severed, seizure activity of severe epilepsy is reduced, but certain kinds of information can no longer travel from one side to the other. In this way, the unique functions of each hemisphere can be known.

Our species apparently had an expanded demand for cortical space to handle the complexities of language, and more and more synapses were recruited into action. Eventually, a sizable portion of the left hemisphere contained the language processing area for approximately 87% of right handers, and 50% of left handers. The right hemisphere usually contains the specialty components relevant to image storage and retrieval. Here, nonverbal images, rather than words, are used in processing thoughts. The style of information processing also tends to be more nonlinear and less analytic than that of the left hemisphere. The right hemisphere is the artistic and left hemisphere the scientific center.

Considering one side of the brain as more vital or more important than the other ignores the fact that the best-functioning people are ambidextrous in their ability to call upon the attributes of both hemispheres. The practice of anuloma-viloma pranayama or nadi shodana pranayama (also called sukha pranayama), during which we alternate the flow of breath through the left and right nostrils, creates a balanced and coherent functioning of both hemispheres.

Nonverbal images are a specialty of the right hemisphere. The body image itself is generally in the right hemisphere. When damage occurs in the parietal lobe of the right hemisphere through a stroke or injury, the patient may fail to recognize part of his or her own body, denying it to the extent that it may not be washed or covered. The right hemisphere has a predominant role in processing emotional information and in making judgments. It is activated during situations of stress. Because of the involvement of the right hemisphere with emotional processing, it must have a direct relationship with the ANS. There is a vast network of neural connections between the right hemisphere and the limbic system. The verbal functions of the left hemisphere are one step removed from the autonomic processes, both in evolution and in actual function. Therefore, I submit that messages have to undergo translation by the right hemisphere into nonverbal terminology or images, before they can be understood by the involuntary or autonomic nervous system.

Before imagery can be processed into meaningful, logical thought, it must also be accessed and acted upon (“translated”) by the left hemisphere. A disorder called alexithymia (meaning "without words for feelings") has been hypothesized as the basis for what used to be called psychosomatic disorders. In this condition it is believed that, although emotions and images are experienced, they remain verbally untranslated and are not acted upon in ways that allow them to dissipate. The feelings then seek another outlet, and are diverted into various body systems. The damage caused by this type of expression may eventually be diagnosed as rheumatoid arthritis, ulcerative colitis, asthma, hives, migraine headaches, etc.

The left hemisphere can and does exert deliberate, conscious control over the musculoskeletal system. " Extend arm", "head nod", "put foot down", are all examples of verbal commands that the body hears and can obey quite well, except in the case of pathology or injury. The image system of the right hemisphere can also exert this control by sending thought pictures to the appropriate muscles, i.e. by imagining a hand opening like a flower. The verbal left hemisphere may be conceptualized as an interface with the external milieu, both by virtue of the language exchange between ourselves and others, and the musculoskeletal movements that carry us through space. The imagery of the right side of the brain is the medium of communication between consciousness and the internal environment of our bodies. Both systems are integral to health and well-being.

The hemispheres are divided into four lobes: frontal, temporal, parietal, and occipital. Evidence is supportive of some imagery storage in each area, but particularly in the prefrontal or most anterior aspect of the frontal lobes. This anterior frontal region is exceedingly well connected to the limbic areas, the part of the brain that processes emotion. The fiber pathways are so numerous, that the anterior frontal lobes appear as an extension of the emotional system itself.

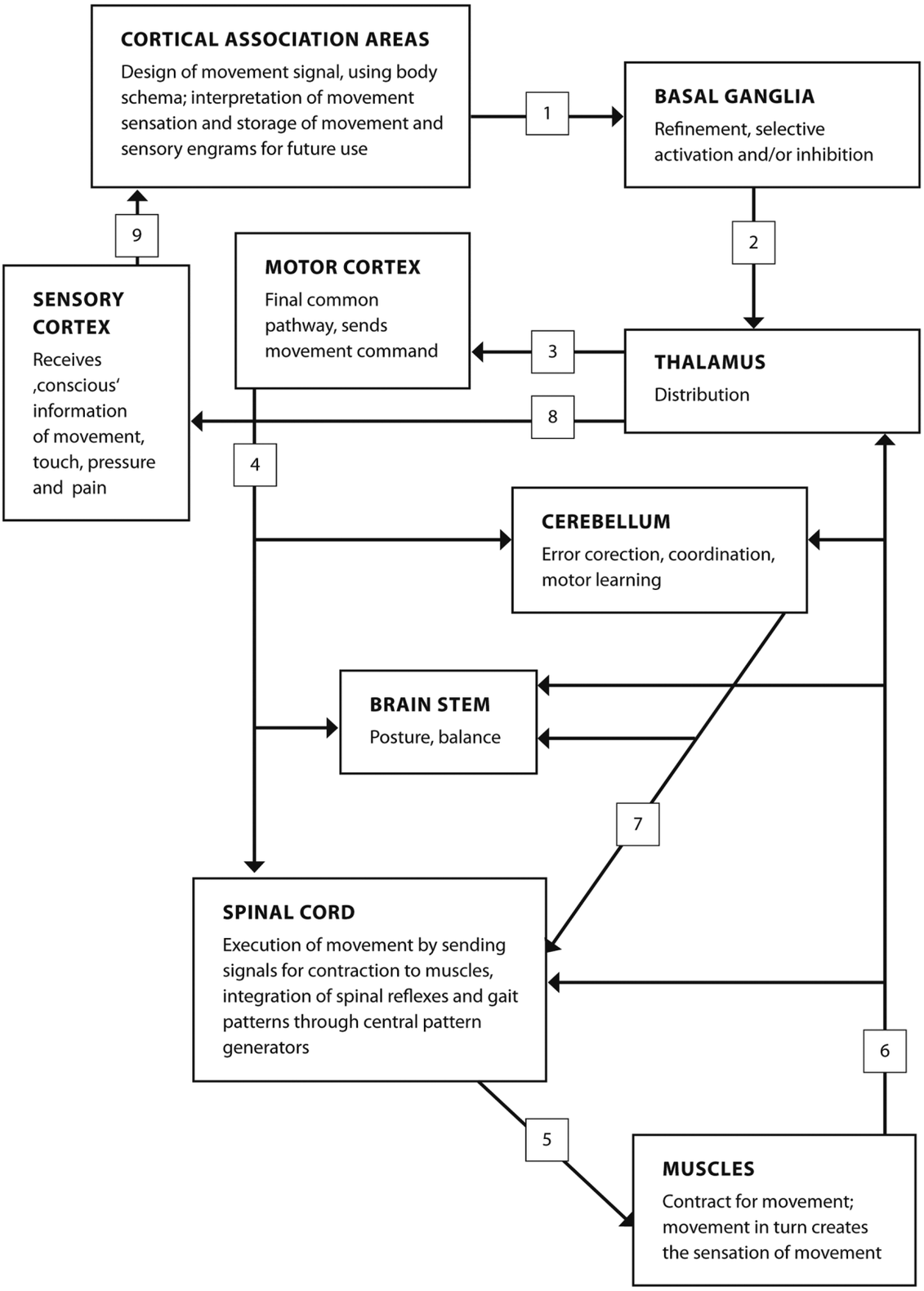
Other areas of the brain besides the cortical hemispheres are obviously necessary to move consciousness downward to contact and alter physiology. The limbic system, the outcropping of the image-laden frontal lobes, has already been addressed, as a processing area of emotions. The limbic area is a collection of lumps and bumps that constitutes one third of the brain. Structurally and functionally, the hypothalamus is closely related to neural areas where conscious thought processing occurs and images are formed. The hypothalamus serves in a regulatory capacity over sleeping, eating, body rhythms, temperature, and sexual function. More specifically it affects the heart rate, respiration, blood chemistry, and glandular activity. Of great importance is that it has an integral role in regulating the immune system.

Finally, the master gland of the body, the pituitary, has both neural and chemical connections to the hypothalamus. It is through these pathways that the hypothalamus manages to alter the hormonal systems of the body, affecting not only the glands, such as the ovaries, testes, adrenals, the thyroid and parathyroid, but also conceivably every organ, tissue and cell.

Voluntary movement

The nervous system as a whole controls all types of movements. These movements can differ in complexity and characteristics. They can range from a relatively simple contraction of a muscle over one joint to multi-joint and whole-body movements such as those used during walking. Voluntary movements are designed to utilize previous experiences and use feed-forward signals towards the muscles. In addition to the feed-forward signals, there will also be feedback about movement and the body in relation to the environment. All voluntary movements, including posture, balance and gait, are based on these feed-forward and feedback principles. The feedback generated through movement experiences also provides for the possibility of motor learning.

The vast numbers of neurons in the human nervous system need to communicate with each other, often very rapidly. Information transmission from one cell to another occurs at the synapse. Information is carried within neurons and between neurons by electrical and chemical signals. The rapid transmission of signals which is vital for human movement is a function of the “action potential”. This action potential is achieved by temporary changes of current flowing in and out of cells which then propagates a signal along the nerve axon. A necessary precondition for action potentials is the creation of a membrane potential, the “resting potential”. Movement will be impaired if the myelin sheath that surrounds nerve axon is damaged, such as in multiple sclerosis.



The picture below summarizes the control processes for voluntary movement.

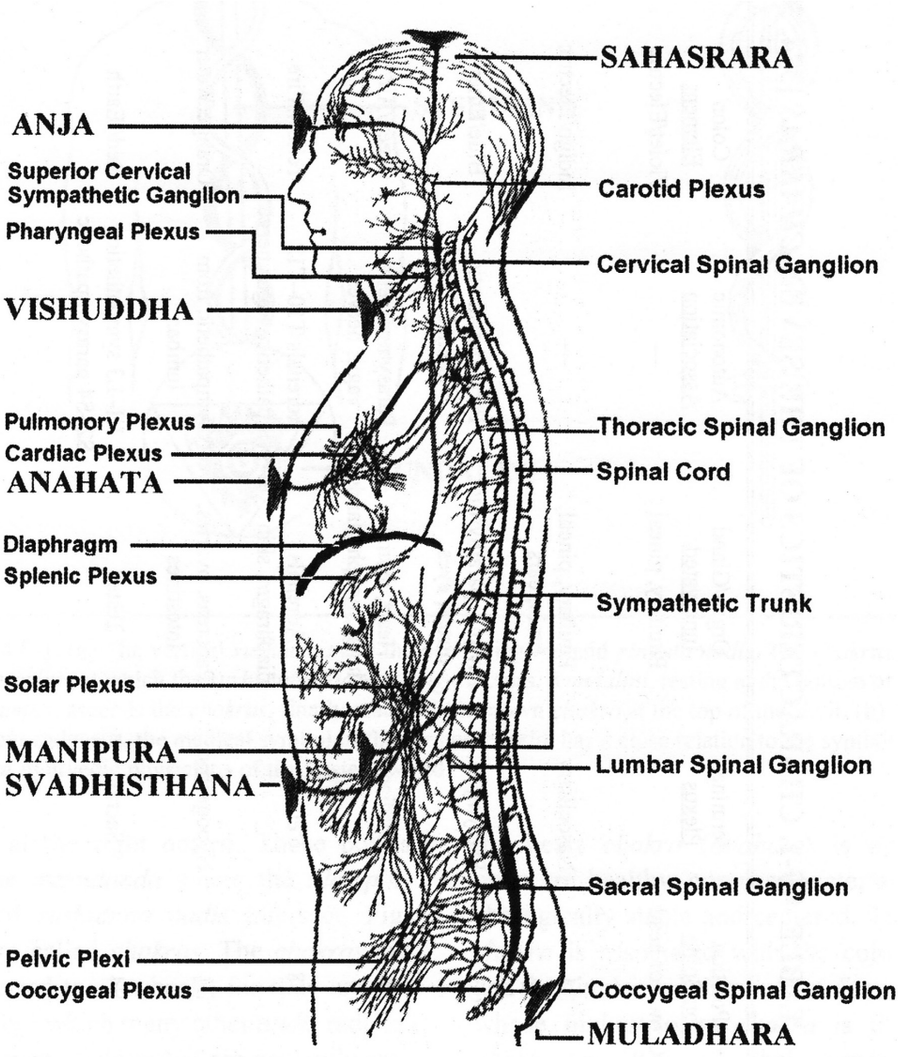
The cortical association areas play the key role in the design and planning of voluntary movements. Action potentials from the cortical association areas project to the basal ganglia for refinement and selective activation of movements and /or inhibition of unwanted movements. The thalamus here is part of the basal ganglia loops and sends impulses to the motor cortex, which is seen as the final common pathway. Impulses from the motor cortex are almost simultaneously sent to the cerebellum, the brain stem and the spinal cord. The cerebellum will compare this information with the sensory information of the movement of the motor system, received from the periphery (6). The brain stem plays a role in maintaining background postural control, whilst impulses to the spinal cord are more of a focal nature for the activation of individual muscles or groups of muscles. Alpha motor neurons cause muscle contraction. The sensation of movement, together with other relevant feedback information, is sent towards the central nervous system. This sensory information is needed by various centers. The spinal cord will use it in its integration of spinal reflexes and the control of walking patterns. The brain stem utilizes sensory feedback mostly for postural control and balance. Sensory feedback is also sent to the thalamus. The cerebellum compares the movement as it occurs with the original movement instruction sent by the motor cortex. If there is a discrepancy between the intended movement and the actual movement, correcting signals can be sent directly to the execution centers. The thalamus distributes sensory feedback to its appropriate location on the sensory cortex. Sensory experiences are interpreted by the cortical association areas and memorized movements are stored for future use in the design and planning of movements.

We rarely become aware of the inner environment, just like we are not really aware of our breathing. In order to turn our attention inward, Hatha Yoga prescribes the Pranadharana technique of watching the flow of breath and then moving the body with the breath. The ability to experience a particular type of sensations during asanas and pranayamas, etc. is developed gradually by regular and sincere practice, with eyes closed and full awareness on the inner activities and experiences. When tension on the neuromuscular system is reduced, then psycho-physiological relaxation is established. Then naturally the load on the cardio-respiratory system is minimal. The main objective of asanas, pranayamas, bandhas and mudras is to strengthen the nervous system and thereby to counter-balance the power of kundalini, when it is awakened.

The endocrine system

The inner portions and skin of the human body vary according to climatic conditions. In the human body there are many glands which are controlled by plexuses. When a human child is born, not all the plexuses function. Generally, the plexuses do not function within the mother's womb because the baby does not breathe directly. Although the plexuses are there, they really develop only after birth, when the child starts to use its own respiratory system. So after birth, when the plexuses become developed, changes occur in the physical body, in the secretion of hormones and in the hormonal structures. Over-secretion and under-secretion of hormones affect nerve cells and thus change the thinking process. Instincts also change. In the human body these changes take place slowly in cold climates and more quickly in hot climates.

Immediately after birth only the faculties of inborn instincts are expressed. Around the age of five several more faculties develop, and accordingly more hormones are secreted and different types of thoughts arise. Certain changes also take place in the skin. The skin becomes thicker at the age of six in cold climates and at the age of four in hot climates. With this development a child's love for his or her brothers and sisters increases, and a tendency to want to play arises. As a result thinking also changes.



This picture shows the correspondence of the six major chakras and the various nerve plexuses in the body.

Some important glands

1) **Testes and ovaries:** At around the age of thirteen in hot countries and fifteen in cold countries, the testes and ovaries develop due to the secretion of a special type of hormone. In males the testes are the glands which convert lymph into semen. As soon as lymph is converted into semen, the nerves are affected and there is a corresponding change in one's thoughts. It is the pituitary gland which tells the testes to convert lymph into semen. When the production of lymph goes beyond the capacity of the body to utilize it, it is converted into semen and leaves the body. Thus, sexual desire is created in the mind. If the secretion of the testes glands is normal, a sense of dutifulness will be created in the mind. A boy will be proud of the fact that he obeys his father. But if the boy was only three years old, he would not be able to feel a sense of dutifulness.

   If there is over-secretion of hormones from the testes glands, a youth develops the spirit of rationality. The pubic hair grows due to the activity of the testes glands. This is the physical effect. The development of rationality is the psychic effect. The nervous system will also be affected. If not hindered by the natural flow of the lymphatic glands for that person, over-secretion of hormones from the testes glands leads to the development of hair in the arm pits at the age of fifteen to seventeen in hot countries and seventeen to eighteen in cold countries. Along with this the feeling of rationality grows. For example, a boy may say, *"No, father, do not ask me to do that. It is not good."*

   If there is under-secretion of hormones from the testes glands, there will be less hair and if, at the same time, the sex glands do not develop at the specified stage, the boy may be unsocial, he may not mix with others. In the case of ordinary secretion, a sexual longing is created. If there is over-secretion, a youth acquires the power to transform that longing into universalism. In those who have a longing for God, an over secretion took place in hormones between the ages of fifteen and seventeen. At that stage the idea to become great comes into the mind.

   If there is under-secretion of the hormones of the testes glands, a youth will develop less kindness and less hair will grow in the armpits and pubic region. Moreover, such a person will most likely be dogmatic. He will not have the moral strength to protest against dogma (including scriptural dogma), and he will not support a new idea. If the testes function properly and if there is no hindrance from the lymphatic glands, intelligence will develop. Without the testes, the solar plexus will not be developed and intelligence will decrease.

   In the past many slaves were converted into eunuchs. If the ovaries of a female or the testes of a male are dissociated from the body, the person will become a eunuch. In a male, if the testes are separated from the body, there will be physical and psychological changes. Man will not die but he will lose the sense of dutifulness and responsibility. Eunuch will not be able to grow any pubic hair or the pubic hairs will be few.

   If the sex organ is cut off from the male body, the testes and kidneys will not be able to function properly. There will therefore also be psychological changes, including the last of sexual feelings.

2) **Prostate gland:** The prostate gland gives rise to the feeling of shyness or shamefulness in the mind. At the age of three to five a child does not feel any shyness. At this age a child can walk on the street without any clothes on. Adults experience shyness due to the development of this gland and imposed samskaras (impressions from past actions). As a result of over-secretion of hormones from the prostate gland, a sort of melancholia may develop. If there is under-secre-

tion of the hormones from the prostate gland, a person will develop a fearful nature and suffer from psychic hallucinations.

All plexuses and glands are inter-dependent. All glands depend greatly on the lymphatic glands for their supply of lymph, the raw material. The dependence of the other glands on the lymphatic glands is greater than the dependence of the lymphatic glands on the other glands. Similarly, the upper plexuses are less dependent on the lower plexuses, and the lower plexuses are more dependent on the upper plexuses. The surplus supply of lymph goes to the brain (via the bloodstream) and nourishes the nerve cells of the cranium.

3) **Solar plexus (located at the midpoint of the chest):** When the solar plexus is developed, love for children is aroused. This is common to all animals, birds, mammals, and human beings. But creatures which have self-dividing bodies have no love for children as they have no solar plexus. When the solar plexus develops, the beard grows in males. If there is low secretion of the hormones from the solar plexus, then there will be less of a beard growing. Also, due to low secretion of hormones in sterile men and women (those who are viewed as eunuchs), the love for children is lacking. In the case of over-secretion, what will happen? In males the beard will grow more. It is a good sign if men have a thick beard.

Human love will be transformed into universal love if there is over-secretion of the hormones from the solar plexus. In the case of males with love for God they will either have a thick beard or developed breasts or both. Before they were sadhakas (spiritual aspirants) they would have either thinner beards or less developed breasts.

If the solar plexus or any plexus becomes separated from the human body, the person will die then and there. The corporal structure will not survive even for a second.

4) **Thyroid and parathyroid glands:** Due to the secretion of hormones from the thyroid gland in the male body, the voice becomes deep and the mustache grows. Along with this, the quality of self-reliance increases. In the case of men, if this gland is not developed, they will have a quarrelsome nature. Women will have the same defect and will also become a bit irrational. Vanity too will develop if there is under secretion of the parathyroid gland. These are all non-inborn instincts.

For a male from a hot country, all the glands develop fully by the age of twenty-four. In cold countries this full development is reached approximately two years later. After the age of thirty-nine there is a slight deterioration in the physical body, but advancement in the psychic sphere. After the age of fifty in hot countries and fifty-one in cold countries, there is more physical deterioration and slight mental deterioration. After the age of sixty in hot countries and sixty-one in cold countries, the thinking power will slowly deteriorate.

The human body is a biological machine. This is the story of the human body and human plexuses.

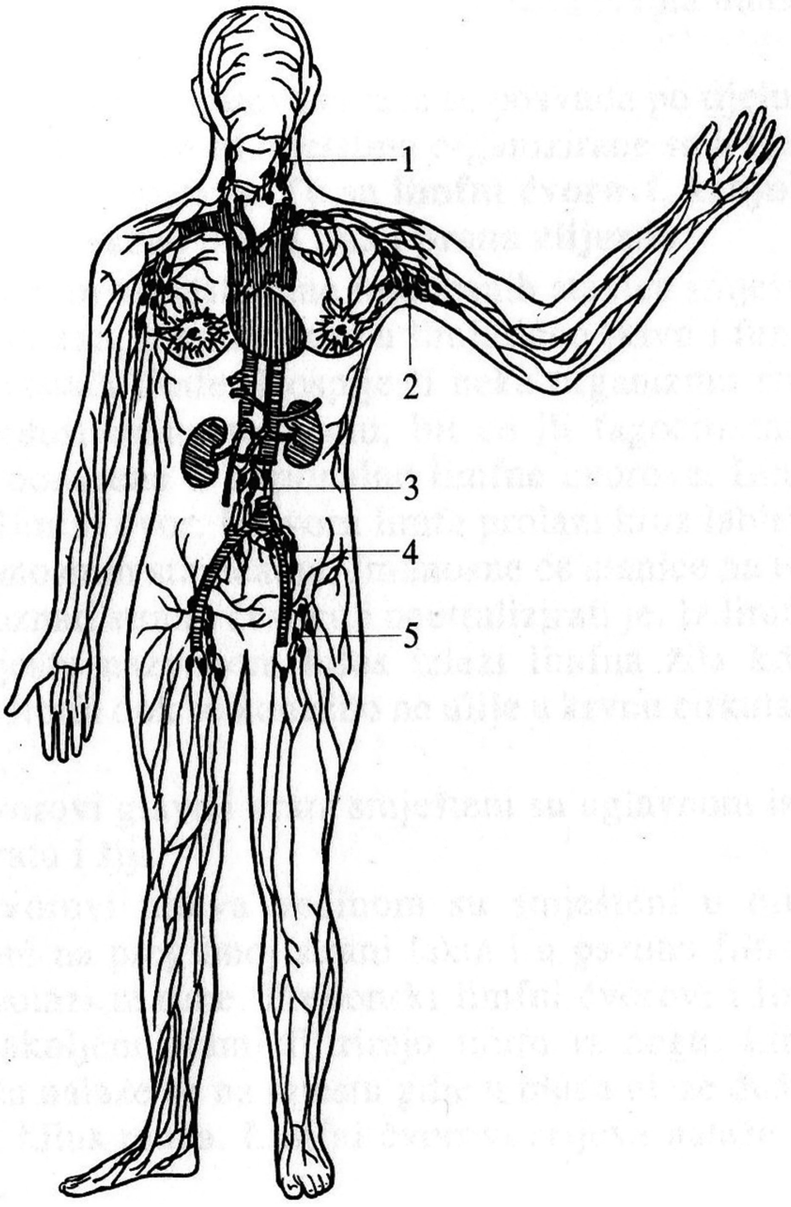
5) **Pituitary and pineal glands:** As a result of the sadhana (spiritual practices) performed in previous lives, at the age of thirteen, after the sex glands are developed, the pituitary gland starts to function tremendously and one's thirst for spirituality is aroused. If such a person gets proper guidance from a master, one achieves spiritual progress. If one falls into bad company, one's downfall is rapid.

After getting proper spiritual guidance, one's mind rises upwards from the pituitary gland to the pineal gland, and with one's mind concentrated on the controlling point of the pineal gland (third eye), one attains salvation within a short span of time.
The secretion of hormones in the upper glands maintains a balance in all the other glands. The pituitary gland is psycho-spiritual in nature, and the pineal gland is spiritual in nature.

As far as the plexuses are concerned, they are the bio-psychological secrets of living. In inanimate objects there is no secretion of hormones from glands. Expression takes place through the expansion and contraction of their inter-atomic and inter-molecular spaces.

The grace of God influences all plexuses. God gives bliss through different plexuses.

The importance of lymph



Lymphatic system: 1. jugular lymph node, 2. auxiliary lymph node, 3. lumbar lymph node, 4. pelvic lymph node, 5. inguinal lymph node

The lymphatic glands supply raw material - lymph — to the factories -- the glands — and the surplus lymph goes to the brain and provides food for the nerve cells in the cranium. When lymph comes in contact with an activated gland, hormones are created.

The lymphatic glands associated with the testes start functioning at the same time as the testes begin to work in a proper manner. The raw material for the testes is the [lymph] hormone generated by the [regional] lymphatic glands. That lymph is converted into semen by the testes. When lymph comes to the solar plexus, the spirit of love and affection for children develops. In the female body ova are created in the ovaries. Some other lymph helps to maintain proper energy in the body and physical glamour, and in the case of females a certain portion is converted into milk.

The solar plexus cannot function properly if the supply of lymph is not perennial or regular. In the case of spiritual aspirants, there is high secretion of lymph in the solar plexus, consequently love for children is converted into love for the Supreme Consciousness. Lymph is thus a cause of psychic change.

In the female body the lymph glands become very active at certain points, and in the male body at other points. In the case of adolescent girls and boys, a special type of nerve sensation occurs in the genitals. This sensation increases vigor in the person and creates the feeling in the mind "I have to do something." At that age one decides or tries to decide one's future. If the selection is defective, one will not progress. For example, if one wants to learn medicine but is forced to learn engineering by one's parents, one may not be successful. But if the selection is proper, one will be successful. Generally, in hot climates this occurs in boys at the age of seventeen and in girls at the age of sixteen, and in cold climates at nineteen in the case of boys and eighteen in the case of girls.

The lymphatic glands supply the raw material to the factories. All glands are factories. If hot and spicy food or excessive animal protein is eaten by males, the quantity of lymph will decrease and the conversion of lymph into semen will increase. This will lead to intellectual backwardness. Men should have proper control over the conversion of lymph into semen. This is part of Brahmacarya sadhana (life devoted to spiritual development). Men should have proper control over their bodies. Human beings should be sentient in food habits, mind and intellect.

Vegetarians produce more lymph because they get chlorophyll from grass and other green vegetation, and that is why their brains are more developed than those of non-vegetarians. Those who consume animal protein (neglecting green vegetation) suffer from lack of lymph because animal protein contains very little chlorophyll. Tigers and cats are carnivores which is why they produce less milk. Cows and buffaloes produce much more milk because they take chlorophyll from green grass and green vegetation.

Maximum lymph is produced from food which contains a lot of chlorophyll, such as green vegetables and especially the tips of the stems of creepers. Granivorous animals produce much milk, while carnivorous animals, such as dogs, give very little milk.

Lymph is produced from animal protein also, but because animal protein produces a lot of heat in the human body, the lymph is quickly converted into semen. Monkeys and deer produce much lymph, but it is not converted into semen because it is utilized in running and jumping.

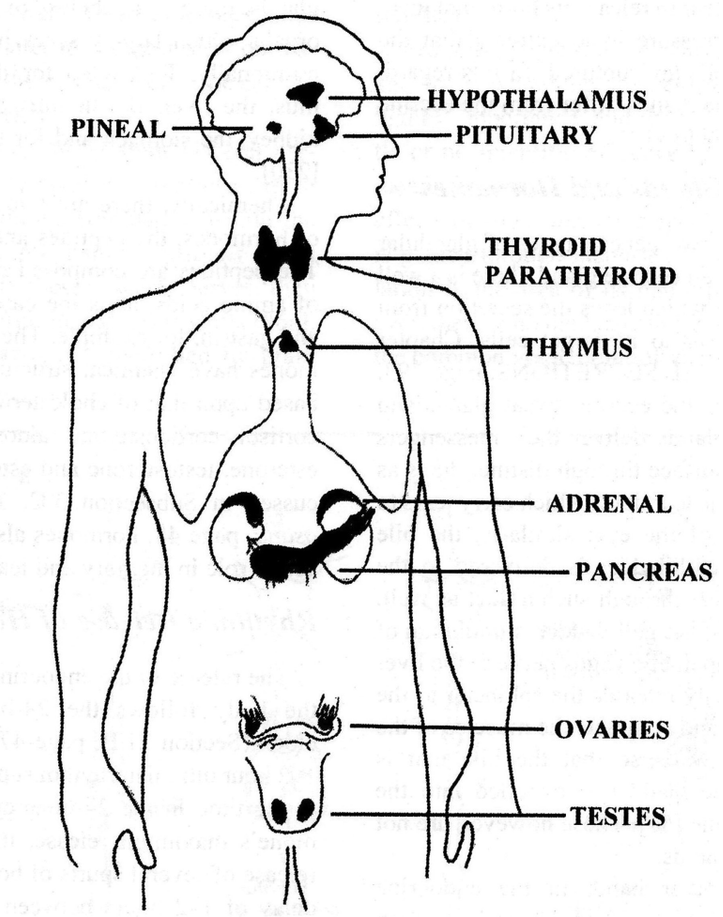
Lymph is produced from the energy and vitality acquired from the different factors of this universe (five elements: space, air, light (fire), water, earth). They are the initial stuff. The final stuff is shukra (which has three stages: lymph, spermatozoa and seminal fluid). It is the most developed stuff. Chlorophyll accelerates the speed of the production of lymph, but it does not act as the initial stuff. In certain people the major portion of lymph is eroded away and that is why they are intellectually deficient. But for spiritual aspirants, as the major portion of their lymph remains in their bodies, they should not suffer from any intellectual deficiency. This is why the intellectual standard of spiritual aspirants is higher than that of common people.

Positive or negative catalytic agents have an important effect on the production of lymph. Positive psychic and positive physical environments are positive catalytic agents, while negative psychic and negative physical environments are negative catalytic agents. Even if the food one eats is sentient, but the environment is negative, it is detrimental to mental progress. Busy commercial places and places where any kind of negative activity is going on are negative physical environments. Bad discussions, bad books, and bad thoughts prevailing among the population are negative psychic

environments, negative catalytic agents. If the environment is good, it is a positive physical environment, a positive catalytic agent. If there are many spiritual aspirants and elevating discussions, a positive psychic environment will be created. This will help in the production of lymph.

Lymph itself is a hormone and is convened into other hormones by different glands. Lymph is the initial hormone. The creation of hormones in the other glands depends upon these positive and negative catalytic agents. This is the reason why in olden times much importance was placed on satsang (associating with good people). Satsang provides a positive psychic environment. Good company leads to liberation whereas bad company is the cause of bondage.

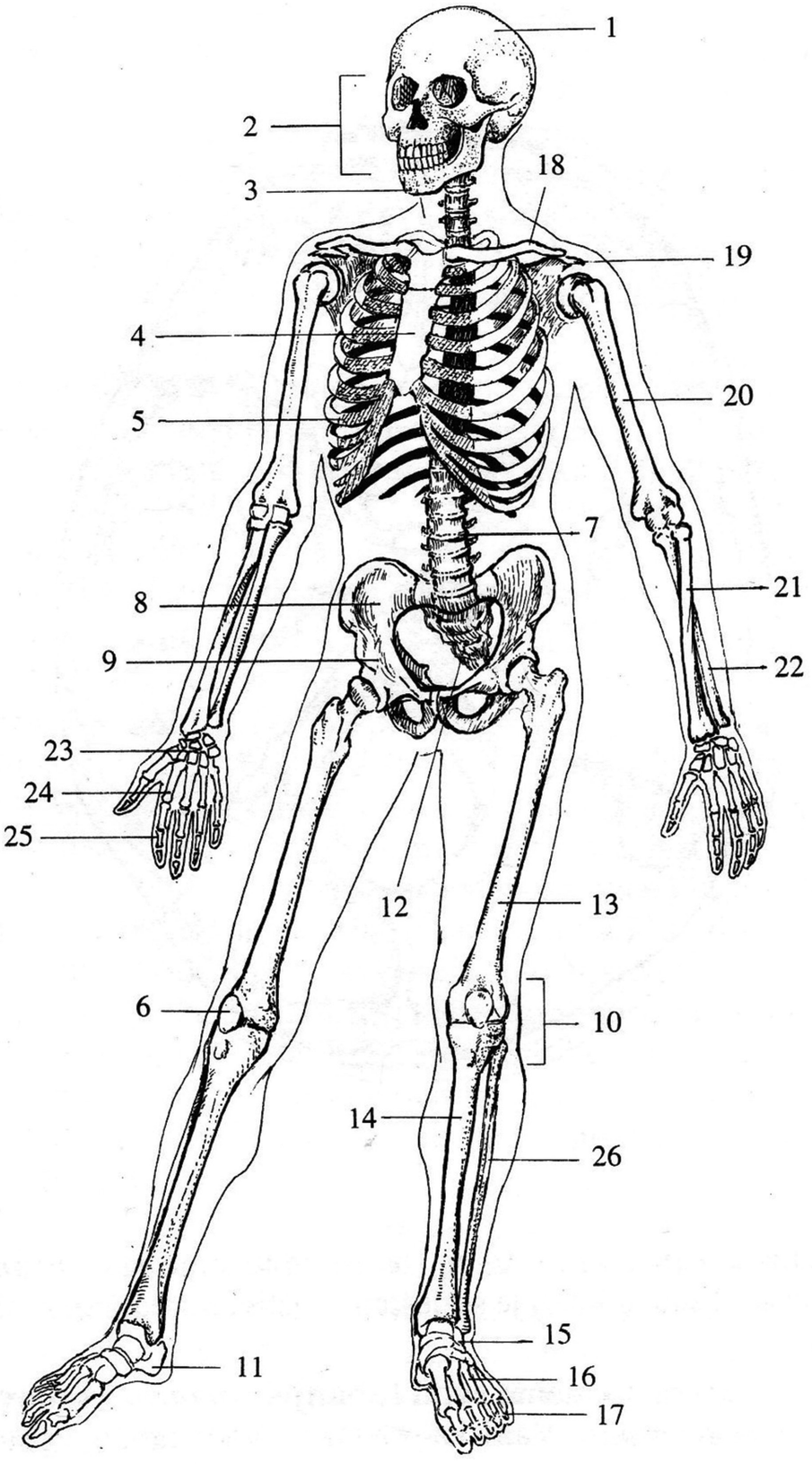
Emotions, hormones of the endocrine glands, behavior, and mental health are deeply correlated with each other. When the function of these glands is maintained at the optimum level by practicing asanas, bandhas and mudras regularly, physical and mental health are maintained automatically. A regular yoga practitioner experiences a feeling of happiness, contentment and a peaceful state of mind all the time and therefore, stress is never felt. Yoga also helps in maintaining homeostasis. Therefore one can control psychosomatic diseases like diabetes or asthma with the help of yogic practices. However, a suitable change in the lifestyle and diet control is also essential for such results. The influence of yogic practices on the endocrine glands is more evident in females than in males. It is observed by some women that the menstrual cycle may be accelerated or delayed when they start yogic practices particularly uddiyana bandha, kapalabhati, nauli, dhanurasana, halasana, yogamudra, etc. Therefore they should practice these on a mild scale and with careful observation.



Picture showing the placement of the endocrine glands in the body

Skeletal system

The human skeleton has a large number of bones, the rigidity of which gives the body shape. However, by having many bones connected by joints, the human body has a wide range of movement options. All joints where significant movement occurs are synovial in structure. The joint surfaces are covered with hyaline cartilage and surrounding the joint is a strong fibrous capsule lined with a synovial membrane that produces synovial fluid. The combination of fluid and the shiny cartilaginous surfaces produces an almost friction-free environment that enables the muscles to direct their energies to moving the bones, rather than to overcoming friction. However, when the joint surfaces become worn with age or disease, the loss of the low friction environment impedes movement which becomes increasingly difficult and tiring. All synovial joints have one position where the surfaces fit precisely together and there is maximal possible contact between the opposing surfaces. This is called the close packet position and when in this position the ligaments and surrounding soft tissue are at their tightest, compressing the two joint surfaces together. In some joints, as the surfaces approach the close packed position one of the bones may rotate in relation to the other and the twisting action further tightens the surrounding soft tissue. These mechanisms mean that in the close packed position, the joint is at its most stable. When not in this position, the joint is said to be in the loose packed position and accessory movements may occur. Each joint has a least packed position in which the capsule is at its most lax. Joints tend to assume this position when there is inflammation in order to accommodate the increased volume of synovial fluid. Some of the joints, such as the ball and socket arrangement of the shoulder joint, allow a massive range of movement. Other joints are designed to give great stability with only small amounts of flexibility. This is seen in the pelvis where the two sacroiliac joints and the pubic symphysis have very little movement, but their rigidity allows substantial forces to pass safely through the bones during weight bearing. One of the functions of the pelvis is to support the weight of the trunk over the moving lower limbs. By having joints rather than being a continuous ring, it also provides some capacity for shock absorption and a small amount of flexibility to cope with compressive force applied to the rim of the pelvis. Flexibility, suppleness and efficiency in the movements of the body depend on the strength and capacity of the joints. Functional efficiency of the joint depends on the nutrition and the regular exercise given to the muscles and the tendons of the joints. By regular practice of asanas the flexibility of the joints can be increased. Learning and regular practice of asanas at a young age offer not only the flexibility but also a proper development of the bones and the joints. Children can increase their height by practicing asanas regularly. The spinal column is an important factor of our physical appearance. We are as young as our spinal column. A strong and flexible spine makes our life more comfortable. Almost all the asanas are related to the spinal column. It has been observed that those who practice asanas regularly rarely suffer from spinal ailments like lower back pain. Our routine work, including our behavior, depends on the efficiency and strength of the spinal column. The spine is made healthy and stronger with the help of a regular training through exercises and asanas.



This picture shows the major bones of the human body:
1. skull, 2. bones of the face, 3. mandible, 4. sternum, 5. ribs, 6. patella, 7. spine, 8. hip, 9. ilium, 10. knee joint, 11. calcaneus, 12. sacrum, 13. femur, 14. tibia, 15. tarsal bones, 16. metatarsals, 17. phalanges, 18. clavicle, 19. shoulder blade (scapula), 20. humerus, 21. radius, 22. ulna, 23. carpal bones, 24. metacarpals, 25. phalanges, 26. fibula

The excretory system

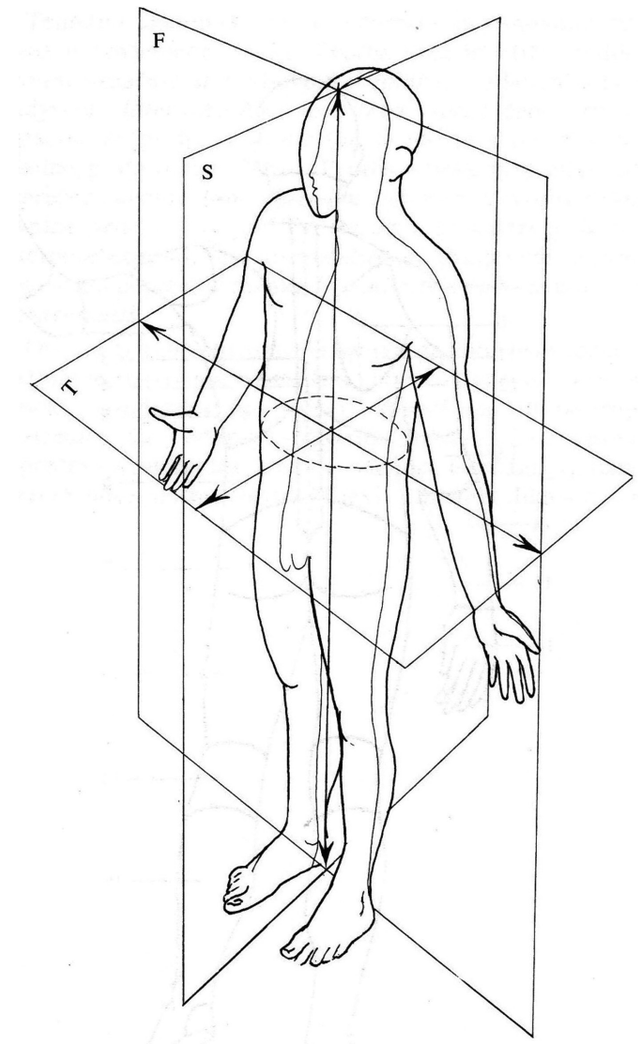
Metabolism is a continuous process. The products of digestion are converted into the complex molecules of the living matter. This helps in building various tissues (anabolism). When the complex molecules are broken down to release energy (cell destruction - katabolism), it also produces waste material such as carbon dioxide, water and heat. Protein catabolism produces nitrogenous wastes such as ammonia and urea, which are toxic substances. Other essential ions such as sodium, potassium, chloride, sulphates, phosphates and hydrogen tend to accumulate in the body. All this toxic and excess material must be eliminated from the body. Our body has four main routes of excretion: kidneys, lungs, alimentary canal and skin.

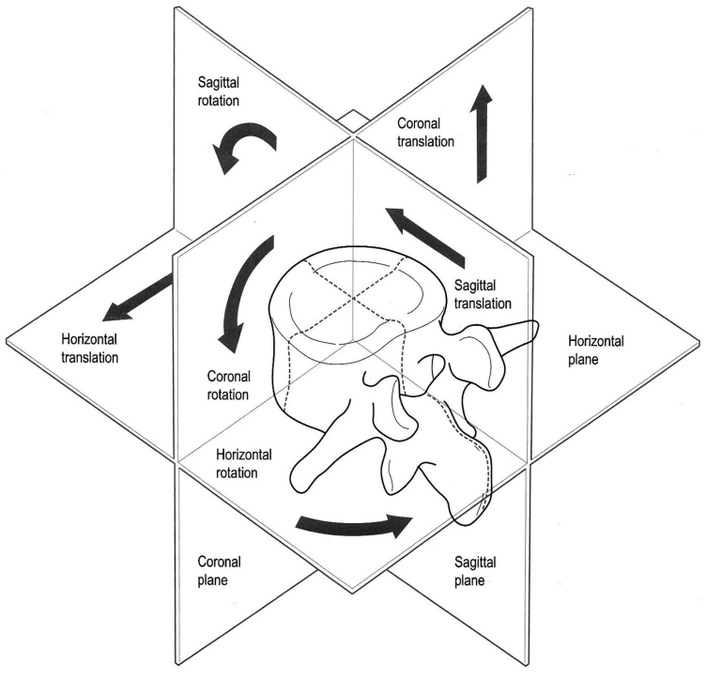
Musculoskeletal basis for movement – function of the spine

To understand human movement and to be able to analyze the range of activities that are possible, it is essential to have a good understanding of anatomy, biomechanics and muscle function. The combination of the bones that form the core of the segments and the muscles producing the force that provides movement is described as the musculoskeletal system. It is vital that this musculoskeletal system is intact for functional movement to occur. The skeleton has a number of purposes related to movement: providing shape to the body, facilitating movement through a network of different types of joints, providing attachments for muscles, ligaments and joint capsules, protecting the vital organs and delicate structures, and absorbing or dissipating stress generated by movement or external forces.

From a anatomical point of view movements can be described as occurring in three planes and around three axes. The frontal plane splits the body into front and back halves, the sagittal plane splits the body into right and left halves and the transverse plane splits the body into top and bottom halves. Movements within these planes take place around three axes. The axes can be described as being perpendicular to the plane of movement. Therefore, there are two horizontal axis and one vertical axis. The sagittal axis is 90° to the frontal plane and therefore allows movements within that frontal plane. These movements consist of abduction, adduction, deviation and lateral flexion. The frontal axis allows movements of the segments within the sagittal plane and consists of the movements of flexion and extension. Both frontal and sagittal are horizontal axes. The vertical axis is at 90° to the horizontal plane and movements around this axis give rotatory motion.

The actual movements performed can be described in terms of the degrees of freedom the joints allow. A uniaxial joint will posses only one degree of freedom, i.e. rotation about only one axis. An example of this is flexion and extension at the elbow. A biaxial joint has two degrees of freedom, such as the radiocarpal joint which has flexion and extension at the wrist about one axis and ulnar and radial deviation about the other axis. The movement available at a multiaxial joint can be described as having three degrees of freedom. This type of movement can be seen in the shoulder joint where flexion, extension, abduction, adduction and internal and external rotation all take place. With the combination of uniaxial, biaxial and multiaxial joints, the body may adopt a multitude of functional positions.





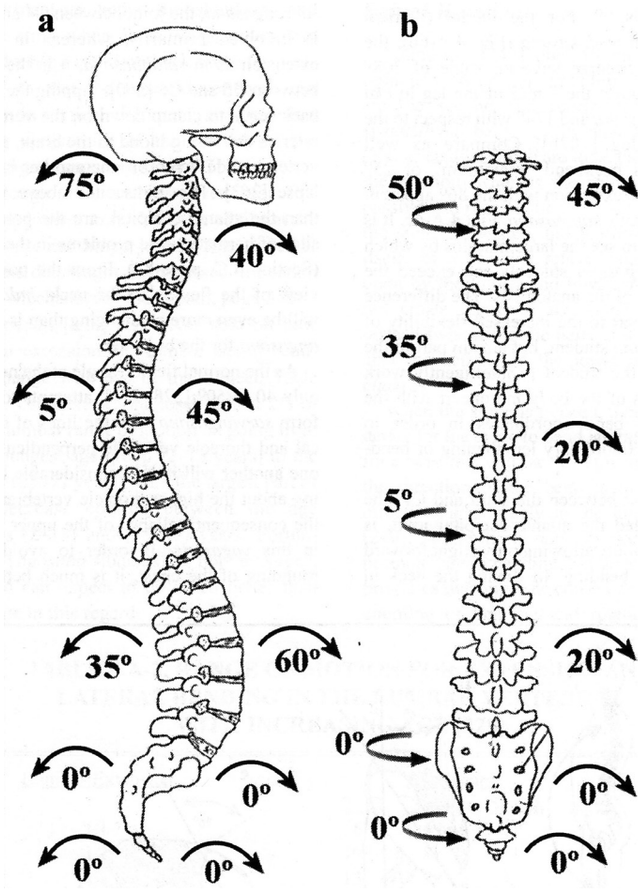
The picture shows planes (F – frontal plane; S – medial, sagital plane; T – horizontal, transverse plane) and directions of motion showing the six degrees of freedom at a spinal motion segment.

Picture shows planes and directions of motion showing the six degrees of freedom at a spinal motion segment

Movements at the joints are not straightforward unidimensional processes that they may first appear to be. Movement is caused by force acting on the bony segment which in turn produces the movement at the joint. This force may be an internal force, the concentric or eccentric work of the muscle, or an external force, the force of gravity for example. The range of movement is facilitated by the following: bony shape, hyaline cartilage, capsule supporting the synovial membrane, additional structures, elastic ligaments, intact neuromuscular and musculoskeletal system, and muscle strength. Normal limitation of range of movement is brought about by: articular surface contact, limit of ligament extensibility, limit of tendon and muscle extensibility, and apposition of soft tissue. Abnormal joint range is usually brought about by either: injury or disease to its structure, surface or surrounding soft tissue, i.e. the muscles producing the movement or their functioning. The above factors can be summarized as: destruction of bone and cartilage, bone fracture, foreign body in joint, tearing or displacement of intracapsular structures, adhesions / scar tissue, muscle atrophy or hypertrophy, muscle tear, rupture or denervation, pain, psychological factors, oedema, neurological impairment.

There are two types of movement: passive movement and active movement. Passive movement is defined as those movements produced entirely by an external force, i.e. no voluntary muscular work. These can be subdivided into: relaxed passive movements, stretching, accessory movements, manipulations. Active movements are those movements within the unrestricted range of a joint produced by an active contraction of the muscles crossing the joint. These can be subdivided into: active assisted exercise and free active exercise. Free active exercise differs from assisted exercise in that the movement is carried out by the subject, with no assistance or resistance to the movement, except that of the force of gravity.

Let us now consider the back and its components: the spinal cord, the backbone, the muscles and the ligaments.



(a) Maximal angular extension (on the left-hand-side of the Figure) and angular flexion (on the right-hand-side of the Figure) in the five regions of the spine, as measured on a normal population.

(b) Maximal angles for rotation about the spinal axis (on the left-hand-side) and for lateral bending (on the right-hand side of the Figure) in the five regions of the spine.

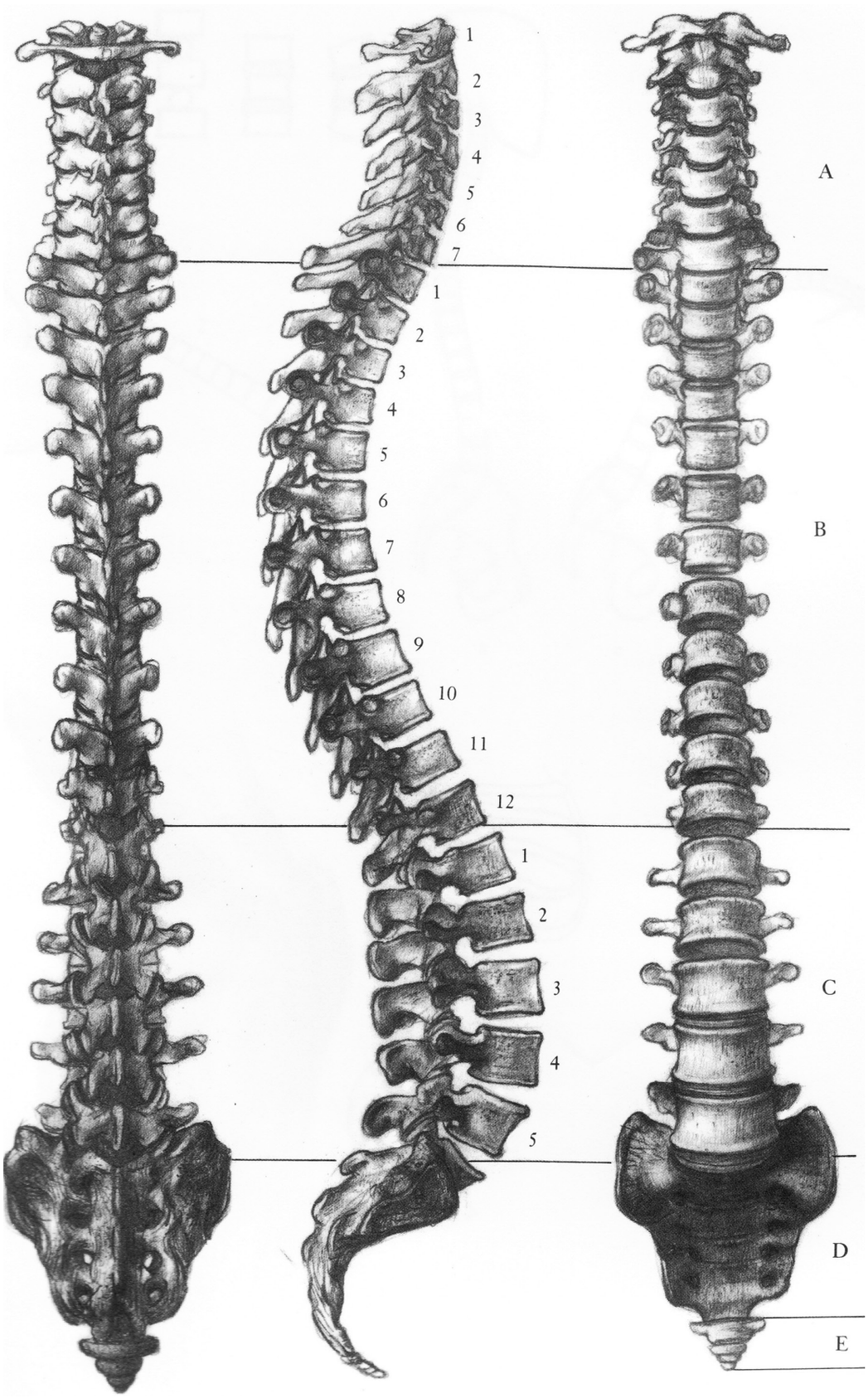
Spinal cord

The spinal cord is the continuation of the brain – a column of nerve tissue that runs down from the base of the skull to the level of the small of the back. The roots of various nerves run out from the spinal cord. These nerves supply the arms, legs, internal organs and, in fact, all parts of the body. When you decide to move your leg, what happens is that your brain sends a message down the spinal cord and into the nerves which lead to the muscles in the leg. When the latter get this signal, they move. Messages travel in the opposite direction too. If you happen to touch a hot utensil with your foot, pain signals travel up the nerves of the foot and then into the spinal cord, which carries them on up to the brain. Only when they arrive to the brain, are you consciously aware of the pain. So the spinal cord is basically the great communications channel of the body. If it is damaged then there will be serious trouble.

Spinal column (back bone)

The back bone is a column or a long vertical chain of small bony units called vertebrae, which are separated from one another by firm and resilient shock-absorbers called intervertebral discs and held in place by strong muscles, ligaments, bony processes (forming the joints to which muscles attach themselves), and a canal through which the spinal cord and nerves pass. The spinal column is comprised of 33 small and generally flat bones called vertebrae, sitting one on top of the other from the neck to the top of the buttocks. The movement between any two vertebrae is quite small. But since there is large number of vertebrae, considerable movement is possible at the spine. The tall column of bone must be cohesive enough to maintain its essential shape, even while bearing a heavy weight. It must also withstand both vertical and horizontal stresses. The spine, through its structure, efficiently integrates two opposing properties of stability and mobility.

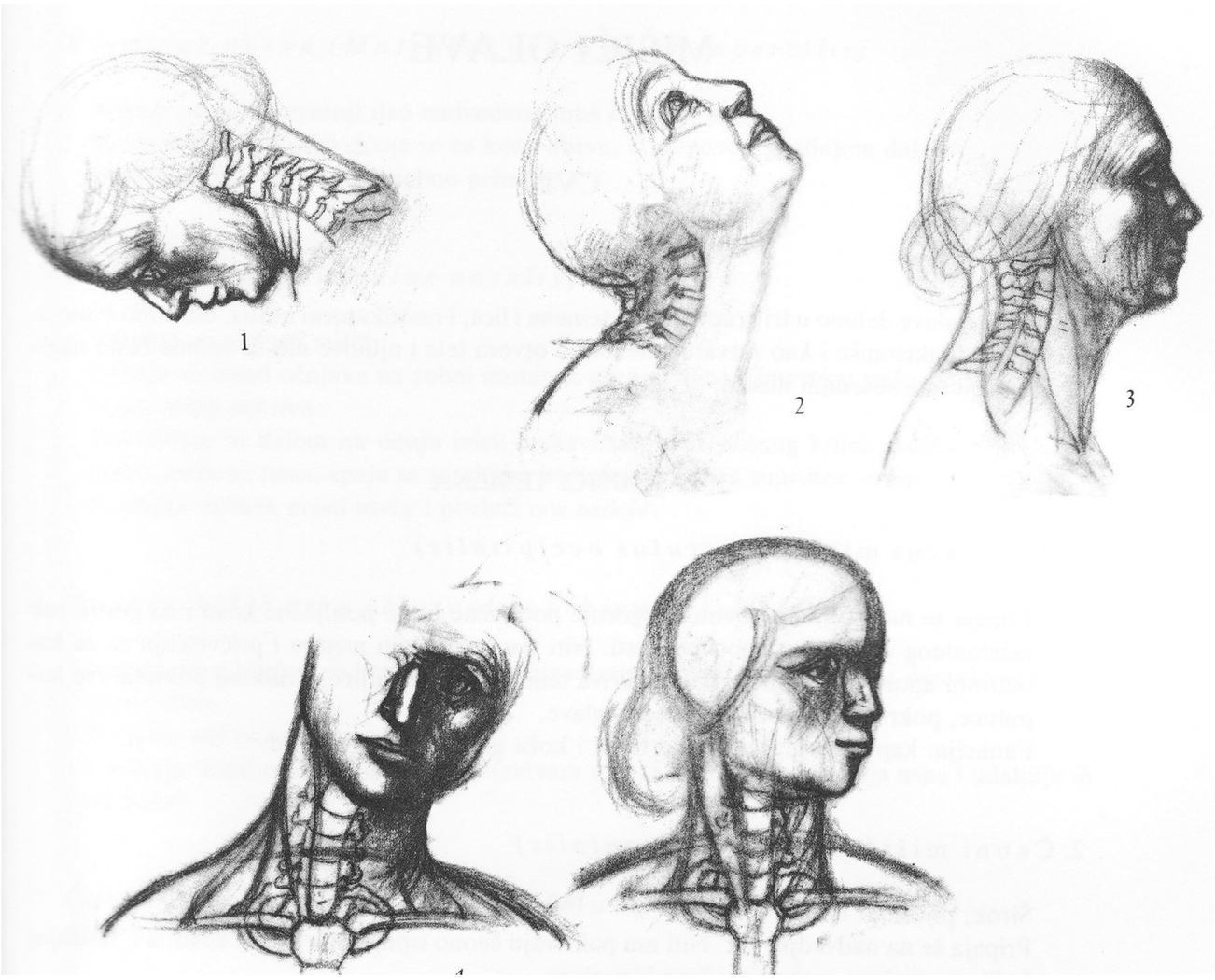
The vertebral column has a double “S” shape. It curves slightly forward in the neck, slightlyback-ward in the chest, slightly forward again in the small of the back and backward again in its lowest part. For simplification, doctors divide the spine into five regions: A - cervical region, B - thoracic region, C - lumbar region, D – sacral region, D - coccyx



The vertebral column:
posterior view, lateral view, frontal view

The cervical region

This is the neck area of the spine comprising of seven upper vertebrae, the uppermost of which supports the head. The cervical spine, especially the joint between the first cervical vertebra and the skull, is very flexible so that you can move your head backwards and forwards (1, 2, 3), or from side to side (4), or turn it (5).



The thoracic (or dorsal) region

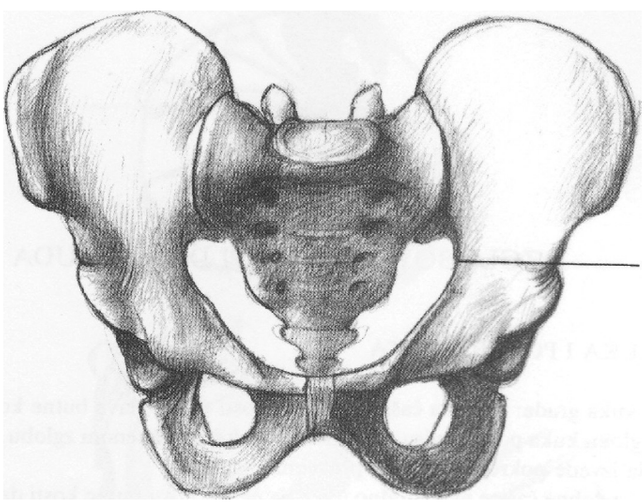
This is the backside of the chest area, comprising of twelve vertebrae. These vertebrae are larger and heavier than those of the cervical region. The reason for this is that each thoracic vertebra gives attachment not only to two ribs but also to a number of powerful muscles which need something firm to pull against. When you do heavy work involving your arms, shoulders and upper trunk, considerable stresses are produced on the thoracic vertebrae. Since the thoracic vertebrae are attached to ribs which in turn are attached to the relatively rigid sternum (the vertical breast-bone), only slight movement, in the form of rotation, ocurs in this region of the spine.

The lumbar region

This area, also called the small of the back, is comprised of five vertebrae. Like the cervical spine, the lumbar spine too, is very flexible, allowing for a variety of movements. Stand upright and bow from the waist, then lean backwards as far as you can, then bend sidewards as much as possible, and finally twist your upper body to the right and the left, keeping the hips and the legs straight. In all these maneuvers, you are mainly moving your lumbar spine (the twisting movement also occurs at the thoracic spine). The lumbar vertebrae are large and strong because they support the weight of the upper body and give attachments to many powerful muscles that move the trunk and the legs. Most low back pains originate from some problem with the muscles, ligaments, or vertebrae of this region of the spine.

The sacral region

This is the area just above the buttocks. No significant movement is possible in this part of the spine because the five vertebrae that make it up are fused together to form a single, broad, triangular structure called the sacrum. The sacrum, on its sides, gives attachment to the two innominate (hip) bones. These three bones together form the pelvis – a cavity which protects important structures like the uterus, the bowel and the urinary bladder.



Pelvis

The coccyx

This is the lowermost part of the spine formed by the fusion of four very small vertebrae. It can be felt under the skin at the top of the cleft between the buttocks.

There are six degrees of freedom at each spine motion segment: sagittal rotation and translation, coronal rotation and translation, horizontal rotation and translation. Flexion consists of anterior sagittal rotation and anterior translation, extension consists of posterior sagittal rotation and posterior translation.

Atlanto-ocipital joint (CO-1)

Flexion and extension are the largest ranges available at this segment, with slight lateral flexion also possible. During flexion of the head on the neck, the occipital condyles roll on the lateral masses of C1 and also translate forwards. The atlas translates backwards and tilts upwards and posteriorly. In extension the reverse movements occur.

Atlantoaxial joint (C1-2)

Rotation is the largest range available. During rotation to the left, the right inferior facet of C1 moves forwards and slightly upwards on the superior facet of C2 and the left inferior facet of C1 moves backward and slightly downwards. The forward and backward movements constitute rotation and the upward and downward movements constitute lateral flexion, therefore rotation is accompanied by some lateral flexion movement. Some flexion, extension and lateral flexion is also possible at this level.

Lower cervical region (C2-6)

Flexion and extension, lateral flexion and rotation are all possible at these levels. During flexion the vertebrae undergo anterior sagittal rotation and anterior translation. The intervertebral foramen increases in size during this movement. During extension the vertebrae undergo posterior sagittal rotation and posterior translation. The intervertebral foramina decrease in size during this movement. Rotation is coupled with lateral flexion to the same side. For, example, with rotation to the right, the left inferior articular facet of the upper vertebra glides superiorly, anteriorly and laterally on the superior articular facet of the vertebra below; the right inferior articular facet of the upper vertebra glides inferiorly, posteriorly and medially on the superior articular facet of the vertebra below. The anterior, posterior, medial and lateral movements constitute rotation movements and the inferior and superior movements constitute lateral flexion. In the same way lateral flexion is accompanied by rotation. With lateral flexion to the right, the left and right inferior articular facets of the upper vertebrae glide in a similar way as during right rotation. The inferior and superior glides produce the lateral flexion; the anterior, posterior, medial, and lateral movements produce the rotation.

Cervicothoracic junction (C6-T2)

Similar movements occur in this region as above.

Thoracic region (T3-10)

This is the last mobile area of the spine. During flexion the inferior articular facets of the superior vertebra slide superiorly with a small amount of forward translation. In extension the reverse movements occur. Rotation is always coupled with lateral flexion as the zygapophyseal joints slide relative to each other. In lateral flexion to the left, the inferior facets of the superior vertebra on the right glide superiorly and translate slightly forward, and on the left side slide inferiorly and translate slightly backward.

Lumbal region

Flexion is the freest movement. In the lumbar spine there are around 10° of anterior sagittal rotation and 2 mm of anterior translation during flexion and around 3° of posterior sagittal rotation and 1 mm of posterior translation on extension. Movements during lateral flexion and rotation are less clear. Lateral flexion is always accompanied by a degree of rotation. Lateral flexion to the left, for example, is accompanied by axial rotation to the opposite side at the upper lumbar levels. At the two lower levels, lateral flexion to the left is accompanied by rotation to the left. With lateral flexion to the right, there is rotation to the right. The lateral flexion in this case is accompanied by flexion. However, in other subjects lateral flexion may be accompanied by extension. It should be noted that the range of movement is not static. There is a reduction in range with increasing age. The lumbar spine, for example, has a reduced range of movement, in both males and females, with increasing age. This is due to an increase in stiffness of the intervertebral discs.

Sacroiliac joints

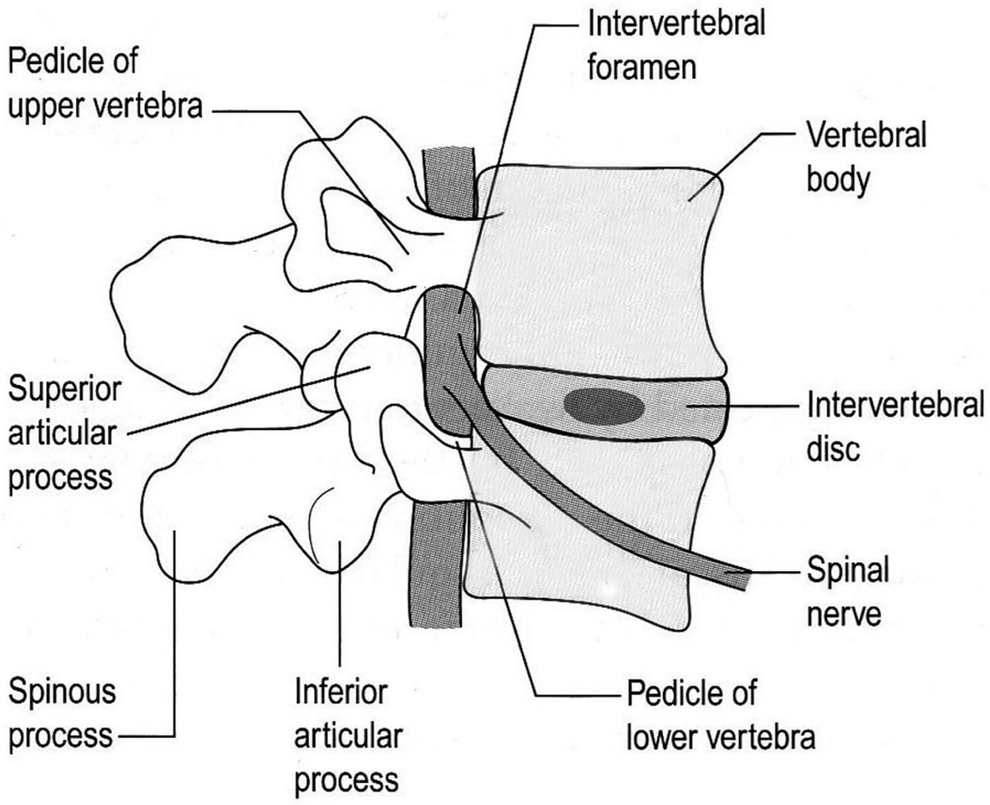
Movement of the sacroiliac joints occurs during flexion and extension movements of the trunk. Anterior rotation of the base of the sacrum with posterior rotation of the apex is termed “nutation”. The reverse movement is known as “counter-nutation”. There is approximately 1° of counter-nutation during extension of the lumbar spine in standing. The direction of the movement varies between individuals. In some flexion is accompanied by nutation and in others by counter-nutation. This movement does not occur as a result of muscular activity but as a result of mechanical forces placed upon the base of the sacrum during load bearing through the lumbar spine. The movement is restricted by the sacrotuberous and sacrospinous ligaments and also by the interosseous ligaments which bind the sacrum together with the iliac. These nutation and counter-nutation movements occur readily during gait and weight-bearing activities. During stance phase, ground reaction forces are transmitted via the supporting femur through the hip to the ipsilateral pelvic bone.

This causes a tendency for shearing (sliding) to take place at the symphysis pubis and the SI joint. This shearing force is enhanced by the weight of the dependent leg on the contralateral side. Also during gait, anterior and posterior rotation of the pelvis relative to the sacrum occurs. It should be noted, however, that due to the very strong ligaments supporting the sacroiliac joints, the range of movement is extremely small.

Now we will transfer our attention from generals to particulars, i.e. the study the structure of the vertebra, the intervertebral discs and the key postural muscles.

Lumbal vertebra

Each lumbal vertebra is a strong and flat bone with a disc-like body in front, a vertebral "arch" (hole) just behind the body and a projection (spinous process) at the back. The body of the vertebra is meant to bear the weight of the upper body. The vertebral arch lodges the spinal cord which is thus protected. The back part of the vertebra has facet joints which are partially responsible for the movements of the trunk. Between any two vertebrae there are gaps (called intervertebral foramina) on each side, allowing the spinal nerves to come out.

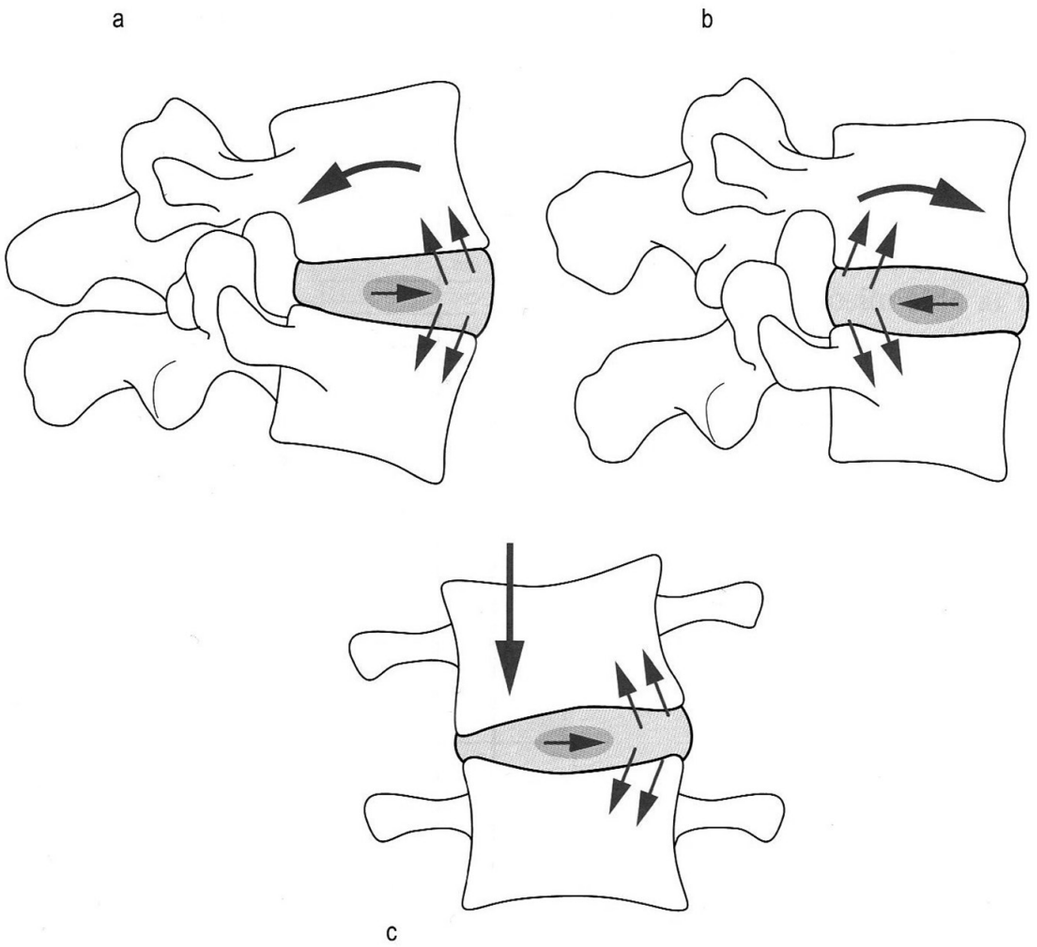


Picture shows a lateral view of a spinal motion segment.
The anterior weight-bearing part is shaded.

The disc

Discs are very tough yet flexible structures or cushions of cartilage that separate any two vertebrae. They act as shock-absorbers getting compressed when weight is put upon the spine and springing back to their original shape when the weight is taken away. Thus, they protect the spine against stresses. Each disc is made up of a jelly-like centre called "nucleus pulposus" surrounded by a tough capsule called "annulus fibrosus". The discs, all together, constitute about one-third of the total length of the spine. They have a tendency to absorb water. Thus, you grow taller at night as the discs swell with water and shrink back to your "normal" height during the day as the water accumulated in the discs is forced out (by the weight of the trunk). This swelling of the discs is even more marked in a weightless state (astronauts, swimming in water). Because of the jelly-like soft centre and some amount of accumulated water, a disc acts as an efficient hydraulic system, dispersing pressure on the spine evenly in all directions along the back. The otherwise tough annulus fibrosus which forms the outer part of a disc is somewhat weak at the back and the sides of the disc. If it gives way or gets torn, it may allow the nucleus pulposus to bulge out. If this bulge presses against one of the spinal nerves the result is pain.

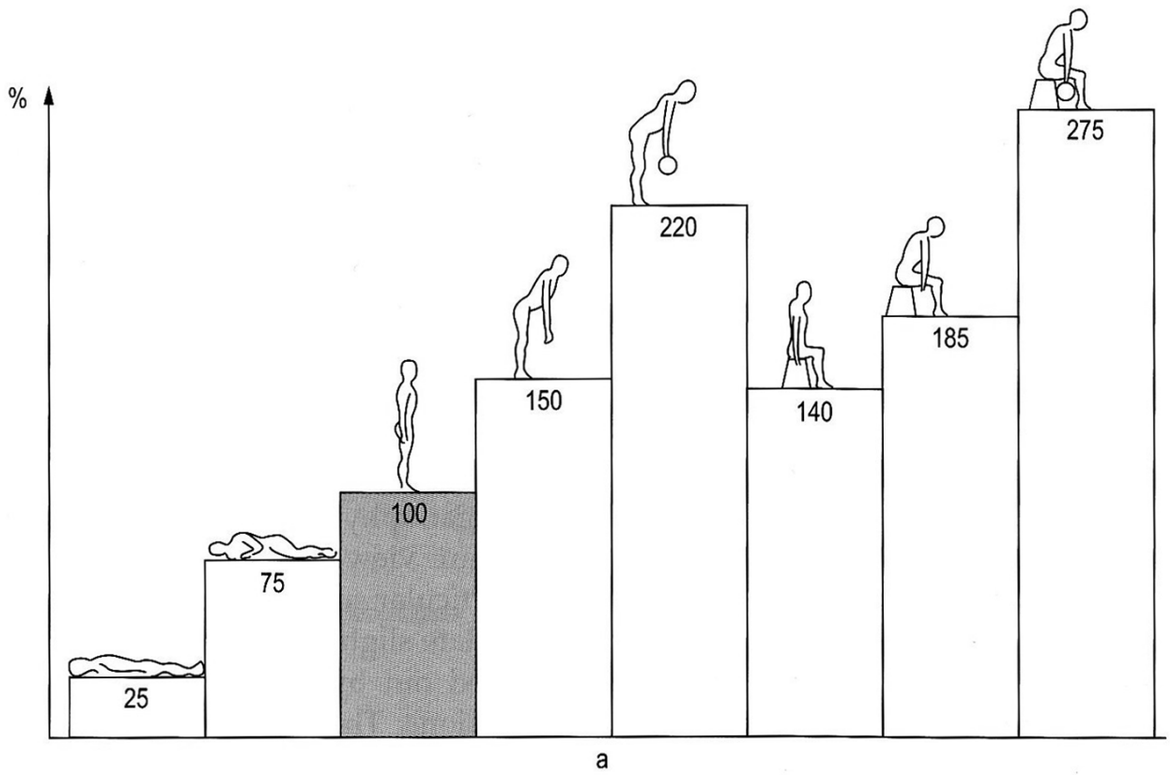
The disc is avascular after the first decade of life. It then receives its nutrition mainly via tissue fluid exchange through the vertebral endplates and also from small blood vessels at the periphery of the annulus. The anterior annulus receives a better supply of nutrients than the posterior annulus. Fluid exchange is enhanced by movements of the spine, particularly movements in the sagittal plane, and reduced by static postures, particularly loading at end-range flexion or extension. If the nutrition of the disc is inadequate, disc degeneration may then occur. It is therefore vital to the health of the disc that the spine changes posture throughout the day and that prolonged static postures are avoided.

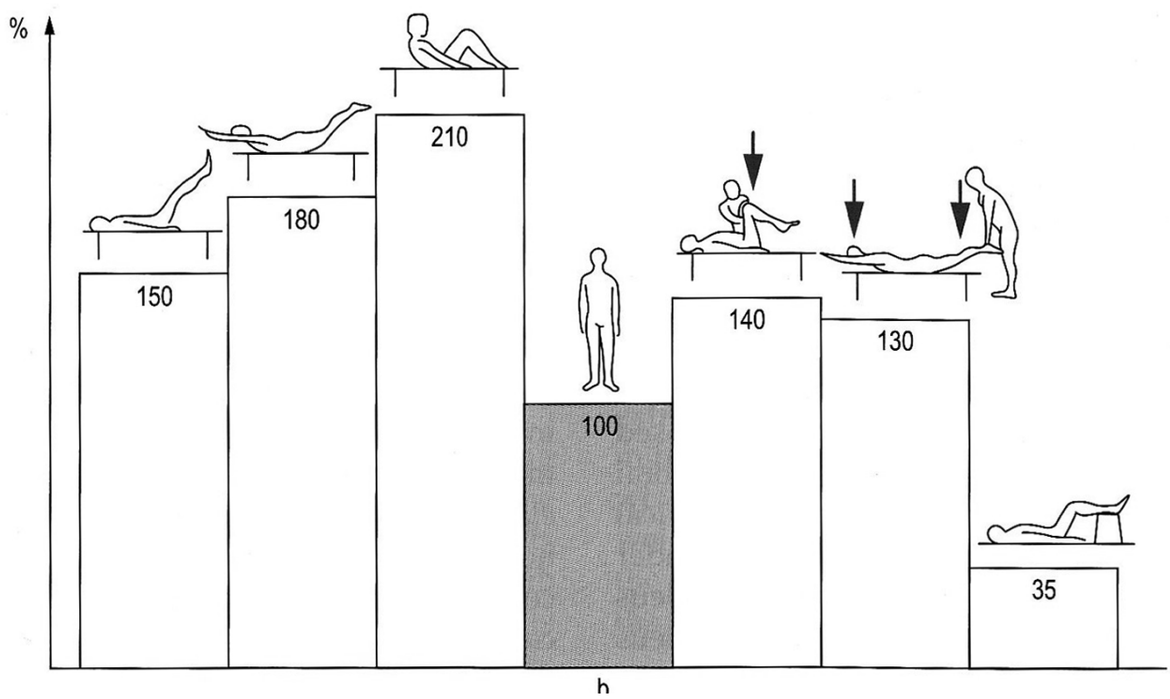


The picture shows the effect of movement and deformation of the intervertebral disc:

a) Extension: the upper vertebra moves posteriorly, the nucleus moves anteriorly and the annulus is tensioned anteriorly.

b) Flexion: the upper vertebra moves anteriorly, the nucleus moves posteriorly and the an nulus is tensioned anteriorly. (c) Lateral flexion: the upper vertebra tilts towards the side of flexion, the nucleus moves in the opposite direction, where the annulus is tensioned.





Pictures show relative change in pressure (or load) in the third lumbar disc:
(a) in various positions; (b) in various muscle-strengthening exercises.

The working of the lower back

The lumbal spine is designed primarily for movement, although it must also bear weight. If lumbar movements and weight bearing are combined in one activity, then the lumbar region becomes susceptible or vulnerable to injury. Stacked one on top of another the five lumbar vertebrae work as a unit, in a concreted manner, to permit forward bending, backward bending, etc. This working unit or column "sits" on a firm foundation or scaffolding called the pelvic platform. Our thigh bones too, are attached to the sides of the pelvis. Therefore, the pelvis is the connecting structure between the spine and the hips and legs, i.e., between the top and the bottom halves of the body. Since the pelvis is the connecting and central point, it acts like a pivot. The position of the pelvis will control the position of the lumbar vertebrae above it. If the pelvis is level or balanced, the vertebrae above it will also be in a level or balanced position. This is the strongest position for the spine and makes it the least vulnerable to injury. However, if the pelvis is thrust forward, the vertebrae above it will curve out of alignment. Such out-of-alignment vertebrae cause wedging of the discs and potential discomfort to facet joints and make the spine weak and the back vulnerable to injury. On the other hand, when the lumbar vertebrae are aligned properly because the pelvis is in a balanced position, pressure is taken off the discs, the facet joints are unloaded, and maximum space is provided for the exit of nerve roots. There are four groups of muscles that are associated with the back. They work synergistically, that is to say they are interdependent and work together. All four groups are therefore important for the proper functioning of the back.

The erector spinae (sacro-spinalis) muscles

These are the back muscles which hold the spine erect. If you place your entire palm flat against the middle of your lower back and walk, you will feel these muscles alternately contracting and relaxing. They provide posterior support for the back and have to work hard when you push or pull heavy weights, bend over, arch your back or hold your spine very erectly. These muscles can be quite painful when they get tensed and cramped up in spasms.

The rectus abdominis muscles

These muscles which appear like narrow vertical bands or straps on the front of the abdomen, provide support to the front of the spine and also support the abdomen.

The lateral muscles

These muscles lie at the sides of the trunk forming the lateral (side) wall of the abdomen. They run in a criss-cross manner and help control the sideward bending of the spine.

The hip muscles

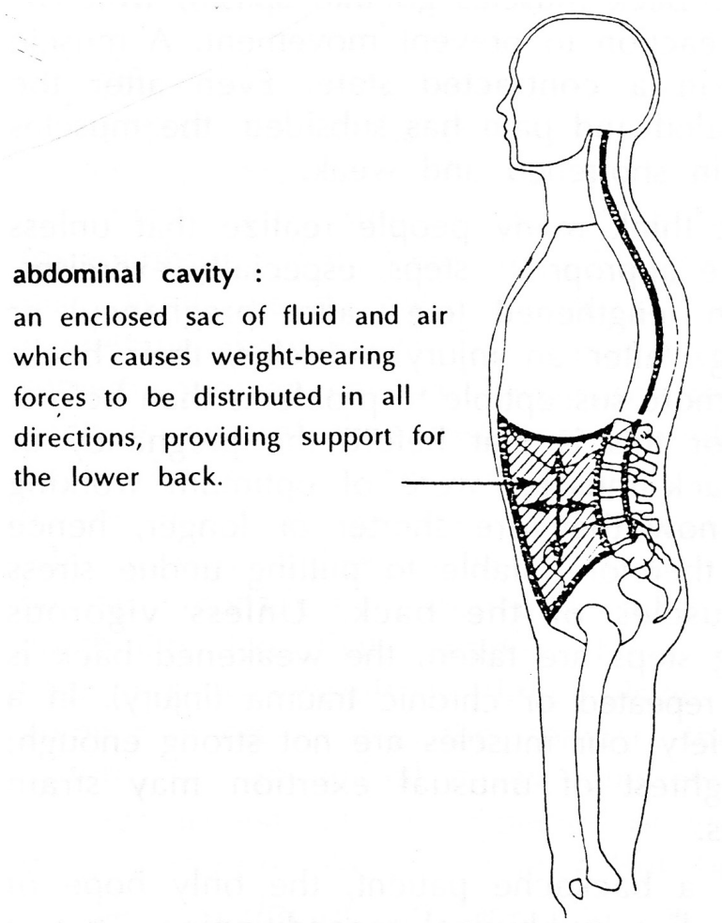
These are four groups of muscles performing as one unit for each hip. They are:

1. The hip flexors which are located at the front of the hip, attached to the front of the pelvis above and the front of the thigh-bone below. The most important of hip flexors is the psoas major muscle which not only moves the thigh forward but also acts as a giant sling to prevent the body from falling forward. When strains are imposed on this muscle, tremendous and irritating forces are exerted on the lumbar spine.
2. The hip abductors which are located at the outer sides of the hip.
3. The hip adductors which are located at the inner sides of the hip (groin).
4. The hip extensors which are massive muscles at the back of the hip, the most important being gluteus maximus which forms the buttocks.

These are four sets of muscles that work together to support the spine. The pelvic foundation on which the lower spine rests is balanced by a controlled contraction of these muscles. If you recall that the spine is in proper working alignment when the pelvis is in the balanced position, you will be able to readily understand that these four interdependent groups of muscles must all be working properly. If any of these muscles is weak either because it is too short or too long, the spine will not be in proper alignment and there will be extra wear and tear on it increasing the probability of back pain.

Hydraulic sac mechanism

One mechanism that provides extra support to the spine is called the hydraulic sac mechanism and is created by the co-ordinated contraction of stomach muscles, back muscles, the diaphragm and the pelvic floor muscles. When these muscles tighten simultaneously, the abdominal cavity, which is an enclosed sac of fluid, air and organs, gives added support to the spine. For example, when the spine is called on to lift a heavy load, the hydraulic sac helps equalize the effort so that the total weight of the load is not transmitted entirely through the spine but is distributed throughout the abdominal cavity.



The hydraulic sac mechanism

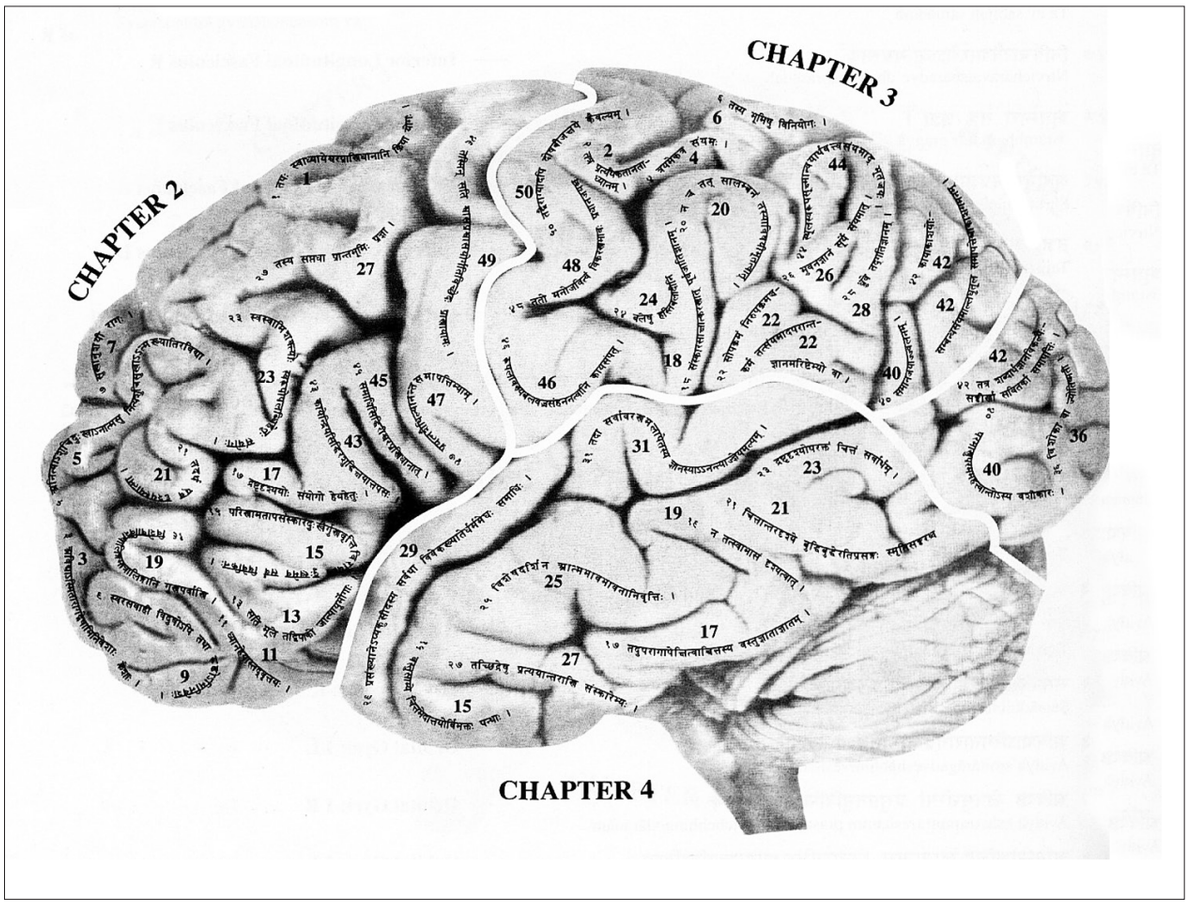
Homeostasis

Our body has many organs, each performing a specific function for the body. Coordination amongst all these functions is essential in both, the resting condition and during active exercises. The activities of different systems are adjusted with the changing demands of new situations. This coordination of various activities for efficient functioning of the body is achieved mainly through two controlling systems, the endocrine system and the nervous system. Homeostasis is the condition in which the body's internal environment remains relatively constant. It is an active process by which the proper hydrogen ion concentration, supply of nutrients, efficient removal of waste products of metabolism, optimum blood pressure, and appropriate blood sugar level are maintained without our notice. The temperature of the body is kept constant at about 37° C by balancing heat loss and heat gain processes. This is known as thermo-regulation. If the temperature of the body rises too high or comes down too low then the body's cells are unable to carry out their chemical actions properly. The tissues are continuously bathed in tissue fluid, which is in contact with the circulating blood. Cells absorb the required nutrients and oxygen from this tissue fluid and give up toxic wastes in return. The blood acts as a transporting system to supply nutrients and oxygen to these tissues and to carry the waste products to the organs of excretion. The composition of this tissue fluid must be maintained at all times. The kidneys, skin and lungs do this job. They also maintain the water level in the body. The hydrogen ion concentration or pH of the blood is accurately maintained at 7.4, i.e., slightly towards the alkaline side. If it becomes acidic, the tissue cannot survive. Homeostasis is continuously disturbed by any stimulus that creates an imbalance in the internal environment and gives rise to stress. Stress may be produced from increased heat, cold, loud sounds, heavy light, lack of oxygen or exertion. Stress may arise within the body due to pain, emotions or unpleasant thoughts. These stressors stimulate the hypothalamus and bring about many changes in the body as the sympathetic nervous system and the adrenal medulla are stimulated. On account of this stimulation the secretion of adrenaline is increased and as a result, the heart rate, respiration rate, blood pressure, and blood sugar level are elevated and the metabolic rate is increased. This makes a person more alert, aroused and reactive to the situation for the time being. This is actually a defense mechanism of the body. It prepares a person to cope with the stress. After the stressful situation is over, all these functions should return to their normal level. If the stressful situation is prolonged for a long period, the autonomic balance is also disturbed. Disharmony in the bodily functions results in functional disorders such as diabetes, hypertension, acidity, insomnia, etc. Therefore, one must learn to cope with stress successfully. Yogic practices can help one in this respect by establishing and maintaining physiological balance (homeostasis) in the body. A proper lifestyle including moderate exercise, proper diet, enough sleep, relaxation, and positive thinking will definitely maintain the homeostasis and thus the physical and mental health.

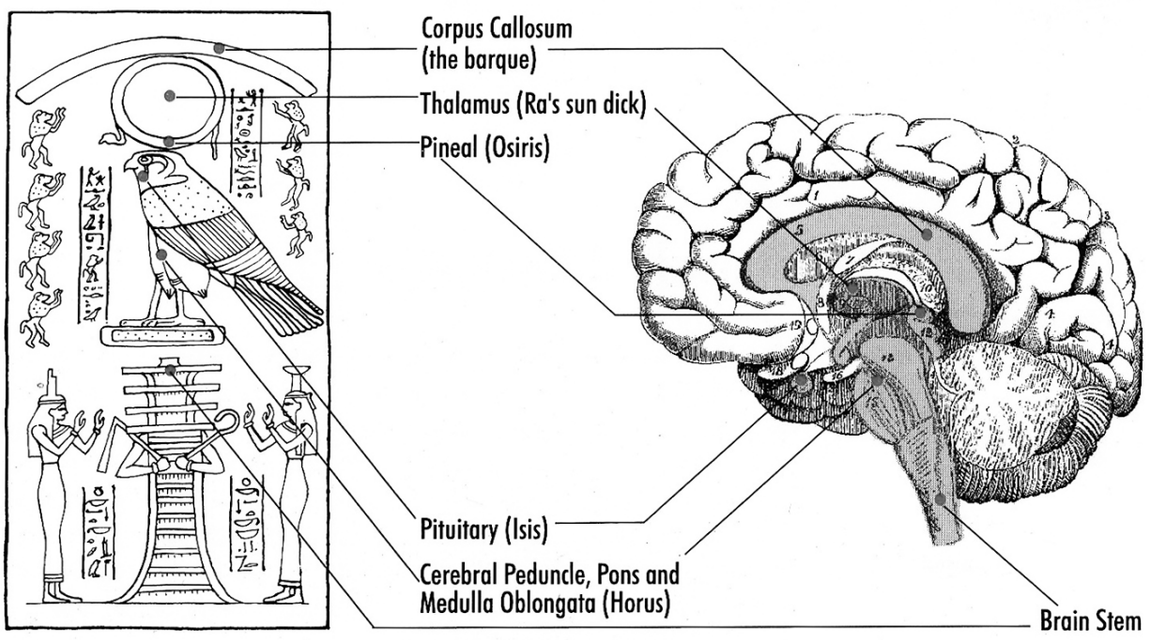
Veda in the human physiology

From the perspective of Maharishi's Vedic Science, the human physiology is an expression of the fundamental structures of Natural Law, which not only underlie the structures and orderly functioning of the body, but also underlie and govern the orderly functioning of the entire universe. These laws exist in an unmanifest field of intelligence called Atma in Sanskrit. As the laws of nature express themselves in the material creation, they first emerge as waves. These dynamic waves in their subtle expression are available in the sounds of the Veda and the Vedic Literature. From this perspective, all mater, including cells, tissues, organs and the entire physiology are based on these vibrations of Natural Laws. The sounds of Veda are the intelligence at the basis of the physiology. The principles of transformation from one state of the physiology into another state are also available in the Veda and Vedic Literature. These principles demonstrate that at the level of the field of Pure Intelligence, the transformations of one sound into another are the mechanics of the transformations of Natural Law, responsible for the evolutionary processes in nature. Using specific sounds of Veda and Vedic Literature corresponding to specific part of the physiology, enlivens the intelligence at the basis of that part of the physiology to transform disorderly functioning into orderly functioning. This will induce the physiology to function according to its original and perfect design. Any imperfections in the form of blocks, stress, lack or excess of activity, or abnormal connections between the various components of the physiology, will be disfavored by reading the specific aspect of Veda and the Vedic literature that corresponds to that area of the physiology which is dysfunctional. The body in essence is a certain vibrational pattern and this pattern can be affected by the vibrational pattern of the Vedic sounds. Scientific research has shown that, for example, the primordial sounds of Sama Veda have an inhibitory effect on the cultured growth of human tumor cells.

Yoga is one of the structuring dynamics of Rig Veda. It highlights the unifying quality of self-referral consciousness involved in structuring Rig Veda. Yoga brings out the quality of Unity and hides or covers diversity. As such, it has a Chhandas value. In the physiology, Yoga is the quality that unifies differences. Our senses are constantly bombarded by millions of inputs and our physiology constantly performs millions of tasks to maintain its balance, integrity, and evolution. The conscious comprehension of this diversified complexity and the integration of differences occur through the unifying value of the association fibers of the cerebral cortex. Yoga represents the association fibers of the cerebral cortex (4 lobes with 51, 55, 55, and 34 long and short fasciculi, divided on the basis of the overlaying gyri. These fibers are the axons of neurons located in the cortical grey matter, and form a very fine mesh, weaving the whole cortex into something that resembles a fine fabric. The total number of association fibers can be divided into 195 sets, which correspond to the 195 Sutras of Yoga. The picture below shows a right lateral view of the brain with its 4 lobes, named according to the overlaying bones of the skull, and the locations of the 4 chapters of Yoga and the Sūtra, with each chapter corresponding to the cortical gyri (folds) within these lobes. The first chapter corresponds to occipital lobe, the second to the frontal lobe, the third to the parietal lobe (including the insula), and the fourth to the temporal lobe (including the limbic). – Human Physiology, Expresion of Veda and the Vedic Literature. Professor Tony Nader MD, PhD



Our body is also the temple of all the Gods (devatas). In this way we can locate different forms of Vedic devatas corresponding in their function and structure to the different parts of our body. Also, 5,000 years ago, the Egyptians understood the human brain in terms of its connection to the heavenly realm, as well as its correspondence to the structure and function of the Egyptian Gods.



Vedic anatomy (koshas, shariras, shrotas, nadis, marmas, chakras, granthis, etc.)

Between koshas (shariras) and the Absolute phase of life is a network of communication through which the intelligence of the Absolute is governing life on all levels of its expression. Each level has its own network of communication. Nadis constitute the network on the level of Prana-maya kosha and between Prana-maya kosha and Anna-maya kosha. Chakras are like hidden reservoirs of water, unseen and deep in the mountain. There is the network of communication (nadis) of "underground water" and reservoirs (chakras) and streams of water (nadis) connecting to the surface of the earth. The springs of water on the surface (Anna-maya kosha) are the marmas and the rivers flowing on the surface and bringing life to its surrounding are channels called shrotas. If the network of communication on all levels, vertical (granthis) and horizontal is clean and unobstructed, then Cosmic Intelligence is governing life of all levels (koshas) of our body with its full value, resulting in health, happiness and liberation.

Koshas

The Taittiriya Upanishad contains a detailed description of the koshas. The Atman (the Self) is enveloped with five layers of matter (sheaths or koshas). The term "sheath" indicates that it is a mere covering containing something more vital within itself. While the koshas are analytically separable, in physical reality they are inseparable and function as a gestalt, as manifestations of the five elements of creation. There are thus five distinct sheaths called Pancha-kosha:

- Food Sheath (Anna-maya kosha)
- Vital - energy Sheath (Prana-maya kosha)
- Mental Sheath (Mano-maya kosha)
- Intellectual Sheath (Vijnana-maya kosha or Buddhi-maya kosha)
- Bliss Sheath (Ananda-maya kosha).

Food sheath (Anna-maya kosha)

The physical body, the outermost aspect of our personality, beyond which we do not physically exist, is called the food sheath. It derives the name "food-sheath" from the fact that it has sprouted from the essence of food assimilated by the father and is nourished in the womb by the food taken by the mother. It continues to exist because of food eaten by the individual, and ultimately, after death, it goes back to fertilize the earth and become food for worms and plants. This physical structure, arising from and existing in food, and reverting back to food, is appropriately termed as the food sheath. The food sheath consists of the five organs of perception (gnana indriyas) and the five organs of action (karma indriyas). The five organs of perception are the eyes, ears, nose, tongue and skin. The organs of action are hands, legs, organ of speech, genital organ and the organ of evacuation. The organs of perception are apertures through which the stimuli from the external world, in the form of color, form, sound, smell, taste and touch, enter the physical body. These stimuli react with the inner sheaths of the mind and intellect which again send out responses into

the external world. The responses are communicated by the organs of action. All of the material contents of food shield are created by prana, but the stuff from which the material contents evolve is anna (food).

Vital – energy Sheath (Prana-maya kosha)

Prana maintains the life force in the cellular body (Anamaya kosha) through food which is converted into different kinds of energy through the three doshas (Vata, Pitta and Kapha). Vata is air element which works in the body as the five pranas and as five sub-pranas, and directly influences all movements in the body. The five-fold faculties (pancha-prana), corresponding to the five physiological systems detailed by biologists, constitute the vital - energy sheath. The five faculties (pranas) are:

- **Faculty of perception** – respiratory system (Prana): The vital - energy that functions in the body from head to the heart is called Prana (Note: There are 5 pranas, one of which is itself called Prana). It is seated in the heart and goes upward to the nostrils and the mouth. The presence is felt in the tip of the nose. Prana activates and energizes the nasal passage, throat, larynx, tongue, oesophagus, breathing organs, lungs and heart. It supports the intellect, sense organs, and consciousness. Spitting, sneezing, belching, swallowing, breathing are functions of prana. It is connected with anahata chakra and controls the five channels of perception (seeing, hearing, smelling, tasting and touching). It is the eye in the human body and the associated deity is the Sun. The oblations ofered to it brings brightness in the eyes and good health.

- **Faculty of excretion** – excretory system (Apana): The vital - energy that moves downward, extending from the heart to the naval and below the navel (umbilicus), to muladhara chakra and the thighs, is called Apana. Faeces, urine, perspiration, sputum, menstrual blood, semen, flatus and fetus are expelled by this vital – energy. It is connected with muladhara chakra.

- **Faculty of thinking** – lung, throat and head region, nervous system (Udana): Udana is the ascending vital force situated in the throat. It moves in the region between the navel and nose. It extends from the sole of the foot to the head. It entertains, absorbs, and assimi lates new thoughts, enabling one to acquire knowledge and educate oneself. Udana reg - ulates the function of speech, singing, effort, energy, and strength. It activates the whole brain along with the pituitary and pineal glands. It gives glow and radiance to the whole face. At the time of death it moves upwards through Sushumna nadi. Udana causes one to leave the body and life comes to an end at that time. It leads one to the world of gods, as a result of virtuous acts prescribed by the scriptures. It leads one to hell as a result of deeds that are sinful and back to the human world as a result of both. It is connected with vishudhi chakra.

- **Faculty of digestion** - digestive system (Samana): The vital energy which is active in the re gion between the heart and the navel is called Samana. It controls the internal functioning of the whole digestive system along with the liver, intestines, spleen, and pancreas. It fans Agni (digestive fire) everywhere and thereby supports digestion. It is connected with the duodenum. Samana is essential for the digestion of food, water, etc. It is the vital force which assimilates all that is eaten or drunk. Assimilation means digestion of food and its conver - sion into blood and other substances of the body. The supreme Brahman is situated in the stomach in the form of fire (Jatar-Agni) and digests all kinds of foodstuff. Samana has its seat in the belly, the middle of the body (navel). It is connected with manipura chakra.

- **Faculty of circulation** – circulatory, lymphatic and nervous system (Vyana): Vyana distributes the digested food to the different parts of the body. It is situated between Prana and Apa - na in the heart. Vyana is the bridge between these two kinds of pranas. It is the vital energy that pervades throughout the body. As rays issue forth from the Sun, so too the nerves issue from the heart and spread everywhere in the body. Vyana regulates and controls all activities of the body. It activates and energizes the muscles, tissues, joints, the pulse, and all the organs of the body. It regulates the general movements of the body, extension, flexion, blinkingand circulation. Vyana is the force that resists disintegration and holds the body together in all its parts. It passes through the nerves. Its associdated deity is the Moonand it operates on the nerves. Vyana is connected with muladhara chakra.

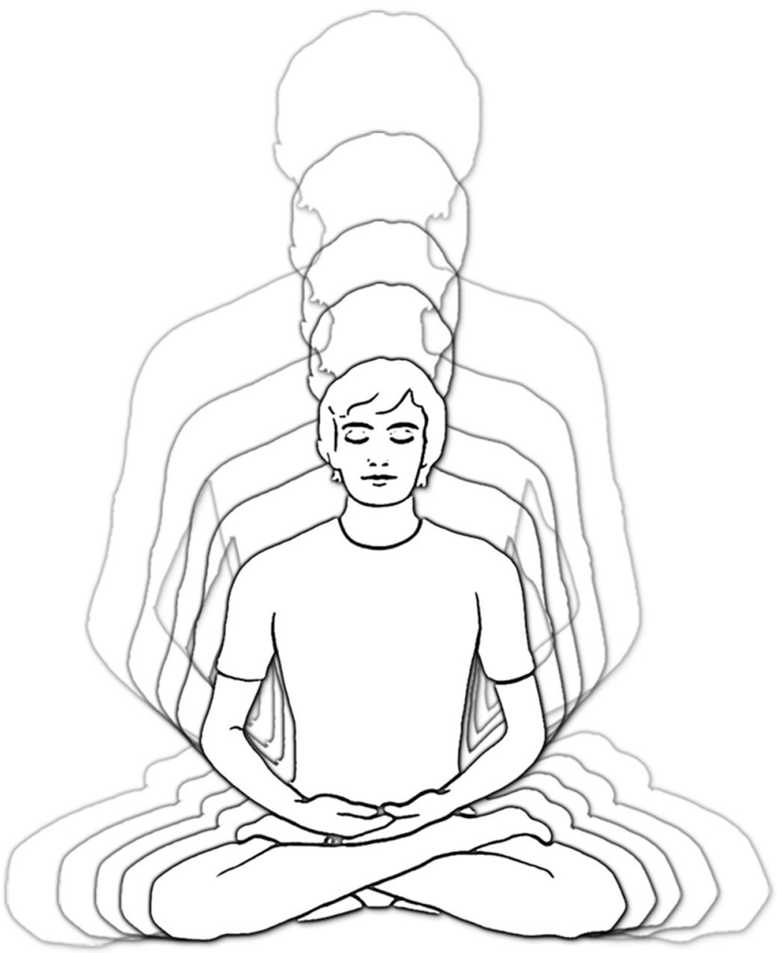
There are five more vital forces called Naga, Kurma, Krikala, Devadatta and Dhananjaya. Naga causes vomiting, Kurma opens and closes the eyelids, Krikala is the cause for hunger, Devadatta produces yawning and Dhananjaya nourishes the body. These functions (pranas) are manifest as long as a person is breathing. The vital energy sheath controls and regulates the food sheath. The physical body becomes adversely affected when the pranas do not function properly.

Mental and intellectual Sheaths (Mano-maya kosha and Vijnana-maya kosha)

These two sheaths consist of the mind and the intellect respectively. The intellectual sheath controls the mental sheath which, in turn, regulates and orders the vital-air (vital-energy?) and food sheaths. When the mind is upset, the physiological functions (pranas), as well as the physical body are affected. The mind receives the external stimuli of color, form, sound, smell, taste, and touch through the organs of perception and communicates the responses to the organs of action. Though the stimuli, received through the five sense organs, are different from one another, an integrated perception of all stimuli is brought about by the mind. The intellect is the discriminating faculty which distinguishes between the pairs of opposites such as black and white, tall and short, good and bad, etc. It examines and judge stimuli received by the mind and communicates its decisions, regarding the responses to be sent out, back to the mind. The distinction between the mind and the intellect is purely functional. The two are not distinct, separate organs.

Bliss Sheath (Ananda-maya kosha)

It is the innermost of the five sheaths. It consists exclusively of vasanas (inherent tendencies) which are unmanifest desires and thoughts. In the deep sleep state of consciousness, where one is ignorant of everything, is the condition in which only the vasanas exist, without their corresponding manifestations. The intellect functions under the control and guidance of the vasanas. The experience of the bliss sheath is the experience of peace and bliss. Hence, the bliss referred to here is a relative and temporary experience and it is not to be mistaken for the Absolute Bliss Consciousness – Sat Chit Ananda, which is the true nature of Atma, the Self.



With our Anna-maya kosha, we are living in a 4-dimensional universe. Modern science defines that there are at least 16 possible dimensions in which our life is manifested. Higher dimensions correspond with our subtle bodies: Prana-maya kosha, Mano-maya kosha, Vijnana-maya kosha, and Ananda-maya kosha. Through the development of our inner awareness with yoga practice, we can start living higher dimensions and enhance our "status". We come to realize that our body is in fact the Cosmic Body and that in our individuality we live Cosmic Life. We see all the galaxies of the universe as vortexes or energy centers in our body: In our body we see the presence of the whole universe. This cognition is only possible when we are able to consciously experience life manifested through all the koshas. That is why, in the practice of asana, before we start moving, in the starting position with eyes closed, through our inner awareness, we experience not only the gross physical body, but also the energy body and the mental body which are very vast, spreading to all corners of the universe. Like this, in the starting position, we realize ourselves as something very big, as the entire galactic universe. Then the movement into the asana is significant, because we feel that the universe is moving. So the universe is doing the asana and this is the reality of the practice of yoga asana. Then the practice of yoga asana is not only on the level of individual strain, being aware only of the physical aspect of the body (which is quite small in size). There is no happiness in the small, only strain is possible. In the "big" (Brahman) there is happiness and then the movement is blissful and effortless.

When we do meditation, asana, or pranayama practice, we feel expansion of our individuality to infinite cosmic life. That is why the theme of expansion is the main principle of Yoga. During asana practice, through relaxation and absorption into unboundedness, we transcend the gross physical body and start functioning in the subtle bodies. We experience the expansion of the dimension of our small physical body to its cosmic dimensions. When we move the body in asana, then we feel that movement on all levels of our body. During pranayama, expansion of prana is happening through breath becoming "dirgha" and "sukshma" (long and subtle). In meditation, in the process of transcending *(yogash chitta vritti nirodhah, Y.S.I.2)*, the mind is expanding to gain the status of the Cosmic Mind.

Shariras

The word Sharira comes from the root "Śṛ" to decay; for the gross body is at every moment undergoing molecular birth and death until Prana or vitality, leaves the organism, which as such, is then dissolved. The bodies are threefold: causal (Karana-sharira), subtle (Sukshma-sharira) and gross (Sthula-sharira). These bodies, in which the Atma is enshrined, are evolved from Prakriti-Shakti and are constituted of its various productions. They form the shrine of Atma which, as the Lord (Ishvara), is in all beings and controls them from within. The body of the Lord (Ishvara) is the pure Sattva-guna. Prakriti or Maya of Him (Ishvara) or Her (Ishvari) is the creator of all things. Ishvari is not affected by Her own Maya. She is all-seeing, all-knowing, allpowerful. Ishvara thus rules Maya. Jiva is ruled by it. From this standpoint the Mother and Her child, the Jiva (Soul), are thus not the same. For the latter is a limited consciousness subject to error and governed by that Maya-shakti of Her, making the world appear as different from its essence. The body of Jiva is therefore known as the individual Prakriti or Avidya, in which there is impure Sattva, as well as Rajas and Tamas. Whilst Ishvara is one, Jivas are many, according to the diversity in the nature of the individual Prakriti, caused by the appearance of Rajas and Tamas in differing proportions. The Atma appears as Jiva in various forms of the plant, animal, and human worlds.

Causal body

The first or Causal Body (Karana Sharira) of any particular Jiva is that Prakriti which is the cause of the subtle and gross bodies that have evolved from it. This body lasts until Liberation (Kaivalya), when the Jivatma ceases to be such (Jivan-mukti) and is realized as the Paramatma or bodiless Spirit (Videha-mukti). The Jiva exists in this body during dreamless deep sleep (Sushupti). The bliss sheath (Ananda-maya kosha), the innermost of the five sheaths, consisting of vasanas alone, is itself the causal body.

Subtle Body

The Subtle Body, which is also called Linga Sharira, is constituted of the first evolutes (Vikriti) of the causal prakritic body, commonly referred to as "the mind": Antah-karana or Chitta, consisting of Buddhi (Mahat), Ahamkara, and Manas. Through the mind, the Jiva knows, feels and wills. It is the the internal instrument, functioning together with the external instruments (Bahya-karana) or the ten senses of perception and action (Indriya: Jnanendriya and Karmendriya) and their supersensi-

ble objects (five tanmatras). Pranic (Prana-maya kosha), mental (Mano-maya kosha) and intellectual sheaths (Vijnana-maya kosha) together form the subtle body. The Jiva lives in his subtle body during the dream (Svapna) state. The outside world of objects (Maha-bhuta) is then shut out and consciousness wanders in the world of ideas. The subtle body or soul is imperishable until Liberation is attained. The subtle body (also called astral body) thus survives the dissolution of the gross body of matter and "reincarnates" until Liberation is attained. The Linga-sharira is not all pervading but is limited and of atomic - dimension (Anu-parimana). It is indirectly dependent on food. Though the material body is the food-body (Anna-maya kosha), the mind depends on it when associated with the gross body. The mind in the subtle body bears the Samskaras which are the result of past actions. This subtle body is the cause of the third or gross body.

Gross body

The Gross Body (Sthula-Sharira) is body of food (Anna-maya kosha), with its three Doshas (Vata, Pitta and Kapha), seven Dhatus (bodily tissues), ten Agnis (fires), organs of perception, organs of action, etc., is the medium through which an individual contacts the outer world and gathers stimuli. The gross body is ever decaying and is at the end dissolving into its constituents at death. The Jiva lives in this body when in the waking (Jagrat) state.

The Gross and Subtle Bodies are vitalized and held together as an organism by Prana, which is evolved from the active energy (Kriya-Shakti) of the Linga-Sharira. Prana or vitality is the common function of the mind and body, including all the senses, both - sensory and motor, responsible for bodily motion. Prana or the vital principle is the special relation of Atma with a certain form of matter which, by this relation Atma, organizes and builds up as a means of experiencing life. This special relation constitutes the individual Prana in the individual body. The cosmic, all-pervading Prana is not Prana in this gross sense, but is a name for the Brahman as the author of individual Prana. Individual Prana is limited to the particular body which it vitalizes and is a manifestation of the creative and sustaining activity of the Brahman in all "breathing" creatures. That one Brahman is represented in individual bodies by Devi Kundalini. All beings whether Devatas, human beings or animals exist only as long as Prana is within the body.

Shrotas

Shrotas are the channels through which the intelligence of the body flows to reach different organs. If the Shrotas are blocked by ama, the flow of bodily intelligence becomes restricted, leading to "dark" areas where disease can develop and grow. The organs lose their normal way of functioning.

There are innumerable shrotas in the body; some are large and well-known, such as the respiratory channel, the food channel (from stomach to large intestine), and the channels responsible for elimination of wastes. Most shrotas, however, are tiny channels through which the entire activity of the body flows – immune defense units, biochemical messengers, waste materials, oxygen, nutrients, and the subtle form of biological intelligence known as prana. The shrotas provide the infrastructure for the flow of the dynamic processes that make up the body. Shrotas carry the dhatus (tissues of the body) undergoing transformation to their destination.

From Ahara Rasa (nutritive essence of food) begins the sequential assimilation of nourishment of each of the seven Dhatus (Rasa – plasma; Rakta – blood; Mamsa – muscle; Meda – fat; Asthi – bone; Majja – bone marrow, nervous tissue; Shukra – reproductive tissue), by means of corresponding Agni (process of metabolism and transformation) for each Dhatu , through specific channels (shrotas) for that Dhatu. The nourishment of the seven Dhatus leads to the production of Ojas (final and most refined product of digestion and metabolism) and Soma (unifying value of intelligence, connecting body and mind, physical existence and consciousness).

In Ayurveda 13 specific channels of nutriment are mentioned. Marmas function as trigger points for regulating the movement of energy through these channels. They are closely connected to the anatomical structures, organs and orifices through which these channels flow.

Among 13 Shrotas, the Pranavaha Shrotas are counted first.

- Pranavaha Shrotas (respiratory system) consist of the channels that carry or convey Prana. Its origin is the heart and gastrointestinal tract. Prana is not only absorbed through the lungs but also through the colon and distributed with blood and plasma through the heart. The Talahridaya, Kshipra and Hridaya marmas are connected to it.

Other important Srotas are:

- Annavaha (digestive system) Shrotas consisting of the channels that convey the food. Its origin is in the stomach and the left side of the body. It is known as Mahasrotas, the gastrointestinal tract. Nabhi and Indrabasti are the marmas to the digestive channel.
- Ambuvaha (water metabolism) Shrotas consist of channels that convey water or regulate water metabolism. It governs the assimilation of water and water containing food. Apastam bha and Urvi are the marmas connecting to it.
- Svedavaha (Perspiratory system) Shrotas consist of channels that convey perspiration. Its origin is adipose tissue and hair follicles to which the sebaceous glands are connected. Nila, Manya and Katikataruna marmas are related to these channels.
- Purishavaha (Excretory system) Shrotas consist of channels that convey faeces. Its origin is in the colon and rectum. Guda marma is related to the excretory channels.
- Mutravaha (Urinary system) Shrotas consist of channels that convey urine. Its origin is in the bladder and the kidneys. Vitapa and Lohitaksha marmas are connected to it.
- Rasavaha (Plasma and lymph) Shrotas. The marmas associated with these channels are Kshipra, Stanamula, Lohitaksha, and Amsaphalaka.
- Raktavaha (Blood) Shrotas. The related marmas are Nabhi, Kurpara and Bruhati.
- Mamsavaha (Muscle tissue) Shrotas. Kakshadhara, Ani, and Stanarohita are the marmas connected to this channel.
- Medovaha (Fatty tissue) Shrotas. These channels are related to Guda and Katikataruna marmas.
- Majjavaha (Nerve tissue) Shrotas. Adhipahi, Sthapani, Apalapa, Apastambha, and Shringataka are the marmas connected to these channels.
- Asthivaha (Bone marrow) Shrotas. Kukundara and Manibandha are the marmas of these channels.
- Shukravaha (Reproductive tissue) Shrotas: These channels are connected with Guda, Vitapa, and Gulpha marmas.

Two additional Shrotas are mentioned in women for menstruation (Artavavaha Shrota) and lactation (Stanyavaha Shrota).

Nāḍīs

The word Nadi is derived from the root "nad" or motion. Also nada means sound and nadi is the channel through which vibrations of primordial sounds are traveling. Prana moves through nadi. About 72000 subtle veins, nadis, are passing through the subtle organism, just as the gross veins run through the visible body. Nadis are the subtler lines of direction along which the vital forces go. Each nadi is identified by a point, aperture or orifice on the surface of the body that connects to it. All nadis begin at the root chakra or the base of spine, move parallel to sushumna, and branch out from the sushumna at various places. Each nadi is connected to certain marmas. Through these marmas, we can treat the nadi and insure the proper flow of Prana through it. We can also treat elements, sense and motor organs, and other factors associated with the chakras. Such nadi-marma points are very important. Purification of the nadis is the chief factor in the preliminary stages of Yoga. Their impurity impedes the ascent of Kundalini-śakti and their purity facilitates it. This is the work of pranayama. During asana practice, the flow of Prana through the nadis is stimulated only if the body is relaxed while stretching.

There are 14 principal nadis. Three of them are of special importance: ida, pingala, and sushumna. Ida and pingala are identified with the moon and the sun respectively, running on the left and right side of the spine, changing sides when they cross the chakras and ending in the nostrils. Situated between them is sushumna or madhyama (midle one), stretching through the spine in the cerebro-spinal axis (Merudanda), reaching up to the head. The anterior portion of sushumna passes through the ajna chakra and the posterior portion passes behind the skull, the two portions uniting in the brahmarandra. Inside sushumna flows, when awakened, the śakti (energy) called kundalini. She is likened to a snake, golden and shining. According to Lalita Sahasranama, the sushumna is not one nadi but is made up of three principal yoga nadis, which are the subtlest of the subtle. The outhermost part of the sushumna is the fiery red sushumna, which is beyond the limits of time. Inside it is the lustrous Vajra nadi (rajas - active), also known as Vajrini, which is of the nature of the Sun. Inside the Vajra nadi is the pale Chitra nadi (sattva – pure illumination), also known as Chitrini, which is of the nature of the Moon and nectar – dropping. Chitrini radiates life energy; it is extremely subtle, pure intelligence. Inside the Chitrini nadi is a void called Brahma nadi (passage of awakened Kundalini), which connects to the Brahma Randra. The terminating point of Chitrini nadi is called Brahma Dvara, the door of Brahman, through which Kundalini ascends to her final abode in the Soma chakra within the Sahasrara chakra. The Sushumna and the void are both of the nature of tamas (inertia).

Pingala nadi corresponds to Yamuna, Ida nadi to Ganga and Sushumna nadi to Sarasvati river. Another important nadi is Śankini. She transports the liquid named amrita (nectar), from a mysterious place called "moon" in the upper part of the head to the palate. The amrita rejuvenates the body when kundalini is awakened.

Each chakra has a corresponding nadi that carries its energy to various portions of the body.

- Alambusha nadi – the coccygeal nerves, proceeding from the sacral vertebrae to the uro - genitary organs. It runs from the center of the root chakra towards the tip of the rectum. It provides prana to the organs of elimination. The aperture is the anus. It relates to the Mu - ladhara chakra and to Apana Vayu. The corresponding marma is Guda (anus).

- Kuhu nadi – the pubic nerve of the sacral plexus to the left of the spinal cord. It runs from the base of the spine to the sex chakra and forward to the end of the urethra, to the penis or vagina, supplying prana to the reproductive organs as well as to the urinary organs con - nected to them. Its aperture is the penis or vagina. It is related to Svadhishthana chakra and to Apana Vayu. The corresponding marma is Basti (bladder).

- Viśvodhara nadi – the nerves of the lumbar plexus, between Kuhu and Hasti-jihva ramifying over the lower trunk and limbs. It runs from the base of the spine to the navel chakra and from there throughout the abdomen. It supplies Prana to the digestive system and digestive fire. The aperture is the navel. It relates to Manipura chakra and to Samana Vayu, Pachaka Pitta, Ranjaka Pitta, and Kledaka Kapha. It supports the entire body through the digestive system and Agni. The corresponding marma is Nabhi (navel).

- Varuna nadi – the nerves of the sacral plexus, between Kuhu and Yaśasvani, ramifying over the lower trunk and limbs. It runs from the base of the spine to the heart chakra and from it throughout the entire body. It supplies Prana to the entire body through the respiratory and circulatory systems and the skin. The aperture is the skin. It relates to the Anahata chakra and to Vyana Vayu, Bhrajaka Pitta, and Avalambaka Kapha. This nadi allows for deeper feel ings and knowing of the heart to manifest. The main marma is Hridaya (heart), as well as other marmas in the chest.

- Sarasvati nadi – to the right of Sushumna, stretching up to the tongue (the hypoglossal nerves of the cervical plexus). It runs from the base of the spine to the throat chakra, branch- ing out to the tip of the tongue. It supplies Prana to throat, mouth, tongue, and vocal organs. The aperture is the mouth and throat in general. It relates to Vishuddha chakra, to Udana Vayu, and to Bodhaka Kapha. This nadi, as the name indicates, gives the powers of speech, song, taste, wisdom, and mantra. The corresponding marma is the tip of the tonque which is not one of the classical 107 marmas. A reflex point for the Sarasvati nadi is in the middle of the jaw below the lips. Marmas in the throat region like Nila and Manya relate to it.

- Sushumna nadi – in the central channel of the spinal cord. There is a very fine hole, deep inside the spinal column. Much thin than the width of the hair. Maybe one hundredth of the width of the hair. When the breathing becomes very fine and when the breath flow the same from both nostrils, then that breath is able to pierce through the whole body and en- ergy (Kundalini śakti) is passing through sušumna. Sushumna is sattvic in nature and is acti- vated by the awakening of kundalini or śakti. Otherwise its energy flow is very limited. It runs from the base of the spine to the top of the head, with many nadis branching out from it in the region of the third eye. It energizes the spine, the brain, the nerve tissue, and supports the bone tissue. The aperture is the eyes, specifically the point between the eyes (third eye or Ajna chakra). It collects and distributes the energy of all the nadis, particularly the eight right-left predominant nadis. It is connected to Prana Vayu, Sadhaka Pitta, Tarpaka Kapha, Prana, Tejas, and Ojas. The main marmas associated with it are Sthapani (third eye) and Adhi pati (crown chakra).

The third eye or Ajna Chakra is the origin of six nadis that supply the senses, two for each of the nostrils, eyes and ears.

- Pingala nadi – the right. It branches out from the third eye, goes to the right nostril which is its orifice and supplies prana to it. It also governs the right nasal passage. Pingala has a solar, masculine, heating or pitta energy and is rajasic in quality. It is the driving pranic channel for fiery / Pitta activities of all types, from digestion to critical thinking. It is also related to the root chakra which governs the sense of smell. It supplies energy to the right side of the body, stimulating all the nadis on the right side of the body. The main marma is the right Phana marma. When the sušumna is not awakened, the energy flows through Ida or Pingala nadi alternately. They complement each other in their work. When the prana is balanced and the energy in the solar and lunar nadis is equalized, then kundalini awakens and prana enters Sušumna nadi.

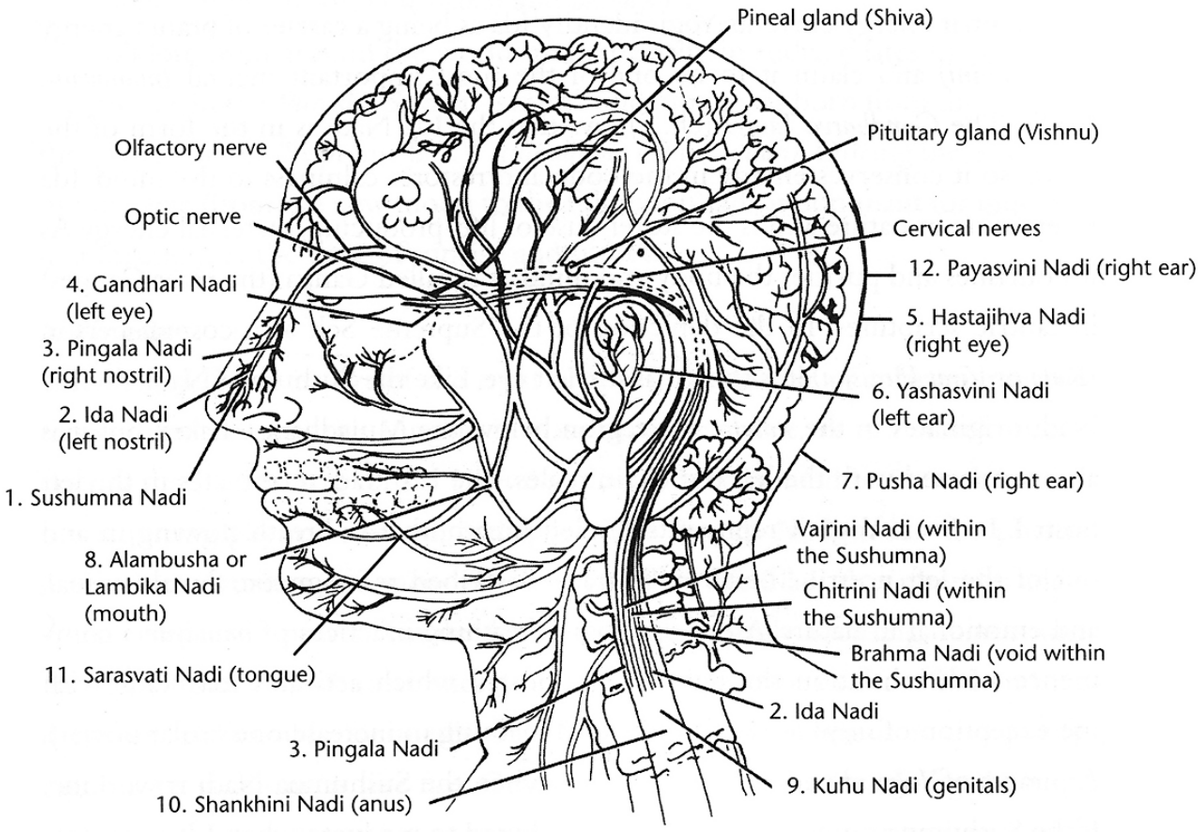
- Ida nadi – the left. It branches out from the third eye, goes to the left nostril which is its orifice and supplies prana to it. It also governs the left nasal passage. Ida nadi runs from under the left nostril to below the left kidney in the form of a bent bow. It has a lunar, feminine, cooling, or kapha energy and is tamasic in quality. Ida nadi is the main prana channel for watery and Kapha functions and regulates tissue development and sleep. It governs inspired or visionary speech. It causes the whole body to be nourished through Prana. It is also re - lated to the root chakra which governs the sense of smell. It supplies energy to the left side of the body, stimulating all the nadis on the left side of the body. The main marma is the left Phana marma.

- Pusha nadi – runs to the back of the right sympathetic chain, stretching from below the corner of the right eye to the abdomen (a connected chain of the cervical and lumbar nerves). It branches out from the third eye, goes to the right eye which is its orifice and supplies Prana to it. It is ruled mainly by Prana as the main power of the senses. It relates to Alochaka Pitta and to the navel chakra which governs the sense of sight. The main marma is the right Apanga marma.

- Gandhari – runs to the back of the left sympathetic chain. It branches out from the third eye, goes to the left eye which is its orifice and supplies prana to it. It is supposed to stretch from below the corner of the left eye to the left leg. It was evidently supposed that some nerves of the cervical plexus came down through the spinal cord and joined on to the gross sciatic nerve of the sacral plexus. It promotes dreaming, imagination and creative vision. It also re - lates to Alochaka Pitta and to the navel chakra which governs the sense of sight. The main marma is the left Apanga marma.

- Payasvini nadi – runs between Pusha and Sarasvati nadis. It branches out from the third eye, goes to the right ear which is its orifice and supplies Prana to it. It also governs the right Eustachian tube. It is connected to the throat chakra which governs the sense of hearing. The main marma is the right Vidhura marma.

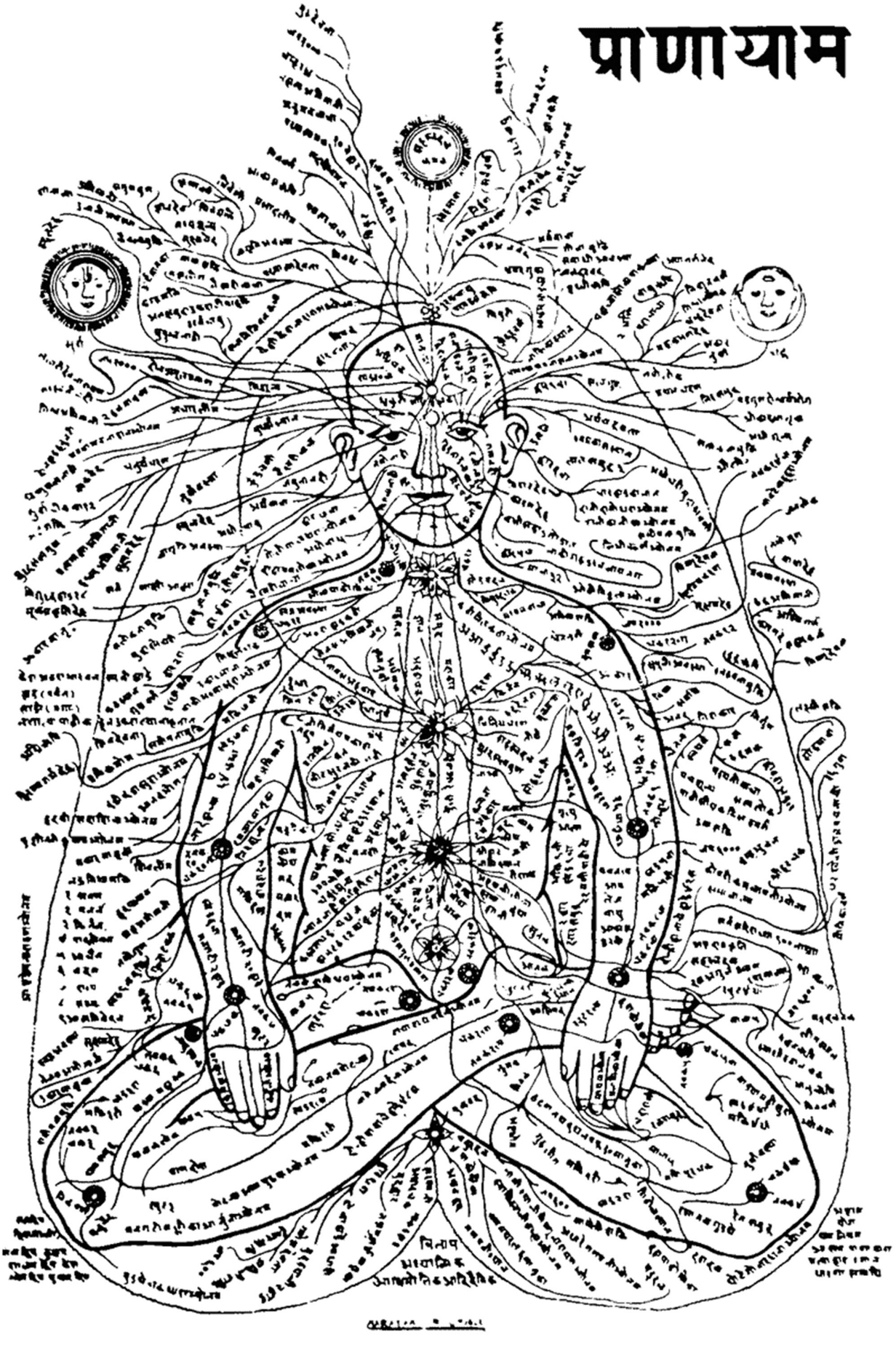
- Śankhini marma – runs between Gandhari and Sarasvati, auricular branch of the cervical plexus on the left. Branches out from the third eye, goes to the left ear which is its orifice and supplies Prana to it. It also governs the left Eustachian tube. It increases faith and makes us receptive to higher devotional influences. It is also connected to the throat chakra which governs the sense of hearing. The main marma is the left Vidhura marma.



Two special nadis supply Prana to the right and left sides of the body and the arms and legs.

- Yaśasvati nadi – runs from the root chakra to the navel chakra where it branches out. It supplies Prana to the right foot and right hand. Its energy comes to a center in the middle of the right hand and foot and from there radiates out to the five fingers or toes, ending primarily in the right thumb and big toe. The apertures are the tips of the right thumb and right big toe. It relates to Vyana Vayu, Bhrajaka Pitta, and Sleshaka Kapha. The main marmas are Kshipra and Talahridaya on the right side of the body on both the hand and the foot. For all the marmas on the right side of the body, it is important to keep the energy flow in this channel clear and constant.

- Hastijihva nadi – runs from root chakra to the navel chakra where it branches out. It supplies Prana to the left foot and left hand. Its energy comes to a center in the middle of the left hand and foot and from there radiates out to the five fingers or toes, ending primarily in the left thumb and big toe. The apertures are the tips of the left thumb and left big toe. It relates to Vyana Vayu, Bhrajaka Pitta, and Sleshaka Kapha. The main marmas are Kshipra and Ta - lahridaya on the left side of the body on both the hand and the foot. For all the marmas on the left side of the body, it is important to keep the energy flow in this channel clear and constant.


प्राणायाम

The Shiva Svarodaya connects nadis with the ten gates as follows:

Sushumna nadi, connected with Brahma Randhra, the tenth gate (fontanel); Ida nadi, the left nostril, connected with the ninth gate; Pingala nadi, the right nostril, connected with the eight gate; Gandhari nadi, the left eye, connected with the seventh gate; Hastijihva nadi, the right eye, connected with the sixt gate; Yashasvina nadi, the left ear, connected with the fifth gate; Pusha nadi, the right ear, connected with the fourth gate; Alambusha nadi, the mouth, connected with the third gate; Kuhu nadi, the genitals, connected with the second gate; Shankhini nadi, the anus, connected with the first gate.

At death, one's vital force exits from one of the ten gates. Most animals leave the body through the first and second gates: they defecate and urinate at the time of death. Most humans leave the body through one of the third to ninth gates, dying with open mouth, bleeding nostrils, open eyes, or droplets of blood coming out the ears. Only yogis leave the body from the tenth gate, the gate of liberation (moksha). This gate is open at the time of birth and is felt as the “soft spot” in a newborn baby's head. After six months it begins to harden, after which it can only be reopened through yogic practices. One who leaves the body from this gate does not come back and is free from the cycle of life and death.

The nadi system which is the subtle nervous system interpenetrates all layers of the koshas and takes the spiritual energy into the koshas. The nadis have ojas as their lining and are the conduit for tejas and prana. The nadis intersect to create the chakras.

Prana, Tejas, Ojas

For Vata, the vital essence is called Prana, for Pitta it is called Tejas, and for Kapha, it is called Ojas. Prana, Tejas, and Ojas are energies more connected to the subtle and causal bodies. In essence, proper balance and energizing of these vital essences creates positive life force. Prana can be considered the basic vital life force energy. It is subtle energy of air and ether and is the guiding energy behind the psycho-physiological functions and the coordination of breath, senses, and mind. Tejas is the inner radiance or inner fire, pure intelligence or essence. It is also deeply associated with the fire Kundalini. On an inner level it energizes and governs higher perceptual capacities. Ojas is the subtle energy of water and earth. It is primal vigor. Ojas is the final and most refined product of digestion and metabolism. It sustains life, health, contentment, and strength. Ojas is the physical expression of Soma, the unifying value of intelligence which connects body and mind, physical existence and consciousness. Ojas is the essence of the tissues of the body, ending with Shukra (reproductive tissue). Though located in the heart, it pervades all over the body and regulates the working of the body. It is viscous (unctuous, greasy), of the nature of Soma, clear (transparent), and slightly reddish in color. The life force (Prana) owes its existence to it. Soma or Samhita of consciousness appears as Ojas in the structure of the physiology. Ojas is to Vata, Pitta, and Kapha as Samhita is to Rishi, Devata and Chhandas. Balanced Kapha is known as Bal Ojas, imbalanced Kapha is known as Mala (waste matter, impurity).

Prana, Tejas and Ojas need to be balanced. Our physical and subtle physical foundations and their balance, depends on the strength of ojas. Tejas is the heat and light energy of Ojas. Prana is the energy that radiates from Ojas after it has been set on fire by Tejas. Tejas can also be understood as the fire of the Divine or Kundalini. When sufficient Ojas is available, it is set on subtle fire by the en-

ergy of Tejas or Kundalini. As Tejas moves through the nadis, it creates a spiritual heat which people often feel when the Kundalini is awakened. The burning of ojas by Tejas activates and amplifies the energy of Prana. If we do not have enough Ojas, the fire of Kundalini can burn up the nadis. Prana, much like the wind blowing on a fire, also increases the flame of Tejas burning Ojas. Prana comes from practice of pranayama and asana. The key thing is to protect and build Ojas, so as Prana and Tejas increase, we do not burn up the nadis.

Marma

Marmas are fundamental junction points (sandhis) of the physiology, which are actually the junction points between consciousness and matter. Although the junction point between consciousness and matter can be found at any location in the body, it is at the marma points that this conection is most readily available. Marmas are the cosmic switchboards in the human physiology. Marma is the seat of life. The result of the balanced enlivement of marmas is integration of consciousness and physiology, throughout the body, resulting in completely integrated physiological functioning. The chakras are the energy source for the marmas. Marmas give direction for projecting energy from the chakras. Marmas are sensitive regions that develop from the nadis. They distribute Prana from the chakras and the nadis throughout the body as a whole. The marmas are spread throughout the seven layers of the body. Marmas are the communication mechanism that unites the individual with the cosmos. Marmas are the seat of prana. There are 107 marmas classified in the following regions of the body: 44 in the upper and lower limbs, 3 in the abdomen, 9 in the thorax, 14 in the back and the trunk, and 37 in the head and neck. Structurally marmas are subdivided as follows: 10 are muscular, 23 are tendons/ligaments, 20 are joints, 9 are arteries, 37 are veins 37, and 8 are bones. Vagbhata Samhita (classical Ayurvedic text) defines that Marmas are those points which are painful, severely tender, and having abnormal pulsation. These points are considered the seats of life or the vital points. Marma points are positions on the body where flesh, veins, arteries, tendons, bones, and joints meet. They may be seen as the junctions where Vata, Pitta and Kapha meet, where Sattva, Rajas and Tamas meet, where the Absolute (consciousness) and relativity (body) meet, and where knower (Rishi), process of knowing (devata) and known (Chandas) meet in togetherness (Samhita). Marmas represent gaps in the physiology, they are the expressions of Samhita (wholeness of pure consciousness – the 108th marma which is omnipresent), the full value of Pure Intelligence that regulates life of the human body and the entire universe.

Marmas exist at the junction of the unmanifest and the manifest, finer than the material out of which our bodies are constructed, finer than the cellular level, the molecular level, or the atomic level. The symbol of the triangle is again represented in the tridosha: vata, pitta, kapha. The tridosha is the balance of energy forces that coordinate and organize physiological and biochemical activities. The system that regulates the flow of information and energy through the three doshas is the system of the marmas. If there is a blockage in the marmas, imbalance occurs in the tridosha. Every marma is related to these tridosha forces in the body. Clearing the marmas balances the doshas and opens the channels of nourishment and information to the seven layers of the body.

Seven marma layers

The seven layers of the body build the material construction of the body according to the way in which the individual doshas reflect the principles of the five great elements. The seven marma layers are:

1. Arterial marma refers to the vessels carrying rich red blood to deliver oxygen and nutrients (vascular system essential in building healthy new cells).
2. Venous marma refers to the vessels carrying blood from the capillaries to the heart (vascular system of cleansing to remove old cells and toxins).
3. Nerve tissue marma refers to the network of filaments conducting the activity of the nervous system. It allows the pranic energy to pass through every part of the body and creates elec trochemical balance.
4. Lymph and plasma marma refers to the fluids of the body which carry food to all the organs, tissues, and bodily systems. It relates to the nourishing liquid that also bathes the cells and the lymph system that balances body temperature and supports the nervous system.
5. Flesh marma refers to the muscle fibres, ligaments, tendons, and fat. It protects and insulates the internal organs and tissues while maintaining the body's strength and ability to move.
6. Joint marma refers to the areas wherever bones come in contact with each other. It provides flexibility of movement and expression.
7. Bone and marrow marma refers to the bone structure which supports the weight of the body and also the soft matter within the bone structures, including the marrow, spinal cord, and the brain itself. Together they provide the framework of the body and the structure for con - sciousness.

As nourishment passes through the body, each of these layers extracts the food for its own uses and then prepares the conditions for its consumption by the next layer in the series. Each layer organizes different functions of the body and then, in turn, gives rise to the normal functioning of the next layer. In a healthy body, each layer supports and nourishes the next. If the marmas are out of balance, that imbalance will carry through to the seven layers and the material body will be constructed with inherent weaknesses. When marma blockages weaken one layer, successive layers fail to get the energy and information they need and weaken in turn. Imbalance in the three doshas inhibits the work of the seven layers and thus creates dysfunction in the five organs (brain, lungs, intestines, kidneys, heart).

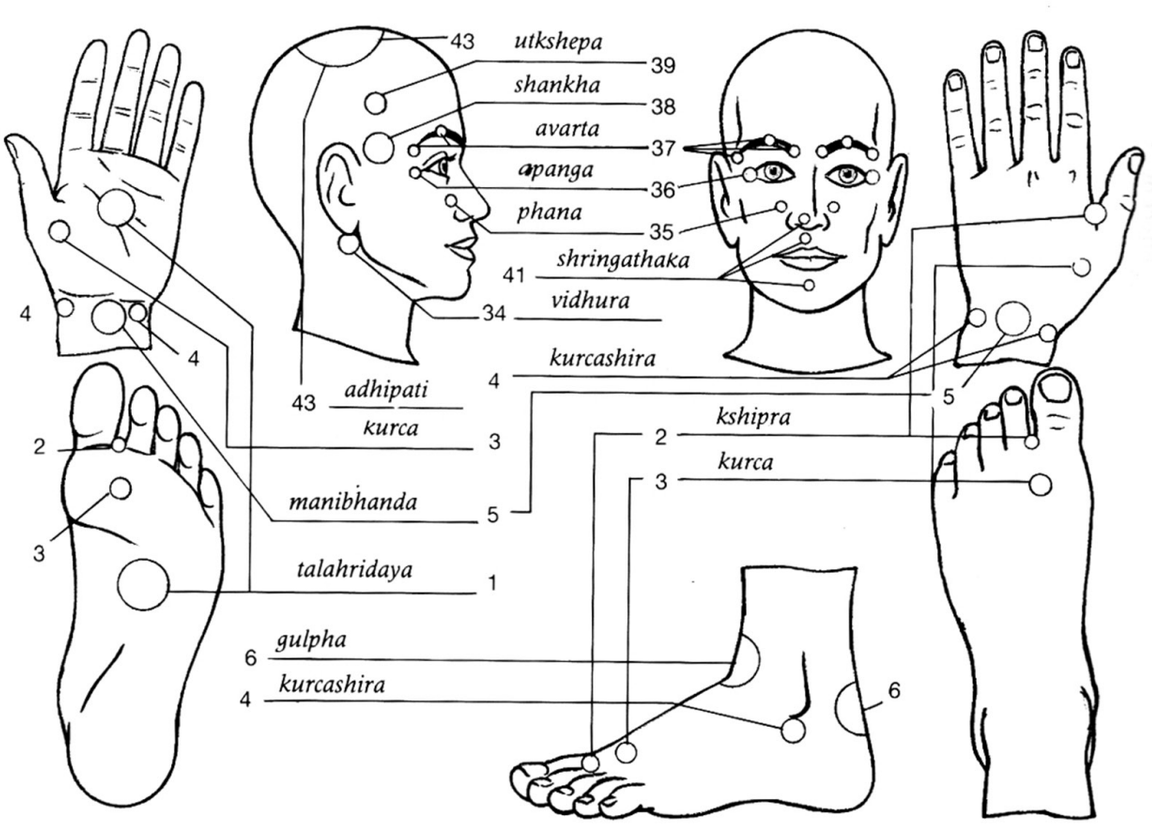
Marma points

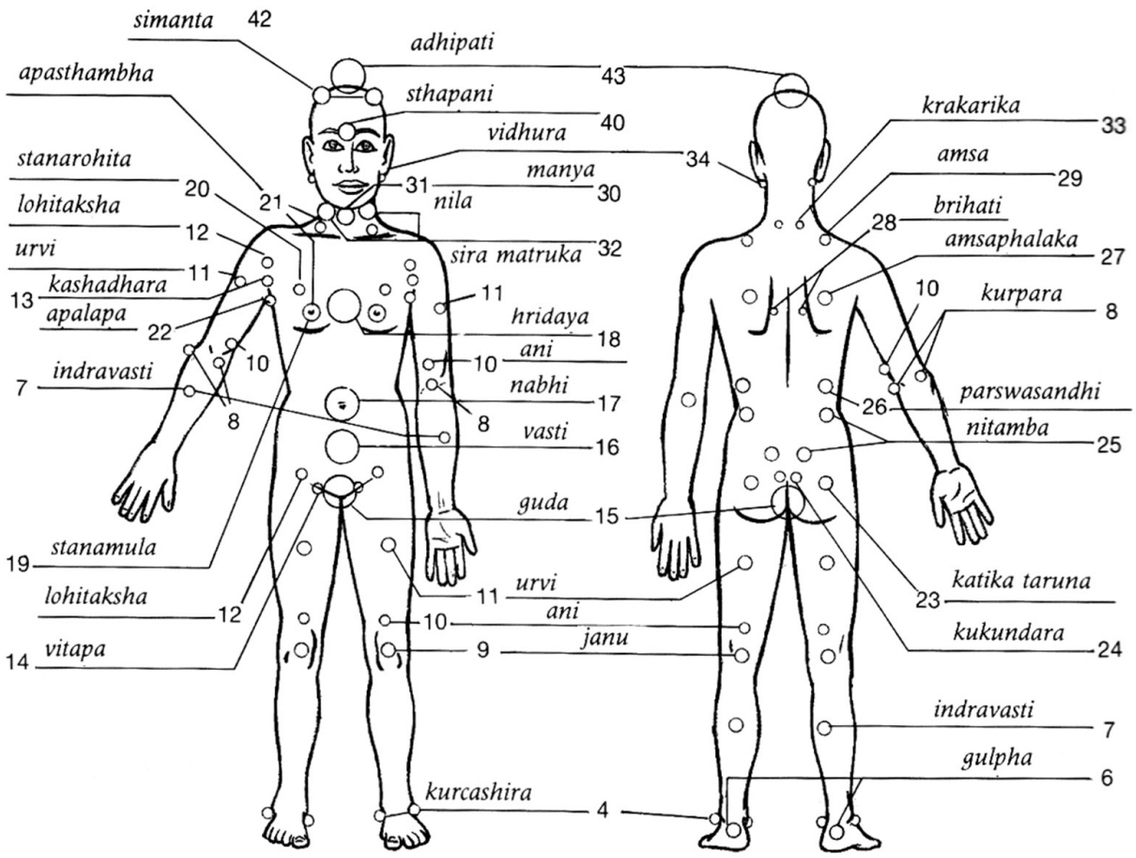
Marma points on the body are like sources of water supplying life to the surrounding area. The sources are getting water from the unseen lakes or reservoirs of water within the mountain. These reservoirs of vital energy are called chakras and through nadis (stream of water from a reservoir to the source of water on the surface of the earth), the vital energy (prana) is supplied to the marmas. There are 108 marmas. Pure transcendental consciousness (Samhita) represents the unmanifest (first) marma from which spring forth the other 107 marmas of the human body. Marma points represent the cosmic switch board from which it is possible to influence any level of life. Marma points connect all the different levels of the expression of the human body and its connectedness with consciousness. Marma points represent the perfect network of communication between cosmic intelligence and any specific intelligence governing any activity of our body. The marma network has a vertical and a horizontal structure, creating all possibilities of communication. Marmas are like the crossing points between the lines of the triangles in Shri Yantra.

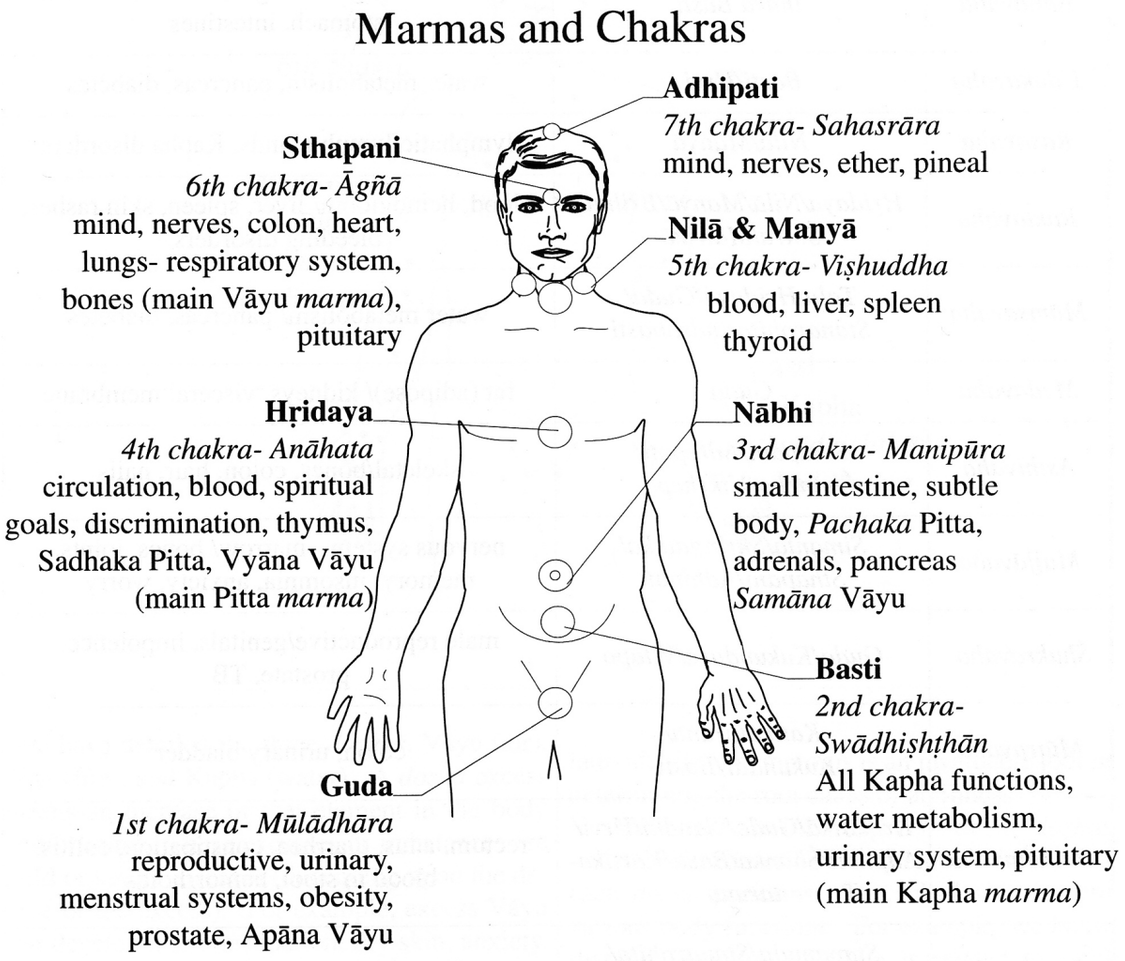
Eighteen yogic marma regions and the main corresponding marmas

Maharishi Vasistha mentions eighteen Marmas (vital points) of the body giving also the vertical distance of one vital point from the preceding one:

1. The toes are the starting point. Kshipra marma.
2. The ankles: one finger unit (angula) from the big toes. Gulpha (ankle) marma.
3. The middle of the calf: ten finger units from the ankle. Indrabasti marma
4. The root of the knee (upper end of the shin – Tibal tuberosity): eleven finger units from the middle of the calf. This marma is not one of the classical 107, but can also be used.
5. The center of the knee: two finger units from the root of the knee. Janu marma.
6. The middle of the thigh: From the knee to the middle of the thigh, nine finger units. Urvi marma.
7. Bottom of the anus: From the middle of the thigh to the root of the anus, nine finger units.
8. Guda marma.
9. The middle of the body: From the root of the anus to the middle of the body, two and a half finger units. Kukundara and Nitamba marmas.
10. The root of the urethra (penis): From the middle of the hip to the root of the urethra (penis), two finger units. Vitapa marma.
11. The navel: From the root of the urethra (penis) to the navel, ten and a half finger units. Nabhi (navel) marma.
12. The center of the heart: From the navel to the middle of the heart, fourteen finger units.
13. Hridaya (heart) marma.
14. The base of the throat (Jugular notch): six finger units from the middle of the heart. Nila marma.
15. The root of the tongue: From the root of the throat to the root of the tongue, four finger units. Shringataka marma.
16. The root of the nose: From the root of the tongue to the root of the nose, four finger units
17. This marma is not one of the classical 107, but control of it can be related to Phana marma by the nostrils at the base of the nose.
18. The region of the eyes: From the root of the nose to the eyes, one-half finger units. Apanga marma.
19. The middle of the brows: From there to the middle of the brows is one-half finger unit. Sthapani marma.
20. The center of the forehead. From the middle of the brows to the center of the forehead, three finger units. The marma point here is not one of the classical 107 but is still very useful.
21. The top of the head: From the middle of the forehead to the top of the head, three finger units. Adhipati marma.


43 utkshepa
39
shankha
38
avarta
37
apanga
36
phana
35
41 shringathaka
34 vidhura
4
4
43 adhipati
kurca
3
2
3
manibhanda
5
talahridaya
1
4 kurcashira
5
2 kshipra
3 kurca
6 gulpha
4 kurcashira
6


simanta 42
adhipati
43
apasthambha
sthapani
40
vidhura
34
manya
31
nila
30
stanarohita
20
21
lohitaksha
12
urvi
11
13 kashadhara
apalapa
22
sira matruka
32
11
hridaya
18
10
ani
10
7 indravasti
nabhi
17
8
8
vasti
16
guda
15
19 stanamula
lohitaksha
12
14 vitapa
11 urvi
10 ani
9 janu
kurcashira
4
krakarika
33
amsa
29
28 brihati
amsaphalaka
27
10 kurpara
8
parswasandhi
26
nitamba
25
23 katika taruna
kukundara
24
indravasti
7
gulpha
6



These eighteen marma regions include the points for seven chakras, the root of the anus (Muladhara), the root of the urethra (Svadishthana), the navel (Manipura), the heart (Anahata), the root of the throat (Vishuddha), the middle of the brows (Ajna) and the top of the head. The regions of the eyes, the root of the nose and the root of the tongue, as well as the middle of the brows relate to the third eye or Ajna chakra. Similarly, the point on the forehead relates to the crown chakra. The point at the root of the tongue is an important meditation place and gives control over Soma or amrit.

These marma regions also relate to the fourteen nadis or channels through which vital energy (prana) flows. The root of the anus relates to Alambusha nadi. The root of the urethra relates to Kuhu nadi. The navel relates to Vishvodhara nadi. The heart relates to Varuna nadi. The root of the tongue relates to the Sarasvati nadi. The top of the head relates to the Sushumna nadi. The eyes relate to the Pusha and Gandhari nadis. The marmas along the legs relate to the Hastijihva (right side) and Yashasvati (left-side) nadis.

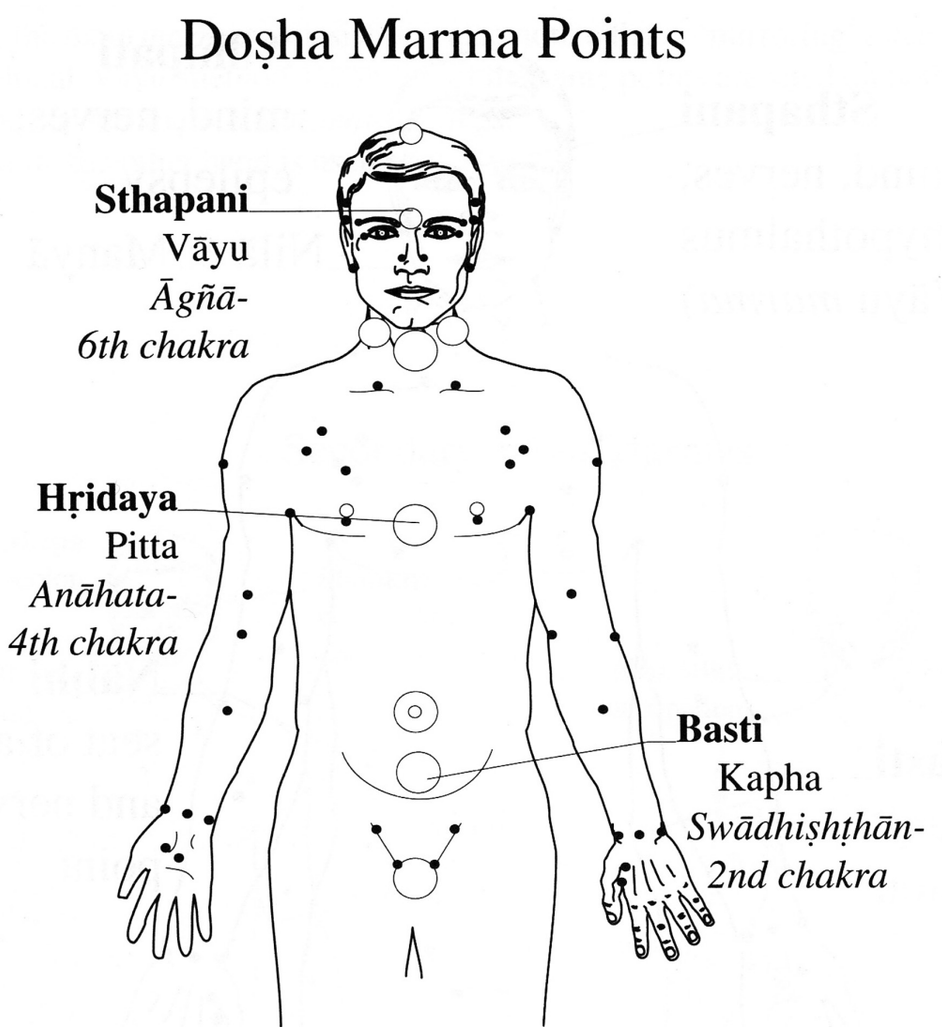
Marmas, regions of the body, and the five elements

The body can be divided into five regions relative to the five elements. We can treat the elements in the body according to the marmas in the area that relates to them.

1. Marmas in the region from the feet to the knees belong to the Earth element. Key marma: Talahridaya on the feet.
2. Marmas in the region from the knees to the anus belong to the Water element. Key marma: Urvi marma on the middle of the thighs.
3. Marmas in the region from the anus to the heart belong to the Fire element. Key marma: Nabhi (navel) marma on the navel.
4. Marmas in the region from the heart to the middle of the eyebrows belong to the Air ele - ment. Key marma: Phana marma on the nostrils.
5. Marmas in the region from the middle of the eyebrows to the top of the head belong to the Ether element. Key marma: Adhipati marma on the head.

Marmas in the light of Maharishi Vedic Science

Three of the seven marmas associated with the Chakras relate specifically to the three doshas and are considered the primary marmas. They are also referred to as the three Maha-Marmas. They are located in the head (Shira marma), heart (Hridaya marma), and region of the urinary bladder (Basti marma). These three principal marmas are related to rishi, devata, and chhandas respectively. Marmas should be enlivened in such a way as to create balance among rishi, devata and chhandas, as represented in the three mahamarmas. Creating balance in this way means enlivening the samhita of rishi, devata and chhandas, throughout the physiology. Marmas are enlivened on the level of touch. This can be either on a gross level of physical touch, or on the fine feeling level, the level of consciousness. Injury to the marmas, resulting in imbalances, could be on a physical or feeling level. Injury to the marmas on a feeling level will always be possible as long as the whole range of knowledge, the field of all possibilities, is unavailable on either the understanding or feeling level. The essence of marma therapy is the elimination of pragyaparadha, which gives the individual the ability to reconcile opposite values. Elimination of pragyaparadha occurs at the level of the primordial marma, the junction point between samhita and rishi, devata and chhandas, between unity and diversity. Marma therapy works on the level of relationship, the junction point or gap between different elements. Any marma, any gap represents self-interacting dynamics of nature and is, therefore, connected to the whole. So working on the level of any marma allows us to gain acces to the primordial marma, the relationship between unity and diversity, and to create balance there. Marma therapy is therefore called “samhita therapy”. Lack of perfect expression of self-interacting dynamics within the physiology expresses itself as blocks at the level of marmas. These blocks are due to lack of connectedness between consciousness and physiology at these points. These blocks prevent the free flow of bliss through the physiology, disallowing the samhita of rishi, devata and chhandas from fully becoming its own physiology. Marma therapy is a method of hastening the dissolution of these blocks. Transcendental Meditation, TM-sidhi programe, pranayama and asana practice are powerful approach to enlivening the marmas on the fine feeling level, at the level of self-interacting dynamics of consciousness.



Pratyahara practice on marma points

The main aspect of Yoga practice that actively considers the use of marmas is the practice of Pratyahara, which is the fifth limb of Yoga. Pratyahara mediates between the outer factors of Yoga, including Asana and Pranayama and the inner factors of Yoga which mainly consist of meditation. Pratyahara is the door between the outer and inner factors of Yoga that allows us to turn our attention inward.

Pratyahara literally means withdrawal, like a turtle withdrawing into its shell. It refers to various 'internalization' exercises designed to control the senses and motor organs and introvert the mind. We can understand the relevance of marmas and Pratyahara when we consider marmas as control points, through which Prana and the various organs of the body can be worked on. Each marma point has various organs, systems, senses, nadis and chakras that it rules over. By working on that particular marma, we can control or affect these factors in various therapeutic manners.

The great yogic text, Vasishta Samhita, contains an important section explaining the use of specific marmas for the practice of Pratyahara. Drawing the Prana from each of these places is said to be the best form of Pratyahara.

Below is a description of Pratyahara practice, using marma points, as prescribed by the Yogic teaching of Vasishta Samhita. Chapter 3 verse 74 states: "*One should concentrate the air (Prana) on these spots after pulling (drawing) it from each and every place and imposing it by mind. This is supposed to be the best Pratyahara*". To do this practice, carefully follow the following method, using inhalation and exhalation at each marma region, much like flexing and relaxing of muscles. During inhale create a mental picture of certain part of the body. Increase your awareness by feeling internally that area. During exhaling mentally develop a state of relaxation, heaviness, and sinking into that particular spot.

1. Direct your attention to your toes. On inhalation, gather your energy there. On exhalation, release it. Feel this region of your body energized, healed and relaxed.
2. Move your attention to your ankles. On inhalation, gather your energy there. On exhalation, release it. Feel this region of your body energized, healed and relaxed.
3. Move your attention to the middle of your calves. On inhalation, gather your energy there. On exhalation, release it. Feel this region of your body energized, healed and relaxed.
4. Move your attention to the base of your knees. On inhalation, gather your energy there. On exhalation, release it. Feel this region of your body energized, healed and relaxed.
5. Move your attention to the middle of your knees. On inhalation, gather your energy there. On exhalation, release it. Feel this region of your body energized, healed and relaxed.
6. Move your attention to the middle of your thighs. On inhalation, gather your energy there. On exhalation, release it. Feel this region of your body energized, healed and relaxed.
7. Move your attention to the root of your anus. On inhalation, gather your energy there. On exhalation, release it. Feel this region of your body energized, healed and relaxed.
8. Move your attention to the middle of your hips. On inhalation, gather your energy there. On exhalation, release it. Feel this region of your body energized, healed and relaxed.
9. Move your attention to the root of your urethra. On inhalation, gather your energy there. On exhalation, release it. Feel this region of your body energized, healed and relaxed.
10. Move your attention to your navel. On inhalation, gather your energy there. On exhalation, release it. Feel this region of your body energized, healed and relaxed.
11. Move your attention to your heart. On inhalation, gather your energy there. On exhalation, release it. Feel this region of your body energized, healed and relaxed.
12. Move your attention to the root of your throat. On inhalation, gather your energy there. On exhalation, release it. Feel this region of your body energized, healed and relaxed.
13. Move your attention to the root of your tongue. On inhalation, gather your energy there. On exhalation, release it. Feel this region of your body energized, healed and relaxed.
14. Move your attention to the root of your nose. On inhalation, gather your energy there. On exhalation, release it. Feel this region of your body energized, healed and relaxed.
15. Move your attention to your eyes. On inhalation, gather your energy there. On exhalation, release it. Feel this region of your body energized, healed and relaxed.
16. Move your attention to the point between your brows. On inhalation, gather your energy there. On exhalation, release it. Feel this region of your body energized, healed and relaxed.
17. Move your attention to the middle of your forehead. On inhalation, gather your energy there. On exhalation, release it. Feel this region of your body energized, healed and relaxed.
18. Move your attention to the top of the head. On inhalation, gather your energy there. On exhalation, release it. Feel this region of your body energized, healed and relaxed.

In this practice one concentrates both mind and Prana in each of these regions starting with the feet. Gather your attention from one marma region to another like climbing a series of steps from the bottom of the body to the top of the body. Finally, you can hold your awareness at the top of the head in the space of the Supreme Self beyond birth and death and all suffering. However, you can also direct your breath and attention to any of these marma sites to heal that area or for specific therapeutic purposes. You can also use mantra while focusing attention to specific marma. Mantra is not only used for spiritual purposes but has a wide application for healing purposes. Mantra therapy, Mantra Chikitsa, is widely used in all aspects of Ayurveda. Mantras have a special application to energize and protect marma points. Mantras can create a protective covering or armor (kavacha) at a psychic or pranic level. They also facilitate the flow of Prana through the marma region which can be directed by our energy of attention. Many mantras can be used for this purpose. The Mantra Purusha which correlates the different root sounds of the Sanskrit alphabet to the various parts of the body, can also be used for this purpose.

Marmas and Hatha Yoga

The main purpose of asana, pranayama, bandha and mudra is to establish purification of energy channels for free movement of Prana. During the practice of yoga asanas and bandhas we are directly influencing marmas by stretching the marma area, compressing, pressing, massaging, relaxing, twisting, etc. As many marmas are located in the joints, asanas help keep the marmas clear and energized. Therefore, it is important for an effective asana practice to consider the condition of the different marmic centers in the body, aiming at bringing better circulation to those marma regions that are stiff or tense. Marmas that are sore indicate the need to exercise the surrounding muscles and joints properly.

Sitting poses in general, but particularly the lotus pose (padmasana), serve to close and protect the marmas for the practice of meditation and for internalization of our energies of Prana and mind. The bound lotus position (baddha-padmasana) in particular is a pose for locking and holding marma energy at an internal level.

Twists are generally excellent for unlocking marma energy. Twists improve the flow of Prana through the nadis, particularly for marmas in the back, hips, and shoulders. Standing and extending poses (like trikonasana, virabhadrasana, parsvakonasana, or padangusthasana) serve to open and expand the marma system, connecting it with external sources of Prana and vitality.

Backward bends (like ustrasana and urdhva dhanurasana) generally open the marmas located on the chest and the front of the body and can strongly stimulate marma energy. Poses that bring the chest forward like upward facing dog and the cobra (urdhva mukhasvanasana and bhujangasana) are also good for stimulating marmas in the chest.

Practices like Uddiyana bandha and Nauli, which aim at opening up the solar plexus, are excellent for the marmas in the stomach region and for regulating Pitta in that area of the body. Practices like Mulabandha which seal the energy in the root chakra, are excellent for marmas at the base of the spine and for regulating Vata in that area of the body. Practices like Jalandhara bandha and the more basic practice of Ujjayi Pranayama are excellent for marmas in the throat region and for regulating Kapha in that area of the body.

Inverted poses aid in the stimulation of marmas in the head and upper region of the body, depending upon the nature of the inversion. The headstand is very powerful for marmas in the head. The

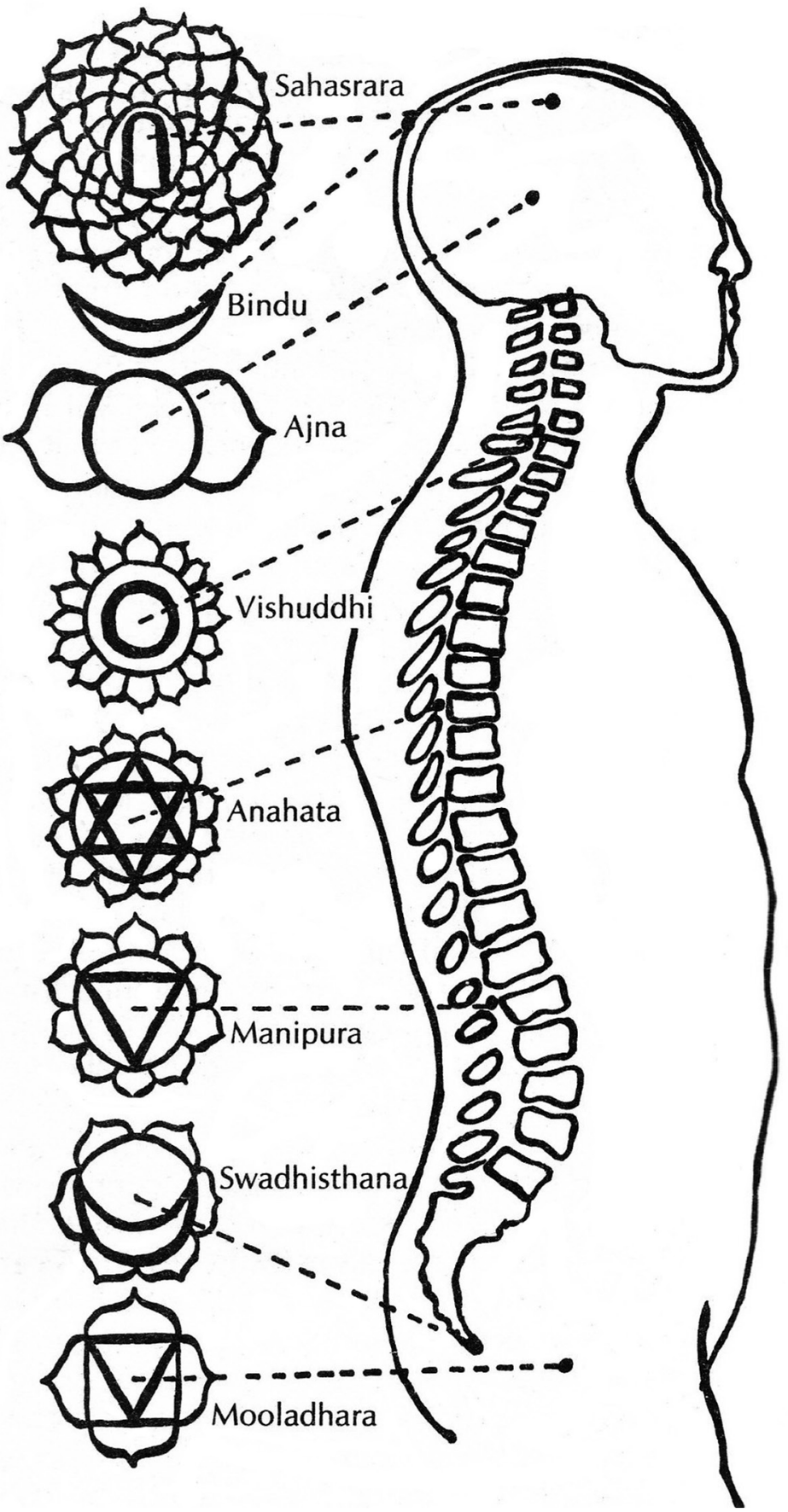
shoulder stand is excellent for marmas in the neck. Naturally, one must prepare for these poses properly, particularly for the headstand. Through Pranayama we increase the flow of Prana through the chakras, nadis and marmas. The marma points are also strongly influenced and enlivened during meditation.

Here is a list of marmas and the "yogic action" on them during the practice of yoga asanas:

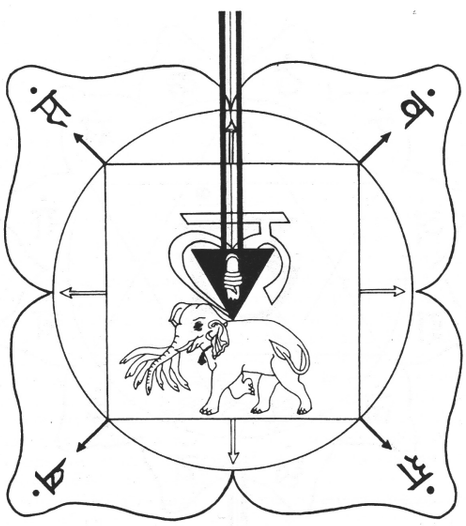
Talahridaya – stretch: increase height of the arch of the foot. During relaxation deepen the hollow; Kshipra – keep thumb and index finger together when hands are in air, stretch when hands are on the floor. Keep space between big toe and second toe; Kurca – press towards the floor to maintain stability; Kurcasira – increase depression to maintain space between the wrist and hand, as well as ankle and foot; Manibandha – rotate wrist to maintain alignment and strength; Gulpha – extend and make firm; Indrabasti – stretch lower muscle insertions; Kurpara – stretch, keep firm; Janu – stretch, keep firm; Ani – stretch; Urvi – stretch; Lohitaksha – soften when armpit and groin are closed, extend when armpit and groin is exposed; Kakshadhara – soften when armpit is closed, extend when armpit is exposed; Vitapa – draw in when groin is closed, extend when it is open; Guda – tighten and draw buttocks together; Basti – draw back and lift; Nabhi – draw back and lift; Hridaya – lift and project; Sthanamula – lift and project; Sthanarohita lift and open outwards; Apastambha – lift; Apalapa – open outward drawing shoulders back; Katikataruna – lengthen muscles towards legs and rotate the legs; Kukundara – press the coccyx in; Nitamba – contract muscle to keep erect; Parsva sandhi – press to stimulate kidneys; Amsaphalaka – press towards the ribcage for supporting the chest; Brihati – press in to make thoracic spine concave; Amsa – draw down and press in; Manya – lengthen; Nila – relax and stretch the back of neck (jalandhara bandha); Matrika – stretch; Krikatika – stretch and press; Vidhura – lengthen and draw back; Phana – relax; Apanga – relax; Avarta – draw back and keep leveled; Shankha – relax; Utkshepa relax; Sthapani – relax; Shringataka – relax; Simanta – relax; Adhipati – relax.

Chakras – "Wheels"

Chakras are the mile stones on the path of kundalini. Kundalini is the symbol of life force that is present in each living being. Higher states of consciousness depend on how much this kundalini is awake. Chakras (whirlpools of vital energy – vortexes) are in the middle core of the body, situated along the spine in pranamaya kosha. Chakras are the subtle centers of the gross region of the body. They are centers of Consciousness in terms of an extremely subtle force (Śakti). But the gross regions which are built up by their coarse vibrations are subject to their influence. Chakras are sometimes loosely and inaccurately identified with these gross regions. They have been said to be various plexuses in the trunk of the body, as well as the lower cerebral centers. The Chakras are characterized by a certain number of petals that become visible during yogic exercises, especially when kundalini passes through them on her way through sušumna. When the passage of kundalini is free and when she moves then each Chakra turns upward. The petals of the Chakra turn upward. By the time all the six Chakras open up, the whole passage is clear. The kundalini then comes to Sahasrara Chakra, resides there and gives clearer experience of Being – Pure Consciousness. That state of awareness is then it is called enlightenment. The associated system of practice is called Laya Yoga. Laya means absorption. Kundalini finds its absorption in all chakras and eventually in the cortex, the thousand petaled - lotus. This method of Laya (absorption) of the gross into the subtle is the reverse process of the microcosmic creation. Kundalini begins by manifesting the tattvas in the body, and when that work is done, she comes to rest in muladhara chakra, corresponding to the earth element. In Laya Yoga this process of creation is "reversed", in order to bring consciousness back to the subtle and ultimately to experience unmanifest Being.

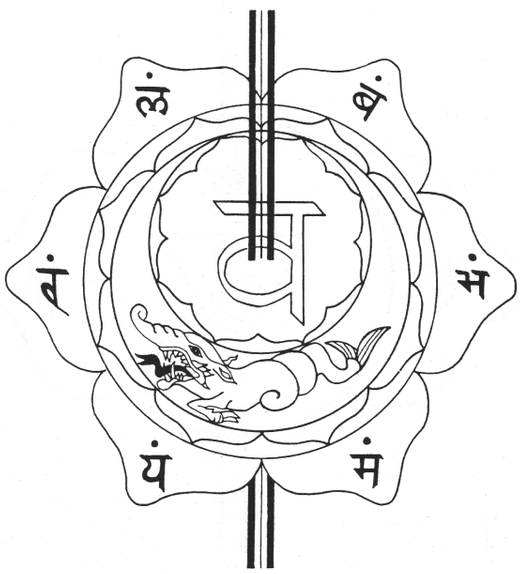

Sahasrara
Bindu
Ajna
Vishuddhi
Anahata
Manipura
Swadhisthana
Mooladhara

Mūlādhāra Chakra



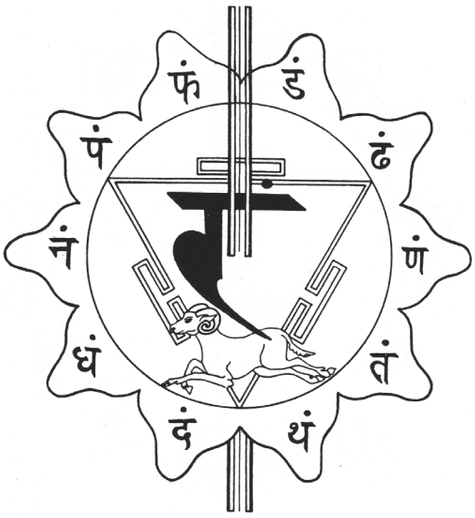
Mūlādhāra (root) Chakra is situated in the perineum (prostate gland) at the base of the spinal column between the genitals and the anus and is correlated to lower sacral plexus and controls functions of the uterus, bladder, rectum and testicles. In its centre is a luminous triangle where Kandarpa Vayu (an aspect of Apana Vayu) roams. From there Sushumna and all the Nadis originate. The element (tattva) associated with Mūlādhāra is "earth" and the nose is its sense organ. The number of rays of the tattva is 56. It is the foundation of Anna-maya kosha. The bija mantra is Laṁ.

Swādhiṣṭhāna Chakra



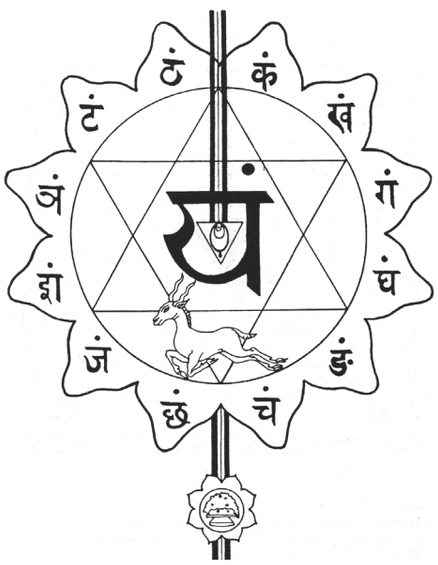
Swādhiṣṭhāna (sacrum) Chakra is known as the sex centre. It is in close correlation with the upper hypogastric plexus. Its element is water and it is related to the tongue organ. The number of rays of the tattva is 62. Its location is at the root of genitals (above Kanda and below Nabhi) or between the upper sacral and lower lumbar plexus. It controls the functions of the colon and ovarian glands. This centre stores the impressions left by past thoughts and actions, as well as the seeds of future actions in accordance with the law of causation. The bija mantra is Vaṁ.

Maṇipūra Chakra



Maṇipūra (solar plexus) Chakra is located at the ganglian plexus derived from the thoracic lumbar. It activates digestion, the liver, spleen, pancreas, and adrenals. It stimulates the umbilicus. The red triangle mandala contains the primordial element of fire. The number of rays of tattva is 52 and it is related to eyes (vision). Manipura is the solar centre of the pranic body. It is the connection between Anna-maya kosha and Prana-maya kosha. Its bija mantra is Raṁ.

Anāhata Chakra



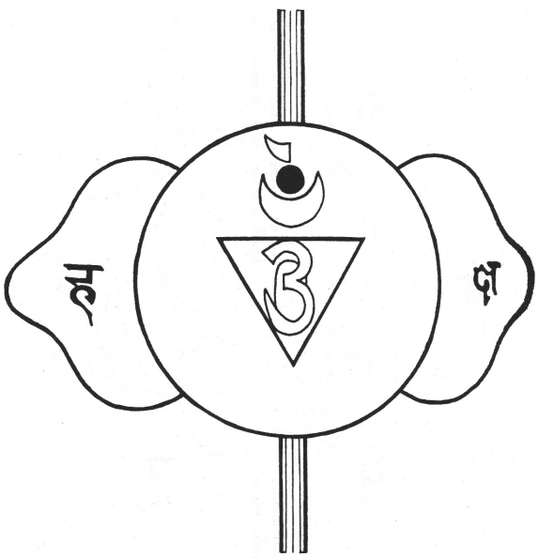
Anāhata (heart) Chakra activates the thoracic plexus and respiratory system. It is correlated with the cardio pulmonary plexus. Its element is air (wind) and the sense organ is the skin (touch). The number of rays of the tattva is 54. The word chitta in the Yogasutra means mind. The mind is present twelve angulas above the navel in the region of the heart (anahata chakra). The mind exists in that location like a bindu, like a pearl of light. Prana, individual self, and the Divine all exist there. To know this, the fluctuations of the mind must settle (citta vrtti nirodha). Anahata chakra is the foundation of Mano-maya kosha. Its bija mantra is Yaṁ.

Viśuddha Chakra



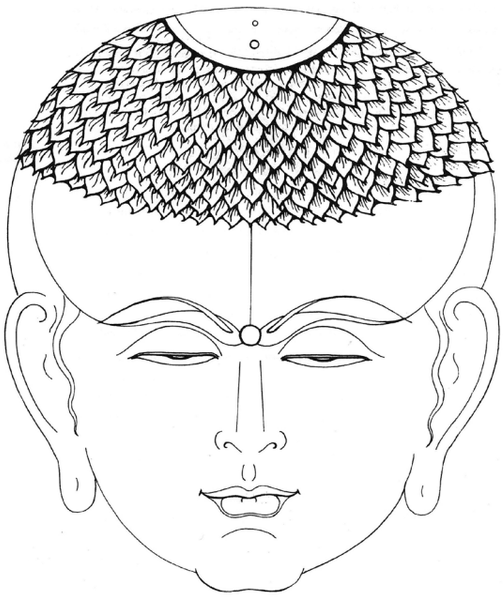
Viśuddha (throat) Chakra is connected to the thyroid and parathyroid glands, as well as the cervical plexus. Its element is ether and its sense organ is the ears. The number of rays of this tattva is 72. It is the foundation of Vijnana-maya kosha. It governs Udana vayu and its bija mantra is Haṁ.

Ājñā Chakra



Ājñā (inner eye) Chakra is connected to the pituitary gland and the sub-cortical structures of mid brain. It has a close relationship with the hypothalamus and the limbic system. The associated tattva is Manas (mind). The number of rays of this tattva is 64. It is the meeting point of the three main nadis: ida, pingala and sushumna. It is the foundation of Ananda-maya kosha. The bija mantra is Oṁ.

Sahasrāra Chakra



Sahasrāra (crown) Chakra is connected to the pineal gland, behind the third ventricle of the brain. It is the opposite pole of muladhara chakra. In Sahasrara the rays are numberless, eternal and unlimited by space.

The chakras are filled with various items such as the elements listed in the Sāṃkhya system, deities, śaktis, colors, lingas, granthis, levels of speech, constituents of the pranava, syllables of the alphabet, bijas, pithas, etc. Like the 7 rainbow colors the crown chakra corresponds to the violet wavelength. Then from there the other chakras have their corresponding colors in that order: indigo blue, light blue, green, yellow, orange, and red (at the base chakra).

The following article, called "The System of Chakras according to Gorakshanatha," by the esteemed tantrik scholar Gopinath Kaviraj, first appeared in the Princess of Wales Sarasvati Bhavan Series, Vol II, 1923:

The System of Chakras according to Goraksanath

First of all in the perineum we have the Adhara chakra (coloured red) presided over by Ganesa natha with his two powers (Siddhi and Buddhi). This is identical with the well known Muladhara of the Tantras. But the next centre, called Mahapadma chakra, controlled by Nila natha is unknown else where, the third, the Svadhisthana chakra (coloured yellow), is in the genital region and has Brahma for its Deity and Savitri for the Power.

Between this and the Manipura there are three distinct centres, Saddala (called also Susumna chakra), Garbha (in the Garbha sthana) and Kundalini (in the region adjoining the waist and presided over by Fire). Besides bare names and vague localisation we do not find statement for any further detail about these psychic vehicles. The Manipura is situated in the navel and has Visnu for its Devata. Above this

is supposed to exist the so-called Linga chakra, of which, again, no particulars are given. Higher still, in the pericarp of the Anahata is the seat of mind – Manas.

The Anahata itself is in the heart and looks like a lotus with 12 petals, emitting a white radiance around. The presiding god of the chakra is named Mahadeva (Rudra natha) and the Power is Uma. The Rishi is called Hiranyagarbha. This corresponds to the causal body, dream-less sleep, Pasyanti Vak and Sama Veda.

The next higher Chakra is of course Visuddha, in the throat. It is a sixteen-petalled lotus, with smoky colour, presided over by Jiva and Adya Sakti, The Rishi is Virat. It corresponds to the causal body, dreamless sleep, Paravak, Atharva Veda, Jalandhara Bandha and Sayujya Mukti.

The Prana chakra which is a thirty-two-petalled lotus of bright hue and is controlled by Prananatha and Parama Sakti, is seated near the region of the throat (Kanthakupa). It forms the 10th aperture of the human body. Of the four chakras above Visuddha and below Ajna, the second one is Avala chakra, furnished with 32 lobes shining like the rising sun, presided by Fire. The exact site of this Chakra is not mentioned. From what is said it appears that it is seated where the three granthis (Brahma, Visnu and Rudra granthi) unite and is very intimately connected with Kalachakra and Yoginichakra. The Chivuka chakra is somewhere in the facial region, apparently near the chin, and is formed like a sun-like lotus of 34 lobes, presided by Prana and Sarasvati. All the devas have their seats within the lotus. Its Rishi is named Krodha. All languages, indeed human speech itself, are supposed to have their origin here. The Balavan chakra is just below the Ajna, in the nasal region, and looks like a three-petalled lotus of red, white and dark colour. This place is described as Tribeni, being the confluence of the three streams of Ganga, Yamuna and Sarasvati represented in the body by the three nadis, Ida, Pingala and Susumna. The presiding God of this Chakra is Pranava and the power is Susumna Sakti. The statement that this place is associated with the three matras of Pranava (A, U & M) becomes thus intelligible. The name of its Rishi is given as Mahahankara.

The famous Ajna chakra (called also Ani chakra), which is in the centre of the space between the two brows, is a diamond like (manikyavarnaprabha) lotus of two petals, presided by Hamsa Devata, and Susumna Sakti. It corresponds to the Vijnana state and Anupama Vak, and to the half matra of the Pranava.

The Karnamula chakra, within the auricular region, is a 36-lobed lotus of mixed colour (dark and yellow.) The presiding God and Power are Nada and Sruti respectively. It is the seat of the 36 matrkas.

The Tribeni chakra, above the brows, is a 26-lobed circle with Akasa as its Rishi. This is the real Tribeni, but how this place is connected with the Balavan chakra lower down is no-where stated.

The Chandra chakra is in the forehead and consists of 32 lobes with a colour between white and red. It is presided by the Moon and Amrta Sakti. The Rishi is Manas (mind) with its sixteen kalas. It is said that the sun goes to this lunar mansion to drink nectar.

This centre is very closely related to another chakra - the Amrta chakra, almost in the same region, probably a little upwards. Its Devata and Sakti are identical with those of the preceding chakra, but the Rishi is Atma rather than Manas.

It is from here that nectar is constantly flowing, This place is described as the abode of the Gayatri named Kamadhenu („wish-giving cow"), figured like a milk cow with four teats (Ambika, Lambika, Ghantika and Talika). It has a human face with intoxicant looks (madanetra), a peacock's tail, a horse's neck (griva), an elephant's tusk (tunda), a tiger's arms (hastashardula), a cow's horns, and wings con-

sisting of Lila Brahma and Hamsa. It is a strange figure. It is from the udder of this „cow" that nectar is perpetually streaming down. The Khechari, Viparitakarani and other mudras are some of the devices intended to check the downward flow of this blissful current. The Yogin who has obtained access to this chakra and abides here becomes immortal and free from the effects of time.

Next is the Brahmadvara Chakra, located above the forehead and shining with its 100 petals like the many coloured rainbow; and beyond this is the seat of the Akula Kundalini - a lotus of 600 petals bright like the newly risen sun.

On crossing this one comes up to the Brahmarandhra in the cranium (murdhasthana), with its multi-coloured 1,000 petals. This is the so called Sahasrara of the mystic literature - the aim and end of all spiritual progress. It is here that the Guru and the Chaitanya Sakti reside.

One would naturally expect that the series of chakras would come to an end here. But the picture on which the above account is based, mentions 6 chakras more beyond the Sahasrara (Urdharandhra, Bhramaraguha, Akunthapitha Punyagara, Kolhata, Vajradanda and Niradhara Paramajyotischakra). The Urdharandhra, called Talu chakra, is seated in the Talima and is a 64-lobed chakra, presided by Goraksanatha and Siddhanta Sakti. This statement is interesting as it gives us an idea of what the followers of the path thought in connection with the founder of their school. The Bhramaraguha, also called Alekha, Alaksya chakra or Brahma Chakra, is the place, where samadhi-yoga ensues, and prana and manas cease to work. The lotus is described as furnished with ten millions of lobes and wonderfully brilliant. The presiding God of this centre is Alaksyanatha, the Sakti called Maya (Mahamaya) and the Rishi Mahavisnu.

The higher Chakra with an equal number of lobes has Akalanatha as Devata, Akalesvari as Sakti and as Akala as Rishi.

The Kolhata Chakra is in the Sikhamandala and corresponds to the Vaikuntha of the Vaisnavas and Kailasa of the Saivas. Both the Devata and the Sakti are named Ananta. This region is a road to the Highest Void (paramashunyamarga).

The description of Vajradanda is not very clear. It is said to be, as I understand it to be, in the form of a column – vast, lustrous and long.

The final Chakra is in the Niralambasthana, with an infinite number of lobes, colours, matrkas, devas and worlds. This is the Highest Seat of the Gurudeva.

Beyond this is a series of 20 voids of which nothing is said. The Final Liberation takes place in the Great Void (paramashunyasthana) above 21 Brahmandas. Transcending the great Void the Yogin becomes eternally free from „coming and going", the wheel of birth and death: sa cha yogi tishthati yuge yuge jyotih sametya.

Granthi

The Kundalini awakening is the first step of the opening of the sushumna pathway, leading us to this permanent awareness of Unity Consciousness, unity of Shiva and Shakti. In this pathway there are three "knots" (granthis). Granthis are knots, evolutionary nodal points, separating chakras and koshas (shariras). Grantis represent the different stages in which there is an intensification of the total Kundalini energy in the system. In an indirect way, these knots regulate the flow of Kundalini in Sushumna, so that there is excessive energy flowing through and "burning out" the system. Thus, the merged Kundalini energies do not go to the next level until the consciousness and conductivity of the individual have reached the capacity to hold more intense levels of energy and awareness. This does not mean that people do not experience higher states of awareness. It only means that these states do not become stabilized until the channels are sufficiently strengthened to hold the increased energy of the awareness. It is known that the Kundalini is very intelligent. For this reason, it is better to allow the Kundalini to unfold spontaneously, rather than to force it artificially with specific techniques.

The first knot separates muladhara and swadhisthana from manipura chakra. This knot seals the physical plane of being. This first knot releases its energy when the individual's awareness of the first three chakras merges into one unified state of awakened awareness. The second knot separates manipura and anahata from vishudhi chakra. This knot seals the psychic plane of being. This second knot represents the merging of the already unified first three chakras with the awakened Love of the heart chakra. Parallel to this is a new level of synchronicity and fusing of the two Kundalini energies spiraling up the sushumna. With each increased level of Kundalini merging, the sushumna channel itself becomes more and more open and conductive of the Kundalini. The third knot separates the five lower chakras from the two higher ones and marks the division between the two lower planes of being and the divine plane.

Ordinarily the lower koshas have a strong grip on the mind or at best, these two koshas are so intimately linked, that they continuously influence each other. This is because the two higher energy seals are still closed. In the case of an evolved human being, the higher koshas dictate the behavior of the lower ones because the intermediary seal has been released. And finally, in the case of an enlightened human being, who has reached the ultimate step of yogic practices, the last kosha, ananda-maya kosha acts directly on the other four koshas. This happens when the third knot has been severed as well, thus allowing the divine energy to flow unimpeded through the five sheaths. The koshas are then integrated into one single unit and the three planes of being fuse in harmony. The aim of all yoga practices is thus achieved. The final knot in the sixth chakra is released when the awakened awareness of all the chakras are merged into the one non-dual awareness of Truth. This is the state of Unity Consciousness, the fully integrated state of Samhita (unity of Rishi-Rudra granthi, Devata-Vishnu granthi, and Chhandas-Brahma granthi). In that state, a person mentally and physically experiences total Unity, the state of Sat Chit Ananda. On her way up, kundalini has to loosen the three granthis (knots) in swadhisthana, anahata, and ajna.

The three granthis are:

Brahma granthi is the first knot and it is associated with mooladhara and swadisthana chakra (Chhandas). It is linked with the survival instinct, the urge to procreate and with deep, instinctive knowledge, awareness, and desire. When Brahma granthi is transcended, kundalini or primal energy is able to rise beyond mooladhara and swadhisthana without being pulled back down by the attractions and instinctual patterns of personality.

The second granti is *Vishnu granthi*, associated with manipura and anahata chakra (Devata). These two chakras are associated with the sustenance of the physical body, governing digestion and metabolism of food. Anahata sustains manomaya kosha, the mental body and pranamaya kosha, the energy body. Once Vishnu granthi is transcended, energy is drawn from the universe and not from the localized centers within the human being.

The final knot is *Rudra granthi*, associated with vishuddhi and ajna chakra (Rishi). Vishuddhi and ajna sustain vijnanamaya kosha, the intuitive or higher mental body and represent the transformation of an existing form, idea or concept into its universal aspect. When Rudra granthi is pierced, individuality is dropped, the old ego awareness is left behind and the experience of unmanifest consciousness emerges at sahasrara.

On the level of Anna-maya kosha, during the practice of yoga asanas, it is important to keep the areas of the three granthis open. The area of the pelvis and hips should remain open. We achieve this by keeping the legs and feet parallel and keeping proper position of lumbal-sacral region and sacroiliac joints. The area of the chest should remain open even during forward bends. We achieve this by pushing the breast-bone forward. Finally, the area of the shoulders and neck must remain open. This is achieved by lowering the shoulder-blades down even while raising the hands up.

योग

CHAPTER 3

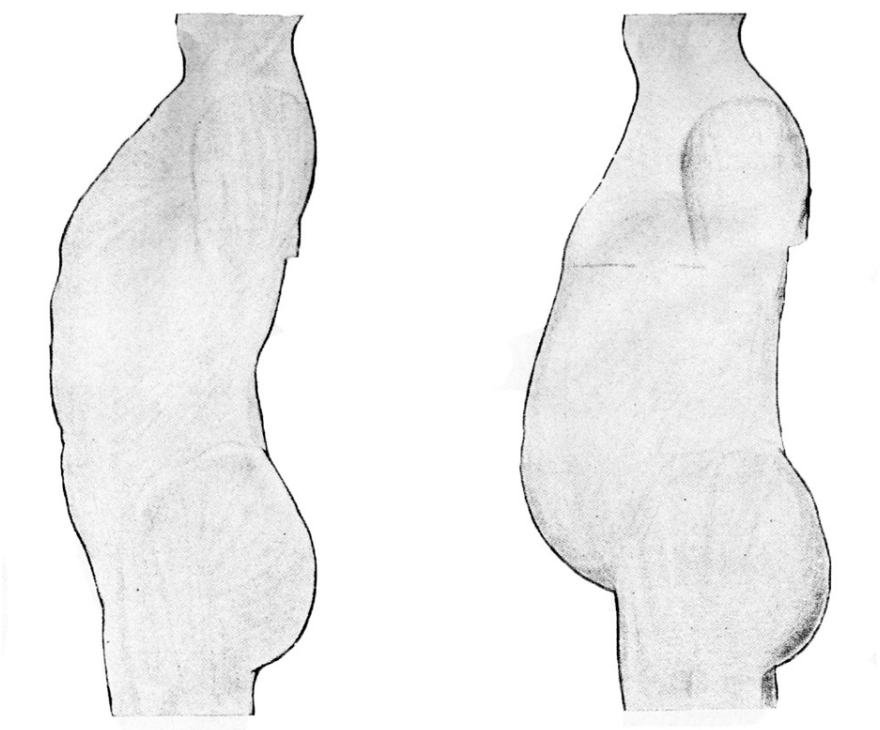
ASANA

We should understand the real meaning of the word asana. Asana means position and not exercise. Asana is a comfortable, stable, and immoveable position. Simply practicing different Yoga positions as part of an exercise routine is called "vyayam". Vyayam is the dynamic practice of Yoga postures without holding a position for some time. This is not considered Yoga asana! Vyayam is necessary so that asana can be stable and comfortable. Vyayam is necessary to prepare the body to feel comfortable and stable in asana. Also, according to the Yoga sutras, asana is only a state and not a process. The term asana in the Yoga sutras doesn't mean the same as asana found in the Hatha Yoga Pradipika or the Gheranda Samhita. The practice of asanas as a process is meant to achieve the state of asana.

It is said that there are 8.4 million asanas mentioned in the classics of Yoga, as there is an equal variety of living beings. The principal asanas are 84.000, but 8.400 are predominant among them. Of these 84 are selected for special mention, while 32 are considered more important. Only eleven have been ranked as the most important (*Siddhasana, Padmasana, Gomukhasana, Virasana, Kukkutasana, Uttanakurmasana, Dhanurasana, Matsyendrasana, Pascimottanasana, Mayurasana, Anandasana – Hatha Yoga Pradipika)*. In Yoga Tattva Upanishada four are singled out for special mention (Siddham, Padmam, tatha Simham, Bhadrancaitaccatushtayam – Yoga Tattva Upanishada 1,2,9). Two of them are classed as outstanding (*Padmasana, Siddhasana – Yoga Kundalya Upanishada 1,4)* and finally one (Siddhasana) is rated as superior to the other:

"There is no asana like Siddhasana, no Kumbhaka like Kevala Kumbhaka, no Mudra like Kechari Mudra and there is nothing that absorbs one's self completely like Nada (sound) – Hatha Yoga Pradipika 1,43.

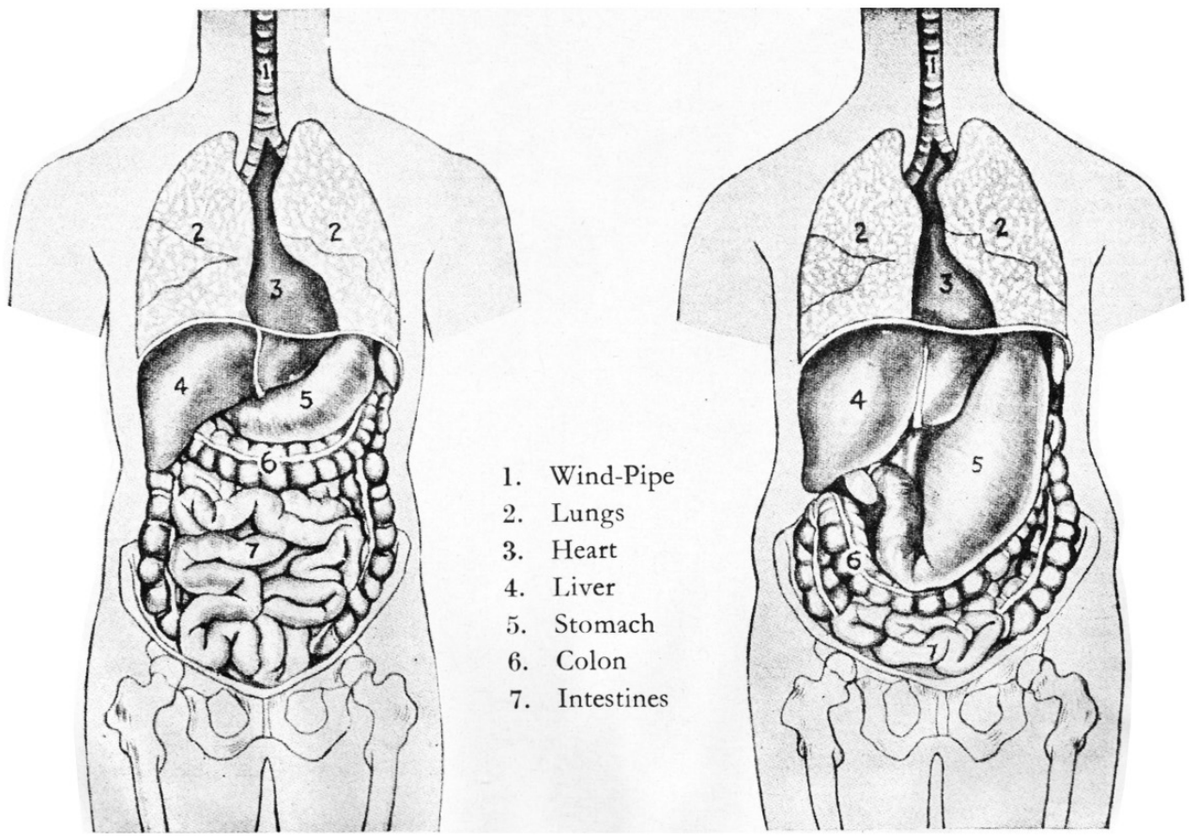
The yoga asana exercise program should include asanas which will increase: joint range, muscle strength, muscular endurance, muscle stretching and flexibility, respiratory and cardiovascular functioning, neuromuscular efficiency, coordination, alignment, balance, ability to perform functional activities, peace of mind, removing of impurities from the system.



Healthy Unhealthy

Moving and exercising are important for the health of body and mind. It is the nature of life. A lack of movement suffocates life. Those who exercise are healthier than those who do not. Our body consists mainly of liquids. Poor circulation of bodily liquids is like a still pool which gives rise to growth of all kinds of microorganisms that pollute our body and cause different diseases. Good circulation of bodily liquids is like the mountain stream which is pure and rich in oxygen and nutritious ingredients. Exercising is important for stimulating the circulation of bodily liquids. Exercising must not be too strenuous, it should not cause tension, stress and exhaustion. Yoga contains the knowledge of the intelligent way of physical exercise. Ancient yogis were in possession of knowledge of anatomy, physiology, neurology, as well as the mental aspects of human life. On that base they developed proper sequences of yoga exercises for the development of a healthy body and one's full mental potential.

Many scientific research studies confirm the effectiveness of yoga exercises for the health of mind and body. Yoga exercises strengthen the bio-mechanical system as well as bone marrow. They keep the spine healthy, balance the metabolism, as well as the immune and nervous systems. Furthermore they improve circulation of all bodily liquids, they strengthen breathing, digestion, and reproduction. They neutralize fatigue, tension, and stress and improve overall mental health. With the regular practice of yoga, the body becomes younger, more beautiful, symmetric, flexible and strong.



Healthy Unhealthy

With yoga we balance our body and ensure proper positioning of the internal organs, so that they can function normally. This is very important for health. The mind becomes calm, full of enthusiasm and determination. Yoga exercises awaken the life energy and make life lively.

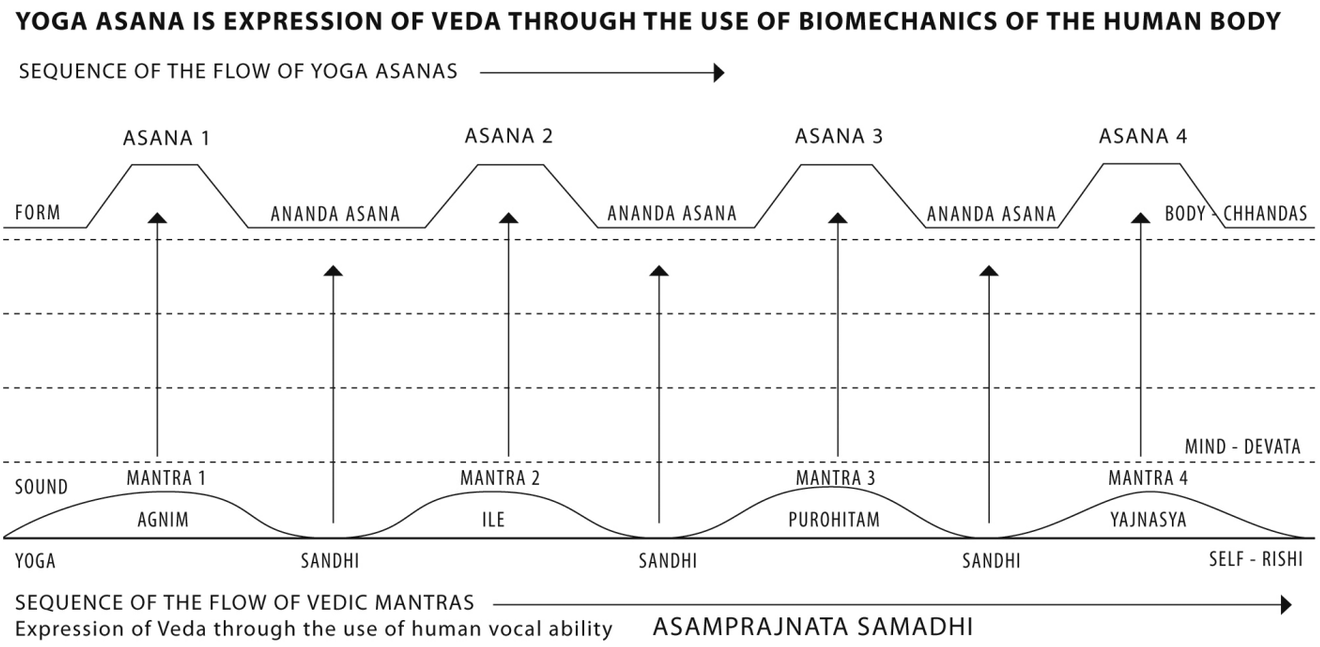
According to Hatha Yoga Pradipika, classical text on Yoga, the presence of Yoga is indicated by a happy face, glow in the eyes and healthy body. An ideal program for health and recreation should produce all these benefits. When we look at the anatomical structure of the body and its bio-mechanical system, we can see the great possibilities that the body has for performing many different positions. Properly chosen and put into a proper sequence, yoga exercises stretch, loosen, enliven, and relax every part of the body. If we do not move enough, we activate only a small part of the possibilities of the muscle-skeletal system which causes different problems in the form of pain, stiffness, and poor mobility of the joints, deformation of the spine, and also the degeneration of lung tissue which weakens the metabolic processes connected with oxygen and finally causes atrophy of the endocrine glands and the deficiency of the immune system. Yoga exercises enliven all natural abilities of the body.

Children naturally feel the need for different movements and put their body in different positions so that they can investigate and use all possibilities of movement which are naturally available. They instinctively do yoga. Parents very often suppress a child's need for investigating the manifold possibilities of moving its body. They are afraid that the child could get hurt and want them to be more static, so that they control the child more easily. Therefore they restrict the child's natural need for movement. As a consequence over time, the child's natural ability of movement becomes reduced to a minimum. Yoga teaches us to remain children all our lives, to continue to put our body in different positions, the same way that children do. By using the body's natural ability to move, we will retain a child's flexibility, health, and vitality throughout our life.

Asana in the light of Maharishi's Vedic Science

"Time spent on Yoga Āsanas is a golden time of the day. And it is interesting to note that this state of natural flexibility is characterized by pleasant steadiness of the body and mind, and is the natural and most appropriate sitting state for the practice of Transcendental Meditation. Practice of Yoga Āsanas is a must in the daily routine."

– Maharishi Mahesh Yogi



SHIVA NATARAJA - Selfreferal Dynamism of the Absolut (Samhita of Rishi, Devata and Chhandas). Specific seat (Asana) of the Rishi within himself (Selfreferal Dynamic of Samhita) gives rise to specific Mantra which is through the specific movement of Prana and Breath expressed as specific Asana on the level of Body.

The origin of yoga, according to Maharishi's Vedic Science, is the Absolute state of life, Pure Consciousness, Samhita, Shiva, Sat Chit Ananda. Sat is that which never changes. Absolute is that state of life which knows no change, Pure Existence. Chit is the aspect of Pure Intelligence within Pure Existence, the Cosmic Intellect which creates the notion of Rishi, Devata, and Chhandas within the wholeness of Pure Consciousness (Samhita). Chit is the basis of Creative Intelligence and is responsible for the self-referral dynamism of Pure Consciousness (Shiva Nataraja – dancing Shiva). Dancing Shiva figuratively shows the internal dynamics of Pure Consciousness. Every position Shiva assumes during his dance (a specific self-referral state – asana) is one asana, one aspect of manifest creation. That is why there are as many asanas as there are manifestations in creation. For that reason, Shiva is considered to be the Master of the Hatha yogis.



Shiva Nataraja

From the awakened state of Pure Consciousness (Chit), Pure Intelligence is moulding itself in different sounds (mantras – Agnim Ile….) and the material expression of these sounds are innumerable objects in creation (asanas). Asanas are the physical expressions of the self referral activity of Pure Consciousness. Ananda is bliss, the nature of the Absolute level of life. Ananda is the basis of all manifest life. From Ananda everything is born, sustained during its lifetime, and then dissolved into Ananda again. Ananda is the basis of emotions (feelings) which are more in presence than thinking. That is why feeling gives more bliss than thinking, because one is more in presence. Sat Chit Ananda is totally present now. It is the state of Absolute Bliss. The whole stream of life, every impulse of activity is guided by Bliss, in the direction of more and more. It is driving all evolution. Emotions are structured in Bliss, just as knowledge is structured in consciousness. Proper practice of Yoga Asana should result in the awakening of Bliss in every cell of the body and this is the basis of perfect health, longevity and enlightenment.

Yo vai bhūmā tat sukhaṃ nālpe sukhaṃ asti
That which is unbounded is happy. There is no happiness in the small.

– Chhāndogya Upanishad 7.23

The goal of asana is to establish the state of Yoga. The daily practice of Yoga Asana aims at establishing the physiology and its relationship with the mind in such a way that, whatever the pose of the body and whatever may be the mode of the mind, the relationship of mind and body will always correspond to the ideal relationship, which will not allow the loss of that restful, pleasantly settled state. To stabilize any pose of the mind with the cosmic pose of infinity is the purpose of Asana. That means create a habit through the practice of Yoga Asana that, whatever be the state of the body it is never out of alignment with the cosmic physiology. According to the *Yoga Sutra 2.47 (prayatna-śaithilya-ānanta-samāpattibhyām)*, two things are required for the correct performance

of Yoga Asana: relaxation of activity and the dawn of infinity (ānanta). Both have to be there simultaneously. Withdrawal of effort amounts to the dawn of the unbounded. By letting the mind be on the location of the stretch, after a moment, the sensation of stretching will begin to disappear, giving rise to pleasantness. Measurement Theory of modern physics states that attention on an object does something to that object. Relaxed and coherent attention creates an influence of coherence or balance in the area of the body where the stretch is being felt. By being absorbed in infinity we are connecting with cosmic intelligence which then gets enlivened and starts to function in our body, putting everything in its proper order (yatinam brahma bhavati sarathih). While remaining in any asana, we just innocently feel free flow of that Intelligence through our body. An individual is said to have perfected an asana when he can sit in that asana stable and comfortable for a period of three hours and forty-eight minutes at a time. When perfection is attained in any asana, the external movements of the yogi gradually and progressively diminish till they cease altogether. Attainment of perfection in asana leads to the attainment of Samadhi. To achieve perfection in any asana a person one must practice various asanas to gain the necessary flexibility and strength of the body to be able to remain motionless and relaxed for considerable periods of time (i.e. while practicing pranayama and meditation).

sthira-sukham āsanam

– Patanjali Yoga Sutra 2.46

Sthira means “steady” and Sukha (pleasant) means that whatever be the state of the body, it is never out of alignment with the Cosmic Physiology. When one is established the state of Yoga in asana (Yogastah Kuru Karmani – Bhagavad Gita), then wholeness is present in every part. Asana means to be seated in an immovable pose. Perfection in asana practice is gained when one experiences the body as an expression of one's consciousness. Then the different positions of the body are experienced as the different poses of the Rishi on the level of self-referral consciousness. This is the ultimate goal of asana practice according to Maharishi’s Vedic Science.

Biomechanics of asanas and their classification

Biomechanics can be defined as the study of the structure and function of biological systems, such as the human musculoskeletal system, by application of (Newtonian) mechanics. Newtonian mechanics refers to Sir Isaac Newton who laid the foundations for the field of mechanics as currently used. Newton formulated three statements known as Newton's laws of motion:

- **Law of inertia**: Any object continues in a state of rest or uniform motion in a straight line except when it is compelled by external forces to change its state/course.
- **Law of Acceleration**: The rate of change of momentum of an object is proportional to the applied force and takes place in the direction in which the force acts.
- **Law of action/reaction**: For every action there is an equal and opposite reaction.

By understanding the biomechanics of human movement, we derive many principles of the proper practice of yoga asana. This will be described later.

The main focus of the biomechanics of human movement (yoga asana practice) is in understanding forces and their effects: Principles of kinematics (the description of motion) and kinetics (the description of motion including the consideration of forces as the cause of motion). A first step in understanding human movement is knowledge of the anatomy and physiology of the human body, the musculoskeletal system in particular.

From a bio-mechanical perspective, the classification of asanas takes the spine as a reference point. The spine has 6 possible movements: axial extension (lengthening), flexion (bending forward), lateral flexion (bending sideways), extension (backward bending) and axial rotation (twisting). Flexion and extension refer to the relationship of the spinal curves to each other, while forward bending and backward bending are terms that refer to movements of the body in space. The classification is not only based on the position of the spine, but also the effects that each asana has on it. It also takes into account the influence of breath on the spine. Asanas can also be classified according to the position of the body (support-base of position): standing, sitting, kneeling, lying on the back (supine), inverted, lying on the front part of the body (prone), and balancing. In all these positions of the body, it is possible to move the spine in all three axes: forward-backward, left-right, and twisting. Taking into consideration the possible range of the movement of the joints and applying this to the above classification, we can have many different positions (asana) of the body.

From the perspective of the position of the spine, body, and base of support, the asanas can be classified in the following way:

Samasthiti

Asanas are classified as samasthiti based on the correct alignment of the spine. The back is vertical. Axial extension of the spine results in the simultaneous reduction of both the primary and secondary curvatures of the spine. In other words, the cervical, thoracic, and lumbar curves are all reduced, resulting in an overall increase in the length of the spine. Axial extension is enhanced by application of bandhas. Samasthiti asanas usually serve as a preparation for pranayama and meditation. The aim is to lengthen and straighten the spine, to create maximum space between the vertebral bodies, and to integrate the spinal curves. Lengthening the spine enables us to move more deeply in forward bends, back bends, twists, and lateral bends. The movement of the spine is an extension which is initiated by breath. Inhaling causes a stretching of the thorax area of the spine by increasing distance between the vertebral bodies. To that action of inhaling one adds the movement of raising the hands above the head to enhance the extension of spine. This action of raising the hands also engages all muscles of the back.

Any forward, backward, twisting, or lateral movement is minimized. Though movement in these postures is limited, they build strength and elasticity in the superficial and deep musculature, ligaments, and connective tissues of the spine and rib cage. They also strengthen the diaphragm and abdominal muscles. Through these combined effects, extension postures help us improve our postural alignment and overall structural integration. Improved postural alignment reduces stress to the musculature and organs of the torso, and it improves digestion, respiration, and circulation. Some extension postures also stretch the arms and legs away from the torso, facilitating the extension of the spine, stretching and strengthening the muscles and ligaments that bind them to the spine, creating more space in the shoulder and hip joints. This action also improves peripheral circulation.

From a bio-mechanical perspective, the primary intention in extension postures is to bring the spine to maximum vertical alignment, integrating the spinal curves without strain or compression. The spinal curves move in reciprocal relation to each other. Theoretically, the lengthening of the cervical spine should also lengthen the thoracic spine, which in turn should lengthen the lumbar spine. In practice, however, lengthening the thoracic curve often increases the lumbar curve, and a flattening of the lumbar curve often increases the thoracic curve.

The key to integrating the spinal curves, and therefore the key to extension postures, is the combined use of inhalation and exhalation. Initiate the inhale in the upper portion of the chest, emphasizing the natural lifting and expansion of the rib cage that takes place as the lungs fill with air. Tuck the chin slightly in and displace the head slightly backward, to lengthen the neck, as the chest expands and the upper ribs lift forward and up. At the same time, the upper thoracic spine begins to straighten. Let the upward and outward movement of the ribs move successively from rib to rib, from the top downward, until the entire rib cage is fully expanded. As this happens, the thoracic spine lengthens vertebra by vertebra, from the top down. If your thoracic curve is exaggerated, displace your chest slightly forward to flatten the curve as you lift and lengthen the spine. If, on the other hand, your thoracic spine is flattened, focus on extending the spine without pushing your chest forward. As the air is drawn into the lungs, follow the downward movement of the diaphragm to the abdomen and lengthen the lumbar spine. If your lumbar curve is reversed, rotate your pelvis forward to regain the natural curve and facilitate the lengthening of the spine. If your lumbar curve is exaggerated, use the abdominal contraction, at the initiation of exhale, to pull the pubic bone upward and to flatten the lumbar spine. On exhale, as the diaphragm moves upward, keep the chest lifted, pull the shoulders down and back, and increase the extension of the spine. Maintain a partial contraction of the lower abdomen through successive inhales, stabilizing the lumbar-pelvic relationship, increasing the lift of the rib cage, and furthering the extension of the spine.

Paschimottana

Asanas are classified as paschimottana ("stretching the west") when the trunk moves forward towards the legs. These asanas are done on exhalation. The focus is on the abdominal region. Forward bends stretch and strengthen the back portion of the spine, shoulder and pelvic girdles, as well as the legs. They stretch and strengthen the entire length of the erector spine muscles which extend all the way from the sacrum to the cervical spine. These asanas benefit the deep spinal extensor muscles and inter-vertebral ligaments which interconnect and stabilize each vertebra, the posterior muscles which bind the shoulder girdle to the spine, and the posterior muscles of the pelvis and legs. In addition they strengthen the abdominal muscles which contract as we bend forward, they gently compress the abdominal organs (particularly the intestines), providing a visceral massage, and they stretch the kidney/adrenal area, stimulating the functioning of these organs.

From a bio-mechanical perspective forward bending is stretching the structures of the lumbar-sacral spine and the posterior structures of the upper back, shoulder girdle, and neck. Below the lumbar spine forward bends stretch the posterior musculature of the pelvic girdle and legs, particularly the hamstrings.

The key to forward bends is the ability to control the proportional relation between the progressive flattening and positional reversal of our lumbar curvature and the forward rotation of our pelvis at the hip joints. The proportional relation between these two actions is known as lumbar-pelvic rhythm. The key to the lumbar-pelvic rhythm, and therefore all forward bends, is the technique of abdominal contraction on exhale. At the initiation of exhalation, contract the abdominal muscles at their insertion into the pubic bone, thereby checking excessive forward rotation of the pelvis, promoting progressive reversal of the lumbar spine, and maximizing the stretching of the lower back. If you have tight hips, encourage the pelvis to rotate forward and focus on the stretching of the low back. As the forward bend proceeds, contract your abdominal muscles from the pubic bone to the navel. Bend your knees progressively throughout the movement, as much as is necessary to feel the maximum stretch of your lower back without strain.

The natural curve of the thoracic spine may create a tendency to collapse the rib cage over the belly as you bend forward. This can be avoided by lengthening the spine between chest and belly on inhale and maintaining that length throughout the forward bend. This is especially important if your thoracic curve is naturally excessive. If on the other hand, your thoracic curve is slightly flattened, then you can allow it to round slightly as you bend. In coming up from the forward bend, lead with your chest from the initiation of inhale, pulling the entire thoracic cavity away from the abdomen and stretching in the solar plexus area. Maintain a partial abdominal contraction on the way up, preventing your pelvis from rotating excessively forward, in order to protect your low back from strain (particularly in standing postures). This will also facilitate elevating the rib cage and reversing any exaggeration of the thoracic curve.

During forward bend tuck the chin in gently toward the throat while displacing the head slightly backward, until the ears are aligned above the shoulders. This technique straightens the cervical curve, helps straighten the thoracic curve, and increases the stretching of the upper back and neck. Raising the arms overhead, in coordination with the movement of the thoracic cavity on inhale, aids the extension of the spinal curves. Classically, the arms, chest, and head are held in alignment while moving into and out of the forward bends. In general, to avoid tension, it is important to allow the arms and head to follow the lead of the spine, rather than other way around.

When moving into the forward bend and also when returning to the starting position, always move in two planes simultaneously (horizontal and vertical). Extend the spine horizontally by stretching the hands forward and bend forward in the hip joint. Bending forward is the action in the direction of the force of gravity. It is done on exhale and has a stretching effect, increasing the flexibility of muscles, ligaments and tendons. Moving back to starting position has opposite effect on the spine (bending the spine in opposite direction) and because it is done on inhale and against the force of gravity it has a strengthening effect.

Purvottana

Asanas are classified as purvottana ("stretching the East") when the back moves away from the legs. These asanas are done on inhalation. The focus is on the chest region and upper body. Backward bends stretch and strengthen the front portion of the torso, the shoulder and pelvic girdles, and the legs. They stretch and strengthen the iliopsoas muscles which are located deep under the anterior musculature of the abdomen and pelvis and which bind the legs to the spine. Purvottana asanas also act on the diaphragm and intercostals (the primary muscles of respiration), the anterior muscles (which bind the shoulder girdle to the spine), and the anterior muscles of the legs. In addition, they strengthen the superficial and deep muscles of the back (which contract during back bends), the posterior muscles of the shoulder girdle, and stretch the abdominal organs, relieving visceral compression. They also gently compress the kidney / adrenal area, stimulating their function. They also stretch the anterior muscles of the neck and throat, including the area of the thyroid and thymus glands.

From a bio-mechanical perspective, backward bending expands and stretches the anterior structures of the chest and shoulder girdle, and also stretches the anterior musculature of the solar plexus, abdomen, hips, and thighs. Backward bending also strengthens the musculature of the back.

The key to backward bends is the ability to control the proportional relation between lengthening and flattening the thoracic curve, while deepening the lumbar curve. This is known as the thoracolumbar rhythm. The key to balancing the thoracolumbar rhythm is expanding the chest on inhale while maintaining the abdominal contraction initiated on exhale. At the initiation of the inhale expand the chest and lift the ribs. This lengthens the thoracic spine and stretches the front of the torso. Then, as the chest expands, open the shoulders and pull them down and back. As the volume of air is reduced in the lungs on exhale, contract the muscles of the upper back, in order to flatten the thoracic curve (if you have a normal to excessive thoracic curve). Pull the shoulders back and push the mid-thoracic forward. If your thoracic curve is already flat, then focus on the vertical extension of the spine and avoid pushing the mid-thoracic forward. Then, on all successive inhales, maintain a slight abdominal contraction, in order to prevent excessive forward rotation of the pelvis and posterior lumbar inter-vertebral compression (lordosis). On all subsequent exhales, use the increased abdominal contraction to stabilize the pelvic-lumbar relationship. Focus the arching in the upper back, allow the head to rise away from the shoulders (creating as much space as possible between the cervical vertebrae), and keep the chin leveled or even slightly tucked in (enhances the lengthening of the cervical spine), lifting it only towards the end of the inhale in order to stretch the front of the neck and throat. We must keep the neck in line with the spine and not prevent the hollowing of the lower back.

Parshva

Asanas are classified as parshva when the spine moves laterally, either to the left or to the right. Lateral bends can be organized into two distinct classes. In the first class, the torso is bent to the side. These postures alternately stretch and compress the deep spinal muscles, the inter-vertebral ligaments and discs, the inter-costal muscles and connective tissues (that bind the ribs together), and the deep and superficial muscles that bind the shoulder and pelvic girdles to the spine. They build strength and stability in the musculature of the spine, rib cage, shoulders, and pelvis. They help maintain the elasticity of the rib cage and they help to restore balance to any asymmetries of the spine, shoulders, and pelvis. In addition, these postures alternately stretch and compress the lungs and organs of the torso such as kidneys, liver, and intestines, and thus stimulate their function.

In the second class of lateral bends, one leg is abducted and rotated outward. These postures stretch the structures of the pelvis, groin, inner thigh, and perineal area, building strength and flexibility in the muscles of these areas. In addition, they increase circulation to the perineal floor and stimulate the function of the reproductive organs. In that way, they are related to forward bends with legs spread apart.

From a bio-mechanical perspective, lateral bends laterally stretch the torso from the shoulder to the hip joint and laterally flex the spine. They stretch and strengthen the musculature of the shoulder girdle, hip joints, front of the pelvis, and inner thighs. With the second class of lateral bends, the emphasis is nearly reversed. The primary intention is to strengthen and stretch the musculature of the front of the pelvis, hip joints, groin, and inner thighs (pelvic opening). The secondary intention is to stretch the lateral portions of the torso and the structures of the shoulder girdle.

The key to lateral bends is the ability to control the proportional relationship between pure lateral bending of the spine and the natural displacement and rotation of shoulders, chest and hips. The realization of this is again found in the combined techniques of proper exhalation and inhalation. At the beginning of the exhale, contract the abdominal muscles to check the forward rotation of the pelvis, and to lengthen the lumbar spine, while simultaneously initiating the lateral bend. If you have a deep lumbar curve (lordosis), then pull the pubic bone slightly upward in order to check the backward displacement of the pelvis. On subsequent exhalations, rotate the top shoulder slightly backward, keeping the shoulders in vertical alignment, to help maintain the lateral quality of the movement. On inhale, lengthen the spine, pull the chest up and away from the belly, pull the shoulders down and back, and flatten the thoracic curve, as in a backward bend. Lengthening the spine creates more space between the vertebrae, increasing the potential for lateral flexion without compressing the inter-vertebral discs. This action also inhibits the tendency to displace the chest and shoulders forward. Extending the arm, on the side being stretched, over the head and forward on inhale, increases the stretching of the musculature and connective tissues of the rib cage and torso. To maximize this effect, keep your arm in line with your shoulder and torso.

Parivrtti

Asanas are classified as parivrtti when the spine twists, with one point remaining fixed (usually around the hips). Twisting movements are very useful in correcting structural misalignments. Twisting postures create rotation between the vertebral bodies of the spine, build strength and flexibility in the deep and superficial spinal and abdominal musculature, and maintain the elasticity of the inter-vertebral discs and ligaments. Twisting alternately compresses and stretches each hemisphere of the chest, stimulating the respiratory function. They alternately compress and stretch the mid-torso, where the kidneys, adrenals, liver, gallbladder, pancreas, spleen, and stomach are located, and thereby stimulate their function. They also alternately compress and stretch the intestines, stimulating absorption, digestion, and elimination. In addition, twisting postures adjust the relationship of the shoulder and pelvic girdles with the spine and strengthen and stretch the deep and superficial musculature that bind the head, the shoulders and arms, as well as the pelvis and legs to the spine. Where there is structural asymmetry in these areas, twisting helps to restore balance. From a bio-mechanical perspective twisting rotates the spine and adjusts the relationship of the pelvic and shoulder girdles with the spine.

The key to twisting is the ability to control spinal rotation from the musculature of the abdomen and spine, rather than through the force of leverage generated by the musculature of the shoulders, arms, and /or pelvis and legs. In twisting postures, this leverage can be applied, carefully, to augment the rotation of the spine but not to generate it. The capacity for inter-vertebral rotation in the lumbar spine is limited. Twisting of the lower abdomen is therefore generated either by stabilizing the pelvis and rotating the spine, by stabilizing the spine and rotating the pelvis, or by rotating both in opposing directions. In standing twists the base are the feet. Twists in the sitting position have their base is the hips.

The capacity for inter-vertebral rotation in the thoracic spine is greater than in the lumbar, particularly in the lower thoracic and in the thoracolumbar joint. Twisting of the mid-torso is therefore generated either by stabilizing the pelvic-lumbar area and rotating the shoulder-thoracic area, by stabilizing the shoulder-thoracic area and rotating the pelvic-lumbar area, or by rotating both in opposing directions. The cervical spine has the greatest capacity for inter-vertebral rotation, particularly at the atlas-axis joint. Twisting of the neck is generated either by stabilizing the shoulders and rotating the head or by rotating both in opposing directions.

The key to spinal rotation, and therefore to all twisting postures, is the technique of abdominal contraction on exhalation. At the initiation of the exhalation, contract the abdominal muscles at their insertion into the pubic bone. This stabilizes the pelvic-lumbar relationship and simultaneously initiates the rotation. If you have a deep lumbar curve, pull the pubic bone slightly upward at the beginning of the twist, to maximize the vertical extension of the spine. As the twist proceeds, continue the contraction of the abdominal muscles, from the pubic bone to the rib cage, emphasizing trunk rotation. As with the forward bends, the natural curve of the thoracic spine may create the tendency to collapse the rib cage over the belly as you twist. This can be avoided by lengthening between the chest and belly on inhale. By lengthening the spine, you will notice a natural unwinding of the twist, creating more space between the vertebrae. This will actually allow you to twist more deeply on the subsequent exhale. To maximize the benefits of twisting movements, we need to assess how much the moving end of the trunk is rotated relative to the fixed end. That is the true marker of the intensity of the twisting movement. For example, though a standing twist might appear more intense, the effect on the spine may not be as intense as a twist in the seated position. Always twist from the centre towards the extremities. Do not lean to the side of the twist. Try to keep the other side of your body pressed down firmly, distributing your weight as evenly as possible. Twisting movements are always done on exhalation.

Viparita

Asanas are classified as viparita when the trunk is inverted with the head down and the legs up. Although we understand inversions as standing upside down, the actual meaning is the opposite process. Its significance is greater than just being physically upside down. Common inversions are viparita karani, sarvangasana and sirsasana. However, an inversion can include a posture where the person lies on the floor with the legs raised on a chair. Turning the body upside down tones the vital organs, stimulates the endocrine glands, and promotes the balanced and efficient functioning of our entire physiology. This process and its effects is called viparita karani ("active reversal"). Inversion postures also build strength and elasticity in the superficial and deep musculature, ligaments, and connective tissues of the spine. Like extension postures, inversions help improve our posture and overall structural integration, reduce stress to the musculature and organs of the torso, and improve digestion, respiration, and circulation. From a bio-mechanical perspective inversion postures induce the active reversal effect. They strengthen the musculature of the torso, improve the functional integration of the spinal curves and deepen the respiratory rhythms.

The key to achieving the active reversal effect is the ability to remain in the inverted posture for a length of time without causing stress to the structure. Inversions require proper preparation and balancing. The teacher must first asses the student's physical condition, whether there is strength and flexibility in the required areas. The breath of the student must be observed. We must also make sure that the student is mentally comfortable and ready to do inversions and we must be aware of any contra-indications. To minimize stress, we have to be able to bring the natural curves of the spine, as well as any lateral curves, into maximum vertical alignment, relative to the base in each posture. The keys to achieving vertical alignment are again the combined techniques of inhale and exhale.

In headstand, the base is composed of the top of the head, forearms, and hands. Ideally, approximately thirty percent of the weight of the torso and legs is transferred directly through the neck to the top of the head, with the remaining seventy percent transferred through the shoulders and arms. As the rib cage expands on inhale, lift the shoulders away from the head, lengthening the neck. Lift the pelvis away from the rib cage, lengthening the torso and lift the legs away from the pelvis. On exhale, use the abdominal contraction to influence the lumbar-pelvic relationship, minimizing lumbar lordosis and controlling the position of the legs. The greater the vertical alignment in this posture, the more effortless it becomes. In shoulder stand, the base is formed by the upper back, shoulder girdle, neck, and head. The shoulder stand strengthens the musculature of the legs, lower back, and abdomen.

While practicing these postures, on inhale lengthen the spine and extend the legs away from the pelvis. Then on exhale, contract the belly and stabilize the position of the legs. In both headstand and shoulder stand, the classic positions of the arms and hands stabilize the base and support the posture. In both postures, the position of the arms and hands can be modified, changing the character of the base. These variations generally require more strength in the torso than the classical positions. Such variations reduce the stability of the base and therefore increase risks. They are collectively termed niralamba, ("without support"). In addition, a full range of movement can be practiced from headstand and shoulder stand, including forward bends, back bends, twists, and lateral bends. These variations again require greater strength and stability than the basic postures.

Balance

Balance postures strengthen the body, improve its structural integration, and develop mental stability and focused attention. Balance postures establish and maintain a position for a period of time without stress or strain and they increase the overall structural integrity and strength of the body. Balance postures can be organized into two distinct classes. The first class of balance postures, leg - balances, are practiced while standing on the toes or on one foot. In addition to developing a focused mind and improving the body's overall strength and structural integration (particularly of the feet, legs, and hips), leg balances help us refine the way we hold and move our body weight. The second class of balance postures, which we will call arm balances, is practiced while standing on the hands or forearms and hands. In addition to the general benefits already described, arm balances strengthen the muscles of the arms and shoulders, as well as the lower back, abdomen, and pelvis. All balance postures give us a sense of increased mastery over our body, promote a feeling of lightness and wellbeing, and tend to boost our self-confidence.

From a bio-mechanical perspective, the structure of the body is a weight support and transference mechanism. The weight of the body is transferred through the structure to the support-base (which varies depending on our position), and then to the earth. When we are standing the support-base are the feet. While we are sitting the base are the buttocks and legs and when we lie down, the base is the full length of the body. In general, the larger is the base, the greater is the stability. Thus lying postures, for example, are usually more stable than seated postures which in turn are typically more stable than standing postures.

When the weight of the body is aligned vertically above a broad and stable base of support, there is maximum stability. In balance postures, the base is characteristically smaller and relatively unstable. Stability is further compromised because, in most balance postures, the weight of the body is not in vertical alignment above the base. In leg balance postures, the lifted leg is extended in front, behind, or to the side of the vertical line above the supporting foot. In arm balance postures, the torso and legs are also extended in front, behind, or to the side of the supporting hands, or forearms and hands.

The key to accomplishing balance postures is the ability to achieve equilibrium on an unstable base, using the displaced body weight as a counterbalance. While in these postures, the combined techniques of inhale and exhale help us to make the subtle adjustments of the torso, arms, and legs that are necessary to achieve balance. In addition, the eyes are a key to our ability to maintain equilibrium and should be focused on a stable point out in front of us. Whether on one foot, toes, the hands, or the hands and forearms, in addition to the primary balance components, these postures involve elements of forward bending, back bending, twisting, lateral bending, extension, and/or inversion.

Standing poses

The body is supported on the soles of your feet. If you can feel your weight releasing into the three points of contact between the foot and the earth, you may be able to feel the support that the earth gives back to you through the action of the three arches of the foot and the muscles that control them. The three points are: the calcaneal tuberosity, the base of the first metatarsal, and the base of the fifth metatarsal. The lines connecting these points represent the arches – three lines of

lift through which postural support is derived: the medial longitudinal arch, the lateral longitudinal arch, and the transverse (metatarsal) arch.

From underneath, the two triangles of the feet can be joined to show the size and shape of the base of support for tadasana. The “plump line” that passes through the body's center of gravity in this position should also fall through the exact center of this base. Standing positions have the highest center of gravity of all the starting points, and the effort of stabilizing that center gives standing poses the quality of “bramhana” (strengthening effect).

Sitting poses

These poses are supported by the base of your pelvis. Just as the bare feet develop a new relationship with the ground through the practice of standing asanas, the hip, pelvic joints, and lower spine develop a new relationship with the earth when you bear weight directly on them in sitting postures. The word asana means “seat” and the purpose of all yoga asana practice is a methodical way for strengthening the back, freeing up the spine and limbs, and increasing the flexibility of joints, so that the yogi can be stable (sthira) and comfortable (sukha) in certain seated postures (i.e., padmasana), for at least three hours. This makes him ready for comfortable sitting for pranayama and meditation.

Whatever sitting position one chooses, if the knees are above the hip joints, the pelvis can tip posteriorly, causing the spinal curves to go into flexion, especially if there is tightness in the hamstrings. In order for a seated asana to be maintained in a comfortable manner for any length of time, for most people, the hip joints need to be (at least slightly) elevated above the knees, by the use of a cushion, folded blanket, or some other aid. With the hips elevated above the knees, the lumbar and other spinal curves are restored, and the weight of the head can balance with minimal muscular effort.

In a well-supported seated asana, the intrinsic equilibrium of the pelvis, spine, and breathing mechanism support the body, and the energy and attention that has been liberated from postural effort can be naturally focused on deeper processes, such as pranayama or meditation.

Kneeling poses

These poses are supported by your knees, shins, and tops of the feet. Kneeling poses are often used to help open the hip and knee joints. When the body's weight is taken off the feet and legs, the pelvic muscle attachments can be stretched because they no longer stabilize the body weight high off the ground. Kneeling also provides a stable base from which the center of gravity can be raised up, so the spine can fully extend in postures such as the camel pose (Ustrasana). A position that is frequently used to counter pose the strong spinal extensions is the hare pose (shashanka asana). It is a kneeling position that produces mild and even spinal flexion and lowers the centre of gravity.

Supine poses

These poses are supported on the back surface of your body. Supine means lying in a "face up" position. Just as Tadasana and Samasthiti are the quintessential standing positions, Anandasana and Tatakamudra are the prototypical supine positions. In Anandasana, the back surface of the body becomes the base of support and all the postural muscles can relax from their constant interaction with gravity. Anandasana has the lowest center of gravity and is the starting point of all the supine poses. It is also the position in which those asanas usually end. Moving into postures from a supine position engages the anterior musculature of the body which is why many abdominal strengthening exercises start in this position.

In Anandasana, the primary curves of the body contact the floor. The primary curve is the kyphotic curve present primarily in the thoracic spine, but it is also obvious in the shape of the sacrum. All the curves of the body that are convex posteriorly can be seen as reflections of the primary curve. A simple way to identify all the primary curves is to notice all the parts of the body that contact the floor in Anandasana.

Prone poses

These poses are supported on the front surface of your body. Prone pose means lying in a "face down" position. Moving into postures from a prone position engages the posterior musculature of the body which is why many back-strengthening exercises start in this position. Because of the pressure that the prone position puts on the spinal curves, particularly the cervical region, it is not comfortable to remain prone for extended periods of time. There are only a few backward-bending poses that begin in the prone position, and they are usually counterpoised by entering into the kneeling pose called Shashanka asana (hare).

Arm support poses

When you use the hands in weight-bearing poses, you have to respect the fact that it is at a structural disadvantage. The highly mobile structures of the hand, elbow, and shoulder girdle are clearly ill-suited to weight bearing. In fact, if you compare the proportional structure of the hand and foot, you will see a completely inverse relationship between the weight-bearing and articular structures within them. You must therefore compensate for this fact when you prepare for and execute such poses.

Five fundamentals of progress in the practice of yoga asanas

Maharishi Mahesh Yogi defined 5 fundamentals of progress which can be applied to asana practice as well. The 5 fundamentals of progress are: stability, adaptability, integration, purification and growth.

1. **Stability (sthira)** – with the practice of asana we are creating structural and functional stability in our body, as well as increased autonomic stability and increased coherence in brain activity.

2. **Adaptability (sukha)** – asana practice increases flexibility, improves attention, increases intelligence and perceptual ability of inner awareness, and creates superior perceptual-motor abilities.

3. **Integration (balance of sthira and sukha)** – asana practice creates neuromuscular integration, integrated functioning of the left and right hemispheres of the brain, integrated functioning of the front and back of the brain, integration of mind and body as indicated by quicker reaction, integrated functioning of the sensory abilities as indicated by increased perceptual ability, as well as an integration of opposites (rest and activity) in the body.

4. **Purification** – it is gained during asana practice through integration of adaptability and stability and the relaxation of effort and mental absorption into infinity. This process during asana practice releases accumulated stresses, increases orderliness of brain functioning causes biochemical purification, improves the regenerative capacity, increases autonomic stability, and restores the normal health.

5. **Growth** – As a result of the proper practice of asana one grows in one's ability to not be afflicted by the pairs of opposites. The practice of yoga asana enhances metabolic efficiency, refinement of perception, cardiovascular efficiency, autonomic stability, neuromuscular efficiency, adaptability, stability, integration, and purification processes. It results in improved resistance to stress and disease, growth of intelligence and creativity, self-actualization, and promotes growth towards higher states of consciousness, inner control, and even control over the functions of the autonomous nervous system.

Who, when, and how to practice yoga

When teaching and learning yoga, there are two main factors: the purpose and the person. The purpose for the practice of yoga can be following:

- **Siksha**: Fitness – yoga for people who are healthy, to maintain their health or increase their wellness.
- **Cikitsa**: Treatment – yoga as therapy.
- **Upasana**: Spiritual practice or discipline – yoga for developing higher states of consciousness.

Also we must know the following details about the person who we will teach yoga: who is the person, the capability of learning, age, how fit the person is, state of health, profession, how much time every day one can spend practicing yoga at home, motivation, beliefs, diet, environment, lifestyle, psychological state of the person, etc.

Exercising is important for the health of the body. Yoga exercises are intelligent exercises. You can hurt yourself by exercising too much, exercising in the wrong way, or exercising at the wrong time. If you follow a few Vedic guidelines in your exercises, you can enliven cell intelligence and purification without causing damage to yourself.

Exercises of yoga postures or asanas and yoga breathing or pranayama should be done for about half an hour in the morning and evening. In the morning it is best to perform exercises after the bath, and before breakfast. The best time for exercising is from 6 a.m. to 10 a.m. If you want to do exercises in the evening, they should be done at least 15 minutes before dinner. Allow at least 4 hours to elapse after a meal before practicing yoga exercises. If the stomach is full we cannot move the diaphragm well and our breathing cannot be completely controlled. Also, after a meal, the whole body, circulation, mind, etc., is concentrated on digestion. When we exercise, then the circulation all over the body is equally involved. The gastric secretions used in digestion are formed through the circulation. Therefore, exercise will disturb digestion. Also, if we do long and demanding asana practices during a long fasting session, it will disturb the liver. When we fast, the body is eating itself. Mild practice of asana and pranayama may be useful, but vigorous exercising may cause problems.

In the morning exercises should be done facing the East, and in the afternoon/evening facing the North. Before starting the exercises brush your teeth, clean your mouth, tongue, and nasal passages. Drink a glass of warm water, empty the bladder and evacuate the bowels. Your clothes should be made of natural materials, comfortable and they should not restrict the movements of the body.

Movements of the body should be done evenly and slowly. Any sudden movement should be avoided. If you notice that some parts of your body are not flexible enough to assume certain yoga posture don't force your body into the position. Twist or bend the body as much as it is comfortable and remain in the position while breathing deeply and relaxing the stretched part of the body. Before performing static asanas, first perform the asana dynamically 1 or 2 times, to warm up the corresponding muscles. In this way, you will feel more comfortable during the static phase. While performing static asanas you are internally dynamic, stretching further by the power of breath (breath should be unrestricted, deep and long).

According to Maharishi Vedic Medicine, exercise to about 50 percent of your capacity. If you feel any discomfort, ease off. What we want is to produce more energy and not to expand all of our energy. Therefore, stop at about 50 percent of your capacity. At that point you should still feel energetic and comfortable, never strained or tired. With regular exercise, your conditioning will improve and your total capacity will grow, so that 50 percent of your capacity will also increase. The Ayurvedic principle is „no strain produces maximum gain". Stretch the body only as much as it is comfortable, you should not feel any pain or discomfort. If there is pain while stretching, then this is the sign that you are forcing over the limit of your momentary flexibility of muscle, tendons or ligaments and that you are damaging the structure of the tissue. Then you are using your prana (vital energy) to recover the damaged tissue instead of accumulating prana through your yoga practice. Therefore, stretch only as much as it is comfortable. In Asana, there should be a very faint intention to relax the area which is being stretched. This will open the nadis and allow the flow of ojas and bliss through that part of the body. Practicing asana must be an enjoyable exercise. When you are practicing asanas, some parts of the body are naturally, gently, and pleasantly stretched, and thereby become more activated. The attention is naturally drawn to the location of stretched body part. Allow the mind to naturally be on the area that is stretched. By putting the attention there, by feeling it, you are relaxing and awakening the intelligence of that part. Blood circulation is improved and any abnormality which has developed in that area gets normalized. Then, the sensation of stretching disappears and the sensation of pleasantness arises. Pleasantness then spreads all over the body.

Use your breathing and perspiration rates as indicators of exercise intensity. In general, the rapid breathing and heavy perspiration means that you are straining your physiology. No exercise should be so challenging that you can't accomplish it while breathing through your nose. Pay attention to your breathing. It should be slow and deep. This is one of the best indicators of the effectiveness of any exercise.

Energy flows in the direction where the attention goes. During the practice of Asana, when we are more aware of our subtle bodies, pranamaya kosha will be nourished. We will not lose energy. When the attention is more on the gross physical body, then energy is consumed on that level. Sweating during Yoga practice is a sign of an incorrect approach to the practice. Sweating is the sign that there is an overheating of the body, because attention is on the gross level of the body. Sweating is a means to cool the body down. When the body overheats, it loses a lot of energy. When the awareness is on the more subtle levels, overheating of the body will not happen, because the energy will be directed inwards to nourish and strengthen the subtle bodies. Energy will not be lost, but accumulated. By the breath becoming long and subtle (dirgha and sukshma) and through inner awareness progressively being present on finer levels of our koshas, we channel energy created through the performance of yoga asana to a specific part of our energy body (pranamaya kosha) and finer koshas as well. We then assimilate the energy in the linga sharira (astral body). In this process the mind (inner awareness) acts as the pathfinder of energy, and energy acts as the carrier of the mind. During this mutual movement, energy assimilates into the chakras and the mind shifts beyond the physical body. This is the process of conservation of energy, as opposed to the process of dissipating energy, as is the case if we do the exercises improperly (without the breath being long and subtle and/or with a wandering mind). Yoga is the science and art of transformation. In this example we see how it is possible to transform energy that was created on the level of the gross physical body, through physical exercise, into subtle mental energy. That's why one must be careful not to lose or waste any amount of energy during the practice of asana. The moment your head or forehead begins to perspire, it is time to stop performing asana, relax, and then continue once the body has settled.

If you are experiencing some health problems, especially heart problems, high blood pressure, problems with your back, spine and joints, or during the recovery after a surgical treatment, or if

you are pregnant, consult your doctor before starting any exercises. You should not perform exercises if you are ill and have a fever. The body needs its resources for fighting the illness, not for increasing your metabolism as you exercise. During their monthly periods, women should pass up their daily yoga practice or any other strenuous exercise.

Books and other written, audio, or visual materials, containing instructions and demonstrations of a set of yoga exercises, should be used as a reminder for yoga exercises which you learned personally from an experienced and qualified yoga teacher. If yoga exercises are done incorrectly, they can weaken or even damage body and health. Only a qualified yoga teacher, after a detailed checking of the health condition of a person, can determine the appropriate kind of yoga exercises and the individual adaptations that will improve the health of the person.

Daily routine

Bed time:

Before going to bed at night, put the feet separately in two buckets of cold water for 5 or 10 minutes. Add a few drops of peppermint oil to the water and massage the legs while they are in the water. Take them out and dry them by vigorously, rubbing them with a coarse towel. Then vigorously massage the legs and feet downwards with any edible oil (i.e. sesame, coconut, olive oil). As the nerve-ends of the various organs of the body terminate in the soles of the feet, rubbing them with oil helps to stimulate those organs and corrects disorders of the nervous system. There are certain centers in the soles which are connected with the various organs. If, on pressure, pain is felt in those centers, it is indicative of some disorder or disease in their respective organs.

Moreover this massage is very helpful in inducing sound sleep. Another technique for improving sleep is to draw a comb into the hair of the head from front to back a few times to stimulate the scalp, followed by a few movements of the 7th Exercise for the spine (horse exercise – both variations). Before falling asleep, meditate for some time.

How to Sleep:

People generally sleep either on their right side or by lying flat with the face upwards to the sky. In this position, the heart remains above and the spine on the side or below the body. Thus, the heat emanating from the heart is wasted and the spine remains cold. Moreover, when the face is above, the tongue is drawn back, the nose becomes blocked and the mouth tends to open. This gives rise to snoring. The best position for sleeping is to lie prone with the face turned to right, the right arm folded by its side, and the left arm lying parallel to the body. It may be difficult for people to change their accustomed position of sleeping to that of lying prone. In the beginning one may therefore start by lying on the left side, and in the course of time change to the prone position. Usually, the breath is mainly drawn through one of the nostrils which keep closing and opening alternately. The right nostril is connected with the sun (hot) and the left with the moon (cold). As there is no sun at night, it is beneficial to breathe through the right nostril to keep the body warm.

Waking up:

Rise early in the morning. While still in bed gently massage the closed eyes with the palms of the hands, and then cover the eyes with joined palms and look at the darkness of the cave formed by

the palms. This has a strengthening effect on the eyes, because prana which accumulates in the eyes at night is reflected back from the palms to the eyes. Then, while still in bed, do the 7th twisting exercise for the spine (horse exercise – both variations), to remove stiffness from the back and the spine, awaken the body and remove any constipation. To ensure a good and happy day, begin it by breathing through the right nostril on Saturdays, Sundays and Tuesdays. If the wrong nostril is open (i.e., left nostril on Saturday) then lay down on the left side (if the right nostril needs to open), with the hand covering the left ear. Press the left armpit with the right hand till the breath begins to be drawn more strongly through the right nostril. Begin the remaining four days by breathing through the left nostril which could be opened by pressing the right armpit with the left hand.

After waking up drink the decanted water (bitter tea – put one tea spoon of Wormwood herb (Artemisia abshintium) in one litre of cold water, which was kept covered at night. After taking one glass of bitter tea pour one glass of fresh water into jar and keep it for the next day. Go on taking this water every morning, adding the water everyday. After 4 to 5 days replace the herbs with fresh ones and use their water for 4 or 5 days (Note: Menstruating and pregnant women should not take this bitter tea. Eczema patients should wash the affected parts with this water. It purifies the blood and prevents blood diseases, eruptions of acne, pimples, boils, etc.). If you drink plain water in the morning, then the water should be kept in a copper vessel and sipped first thing in the morning with a hissing sound so that air is taken in as well. You can do this while still in the bed, before doing the spine twisting exercise No. 7.

After that do your toilet (evacuate bladder and colon). Then clean the teeth and gums by massaging them with a paste of table-salt mixed with any edible oil. A twig of the Neem tree is excellent for cleaning the teeth. Also it is good to gargle with salt water. After cleaning the teeth, clean the tongue and do rubber neti, then take a shower. Rub the body vigorously. Then dry it with a coarse towel. Thereafter sit and do 6 ujjai breaths, Sankalpa, Samvahan (massage), Ashta Sandhi Vimochana Kriya, Bhastrika pranayama, Kapalabhati pranayama, Mahabandha, Ashvini mudra, Sungazing (within one hour after Sun-rise), Suryanamaskaram, asana, pranayama, and meditation. Then take breakfast (Kolath).

Observe two fasts each week, preferably on Sundays and Thursdays. During the fasts, take only bitter tea, mint tea, or basil leaf tea (mix in some aniseed with the last two teas). At the time of lunch, take vegetables and nuts (which are rich in protein, carbohydrates, salts, and vitamins – the sugar and various mineral salts that they contain are natural and in balanced proportion). Food should be light and purely vegetarian. Take no water during or immediately after meals. Fruits should be taken two hours after the meals, and never along with the meals nor with vegetables and cereals. Supper should consist of light foods, like boiled cereals, etc. Food must be masticated (chewed) thoroughly before swallowing. There is a dictum: "drinking you eat and eating you drink". This means that you must eat the liquids and drink the solids. Drinks like milk should not be gulped down hastily, but kept in the mouth for a while to be mixed with saliva and then swallowed. It should be taken in small sips and not in gulps. Solid foods should be masticated 32 times on each side so that it changes into a liquid and becomes easy to digest. Because we fail to chew our food properly, it passes to the stomach where there is a great strain on the organs of digestion. Bad breath is produced by the gases arising from the stomach. Wash out the mouth thoroughly, at least 12 times after each meal, and because gases also rise up when you go to the toilet, rinse out the mouth 3 times after urination and 6 times after evacuation.

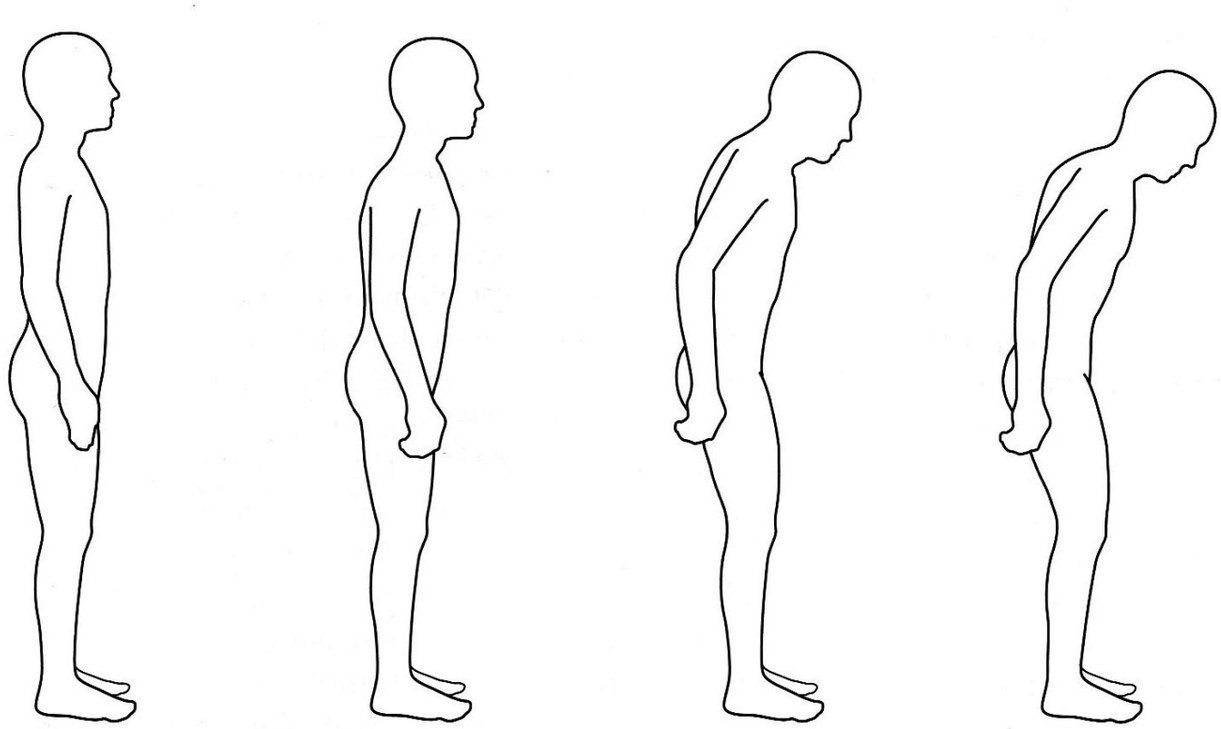
Yoga practice through the life span

Common patterns of movement abilities are very obvious in childhood and equally common, patterns of loss of movement ability are seen in older people. Newborn children are helpless and totally dependent on others until they have developed the basic skills and quality of movement, needed to cope with normal life. There is a rapid acquisition of motor skills in the first few years of life, after which the developmental process slows down. From the late teens until the late middle age, there is a period of stability where changes in movement ability are not particularly noticeable and then from the sixth decade onwards there is measurable change that leads towards a decline in ability. Yoga practice must be designed according to age, to develop and support optimal functioning of body and mind. Also yoga practice should be adjusted to accommodate changes in the body and mind with the passage of years. The yoga krama (order) is of three types: srshti krama (brahmachari – young age), athiti krama (householder – midle age), and anta krama (sannyasi – old age). It is important to teach what is appropriate for one's age. Children are in their Kapha period and that is why they can have more problems with Kapha related diseases. Middle aged people are in their Pitta period and can have more problems with digestion and metabolism, while older people are in their Vata period and can suffer more from Vata related diseases like paralysis, Parkinson disease, etc.

In the first 2 years of life, as part of the process of physical development, the infant has to gain voluntary control of movement. Parents can do regular abhyanga and hip-opening exercises with their children, as well as exercises to strengthen the front and back side of the body (bhujangasana, etc.). In order to be able to walk, the infant first needs to achieve a number of related physical milestones. For example, it would be difficult to walk without a stable relationship between the trunk and the head or between the trunk and the lower limbs. Consequently one of the early motor skills to develop is the control of trunk and head positions. Most children crawl before they walk, this activity utilizing reciprocal movements of the upper and lower limbs in patterns somewhat similar to walking. The achievement of walking occurs around one year after birth. It takes several more years before walking and running become fluent and precise. Children can be taught yoga from the age when they can eat by themselves. Children learn by looking at elders and imitating them. Parents must lead a disciplined life, practicing yoga regularly. Then children will be encouraged to start practicing yoga together with their parents. For children, asana should be growth-oriented. Asana practice for children should include dynamic postures which demand agility and are somewhat challenging. Children like to practice in groups, where healthy competition develops some excitement and interest that will aid the momentum of learning. Postures are often strung together in a sequence, to keep the child's attention. Different classical asanas can for example be practiced in a way that puts them in the middle of the sequence of Surya namaskar B. Sound and chanting can also help to consciously coordinate breath and movement in asana. Also a certain story can be developed which includes active participation of children imitating different poses of animals, trees, etc. mentioned in the story.

By adolescence motor ability is very well developed to the extent that children in their teens are able compete in international sporting events such as gymnastics. Yoga practice at a young age can be vigorous, aimed at creating or building strength. Improvement in motor ability continues to be seen. As children move through adolescence to adulthood, they show improvements in their balance, strength, and speed. For them it is good to practice dynamic and challenging yoga exercises. For many young adults their motor ability levels off fairly quickly and then starts a gradual decline into the middle age, and then a more rapid decline in the sixth or seventh decade of one's life occurs. For middle aged people, the priority is to maintain health rather than increase strength. The key to maintaining or developing motor skills throughout life is repetitive practice of exercises that

challenge existing abilities. For older aged people, an effective yoga exercise programs will help them, at the very least, maintain their existing condition, and should aim at improving the function of all the major bodily systems. This should include the heart, lungs, musculoskeletal, metabolic, as well as the central and peripheral nervous systems. Elderly people, after having done some strenuous exercises, should do some balancing exercises, in order to develop balance in the body. At this stage, physical exertion in yoga practice should be reduced, with more emphasis on meditation. The method of practice for this stage emphasizes a peaceful mind, induced by pranayama and meditation.

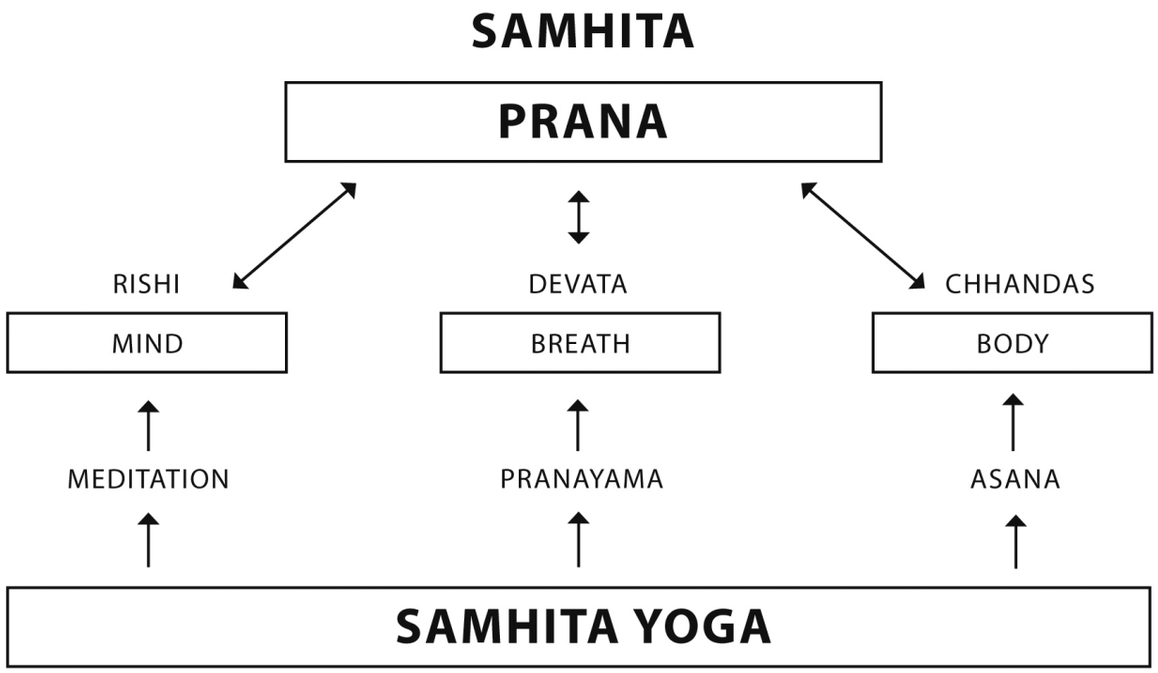


The above picture shows the typical development of postural changes associated with aging which can be prevented by the regular practice of yoga asana throughout life.

The main principles of the correct practice of asanas: Training into principles and practicing them in asanas

- **Vedic Yoga** – Samhita Yoga approach to practicing asanas, linking consciousness, breath and movement into one wholeness on the move.

Vedic yoga connects practices of all limbs of Yoga (Ashtanga Yoga) with Pure Consciousness which is the source of Pure Knowledge (Veda). Consciousness is Rishi, breath is Devata, and the body is Chhandas. During the practice of yoga asana, consciousness, breath, and body should be united (Samhita). Yoga positions represent the self-referral activity of Pure Consciousness. This restores the memory in our body, that it is the expression of Consciousness. Advancement in the practice of Vedic Yoga is characterized by experiencing more and more progressive levels of unity between mind, breath and body, until certain asana (position of the body) become totally motionless (Asana Siddhi), and the breath stops (Kevala Kumbhaka), while the mind transcends all its activity (Samadhi). The purpose of practicing many asanas is to achieve such flexibility and strength of body, that it can stay in certain asanas in a stable and comfortable way (sthira-sukham āsanam), for a long period of time. The purpose of practicing many pranayamas is to achieve the spontaneous holding of breath (Kevala Kumbhaka) and the purpose of meditation is to transcend all activity of the mind (chitta vritti nirodha). Then the state of Samhita is achieved on the level of the mind and body and one becomes a living embodiment of Veda.



Samhita Yoga is the daily practice of asana, pranayama and meditation. The value of prana becomes expanded through body, breath and mind. In meditation when we expand and silence our mind, prana expands and induces a more expanded and silent breath, and a more relaxed physiology. Whatever the angle we take to influence prana, the effect will be felt in all areas of our life. Prana has a holistic (Samhita) value and is at the basis of the functioning of mind, breath, and body. Prana is the power which connects and coordinates mind and body. That is why a certain state of consciousness corresponds to a certain state of the functioning of physiology. The main goal of Samhita Yoga is to expand individual prana to gain the status of cosmic prana. Then the individual mind gains the status of the cosmic mind, individual breath gains the status of cosmic breath, and individual physiology is in tune with cosmic physiology.

- **Asana and yoga asana**

Asana becomes Yoga Asana when the person experiences Yoga (quality of Anandasana- Shavasana, Chetanasana) while holding the position.

Every asana has three phases: entering, maintaining and coming out of the position.

The entering phase represents the force of creation – Brahma. This phase is the first part of an asana. The body is placed in the starting position and slowly moves into the final posture. The entry phase is of vital importance to end up in a correct static phase. If the entry phase is not done carefully, the posture may be distorted, resulting in tensions, pain and other harmful effects.

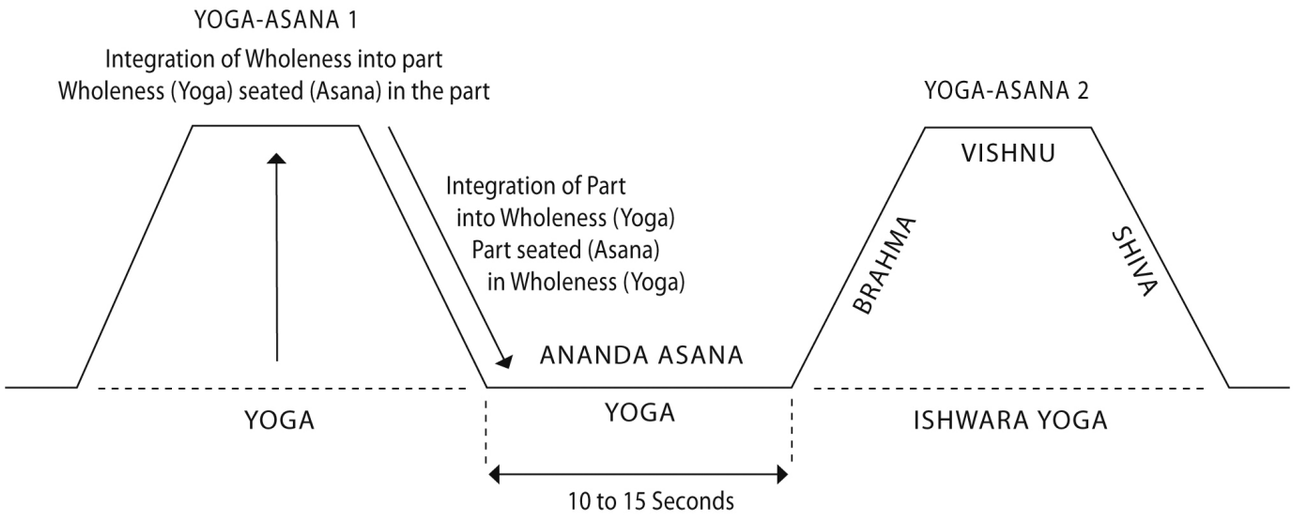
The static phase (maintaining the position) represents the force of maintenance – Vishnu. The static phase is the final motionless posture of the body which is the actual asana. In this phase the body is kept in the position for a certain length of time, while one tries to use only the necessary muscles and let the body remain as steady and relaxed as possible. This is the most important phase of the asana, in which the posture should be allowed to exercise its effect on the body without any disturbances.

Coming out of the position represents the force of dissolution – Shiva. The exit phase is the last part of the asana, in which the body is brought back to a neutral, relaxed position. This part of the yoga asana often covers the movements of the entry phase in reverse order. It is important to perform the exit phase properly to ensure that the body is left in a relaxed state so that the organism may fully absorb the effects of the exercise.

Performing yoga asanas is thus an action of God (Ishvara).

The basic yoga position called Anandasana, Shavasana, Shivasana, or Chetanasana, represents the unmanifest field of life, the Absolute, the Unified Field, the state of Yoga, total wakefulness and peace of mind and body. From the Absolute, which is the field of all possibilities, all differences (asanas – forms) are created, maintained, and dissolved again into their source. Like that Anandasana represents the field of all possibilities, because starting from that asana you can assume any position. While maintaining a specific asana, one should have the experience of the quality of Anandasana, together with the specific asana. This introduces the quality of Yoga into the asana, and only then is asana called Yoga asana. With the proper practice of Yoga asana we are integrating more progressive states of silence and dynamism, until we reach the state where we live, at the same time, infinite silence together with infinite dynamism. Then the state of Yoga (unity of opposites) is achieved. Thus the practice of Yoga asana develops higher states of consciousness: Cosmic consciousness (turiya titha), etc.

YOGA ASANA



- **Ujjayi or throat breathing** – mastering the breathing process

Ujjai means victorious breath. With ujjai sound you master the proper process of consciousness breathing (inhale and exhale). In ujjai breathing you constrict your vocal cords slightly as you breathe, so that you can feel the air as it flows past. A slight hissing sound often results. The more you constrict your throat and force your breath, the louder the sound. Conversely, the more finely you control your breath, the softer the sound. The goal is not to create a lot of sound but less sound. With practice and greater control, you should be able to breathe slowly and very smoothly. Then the sound will diminish and you can direct your attention on a more subtle indicator: the internal sensation of your breath flowing, feeling a rubbing sensation in throat. In ujjai breathing you have two senses involved: the sense of hearing and sense of touch. Ujjai breath is the mantra in the practice of yoga asana. The sound and touch makes the breathing process more concrete and helps the consciousness to connect more easily to the breathing process and feeling of all the muscles involved in the breathing. This develops inner awareness which is essential for proper practice of yoga asana, because movement of the body starts from within, guided by breath and feeling the outer movement from within the body.

- **Influence of the breath on the spinal curvatures** – breath moves the spine

The movements of breathing are deeply connected with the spine. Severe spinal misalignment or restriction of movement, like the scoliosis, can lead to decreased breathing capacity. Inhalation helps in extension of the spine, decreasing the convexity of the thoracic spine and increasing the concavity of the lumbar spine. Exhalation goes with flexion of the spine, increasing the convexity of the thoracic spine and decreasing the concavity of the lumbar spine. These methods of inhalation and exhalation ensure that the spine is supported during the asana practice, and that breathing is in synchrony with the movement. For a healthy spine, it is preferable not to slump the upper spine in forward bends, or compress the lower spine in backward bends. The practice of inhaling and exhaling with the appropriate movements will heighten awareness of the spine and bring more emphasis to it in the practice of each asana.

- I**deal breathing methodology, containing movement within breathing** – breath moves the body

Start and finish the movement with breath. Start inhaling and after 2 seconds, when the upper part of the spine begins to stretch, add the movement of the body (i.e. hands rising up) to support the initial movement of the spine in the direction of the upward stretch. Then breath and movement flow together. After finishing the movements remain still for 2 seconds and finish the inhale. Do the same procedure when you exhale. In this way move the body with the breath. During the asana practice our full attention is on the breath and not on the body. If our attention is directly on our body then after some time, when we learn the sequence of the movements, our brain fixes the neuronal connections and we begin to execute the movements automatically, without conscious awareness. Then there is no connection between mind, breath and body. The mind is absent, we are not aware of the breath, and the movement has only a superficial effect on the body. This is why we first connect the mind with breath and through the breath with the body. Breath has the tendency to change at any moment and because it is made conscious it can not become automatic. During practice of yoga asanas consciously regulated and controlled breathing cannot become automatic. We feel the breath and feel how the breath is moving the spine and the body. We do not think about the breath or the movement, but we feel the breath and we feel the movement inside the body. Feeling is more close to being present in the moment (unity) than thinking, and Being is absolutely present (state of Yoga). The more we are experiencing unity, the more energy, happiness, and state of the „ZONE" (Samprajnata Samadhi) we experience. In that state when there is a total integration of mind, breath and body, there is perfect coordination between mind and body. The body then follows any impulse of the mind with ease and lightness. This can then be called the practice of yoga asana.

- **Principle of compatibility of breath and movement** – using the breath to emphasize the movement of the spine and to maximize the benefits of movement

The movement of the body should start from the same part of the body from which breath starts. Breath prepares that part of the body (spine) which will be moved. The primary aim is to ensure that breath does not oppose the movement. Otherwise, it can create health problems. Exhalation, for example, collapses abdomen and chest, so there is no restriction if the movement of the body is in the same direction. It allows forward bending, twisting, as well as lateral bending. All these movements can be done while exhaling. If one is unsure what breathing phase best supports a certain type of movement, then it is safe, though maybe not optimal, to start with the exhalation. Inhalation supports backward bending expanding the chest and the abdomen. In certain therapeutic situations, backward bending can be also done while exhaling. During the suspension after the exhalation, all the movements can be done.

- **Breath trains the body**

Breath is the trainer and the body is the student. Breathing properly promotes blood flow and increases the delivery of oxygen and nutrients to your muscles. Breathing slowly and easily also helps to relax your muscles which make stretching easier and more beneficial. When your body is relaxed, your stretching becomes easier. Stretching is then safe and when you are stretching safely, you are gaining the most benefits from your yoga asana practice. First we fix the length of the inhale or exhale and then start the practice. The specific length of breath requests our body to follow. This is the way how the breath trains the body. If the body cannot follow the breath, it will be reflected on the breath (feeling a lack of oxygen or the need to breathe more quickly). This is the moment to stop the practice and let the body rest and restart only once the normal (calm and long) rhythm of

breathing is again established. This is how a person develops a strong cardiovascular system, endurance, and physical fitness. This kind of exercising also strengthens all inner organs and systems. The body then gains strength from the outside and the inside.

- **Use the breath as a feedback device**

The best indicator of our limits during the practice of yoga asana is our breath. As long as we can breathe smoothly with the Ujjayi sound, we are within the limits of our body's abilities. The moment we need to take a quick breath through the nostrils without maintaining the proper throat sound, we must stop. Wait until the breath becomes long and smooth and then resume the practice. If during the practice we hold the breath, it should never disturb the smoothness and length of the subsequent inhalation or exhalation. Purpose of yoga practice is to achieve balance between functions of prana and apana, inxalation (oxygen) and exalation (carbondioxid). This is achieved by making breath long and subtle (dirgha and sukshma) until it stops moving (kevala kumbhaka).

- **Starting the practice, preparing mind, breath and body, determining the starting point**

Mentally preparing for our yoga asana practice starts with Ujjayi breathing, "peace chant", and sankalpa. Everything in nature has its purpose. A fruit is to produce a new seed, etc. Have a sankalpa and focus on achieving that goal. The best sankalpa is for enlightenment. Depression comes when life is without purpose. When anger destroys memory (Smriti) and we can't remember our purpose, we become lost and disoriented. This results in depression, fear, despair, feeling lost, and other such negative emotions.

Measurement Theory states that attention on an object does something to that object. A coherent, peaceful and pleasant (sukha) state of mind creates an influence of coherence or balance in the object of attention (in the area of the body where the stretch is being felt). Breath is prepared with ujjayi and bhastrika pranayama and the body through Samvahan (massaging the body from the outside), kapalabhati pranayama (massaging the body from the inside – internal organs), warming up the joints and movement of the spine in different standing asanas, starting with the movements of the spine from known to unknown, and from less demanding (bending forward) to more demanding (backward bending of the spine).

Due to the importance of joints in the practice of asanas, a series of movements, called Ashta Sandhi Vimochana Kriya ("eight joint releasing actions") should be performed before starting the actual asana practice. Joints are fragile components of a perfectly well designed anatomical architecture. They have to support the weight of the bones and muscles attached to them. It is therefore important to protect and reinforce them through proper movements. The smooth movement of the joints and the flexibility of the muscles are interdependent. Areas to which bigger groups of muscles are attached are: neck, shoulder-joints, and hip-joints. From the physiological point of view, joints are also crossroad areas where certain nerves, veins, arteries, and lymph glands are grouped together, for the organism to function systematically. So these areas are likely to become congested with an accumulation of toxins blocking the free flow of energy. Opening the joints helps to alleviate such congestions. On the energy level, the position of the joints in the body corresponds to very important pranic energy circuits (marmas), which liberate energy when higher yogic practices are performed. Preparatory movements liberate the energy by a maximum opening of the joints before performing the full asana. This allows a person who is not able to perform the full asana, to still obtain the pranic effect, associated with a partial execution of the posture. The body has its own intelligence which should newer be forced in any way.

- **Starting position and mental preparation (correlation of name and form of an asana)**

From the beginning position of an asana, "open" your body from the inside so that prana can flow freely through the nadis, and then put your attention on that chakra which will be most stimulated through the asana you want to perform. Then when you feel the pulsating of the chakra and the energy traveling in that direction, start to move into the position. Maintaining the attention on the chakra, slowly and gently move into the posture.

Asanas are named in various manners. Some are named after animals, some describe the position of the body in that asana, others describe the function/effect that the asana has on the body, and some are named after mythological figures. Some asanas are named after ancient sages or derive from mythology, with uplifting stories behind them.

The Self stirs with an intention. Together with the intellect, it takes a direction and engages the mind. The mind strikes the fire of the body which in turn drives out the air. The air, moving within the lungs, causes the emergence of subtle sound, which becomes sound – svaram – the reverberation of the Self. Also from the movement of the lungs, the spine moves, and from the movement of the spine, limbs of the body move. This is the sequence how an intention of consciousness is translated into the movement that leads to a certain asana position. The movement is from within and should be consciously experienced from beginning to end.

Physiological correlates of the image (imagining the asana before performing it). People, who experience very intense imagery, may have full-blown physiological responses. They are able to recall past events in minute details, as if their memory storage banks weren't at all muddled up by time or feelings. One of the most famous cases was a man who was able to increase his heart rate by imagining that he is running, and who could alter the size of his pupils and manipulate his cochlear reflex by imaging sights and sounds.

In 1929, American physician Edmund Jacobson demonstrated that if one thinks intensively about a particular body movement, then the corresponding motor neurons become activated. The rate of firing is extremely low, and muscular activity is perceptible only with sensitive recording instruments. Nevertheless, thinking about certain asana actually triggers those muscles to become active. The asana is rehearsed and perfected in just this fashion. Imagining eating a lemon, or just thinking of increasing the amount of saliva, has a direct effect on the production of the salivary glands. Jacobson trained his patients to alternately tense and relaxe specific groups of muscles. After tension, a muscle will be more relaxed than prior to the tensing. Person should concentrate on the feel of the muscles, specifically the contrast between tension and relaxation. In time, person will recognize tension in any specific muscle and be able to reduce that tension. In this way patients voluntarily relax certain muscles in their body in order to reduce anxiety symptoms. Jacobson also found that relaxation procedure is effective with ulcers, insomnia, and hypertension. There are many parallels with autogenic training, which was developed independently.

Intensive sexual and phobic imagery is accompanied by dramatic physiological changes. Imaging noxious stimuli has been associated with physiological arousal and directly measured in actual changes of heart rate, muscle tension, and skin resistance levels. In an early study in this area, subjects were instructed to imagine lifting different weights. Muscle tension increased according to the test suggested by the experimenter and very vivid images resulted in more muscle tension. Images can elicit changes in blood glucose, gastrointestinal activity, and even lead to blister formation. Pioneering investigations by Schneider and Smith and their colleagues, and Hall have determined that the image is also capable of controlling aspects of the immune system.

Imagining oneself in a pleasant, nonthreatening scene is commonly used method for slowing down a pounding heart, lowering blood pressure, and to generally achieve homeostatic balance. Desensitization, a popular method of dealing with significant and maladaptive fears and anxieties, relies on the use of imagery in the following manner: Unpleasant events are imagined during deep relaxation, thus linking those thoughts to a state of calmness, and "unlearning" the association between them and a high level of physiological arousal. Desensitization is believed to work, because it is theoretically impossible to feel either fear or anxiety while being physically relaxed. Hundreds of reports on this technique make it one of the most extensively tested and documented therapeutic approaches and a testimony to the role of the imagination in determining behavior.

- **Main principle of correct movement** – sthira-sukham āsanam (Y.S. 2.46): Posture is steady and comfortable; strong and flexible.

Sthira is the first word and sukha second. Without sthira there is no sukha. This principle is essential for establishing the starting point, leading to the experience of Samadhi. Also it is applied as a guiding principle to the nature of a movement (and stretching) in the practice of yoga asana. The stretching must be pleasant (sukha). When you stretch the muscles and tendons to the point of pain, the body employs a defense mechanism called the stretch reflex. This is the body's safety measure to prevent serious damage from occurring to the muscles and tendons. The stretch reflex protects the muscles and tendons by contracting them, thereby preventing them from being stretched beyond their limits. If you try to force your body beyond this fail-safe point, you run the risk damaging muscle tissues, tendons or ligaments. Many people have the mistaken impression that they should push and pull themselves into a yoga asana. This will not help and could do more damage as one tries to push too far beyond the stretch reflex. So, to avoid the stretch reflex and potential damage to the muscles and joints, avoid pain. Never push yourself beyond what is comfortable. Only stretch to the point where you can feel pleasantness in stretching. This way, you will avoid injury and get the maximum benefits from practicing yoga asanas. Your body will produce serotonin and endorphins. When you force the practice beyond the limits of pleasantness and you feel pain during stretching, then your body produces adrenalin, and you become addicted to adrenalin and attached to this kind of wrong practice which damages the body. Every move you make should be smooth and gentle, initiated and guided by breath. Lean into the stretch gradually, move to the point of very mild tension, still feeling pleasantness during the stretching and hold the position for few seconds. With each dynamic repetition of the yoga asana, you will be able to go a little further, but do not force. Each move needs to be fluid and gentle. During the static phase of yoga asana, while breathing long and subtle, hold your stretch position for at least 15 to 20 seconds before moving back to your original position. Move the body by breath and enter into yoga asana only as far as it is comfortable. While staying in the yoga asana, use the breath to stretch more deeply into the posture. Relaxing and lengthening of the associated muscles and ligaments during stretching takes patience, do not rush. Take your time and relax. During stretching you should not be just passive observer. You should relax the stretched area of the body through silent intention.

A picturesque description of the principle of sthira-sukham āsanam is presented in the Vedic literature. Ananta, the king of serpents carries the universe on its head and at the same time is providing a bed for Lord Vishnu. The cobra must be relaxed to provide a comfortable bed for the Lord. That is the sukha aspect. Yet the cobra cannot be dull and weak because it is carrying the universe. That is the sthira aspect. These two qualities give us the idea of a perfect posture and how it should feel. Once we do every asana correctly we will be able to handle the pairs of opposites. We will achieve the ability to adjust easily to the extreme cold and heat, etc.

- **Prayatna-śaithilya-ānanta-samāpattibhyām (Y.S. 2.47):** „Through relaxation of effort and absorption in the infinite (the posture is perfected)."

This sutra tells us about process of experiencing Samadhi through the practice of asana. Transcending amounts to the dawn of unboundedness. Elimination of the effort and the dawn of unboundedness both come together. By letting the mind be on the location of the stretch, after a moment, the stretching sensation will begin to disappear, giving rise to pleasantness. This is the dawn of unboundedness. During the dawn of unboundedness it will be felt that the body is unmoving and as if non-existent. The body has become like a void, dissolving itself in the infinite space and one feels / is like the wide expanse of the sky. This creates perfect mind-body integration, perfection (Siddhi) of the Asana. When the mind attains Samadhi, on which all the existence stands, the posture is firm and perfect.

- **Tato dvandva-anabhighātaḥ (Y.S. 2.48):** "as a result (one is) not afflicted by the pairs of opposites"

When perfection in Asana is attained, the result is stabilization of Samadhi in asana and the person is not affected by the opposite conditions like heat and cold, hunger or thirst, etc. Then asana becomes Yoga asana. Also on the level of the body, the person can remain in one asana (i.e. in Paschimotanasana) comfortably for a long time, and then immediately change to opposite position (i.e. Shalabhasana) and again remain comfortably in that position for a long time. All asanas can be seen as pairs of opposites. Also pranayama has pairs of opposites: inhale, exhale. (Meditation) mind has pairs of opposites: silence and activity. Yoga is the integration of the pairs of opposites.

- **Maintaining the balance**: centre of gravity and the base of support (brahmasthan of the body connected with the brahmasthan of the base of the asana)

The "sthira" (stability) aspect is fulfilled when the brahmasthan of the body (navel) is vertically connected with the brahmasthan of the base of the asana – in the starting position of asana, during the movement into the asana, while maintaining the asana, and when coming out of the asana. Stability (sthira) means that we are moving and not moving at the same time. Sthira is established first so that sukha (happiness) can be experienced. Even as the limbs, torso, and different parts of our body move, at the centre (brahmasthan) we are not moving.

The centre of gravity is the point upon which the force of gravity is said to act. It is the geometrical centre (brahmasthan) when object is a symmetrical and regular (cube, cylinder, cone, etc.). The bodily segments do not fit exactly into these descriptions, but can be approximated in this way. The centre of gravity (COG) of the body as a whole can be thought of as a point around which the mass of all bodily segments are evenly distributed. In the anatomical position, it is thought to be at the level of the second sacral vertebrae, inside the pelvis. However, as soon as the configuration of the body differs from the anatomical position, the COG will shift and can even be located outside the body. For instance, if both arms are elevated to a horizontal position, the COG moves forward and upward relative to its location in the anatomical position. This change of COG location is an important consideration when discussing balance and equilibrium and the different yoga postures (asanas). The line of gravity can be said to be the projection of the centre of gravity on the ground, represented by a line perpendicular to the ground through the COG.

The centre of pressure is the point of application of the ground reaction force. This force reflects Newton's Third Law, the Law of "Action and Reaction", in that the force exerted by the body onto the ground, is reflected back at the central pressure point. On average, while standing still (Samasthiti

asana), the ground reaction force and gravity pulling on the COG will be co-linear. This is not necessarily the case while moving and in other yoga asanas positions.

Every object has to rest on a supporting surface. The surface area of the part which is involved in supporting the human body is known as the base of support (BOS). The shape and the size of the base of support depend upon the posture (asana) that the body adopts (lying, sitting, standing, upside-down postures, etc.) – the position of the feet and hands and the use of extra support (chair, etc.). When standing upright and unsupported (Samasthiti), the BOS is in between and underneath the feet. If the line of gravity (LOG) is within the base of support then the body is said to be in balance. Some anatomical landmarks give a good indication of where the LOG is located on a person standing upright. A line projected through the centre of gravity onto the floor is passing through the middle of the mastoid process, in front of the shoulder joint, at or just behind the hip joint, in front of the knee joint and 3-4 cm in front of the ankle joint. When all the resultant forces and moments acting on a body are equal to zero, then equilibrium is said to occur. If the body is stationary when all the forces add up to zero then the body is said to be in static equilibrium. If, on the other hand, the body moves with a constant linear velocity, it is said to be in dynamic equilibrium. If, after a displacement by a force of short duration, the body tends to return to its original starting position then is said to be stable. If an object tends to continue its displacement under the influence of gravity, after a force of short duration is applied, then it is said to be unstable. The stability of the body depends upon: the surface area of the BOS, the location of the LOG within the BOS, the height of the COG above the BOS, and the mass of the body.

While quietly standing upright, the contact area with the floor underneath the feet and the area in between the feet is the base of support (BOS). The stability limit has been defined as the area within which people can move their line of gravity without losing their balance. The centre of pressure (COP) of the ground reaction force is located well within those two areas, a few centimeters in front of the ankle joint. Because a person will always sway a bit, the COP oscillates with amplitude of approximately 1 cm.

- **Stretching** – simultaneous movement in opposite directions

During a movement in the practice of yoga asana, we always simultaneously move in two planes. For example while bending forward we are stretching the body horizontally while at the same time moving vertically down. Stretching the spine horizontally means moving the hands forward while pushing the hips backward. During stretching, when we move some part of the body in one direction, then we also move the opposite part in the opposite direction. In this kind of stretching we are moving and not moving at the same time. We stretch in a way to reach the opposites. For example, while stretching the spine vertically along it's axis in the standing position, we stretch the hands above the head and at the same time, with the same force we press into the floor with our feet. We connect Heaven and Earth. This is how stretching fulfills the yoga principle of uniting opposites.

- **Opposites work together**

Every muscle (agonist) in the body has an opposing muscle (antagonist) that acts against it. For example, the muscles in the front of the legs (the quadriceps), are opposed by the muscles in the back of the legs (the hamstrings). These two groups of muscles provide a resistance to each other to balance the body. If one of these groups of muscles becomes stronger or more flexible than the opposing group, it is likely to lead to imbalances that can result in injury or postural problems. For example hamstrings tears are common injuries. They often arise from strong quadriceps and weak,

inflexible hamstrings. This imbalance puts a great deal of pressure on the hamstrings and usually results in a muscle tear. The same applies to the arms: Biceps versus triceps.

- **Rest** – importance of Ananda asana

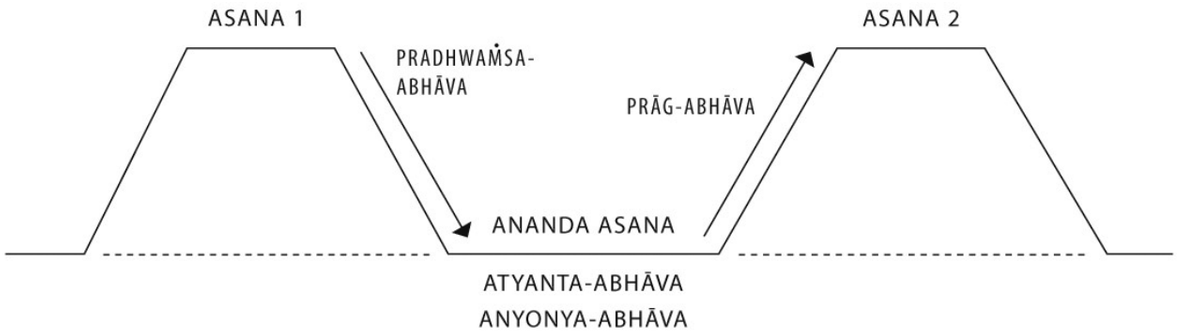
The Vedic literature declares that bliss (ananda) is the essence of life, and that the whole creation flows and evolves from within bliss:

Ānandād dheya khalvimāni bhūtāni jāyante
ānandena jātāni jīvanti
ānandaṁ prayantyabhisaṁ vishanti

„From bliss, indeed, all these beings originate
by bliss they are sustained
towards bliss they move and into bliss they merge."
– Taittirīya Upanishad, 3.6.1

Ananda asana connects different asanas in their sequence of practice. It is like the gap (sandhi) between mantras in Vedic recitation. The gap (Ananda asana) has four values:

FOURFOLD STRUCTURING DYNAMICS OF ANANDA ASANA



1. **Pradhwaṁsa-Abhāva** (silencing dynamism): After coming out from Asana 1, the specific effect of that asana is integrated in the whole physiology during Ananda asana.

2. **Atyanta-Abhāva** (silent wholeness): After the specific mind-body coordination of Asana 1 is fully metabolized and stabilized, the physiology is in a totally integrated state - a silent point value of all possibilities. Like the body of Shiva, without action and lying down in a state of supreme peace as the field of all possibilities. Mind, body and breath are totally silent.

3. **Anyonya-Abhāva** (liveliness of all possibilities in its silent nature): The structuring dynamics of what happens in the gap. In the field of all possibilities, specific ability (Asana 2) emerges as an idea, but still in its unmanifest form (in the gap).

4. **Prāg-Abhāva** (evolution of a specific quality): The mechanics by which Asana 2 emerges from the gap (Ananda asana). The idea stimulates breath which moves the spine and body into next asana.

Therefore, it is obvious that the practice of Ananda asana in between other asanas and at the end of sequence of yoga asanas is vital to gain maximum benefits of yoga asana practice. Every asana enlivens a specific part of the physiology and this effect is then stabilized and integrated in whole physiology in Anandasana. Through the sequence of different asanas, all aspects of the physiology become enlivened and integrated. In this way the practice of yoga asana has a holistic effect on mind and body. When practiced in between asanas of a sequence, it should be held for at least 15 seconds, or for as long as it is convenient. When practiced at the end of a sequence, it should be held for at least 3-5 minutes. If the practice of a sequence lasts longer than 30 minutes then rest should be at least from 5-10 minutes. If the practice is one hour then the rest should be minimum 10 minutes. To prevent any back strain, while changing from the lying to the sitting position, roll to your right side and put your right arm under your head like a pillow. The right leg is extended while the left leg, bent at the knee, is resting on top of the right leg and the left knee is touching the floor. Then by the use of both arms sit up slowly.

During Ananda asana the body and mind adopt a configuration that is ideal for normalizing and balancing physiological processes and for promoting mind-body coordination. Ananda asana provides restful alertness, relaxes the whole body, restores homeostasis, increase anabolic activity, replenishes depleted energy, strengthens the major internal organ systems, helps elimination of waste materials and toxins from the cells and tissues, regulates the appetite, and rejuvenates the body.

- **Principle of moving** – flow without resistance

From Ananda asana only those muscles are activated which are necessary to move the body into the next position. While staying in the position, only those muscles are active which are needed to remain in the position and all others are relaxed. The same principle holds for coming out of the asana. When all other muscles are relaxed, then there is no resistance to the action of the muscles which move body into a certain position.

- **Recognize resistance and use adaptation to reduce it**

Resistance can be physical, mental, or emotional, and can involve the body, breath and mind. If for example while bending forward from the standing position, you feel too much stretching in the hamstrings, then you can bend the knees slightly to adapt the final position. When one recognizes one's limitations, one can adapt the asana practice in many ways. One can vary intensity, change the breathing, dynamically repeat a posture a few times before going into the static phase, or limit the duration of staying in the asana. The way of doing asanas should be adapted to the condition of the person so that one can feel stable and comfortable during the practice.

- **Overcoming resistance through intelligent effort**

Many of the physical exercises of Yoga are stretches which are designed to reduce tensions in the nervous system. When you are mentally tense, you also become physically tense. If you are going to "stretch the tension out of a muscle" it must be done very gently, applying the principle of ahimsa (non-violence). Your muscles have an independent and automatic protective system built into them. For example, if you are stretching your back muscle when it is tense, it will not stretch very much, and if you continue to stretch it more, it will tear. Now suppose the same muscle is relaxed. It will stretch to a certain extent. But then if you try to stretch it too quickly or too much, the muscle's immediate reflex reaction is to contract (make itself stronger), in order to prevent damage to the muscle fibers. Now provided you do not increase the pull at this stage, your muscle will be all right. But if you do increase the pull, you will be doing it when the muscle is not in the condition for further stretching (as it is already contracting) and so you are more or less bound to damage it.

Learn to feel your body from the inside. Accept all the information that comes into your brain about what is going on in your body. Learn to recognize the signals which say that you are working it too hard. During asana practice the attention is naturally drawn to the location of the stretch. Feeling it connects awareness with breath and that part of body which is being stretched. While exhaling, consciously relax the stretched area so that the sensation of pleasantness arises and replaces some unpleasant feeling of that may arise in the stretched area. Continue to deepen the stretch until you come to the edge of comfort (when sukha – pleasantness starts to disappear). Then stop any further movement and by having your attention on long and subtle breath feel that area and relax. Pleasantness will start spreading all over. In this way you will increase flexibility of the body, experience the dawn of unboundedness, and create mind-body integration.

- **Overcoming resistance through the proper use of breath**

The state of your breathing will instantly reflect any kind of resistance and is therefore an effective means of detecting it. It is not possible to force your body beyond its limits if you focus on the quality of your breath throughout your practice. Move into a position only as much as is comfortable and while staying in position deepen the stretch and remove any resistance through deep breathing, with long exhalations, while consciously relaxing the stretched area (where resistance appears).

- **Importance of the spine and alignment and proper distance between the chakras**

For a normal functioning of Prana-maya kosha, Anna-maya kosha must be in a good state. This is especially true for the physical structure of the spine, because the chakras are situated along the spine. If the spine is deformed then the distance between the chakras is not as it should be for them to be functioning normally. For example the distance from Manipura chakra (navel) to the Anahata chakra (heart) should ideally be 12 angulas, but if the person has kyphosis, then the distance is less than normal and the function of the chakras is disturbed. This in turn will be reflected in Anna-maya kosha in terms of physiological imbalances. The nain purpose of the practice of asanas is to correct the position of the spine, so that the flow of Prana in our body is not restricted. Uddiyana bandha is useful to maintain the proper distance between the chakras, which is important for good health.

- **Principle of gravity and removing resistances; gravity and muscle contraction**

The basic structure of the body is a series of long and short bones connected through joints. Each

joint has a specific design that allows for movement in certain directions. Movement at joints is produced either by internal or external forces. Internal forces are generated by muscle contraction, whereas the main external force in the practice of yoga asanas is gravity. Gravity is always present and must be taken into account when considering factors responsible for movement. "Gravity response" means that everything is continually being pulled downwards. Because of that we must consciously oppose against this tendency and invoke the antigravity response. This means paying continuous attention to lengthening the spine at every opportunity, and always being aware of that invisible string pulling skywards. Imagine that a cord is connected to the top of your head. If this is practiced constantly, there will be a feeling of lightness and grace in every movement. Backaches, head and neck problems will cease to exist.

The anti-gravitational effect comes through the strength of the muscles. If they become weak then the gravity bends the structure of the skeleton and the body loses it as proper alignment. Normally, muscle contraction produces movement, but whenever a movement takes place in the direction of gravity, the prime factor in producing movement will be gravity itself. The role of the muscles will be controlling or enhancing the effect of gravity, in order for the required movement to take place. All downward movements, like bending down, are primarily produced by gravity. The muscles are only used to initiate the activity and control the speed of the movement. Some additional external forces (someone assisting and pushing you into position) are not particularly desirable as they may have the potential to cause injury.

- **Principle of rest and activity**

Assuming Anandaasana after each asana in a sequence of asanas demonstrates the exchange of rest and activity which is present in all of nature. This makes the practice balanced and integrative of opposites. Also, during the practice of a single asana, we should experience at the same time rest and activity. While some muscles are active, others which do not participate in a specific movement are completely relaxed. Practicing asanas in this way, we spend minimum energy for moving the body, and are getting maximum energy while staying in the position.

- **Viniyoga** - adapting the posture to emphasize function rather than final form

Viniyoga offers personalized practice of yoga. The study and application of asanas in Viniyoga always begins from an understanding of the individual body's unique condition. In order to get anywhere, we must begin from where we are. We apply adaptation to our practice to emphasize function rather than form, and we continually adjust our practice to meet our individual needs. From this point of view, asana practice is a means of deepening our self-awareness. With proper practice we promote skeletal alignment, mechanical freedom, and organic unity, and lead ourselves toward optimum mind – body functioning.

- **Techniques of personalization**: mula (the base), desha (the range and focus of the movement), kala (the duration of the movement), shakti (the force behind the movement), marga (the direction of the movement)

Personalizing the practice of asanas makes it possible to practice asanas uniquely suited to the individual. Through observation, application of the fundamental principles of breathing and movement, as well as principles of sequencing, wee can maximize the effectiveness of asana practice. Health and fitness should be the goal of asana practice. We should never force ourselves into

the ideal position depicted for an asana. Personalizing asanas must continuously allow room for progress. Personalizing your practice does not just mean making your practice simple. It can also mean making your practice more "forceful". Sequencing is a core component of any asana practice because the principles of sequencing are essential to ensure that we continue to make progress. Personalization makes it possible for each of us to move towards our goal.

Asana practice involves movement of particular parts of the body, from a suitable base, in a specific direction, with an appropriate amount of force, over a measured length of time. We can change any or all of these characteristics to produce various effects. Widening the mula (base) increases the stability of the body. Widening the base is necessary when you find it difficult to maintain your balance. For children we decrease the base to make asana practice more challenging.

Desha (place / part) considers the part of the body being moved and the range of movement. The range of movement can be increased or decreased, with or without the help of external supports. The purpose of restricting the range of movement is to make the asana either easier or more difficult.

Kala (time) is the duration of the movement. Changing the duration of the movement amounts to changing the duration of breathing. Breathing is the factor that determines the duration of an asana. Increasing the duration of a movement usually intensifies its effect. It is good to do slow movements with appropriate deep, long, and controlled breathing. This can be effective in increasing strength, stamina, or flexibility.

Shakti is the force behind movement. The force required to carry out a movement can be incremented by increasing the load of the asana. This can be done through external aids, by holding books or even weights in the hands or between the legs. Also the weight of the body can be redistributed to make the movement less or more strenuous. Altering the position of body parts to reduce the load of an asana, is particularly useful in therapeutic situations, if the person finds the normal asana too difficult or demanding.

Marga is the direction in which the movement is made. Asanas include movements in all three planes, allowing us maximum flexibility in choosing the direction of the movements we wish to make.

- **Principle of sequence of asana, pranayama and meditation: morning and evening practice**

Asana practice reduces rajas in the mind *(asanena rajo hanti – HYP I)* and pranayama reduces tamas (avarana – that which covers the mind). The mind thus becomes very sattvic, allowing it to more easily experience the state of Samadhi during meditation. During asana practice you unite three things: mind, breath and body. During pranayama you unite two things: mind and breath, and during meditation you unite only one thing – mind. In the morning you can first do meditation to experience Samadhi, then pranayama to stabilize Samadhi along with breathing, and then asanas to stabilize Samadhi even during physical activity. In this way you are preparing yourself for activity and at the same time integrate the state of pure consciousness into the waking state of consciousness, and thereby grow in Cosmic Consciousness. In the morning after awakening, while still in bed, practice "horse twisting exercises". Then after going to the toilet, do 5 minutes of sukha pranayama, followed by meditation. After meditation do bhastrika, kapalabhati and suryanamaskaram. In the afternoon you can first do asanas to remove any tiredness and stress from the activities of the day, then pranayama to make the mind more calm and awake, and then practice meditation.

- **The state of mind depends on the posture of the body and vice versa**

The spine in a normal person takes on a characteristic appearance in both dynamic and static postures. If spinal contours are enhanced or lost, it can be a manifestation of psychological disturbances. Those who are mentally and emotionally troubled often show this in their body language / posture. For example, in people suffering from depression, the upper cervical spine is often extended so that the chin is poked forward. The lower cervical spine and the thoracic spine are flexed, the lumbar spine is flexed, producing a flattened lordosis, and there is some flexion of the hips and knees and the person walks with a shuffling gait. A change in the contours of one region will often be accompanied by compensatory changes in other regions. You can do a simple test. Sit comfortably in a chair. Now slump forward and put your hands to your head in an attitude of dejection. Notice how you immediately feel miserable and depressed. Now sit upright and lengthen your spine by imagining that a string is connected to the top of your head and pulling you towards the ceiling. As you do this, smile. You will notice that, instantly, your mood lifts and you feel happier. The reason for this mood-change is that inside your body, many complicated but beneficial biochemical and physical changes occur, triggered by the altered body language and posture. Humans are not meant to be slumped and dejected, but upright, healthy and happy. In order to be healthy, it is essential to be aware of our body and what it is trying to tell us. Otherwise we cannot make changes to improve our mental and physical condition. There are always intense physical reactions to mental stress. By working on the body, through the practice of yoga asana, these mental strains can be allowed to come to the surface and "evaporate". When posture is kept correct, it becomes much more difficult for emotional stress to enter the body, and to stay there. By practicing yoga asana, we remove physical, emotional and mental stress.

- **Specific muscle relaxation techniques**

Relaxation produces situations opposite to that of stress. Relaxation results in a noticeable reduction in blood pressure and heart and respiratory rates. There is also a reduction in blood cholesterol and blood glucose levels and the activity of the sympathetic nervous system is diminished. Muscle tension is no longer generated and the elastic components of the muscles cause the fibers to return to their resting length – this is called muscle relaxation. Folowing muscle relaxation techniques can be applied during practice of yoga asanas when person feel some tension which he cannot relaxe just by feeling and intention.

Progressive muscle relaxation is triggered through contraction of a muscle or muscle groups, followed by a period of de-contraction / relaxation. Edmund Jacobson (founder of the "Progresive Muscle Relaxation" program) clearly saw a link between mental and physical tension. He recognized that by altering the physiology of the muscles, by reducing muscle tone, there would be a concurrent positive effect on the mind. Maximum relaxation follows maximum muscle contraction. This mechanism is mediated through the Golgi tendon organ. When a muscle contracts hard, considerable tension is placed on the Golgi tendon organs within that muscle, and this stimulates the inverse stretch reflex. Impulses from the Golgi tendon organs in the contracting muscle pass to the spinal cord and synapse through alpha motor neurons which then transmit the impulses back to the same muscle from where they originated. These are inhibitory impulses and, if the original contraction was strong enough, will result in inhibition of contraction and therefore relaxation. The "contract-hold-relax" relaxation technique requires the person to undertake, in sequence, strong isometric contractions of all major muscle groups and particularly of those which are manifesting abnormal muscle tone. The contraction is held and it is then followed by a period of relaxation which should be at least as long as the contraction. The person should be asked to focus on the feeling of relaxation in order to learn to reproduce it. It is usual to work distal to proximal and to begin with one limb and contract each

of its individual muscle groups. When each major muscle group in a limb has been taken through this process, a total limb isometric contraction is undertaken before the process is repeated for all four limbs and the trunk and the face. Interspersed at regular intervals through the session should be some relaxed diaphragmatic breathing, emphasizing the expiratory phase. In this method, contraction and relaxation are done in sequence and this is not the same as the muscle contraction response that occurs due to stretching the muscle past its limits. The same is true for "isometric stretching". The contraction there is voluntary and "controlled", rather than the automatic response of muscle contraction due to overstretching the muscle (which is a fear/protective response).

Whilst Jacobson advocated contracting the major muscle groups that demonstrated tension, Laura Mitchell, some 30 years later, advised contracting the muscles antagonistic to those with tension. She worked on the principle that it would be better to avoid increasing the tension in an already tense muscle and by contracting the antagonist, reciprocal inhibition of the tense muscle would occur. This moves the nearby joints out of the position of tension and simultaneously induces reciprocal relaxation in the previously tense muscle groups. After each contraction the person should be asked to concentrate on the feeling of the new, relaxed position. It is thought that this technique utilizes the mechanism of reciprocal innervation (excitation). As a muscle contracts, impulses from the muscle spindle will pass via the spinal cord to the antagonistic muscle group, causing inhibition. For example, if the trapezius muscle is exhibiting abnormal tone, the patient will be encouraged to contract the shoulder girdle depressor muscles to cause reciprocal inhibition of trapezius. It is usual to work proximal to distal and to start with the upper limbs followed by the lower limbs, trunk and finally the head. Relaxed diaphragmatic breathing exercises are interspersed throughout the program. As with the previous technique, groups of muscles are worked individually after which these movements are summated before moving on to the next limb. The starting position is not important as it will change as the person relaxes.

An alternative approach has been advocated by Charles R. Carlson in the last two decades. Carlson, like Mitchell, considers that a muscle that is already demonstrating inappropriate tone might get worse if required to contract. Instead it is proposed that the muscles affected by tension should be stretched rather than be required to contract. This stretching is done utilizing the effects of gravity. For example the person might allow the head to roll to one side so that the neck muscles are fully stretched. The stretches are held for 10-30 seconds until the full benefit of the maneuver is felt.

Some techniques like Yoga Nidra use methods of visualization or suggestion. In a hypnotic tone, the yoga teacher guides the person to think about pleasurable, non-threatening experiences or objects. The therapist should speak slowly and in low tones. No harsh-sounding words should be used and long vowel sounds should be drawn out. Interspersed in this technique can be the suggestion that the person's limbs feel heavy or that they feel as if they are gently floating. This technique is improved by the inclusion of long, subtle and relaxing breathing. Apart from any local effect on a muscle, these techniques have been shown to have positive systemic effects including reduction in heart and respiratory rate, tonic vasodilation and decreased production of cortisol. They have also been shown to have a positive effect on anxiety states and perceived stress.

- **Awareness and adaptation to emphasize the spine**

In each posture, movement, and breath be aware of the role of the spine, and notice the amount of movement or effort needed in the back. You can maximize the movement in the spine by positioning the rest of the body in a way that allows the spine to move easily. This involves a softening of the arms, neck, and legs that will release tension in these areas, and allow the work or focus to be transferred to the spine.

- **Establish the purpose of your practice and adapt your practice to meet your goal**

The goal can be different in different people: to strengthen or increase flexibility of certain muscle groups, improve the health of internal organs or systems, reduce tension and stress, remove spinal problems, to master a particular asana, to prepare your mind and body for some specific activity after asana practice, etc. According to your purpose you adapt the way of exercising and breathing. For example in the evening after a stressful day, the routine you design to calm you down may be quite different from the routine you design to wake you up early in the morning. Postures that center the body would be used in the evening, while postures that energize would be used in the morning. For example, the exercises from 1 to 10 of the SCIENCE OF VEDIC YOGA – ADVANCED SEQUENCE No.1 can be done in the morning to energize you, and the rest of the sequence (exercises 11 to 40) in the evening for relaxing and recovering from daily activity. Also, it is possible that you might use identical sets of postures in the evening as in the morning, but with a different emphasis on breath and movement. You could accomplish entirely different ends by making adaptations to the same posture. Always adapt the posture so that you emphasize function rather than final form. You adapt the form of an asana and breathing method, so that the asana preserves its intended function, but remains stable and comfortable. The beginning of the sequence of asana depends on what you were doing before and end of the sequence will depend on what you will be doing after. For example, dancer or tenis player should do before his performance more dynamic asana practice (like Suryanamaskaram), and after performance he should practice more relaxing asanas which will neutralize effort in the part of the body which was under the strain. The practice of asana must meet requirements of your body to bring it to a balanced functioning.

- **Using breath to adapt postures**

By changing the way of breathing you can create specific effects of asana practice on your mind and body. Holding the breath while performing a movement can strengthen the back, etc. You can divide breath in two or three segments to deepen the breath and increase the stretch. For example, while inhaling halfway you can raise the hands to shoulder level and during second half of the inhale, raise the hands above the head. Breath is a very powerful tool of adaptation, if practiced properly. It increases the effect of an asana on the body. In asana practice always use Ujjayi breathing. Your breath should remain consistently smooth, slow, and relaxed. In this way, it can function as a feedback system and a method for focusing the mind. You can alter your breathing during asana practice in the following way: alter the length of the inhale, the exhale, or both. First practice increasing the time of the exhale, then retain the breath after the inhale, suspend it after the exhale, or both. First practice suspending the breath after exhale. This will intensify the effort during asana practice. You can breathe in a way that is opposite to what is customary, e.g. entering Bhujangasana on exhale, etc. Depending on the requirements of the body, you can enter certain asanas on exhale instead of inhale. For example, if one has a weakness in the lumbar area of the spine, then that person may enter into Kati asana on exhale, in order to prevent an excessive arching of the lumbar spine and thus prevent further damage.

- **Principle of improvisation in asana practice**

With continuous practice of the same sequence of asanas we get used to the routine and gradually our attention to our practice decreases. This is a reason for improvisation, to bring a new quality of attention of being fully present in what we are doing.

Another reason for improvisation is physical improvement. Strengthening the back, reducing the weight, or gaining relief from asthma is achieved through improvisation. We must carefully consider

a person's condition and then improvise so that he or she might gain something without causing strains and problems.

The next reason for improvisation is efficiency, to get the maximum results through minimum effort, to do less and achieve more. If we know how to do a posture in an intelligent way, we can achieve the most beneficial results from that posture. Improvisation is done through modification of asana.

For example, Uttanasana can be modified in many ways. If we want to use the posture to increase the effect on our legs (stretching the hamstrings) rather than the back, we bend forward and place our palms on the floor, we try to stretch our legs and straighten our backs on inhalation. To increase flexibility of the hip joints during the forward bend, we bend our knees to a squatting position. If we want to use Uttanasana to strengthen the back, we bend forward as far as we can and then come up half-way. In this case we use the back muscles to work against gravity. If we want to use uttana-sana to help straighten stooping shoulders, we interlock our fingers behind our back, palms out, and bend forward raising the arms. In case of stiff ankles we use some padding under our heels so that this takes the strain off our ankles and makes bending forward easier. If, on the other hand, we want to stretch the ankles and Achilles tendon, we put the padding under the toes. In this way we can do many variations of any classical asana. If we modify the posture we can see how it affects the different parts of our bodies. Paschimotanasana can begin in several ways, sitting up or lying down. We can also use a different technique for the same posture. It is practiced in two steps. On the first exhalation we bend forward half way, stay and arch the back on inhalation and on the next exhalation go all the way down.

One way of improvisation is to shift our attention during a posture to different parts of the body. For example in Bhujangasana we can focus our attention upon our knees or hips to be sure they stay on the floor. We can also raise the spine in coordination with the breath and focus our attention on the area we are raising. Another possibility is to hold a book between our hands with fingers flat. Our normal tendency is to curl the fingers but when we do bhujangasana with a book we feel more action in our arms, shoulders, and upper back, rather than in the lower back. While performing Shalabhasana we can put a towel or book between the knees. While raising the legs up we will find it very difficult to keep the knees together when bending backward. What is important when doing asana is the experience that happens in that moment.

Another way of improvisation is to change the breathing during the asana practice. Whether doing asana in a dynamic or static way breathing can be changed as follows:

- Make the inhalation and exhalation as long as possible using Ujjayi sound – free breathing.
- Making the inhalation equal in length to the exhalation.
- Making the exhalation twice the length of the inhalation.
- Holding the breath after inhalation.
- Holding the breath after exhalation.
- Holding the breath after both inhalation and exhalation.
- Inhalation, exhalation, then moving into a pose while holding the breath. For example: In hale, exhale, and then while holding the breath do Utkatasana. This helps us to warm up.
- Reversal of the breathing pattern: For example, when we do Bhujangasana, rather than rising during inhalation, we rise during the exhalation. Often we use the abdomen to push our selves up in this posture rather than the back muscles. For obese people it is better to do Bhujangasana on exhalation. Also people who had abdominal surgery should enter Bhujan gasana during exhale.

Assuming Ananda asana after each asana in a sequence of asanas demonstrates the alternation of rest and activity that is present in all of Nature. This makes the practice balanced and integrative of opposites. Also, during the practice of single asana we should experience at the same time rest and activity. While some muscles are active others, which do not participate in a specific movement, are completely relaxed. Practicing asanas in this way, we spend minimum energy for moving the body, and are gaining maximum energy while staying in the position.

- **Vinyasa krama**: sequencing

Nyasa means to put our attention on something. In Hatha yoga we combine (vi) attention, breath, and body. With our mind and breath we are effortlessly present and feel the stretch in our body while performing certain asana. Vinyasa krama (sequencing) means: Progression with balance, orderly steps toward goal, moving the body in all three axes to develop strength, flexibility, and structural alignment. It means planning sequences over time and designing each sequence. A sequence is a series of steps leading to a particular goal. First it is important to be clear about the goal, the attributes you need to develop. Before you can design a sequence of asanas, you need to know where you are starting from and where you are going. Movement towards your goal is progress. All of us possess the structural, functional, and physiological qualities of health to varying degrees. But most of us might lack one or more of these qualities. So, the goal of our sequencing is to build up those attributes of health that we are currently lacking. For example, building strength could be the goal for one person while increasing flexibility could be the goal for another. Resolving a structural imbalance could be another goal. Once we have identified our goals, then we need to design sequences in terms of asanas within a sequence, as well as a series of balanced progressive sequences over a period of time. There are four elements in sequencing: Preparation, rest, balancing, and ending. As we design specific sequences, we must keep in mind that there should be a logical progression. Start with preparation or warming up. Then incorporate the key elements in your sequence. To avoid imbalance, relieve any stress or strain that is created by the more intense asanas in the sequence. This will also help to maximize progress. Vinyasa consists of moving from one asana to another, combining attention with breathing and movement. By chaining asanas, usually with alternate breathing (inhalation followed by exhalation, followed by inhalation, and so on), you can create longer vinyasas that include a variety of asanas, such as seated, lying down, and inverted ones. Vinyasas can be of any length: short, medium, or long. The vinyasa method of practice transforms yoga from a static exercise to a dynamic one. Without vinyasa, yoga involves staying in certain body positions for a number of seconds or even minutes. Add vinyasa and it becomes a flowing exercise, a sequence of movements integrated through breath. Begin vinyasa practice with easy postures and progress to the more difficult ones. Move from known to unknown. End your asana practice with staying in asanas or with slow movements and long breathing. This creates a smooth transition from asana to pranayama.

- **Warming up and dynamic practice of vinyasa krama** – moving into the posture as preparation for staying in it

Postures can be done in two ways, either dynamically through repetition or statically, by staying in the posture for some time. It is always better to do a posture dynamically before trying to stay in it. This applies either to a single practice of asana or a sequence of asanas. Dynamic movement always precedes static postures, thereby allowing the body to get used to the position. Cold muscles are stiff and lack flexibility, so pushing them too far by entering and staying in a yoga asana without a proper warm-up through a dynamic phase, could lead to serious injuries. Warm up exercises raise your core and muscle temperature by promoting blood flow through the muscles, making them

loose and supple. A proper warm-up lengthens the muscles and tendons, which in turn increases your range of movement. This helps you move freely without restriction or risk of injury. Thoroughly warm up the major joints and the spine, and then stretch some of the major muscle groups that are used to balance the body and to provide good posture. This includes the chest and upper back, biceps and triceps, abdominal and lower back, quadriceps and hamstrings (upper legs), calves and shins. The purpose of dynamic movement into an asana before staying in it is in getting your muscles accustomed to moving through a specific range of motion. If the muscle is not used to going that far and if you want to immediately perform the static phase of asana, you may end up with an injury.

- **Static postures in vinyasa krama** – dynamic stillness (deepening the posture through breath)

Good asana practice also incorporates staying in a position for several breaths in selected asanas. Physical and mental benefits accrue from long, smooth breathing while holding certain positions. The exhale must be thin (subtle) and long. Hold the position as long as it is comfortable. But even as you are static in your posture, from inside you are dynamic. Through breath you increase the stretch of certain body parts and enter more deeply into the position. Through proper practice according to the principle of "sthira sukham asanam", the body produces the kind of internal chemistry that enriches its healthy functioning: endorphins, serotonin, etc. If the person strains while staying in a position, then the body produces adrenalin and over time becomes "adrenalin addicted".

- **Pratikriya asana** – balancing postures, compensating postures

Each asana has beneficial effects on mind and body, but also puts some strain on certain parts of the body, according to the nature of posture. If the subsequent postures put strain on the same area of the body, then we will feel discomfort or strain in that area after the practice. For this reason we must include balancing or compensating asanas into any sequence, so that at the end of the practice, we are left with only an accumulation of beneficial effects from each asana, and no strain in any part of the body. When we practice a certain posture, we must counter it immediately thereafter. This we call compensation. The moment we feel a strain in any area of our body, we must compensate that feeling through some "counter pose". There could be different counter poses for the same posture, depending upon where the strain is felt. The counter pose for a given strain is generally the easiest pose opposite to the direction of the strain. When we do a deep forward bending posture, the counter pose that compensates it, is a gentle backward bending posture. When we do a deep backward bending, twisting, or lateral bending posture, the counter pose is a gentle forward bending posture. The reason for doing the counter pose is to return the body to a normal condition. In each asana we must find out where the strain is felt and compensate accordingly. The counter pose for a given posture is not always the same for everyone, but will depend on the state of the body of the individual. The counter pose is decided by the effect of the original pose, rather than its form. Also, if the part of the body which was strained was static during that asana, then the "pratikriya asana" (counter pose) should ensure a dynamic movement of that part. As an exercise, we can study each asana (main position) and anatomically and physiologically see which part of the body is under strain during that position, and according to that decide what will be an appropriate preparatory asana (to warm up those parts and prepare them for their performance) and then look at what will be some appropriate balancing positions. Preparatory and balancing positions should always be more easy to perform then main asana.

- **Lever systems in asana practice**

When application of a force produces a turning or rotary effect, the force is said to be producing a moment. The twisting effect of a force is however often referred to as torque. There are no real differences between rotation and twisting so the words „moment" and „torque" cannot be considered as separate. To calculate the magnitude of the moment of force, the following equation is used:

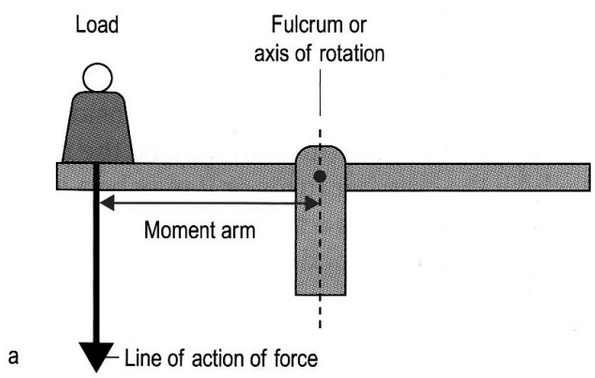
Moment = Force x moment arm (M = F x d)

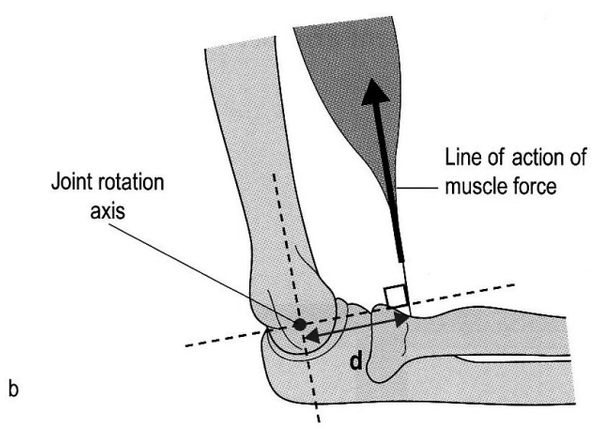
In the above equation d stands for distance, representing the moment arm. The moment arm is the shortest distance (perpendicular) from the line of action of a force to the axis of rotation.

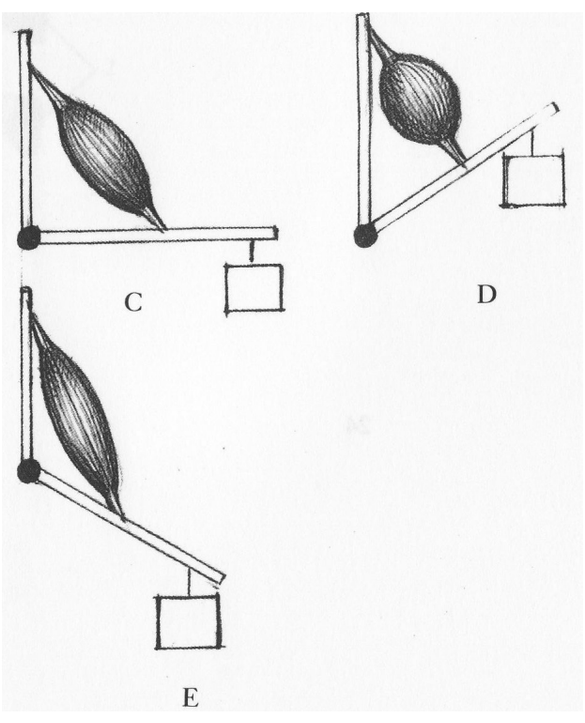
In the picture below, the muscle moment arm is the elbow flexor. A line is drawn perpendicular to the force line of action and through the axis of rotation. The moment arm is the distance between the two. The unit of measure for moment/torque is in Newton meter or Nm, whilst the dimensions of moment/torque are $kg.m/s^2$.

When forces act from outside the body (i.e. gravity, ground reaction force – the force of the floor acting on the body, opposing the effects of gravity) and produce rotatory effects, they are called external moments. When forces are acting inside the human body, they produce internal moments. These are often muscular forces acting on the various segments of the body, but they can also be forces acting from one segment to the next, by means of the ligaments.

When levers are considered, the moment of force is an important factor. A lever is defined as: a rigid bar (bony segment) that rotates around a fixed point or fulcrum (joint).

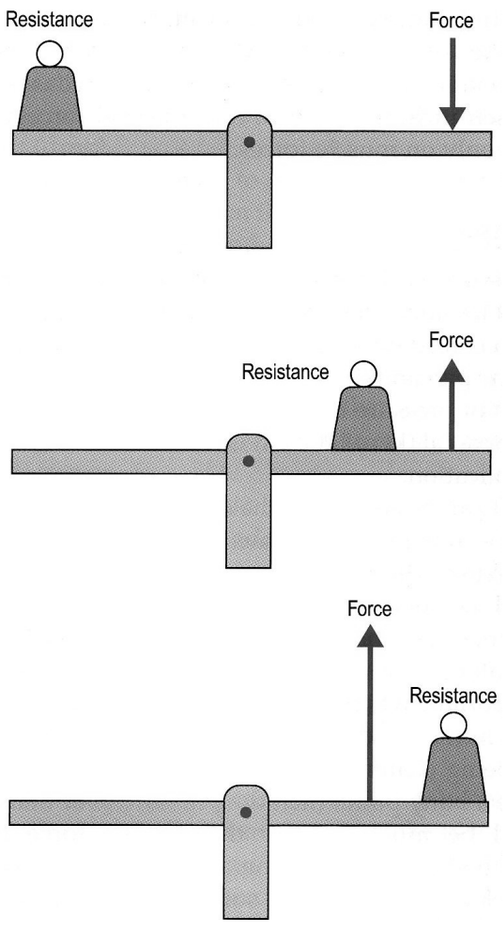






The previous picture illustrates some typical levers within the physical world and the human body. The resistance has to be met by a force on the other side of the lever, to balance or lift the load. In picture (a) the moment arm is depicted for a weight on a see-saw and in (b) the muscle moment arm is shown for the elbow flexor. A line is drawn perpendicular to the force line of action and through the axis of rotation, to determine the distance between the two. In picture C, D and E is depicted effect of contraction or relaxation of muscle brachialis on the movement of lower arm.

As can be seen on the picture below,there are three distinct forms that the lever can take, depending on the relative position of the fulcrum (joint) with regards to the resistance (determined by weight and length of the body part which is rotating and moving around the joint) and the force (muscle insertion). The third-order lever is where the forces lie between the fulcrum and the resistance. This arrangement frequently occurs inside the body where the muscle insertion lies closer to the joint axis than the load. The advantage for the muscle is that the distance and velocity of shortening during contraction are smaller. The load on the tissue is obviously large.



third - order lever

Practical application of lever systems in the body during Asana practice is that we alter the amount of the load and the distance of the load from the joint. For example in Uttanasana the fulcrum is the hip joint. The weight of the arms and trunk is the load and the back extensors are the important muscle group providing the force required. When the arms are folded on the back while bending forward, this will decrease effort in lumbo-sacral region. This modification is used in yoga therapy for persons suffering from lower back pain.

- **Mental focus and attitude during asana practice: tristhana and bhavana**

Tristhana (three places) refers to the union of posture, breathing and attention. Transforms practice of yoga asana into moving meditation. Without mental focus there is no yoga. Without mental focus and proper attitude, asana are just an exercise for the body and the breath and will not lead to a meditative experience. When doing asanas keep in mind that you are in the service of God. Start asana with anjali mudra and do anjali mudra with the final position of asana, feeling God's presence all the time during the practice. Our attention should be innocent. Innocent means always new, always in the present. Learned practice creates a habit of certain procedures and this destroys the innocence and creates a tendency to do the practice unconsciously, like a mechanical repetition. Innocence means that when you are practicing Yoga (asana, pranayama, and meditation) you should have an attitude as if you were doing it for the first time. Then this practice will bring you maximum benefits, it will reveal to you a deeper experience and understanding of Yoga. Pranava means "always new". This is the proper meaning of this sound (mantra) used for meditation. The process of transcending mental activity and reaching the state of „Tada drastuh swarupe avasthanam" (Established in the Self, the state of Yoga) is only possible if we experience the mantra in a more refined state (always new). This procedure takes us to experience Being which is Total Presence and always new for all times.

For children, mental focus may be difficult. They can for example exhale through their mouth with sound, or even recite some mantras from the Vedic texts.

- **Understanding psycho-physiological changes during asana according to modern physiology and benefits of asana for improving mental and physical health**

Proper asana practice should promote strength, flexibility, structural alignment, proper functioning of bodily systems, and mental steadiness. Understanding enriches experience and gives greater benefit of the practice of asana. Benefits of regular practice of yoga asanas include improved memory, increased positivity, restful alertness as indicated by increase in alpha brain wave patterns, improved cognitive performance, reduced mental fatigue, improved mental health, reduced neuroticism, improved fitness, improved physical flexibility, improved lung functioning, improved athletic performance, greater physical endurance, normalization of weight, improved mind-body co-ordination, reversal of aging, improved heart functioning, improved digestion, lower blood pressure, reduced obesity, lower serum cholesterol level, relief from constipation and gas, reduced incidence of common cold, decreased insomnia, improved kidney functioning, reduction of back problems and aches, normalization of blood sugar levels, and alleviation of asthma. It is important to know how each asana influences the cardiovascular system, respiratory system, nervous system, digestive system, excretory system, endocrine system, reproductive system, skin and complexion, muscular system, skeletal system, and how it rejuvenates the person. For this the study of modern anatomy and physiology, according to different body positions (asanas) and breathing techniques (pranayamas) is necessary.

- **Three stages of flow of yoga practice: beginning – warm up (purva anga), middle** – main part of practice (pradhana anga), and ending – cool down (uttara anga) phase of the practice

The flow of yoga asanas in specific sequences must have its logical progression. Start with preparation or warm-up for at least 5 minutes. Then incorporate the key elements into your sequence: inversions and more demanding asanas. To avoid imbalances relieve any stress created by the more intense asanas in the sequence, by introducing balancing asanas. This part should last about 10

minutes. End the practice with milder asanas in a lying or seated position and relax at the end in Anandasana. This part should be at least 5 minutes.

Purva anga: Each pose you do will require adequate preparation. This means that you will need a progression of postures and movements in major joints which involves bigger groups of muscles to warm up your muscles and loosen up your joints. Practice exercises that emphasize a full range of movement in the major joints (shoulders and hip) as well as in the spine. In the morning you can do a warm-up routine in the standing position and in the evening in a seated position. Begin with the easy postures and movements and progress to the more difficult ones. Begin by moving in and out of postures and progress to staying in them. The first part of your practice should consist of forward bending movements because the body is used to perform them. You may also begin with a simple vinyasa that moves the spine.

Pradhana anga: In this part you can introduce more demanding asanas like deep arches, twists, shoulder stand, lateral bends, static postures, etc. For example, before you do a difficult posture like the "wheel", you should prepare and strengthen your back. In this case it is necessary to be able to do Shalabhasana and stay in it for several breaths. If locust is not comfortable for you, you may try cobra, which is a preparation for locust. In preparation for a particular asana you should use a sequence of similar, but less difficult postures. After a difficult pose, your body will naturally feel inclined to move or stretch in a way that compensates for the previous effort. Pratikriya asana does not mean "opposite posture". The process of following an asana with a completely reversed configuration can be harmful. A balancing posture should relax tension and restore balance in the area that may have been strained in the previous posture, and should gently lead to the subsequent posture as well.

Uttara anga: The aim is to end in a state that helps sustain the integration of mind, breath and body throughout your succeeding activities and your daily life. The final asanas of the sequence should be mild and simple. That is why we should not end our practice with inverted positions, backbends, intense forward bends, strong twists or lateral bends. Always finish the sequence with Anandasana for at least 3 minutes. If the practice sequence is longer than half an hour, then rest in Anandasana for at least 5 minutes.

- **Transitions**

Going from one set of postures to another sometimes requires a transition, to avoid a sudden change in the position of the body. For example, a dynamic combination of forward bending in vajrasana with chakravakasana will ensure a smooth passage from the standing positions to the lying postures. Janusirsasana done dynamically several times will make the transition from lying postures to the seated postures. Transitions are necessary to retain the benefits of the sequence of asanas. They are also used to avoid any injury that may arise due to extremely opposite movements of the spine. For instance, it is not advisable to do pascimottanasana immediately after dhanurasana. It is better to introduce chakravakasana in between so that the transition is smooth. We use certain vinyasas to keep connectedness of mind, breath, and body during the transition from one group of asana to another.

- **Sequencing for individual needs** – yoga therapy (yoga chikitsa), observation and assessment

Correct sequencing is an art and a science. Sequencing depends on the state of our body, our needs, and goals. Sequencing can be done for therapeutic purposes, to correct imbalances on the

structural and functional level of the body. Other considerations and goals include: different age groups (children, adult, old, etc.), to learn a new asana, for pregnancy, menstruation and menopause, for overweight people, for fitness, for athletes, etc. When sequencing is done for therapeutic purposes (different health problems, pregnancy, etc.) a physician should be consulted and the practice should be coordinated with the physician's guidelines. Health conditions should be checked from time to time.

During the practice of asana and pranayama, suppressed emotions or memories and fears may surface. This can lead to reactions such as crying or feeling depressed. That is why we must observe and asses the physiological and psychological state of a person, before, during, and after yoga practice, to determine what asanas and pranayama a person is able to practice. Observing should be done with regards to breath, strength, flexibility, body structure, alignment of the body, health of internal organs, mental state, etc. A well designed therapeutic yoga program should improve all those areas of consideration. As part of the assessment the yoga teacher should chose the intensity of practice which is appropriate to a person.

Assessments for strength, flexibility, asymmetry, or misalignment should be done by observing a person as he/she performs movements that are appropriate for that person. As asana are composite movements, several observations can be made with each asana. For each asana, the workload is usually concentrated in certain regions of the body, making it easy to observe the characteristics of the body structure in those regions, as the person does a particular asana. Also, the nature of the breath can be observed as well. We cannot make a conclusion based on the observation made in just one asana or only one movement. It is important to cross-check and to confirm our conclusions by assessing a person in various movements and positions. A person must be observed and assessed before doing the asana, while moving into the asana, staying in the asana, moving out of the asana, and after doing the asana.

- **Application of sounds during asana practice**

We produce vocal sounds through exhalation. Vocal sounds may have stimulating or calming effects, depending on the type of sound, pitch, variations, loudness etc. The effect of a sound also depends on its relation to the position of the body. The sounds that are used are often a simple vowels or syllables which may or may not have any special meaning. In some specific cases it could be a word or a phrase that is used for its significance. One of the purposes of using sounds during asana practice it to make sure that one knows exactly when the exhale begins and when ends.

The following sounds may be used for different purposes:

A E I O U	for bringing balance for whole body
HAM M M M	for lungs, sinuses, skull
N N N	for ears
MA MA MA or M M M	for sinuses (sinus headache) for nostril passages
JA JU JE	for jaw (migraines and headache caused by tension)
HA HA HA	for stomach (problems of digestion, heartburn)

Producing the sound “A” during exhalation removes tension, anxiety and depression.
Each sound can be repeated three times. You may also produce the sounds of the Surya mantras.

- **Application of pressure on parts of the body during asana practice**

In many yoga asanas, the body is subjected to different kinds of pressure. The pressure may be limited to a single spot, or it may affect a larger area. Certain pressures are superficial, while others reach organs that are located deeply within the body. The pressure effect is mainly directed towards the circulatory system, the nervous system, and certain glands. Pressure on any part of the body drains the blood away and restricts the supply of blood to that area. This may cause some accumulation of blood in the adjoining vessels and an increased blood flow through the nearby organs. When the pressure is removed, then there will be a suction effect that further stimulates blood circulation. This pump and suction effect counteracts congestion of blood, swellings and pain, and promotes a gentle improvement in health. Many nerve centers are very sensitive to pressure. A slight pressure on a nerve centre on the side of the neck (carotid sinus), for example, releases an impulse that reduces the heart rate. The pressure effect of sarvangasana on the endocrine glands has a regulating influence on the thyroid gland and the pancreas.

- **The principle of inner massage (slow movement, feeling the movement from within the body, inner awareness)**

While gently moving certain body parts, feel how the structures move from inside the joints. Also feel the movements of the inner organs, etc. Movements of the body must be very slow, guided by long and subtle breathing. Inner awareness increases the benefit of the movement in yoga practice. While moving the body from the outside, feel the very gentle massage of the inner structures of your body. The more consciously you experience the inner movement, the greater the benefits for your body. It is good to study anatomy and gain a clear picture of the anatomical structure of the body part that we move. Feel and see from inside what effect a certain movement has on the body. This enriches the effect of the practice.

- **The principle of gaining conscious control over the autonomous nervous system**

Big muscle groups on the surface of our body, are more under our conscious control than the muscles that are located more deeply. Also, the muscles of our inner organs (i.e. the heart) are usually not under our conscious control. They are controlled by the autonomous nervous system. When we are exposed to stress or feel that our existence is in danger (abhinivesha klesha – fear of death, urge for survival), then from a subconscious level (where the klesha operates), the autonomous nervous system receives the order to protection the body (fight and flight reaction). It may also create some pain or tension somewhere in the body, in order to keep any unwanted and unpleasant mental content suppressed. Suppressed anger or anxiety will create a physical reaction. Repressed feelings are often the cause of Tension Myositis Syndrome (TMS – a change of state in the muscle that is painful), as well as other similar disorders. TMS may affect postural muscles, nerves that are in and around those muscles, as well as a variety of tendons and ligaments in the arms and legs. It may also affect different organ systems of our body. Psycho-neuro-endocrinology tells us that the main cause for all our physical problems is in mind.

To gain conscious control over autonomous nervous system and consciously influence all aspects of our physiology is one of the purposes of our yoga practice. By assuming the position of Anandaasana, a yogi enters a state of "self-hibernation". By totally withdrawing the senses within the body (from the outside world), the yogi consciously surrenders to Cosmic Intelligence which regulates all the functions of the autonomous nervous system and silently whispers to that Intelligence to repair any problem in the body. A yogi in that state of Yoga nidra talks to the autonomous nervous sys-

tem and regulate/balances any activity in the body. The yogi feels totally protected in the lap of the Mother Nature and surrenders to the Cosmic Intelligence within the body, so that the body may be healed. With inhale the part of the body that holds some discomfort is felt and then the attention is spread beyond the boundaries of discomfort. With exhale one visualizes the healthy functioning of that part and then surrenders to Cosmic Intelligence. This induces self-healing. Then one remains as the silent witness (Purusha). The deeper the silence (Purusha) the more lively Cosmic Intelligence (Prakriti) becomes. With that, the repair of the body becomes more effective. Then one starts to feel a pleasant sensation, warmth, and improved circulation in that part of the body. Thus tension and pain which were previously under the control of the autonomous nervous system is removed.

This practice can be applied in Anandasana at the end of asana or longer pranayama practice, or it can be done separately for 10 minutes. This practice awakens the inner intelligence of the body and stimulates the self-healing process. As a preparatory practice for awakening the inner intelligence, while in Anandasana, one can first consciously relax all the outer muscles of the body (which are under our conscious control). Muscles which do not easily relax can first be tightened with inhale and then relaxed with exhale. Then use your attention to go inside your body and feel and relax from inside. Then start the process of awakening the inner intelligence and communication with the autonomous nervous system.

- **Methods for maximizing the benefits of movement and breathing in asanas**

1. Here are some methods to enhance the benefits of yoga asana practice:
2. Make a sankalpa before starting the practice
3. Whenever the head position is not specified, a modified jalandhara bandha (chin lock) is to be used
4. When the eyes are closed, direct the drshti (gaze) towards the center of the eyebrows, tip of the nose, centre of the chest, navel, etc. Unless otherwise specified, the location of the drshti generally depends on the nature of the asana that is to be practiced.
5. Drshti brings stillness to the mind
6. When holding the big toes of feet, use three fingers, including the thumb
7. Asanas should be practiced on both sides. Men start on the right side, ladies on the left. This is to ensure a symmetrical development of the body, otherwise the benefits of yoga will not spread to all parts of the body
8. Like the svaras in the Vedas, sruti, laya, druta and anudruta in classical music, nyasas in man tras, so vinyasas are essential in asanas. Vinyasa is a means to place together mind, breath and body and to experience awareness of the three in one in motion.
9. With practice increase the length of the exhale, until it is twice as long as the inhale. Then introduce holding of the breath after exhale, then start practicing bandhas and mudras.
10. After you become comfortable with holding the breath after exhale, then introduce holding the breath after inhale during the static phase of asana practice.

- **Application of bandhas in asana practice**

When stresses and strains have been removed from the body through the regular yoga practice and by following the before-mentioned principles, then we can consciously start to contract some parts of the body (bandha), to redirect the flow of prana in a desired direction and to close-circuit the flow of prana in certain parts of the body (mudra). Like this, by applying bandhas to asanas we transform asanas into mudras. For example Janushirsha asana we transform into Maha Mudra or Viparita Karani Asana we transform into Viparita Karani Mudra, etc. With practice, the application of bandhas becomes more refined and subtle and then the effect on pranamaya kosha is stronger. While practicing asanas, if we keep modified jalandhara bandha (tucking the chin to Adam's apple) as well as mula bandha all the time, then Samana vayu is activated in the region of the stomach and inner heat is produced, warming up the body from inside. This increases the flexibility of the muscles. It also makes the blood less thick, resulting in improved blood circulation.

The application of Maha bandha in asana awakens Anahata chakra and creates a feeling of bliss in the area of Hridaya marma. This bliss then spreads all over and starts to vibrate in every cell of the body while practicing asana. When one experiences bliss in mind and body, then the person is normal and healthy. As this bliss then spreads all over the body, then every cell is “happy”. Physical happiness is the basis of the health of the physical body. This also induces bliss in the mind. Mental happiness is the basis for mental health. In a happy body is a happy mind and a happy mind is the basis for a happy body. In the same way we can say that in a healthy body is a healthy mind and a healthy mind is the basis for a healthy body. The two are interrelated and influence each other. The experience of physical happiness can make the mind more settled in activity.

- **Application of mantras in asana practice**

To enliven the mental aspect of our body during the practice of yoga asana, we can use certain mantras (e.g. connected to the SUN). Use only mantras which refer to Ishwara – highest GOD, like Gayatri mantra, etc. The whole mantra should be recited during one exhale. In Solar Yoga (Surya Yoga) the silent recitation of Solar mantras can be done during Suryanamaskaram and asana practice. Practice of Suryanamaskaram with Solar mantras becomes Ishvara pranidhana, offering (puja) to the Sun. Last part of Surya mantra is Namaha which means “not mine” or “Let Your will be done”. When vibrations are produced in the form of mantras, they will reach certain centers of subtle energy located on the main axis of the body and will enhance their natural harmonic vibrations. Mantras act as a reference axis. Their repetition brings deviated aspects back into alignment with the reference axis, be it at the subtle level of thoughts, or even at the biological level of the cells. Application of Solar mantras in asana practice creates and absorbs energy vibrations and transfers them through the subtle nerves and the physical nervous system to the different organs of the body.

Abhyanga – massage

Toning up the body (Samvahan)

Toning up the body prepares the body for the performance of Yoga Asanas. It includes toning-up the heart and blood vessels. It improves blood circulation, stimulates the nervous system, raises serotonin levels in the brain, relieves from depression and anxiety, lowers stress hormones in the blood, promotes sleep, gives vitality, protects from senility, enhances the immune system, extends life span, relieves from fatigue, make us more alert, and has a relaxing effect. The skin is actually an organ, just like the brain, the heart, the spleen, the liver, etc. The skin is intelligent. It contains all kinds of nerves. One square inch of skin has 78 yards of nerves. The skin also has pores – 20.000 of them in every square inch. Pores are used for bringing in substances into the body and for removing impurities. There are also sweat glands (650 per square inch, for coating the skin with water to cool it down), and there are oil glands (one oil gland per hair follicle, with our square inch having 65 hair follicles, on average). In each square inch of skin, there are approximately nine feet of blood vessels. The skin is the most intricate network of nerves in the human body. It is the main link between the outer world and our inner environment. Toning up the body enlivens the sensory nerve endings and releases neuropeptides into the blood stream, producing an overall effect of physiological integration and a subjective sense of relaxation and well-being. It is thus an ideal start for the practice of yoga asanas. Since the skin is so rich with nerves, it is intimately connected with vata dosha, the dosha that governs the nervous system and which all the other doshas follow.

Here is a two-minute tone-up of the heart and blood vessels. It involves pushing the blood gently towards the heart. The sequence is as follows:

- Sit crossed-legged. Place your hands on the top of your head and gradually press and re lease, moving your hands down your face and throat to your heart. During the pressing and releasing, your hands should not lose contact with your body.

- Place your hands on the top of your head and gradually press and release, moving the hands down over the back of your neck, then around it and down towards your heart.

- Ladies and men start with opposite hands. Ladies first massage the left arm, men first the right. Grasp the fingertips of your right hand with your left hand (palm of left hand should be facing down) and gradually move up along your arm, by pressing and releasing, towards your shoulder and then down to your heart.
- Grasp the fingertips of your right hand with your left hand (palm of left hand should be fac ing up) and gradually move up along the arm, by pressing and releasing, towards the shoulder and then down to your heart.

- Repeat movements 3 and 4, grasping your left hand with your right hand.

- Place both hands on your abdomen with the tips of the thumbs meeting horizontally at your navel, so that the other fingers start on the level of the pubic bone. Move up to your heart gradually, pressing and releasing as you go.

- With the hands press and release your mid-back and ribs up toward your heart as far as you can reach, then follow the ribs around to the front of your chest.

- Ladies start with left foot, men with right. Grasp the tips of your toes on your right foot with your right hand and the sole of your foot with your left hand and move upwards along your foot and leg, by pressing and releasing, up towards the thigh, the hip, the waist, and then again to the heart.

- Repeat movement 8 with the left foot.

Samvahan and marma abhyanga (massage)

The Vedic form of massage (abhyanga) awakens the intelligence of the body and eliminates impurities.

Abhyanga or massage is the main Ayurvedic method of treating the marmas. Marma points are accessible through the skin and by massaging them they are protected and also activated. Some diseases can be treated or controlled by activating the marmas. For a simple treatment, marmas can be massaged with the following oils:

- Sesame, olive or almond oil for Vata types or conditions
- Coconut or sunflower oil for Pitta types or conditions
- Mustard or sesame oil (smaller amounts) for Kapha types or conditions

For head-massages, different oil is used than for body-massages. Brahmi oil, almond or coconut oils are very good for head-massages. Traditionally for different marma points, different herbalized oils are being used.

In a study by Dr. Edward Smith it was found that people who daily apply sesame oil massages have significantly less bacteria on their skin. The bacteria killer in sesame oil is linoleic acid which makes up 40 percent of the oil. Linoleic acid is also anti-inflammatory and helps to keep your joints working smoothly and to avert arthritis. The oil as a whole is good for the joints. The lubrication is really appreciated by the joints. Its advised to “cure” the oil before using it. Curing makes the oil easier to absorb and increases its antioxidant potency.

Oil massages are important for the health of marmas. The duration of a marma point massage should be at least three to five minutes, done twice a day before practicing yoga asanas, using oils according to the marmas. Herbalised oils have their own “intelligence” which induces the flow of ojas and has a healing effect. Touch must be lighter than in usual abhyanga – like moving a finger over melted butter.

The massage loosens impurities in the body's tissues and shrotas (arteries, veins, capillaries, lymphatic channels), and then they flow out through the channels and pores which are conveniently located in the skin. A warm bath after an oil massage is a good way to open the pores and channels even more and thereby improve the purification process.

Massage of specific marmas is conducted along with a whole body massage, as an added enhancement. A general massage of different body parts can be given before massaging marmas located in those areas. Such “regional massages” help open the energy-channels in that part of the body, making the specific marma massage more effective.

Marmas are sensitive areas, so their massaging should be done carefully with a gentle approach and movements. During the massage our attention and attitude is innocent like when a mother is touching her baby. Nothing is more effective than attention and inner silence, and the natural way of doing things. Sukshma marma therapy means light pressure during massage. With soft pressure, agni is enlivened and ojas flows. If the pressure is too strong then energy will not flow. Massage in a circular movement, first one circle (ojas-samira), then three circles (three doshas), then five circles (five elements) and then seven circles (seven dhatus). In between the series of the circles take a pause of one to two long and subtle inhalations and exhalations and feel the pulsation of the marma which you massage.

Marmas are also the seat (home) of main impulses of creative intelligence (devatas). Brahma is seated at basti marma, Vishnu at hridaya marma, and Shiva at shirsha marma. You must massage those areas with full awareness and a loving touch, as if touching something most precious to you. A gentle massage of marmas with loving attention produces ojas. Perform the massage motion in a clockwise direction (imagine putting a clock on the body and the clock's hand moving from right to left), when toning, energizing or strengthening the internal organs, channels and tissues is the aim. Clockwise movement is evolutionary movement. Everything in nature follows that direction: rotation of the earth around its axis, around the sun, movement of the galaxy, water in a whirlpool, etc. After consulting with vaidya or yoga therapy expert, marmas can sometimes be massaged in a counterclockwise manner, when the aim is to calm down energy in that marma, reduce excess doshas or excess tissues growth, or for detoxification purposes.

When massaging the sides of the body (i.e. when massaging the temples on the head), then massage the right side in a clockwise direction and the left side counterclockwise. In this way, the movements are synchronous.

Symptoms of over-pronounced doshas at marma points:

- Vata – cold and dry sensations in the area, sensitivity to wind or exposure, cracking or rough ness of the skin, severe or cutting pain.
- Pitta – hot and damp sensations in the area, oiliness of the skin, bleeding, redness, skin rash, hot or burning pain.
- Kapha – cold and damp sensations in the area, paleness or whiteness of the skin, swelling, fatty deposits, congestion, edema, dull ache.

Generally, when the marma area is cold, stiff and painful, then it is a sign that the flow of prana is blocked in this area. When the marma area is warm, relaxed, and there is a sensation of “pleasant happiness”, than it is a sign that prana is circulating normally in that area.

Sequence for marma massage:

- First lie down in anandasana and stretch the body to center your navel (brahmastan). Then sit in sukha asana, and after doing sankalpa, rub the palms of the hands to become warm. Place your hands on the top of your head and gradually press and release, moving your hands down your face and neck to your heart. During the pressing and releasing, your hands should not lose contact with your body. Place your hands on the top of your head and grad ually press and release, moving hands down over the back of your neck, coming around front to your heart.
- Now continue with oil massaging the marmas of the head, neck, and upper part of the chest.
- First put some oil on the top of the head, then between the eyebrows, ears, as well as on the

center of the palm of the hands. Place the right palm above the head and the left palm in front of chest and ask the inner intelligence of the body to open the marmas for treatment. Then slowly put the right palm on the Adhipati marma (top point of the skull, it is the soft spot on a baby's head – fontanel) and the left hand on Hridaya marma (general region of the heart, middle of the sternum). Ask the inner intelligence of the body to open the marmas for treatment. With right palm massage Adhipati. Then continue in the following sequence:

- Sthapani-Shirsha marma (in between the eyebrows, the position of the third eye – analytical intelligence) - Rishi
- Shankha (the temples)
- Utkshepa (behind the upper border of the helix of the ear, two anguli above the Shankha, temporal muscle and bone)
- With hands massage along each side of the ears using vertical movements (thumb and in dex-finger on the back side and the other three fingers on the front side of ear)
- Vidhura (behind and below the ear, just below the mastoid bone, inferior to the tip of the mastoid process)
- Gently pull the ears in all directions, then massage the ears with your fingers, and then in a circular manner using the palms (Talahridaya covering the center of each ear)
- Gently cover the closed eyes with the palms of your hands, then opening the eyes and look ing into the “dark cave” created by the palms of your hands – this is called “palming the eyes” and is a great way to relax the eyes
- With the tip of the middle finger massage around the eyes 3 times starting from the root of the nose (with eyes closed)
- Then very gently massage the marmas around the eyes in a circular motion: Kaninaka (at the inner angle of eye, immediately above the inner canthus of the eye), Avarta (at the center of each eyebrow at the base of the forehead), Apanga (at the outer angle of the eye, lateral side of the orbital fossa), Madhya Vartma (directly below the pupil between the eyeball and the infraorbital ridge), and finally the marma at the centre of eyeball
- Then again massage around the eyes 3 times starting from the root of the nose, using the tip of the middle finger (with eyes closed). Then again “palm the eyes” (looking into the dark cave created by the palms of the hands)
- Phana (the point outside the base of the nose and the nostril openings)
- Massage the marmas along the side of the nose (along the outside surface of the nasal bone)
- Massage 7 times from Phana to the root of the nose and back
- Gently stroke the nasal bone from root to top using the middle fingers of both hands
- Massage 3 times along the upper part of nasal bone from Nasa Agra (tip of the nose), over Nasa Madhya (at the junction between the nasal cartilage and bony skeleton of the nose) to Nasa Mula (at the gabella, the midpoint between the eyebrows, one angula below Ajna)
- From Nasa Mula massage 7 times over the forehead, tracing the shape of the letter V
- With the palms massage the forehead in an upward direction
- With the tip of the fingers massage the scalp 3 times from forehead to the back side of the head and neck
- Krikatika (at the junction of the neck and the head, immediately inferior to the external oc cipital protuberance)
- Manyamani (on the midline at the base of the neck, in a depression inferior to the spinous process of C7)

- Amsa (between the neck and arms, on the trapezius muscle, one half anguli lateral to the spinous process of the fifth cervical vertebra)
- Amsaphalaka (superomedial angle of the scapula)
- Moving forward over the Urdhva Skandha (superior aspect of the trapezius muscle to Aksha ka – superior to the medial border of the clavicle, between the sternal head and clavicular head of the sternocleidomastoid muscle)
- Rub the cheeks in a circular motion, using the palms of the hands
- Gently stroke along the base of the eyelids and sinus area, using the middle finger of each hand
- Massage both sides of the nose along the sinus cavities, using the edge of palms
- Shringataka (the infraorbital foramen, supraorbital artery, frontal diplois vein and superior sagital sinus, occipito frontalis muscle, ophthalmic nerve)
- Oshtha (central groove between the nose and the upper lip, one-third of the distance be tween the nose and the upper lip)
- Hanu (in a depression between the chin and the lower lips at the labiomental sulcus)
- Chibuka (half an angula lateral to the angle of the mouth)
- Using fingers and palms, massage 7 times from Kanthanadi (on the anterior midline of the neck, in the center of the suprasternal fossa), over to Nila marma (just lateral to the trachea), Sira Matrika (one-half anguli lateral to the outside of the trachea), Manya (one-half anguli down and behind the angle of the mandibular bone; one-half unit inferior and one-half unit posterior to the mandibular angle), to the lower jaw
- Using the palms, massage from Krikatika, Manyamani, Amsa, Amsaphalaka, Urdhva Skand ha, Akshaka, to Kanthanadi
- Massage Kanthanadi
- With the mouth open move the lower jaw from side to side, then round like a cow chewing the cud
- Grasp the fingertips of your right hand with your left hand (palm of left hand should face down; ladies start by grasping the left hand with the right) and gradually move up your arm, pressing and releasing, moving up to your shoulder and down to your heart. Then repeat the same procedure, but with the palm of the gripping hand (men left, ladies right) facing up. Then repeat these movements, changing the hands.
- Now continue with oil, massaging the marmas of the hands and shoulders
- Clap with both hands. This enlivens Talahridaya, the center of the palm
- Kurcha (one anguli distal from the wrist joint at the base of the thumb joint, proximal to Kshipra)
- Kurchashira (the root of the thumb just above the wrist)
- Massage the muscle and tendon which runs from the thumb to the index-finger. Rub the area between thumb and index-finger of both hands against each other.
- Kshipra (massage between the thumb and index finger)
- Manibandha (at the midpoint of the wrist crease)
- Indrabasti (center of the forearm)
- Kurpara (elbow joint)
- Ani (at the cubital crease of the elbow, on the ulnar side of the tendon of the biceps brachi alis muscle)
- Bahu Urvi (at the center of the belly of the biceps muscle on the anterior aspect of the upper arm)

- Adhah Skandha (on the lateral side of the upper arm, in a depression between the insertion of the deltoid and brachialis muscle)
- Amsa (at the top of the shoulder at the center of the acromion)
- Urdhva Skandha (At the superior aspect of the trapezius muscle, midway between the tip of the spinous process of C7 and the tip of the acromion)
- Kakshandara (lateral tip of the coracoid process of the shoulder girdle)
- Apalapa (just below Kakshandhara)
- Lohitaksha (center of the armpit or axillary fossa through which the axillary artery passes, anterior aspect of axillary crease)
- Apastambha (on both sides of the chest, one angula lateral from the midline of the chest in the second intercostal space)
- Hrid (three paired points just inferior to Apastambha, on each side of the sternum)
- Hridaya (on the anterior midline, at the level of the third intercostal space)
- Place both hands on your abdomen with the tips of the thumbs meeting horizontally at your navel, so that the other fingers start on the level of the pubic bone. Move up to your heart gradually, pressing and releasing as you go. Then, with both palms, tone up the back, start ing at the lowest point (buttocks) and working up to the sides, chest, and heart. Starting with the hands on the hips (fingers to the front and thumbs to the back) massage the sides of the torso from the hips to chest with the hands sliding up and down.
- Now continue with oil, massaging the marmas of the front and back side of torso.
- Massage the lover abdomen: Basti marma (in between pubic symphisis and umbilicus in region of the lower abdomen, the surrounding surface area above the bladder where the center of instinctive intelligence is located), using the palms, making circular motions (keep ing the hands in a mudra position) - Chhandas
- Nabhi (the navel and surrounding area, behind and around the umbilicus)
- In a crosswise motion, using both palms, massage the front part of torso from abdomen to chest
- Surya (on the midline of the abdomen, the midpoint between Nabhi and the tip of the xiphoid process)
- Pliha (at a point where the vertical line from the mid-clavicular point intersects the costal margin on the left side of the body)
- Yakrut (the point where the vertical line from the mid-clavicular point intersects the costal margin on the right side of the body)
- Parshva Sandhi (at the tip of the eleventh (floating) rib)
- Stanya Parshva (on the midaxillary line, in the seventh intercostal space)
- Vankri (lies on the costal margin, level with the tip of the xiphoid process)
- Agra Patra (at the center of the xiphoid process, inferior to Hridaya)
- Stroke the chest and breast bone using the fingertips
- Massage the middle of the chest: Hridaya marma (general region of the heart, middle of sternum, center of emotional intelligence), using the palms, making circular motions (keep ing the hands in a mudra position) - Devata
- With crosswise movements using both palms, massage from chest (Apastambha), over the Stanamula (nipple), Stanarohita (two anguli directly above the center of the nipples), and back to the abdomen
- With circular movements, using the backside of the hands massage the sacral and lumbar region

- Kati (in the first posterior sacral foramen)
- Kukundara (one angula lateral from the lower border of the spinous process of L5, on each side)
- Nitamba (one angula above Kukundara marma)
- Parshvasandhi (lateral aspect of the lumbosacral joint)
- With crosswise movements, using the back of the hands, massage back side of the torso from the lumbar region (Vrukka – one angula lateral to the lower border of the spinous process of T12, on each side), to the shoulder blades (Brihati – immediately below the inferior angle of the scapula on both sides of the body) and the down again to the lumbar region
- With crosswise movements, using both hands, massage around the torso from the hips up to the chest and then down again to the hips
- Massage the muscles along the spine by sliding the thumbs up and down, one thumb on each side
- With circular movements of the hands, massage Katikataruna (gluteus maximus muscle) and then massage forward over the groins
- Lohita (on the medial side of the anterior superior iliac spine)
- Vankshana (the midpoint of the line between the superior border of the pubic symphysis (Bhaga) and the medial border of the anterior superior iliac spine
- Bhaga (at the midpoint of the superior border of the pubic symphysis)
- Grasp the top of your toes on your right foot with your right hand and the sole of your right foot with your left hand (ladies opposite) and move up your foot and leg, pressing and re leasing, moving up to the thigh, groin, then the waist, and then to the heart. Repeat with the left foot (ladies opposite).
- Now continue with oil massaging the marmas of feet, legs and hips
- Massage your feet
- Pada Kshipra (in between the big toe and the first toe) and then continue with the spaces between the other toes
- Talahridaya (upper center of the sole in line with the root of the third toe)
- Pada Kurcha (web between the first and second metatarsal phalangeal joint)
- Pada Kurchashira (midpoint on the inferior lateral surface of the calcaneum – heel bone)
- Massage the achilles tendons
- Using circular motions (keeping the hands in mudra position) massage Gulpha (the ankle joint)
- Pada Charana (on the anterior aspect of the ankle joint, in a depression between the tendons of extensor hallucis longus and extensor digitorum longus)
- With an opposing and semi-rotating motion of the hands around the leg, massage the leg working up from the ankle joint to the calf muscle:
- Indrabasti (two points on the medial and posterior aspect of the calf muscle)
- Medial Indrabasti is 4 to 5 anguli inferior to the medial condyle of the tibia in a depression just posterior to the medial creast of the tibia
- Posterior Indrabasti is at the point at the midle of the line, joining the posterior surface of the calceneum with the center of the popliteal fossa
- Charana (two points on the medial and lateral aspects of the knee joint)
- Lateral Charana is in a depression anterior and inferior to the head of the fibula
- Medial Charana is located when the knee is flexed, 1.5 anguli superior to the medial end of the popliteal crease

- Massage the knee in circular movement (keeping the hands in mudra position)
- Janu (at the center of the patella, knee joint)
- Then with the thumbs above and the fingers below the leg, using both hands, massage around the leg from the knee to the groin, in an opposing and semi-rotating motion
- Pada Ani (two anguli above the top of the knee joint, and in the center of the line between the top of the anterior face of the joint and the popliteal surface)
- Pada Urvi (in the middle of the line joining the center of the inguinal ligament and the me dial condyle of the femur where the femoral artery and long saphenous vein pass)
- Lohitaksha (inferior to the midpoint of the inguinal ligament on the anterior aspect of the thigh)
- Using both palms massage the hip in a circular motion and move towards the chest
- Sphij (at the midpoint of the transverse gluteal crease that lies below each buttock)
- Uru (two points on the lateral aspect of the thigh). One on the prominence of the greater trochanter – hip joint. The other point is located when the person stands with arms held comfortably by the side where with the tip of the middle finger touches the thigh, 8.5 to 9 anguli superior to the popliteal crease
- Vitapa (one anguli lateral to the pubic symphysis in the superficial ring through which the spermatic cord passes in men – inferior aspect of the pubic symphysis)
- Then proceed the massage to Hridaya marma and do the same with other leg
- Finish the massage by pressing Talahridaya of soles of the feet, because these points are connected with the brain
- At the end put the right palm above the head and the left palm in front of your chest, asking the inner intelligence of the body to close the marmas after treatment. Then rest in Anan dasana for few minutes.

Here are some additional tips regarding marma massage:

- To quickly calm down an excess of Vata dosha, apply oil or ghee (with gentle massage) to the top of the head (Adhipati marma), ears, nose (5 drops of ghee in each nostril), navel (Nabhi marma), anus (Guda marma), and the soles of the feet. Nabhi marma is an important centre of prana. Oleation of the navel controls Vata and properly establishes prana in the body. It helps the evacuation of flatus and relieves from abdominal pain.

- Oil massage of the soles of the feet removes hardness and dryness of the soles, imparts softness and suppleness, improves eye-sight, removes sciatica, cracks, and ulcers on soles and deformations related to blood vessels and tendons of the lower limbs.

- Regular use of oil on the head prevents headaches. The skull becomes strong, sensory per ception becomes sharper, one enjoys good sleep, hair on the scalp will not grey or fall pre maturely. The mind lies between upper palate and the top of the head, so the marmas sit uated there have a close relation with the mind. Hence oleation of the head (Adhipati) has a long standing effect on keeping good health.

- By regularly applying oil to the ears, one will be free from Vata diseases of the ears, neck, and mandible joint. Hyperacusis (hard hearing) and deafness may not appear.

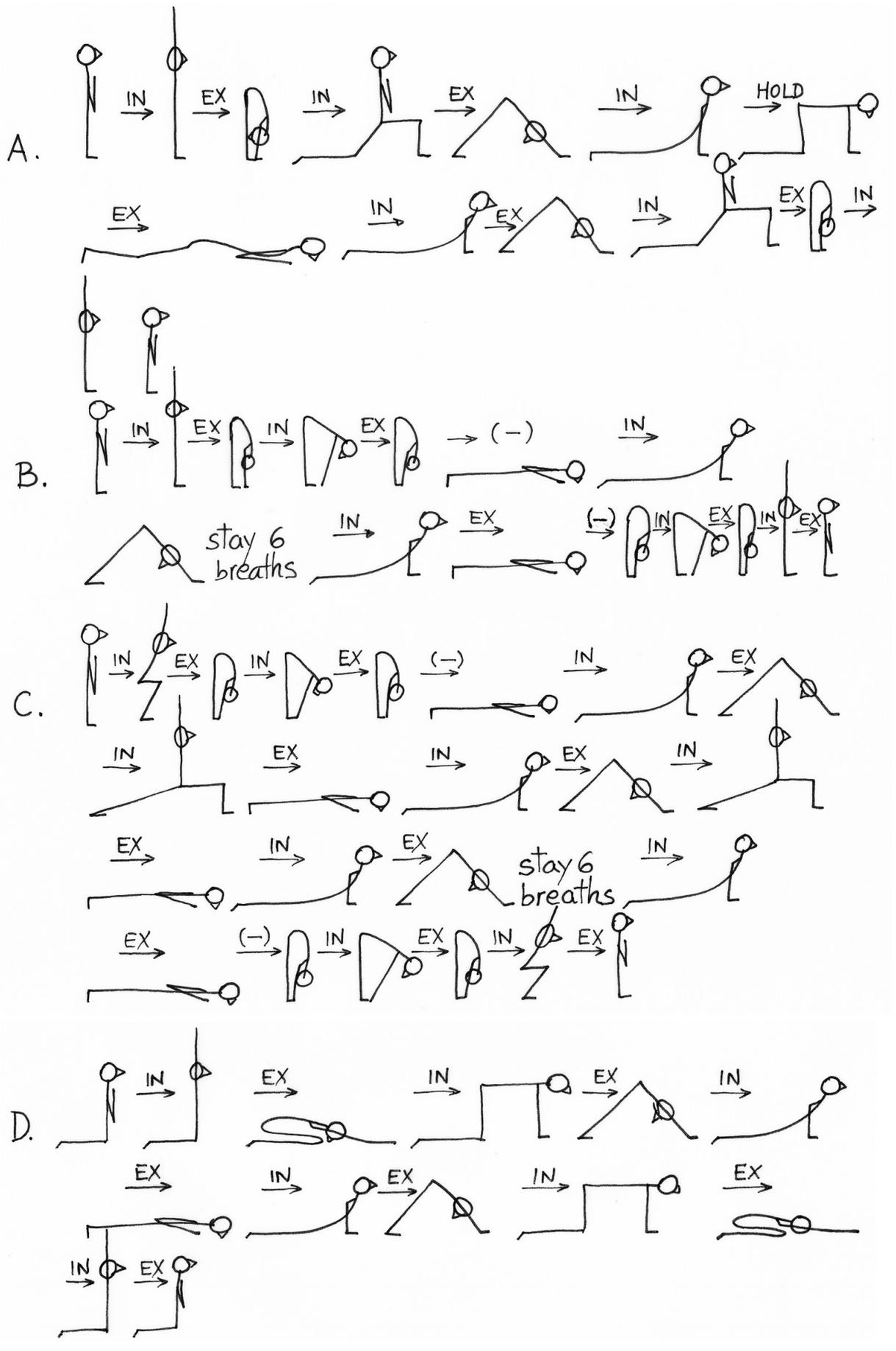
Sun salutation – Suryanamaskaram
Moon salutation – Chandranamaskaram

Sun salutation consists of a series of flexion and extension exercises that integrate mind, body, and breath. Sun salutation lubricates the joints, conditions the spine, and strengthens every major muscle group in the body. It creates balance, stability, suppleness, and flexibility. It has a powerful effect on the glandular, circulatory and digestive systems and it harmonizes them. It has a balancing effect on the nervous system and it tones up the energy. It acts as a strong antidote to stress.

It should be practiced at the beginning of a Yoga session, as a warm-up exercise and should be followed by a short relaxation in Anandasana. Always do an even number of cycles so that both sides of your body are exercised in a balanced way. Do not rush through the exercises. Maximum value comes from doing them slowly. Be careful not to strain by stretching too far. You should stretch only as far as your body is comfortable. Over time, more flexibility will develop. You should definitely not feel pain or discomfort while doing these exercises. If you have back problems, consult your physician before starting these exercises. Each cycle takes one to two minutes. After completing the final cycle, lie down on your back, arms at your sides, with palms facing upward, for two minutes. Just allow your attention to easily be on your body. Advanced stages of practice include bandhas, mudras, and mantras of the Sun, to enliven all levels of our mind and body. During Suryanamaskar sun light enters through inhalation (prana) and strengthens every cell. Through exhalation (apana) impurities are removed. Prana and Apana are the two Asvinikumaras (prana = anabolism, apana =katabolism) in our body.

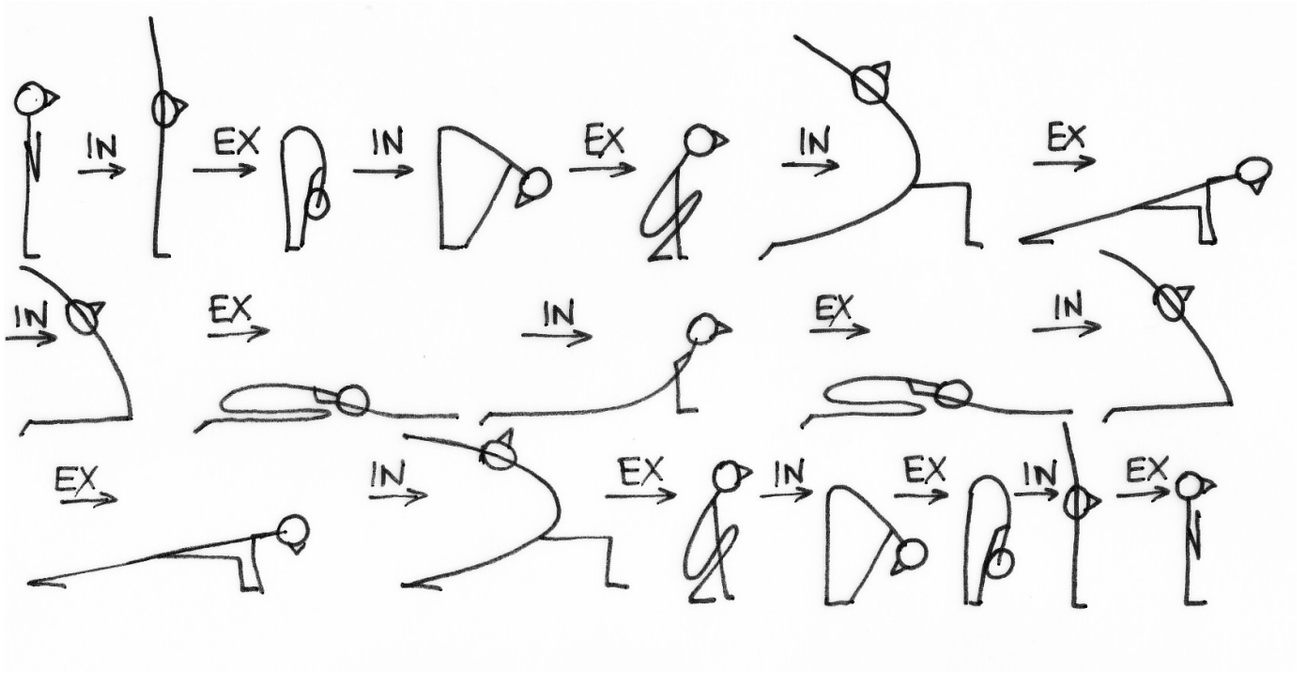
Suryanamaskaram variations: A, B, C, D

During Suryanamaskar variation A, you can repeat the Sun mantras with every exhalation. During variation B, while staying in Adhomukhasvanasana for seven breaths, you can practice all three bandhas (Maha bandha) after every second exhale (3 times). During variation C, while staying in the Adhomukhasvanasana for seven breaths, you can lead your attention along the spine from Muladhara to Sahasrara chakra and at the same time, with every exhalation repeat the Sun mantras according to the chakras. During variation D, you can repeat the Sun mantras with every exhale. Practicing Suryanamaskaram in this way turns it into Surya Yoga, Ishwara Pranidhana, and Kriya Yoga. Ishvara pranidhana means that Ishwara (God) is your only support in life and this removes fears and reduces kleshas.


A.
IN
EX
IN
EX
IN
HOLD
EX
IN
EX
IN
EX
IN
B.
IN
EX
IN
EX
(–)
IN
stay 6 breaths
IN
EX
(–)
IN
EX
IN
EX
C.
IN
EX
IN
EX
(–)
IN
EX
IN
EX
IN
EX
IN
EX
stay 6 breaths
IN
EX
(–)
IN
EX
IN
EX
D.
IN
EX
IN
EX
IN
EX
IN
EX
IN
EX
IN
EX

Chandranamaskaram

Chandranamaskaram is more demanding regarding the flexibility of the body than Suryanamaskaram, because it involves stronger backbends. Practice Chandranamaskaram only once you can easily perform Suryanamaskaram. During Chandranamaskaram you can repeat the Moon mantra on exhale.



Practicing asanas in water – aqua yoga

Water is the source of life on this planet. It is an environment familiar from before birth, as babies grow in amniotic fluid. Water is an ideal medium for yoga, allowing stretching and breathing beyond anything that is possible in land-based postures. Aqua yoga increases enjoyment and benefits, while floating relaxation opens access to an anxiety-free state of harmony with the surrounding world. Aqua yoga is the most natural and all encompassing way to promote and sustain fitness and health. It offers a gentle and easily available way to enjoy movement and breathing by using the supportive element of water. The power of water for revitalization and therapy has been known and used since ancient times by both humans and animals. The Greeks and Romans gave a high priority not only to baths but also to exercise in water. Massage in water can also be used therapeutically for healing injuries, as well as on specific areas of the body that need loosening, toning, strengthening, and shaping.

Swimming has been shown to strengthen the immune system and can help to heal a wide variety of conditions. People with chronic illnesses, such as asthma, benefit from its effects on their breathing. Swimming is a top exercise for stamina, suppleness, and strength, as it exercises the whole body simultaneously, rather than working on different parts separately. Supported by the water, joints and muscles can move freely, unhampered by gravity and protected from the jarring and knocking that can happen during land-based exercising. Swimming increases lung capacity and improves breathing performance. It increases the tidal volume of the lungs as well as their blood supply. It also improves the proportion of muscle to fat, while strengthening the connective tissues (cartilages, ligaments, and tendons), inter-muscular, and organ-supporting tissues. Lower-back problems and painful arthritic or inflamed joints can be alleviated through swimming. Cardiovascular function and muscle tone are enhanced, and both the pulse rate and recovery period are reduced. The number of capillaries increases, as does the hemoglobin. Recovery from a weakened condition will be improved.

In recent years there has been an increased awareness of the use of water during pregnancy, labor and delivery, as well as the postnatal period. Both during pregnancy and after birth, it is important to strengthen and elongate the muscles of the back, buttocks, thighs, and abdomen. In aqua yoga, as in classical yoga, this is achieved through a combination of breathing and stretching, but greater elongation of the muscles is possible in water. Aqua yoga combines slow stretching with the use of breathing and relaxation, as the water provides resistance for the muscles to work against. Aqua yoga promotes isokinetic contractions of the muscles as they are moved at a constant speed though the water. Bodies feel virtually weightless in water and stretches which might not be possible on land, can be achieved in water without strain. Aqua yoga is a perfect combination of benefits from yoga and swimming. It combines the efficiency that both yoga and swimming confer on muscles, in extracting oxygen from the blood and discharging waste products into the lymph. Aqua yoga, even more than yoga, has a direct effect on the nervous system, both calming and stimulating, as is needed for an ideal balance. Water facilitates the release of pent-up emotions, mental tension, and stress.

You can do aqua yoga in the sea, in a river or a lake, but you are most likely to choose a swimming pool. The depth needs to be between waist and shoulder level: chest level is ideal. Equipment for practice can be a pair of foam woggles (fun noodles) and a pair of floats that will give you full support to practice aqua breathing and relaxation. A session of 30 – 45 minutes of practicing aqua yoga is ideal. This will give you 10 minutes for exercises, 10 minutes for swimming and about 10 minutes for aqua breathing and floating relaxation. The exercises are grouped into two main sequences. During the first sequence, you mainly do standing exercises in the water. The second sequence in-

volves more exercises lying on the back and front side of the body, as well as swimming. Aqua yoga, like yoga, is designed as an individual pursuit, but it can be done with a partner. Partners can help each other to stretch in aqua yoga, for their mutual benefit.

Breaststroke is swimming like a frog. The arm movements of the breaststroke open the chest and stretch the upper back and arms. In aqua yoga you swim slowly, yet with an efficient technique that aims at generating a very smooth rhythm of conscious connection between breathing and movement. While doing backstrokes make sure to remain as streamlined as possible. Let the water support your head and back together, getting into your stroke from the pleasure of floating. During front and back crawl, stretch as much as possible on the surface of the water, streaming your body and keeping your legs and ankles relaxed as you kick. Avoid making a splash with your feet. Your movement is more efficient if your feet remain just below the surface, at all times, without actually breaking it. The butterfly stroke is the basis for Dolphin Dives and requires the most physical strength of all swimming strokes. It carries the risk of exaggerating the lumbar curvature of your spine. The combined action of breath and movement makes it a streamlined stretch.

In aqua breathing extend your exhalation for twice the duration of your inhalation. Blow bubbles in the water if this makes it easier or more fun for you. After inhale through the nose you can also practice sinking to the bottom, slowly breathing out through the mouth. Breathing dives can be done on the surface or underwater, or using a combination of both. Underwater dives are more effective, not only because the body is more free in the water, but also because the mind enters another world. In a few seconds, a different state of consciousness can be reached. After a dive start relaxing as soon as you emerge. At the end do laughing yoga pranayama with sounds: ha, he, hi, ho, hu, and then do floating relaxation on the back with the support of the fun noodle. Floating relaxation encompasses your body, mind and emotions. Its physiological effects include a lower respiratory rate, lower hart rate, blood pressure, and blood cortisone levels, as well as the production of theta and alpha brain waves.

Yoga exercises for the spine

Twisting exercises for the spine - Health of spine is the basis of a healthy functioning of the physical, energetic, mental, and spiritual level of our existence.

To illustrate the effects the spine can have not only upon the body, but also upon the mind, there is a timeless tale mentioned in Bhagavata Purana, of the continuous battle between the demons and the gods. When the gods saw that they were losing the battle, they went to Brahma, their creator, asking for help. "Make peace with the demons", he urged. "Together you should churn the ocean of milk until it turns into the nectar of immortality". Upon the advice of the lord of preservation, Vishnu, they used the giant mountain, Mandaranchal (a spur of mount Meru), as a churning stick. The massive serpent, Ananta, was to be coiled three and one half times around the mountain for pulling and turning it (likewise, at the bottom of the spine, symbolically the "snake" (Kundalini shakti) is coiled three and one half times around Shiva lingam). As gods and demons proceeded to churn the terrestrial ocean of milk, Ananta opened her mouth (Kundalini shakti was liberated to pass through Sushumna nadi) and poison appeared on the surface. Poison symbolizes release of stresses and purification of all levels of nervous system. In the crises of the moment, the gods turned to the great lord (Shiva), who found that the only safe place to dispose of the poison was to swallow it him self. Since then, he is now known as the blue-throated one (nila kantha). With the release of the poison (normalization of the functioning of the nervous system), amazing things began to happen. Out of the depths of the ocean, celestial animals, the wish-fulfilling tree, gems, and the goddesses of beauty and harmony appeared. At the very end, the celestial physician appeared, carrying the cup of the moon in his hand, and within it, the sought after "nectar of immortality".

Symbolically, the battle is that constant conflict of the opposing forces of negative and positive, darkness and light that goes on within us all. The demons and angels (gods?) at opposite ends of the churning stick represent these forces. The ocean here depicts the dept and infinite vastness of the unconscious mind. The churning of the ocean of the unconscious is done through the mountain which represents the spine in the human physiology. Mountain Mandaranchal, a spur of Mount Meru, the world axis, was torn out to use as a churning stick and was steadied at the bottom of the ocean by Vishnu in his incarnation as the tortoise Kurma. The spinal column is known as "Meru Danda". This is the axis of the body just as Mount Meru is the axis of the universe. Man is the microcosm (Pinda – Kshudra – Brahmananda). The entire Universe, all the worlds (lokas) are within the body. The spine acts as the churning stick when the serpent Kundalini awakens. The poison is the unresolved conflicts that lie harboring within the unseen depths of the mind and cannot be released and disposed of, until the churning begins. When the poison or conflicts were disposed of, after they were brought to the surface, then the gems and jewels emerge in glorious patterns of beauty and harmony (that which C.G. Jung would call "the collective unconscious"). The surfacing of the gems, etc. is symbolic of seeing ones own "unconscious". The celestial physician, who has come to heal the ills of humanity, carries in his hand the moon as a symbol of a well–rounded or balanced psyche. The nectar of immortality (amrita) that is held within is symbolic of the spirit of Transcendental Wholeness. This story illustrates the effects the body can have upon the mind. The twisting movements of the spine (churning) are designed to awaken the spine and its nerves, both physically and psychically. On the level of pranamayakosha, the spine twisting exercises purify and open the three main nadis (Ida, Pingala and Sushumna), as well as the chakras. This purifies our consciousness and makes it aware of its full potential, locating Amrita (the nectar of immortality) within itself.

If we learn to use our spine correctly, then we will be able to rid ourselves of both physical and mental ills. This is because every organ in the body, including the brain, is directly or indirectly attached

to the spine. It is the area of “primary control”. What goes on in the spine largely determines both mental and physical health.

The architectonic, the structural support of bone, follows the lines of force to which that bone is exposed. When bone cells get stimulated through being compressed or twisted or elongated, they produce more bone mass until that bone gets strong enough, to resist the pressure. At that point the pressure no longer distorts the bone, and the bone-making cells stop making more. This is wonderful feedback system. Yoga works by stressing the bone. Yoga stimulates the bone with isometric contraction at almost every conceivable angle for long periods of time. There is a difference between structure and density of the bone. Dense bone mass on its own doesn't necessarily provide protection against fractures; unless the bone fibres are laid down in a way to provide greater strength, the bone mass is not going to be very stable. Density and structure both matter for bone health. Yoga for spine helps grow bone mass, but because yoga poses and exercises pull and stretch the bones from every conceivable angle, yoga also may stimulate the formation of a bone structure that is able to resist greater amounts of pressure, as well as many different types of challenges. Twists give such a symmetrical pressure to the vertebral body that it's not a fracture risk. Yoga twists are safe to do as part of one's yoga practice. And they are very important, because they give such a complete stimulus to the vertebral body. Regarding osteoporosis, there's almost no other way of developing strength and stimulate bone growth than exposing that vertebra to some pressure. Twisting the vertebra is one of the few ways to get all of the vertebrae under some compression and stimulate bone growth in the vertebrae.

Dr. Henry Windsor, who was a Medical Doctor from the University of Pensylvaniya, has performed a medical experiment in 1921. In his clinical research he wanted to proof the existence of diseased organs and its interconnection to the curvatures of the spine (improper posture and misaligned vertebrae). In this study he made experiments on 50 cadavers from the pathology department. Dr. Windsor dissected the bodies and looked at the diseased organs. Out of 50 bodies he found 139 organs that were in a different degree of disease. He found diseased kidneys, livers, pancreases, hearts, , gall bladders, lungs etc, etc. Dr. Windsor traced the nerve root of each diseased organ back to the spine and found out that 128 diseased organs from 50 cadavers had a relationship with the curve of the vertebrae or postural disturbances. These nerve roots belonged to the same sympathetic segments as the diseased organs 128 times. 11 other diseased organs had different origin of a disease.

Without the right signals from our brains, our organs cannot function at their optimum level. When a subluxation is present, musculoskeletal factors around one or more vertebrae interfere with the normal function of the nerves, affecting the nerves ability to transmit information from the brain to the rest of the body and vice-versa. Below is a list of 26 nerve roots that provide neurological supply to the vital organs and musculoskeletal system and the symptoms that associated with these nerve roots.

Relationship of The Nervous System And Spine To Organs:

C1 ATLAS - AREAS & PARTS OF BODY: Blood supply to the head, the pituitary gland, the scalp, bones of the face, the brain itself, the middle and inner ear, the sympathetic nervous system

POSSIBLE SYMPTOMS: Headaches, nervousness, insomnia, head colds, high blood pressure, mi graine headaches, nervous breakdown, amnesia, chronic tiredness, dizziness or vertigo.

C2 AXIS - AREAS & PARTS OF BODY: Eyes, optic nerve, auditory nerve, sinuses, mastoid bones, tongue, forehead

POSSIBLE SYMPTOMS: Sinus trouble, allergies, crossed eyes, deafness, eye trouble, earache, faint-ing spells, certain causes of blindness.

C3 - AREAS & PARTS OF BODY: Cheeks, outer ear, face bones, teeth, trifacial nerve

POSSIBLE SYMPTOMS: Neuralgia, neuritis, acne or pimples, eczema

C4 - AREAS & PARTS OF BODY: Nose, lips, mouth, eustachian tube

POSSIBLE SYMPTOMS: Hay fever, catarrh, hard of hearing, adenoids, runny nose

C5 - AREAS & PARTS OF BODY: Vocal cords, neck glands, pharynx

POSSIBLE SYMPTOMS: Laryngitis, hoarseness, throat conditions like a sore throat or quinsy

C6 - AREAS & PARTS OF BODY: Neck Muscles, shoulders, tonsils

POSSIBLE SYMPTOMS: Laryngitis, hoarseness, throat conditions like a sore throat, stiff neck, pain in upper arm, tonsilitis, chronic cough, croup

C7 - AREAS & PARTS OF BODY: Thyroid gland, bursae in the shoulders and elbows

POSSIBLE SYMPTOMS: Laryngitis, hoarseness, throat conditions like a sore throat, bursitis, colds, thyroid conditions

T1 - AREAS & PARTS OF BODY : Arms from the elbow down, including the hands, wrists, fingers, also the esophagus and trachea.

POSSIBLE SYMPTOMS: Asthma, cough, difficult breathing, shortness of breath, pain in lower arms and hands.

T2 - AREAS & PARTS OF BODY: Heart, including its valves and covering, coronary arteries.

POSSIBLE SYMPTOMS: Functional heart conditions and certain chest conditions.

T3 - AREAS & PARTS OF BODY: Lungs, bronchial tubes, pleura, chest, breast

POSSIBLE SYMPTOMS: Bronchitis, pleurisy, pneumonia, congestion, influenza.

T4 - AREAS & PARTS OF BODY: Gallbladder, common duct.

POSSIBLE SYMPTOMS: Gallbladder conditions, jaundice, shingles.

T5 - AREAS & PARTS OF BODY: Liver, solar plexus, circulation (general)

POSSIBLE SYMPTOMS: Liver conditions, fevers, blood pressure problems, poor circulation, arthritis.

T6 - AREAS & PARTS OF BODY: Stomach.
POSSIBLE SYMPTOMS: Stomach trouble including: nervous stomach, indigestion, heartburn, dyspepsia.

T7 - AREAS & PARTS OF BODY : Pancreas, duodenum
POSSIBLE SYMPTOMS: Ulcers, gastritis.

T8 - AREAS & PARTS OF BODY: Spleen, diaphragm
POSSIBLE SYMPTOMS: Lowered resistance, hiccoughs

T9 - AREAS & PARTS OF BODY: Adrenal and suprarenal glands.
POSSIBLE SYMPTOMS: Allergies, hives

T10 - AREAS & PARTS OF BODY: Kidneys.
POSSIBLE SYMPTOMS: Kidney troubles, hardening of the arteries, chronic tiredness, nephritis, pyelitis.

T11 - AREAS & PARTS OF BODY: Kidneys, ureters
POSSIBLE SYMPTOMS: Skin conditions such as acne, pimples, eczema, boils.

T12 - AREAS & PARTS OF BODY: Small intestine, lymph circulation
POSSIBLE SYMPTOMS: Rheumatism, gas pains, certain types of sterility

L1 - AREAS & PARTS OF BODY: Large intestines, inguinal rings
POSSIBLE SYMPTOMS: Constipation, colitis, dysentery, diarrhea, some ruptures or hernia

L2 - AREAS & PARTS OF BODY: Appendix, abdomen, upper leg.
POSSIBLE SYMPTOMS: Cramps, difficult breathing, minor varicose veins.

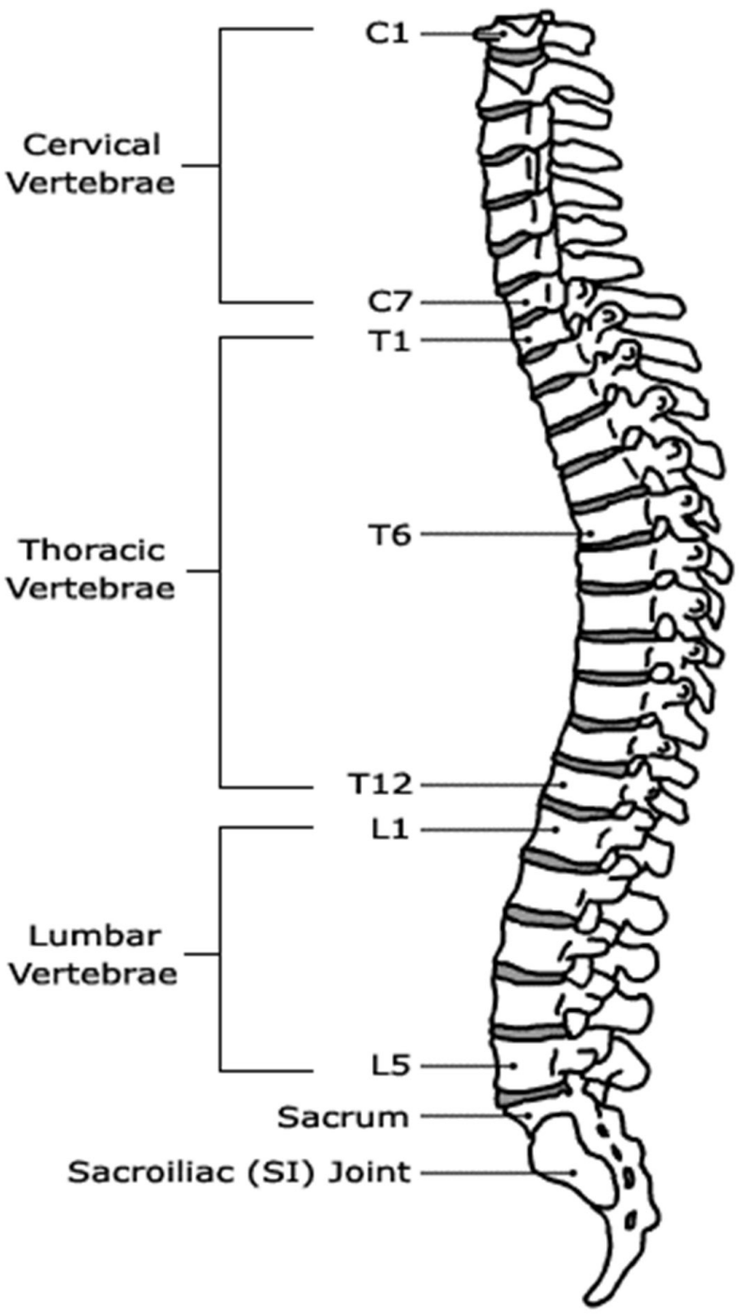
L3 - AREAS & PARTS OF BODY: Sex organs, uterus, bladder, knees.
POSSIBLE SYMPTOMS: Bladder troubles, menstrual troubles such as painful or irregular periods, miscarriages, bed wetting, impotency, change of life symptoms, many knee pains.

L4 - AREAS & PARTS OF BODY: Prostate gland, muscles of the lower back, sciatic nerve
POSSIBLE SYMPTOMS: Sciatica, lumbago, difficult and painful or too frequent urination, backaches.

L5 - AREAS & PARTS OF BODY: Lower legs, ankles, feet
POSSIBLE SYMPTOMS: Poor circulation in the legs, swollen ankles, weak ankles and arches, cold feet, weakness in the legs, leg cramps.

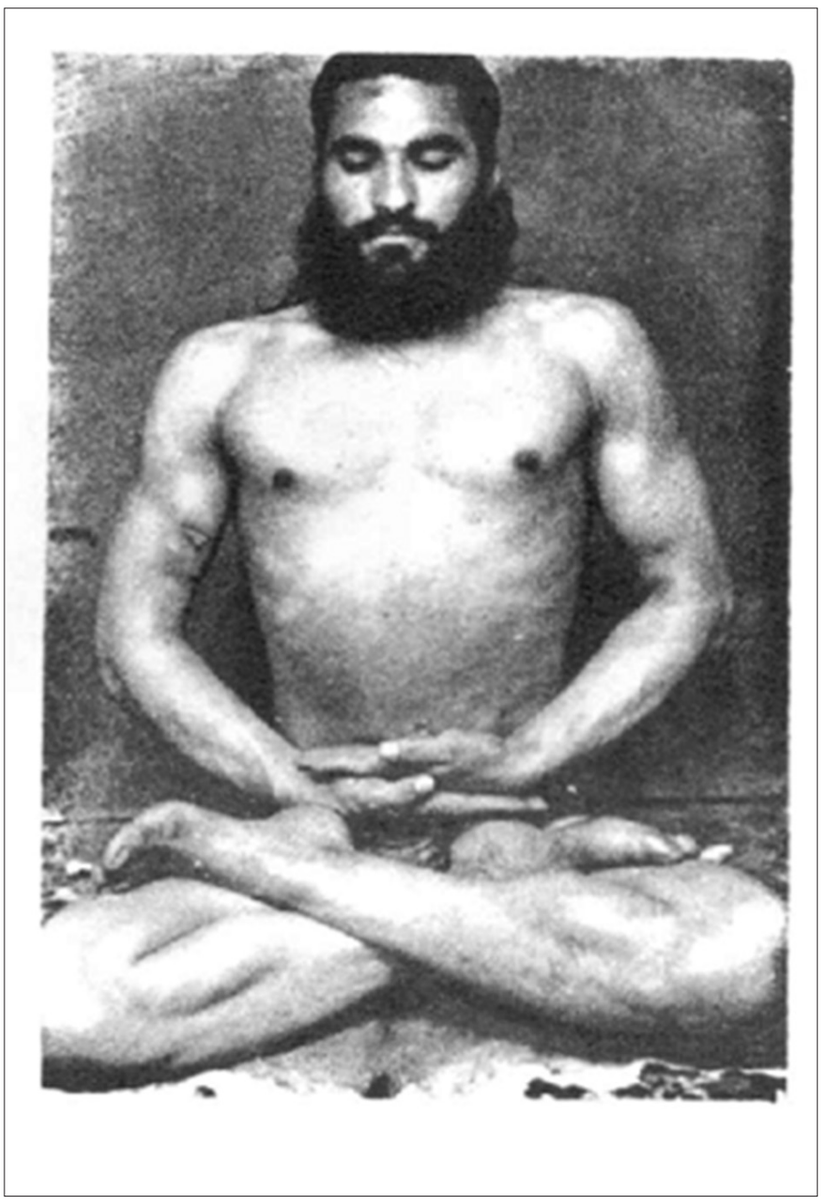
SACRUM - AREAS & PARTS OF BODY: Hip bones, buttocks.
POSSIBLE SYMPTOMS: Sacroiliac conditions, spinal curvatures.

COCCYX - AREAS & PARTS OF BODY: Rectum, anus.
POSSIBLE SYMPTOMS: Hemorrhoids (piles), pruritus (itching), pain at end of spine on sitting



To do its job properly, the spine must be lengthened, never shortened. When the spine is continually shortened, undue strain is put on all limbs and organs. The neck should always be free from muscle tension. Many people hold a lot of tension in the neck. This then spreads throughout the spine and the whole body. To keep the spine in proper alignment, stretch the neck and keep the chin down tucking it to the "Adam's apple". Throwing one's head backwards or allowing it to slump onto the chest, will eventually put the spinal curvatures and the whole body out of alignment. When one stands in a vertical position, because of the influence of the force of gravity, the discs between the vertebrae of his spine (lumbar, thorax and cervical region) come under pressure. Consequently spine has become curved and nobody can sit, stand or sleep in a perfectly correct

position. The spine is also injured by wrong ways of pushing, pulling or lifting heavy weights or by making sudden jumps or even by doing strenuous work in a hunched position. Problems of the spine can be structural, material, functional, due to weakness of muscles, ill-health of the nervous system, overweight, poor circulation, etc. Yogis have proclaimed that the coiled serpentine power lies locked in Kundalini, and that the spinal chord with its seven chakras is the main reservoir of human energy. Efficiency of pranamayakosha depends upon the perfect elasticity of the spinal cord.



Maharishi Swami Dev Murti

Maharishi Swami Dev Murti has invented 12 courses of 12 spinal exercises. These are easy to perform, and do not put any strain on the body, whether one is young or old. These spinal-twist exercises charge up the spinal chord and thus recharge the human battery and build up an immense reservoir of energy. These exercises are designed to improve the functioning of the spinal chord, blood circulation, the vertebral discs, and the nervous system, and also for the awakening of the dormant powers within. They are auto-chiropractic because when the muscles are completely relaxed you can consciously activate only certain muscles to move certain vertebras, or discs to its proper place. They also aid digestion and other functions of the internal organs and prepare the body to perform other classical yoga positions. A healthy spine means that no area of the spine is stiff and that you feel no pressure in the spine. There should be a light feeling in the spine, as if it is floating. These spinal-twist exercises are done with eyes closed and the breath must be kept inside, pushed well down to the navel, and for as long as it can be retained. The only exception is exercise no. 12 in which the air is retained inside the chest. The exercises can also be done while holding the breath after exhale. There are 4 ways of breathing which should be, over period of time, usually applied in the following sequence:

- In the starting position inhale and then start twisting the body while exhaling. While coming back to starting position inhale.
- In the starting position exhale and while holding the breath, twist and return back to starting position.
- In the starting position inhale (to the stomach) and while holding the breath, twist and re turn back to starting position.
- In the starting position inhale (to the stomach) and while holding the breath, twist left and right for as long as you can comfortably hold the breath.

Which way of breathing should be applied depends on the condition of the person. Always start with normal breathing without holding the breath. Breathing should always be through the nose, with the mouth closed. If the person is mentally and emotionally tense than it will be good to exhale through the mouth at the same time producing the sound AAAAAA. Older people and those suffering from heart diseases, lung or thyroid disorders, as well as asthma, or high or low blood pressure, should not retain the breath, but should breath normally (exhaling during twisting, while inhaling return to starting position). Women should not do these exercises if they are pregnant or menstruating. The eyes should be kept closed and the awareness should be on the proper breathing and spine movement. Move the spine only how much is comfortable, do not strain. Keep the eyes closed all the time and be conscious of the movement of the spine. The shoulders should remain on the ground during twisting. The exercises should be done in the early morning or at least three hours after a meal. The place where you practice should be well-aired but not draughty. The best place is in the open air. Remember to drink some water before the exercises so that all the internal organs are washed thoroughly. Afterwards go to the toilet and pass water, before having a bath or shower.

Note:
Before doing every exercise, assume Anandasana (relaxing all muscular tension), breathe normally, and have the mind at rest. In the beginning of the practice move the body with breath (twisting as you exhale, returning to the starting position with inhale). If a person has lordosis, then one should place a folded blanket under the pelvis (fold it as many times as necessary to make the position most comfortable). A person with kyphosis should place a folder blanket under the thoracic curvature, and also a small (thin) pillow under the head. Before twisting the spine, it must be stretched. At the end of each course of spinal-twist exercises, do some balancing asana (Pratikriya asana). The pratikriya asana for courses done lying on the back, sitting, or lying on the side of the body, is

Apanasana (repeat 6 times). For courses in which you lie on the stomach, do Shashanka asana and Chakravakasana.

Benefits:

The spine twisting exercises strengthen the muscles between the vertebras, deepest muscles of the back, along the spine, which are most important to maintain the proper position of the spine. They massage the nerves of the peripheral nervous system, thus improving the functions of all internal organs. They apply uniform pressure on the vertebral bodies and thus strengthen the bone structure and improve its flexibility. Furthermore, these exercies improve the circulation which helps to nourish the discs and to recover their normal size and function. They purify the nadis (energy channels) along the spine and awaken the life energy in the body (kundalini shakti).

Spinal twist course I

Zero Exercise:

- Assume Ananda Asana. Keep the feet about a foot apart. Stretch the arms out at the shoul der level. Take a deep breath and press it down below the navel. While holding the breath, twist the lower part of the body to the left and turn the head to the right with the chin point ing over the right shoulder. The big toe of the right foot must touch the heel of the left foot. Then turn the head to the left with chin pointing over the left shoulder and the lower part of the body to the right with the toe of the left foot touching the heel of the right foot. Repeat these movements alternately 4 to 5 times or as long as the breath can be held within. Do the same exercise keeping the feet together. After every exercise, do the Fish Relaxation.

Fish Relaxation:

- Lie down fully stretched in Ananda Asana. During inhale slowly raise the hands (bending the arms at the elbows, while the elbows themselves remain on the ground) and simultaneously raise the knees about a foot off the ground. During exhale drop the arms and legs to the original position slowly turning the head from right to left and next time from left to right.

The First Exercise:

- Assume Ananda Asana. Cross the right foot over the left. Stretch the arms out at shoulder level. Take a deep breath, pressing it down below the navel and hold the breath within. Then turn the head slowly to the right and feet to the left. The hip should be raised. Repeat this on the opposite side. Fish Relaxation follows.

The Second Exercise:

- It is the same exercise with the left foot crossed over the right foot, followed by Fish Relax- ation.

The Third Exercise:

- Assume Ananda Asana. Place the heel of the right foot between the big and second toes of the left foot. Stretch the arms out at shoulder level. Draw in a deep breath, press it down below the navel and hold it. Turn the lower part of the body slowly to the left and head to the right. The shoulders remain flat on the ground. In this position, the ankle bone, the left hip and the right ear are to be in a line. Repeat the exercise alternately 4 to 5 times or as long as the breath can be held. Follow up with Fish Relaxation.

The Fourth Exercise:

- Same as above, but with the heel of the left foot between the big and the second toes of the right foot. Follow up with Fish Relaxation.

The Fifth Exercise:

- Assume Ananda Asana. Place the outside of the right ankle just above the left knee-cap. Stretch the arms out at shoulder level. Take a deep breath, press it down below the navel

and hold it within. Then turn the lower part of the body to the left and head to the right. Bring the right knee as near to the ground as possible. The chin should move above the right shoulder. Then move the lower part of the body to the right, the right knee touching the ground (if possible) and the head turned to the left with the chin moving over the left shoulder. Repeat the exercise 4 to 5 times or as long as the breath can be held. Then do Fish Relaxation.

The Sixth Exercise:

- Same as the above, but the outside of the left ankle placed on the knee-cap of the right leg. Then do Fish Relaxation.

The Seventh Exercise:

- This exercise is the most important of all these exercises. If there is no time for doing the whole course of 12, the one should do at least this exercise in all its parts, without fail, both in the morning (while still in bed) and as one goes to bed at night. This will induce sound sleep and also remove constipation. All regions along the spine become strong: the cer - vical region of the neck, thoracic region of the chest, the lumbar region of the stomach, the sacrum, and the cocyxial region. They become supple, strong, and free of aches and pains. Cholesterol is reduced and the nerves and arteries become clearer. These exercises are also beneficial for diabetic patients, keeping the abdomen and buttocks in shape. They benefit the womb, uterus, urinary tract, appendix, liver, spleen, the large and small intestines, na - vel, the kidneys and other organs in these regions.

- Assume Ananda Asana. Raising the knees, placing the feet near the thighs / buttocks, keeping them one and a half feet apart. Stretch the arms out at shoulder level, draw in a deep breath, press it down below the navel and hold it. Then turn the knees to the left and the head to the right, with the left knee touching the ground and the right knee touching the left heel. Then turn the knees to the right and the head to the left, with the right knee touching the ground and the left knee touching the heel of the right foot. Repeat this 4 to 5 times. Then do Fish relaxation.

  Variation:

  In case that a person has problems in the lumbar region of the spine, then the following combination of breathing and movement is recommended (this applies also to the other spinal-twist exercises): Inhale deeply and then exhale completely and hold the breath. Then turn the knees to the left and the head to the right, with the left knee touching the ground and the right knee touching the left heel. At the same time turn your head and neck to the left. Remain in this position as long as you feel comfortable. Then, while inhaling, move back into the starting position. Then repeat the same exercise in the opposite direction (knees to the right, head to the left). Do this 3 times in both directions.

- Assume Ananda Asana. Join the legs together and bring the feet as close as possible to the buttocks. Stretch the arms out at shoulder level. Draw in a deep breath, press it down below the navel and hold it. Turn the knees to the left and the head to the right, with chin over the right shoulder. The left leg should touch the ground and the right foot should re main over the left foot without raising the feet off the ground. Then turn the knees to the right and head to the left, with chin over the left shoulder and the right leg touching the ground. The left foot remains over the right foot without raising the feet off the ground. Repeat 4 to 5 times or as long as the breath can be held. Then do Fish relaxation.

- Assume Ananda Asana. Join the legs together and draw the knees over the chest, stretch the arms and hold the breath. Turn the knees to the left to touch the ground and the head to the right. Then turn the knees to the right (again touching the ground) and the head to the left. Repeat 4 to 5 times or as long as the breath can be held. Follow up with Fish Relaxation.

- Assume Ananda Asana. Join the legs and draw the knees over the chest. Then rotate the knees clock-wise and turn the head to the other side. When the knees go to the right, the head should turn to the left and vice versa. Repeat 4 to 5 times or as long as the breath can be held. Then do Fish Relaxation. Do the same by turning the knees counter-clock wise and the head away from the knees (if knees are on left side, then turn the head to the right and vice versa). Follow up with Fish Relaxation.

The Eighth Exercise:

- Assume Ananda Asana. Join both knees together and draw them over the chest. Draw in a deep breath, press it down below the navel and hold it. Clasp the hands around the knees. Turn the knees first to the right and then to the left to touch the ground, and at the same time, turn the head to the left and then to the right (in the opposite direction of the knees), with the chin moving over the shoulder on each side. Repeat the exercise 4 or 5 times or as long as you can hold the breath. Follow up with Fish relaxation.

- After Ananda Asana, assume the same position as above. Clasp the knees over the chest with both hands, and rock the body slowly forward and backward without jerks. Breath should be deep, pressed down below the navel and held all the time. Then do Fish Relaxation.

The Ninth Exercise:

- Assume Ananda Asana. Lifting both arms and legs in the air, make cycling movements with both arms and legs: First in the forward direction for some time, then reverse. While making the movements, laugh out loud and boisterously uttering AAA - haaa, haaa, haaa...; EEE - heee, heee, heee...; III - hiii, hiii, hiii...; OOO - hooo, hooo, hooo...; UUU - huuu, huuu, huuu.... This exercise replenishes the lungs with clean and fresh air and removes all tension from mind and body. The louder and deeper the laughter, the better the results. A baby does this exercise naturally. Follow up with Fish relaxation.

- Assume Ananda Asana. Lift the arms and legs and do the cycling movements as described above. But this time the mouth is closed and the boisterous laughter is through the nose ("horse laughing"). The force of the air expels the toxins through the nose. Then do the Fish relaxation.

The Tenth Exercise:

- Assume Ananda Asana. Join the feet together with the toes stretched and pointing forward. Draw in a deep breath, press it down below the navel and hold it. Stretch the arms over the body in front, interlock the fingers and turn the palms outwards. With the arms stretched out, make a circular, clockwise movement from the right side over the head to the left side up to the navel, turning the head to the opposite direction of the arms. Do it 4 to 5 times or as long as the breath can be held. Follow up with Fish Relaxation. Then do the same exercise counter-clockwise from the left side over the head to the right side up to the navel. The head should again turn in the opposite direction of the arms, the chin moving over the shoulder on each side. Repeat as above, followed by Fish relaxation.

The Eleventh Exercise:

- Assume Ananda Asana. Stretch the arms above the head with thumbs linked together and raised little off the ground. Keep the legs stretched out with feet also raised a little off the ground. Draw in a deep breath, press it down below the navel and hold it. Then roll the body over and over to the right and then over and over back to the left. Do it 4 to 5 times or as long as the breath can be held, followed by Fish Relaxation. (Note: This gives a "self-massage" to the back).

The Twelfth Exercise:

- This last exercise is done in a sitting position. Assume Padmasana (Lotus position) if possible, or sit comfortably cross-legged. Keep the spine straight and erect and place the hands on the knees. Draw in a deep breath up to the chest (not to the navel this time!) and hold it. Now slowly raise the right shoulder up to the ear and bring it down again slowly without tilting the head on any side. Do this as long as you can. Then do the same with the left shoulder and also with both shoulders together.

- Assume the same position as above, placing the hands on the knees. Draw in a deep breath up to the chest, and hold it. Then rotate the right shoulder from back to front without tilting the head. Go on rotating as long as possible. After that, rotate it from front to back as long as possible. Do the same rotation with the left shoulder in both directions.

- Assume the same position as above, placing the hands on the knees. Draw in a deep breath up to the chest and hold it. Now rotate both the shoulders simultaneously for some time forwards and then backwards, then alternately forwards and backwards, as long as possible.

- Then do the pratikriya asana and finish up the exercise with fish relaxation.



0





Fish relaxation



1&2



3& 4



5& 6



7







8





9





10



11









12

Course II

Basic position:

- Lying on the stomach with the hands crossed under the head, right hand on the back of the left, thumb and forefinger on one side, and the other fingers on the other side of the left wrist. The chin is placed on the back of the left wrist throughout all the exercises, acting as a pivot point for the head. The legs must be kept straight with only the toes touching the ground. The twisting of the spine is done by turning the heels to the left and the back of the head to the right and vice versa.

Relaxation:

- To relax in this position, slowly raise the arms, head, trunk, and legs, and then let them fall limply to the ground. The head should turn alternately left and right each time (so that the cheeks land on the floor).

The zero exercise:

- Lying in the basic position, breathe in, place the feet slightly apart. Then twist the back of the head to the right, pivoting on the chin, and the heels to the left, until they are flat on the ground. Remain in this position for a moment or two before twisting the head left and the feet to the right. Continue for as long as you can hold your breath. Do the same exercise keeping the feet together. Then do the "Relaxation" (described above).

  Note:
  In all the exercises of this course, the head turns in such a way that it looks to the same side as where the feet/heels fall. So suppose the feet/heels fall to the left, then the head falls to the right, with the eyes looking to the left.

The first exercise:

- Assume the basic position and cross the feet, placing the right on top of the left. Inhale and commence turning. Then relax.

The second exercise:

- Same as above, but with left foot on top of the right.

The third exercise:

- Lie in the basic position and grip the achilles tendon of the left foot with the big and second toe of the right foot. Keep the feet vertical, inhale, and twist the head to the right and the feet to the left. Then relax.

The fourth exercise:

- Same as above, but with the right achille tendon being gripped between the toes of the left foot.

The fifth exercise:

- Assume the basic position and bring up the right heel so that it rests on the back of the left knee, with the right knee touching the ground. Now inhale and twist the head to the left and the right knee to the right, keeping the right ankle on top of the left knee, trying to place the right knee on the ground on the other side. Hold this position for a moment or two before turning head right and right knee left. Continue for as long as the breath can be held, then relax.

The sixth exercise:

- Same as above, but the left ankle on the backside of the right knee.

The seventh exercise:

- In the basic position, bend the knees so that the calves are vertical and place the knees apart. Inhale and turn the head right and feet left, so that the right foot touches the ground near the left knee. Retain the position for a few seconds before turning the head to the left and the feet to the right. Continue as long as you can hold the breath and then relax.

- As above but with knees and feet kept together, so that in the twisted position, one leg is on top of the other. Then relax.

- With legs and feet kept together, hit your buttocks with the heels of your feet, bending at the knees, and drop the feet back to the floor. (Repeat 10 to 20 times). Then relax.

- As above but alternating left and right foot, instead of moving together. Then relax.

The eighth exercise:

- Assuming the basic position, bend both feet backwards from the knees and grasp the left foot with left hand and the right foot with the right hand. Inhale and pull with the arms, so that knees and chest are automatically raised. Rock slowly from side to side, moving the head in the opposite direction of the legs. Then relax.

- The same as above but rocking backwards and forwards. Then relax.

The ninth exercise:

- Lying on the ground (on the stomach), raise the head and cycle with arms and feet, while laughing until all the air is expelled from the lungs. Then relax.

- Without any body movement and with the head to one side, laugh with the mouth closed ("horse laughing"). Then relax.

The tenth exercise:

- Lying on the stomach, stretch the arms out in front of the head, keeping the legs straight. Hold the breath. Then extend the right hand and foot as far as they will go. Do the same with the left hand and foot. Repeat few more times and then relax.

The eleventh exercise:

- This is the same as the eleventh exercise of Course I, but starting by lying on the stomach. Roll alternately to the right and left.

- Self massage of the back.

The twelfth exercise:

- Same as in Course I.

- Then do the pratikriya asana!



Basic position



Relaxation



0





1&2



3&4



5&6



7









8





9





10





11

12 Same as in Course I

Course III

Basic position:

- Lying down on your right side, bend the right arm and place the right forearm on the ground under the right ear. The left forearm is in front of the body with elbow up in the air and with the hand near the right elbow, where it remains throughout the exercises. The head should also remain stationary.

Relaxation:

- Breathe in and tense the whole body with feet stretched out. Then slowly release the tension, breathing out at the same time.

Zero Exercise:

- Assume the basic position and place the right foot behind the left with the toes touching the heel. Inhale keeping the head in the same position, and twist the body around so that the toes of the left foot touch the heel of the right foot. Remain in this position for a second, and then twist back to the starting position. Continue for as long as you can hold your breath, and then do the relaxation. Do the same exercise keeping the feet together.

The first exercise:

- Lying in the basic position cross the feet with left in front of right, with toes pointing in the same direction as the face. Inhale and twist the body around (turning on the left toes) until the right toes touch the ground on the other side. Remain in this position for a second or two, before twisting back to the start. Continue until you must breathe out, and then do the relaxation.

The second exercise:

- As above but with the right foot in front of the left. Then relax.

The third exercise:

- Assuming the basic position, place the right foot in front of the left with the toes of the left foot gripping the heel of the right. Inhale, keep the feet straight, and twist around (turning on the right toes) so that the toes of the left foot touch the ground on the other side. Re member to keep the head fixed. Hold this position for a few moments, then twist back to the starting position and continue for as long as you can retain your breath. Then relax.

The fourth exercise:

- As above, but with right toes gripping the heel of the left foot. Then relax.

The fifth exercise:

- In the basic position, place the right knee behind the left and bend the right leg so that the calf is at a right angle to the left leg. With the breath held in the stomach, twist the body forward (towards the right side), and then backwards as far as possible without raising the left leg from the ground. Repeat as long as you can retain the breath and then relax.

The sixth exercise:

- Same as above, but with left knee behind the right and bending the left leg. Then relax.

The seventh exercise:

- Lying in the basic position, bend both legs and put the left heel on the ground by the right knee with left knee on the ground. Usually the left thigh will be perpendicular to the body. Inhale, keep the head fixed and both knees on the ground, and twist the body so that the heel of the right foot touches the left knee. Remain in this position for a few moments before twisting back to the original position. Repeat for as long as you can hold the breath and then relax.

- Same as above but with the left leg on top of the right. When twisting the legs should be kept together, so that only the left leg touches the ground on the other side. Then relax.

The eighth exercise:

- Assume basic position and bring both knees up to the chest, clasping them with the left hand. Inhale and twist the body to the left, keeping the head fixed. When the legs can go no further, remain in that position for a few seconds before returning to the starting position. Continue for as long as you can hold your breath and then relax.

- Same as above but swinging the knees backwards and forwards along the ground and rocking the buttocks at the same time.

- Alternatively raise torso and legs while rocking the body.

The ninth exercise:

- Lying in the basic position, raise the knees and feet off the ground and cycle with the legs and the left arm, laughing as in Course I and II. Then relax.

- Without any body movement, laugh with the mouth closed until all the air in the lungs is expelled. Then relax.

The tenth exercise:

- Lying on your right side, stretch the arms out above the head with the fingers interlocked and the palms turned outwards. Inhale, and describe a semi-circle forward with the arms outstretched, parallel to the ground and then bring the hands with interlocked fingers along the body up, back to the starting position. Continue for as long as you can hold your breath and then relax.

The eleventh exercise:

- Like the eleventh exercise of Course I, but starting by lying on your right side.

- Self massage of the back.

The twelfth exercise:

- Like the twelfth exercise of Course I.
- Then do the pratikriya asana!



Basic position



Relaxation



0





1&2



4



5&6



7





8





9





10





11

12 Like the twelfth exercise of Course I

Course IV

- This is exactly the same as Course III, only that the basic position is reversed: Lying on the left side with head resting on left forearm and legs extended. Remember not to move the head. The right hand should stay on the ground close by the left elbow even if this restricts the amount by which the body can be twisted.

- Then do the pratikriya asana!

Course V

Basic position:

- Sit on the ground with the legs stretched out in front. Torso is straight, leaning backwards a little, supported by the hands on the floor just behind the body (arms are stretched). The cervical part of the spine is in line with the rest of the spine. Keep the feet about a foot apart.



Relaxation:

- As in the Course I.

The zero to the seventh exercise:

- As in the Course I, but performed in the sitting position.

The eighth exercise:

- Support the torso with the hands so that the fingers are pointing forward. Bend the knees and keep the feet on the ground. Inhale and move the body, swinging from the sitting position to the position of lying on the back while keeping the knees in a bend position. Rock backward and forward on the spine for as long as you can hold the breath comfortably. Rest for a while breathing normally and then from the sitting position, while holding the breath, make a cycling motion with the legs, forward and backward. Then relax as in Course I.



The ninth exercise:

- As in the Course I but in the sitting position. The upper part of the body is supported by hands. Then relax.

The tenth exercise:

- In the sitting position join the feet together with the toes stretched and pointing upwards. Draw in a deep breath, press it down below the navel and hold it. With the breath held with in, alternately stretch forward the right and then the left leg. Then relax as in Course I.

The eleventh exercise:

- As in the Course I. Then relax as in Course I.

- Self massage of the back.

The twelfth exercise:

- As in the Course I.

- Then do the pratikriya asana!

Course VI

Basic Position:

- Same as in Course I, but with the back arched and the weight supported by the shoulders and heels (see picture below). Do not bend the knees any more than necessary and ensure that the body forms one smooth curve.



Relaxation:

- Fish relaxation as in Course I.

Zero to the sixth exercises:

- As in Course I but with the back arched.

The seventh exercise:

- It is impossible to obtain a smooth curve in this position when the back is arched. All that is necessary is to raise the back and support the weight of the body fully on the shoulders and feet. The exercise is as described in Course I.

The eighth exercise:

- As in Course I, but instead of the hands clasped around the knees, they should reach down and grasp the feet with the knees apart. The turning movement is the same as in Course I.





- Same as above but rocking backward and forward.



The ninth exercise:

- As in Course I.

- Lying flat on ground with arms stretched out to the sides at shoulder level and with the head resting on one side, just laugh with the mouth closed.

The tenth to the twelfth exercise:

- As in Course I.

- Then do the pratikriya asana!

Course VII

Basic Position:

- This is the same as in Course II, but the hips are raised about one foot above the ground. In exercises Zero to Six the weight is on the arms and toes, in the Seventh it is on the arms and knees.

Relaxation:

- As in Course II.



From zero to the seventh exercise:

- As in Course II but with the raised hips.

The eighth exercise:

- Same as in Course II with no difference at all.

The ninth exercise:

- Same as in Course II with no difference at all.
- Keep the hips raised, legs stretched and without moving, laugh with the mouth closed until all the air is expelled from the lungs. Then relax.

The tenth to the twelfth exercise:

- Same as in Course II.
- Then do the pratikriya asana!

Course VIII

Basic Position:

- Lie on your right side as described in Course III, but with the hips raised. Remember to keep your head still and keep the left hand on the ground near the right elbow.



Relaxation:

- As in Course III.

Zero to the seventh exercise:

- Same as in Course III but with the raised hips.

The eighth exercise:

- As in Course III.

The ninth exercise:

- As in Course III, but with the hips raised. As the weight of the body is now supported by the knees and shoulders, it is only possible to move the lower legs in the air.

The tenth to the twelfth exercise:

- Same as in Course III.

- Then do the pratikriya asana!

Course IX

- This is exactly Like Course VIII, but the body is on the left side with the hips raised.

- Then do the pratikriya asana!

Course X

- This course is exactly the same as Course V, but with the hips and buttock raised up and the weight of the body resting on the heels and hands.



- Then do the pratikriya asana!

Course XI

- The exercises in this course are done while lying on the back. They strengthen the abdominal muscles and the muscles along the spine, especially those of the lower back. In all exercises take a deep breath, press it down below the navel and hold it while exercising as long as comfortable. Then do the fish relaxation.

The zero exercise:

- As in the Course I. Then do the fish relaxation.

The first exercise:

- Inhale and hold the breath in the stomach, below the navel. Make a circle with the right leg in a counter-clockwise direction, while at the same time turning the head to the opposite side. Then relax.



The second exercise:

- Inhale and hold the breath in the stomach, below the navel. Make a circle with left leg in a clockwise direction, while at the same time turning the head to the opposite side. Then do the fish relaxation.

The third exercise:

- Raise both legs vertically and then lower them to the right side and left side while turning the head to the opposite side, respectively. Then relax.



The fifth exercise:

- Move the left leg in a counter-clockwise direction, while at the same time turning the head to the opposite side. Then do the fish relaxation.



The sixth exercise:

- With both legs together, make a circle in a clockwise direction, while at the same time turn ing the head to the opposite side. Then relax.

The seventh exercise:

- With both legs together, make a circle in a counter-clockwise direction, while at the same time turning the head to the opposite side. Then relax.



The eight exercise:

- Assume halasana (plough) and then move the legs (walking on the toes) clockwise and counter-clockwise. Then relax.



The ninth exercise:

- As in the Course I. Then relax.

The tenth exercise:

- Raise both legs vertically and spread them apart so that there is a 45 degree angle between them. Circle both legs simultaneously in opposite directions. When the legs are straight up, they are together, then as they move down, they separate. Reverse the directions then relax.



The eleventh exercise:

- As in the Course I.

- Self massage on the back.

The twelfth exercise:

- As in the Course I.

- Then do the pratikriya asana!

Course XII

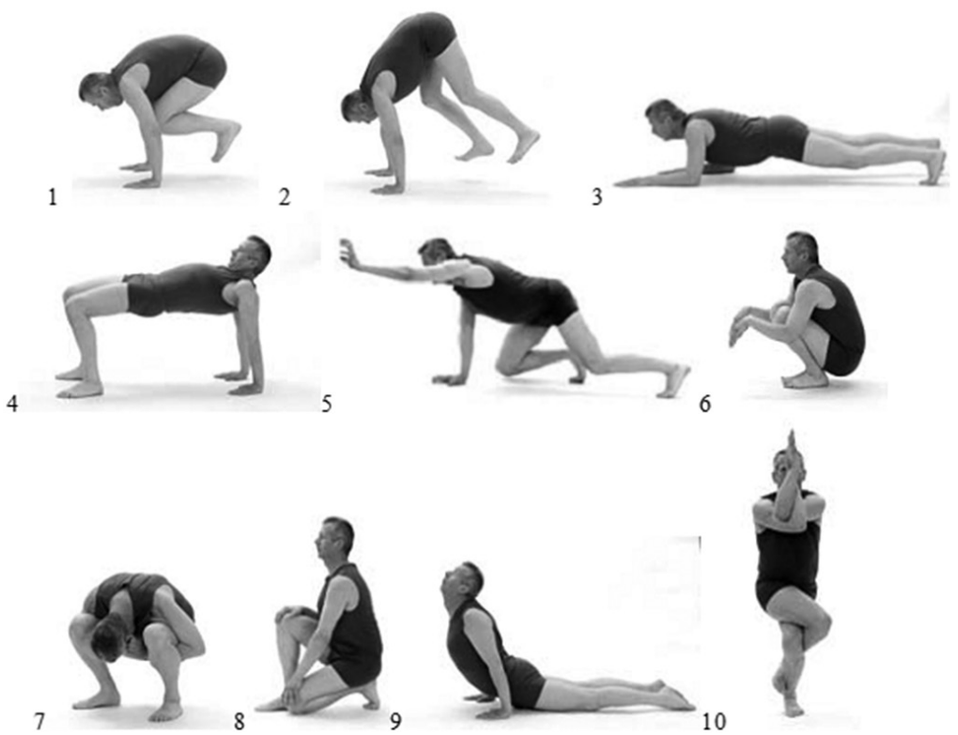
- The following exercises are for children, but they are also very useful for adults. Children can do all the previously described courses, but without holding the breath. They breathe naturally and according to their age, they can start to coordinate their breathing with the movements.

From zero to the eighth exercise:

- move forward and backward as different animals:

1. Jumping like a hare
2. Jumping like a lamb
3. Moving like a crocodile
4. Walking like a spider
5. Walking like a tiger
6. Walking like a kangaroo
7. Walking like a chicken
8. Walking like a crow
9. Moving forward like a snake: This movement is accomplished by alternating between bhujangasana (cobra position) and shashankasana (hare position).
10. Moving like an eagle (Garuda asana): With every step forward assume the eagle position.

Then do the fish relaxation.



Ninth exercise:

- As in Course I. Then do the fish relaxation.

Tenth exercise:

- Moving like elephant. Then relax.

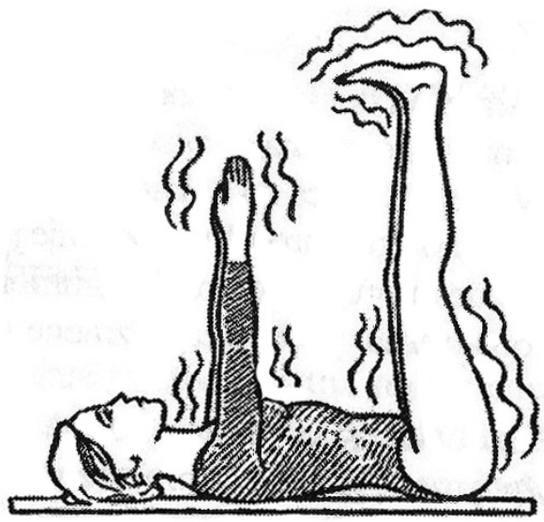
Eleventh exercise:

- As in the Course I. Then relax.
- Self massage of the back.

Twelfth exercise:

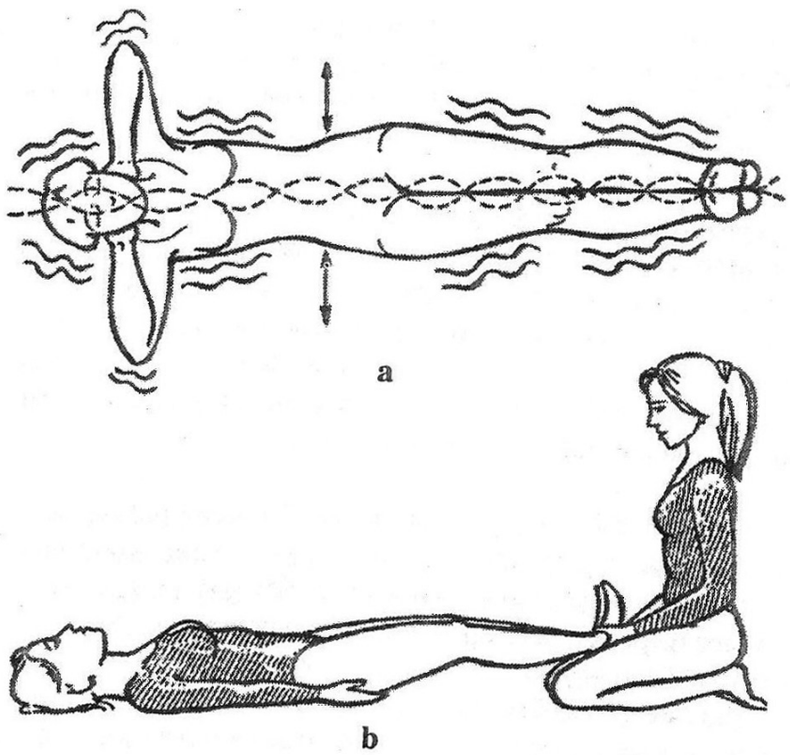
- As in the Course I. Then relax.
- Then do the pratikriya asana!

Addition to spinal-twisting:
As an addition to the spinal-twisting, when it is convenient, you can do some "capillotherapy" exercises. Lying on the back, raise the legs and hands in the air and shake them for 1 to 3 minutes. These vibrations purify and activate the capillaries and enhance circulation all over the body.



The health of the capillaries is very important for a proper functioning of the cardio-vascular system. Capillaries supply oxygen, vitamins and other nutrients to the cells, while also removing waste materials. A capillary is 50 times thinner than a hair and their total length in human body is about 60 to 90 thousand kilometers. It is obvious that the heart is not able to pump blood through such a network of capillaries. The heart can pump only up to the capillaries. Capillaries with their pulsations (contractions) are the main pump in our body for the circulation of blood. That is why it is very important that they are kept in a healthy condition.

Also it is good to practice the “Golden fish” exercise. It corrects deformities of the spine. Lie on the back, stretch the body (stretching alternately one leg forward and opposite hand behind the head) and with interlocked fingers put the hands below the head. Stretch the legs on the floor with heels together and toes pointing towards the face. In that position start vibrating with the whole body as fish during swimming. Vibrate from right to left for 1 to 2 minutes.



- The spine should be on the floor, while the body is vibrating left and right, not up and down. If it is comfortable, the feet and head can be raised a little (a).
- For beginners, the vibrations can be produced by a helper (b).

Learning and practicing bandha, mudra and kriya

In the practice of bandha, mudra and kriya, the spine is kept in an erect position and the rotary vibrations of the chakras are facilitated. These practices awaken awareness on the level of pranamayakosha and create a firm basis for further spiritual development.

Bandha

The Sanskrit word bandha means to "hold" or "lock". Bandhas are internal energy valves because they direct the internal energy flow to irrigate the nadis and activate the energy body. They create internal energy reconfiguration. Bandhas are muscular contractions designed to block or seal off certain areas of the body and thus redirect the flow of prana, to intensify its flow in a restricted area. These definitions of binding or locking precisely describe the physical action involved in the bandha practices and their effect on the pranic body. A bandha consists of a series of muscular contractions, which act on the nervous and endocrine systems. The implementation of bandha has to be effortless and natural (Sukshma – subtle practice). More subtle bandha is performed, stronger effect it has. The bandhas are mastered by awareness. The basic principle with each bandha is first to accumulate energy in an area of physiology, then release it. This process of building a force and then unleashing it discharges obstacles from the pathways of energy circulation. The bandhas aim to lock the pranas in particular areas and redirect their flow into sushumna nadi (utghata – opening the door) for the purpose of spiritual awakening. Bandhas thus bind back the dissipative energy and as such they are the embodied aspect of pratyahara. At first bandhas are learned as a physical procedure utilizing muscles and physical movement. Eventually the yogi becomes aware of the underlying neuro-endocrino-physiological, mental, and energetic patterns behind the physical, hence the bandhas are effected by awareness and intention. Bandhas also make sure the flame (Agni) is brought exactly to where the apana "dirt" is concentrated, so that the fire has a greater effect. Bandhas can be practiced individually or incorporated with mudra and pranayama practices. Bandhas also massage the internal organs. There are four bandhas: jalandhara bandha, moola bandha, uddiyana bandha, and maha bandha. The last of these is a combination of the first three.

The bandhas are associated with the three granthis (knots) and as such provide the motive power to unlock spiritual dimensions. Moola bandha is associated with Brahma granthi, uddiyana bandha with Vishnu granthi and jalandhara bandha with Rudra (Shiva) granthi. When prana is bound at the base of the spine, the process is known as mula bandha. When the prana is bound at the navel centre, it is known as uddiyana bandha and when the pranic energy is concentrated at the throat centre, the process is known as jalandhara bandha.

There are many bandhas, each one capable of moving the energy upward (or restraining its downward motion) to the next chakra. When yogis enter Samadhi these bandhas occur naturally and are mutually synergistic. After the successful destruction of physical impurities, moola bandha is applied to move apana vayu upwards to meet and fuse with samana vayu. After the successful accomplishment of that, then uddiyana bandha is practiced to move apana and samana vayu to merge with prana vayu at the heart. Jalandhara bandha is performed to provide a check that prevents the escape of prana vayu through the facial openings.

Because the mind cannot move without prana, bandhas are utilized to efficiently and quickly reverse the outward flow of prana while activating inner evolutionary flow of prana in Sushumna nadi

and thus bandhas have the ability to quickly establish the objectless meditative state and propel yogi into Turiya or Samadhi.

In one sense there exist a myriad of bandhas in the human body as well as throughout the universe. In the body minor bandhas can be said to exist at each synapse, cell, vein, ganglion, organelle, etc. Together they form bioenergetic and biopsychic circuits.

In hatha yoga and pranayama the bandhas should be taught first, being the basis for the correct positioning of the postures. The bandhas correct the asana, while the asanas refine the practice of the bandhas. The bandhas are most efficacious when practiced from the bottom up, having formed a firm base at the root (base) chakra – the muladhara first.

Mula bandha

It energizes the sacral nerves and tones up all the organs in sacral region. The practice of Mula-bandha involves contracting the lower abdomen (below the navel) and contracting and puling up the perineum. This puling up releases the pelvic floor from the hip joint and makes it easyer to maintain a vertical position of the spine and to properly perform Jalandhara-bandha. Ladies additionally contract the muscles which control the passing of the urine. Mulabandha occurs deep within the moveable elements and energetic dynamics of the pelvic girdle itself. It is an energy dynamic more than a muscle movement which aligns the front of the anus - perineum with the lowest reaches of the spinal cord (the cauda equine) and then allows the further alignment with the crown chakra. Hence the actual bandha does not require strength in the pubo-coccygeal muscles (PC muscles of the Kegel exercises), nor does it require strength in the levator ani muscles. It requires awareness, conscious relaxation of the region, the removal of impurities and energy blocks in the region, and a gentle energetic initiation of a simultaneous movement of drawing the pelvis down from the torso (front) and the spine (back) while balancing left and right wings of the ileum while the pelvic diaphragm area is drawn upward. The perineal fascia do not contract but rather relax and are drawn upward. If theat area is made stiff, contracted or hard, it can not be drawn up. Closer anatomical stydy shows that the healthy sacrum is not fused with the pelvis, but forms a joint (the SI joint). Also the pubic rami (left and right) forms a joint at the pubic symphysis. In Mula-bandha sacrum/tailbone complex moves down and forward at the same time the pubic bone moves down and forward. More subtly it is the perineal area moving up as the cauda equine moves down and forward. As taught in this way the bandhas are energy valves as much as locks, not muscle contractions.

Mula-bandha prevents apana from moving down. The shoulder stand (Sarvangasana) facilitates the performance of Mula-bandha. Hatha Yoga Pradipika recommends that Mula-bandha is to be maintained throughout the asana and pranayama practice. This can be done effectively only if the inhalation starts in the chest. Inhaling is done following the chest to abdomen method. Ashvini mudra should not be confused with mula bandha. Ashvini mudra involves conscious contraction of the external anal sphincter. The best preparation for mulabandha is ashvini mudra in order to tone up the nerves, glands, and muscles of the area. The practice of Uddiyana-bandha and Mula-bandha are related. Mula-bandha performed with the start of exalation sets the base for the completion of Uddiyana-bandha. We establish complete Uddiyana-bandha and then Mula-bandha on the first holding of the breath after exhalation. Uddiyana-bandha is then released and Mula-bandha is maintained. Modified version of Jalandhara-bandha (tucking the chin down to the adam's apple) and a light Mula-bandha should be maintained all the time during the practice of asana and pranayama.

Practice of Mula-bandha: During exalation (rechaka) and reinforced during holding the breath after exalation (bahya kumbhaka) the area between the tailbone and the pubic bone is brought together in a healthy trans-integrity or phase of synergistic equilibrium. When the perineum lift upwards the trans-integrity between the tail bone and the pubic bone form a stable base for the spine.
Benefits: Hemorrhoids are a physical symptom caused by a disturbance of the apana and prana in the muladhara region which in turn may be aggravated by harsh, spicy, coarse, and irritating foods as well as by harsh, lustful, and irritating thoughts. Mula-bandha alleviates distress and ill-feelings in the muladhara chakra, while increasing flow, well being, ease, balance, harmony, and synchronicity.

Uddiyana bandha

It means flying upward energy lock. It helps accomplish the perfection of the rest of the bandhas and thus accomplishes pratyahara sucking the energy into the sushumna nadi. During Uddiyana-bandha yogi can visualize the prana being sucked up from the lower chakras (swadhistana and muladhara), through the navel region (manipura chakra), and up to the heart chakra (anahata). It brings apana ("dirt") up towards the fire and prevents apana (the function of prana responsible for elimination) to move down. Having lifted up apana ("dirt") in Uddiyana-bandha, we use Mula-bandha to keep it near the fire. Uddiyana and Mula-bandha should be done slowly, with awareness, and together with Jalandhara-bandha. In Uddiyana-bandha, as we exhale, we start contracting the abdomen and relaxing the diaphragm. At the end of exhalation the abdomen is completely contracted, lifted, and pulled back towards the spine. At the same time the diaphragm moves upwards. This is done without efforting at the diaphragm. The diaphragm is lifted up by the energy and space created by the outgoing breath, through the action of the navel striking back towards the spine, completion of Jalandhara-bandha and vacuum created in the chest. If we do this bandha properly, the navel goes back to the spine, the perineum and back muscles contract. At the completion of Uddiyana-bandha, the whole abdominal area is hollow. The lifting of the abdomen is to be done very slowly, not rapidly. Also, releasing the abdomen after Uddiyana-bandha, should be done slowly. When the holding of the breath after exhalation is completed, as we release the upper abdomen and diaphragm, we continue to maintain a light contraction in the lower abdomen below the navel, back, and perineum. The portion of Uddiyana-bandha below the navel is maintained, while the portion above the navel is released. Once established, light Mula-bandha is to be maintained throughout asana and pranayama. Uddiyana-bandha stretches the lumbal region of the spine. Uddiyana-bandha greatly facilitates Jalandhara-bandha and vice versa, especially when done after the in-breath retention with the diaphragm lifted. It raises the energy inward and the upward, and it is curative to disorders of the small intestines, colon, lower back, kidneys, and adrenals. Mula-bandha greatly completes Uddiyana-bandha and is essential to it. Uddiyana-bandha also completes mulabandha. All three major bandhas are mutually synergistic.

Uddiyana-bandha is done only while holding the breath after exhalation. One of the most important requirements for starting the practice of Uddiyana-bandha is to be able to extend the holding of the breath after exhalation, without sacrificing the quality of the subsequent inhalation and exhalation. Until this is not possible, one is not ready to do Uddiyana-bandha. There should be no stress in Uddiyana-bandha, but rather a feeling of energy, fire, lengthening, and opening in the middle region. Modified version of Uddiyana-bandha can be done at the end of inhalation to complete Jalandhara-bandha. An added benefit then is to move the air and prana into the lungs and heart chakra to expand the heart. This opens the Vishnu Granthi. Uddiyana is used in vamana dhauti kriya, nauli kriya, agni sara kriya, Maha-bandha, mudras, pranayama. And also while in yoga poses (especially in forward bends).

Practice of Uddiyana-bandha in standing position: Stand with the feet shoulder wide or wider, bend the knees. Check the Mula-bandha so that the sacrum and tailbone drop down away from the navel keeping the torso and back long. Bend forward slightly at the pelvis so that the lower back does not round at first and the torso remains long. Place the hands above the knees with the fingers pointing inward, elbows slightly bent, and utilize the arms to help raise the chest even more off the pelvis creating space in the belly. Feel the openness and length of the torso in front. Exale rapidly through the nose while drawing inward and upward area below the navel, and releasing the lumbar arch. Allow a deep cavern to form in the belly. Here Jalandhara-bandha helps lift the ribs up and off of the pelvis helping creating spaciousness in the belly. A feeling of lightness, emptiness, and roominess is created lengthwise in the abdomen. Hold the breath out in external retention (bahya kumbhaka). Here the bahya kumbhaka and the Uddiyana-bandha, Mula-bandha, and Jalandhara-bandha act as one. Release the bandhas before there is a strong feeling to gasp the air and before any sensation of stress or strain allowing the air to be sucked back into the lungs. The bandhas are slowly released as the air slowly comes back in while the diaphragm comes back down into the torso, and the navel comes back forward. Keep the back and torso long while maintaining Mula-bandha. Let the breath come back to normal and then repeat as above. Finish by standing straight, inhaling raising the arms over head.

Uddiyana-bandha practiced daily for three or four rounds on an empty stomach can be mastered in a couple of weeks. Agni-sara kriya and Nauli (lauliki kriya) are then easily accomplished acting as synergists with Uddiyana-bandha.



Practice of Uddiyana-bandha in Padma Asana



Practice of Nauli in Padma Asana

Benefits:
Increases the digestive power, strengthens the abdominal muscles, slims down the waist and tones the internal organs of the upper and lower abdomen.

Jalandhara bandha

It seals the air in the thorax, slows down the heartbeat, quiets the mind, and produces an inner perception of the flow of prana. In Jalandhara bandha the head is bowed so that the chin touches the sternum. Jalandhara-bandha positions the torso in such a way that the spine remains erect, keeping the draft in line with the fire (Agni). When done properly, jalandhara-bandha supports the practice of mula-bandha. Jalandhara bandha prevents prana to move upwards. If we are not able to do Jalandhara-bandha then we are not ready for other bandhas. During the practice of asana while we are moving the body and breathing, we usually hold a modified version of Jalandhara bandha, tucking the chin to adam's apple. Complete Jalandhara bandha is done only when we are not moving the body and not breathing. Jalandhara bandha is practiced together with Aprakasha mudra. To maintain Jalandhara-bandha, the neck and back must be in a proper condition to keep the back straight and the chin down. If someone with a very stiff neck tries to force the chin down, he will hurt himself. Practice of Kati asana is good preparation for Jalandhara-bandha.

Practice of Jalandhara-bandha: The practice of jalandhara-bandha involves straightening the spine, relaxing the abdomen, and pulling the head back slightly, so that it is in the line with the spine, and then tucking the chin down to the adam's apple. The direction of the movement is such that the leading subtle focus should be at the center of the top palate. The subtle indicators are that occiput moves back and slightly up (back and up, back and up), the neck gets long as a result but natural curves are not stressed. The paretial and sphenoid bones rote accordingly as base of the occiput is moving back and the chin (front tip of the mandible) is moving in toward the sternal notch, while the collar bones and front top of the shoulders and humerus (at the glenohumeral joint) move upward and backwards simultaneously. At the same time the mid-scapulae move downward toward the pelvis. As the upper front shoulder girdle is raised upward and then revolved backward (in a spiral motion) toward the back of the occiput, the heart moves forward (Hri-bandha) as the armpit chest spirals upward toward the occiput. Relax the throat and lengthen the neck so the chin can naturally go down and in. The chest must rise to meet the chin, the chin does not need to drop to meet the sternal arch. At the beginning of Jalandhara-bandha the simple act of swallowing (after an inhalation) will also close off the glottis preventing the breath to pass through the lungs. No tension should be created in the throat or neck during Jalandhara-bandha, then the energy is liberated, transmited, and made available. If one visualizes Jalandhara-bandha as a relaxation, lengthening, an action that creates extra space as a process of softening into the Jalandhara-bandha while seeking out and augmenting the energy flow and openness in Vishuddi (troath) chakra, then only benefit will ensure.

Benefits: In yoga therapy it is specifically recommended in treating cases of high blood pressure. It aligns the cranial bones by adjusting the sphenoid bone which rests on the cranial base inside the occiput. It frees the atlas/axis alignment and movement. It helps open the chest and heart and relaxes the shoulders. This bandha reduces the tension in the neck, creates hormonal balance in the thyroid and parathyroid glands, while improving the quality of the voice and strengthening the throat area. Jalandhara bandha stretches the whole spine, especially the upper part and it prevents that the nectar of immortality (amrita – which is produced in the brain) is burned up in the digestive fire (Agni). Jalandhara-bandha counteracts arrogance, and other such affectations of pride and ignorance. It lifts the heart and brings forth divine will, its expression, and hence moral courage is one effect. Jalandhara-bandha stimulates Nila marma and has function of pratyahara.

Maha bandha

We should start practicing bandhas in some simple postures so that our body can get used to them. The easiest posture is to lie flat on the back in the position called Tataka mudra in which we practice all three bandhas (Maha bandha – Bandha traya). The sequence of activating bandhas in Maha bandha is as follows: during exale perform Mula-bandha and Uddiyana bandha; at the end of exale perform Jalandhara-bandha while reinforcing Uddiyana-bandha and Mula-bandha. Classically Mula-bandha is usually activated first, then Uddiyana-bandha, then lastly Jalandhara-bandha, but all three can happen as a spontaneous and mutually synergistic wavelike motion. Most often we release Jalandhara-bandha first, then Uddiyana-bandha, and Mula-bandha last. The effect of Maha bandha is that it activates prana in the heart region and brings prana into sushumna nadi. If only jalandhara bandha and mula bandha is performed, then samana is activated in the stomach area and makes body worm from inside. This practice is used during asana so that body is more flexible because of inner heat.

Another simple posture is Adho mukha svanasana. The next step is to try them in some sitting posture such as Maha mudra, Sukhasana, Siddhasana or Padmasana and then in the standing position – Samasthiti. These bandhas can also be applied in Viparita karani mudra, Sarvangasana and Shirshasana. Shirshasana (headstand) is classified as a mudra. First, the headstand is practiced with long and deep breathing, and then with the advanced practice of the bandhas. The rate of breathing should slow down to as few as two breaths per minute, for duration of at least twenty-four breaths. If this is done properly, then one will feel a particular sensation within the body that can serve as the foundation for certain methods of meditation. It is easy to do bandhas in Viparita karani mudra, because the lifting (Uddiyana-bandha) and holding up (Mula-bandha) of apana (dirt) to the flame is almost automatic, as apana is above the flame in this inverted posture. When we are able to do bandhas in these asanas, then we are ready to apply them in pranayama.

There are some postures in which some bandhas are not possible. Normally bandhas can be used in any asana in which the spine is straight. In back bending postures, out of three main bandhas, Mula-bandha can be used. In twisting postures, one may apply Uddiyana and Mula-bandha. Also, we cannot do all bandhas in some pranayama such as kapalabhati and bhastrika, because we don't stop the breath after exhalation. Also we cannot do them in Shitali pranayama, because during inhale we are raising the head. In Shitali pranayama we can only do Jalandhara-bandha while holding the breath after inhale. In Kapalabhati and Bhastrika pranayama we may apply a modified version of Jalandhara-bandha, as it helps us to keep the spine straight. Jihva-bandha may also be used in pranayama (in this bandha, the tongue is rolled back so that the tip touches the back of the palate).

Practice of Maha bandha: Exale all the breath out applying Mula-bandha, Uddiyana-bandha, and cap it off with Jalandhara-bandha in that order. Accentuate Uddiyana-bandha and Mula-bandha. Hold the breath out (bahya kumbhaka), while the torso and spine remains long. Release Jalandhara-bandha first, then Uddiyana-bandha, then Mula-bandha, as you inhale. At the end of the inhale apply Mula-bandha and then cap it off with Jalandhara-bandha (binding the prana inside) while lifting the spine and torso (light Uddiyana-bandha). Increase this inner "lift" and feeling of internal space with Mula-bandha while holding the breath in (antara kumbhaka) without any strain. Before any tension or stress release the Jalandhara-bandha first, then the breath and Mula-bandha, while implementing Uddiyana-bandha slowly until all the air has been expelled. Repeat above procedure 10 times.

Benefits: Maha bandha enlivens the chakras from Muladhara to Visudhi. Ashvini mudra is more enlivening for Ajna and Sahasrara chakra. Maha bandha balances all three doshas, balances prana

and apana, moves the energy through all the energy centers and pierces the three psycho/physical knots (granthis) which block the three realms of existence. It is used in tummo (heat) yoga.
General warnings about bandha practice: Never feel forced. Yoga practice should be gentle (sukha) and healing. Stop the practice immediately if a headache, pain in the heart region, or dizziness occurs.

Jihva bandha

Is the placement of the tongue on to the front top of the hard palate at the juncture with the teeth. The tip of the tongue touches the front teeth. The front hollow of the tongue also touches the hard palate. Another wariation is that the tongue is curved slightly backward toward the soft palate. This is common bandha used to seal any dissipation of energy from the ajna chakra region and above. Relax the neck, throat, cheeks, jaw, back-brain area, bottom of the brain and the forehead. This serves the pathway function of the kurma nadi.

Mudra

Mudra is a movement or posture that connects energy points to complete a circuit. It facilitates the flow of prana (life force) and creates certain energy configurations which intensify the energy movement that is already created by the posture and the breathing. The vital energy is then able to circulate to areas that were previously out of reach. On the physical and energy planes, mudra represents a gesture of the fingers, the hands, the neck and throat, the oral cavity and its organs, the anal cavity or the entire body, helping to create a particular pranic circuit, during the practice of asanas or pranayamas. In general, mudras are performed in order to close body apertures and to contain the flow of energy in proper channels. Mudras can be formed by different parts of the body: hands, eyes, tongue, etc.

Hand mudra

When the fingers touch another part of the body, a circuit is produced, allowing energy that would otherwise have been dissipated, to travel back into the body along the nadis. When fingers are joined, engage the motor cortex at very subtle levels. Once pingala nadi is engaged, then a signal goes back through ida nadi to the brain. By holding these extremely sensitive areas in a certain fixed position, a loop of energy moves from the motor cortex down to the hand and then back to the brain. Furthermore, the right hand is controlled by the left hemisphere of the brain and the left hand by the right hemisphere. When we join the hands we create a closed criss-cross circuit, a situation of equally distributed brain stimulation which generates mental balance. This promotes the experience of “relaxed concentration”.

The key to our own bodies, our own souls, is right at our fingertips. Our five fingers correspond to the five primary organs of the body: brain, lungs, nervous system, intestines and kidneys, heart.

Thumb	Ether	Brain
Index finger	Air	Lungs
Middle finger	Fire	Nervous system
Ring finger	Water	Kidneys and Intestines
Little finger	Earth	Heart

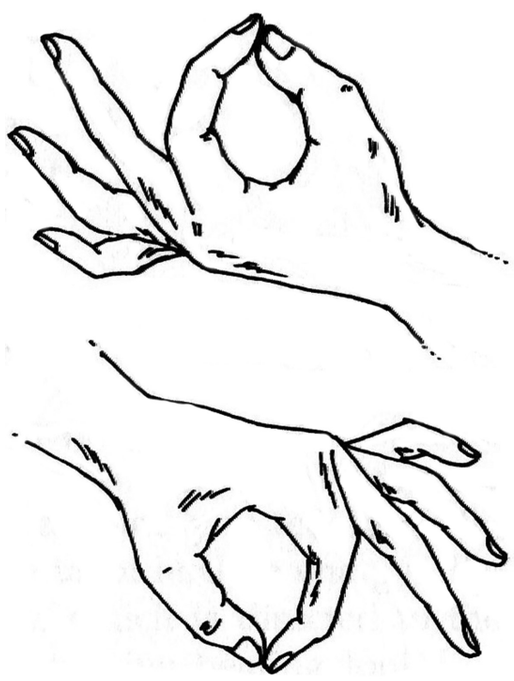
By touching each of the fingers in a specific way, we can open the channels to individual organs. By joining the forepart of any finger with the forepart of the thumb the element increases and become stable. By joining the forepart of the thumb to the base of any finger the element starts increasing. Bending any finger on the pad of the thumb and touching the base of the thumb with the forepart of the finger the elements start decreasing. This is the simple law of increase and decrease of the elements in the body.

There are innumerable mudras. People fold their fingers in various Mudras (gestures). It is little known however, that Mudra Science is Tatva Yoga – Yoga based on the science of elements. According to Acharya Keshav Dev, these mudras can help in curing many diseases. Mudras can bring about a miraculous change and improvement in our body. Mudras help in molding the physical, mental, and even the moral aspects of the individual. Some Mudras can balance the elements of the body within 45 minutes while some are fast enough to act within a few seconds. Regular practice of some of these mudras can cure insomnia and arthritis, and also improve memory. Many mudras can be easily performed, while others are more difficult. Detailed descriptions of mudras are found in Tantra Shastra, Upasana Shastra, Nritya Shastra in the art of sculpture, etc.

Some mudras can be practiced only by sitting in a special yogic posture. But many remedial mudras for different ailments can be performed in no particular pose. They are just effective while walking, sleeping or in any other physical condition. If necessary, mudras can be practiced lying in bed, sitting on a chair or even while walking. If necessary, and for greater benefit, instead of one hand, the mudra can be practiced with both hands. The following are some sample mudras that may be practiced.

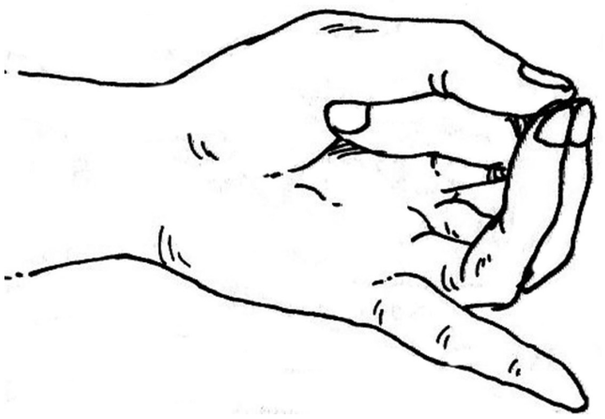
Gyan mudra (chin mudra)

Connecting tip of the thumb and forefinger, other fingers are stretched. While inhaling press thumb against forefinger and during exhalation relax pressure. This is activating Kshipra marma. One of the incarnations of Lord Siva was a 16 year old boy, named Dakshinamurti. Ancient sages were assembled around Him asking to tell them about the highest truth of life. He remained silent and only showed them Chin mudra. The forefinger represents Jiva (individual Soul) and the thumb represents Braman (universal Soul). The other three fingers represent the 3 gunas (the relative field of life – Prakriti). When the forefinger touches the thumb it symbolizes the process of transcending, going beyond the three gunas. It's the same as the teaching of Lord Krishna in the Bhagavad Gita. Buddha, Christ, Krishna, Mahavir and Guru Nanak are generally depicted in this pose. Its practice ensures mental peace, concentration and sharp memory. It cures insomnia and mental disorders, and dissipates tension, depression and drowsiness.



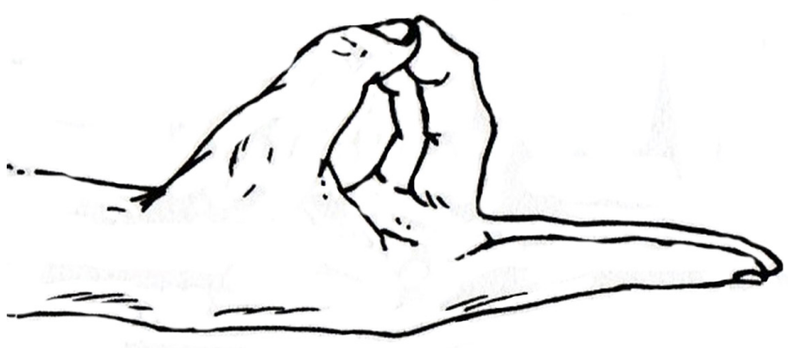
Apan vayu mudra (also known as mritsanjeevani mudra)

Fold the forefinger down and touch the mound of the thumb. The little finger should be held erect. It cures heart and vata dosha related problems and makes the body healthier. It regulates complications of the heart, chest pain (Angina pectoris) or heart attack. In a severe heart attack, if administered as a first aid measure within the first few seconds, it provides instant relief. It increases the earth element (kapha) while decreasing the air (vata) and fire (pitta) elements within the body. It is also beneficial in headache, toothache, backache, joint pains, heel pain, asthma and high blood pressure. People having a pronounced kapha constitution should perform this mudra in moderation.



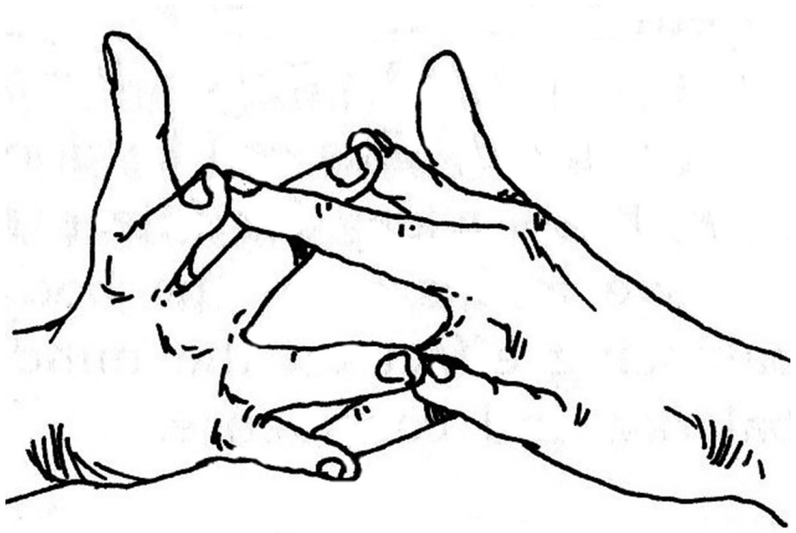
Pran mudra

Touch the points of the little finger and the ring finger to the tip of the thumb lightly. This mudra increases kapha but decreases pitta in the body. Thus, this mudra is excellent for people who have an excess of pitta or a deficiency of kapha in their bodies. This is a life-giving mudra; it energizes the body and improves its vitality. It helps to improve eyesight and is a must for those who feel nervous, tired and weak. It enhances body's immunity to diseases, removes the deficiency of vitamins, and removes fatigue as also rejuvenates the body. Due to this there is no problem of hunger and thirst during long hours of fasting. In case of insomnia, it provides benefits if done in conjunction with Jnana mudra. Also this mudra can be used to overcome following disorders: mental tension; anger; impatience; intolerance of heat; stress and noise; hyperthyroidism; inflammatory disorders; sleeplessness; high blood pressure; athero-sclerosis; acidity; ulcerative colitis; dysentery; scanty, burning urination; excessive, foul-smelling perspiration; excessive, painful menses; red-hot joints; rheumatoid arthritis; instability of joints; burning, red, dry eyes; cataract; skin-rashes; dry, sparse, grey hair; jaundice; premature aging; disorders caused by a deficiency of earth and water elements within the body. People should practice this mudra for a minimum of 45 minutes every day, either at one stretch or in three parts (for 15 minutes, trice a day).Though this mudra can be performed anytime, practicing it between 6,00 to 10,00 am/pm (kapha period) gives better results. People who are overweight or who have a pronounced kapha constitution should perform this mudra in moderation.



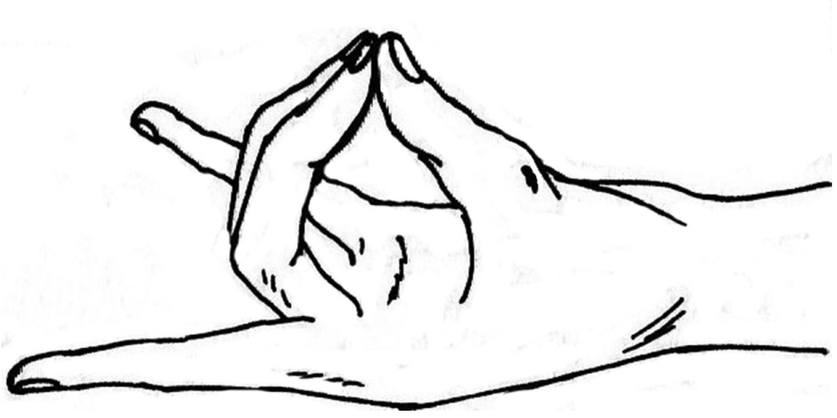
Surabhi mudra

Join the little finger of one hand with the ring finger of the other and vice versa. Simultaneously join the forefinger with the middle finger of the other hand and vice versa. Leave the thumbs free. This controls rheumatic inflammation and sharpens the intellect.



Apan mudra

Join the middle finger and the ring finger with the tip of the thumb. The forefinger and the little finger should be held upright. The apan mudra gives relief in urinary problems and eases difficulty in labor and delivery. It facilitates the discharge of waste matter from the body and purifies the system. Any foreign matter in the body gets thrown out and the body is purified. Practicing this mudra cures constipation, piles, vata dosha, diabetes, obstructions in passing urine, problems related to the kidneys, teeth troubles, etc. It is beneficial for the stomach. It helps in heart related problems and causes perspiration.



Linga mudra

Join both palms and lock the facing fingers together, keeping one thumb upright. The upright thumb must be encircled by the other thumb and the index finger. This makes the body resistant to colds, coughs, and chest infections, by generating heat in the body and by destroying accumulated phlegm in the chest. It is beneficial in cold-catarrh, asthma-cough, sinusitis, paralysis, and low blood pressure.It helps in weight reduction too, but has to be practiced with restraint in eating habits. The intake of at least eight glasses of water, fruit juices, as well as butter and ghee (clarified butter) as cooling agents, in sufficient quantities, is a must. Due to the heat it generates, it may not be possible to practice this mudra with as much ease as the other mudras. It might prove taxing and result in a feeling of lethargy.



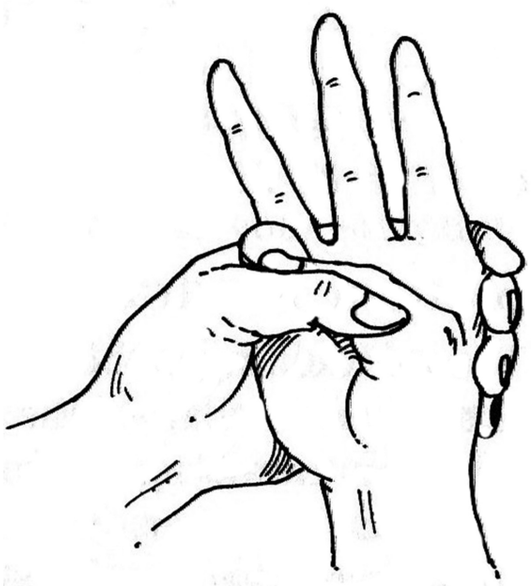
Shunya mudra

Bring the middle finger down to touch the palm and bring the padding of the thumb on top of it, keeping the other fingers straight up. This mudra is ideal for ailments of the ear, and also helps those of the nose and the throat. This mudra cures secretion from the ears, ear pain, deafnes and hearing impairment problem. If practiced at least one hour daily, continuously over a long period, it cures weakness of bones and heart diseases. The gums become strong and benefit is obtained in throat diseases and thyroid problems. Even five minutes of this mudra will help an earache.



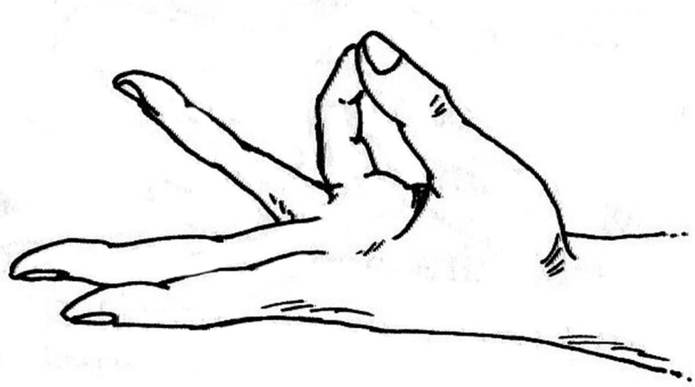
Varuna mudra

This mudra is very good to get rid of the excess mucous that collects in the stomach or lungs. In this mudra bend the little finger of your right hand until the tip touches the ball of the right thumb. Then place the thumb of the right hand on it. With the left thumb press the little finger and thumb lightly while the left hand gently encircles the right hand from below, covering the back of the right palm.



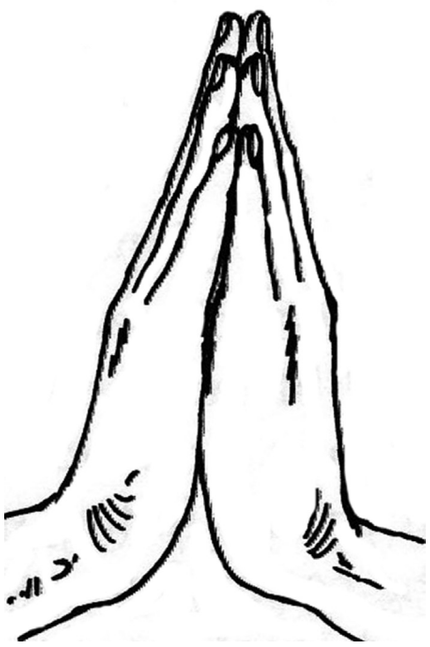
Jal-vardhak mudra

Jal-vardhak mudra is performed by touching the tip of the little finger with tip of the thumb while the other fingers are kept upright. Regular practice ensures an optimum level of water in the body and heals all ailments connected with dehydration. This mudra removes dryness of the body and makes the skin soft and shinning. It makes the face beautiful. Jal-vardhak mudra can be used to overcome the following disorders: Dryness of eyes; dryness of the digestive tract (mouth, throat and intestines); indigestion; constipation; dryness of the skin leading to cracks, dry eczema, psoriasis; degeneration of joint-cartilage; osteo-arthritis; anaemia; cramps, dehydration; deficiency of hormones; scanty urination (oliguria); scanty semen (oligospermia); scanty menses (oligomenorrhoea); loss of taste sensation, tongue-disorders; blood disorders; pimples; and diseases arising out of deficiency of the water element and disorders of vata-excess. People having pitta+kapha prakriti (constitution) or having water retention in their bodies should perform this mudra moderately.



Anjali mudra

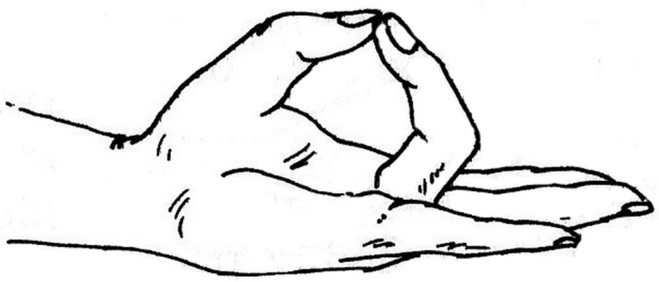
In Anjali mudra, the palms are not flat against each other. The knuckles at the base of the fingers are bent a little, creating a space between the palms and fingers of the two hands. The thumbs are touching the chest. When done properly, the shape of the anjali mudra resembles a flower bud that is yet to open, symbolizing the opening of our heart. When center of the palms are held toward the heart marma, located on the chest between the nipples, a special energy is created which stimulates the marmas that are connected to the lungs, heart, and emotions. By holding that position, the lungs are opened, so that the breath spreads equally to every single part of the body, improving circulation. When circulation is in a normal condition, the body is balanced. Then vata, pitta, and kapha are balanced. All the marmas get stimulated. We can use anjali mudra in most asanas where our hands are outstretched and parallel to each other. Instead of keeping our hands apart, we can bring them together in anjali mudra. This helps to set a peaceful inner attitude during the practice of asanas. If done behind the back, then it is called pascimaanjali mudra.



Namaskaram mudra

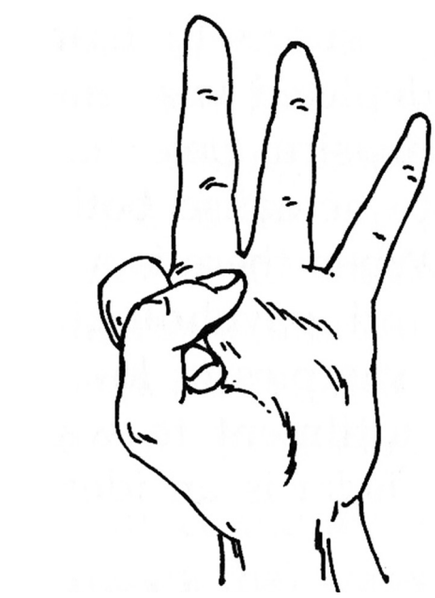
Namaskaram mudra is performed by joining the two hands together, with palms and the five fingers fully touching each other. Hands are organs of action and the motor nerves (which end in the motor cortex) control their movement. At the same time, the hands are sensory organs. On the palms and fingertips, skin tactile sensibilities are provided by different nerves, whose impulses are transmitted to the sensory cortex and also to the adjacent association areas. Experiments show that subliminally the skin of the hands perceives light stimuli, and is sensitive for color differentiation. In namaskaram mudra both afferent and efferent nerves are at work at the same time, generating a peculiar neuronal configuration. The same can be said of shambhavi mudra.

Prithvi mudra



The tip of the thumb should be placed on top of the ring finger with a little pressure. The other three fingers should be relaxed and extended. This can be done with both hands three times for about fifteen minutes a day. This mudra increases the prithvi (earth) element within the body. At the same time, it decreases the agni (fire) element. The element earth (kapha) is a vital component of bodily tissues like bones, cartilage, skin, hair, nails, flesh, muscles, tendons, internal organs, etc. Practice of this mudra builds and invigorates these tissues and overcome disorders caused by kapha deficiency. This mudra increases vitality, strength and endurance. The element earth is also associated with the nose (smell). Therefore, this mudra can be used to overcome nasal disorders (loss of sense of smell). This mudra is also good for people with a pronounced pitta constitution. It can be used to treat the following disorders: chronic fatigue; general debility; lack of stamina and endurance; emaciation; osteoporosis; fracture; degeneration of articular cartilage (osteo-arthritis); weak, atrophied muscles, myopathies; paresis, paralysis, poliomyelitis; dry, cracked, burning, mature skin; skin-rashes, urticaria; brittle nails; hair –loss, premature graying of hair; burning in eyes, stomach (acidity), urine, anus, hands, feet, head; alphthous ulcers in the mouth; ulcers in the stomach, intestines; inflammatory diseases; jaundice; fever; hyperthyroidism. It should be practiced 30 to 45 minutes every day, either at one stretch or in 3 parts. People with kapha deficiency can do it even for longer periods. People with a pronounced kapha constitution should perform this mudra in moderation.

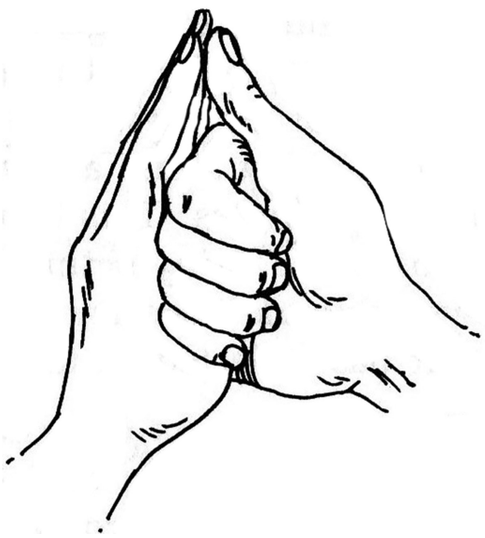
Vayu mudra



Vayu mudra decreases the air element (vata) within the body. This reduction of air sedates restless and anxious mind, calms nervous system, pacifies overactive endocrine glands, relaxes tense or spastic muscles, soothes strained voice, allows rehydration of skin and articular cartilage. Regular practice of this mudra eliminates all vayu related problems – gout, arthritis, joints pain, paralysis, trigeminal neuralgia, intercostals neuralgia, twitching of eye-lids, tinnitus, vertigo, dizziness, hormonal imbalances caused by overactivity of endocrine glands, breathlessness, tachycardia, palpitations, hiccups, epileptic fits (convulsions), Parkinson, sciatica, knee pain and gas formation (flatulence). If the condition is chronic, the mudra should be done thrice daily for fifteen minutes. In Vayu mudra, bend the index finger of each hand till its tip touches the ball of the thumb. Then press the thumb lightly onto the index finger. The other three fingers should be extended and relaxed. Though Vayu mudra can be done at any time of the day, practicing it anytime other than 2,00 to 6,00 am/pm gives better results. This mudra is especially suitable for people of vata constitution.

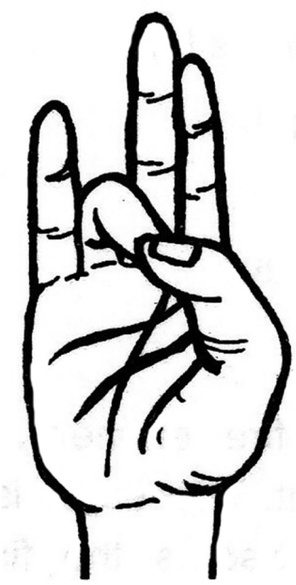
Shank mudra

In this mudra, the positioning and clasping of the fingers simulate a conch shell. Encircle the thumb with the four fingers of the right hand. Touch the right thumb to the extended middle finger of the left hand. Now, together, the two hands resemble a conch shell. This can be done three times every say for fifteen minutes. Hold the hands in front of your sternum. This mudra is very good for problems of the throat and tonsils, removes speech disorders, gives sweetness to voice. It keeps navel centre in order, making person healthy. Alleviates abdomen disorders, improves digestive system.



Surya mudra

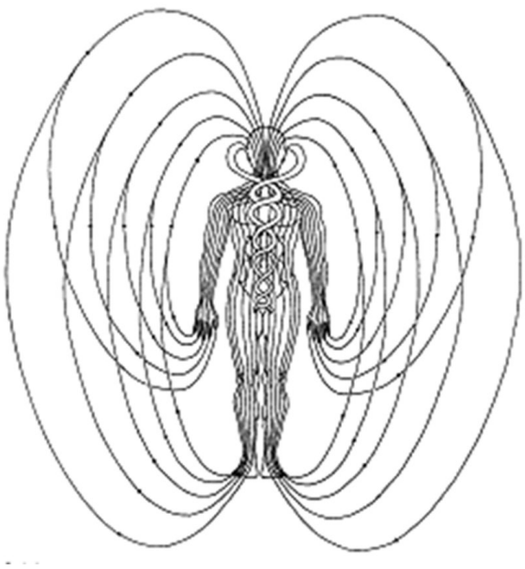
The Sun mudra attracts energy of the Sun. It makes a person energetic, increases the body strength, energy and heat are transmited in the whole body, the body gains its balance, reduces weight and obesity, reduces tension. It reduces stress, enhancement in body strength, and reduction of cholesterol content in the blood. Practicing this mudra cures diabetes and liver problems. The ring finger is placed at the base of the thumb and pressure is applied by the thumb.



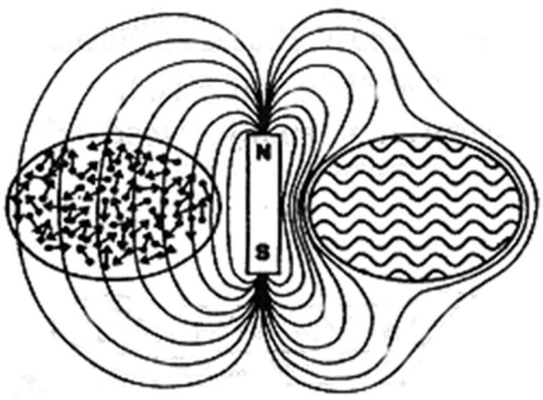
Mahamudra (nadi sutra kriya - NSK)

Practicing the Mahamudra energizes the atomic and molecular levels of our being. On that level the electromagnetic field is stimulated and the aura is created. After the exercise this expanded field remains as a protective shield (kavach). Stimulating this powerful chakra system creates a strong energy field and activates the energy within. A wonderful, vibrant feeling, both inside and outside, is the result of doing this very simple exercise. Perform this exercise no more than three or four times a day. It can be performed in the morning and it will supply enough energy for the rest of the day. If the day is busy, recharge your body by repeating the exercise in the afternoon. Before doing the exercise, you may repeat the Marma mantra three to four times. The Marma mantra is done on exhale, very slowly, with prolonged pronunciation: mmmmm-aaaaa-rrrrr-mmmmm-aaaaa. The marma mantra stimulates the three mahamarmas. It also removes common blockages of the nose and stimulates all internal organs. For sinus or nasal congestion, touch the thumb and forefinger together. If the left nostril is closed, touch the thumb and forefinger on the right hand together. Reverse the procedure to clear the right nostril.

The technique of NSK originated from the highly evolved martial art of Dhanur Veda. The ancient warriors who mastered this martial art, were able to defend or attack with powerful results in any war situation. One technique, called Chundu Marma involved simply pointing at a person. With this simple gesture, the victim would fall down without even being touched. No matter how many enemies were in front of them, Dhanur Vedic warriors were able to control thousands of people by pointing their fingers and sending out energy. The technique of NSK originated from methods used by ancient warriors in preparation for the battlefield. Based on deep knowledge of where the sensitive energy centers are located within the body and how to stimulate them, NSK is used to awaken vital energy and courage. Not only the body and mind, but the whole chakra system is opened to generate spiritual well-being and willpower. Energy from the chakras is brought out through interconnecting channels to the outside of the body, where it forms a protective shield (kavach). Equally effective in contemporary life, NSK provides a secret weapon for the challenges of stress and time constraints.



A strong field of vital energy (aura) is impenetrable for different influences from outside



Meissner Effect in physics

The diagram depicting the Meissner effect shows that in an ordinary electrical conductor (left part of the illustration) incoherent, distorted electrons allow penetration by an external magnetic field. Conversely in a superconductor (right part of the illustration), coherent collective functioning of electrons, spontaneously diverts an external magnetic field and maintains its impenetrable status and integrity. A superconductor demonstrates the most important principle of how inner coherent collective functioning of a system results in the ability to defend against external disturbing influences. In the case of the human, this phenomenon of superconductivity may be comparable to nadis that are clear and prana flowing in an unrestricted manner.

Instruction for the practice of NSK:

- Place the hands on opposite knees or calves and take long and smooth breaths. Continue breathing this way throughout the exercise. You can also combine movements of the hands with breathing (inhale/exale).
- Inhaling stretch the arms out to the side in a sweeping motion. As the hands sweep upward, the palms face up.
- Exaling bring the hands behind the head, placing them on each side, where the neck meets the shoulders.
- Inhaling open the arms to both sides of the body, with hands raised upward.
- Exaling bring the arms down, with palms of the hands touching together in the groin area.
- While inhaling, with the fingers pointed downward, massage the chakra system by moving the hands upward, along the stomach, all the way up to the heart chakra. Then turn the hands so that the fingertips point upward. All the energy that has been gathered is now brought to the heart chakra.
- Exeling extend the arms in front of the body, keeping the thumbs and little fingers of the two hands joined, while leaving some space between the other parts of the hands (palms and the middle 3 fingers). This is a motion to throw out any impurities gathered by the energy flow of the hand movements.
- Inhaling bring the folded hands to the point between the eyebrows, with palms facing and touching each other.
- Exaling lower the hands to the heart and hold them there for a few seconds, bringing positive energy back into the system.

Repeat the whole exercise four times. When the exercise is performed correctly, it is done in a continuous, flowing motion.

MAHA MUDRA











Shambhavi mudra

In Laya Yoga, Shambhavi mudra is defined as a pratyahara technique, leading to sensory withdrawal. Wherever the eyes go the mind follows, so when the gaze is focused on a single point (eyebrow center), the mind also becomes single pointed. Furthermore, from the endocrine system's point of view, it is observed that Shambhavi mudra influences the hormonal secretion of the pituitary, the master gland. The motor nerves that supply the muscles of the eyes follow a different and independent path to the optic nerve, although they also travel through the midbrain to reach the occipital cortex. Here, both of the two afferent and efferent types of nerves are at work at the same time, generating a peculiar neuronal configuration. It has been demonstrated that alpha waves arise particularly from the occipital areas of the brain and their appearance is especially associated with visual and auditory hallucinations. This alpha sensitivity is a matter of special interest, because it is related to the hypnagogic psychological dimension (state between being awake and falling asleep), where deep relaxation and archetypal imagery take place. Alpha sensitivity thus plays an important role in the expansion of extra-sensorial awareness. During Shambhavi mudra the eyes are not kept in a fixed gaze at the eyebrow center all the time, but are effortlessly relaxed, while still looking to area of third eye.

The beauty of Shambhavi mudra in particular is that no actual sensorial stimulus is sent to the brain. Gazing at an internal point, no carrier of symbology comes in-between. Having no sensorial significance to be understood by the brain, the subtle pranic energy itself is first analyzed, with its "shapes" arranged by the midbrain structures. After that, due to the directed stimulation, a type of neutral signal is sent to the cortex. The naked process of thought itself is immediately pinpointed, and this is the first step towards thoughtlessness, the prerequisite of expanding psychic awareness. The result can be the recognition and direct perception of new dimensions of thought.

Ashvini mudra (horse power exercise)

Stand upright (Samasthiti) and tighten the fists while inhaling. At the end of the inhale, swallow the breath (Aprakasha mudra), hold the breath, do Jalandhara-bandha (lower the chin down and raise chest to press the chin), tighten the perineum (Mula-bandha) and anus (tighten the external anal sphincter, followed by the internal anal sphincter – Ashvini mudra), and pull them up. Men also pull up testes and ladies tighten muscles which regulate urination. While keeping the anal contraction, pull the abdomen in slightly and the diaphragm up (modified Uddiyana bandha). While holding the breath keep Jihva bandha and Shambhavi mudra. Then, still during the overall retention phase, release the two sphincters of the anus and repeat this alternate movement of compression and release about five times. Then tighten the anus as much as possible, and while keeping it tightened shift the awareness to the top of the head feeling that consciousness expands there like the rays of the sun, or opening the petals of white lotus. Allow the awareness to be naturally drawn and absorbed in infinity. Hold for as long as is comfortable and then open Jalandhara-bandha, exhale and relax all the bandhas. Repeat this cycle seven times. While inhaling keep hands in chin mudra, during holding of the breath keep the fingertips of each hand together near the navel, and during exaling bend the thumb to the palm and make the fist.

Benefits: Ashvini mudra allows energy to be liberated from muladhara chakra and helps to harmonize the flow of prana and apana. Its effects are mainly felt at the level of the pelvic part of the parasympathetic nervous system. It fortifies the pelvic floor and acts against the tendency of ptosis.

Moreover, it decongests the anal venous system and strengthens the pelvic muscles. It produces vitality and strength and soothes the nervous system while preventing the organism from aging. This exercise also awakens Kundalini, allowing it to travel along spine, to the top of the head (Sahasrara chakra), thus enlivening the entire brain physiology. Ashvini mudra can also be practiced sitting in Padmasana, Siddhasana or Vajrasana. The best position in which to learn this mudra is to lie on the back with folded knees.

Aprakasha mudra

This is the neck and throat gesture. It is practiced during kumbhaka. During kumbhaka the breath is held under pressure in the lungs and there is always a tendency to take another inhalation since the breathing centre in the medula oblongata sends a signal for the intake of more oxygen. Aprakasha mudra is performed in order to contain the pressure inside the lungs more easily. This mudra is necessary for the practice of advanced pranayamas and for the practice of Jalandhara-bandha. With the retention of breath, after completion of the inhalation, do a "swallowing of the air" and then do Jalandhara-bandha. This seals the breath at the throat, making the air retention easy.

Brahma mudra

This gesture of the fingers harmonizes the flow of prana in the lungs. Place the thumb onto the palm and close the fingers around it. Bring the fists together, fingers pointing upwards, and place them on the abdomen, just above the navel. This mudra is used when practicing horse power exercise in a sitting position.

Hamsa mudra

Increases flow of prana in the middle and upper sections of the chest. Place the hands behind the back in the namaskara mudra.

Govinda mudra

By joining the palms of the hands and raising the arms above the head, the channels of pranic energy under the armpits are cleared and there is an abundant flow of energy in the cervical area of the spine. Stand in Samastithi with legs slightly apart. Keep the hands together at the chest level with the palms touching each other as in namaskara mudra. Inhale and raise the arms stretched above the head, interlocking all fingers, except the forefingers which are stretched and pressed together, pointing to the sky. Retain the breath as long as it is comfortable. Exhale and lower the arms and the hands. Relax. Face East during the practice and repeat the same movement about ten times.

Kriya

Kriya means a process by which we clean the body using particular techniques. When we do pranayama we are using air and fire (agni) to clean the body. Kriyas are techniques which promote powerful localized energy movements. The purpose of Kriyas is to prepare the body for practicing bandhas and mudras. Here are the descriptions of a few out of many traditional Kriyas:

Agnisara kriya

Agnisara kriya uses the digestive fire as a cleansing process to remove impurities. This process of fire purification gives excellent results in pranayama practice. It removes stomach disturbances and improves the absorption and elimination processes. Manipura chakra gets fully activated and the vital organs in the trunk receive a rich supply of prana. This kriya should be practiced on an empty stomach. Since it generates plenty of body heat, it is advised to drink water. It should be practiced early in the morning.

After exhale do Uddiyana-bandha and then while holding the breath move the stomach in and out 100 times, or how much you feel comfortable. Start with how much is comfortable and then over time do up to 100 repetitions. One must first master bandhas before practicing Agnisara Dhauti.

Prishta tadana kriya

This is a preparation for Shlabhasana or Dhanurasana. It helps to reduce tensions in the thighs, buttocks and feet. It helps to overcome laziness. Moreover, it gives flexibility to the waist and tones the sacro-lumbar area of the spine.

Lie on the chest. Bend one leg at the knee and move the heel towards the buttocks. Perform this movement slowly, with each leg alternately. Gradually increase the speed of the movement until the heels touch the buttocks. When the legs are flexible enough, the practitioners can hit the buttocks with both heels alternately. Then hit the buttocks with both heels at the same time. Repeat the movement about fifty times.

Talabia kriya

With the mouth closed, stick the tongue to the upper palate, creating a vacuum between tongue and palate. Then while fully opening the mouth, the frenulum below the tongue will be stretched and elongated. This will pull the tongue from upper palate producing a sound. Repeat this process 100 times a day. Then combine alternately stretching the frenulum by sticking tongue to upper palate and stretching the tongue out of the mouth as far as possible. This is a preparatory exercise to perform Kechari Mudra.

Air & water kriya

This Air & Water Kriya is an important internal cleaning exercise for the whole body. You need about two or three cups of water, depending on your personal capacity. Take a small amount of water in the mouth and lean forward. Draw air to the mouth in a way to produce air bubbles in the water. While the air and water are mixed together, quickly swallow the mixture. Don't wait too long because the bubbles get dispersed quickly. Repeat this procedure with the remaining water, until you feel comfortably full.

At some point there will be a burp (this is the air coming back up through the mouth with a loud noise), probably followed by several more burps.

Most people will burp within five minutes. If the first burp comes within a minute then your mouth-to-stomach channel is clear and healthy. If there is no burp then either the procedure above was not performed properly, or perhaps there is some trouble or problem with food and digestion that needs to be resolved. At a much later point, such as the next day perhaps, some of the air will also be expelled from the anus. The air and water mixture will help to clean the body from the inside. In general, the air will be expelled from the mouth or the anus, and the water will be expelled in the normal way.

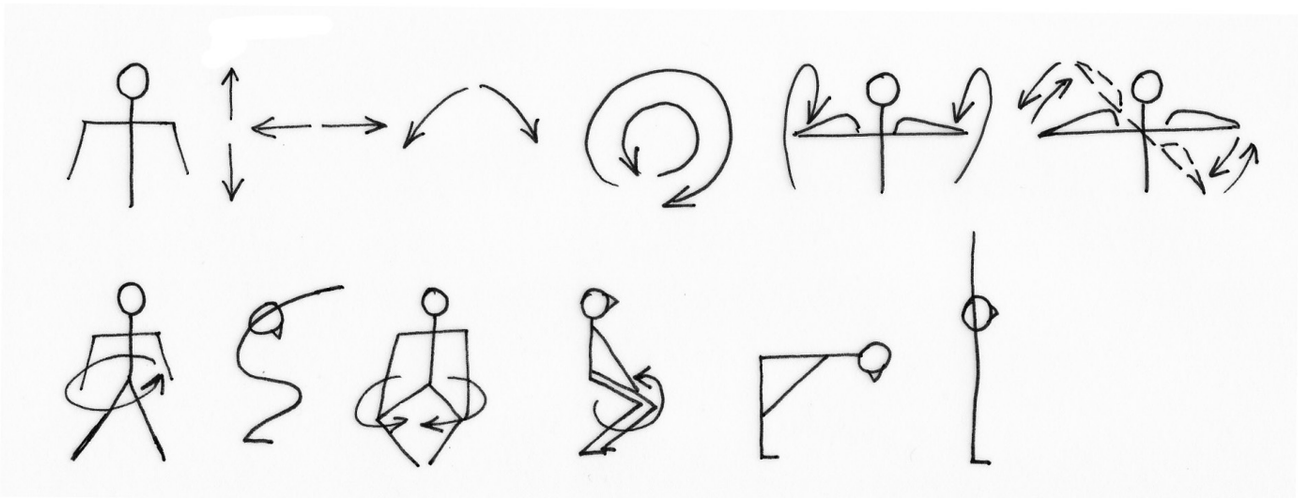
Once you have mastered the above technique, try to drink air & water continuously from the cup. Any method that you find comfortable is OK, for example slurping the water like hot soup gets the right results for most people. More advanced students can try to gradually increase the proportion of air to water from 1:1 to 2:1 to 3:1 etc. Swallowing only air directly into the stomach is the final stage of this Kriya. A mixture of about 90% air and 10% water is usually comfortable for most people.

Air performs a certain type of cleaning in the body and water performs a different type of cleaning in the body. Air & water used together perform a thorough internal cleaning. It will carry away waste matter from your body according to the usual natural processes.

After a few weeks or months (depending on each individual) you may notice that many minor ailments have been cleared up and you feel lighter and cleaner. There may also be other benefits.

Ashta sandhi vimochana kriya

This is the series of joint opening exercises, which are described in the chapter on asanas. These movements are extremely helpful when they are practiced at the beginning of an asana session since they render the body flexible and more permeable to the flow of prana.



Baddha hasta kriya

This technique is used to improve and expand the chest and to increase the breathing capacity. It is also used to develop the chest muscles, to strengthen the arms, and to reduce tensions in the head and neck.

Stand erect and raise the arms, bent at the elbows, to shoulder level. Clasp the hands, palms touching each other and fingers crossed, and keep the hands in this position at a distance of about twenty centimeters, from the chest. Inhale, hold the breath and press the palms against each other for ten seconds. Release the breath and the pressure. Repeat this process five times.

Bhujangini kriya

This is a breathing technique which produces a sound like the hissing of a serpent. It helps in removing tensions in the head and reinforces the nervous system.

Lie on the chest. Inhale deeply and then exhale through the mouth with clenched teeth making a hissing noise. This Kriya is practiced in bhujangasana. The exhalation with the hissing sound is performed during the ascending movement. The inhalation is performed during the descending movement. This is opposite to the breathing pattern of the classical posture. Repeat five times. Then relax, lying on the chest.

Sarpa kriya

This movement is a variation of bhujangasana. It promotes spinal health and reinforces the sacro-lumbar joint.

Lie on the chest, lift the hands up and stretch them forward. Inhale and lift up the legs. Roll the body backward and forward on the abdomen with arms and legs stretched away from the ground. Perform the movement five times. Release the breath. Repeat the process three times.

Ushtra kriya

This movement strengthens the legs, the back and the lower abdomen. It improves the elimination function and stimulates the subtle center at the navel. Take the position known as Ushtrasana. Inhale and remain in the position. While in the position, perform abdominal breathing about ten times and then relax. Repeat the process three times. Take the position again. Inhale through the nose, release the breath powerfully through the mouth with the sound "USH" and move the hips and the trunk slightly forwards. Return to the position of ushtrasana and breathe gently. Repeat the process five times. Then, relax and lie on the ground on the chest for about two minutes.

Developing strength, flexibility, and structural alignment through the practice of the different series of asanas

Different series of asanas are basically a series of physical movements designed to correct bad posture and bring the body back into alignment, thus helping it to function efficiently, as nature intended. Various ills of the body, caused by wrong movement, may be corrected with the appropriate practice of the sequences of yoga asana. Old habits (samskaras) of wrong postures and use of muscles are thus replaced by good habits, leading to correct postures. As a habit can be learned, so it can be unlearned. The best way of unlearning a bad habit is to replace it by a good one (yogic samskaras) until that becomes innate in its turn. You learn to replace unconscious habits by conscious control, and in doing so, pave the way for optimum health and maximum achievement for realizing full mental and bodily potential. The way you move in and out of postures is more important than the final stage of the posture itself. That is why proper movement in and out of asana should be learned from a competent yoga teacher and not from a book. Practice of the following sequences of asana aleviate a variety of mental, emotional and physical conditions. Before Sukha pranayama, at the end of series of asanas, you can introduce the practice of some pranayamas which are adequate to psycho-physical state of the practitioner.

Science of vedic yoga – basic sequence

The sequence is structured in accordance with the Vedic principles of proper sequencing in the Asana-practice. Between each asana do Ānandāsana for 10 to 15 seconds. Before Ānandāsana do fish relaxation few times to remove tension from neck, spine, joints and limbs. Sequence involves mind, body and breath and influences all 5 kośas of the body (sthūla-śarīra - gross physical body: annamaya-kośa; liṅga-śarīra/ sūkṣma-śarīra - subtle, astral, mental body: prāṇamaya-kośa, manomaya-kośa, vijñānamaya-kośa/buddhimaya-kośa; kāraṇa-śarīra - causal body: ānandamaya-kośa. All asanas woman starts from the left side and man from the right side of the body. All asanas in the sequence should be modified according to the psycho-physical and constitutional conditions of the person. Only then the practice of yoga asana will have therapeutic effect. Before starting the sequence, do Ānandāsana (bliss posture) and stretch the whole body to centralize position of navel (Brahmasthan of the body). If the navel is in it's proper place than there is correct arrangements of all inner organs.

1. Sukhāsana - comfortable (sitting) posture with Ujjāyī breathing (restructuring the proper possition of spine and body by breathing) - holding as convenient.
2. Peace chant - saha nāvavatu... (sound and meaning effect).
3. Sankalpa - resolution (meaning effect) - holding as convenient.

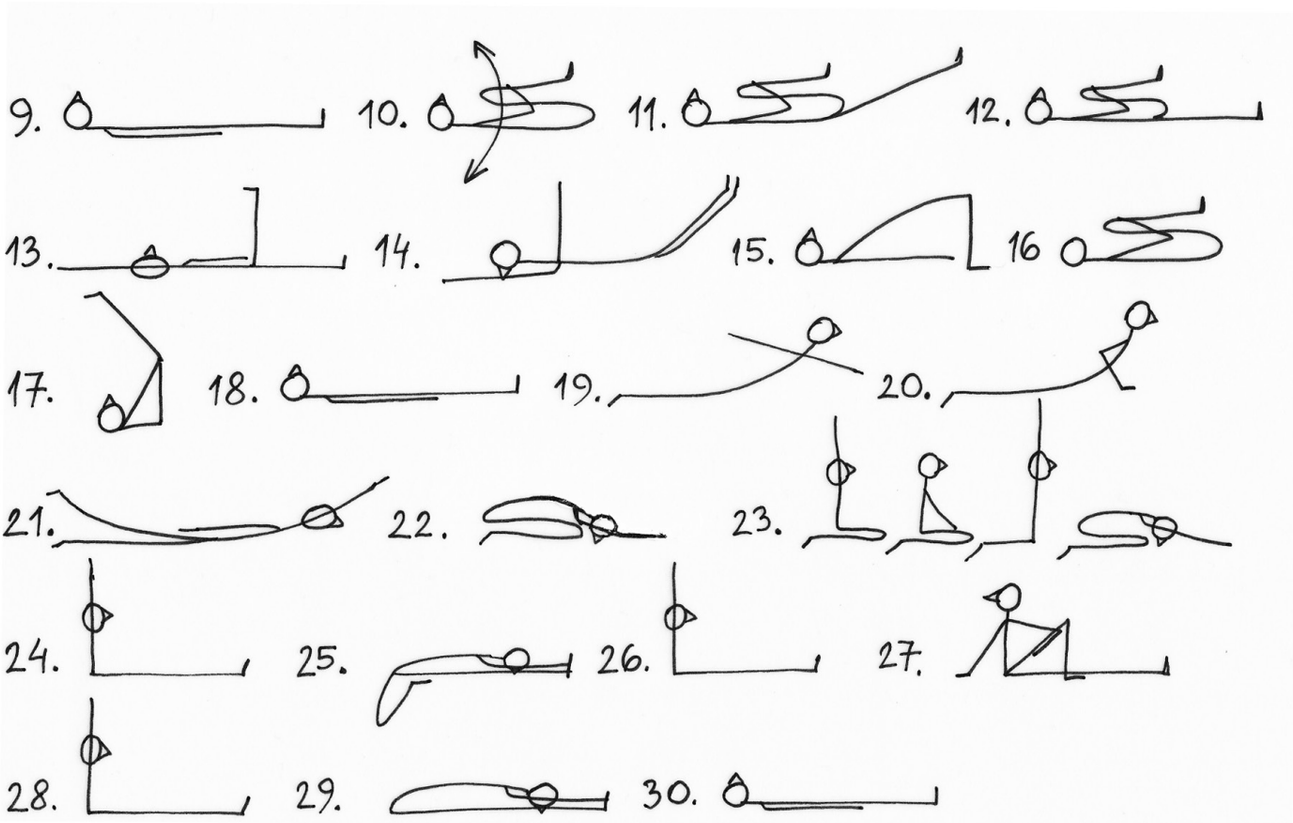
„In Thy presence, O Lord,
Filled with Thy grace,
I am starting Yoga Asanas.
Grant me good health, energy,
And efficiency in life.
I feel Thy grace,
Thy divine presence."

4. Saṁvāhan - toning up of the body - as convenient.
5. Aṣṭa Sandhi Vimochana kriyā - eight joint release exercise (neck, shoulders, hips, knees, ankles - repeat each movement 3 times).
6. Bhastrikā prāṇāyāma combined with basic movements of the spine - blacksmith's bellows prāṇāyāma - 5 series of 10 breaths (in between series practice: Samasthitiḥ (standing pose), Pārśva Uttānāsana (asymmetrical), Tādāsana (variations: lateral bend / twist), Uttānāsana (forward bend), Caturaṅgadaṇḍāsana (four-limbed stick posture), Ūrdhvamukhaśvāna (upward dog posture), Adhomukhaśvānāsana (downward dog posture) - stay for six breaths Chakravākāsana (sunbird), Śaśankāsana (hare), Vajrāsana (diamond, kneeling posture).
7. Kapālabhāti prāṇāyāma - shining skull - 4 series of 10 breaths in Vajrāsana and 20 breaths in Tāḍāsana while twisting.
8. Sūryanamaskāram - Sun salutation (repeat 6 to 12 times) variation A.
9. Ānandāsana - bliss posture (holding as convenient).
10. Vellan - rolling to left and right (6 times each side).
11. Pād Sanchalan - knee to chest exercises (3 to 5 times each leg).
12. Pavanamuktāsana - supine posture for eliminating gas from stomach and intestines - 2 times dynamic, 1 time static (hold during 3 breaths).

13. Utthitekāpadāsana - elevation of the stretched leg - 2 times dynamic, 1 time static (hold during 3 breaths).
14. Jaṭharaparivṛttiḥasana - lateral bend - both legs (both sides - hold during 3 breaths). Finish with repeating Apānāsana 3 times.
15. Katiāsana - lower back raised up posture - 2 times dynamic, 1 time static (hold during 3 breaths).
16. Apānāsana - posture for elimination of apana (3 times dynamic).
17. Viparītakaraṇīāsana - inversion, half shoulder stand (holding for 6 to 12 breaths).
18. Ānandāsana - bliss posture (holding as convenient).
19. Vimanāsana - aeroplane posture (3 times dynamic).
20. Bhujaṅgāsana - cobra pose - 1 time static (hold during 3 breaths).
21. Ardha- Śalabhāsana - half locust posture (repeat 3 times to each side).
22. Ṣaṣankāsana - hare / Chakravākāsana - sunbird (repeat 3 times).
23. Vajrāsana - diamond, kneeling posture - 2 times dynamic, 1 time static (hold during 3 breaths).
24. Daṇḍāsana - stick posture (1 time dynamic).
25. Jānuśiršāsana - head to knee posture - each side 1 to 2 times dynamic, 1 time static (hold during 3 breaths).
26. Daṇḍāsana - stick posture (1 time dynamic).
27. Vakrāsana - spinal twist posture - 1 time to each side (twist in three phases).
28. Daṇḍāsana - stick posture (1 time dynamic).
29. Paśčimottānāsana - stretching the back (west) - 1 to 2 times dynamic, 1 time static (hold during 3 breaths).
30. Ānandāsana - bliss posture (holding for 3 min.).
31. Ujjāyī (3 breaths), Anuloma Ujjāyī (3 breaths each nostril), Viloma Ujjāyī (3 breaths each nostril), Pratiloma Ujjāyī (3 breaths each nostril) - 5 min.
32. Sukha prāṇāyāma - comfortable breathing exercise - 5 min.
33. Meditation - (20 min.). Experiencing Samādhi.

Note:

Asana that generate high levels of energy (in the sequence from 1 - 8) are better performed in the morning, since these asanas provide enormous amounts of energy for the utilization during the activities of the day. On the other hand, the relaxing asanas (in the sequence from 9 - 33), are appropriately practiced in the evening to provide the conditions for healing and recuperation of the body.


9.
10.
11.
12.
13.
14.
15.
16
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.

Science of vedic yoga – advanced sequence 1

The sequence is structured in accordance with the Vedic principles of proper sequencing in the Asana-practise. Between each asana do Ānandāsana for 10 to 15 seconds. Before Ānandāsana do fish relaxation few times to remove tension from neck, spine, joints and limbs. Sequence involves mind, body and breath and influences all 5 kośas of the body (sthūla-śarīra - gross physical body: annamaya-kośa; liṅga-śarīra/ sūkṣma-śarīra - subtle, astral, mental body: prāṇamaya-kośa, manomaya-kośa, vijñānamaya-kośa/buddhimaya-kośa; kāraṇa-śarīra - causal body: ānandamaya-kośa. All asanas woman starts from the left side and man from the right side of the body. All asanas in the sequence should be modified according to the psycho-physical and constitutional conditions of the person. Only then the practice of yoga asana will have therapeutic effect. Before starting the sequence, do Ānandāsana (bliss posture) and stretch the whole body to centralize position of navel (Brahmasthan of the body). If the navel is in it's proper place than there is correct arrangements of all inner organs.

Before starting practising Advanced Sequence No.1 it is important to know, feel comfortable and practice the Basic Sequence for a period of at least 6 months to one year.

1. Sukhāsana - comfortable (sitting) posture with Ujjāyī breathing (restructuring the proper position of spine and body by breathing) - holding as convenient.
2. Peace chant- Saha nāvavatu...; Asato ma Sat gamaya... (sound and meaning effect).
3. Sankalpa - resolution (meaning effect) - holding as convenient.

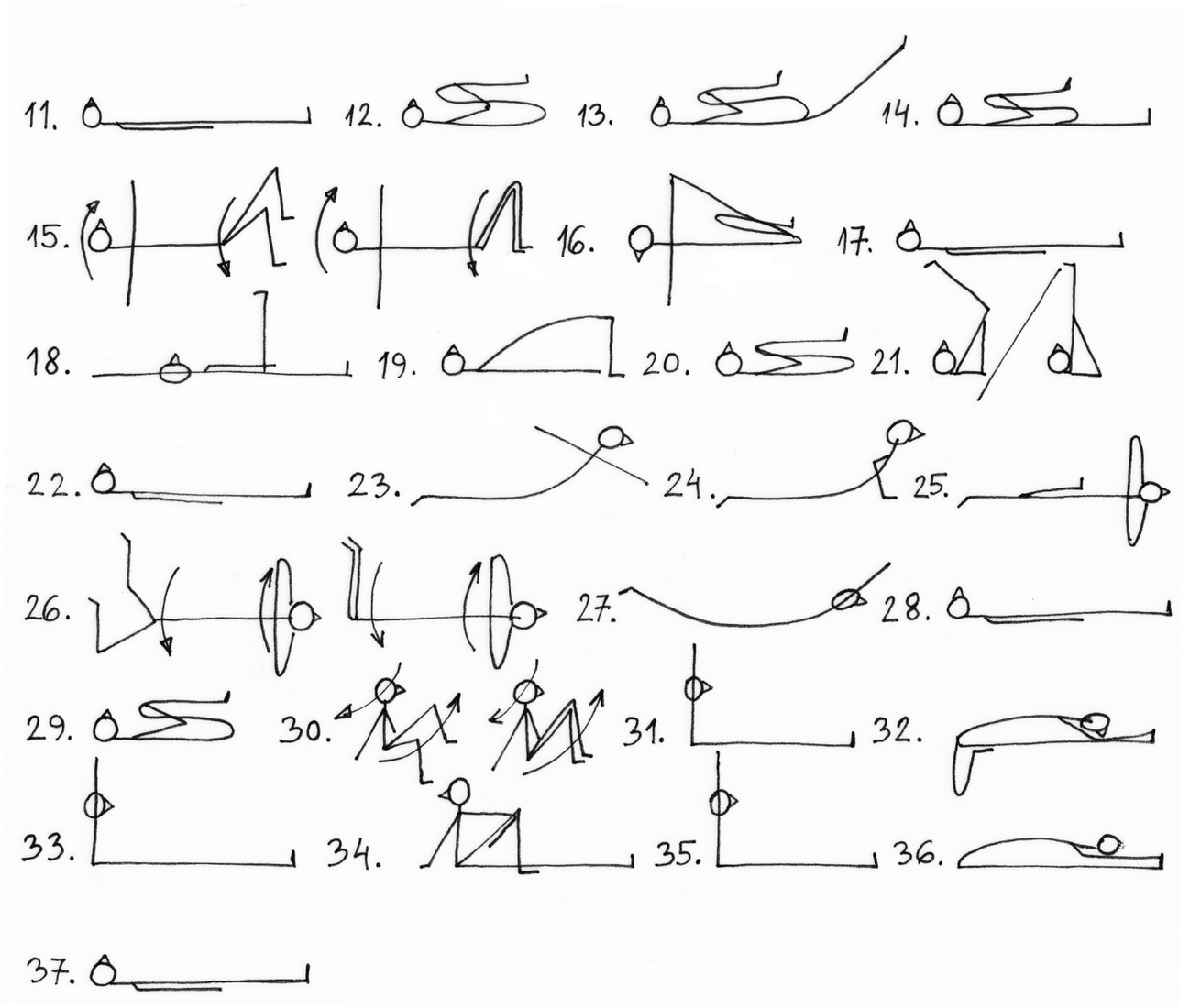
„In Thy presence, O Lord,
Filled with Thy grace,
I am starting Yoga Asanas.
Grant me good health, energy,
And efficiency in life.
I feel Thy grace,
Thy divine presence."

4. Saṁvāhan and Marma massage (abhyanga) - massage as convenient.
5. Aṣṭa Sandhi Vimochana kriyā - eight joint release exercise (neck, shoulders, hips, knees, an kles - repeat each movement 3 times).
6. Bhastrikā prāṇāyāma combined with basic movements of the spine - blacksmith's bellows prāṇāyāma - 5 series of 10 breaths (in between series practise: Samasthitiḥ (standing pose) - with variations, Pārśva Uttānāsana (asymmetrical) - with variations, Tādāsana (varitions: lateral bend / twist) - with variations, Uttānāsana (forward bend) - with variations, Catu - raṅgadaṇḍāsana (four-limbed stick posture), Ūrdhvamukhaśvānāsana (upward dog posture), Adhomukhaśvānāsana (downward dog posture) - stay for six breaths, Chakravākāsana (sun-bird), Ṣaṣankāsana (hare), Vajrāsana (diamond, kneeling posture) - with variations.
7. Kapālabhāti prāṇāyāma - shining skull - 4 series of 10 breaths in Vajrāsana and 20 breaths in Tāḍāsana while twisting.
8. Mahā-bandha - great lock - practice first in Taṭākamudrā then in Adhomukhaśvānāsana posture, (repeat 5-10 times).
9. Horse Power Prānāyāma - Aśvini-mudrā - hors seal (practice in standing posture, repeat 5-10 times).

10. Sūryanamaskāram - Sun salutation variation A (repeat 4 times) and D (repeat 2 time) with Sun-mantra (bija) during exhale.
11. Ānandāsana - bliss posture (holding as convenient).
12. Vellan - rolling to left and right (3 times each side).
13. Pād Sanchalan - knee to chest exercises (3 to 5 times each leg).
14. Pavanamuktāsana - supine posture for eliminating gas from stomach and intestines - 2 times dynamic, 1 time static (hold during 3 breaths).
15. Aśvāsana - horse twisting exercise on back - 2 variations with knees bent (repeat each variation 6 times). Finish with repeating Apānāsana 3 times.
16. Ardha-Jaṭharaparivṛttiasana - lying twist and lateral stretch (each side hold during 3 breaths). Finish with repeating Apānāsana 3 times.
17. Ānandāsana - bliss posture (holding as convenient).
18. Utthitekāpadāsana - elevation of the stretched leg (2 times dynamic, 1 time static).
19. Katiāsana - lower back raised up posture - 1 to 2 times dynamic, 1 time static (hold during 3 breaths).
20. Apānāsana - posture for elimination of apana (3 to 6 times dynamic).
21. Viparītakaraṇīāsana/Sarvāṅgāsana - inversion, half shoulder stand or shoulder stand (holding for 6 to 12 breaths).
22. Ānandāsana - bliss posture (holding as convenient).
23. Vimanāsana - aeroplane posture (3 to 6 times dynamic).
24. Bhujaṅgāsana - cobra pose - 1 time static (hold during 3 breaths).
25. Priṣṭa Tāḍana Kriyā - exercise for reducing tensions in the feet, thighs, buttocks, increasing flexibility of the waist and toning the sacro-lumbar area of the spine (10 to 20 times dynamic).
26. Aśvāsana - horse twisting exercise on stomach - 2 variations with knees bent (repeat each variation 6 times).
27. Śalabhāsana - locust posture (repeat 1 to 3 times dynamic).
28. Ānandāsana - bliss posture (holding as convenient).
29. Apānāsana - posture for elimination of apana (3 to 6 times dynamic).
30. Aśvāsana - horse twisting exercise in sitting position - 2 variations with knees bend (repeat each variation 6 times).
31. Daṇḍāsana - stick posture (1 time dinamic).
32. Jānuśiršāsana - head to knee posture - each side 1 to 2 times dynamic, 1 time static (hold during 3 breaths).
33. Daṇḍāsana - stick posture (1 time dynamic).
34. Vakrāsana - spinal twist posture - 1 time to each side (hold during 3 breaths).
35. Daṇḍāsana - stick posture (1 time dynamic).
36. Paśčimottānāsana - stretching the back (west) - 1 to 2 times dynamic, 1 time static (hold during 3 breaths).
37. Ānandāsana - bliss posture (holding for 3 to 5min.).
38. Fast prāṇāyāma - alternative nostril fast prāṇāyāma (1 to 2 min.).
39. Nāḍī-śodhana prāṇāyāma - breathing exercise for purification of the nāḍīs - 5 min.
40. Meditation - (20 to 30 min.). Experiencing Samādhi.

Note:

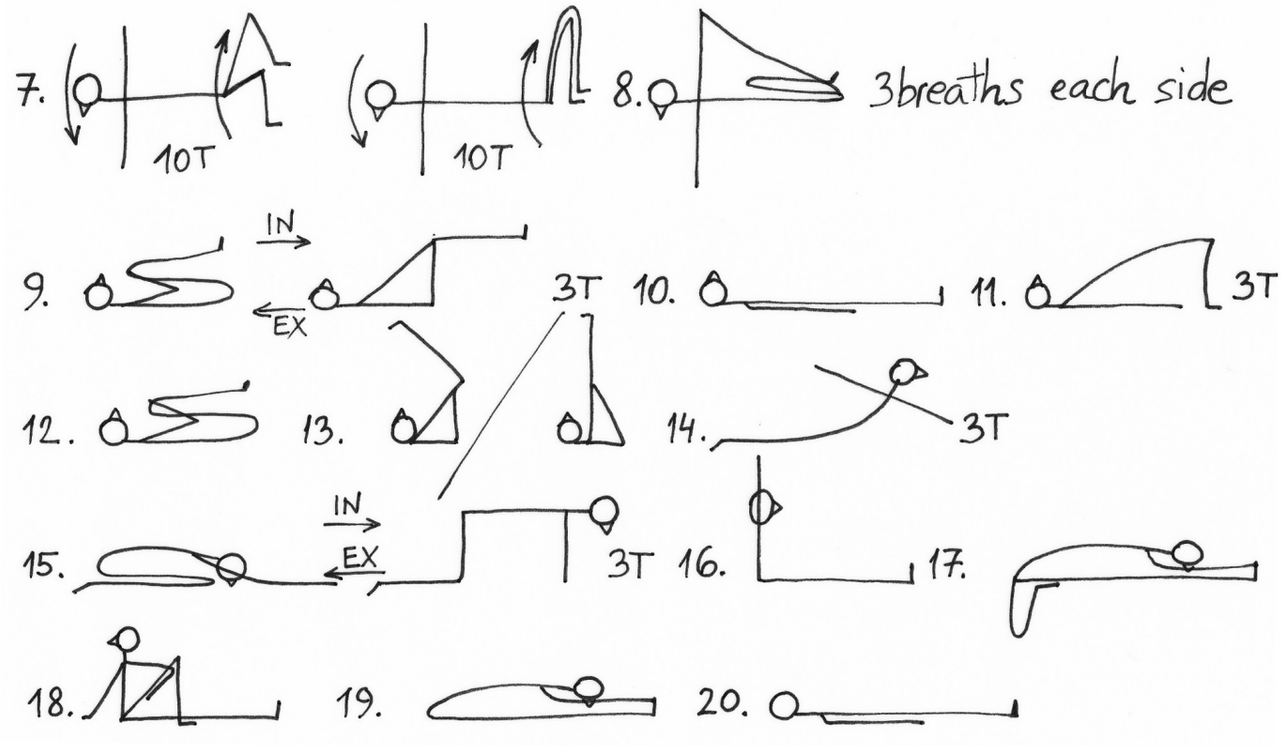
Asana that generate high levels of energy (in the sequence from 1-10) are better performed in the morning, since these asanas provide enormous amounts of energy for the utilization during the activities of the day. On the other hand, the relaxing asanas (in the sequence from 11-40), are appropriately practiced in the evening to provide the conditions for healing and recuperation of the body.



SCIENCE OF VEDIC YOGA - ADVANCED SEQUENCE No 1 - SHORT VERSION

1. Ujjayi 2. Saha nāvavatu ... 3. Sankalpa 4. Saṁvāhan

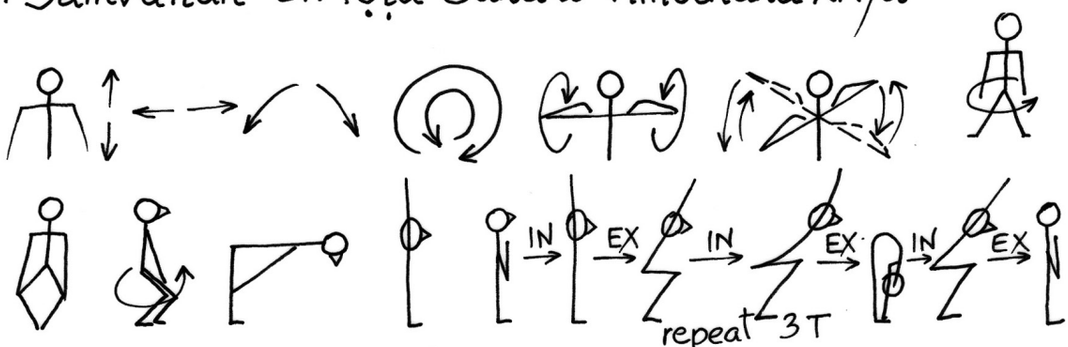
5. Aṣṭa Sandhi Vimochana Kriyā 6. Sūryanamaskāram D



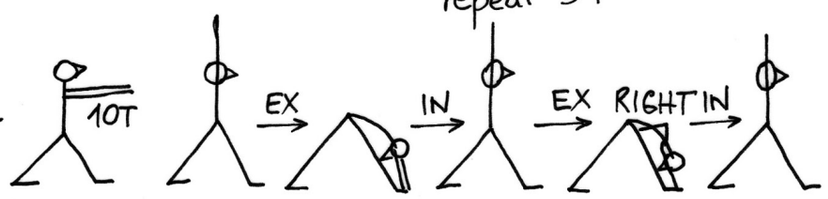
SCIENCE OF VEDIC YOGA - ADVANCED SEQUENCE No.1 - EXTENDED VERSION

1. Ujjayi 2. Saha nāvavatu ...; Asato mā ...; 3. Sankalpa

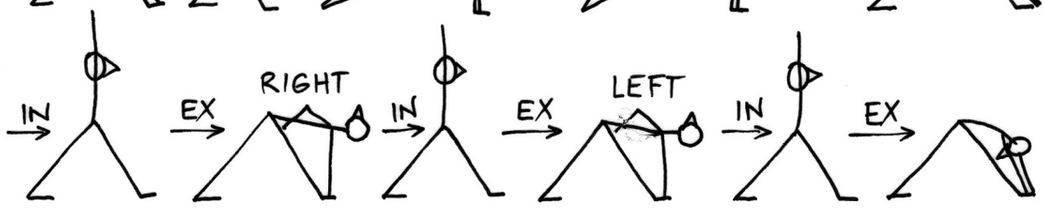
4. Saṁvāhan 5. Aṣṭa Sandhi Vimochana kriyā

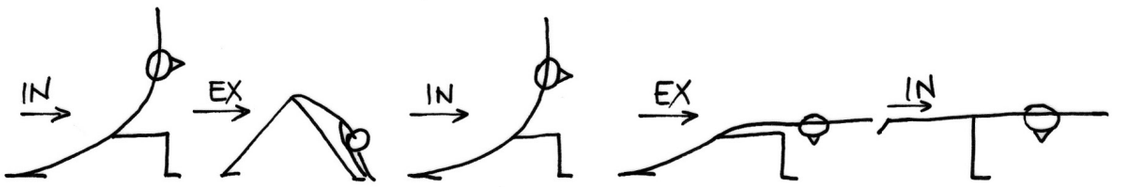


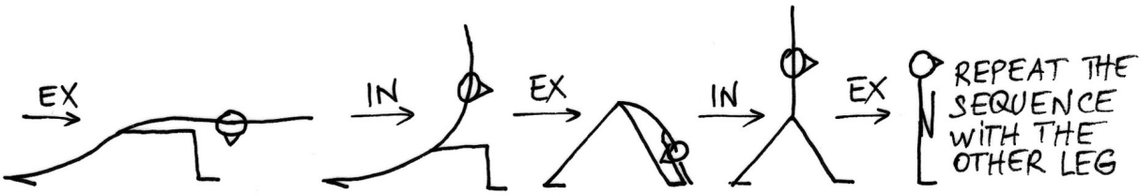
6. Bhastrika

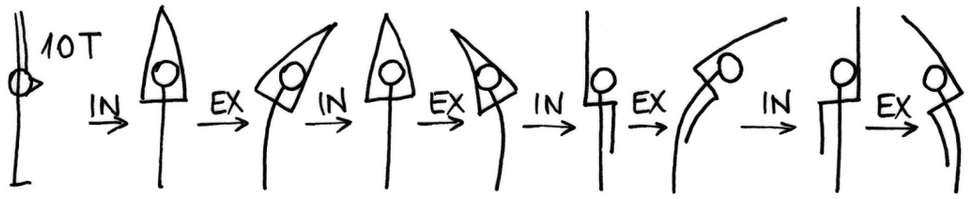


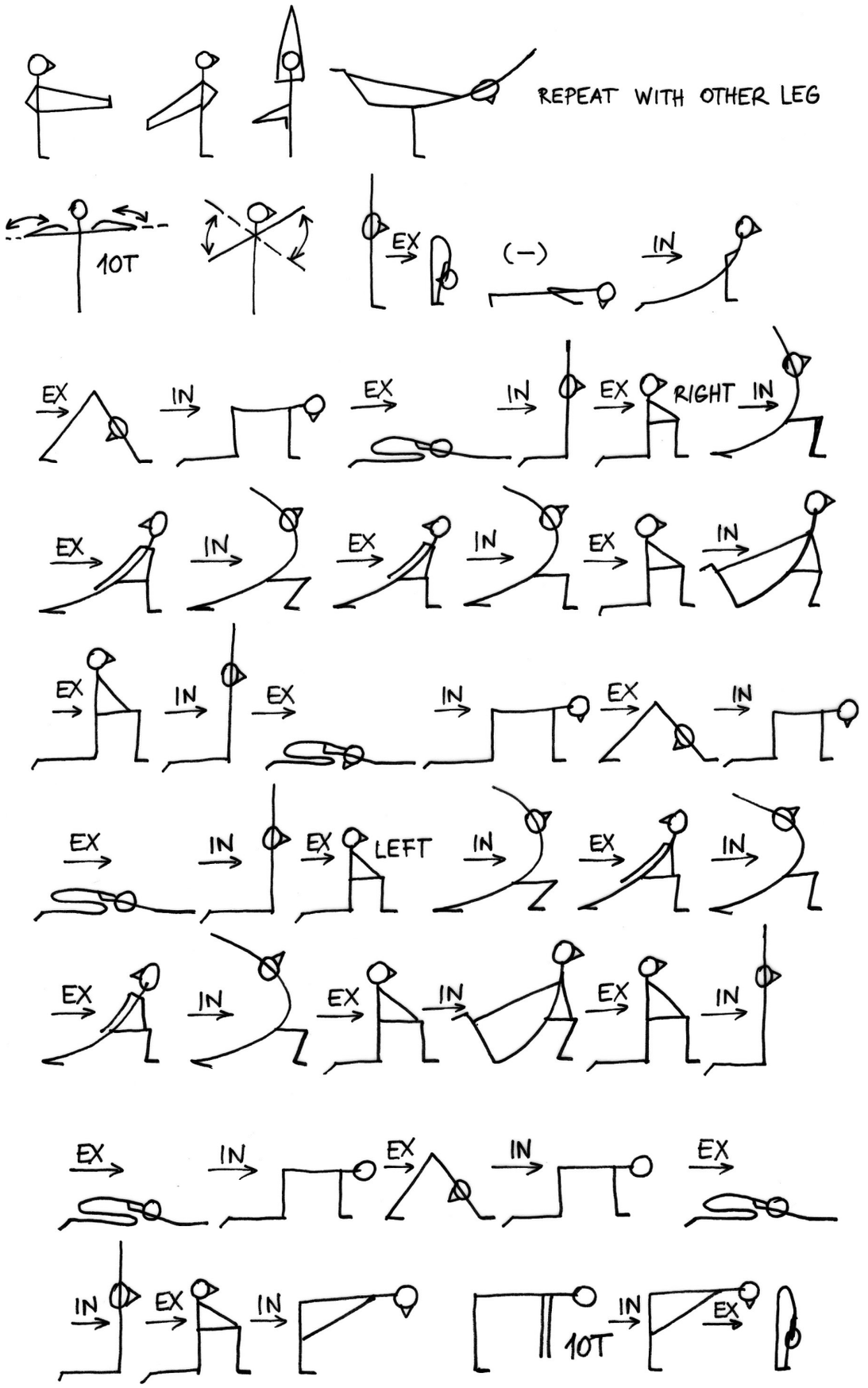




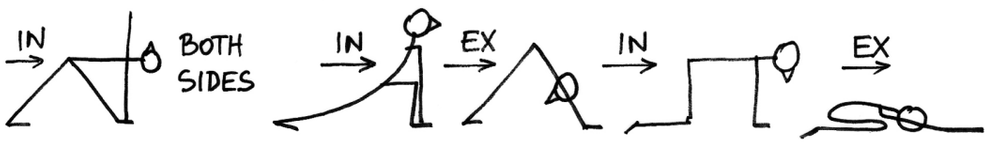


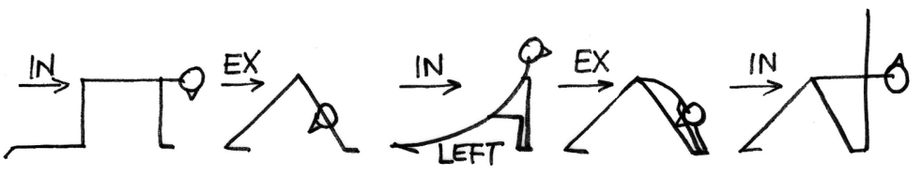


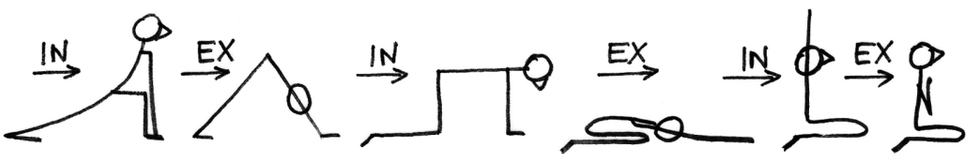



REPEAT WITH OTHER LEG
10T
EX
(–)
IN
EX
IN
EX
IN
EX
RIGHT
IN
EX
IN
EX
IN
EX
IN
EX
IN
EX
IN
EX
IN
EX
LEFT
IN
EX
IN
EX
IN
EX
IN
EX
IN
EX
IN
EX
IN
EX
IN
EX
10T
IN
EX

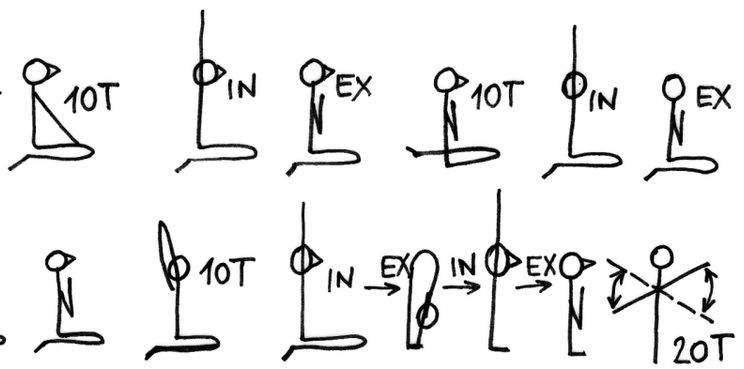






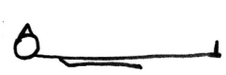
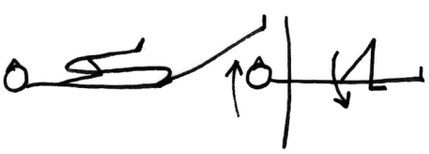


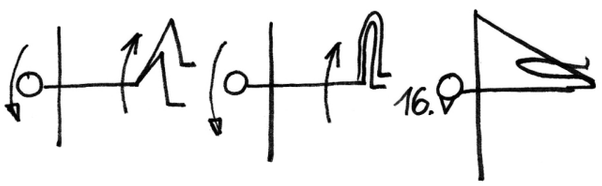
7. Kapālabhāti

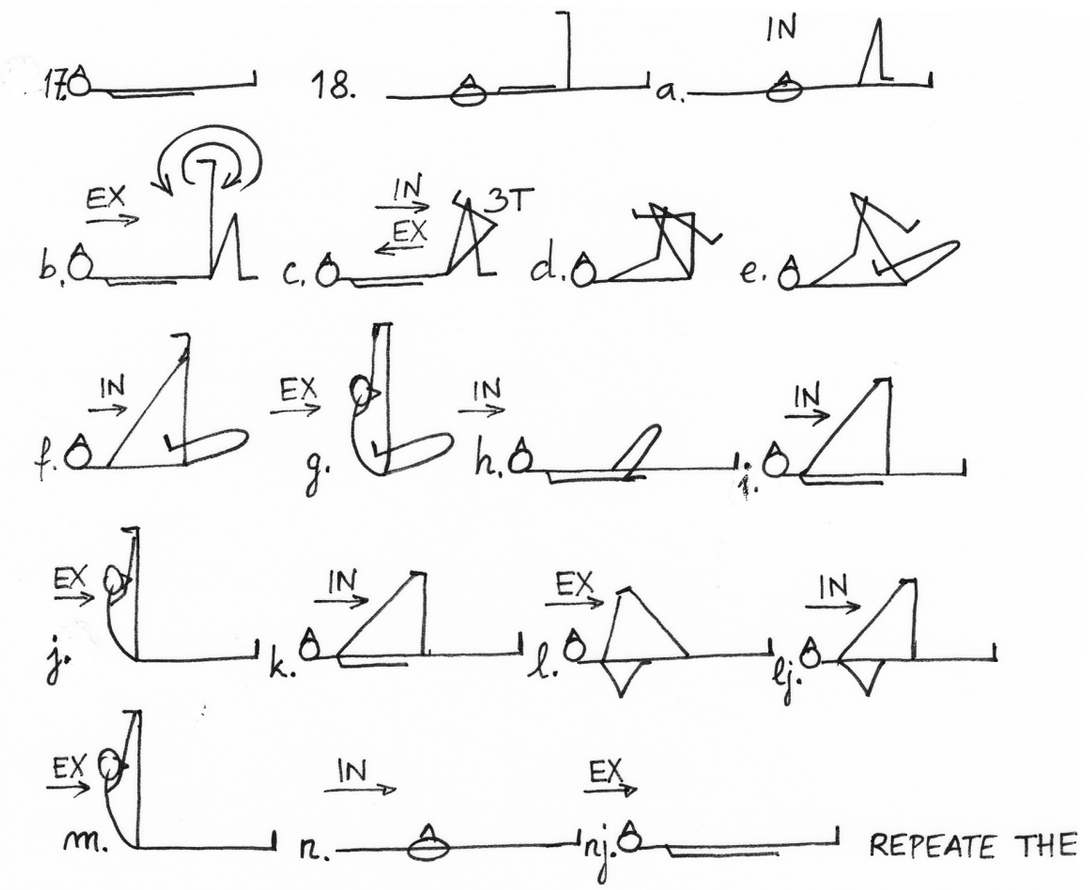


8. Mahā-bandha 5-10T 9. Aśvini-mudra 5-10T

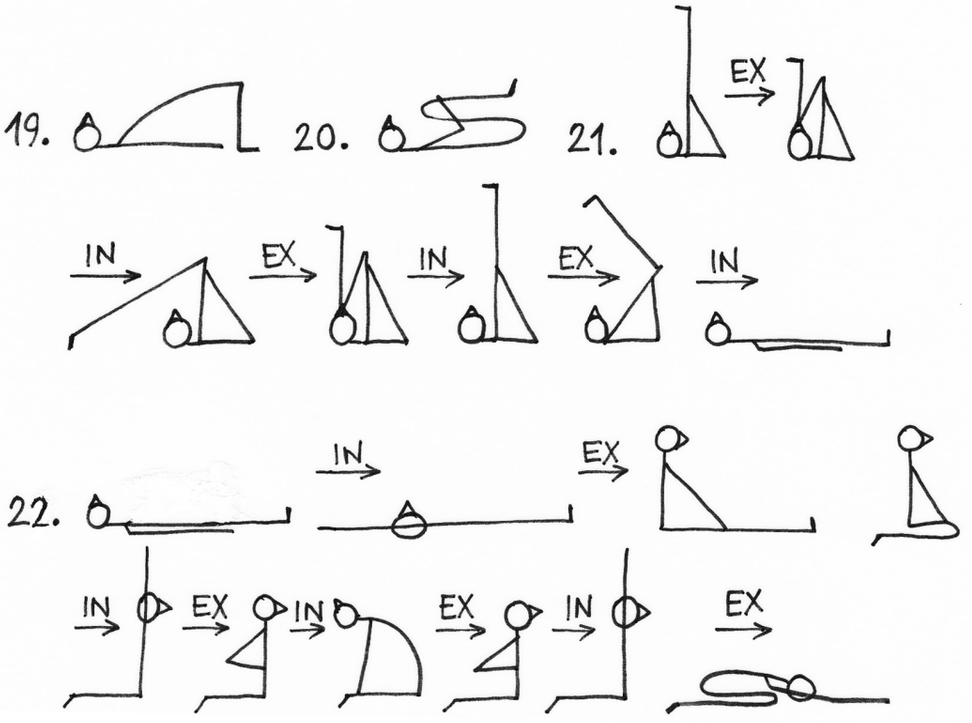
10. Sūryanamaskāram A-4T and D-2T with mantra

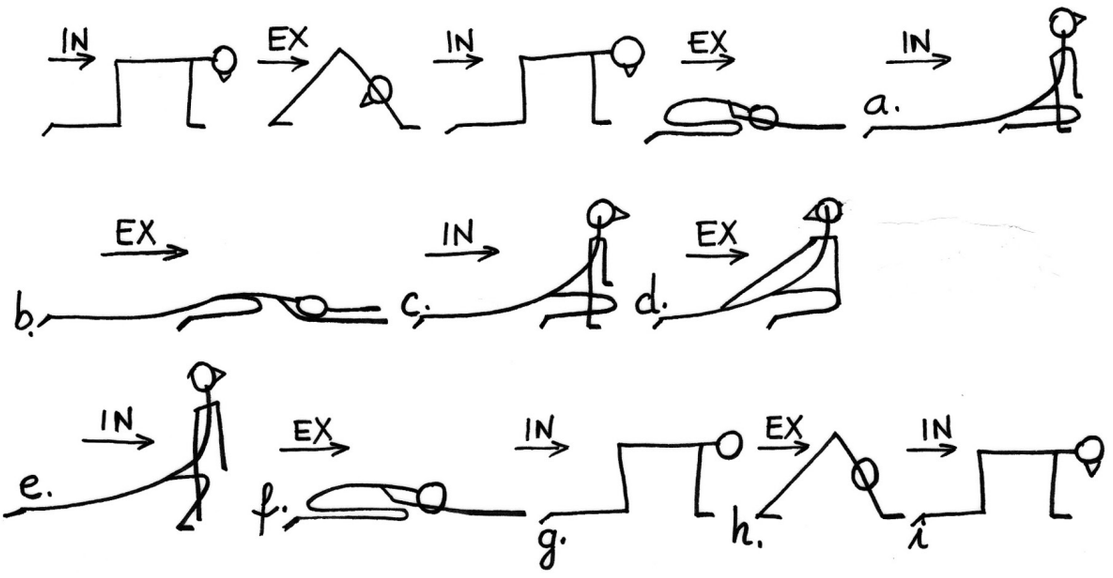
11.  12.  13. 

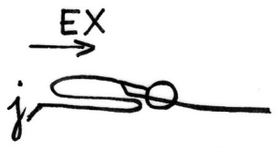
14.  15. 



SEQUENCE FROM a. TO nj. WITH OTHER LEG.(SIDE).

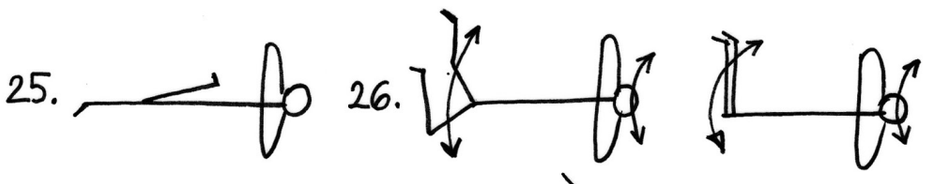


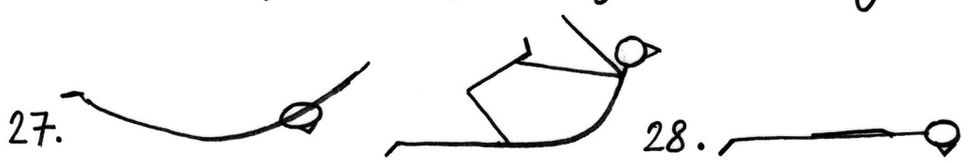


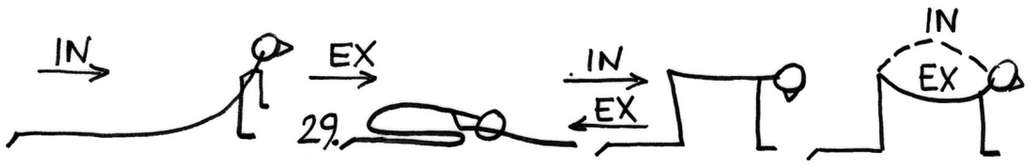


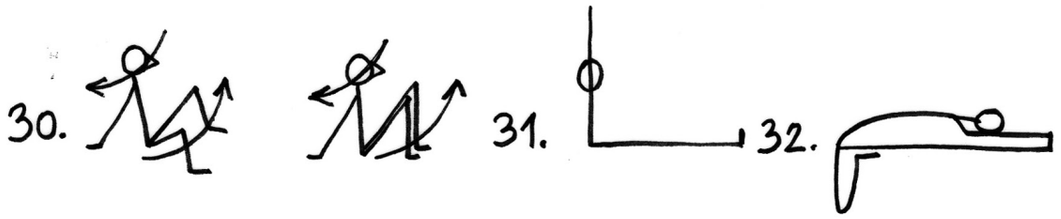
REPEATE THE SEQUENCE FROM a. TO j. WITH OTHER LEG (SIDE).

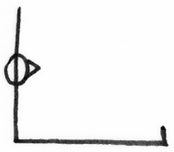
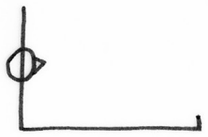










33.  34.   35. 

36.  37.  STAY 10 MIN.

38. FAST PRANAYAMA 2 MIN.

39. NĀḌĪ ŚODHANA PRĀNĀYĀMA 5 MIN.

40. TRANSCENDENTAL MEDITATION 20 TO 30 MIN.

Science of vedic yoga – advanced sequence 2

The sequence is structured in accordance with the Vedic principles of proper sequencing in the Asana-practise. Between each asana do Ānandāsana for 10 to 15 seconds. Before Ānandāsana do fish relaxation few times to remove tension from neck, spine, joints and limbs. Sequence involves mind, body and breath and influences all 5 kośas of the body (sthūla-śarīra - gross physical body: annamaya-kośa; liṅga- śarīra/ sūkṣma-śarīra - subtle, astral, mental body: prāṇamaya-kośa, mano-maya- kośa, vijñānamaya- kośa/buddhimaya-kośa; kāraṇa-śarīra - causal body: ānandamaya-kośa. All asanas woman starts from the left side and man from the right side of the body. All asanas in the sequence should be modified according to the psycho-physical and constitutional conditions of the person. Only then the practice of yoga asana will have therapeutic effect. Before starting the sequence, do Ānandāsana (bliss posture) and stretch the whole body to centralize position of navel (Brahmasthan of the body). If the navel is in it's proper place than there is correct arrangements of all inner organs.

Before starting practising Advanced Sequence No.2 it is important that person learn and feel comfortable with the practice of Advanced Sequence No.1 for at least 1 year.

1. Sukhāsana - comfortable (sitting) posture with Ujjāyī breathing (restructuring the proper position of spine and body by breathing) - holding as convenient.
2. Peace chant- Saha nāvavatu...; Asato ma Sat gamaya...; Pūrṇamadah pūrṇamidam... (sound and meaning effect).
3. Sankalpa - resolution (meaning effect) - holding as convenient

„In Thy presence, O Lord,
Filled with Thy grace,
I am starting Yoga Asanas.
Grant me good health, energy,
And efficiency in life.
I feel Thy grace,
Thy divine presence. "

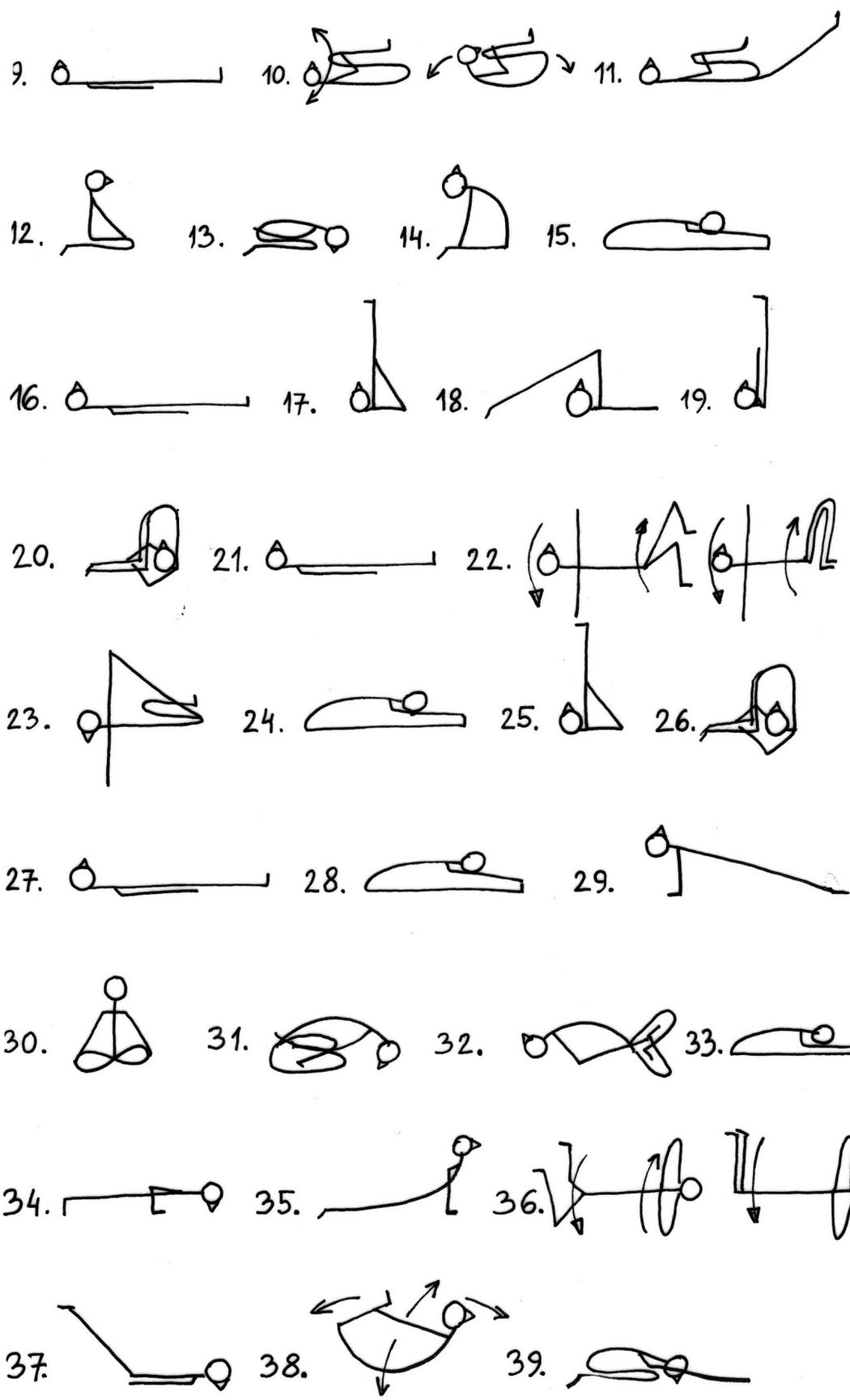
4. Saṁvāhan and Marma massage - massage as convenient.
5. Aṣṭa Sandhi Vimochana kriyā - eight joint release exercise (repeat each movement 3 times).
6. Bhastrikā prāṇāyāma - blacksmith's bellows prāṇāyāma - moving hands in all directions while bending the knees.
7. Kapālabhāti prāṇāyāma - shining skull - 4 series of 20 breaths in Vajrāsana and 30 breaths in Tāḍāsana while twisting.
8. Sūryanamaskāram - Sun salutation variations A, B, C, D (repeat variation A two times with bija Sun mantra, repeat variation B one time with practising Maha bandha in Adhomukh asvanasana, continue with Horse Power Prānāyāma - Aśvini-mudrā – hors seal (practice in standing posture, repeat 5 - 10 times), then repeat variation C one time with repetition of bija Sun mantra during exhale in chakras along the spine, repeat variation D one time with bija Sun mantra. Latter you can introduce longer variation of Sun mantra.
9. Ānandāsana - bliss posture (holding as convenient).
10. Vellan - rolling - 10 times left - right and 10 times forward – backward.

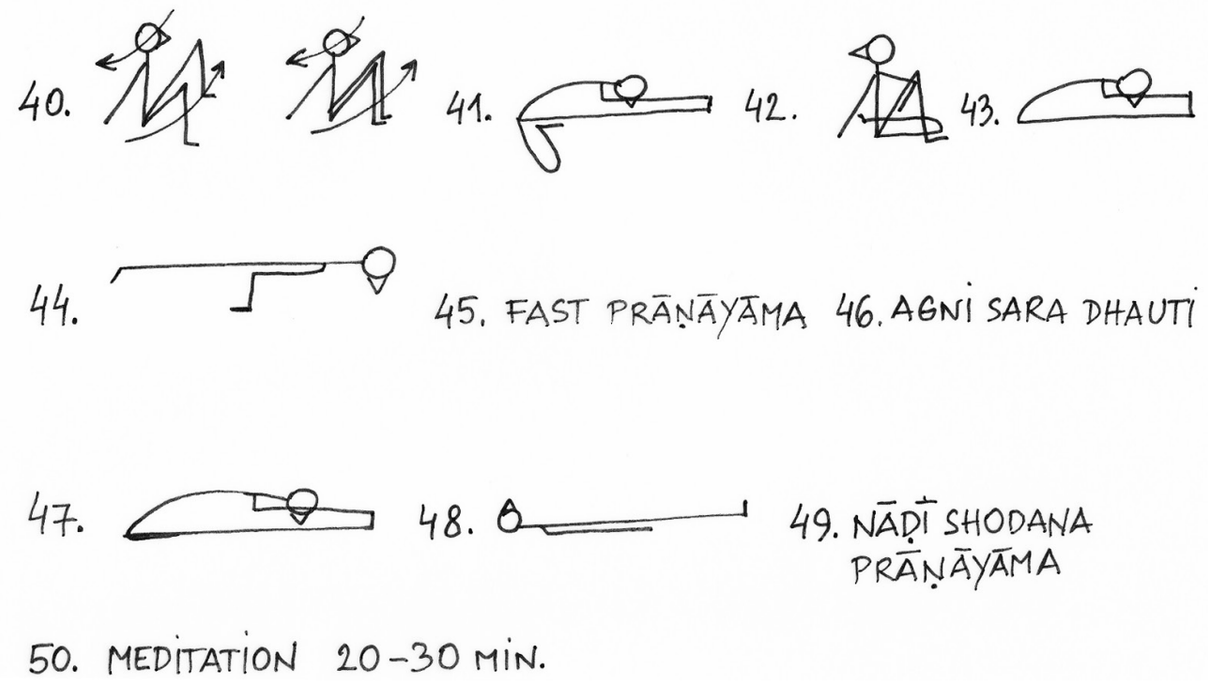
11. Pād Sanchalan - knee to chest exercises (10 times each leg).
12. Vajrāsana - diamond, kneeling posture (holding 3 breaths).
13. Yoga Mudrā - yoga seal in Vajrāsana - repeat 1 to 3 times (holding 3 to 5 breaths).
14. Uṣṭrāsana - camel posture - repeat 1 to 3 times (holding 3 to 5 breaths).
15. Paśčimottānāsana - stretching the back (west) - holding 3 breaths.
16. Ānandāsana - bliss posture (holding as convenient).
17. Sarvāṅgāsana - inversion, shoulder stand (holding 6 breaths).
18. Halāsana - plough posture (holding 3 breaths).
19. Niralāmba Sarvāṅgāsana - shoulder stand without support (holding 3 breaths).
20. Karnapīdāsana - knee to ear posture (holding 3 breaths).
21. Ānandāsana - bliss posture (holding as convenient).
22. Aśvāsana - horse twisting exercise on back - 2 variations with knees bent (repeat each vari ation 6 times).
23. Ardha-Jatharaparivrttiasana - lying twist and lateral stretch (each side hold during 6 breaths). After repeat Apanasana 3 times.
24. Paśčimottānāsana - stretching the back (west) - holding 3 breaths.
25. Sarvāṅgāsana - inversion, shoulder stand (holding 6 breaths).
26. Karnapīdāsana - knee to ear posture (holding 6 breaths).
27. Ānandāsana - bliss posture (holding as convenient).
28. Paśčimottānāsana - stretching the back (west) - holding few sec.
29. Purvotānāsana – stretching the front (east) – holding few sec.
30. Padmāsana - lotus posture (holding 15 sec).
31. Yoga Mudrā - yoga seal in Padmāsana - repeat 1 to 3 times (holding 3 breaths).
32. Matsyāsana - fish posture in Padmāsana - holding 3 breaths, then raise head and shoulders from the ground and then lower body and stretch elbows by putting hands below opposite shoulder blades. Elbows and knees are touching floor.
33. Paśčimottānāsana - stretching the back (west) - holding 3 breaths.
34. Caturaṅgadaṇḍāsana - four-limbed stick posture.
35. Bhujaṅgāsana - cobra posture - 1 time static (hold during 6 breaths).
36. Aśvāsana - horse twisting exercise on stomach - 2 variations with knees bent (repeat each variation 6 times).
37. Śalabhāsana - locust posture - repeat 1 to 3 times (holding few sec).
38. Dhanurāsana - bow posture - holding few seconds and then swing 10 times forward - back- ward and 10 times left-right.
39. Ṣaṣankāsana - hare / Chakravākāsana - sunbird (repeat 3 times).
40. Aśvāsana - horse twisting exercise in sitting position - 2 variations with knees bend (repeat each variation 6 times).
41. Jānuśiršāsana - head to knee posture – each side 1 to 2 times dynamic, 1 time static (hold during 6 breaths).
42. Ardha Matsyendrāsana - Matsyendra (spinal twist) posture - 1 time to each side (hold during 6 breaths).
43. Paśčimottānāsana - stretching the back (west) - 1 to 2 times dynamic, 1 time static (hold during 3 breaths).

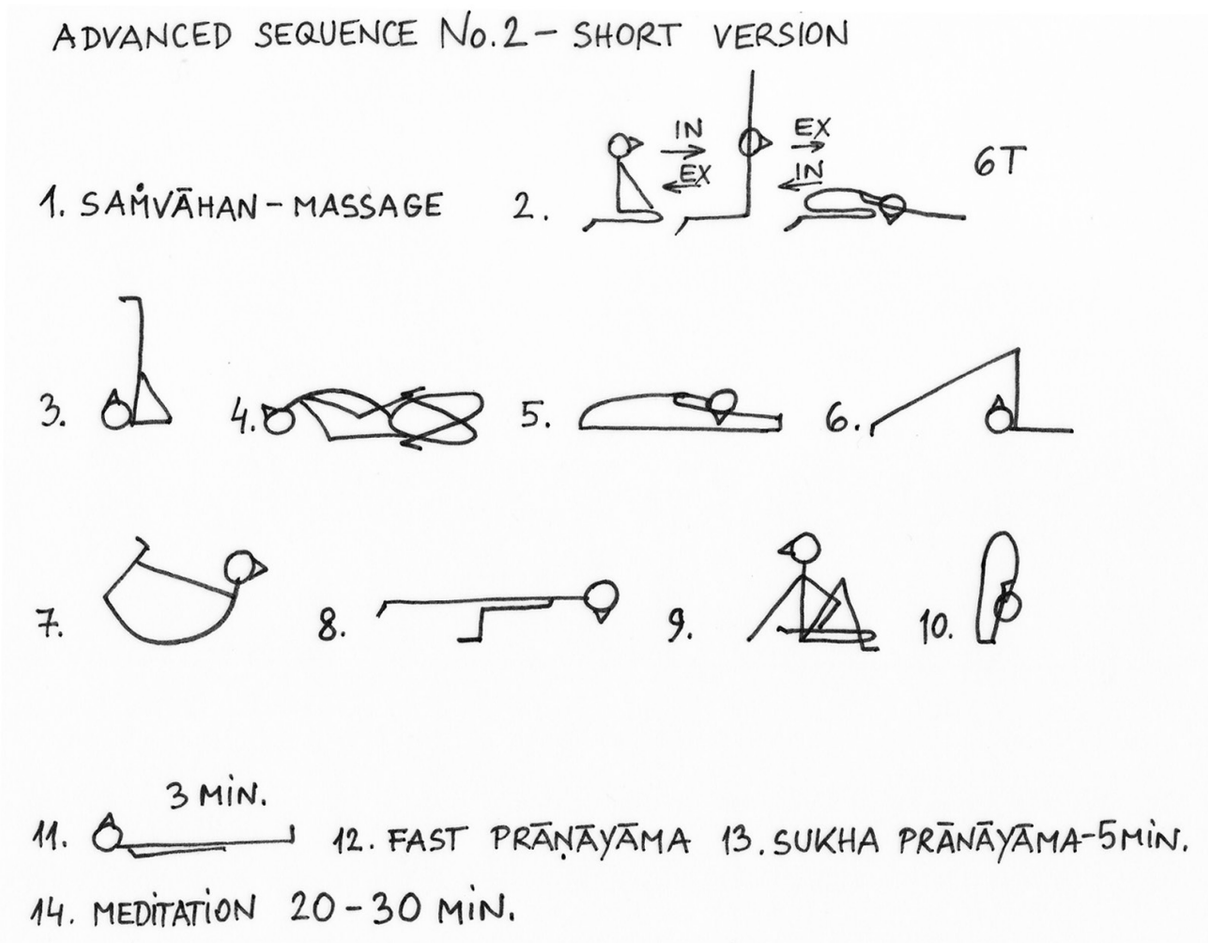
44. Mayurāsana - peacock posture (holding 5 sec).
45. Fast prāṇāyāma - alternative nostril fast prāṇāyāma (2 to 3 min.).
46. Agnisāra Dhauti - cleaning with digestive fire (3 series of 20 pulling abdomen in and out).
47. Paśčimottānāsana - stretching the back (west) - 1 to 2 times dynamic, 1 time static (hold during 3 breaths).
48. Ānandāsana - bliss posture (holding for 5 min.).
49. Nāḍī-śodhana prāṇāyāma - breathing exercise for purification of the nāḍīs) - 5 min.
50. Meditation - (20 to 30 min.). Experiencing Samādhi.

Note:

Asana that generate high levels of energy (in the sequence from 1 - 8) are better performed in the morning, since these asanas provide enormous amounts of energy for the utilization during the activities of the day. On the other hand, the relaxing asanas (in the sequence from 9 - 50), are appropriately practiced in the evening to provide the conditions for healing and recuperation of the body.


9.
10.
11.
12.
13.
14.
15.
16.
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.
27.
28.
29.
30.
31.
32.
33.
34.
35.
36.
37.
38.
39.


40.
41.
42.
43.
44.
45. FAST PRĀṆĀYĀMA
46. AGNI SARA DHAUTI
47.
48.
49. NĀḌĪ SHODANA PRĀṆĀYĀMA
50. MEDITATION 20-30 MIN.


ADVANCED SEQUENCE No.2 - SHORT VERSION
1. SAṂVĀHAN - MASSAGE
2.
IN
EX
EX
IN
6T
3.
4.
5.
6.
7.
8.
9.
10.
3 MIN.
11.
12. FAST PRĀṆĀYĀMA
13. SUKHA PRĀNĀYĀMA-5MIN.
14. MEDITATION 20-30 MIN.

Science of vedic yoga – advanced sequence 3

The sequence is structured in accord with the Vedic principles of proper sequencing in the Asana-practise. Between each asana do Ānandāsana for 10 to 15 seconds. Before Ānandāsana do fish relaxation few times to remove tension from neck, spine, joints and limbs. Sequence involves mind, body and breath and influences all 5 kośas of the body (sthūla-śarīra - gross physical body: annamaya-kośa; liṅga- śarīra/ sūkṣma-śarīra - subtle, mental, astral body: prāṇamaya-kośa, manomaya- kośa, vijñānamaya-kośa/buddhimaya-kośa; kāraṇa-śarīra - causal body: ānandamaya-kośa. All asanas ladies start with left side and man with right side of the body. All asanas in the sequence should be modified according to the psycho-physical and constitutional condition of the person. Only then the practice of yoga asana will have therapeutic effect. Before starting the sequence first asume Ānandāsana (bliss posture), and stretch whole body to centralize position of navel (Brahmasthan of the body). If the navel is in it's proper place than there is correct arrangements of all inner organs.

Before starting practising Advanced Sequence No.3 it is important that person learn and feel comfortable with the practice of Advanced Sequence No.2 for at least 2 years.

1. Sukhāsana - comfortable (sitting) posture with Ujjāyī breathing (restructuring the proper position of spine and body by breathing) - holding as convenient.
2. Peace chant- Saha nāvavatu...; Asato ma Sat gamaya...; Pūrṇamadah pūrṇamidam...; Gāyatri mantra (sound and meaning effect).
3. Sankalpa - resolution (meaning effect) - holding as convenient.

„In Thy presence, O Lord,
Filled with Thy grace,
I am starting Yoga Asanas.
Grant me good health, energy,
And efficiency in life.
I feel Thy grace,
Thy divine presence."

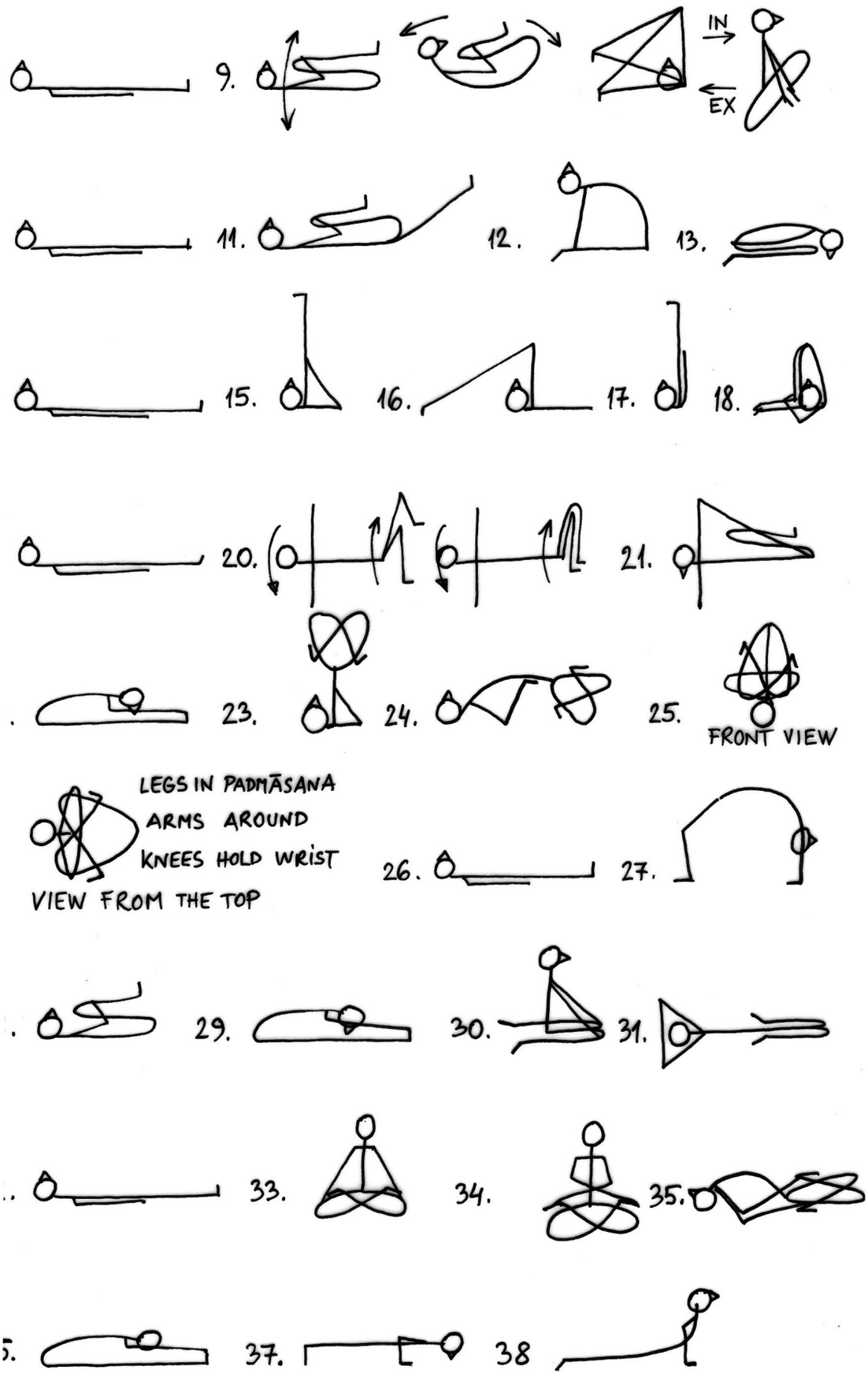
4. Saṁvāhan and Marma massage - massage as convenient.
5. Aṣṭa Sandhi Vimochana kriyā - eight joint release exercises (moving all joints at the same time while moving the spine in a wave motion).
6. Bhastrikā prāṇāyāma - blacksmith's bellows prāṇāyāma - during walking while moving all limbs in all sides.
7. Sūryanamaskāram - Sun salutation variation A (repeat 3 times - 2 times with long Sun mantra and 1 time with Kapālabhāti prāṇāyāma while moving the body). In variation B in Adhomukhasvanasana after every second exhale do Mahā-bandha and in variation C during stay in Adhomukhaśvānāsana (downward dog posture) for 6 breaths repeat with each exhale Sun mantras (long mantra). Then in Padmasana do Horse Power Prānāyāma - Aśvini-mudrā – hors seal (repeat 5 - 10 times). Repeat one time variation D with Sun mantras (long mantra).
8. Ānandāsana - bliss posture (holding as convenient).
9. Vellan - rolling to left and right - 10 times each side and 10 times forward-backward (Baddha Konasana/Supta Konasana).

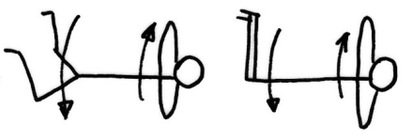
10. Ānandāsana - bliss posture (holding as convenient).
11. Pād Sanchalan - knee to chest exercises (10 times each leg).
12. Uṣṭrāsana - camel posture (holding during 6 breaths).
13. Yoga Mudrā (Vajrāsana) - yoga seal in Vajrāsana (holding 6 breaths).
14. Ānandāsana - bliss posture (holding as convenient).
15. Sālamba Sarvāṅgāsana – inversion (holding 6 breaths).
16. Halāsana - plough posture (holding 3 breaths).
17. Niralāmba Sarvāṅgāsana - shoulder stand without support (holding 6 breaths).
18. Karnapīdāsana - knee to ear posture (holding 6 breaths).
19. Ānandāsana - bliss posture (holding as convenient).
20. Aśvāsana - horse twisting exercise on back - 2 variations with knees bent (repeat each variation 6 times).
21. Ardha-Jatharaparivrttiasana - lying twist and lateral stretch (each side hold during 6 breaths). After repeat Apanasana 3 times.
22. Paśčimottānāsana - stretching the back (west) - 1 to 2 times dynamic, 1 time static (hold during 6 breaths), then rest in Anandasana.
23. Ūrdhva Padmāsana in Sarvāṅgāsana - shoulder stand with legs in Padmāsana (holding 3 breaths).
24. Setu Bandha Ūrdhva Padmāsana - formation of bridge from shoulder stand with legs in Padmāsana (holding for 3 breaths).
25. Piṇḍāsana in Sarvāṅgāsana - position of fetus in shoulder stand with legs in Padmāsana (holding 3 breaths).
26. Ānandāsana - bliss posture (holding as convenient).
27. Ūrdhva Dhanurāsana - bridge posture (holding 3 breaths).
28. Apānāsana - posture for elimination of apana (3 to 6 times dynamic).
29. Paśčimottānāsana - stretching the back (west) - 1 to 2 times dynamic, 1 time static (hold during 3 breaths).
30. Virāsana - hero posture (holding 3 breaths).
31. Supta Virāsana - hero lying on the back posture (holding 3 breaths).
32. Anandasana - bliss posture (holding as convenient).
33. Padmāsana - lotus posture (holding 3 breaths).
34. Baddha Padmāsana - bound lotus posture (holding 3 breaths).
34. Yoga Mudrā (Baddha Padmāsana) - yoga seal in baddha padma asana (holding 5 to 10 sec).
35. Matsyāsana - fish posture with legs in Padmāsana - holding 3 breaths (same variation as in Advanced sequence No.2).
36. Paśčimottānāsana - stretching the back (west) - 1 to 2 times dynamic, 1 time static (hold during 3 breaths).
37. Caturaṅgadaṇḍāsana - four-limbed stick posture.
38. Bhujaṅgāsana - cobra pose - 1 time static (hold during 3 breaths).
39. Aśvāsana - horse twisting exercise on stomach - 2 variations with knees bent (repeat each variation 6 times).
40. Śalabhāsana - locust posture (repeat 1 to 3 times).

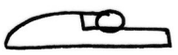
41. Dhanurāsana – bow posture - holding few seconds and then swing 10 times forward - back ward and 10 times left-right.
42. Ānandāsana - bliss posture (holding as convenient).
43. Apānāsana - posture for elimination of apana (3 to 6 times dynamic).
44. Aśvāsana - horse twisting exercise in sitting position - 2 variations with knees bend (repeat each variation 6 times).
45. Paśčimottānāsana - stretching the back (west) - 1 to 2 times dynamic, 1 time static (holding 3 breaths).
46. Jānuśiršāsana - head to knee posture - each side 1 to 2 times dynamic, 1 time static (holding 3 breaths).
47. Mahā mudrā - head to knee posture (1 time each leg).
48. Paripurna Matsyendrāsana - complete Matsyendra posture - 1 time to each side (holding 5 to 10 sec).
49. Samkatāsana - feet pressed to sides of pelvis - each variation holding 3 breaths.
50. Padmāsana Ūrdhva Mukha - raised lotus position facing up - holding 3 breaths.
51. Mayurāsana - peacock posture in Padmāsana - holding 3 breaths.
52. Simhāsana - lion posture in Padmāsana - holding 3 breaths (during every exhale make roaring sound like a lion).
53. Fast prāṇāyāma - alternative nostril fast prāṇāyāma (3 - 4 min.).
54. Agnisara Dhauti - cleaning with digestive fire (3 series of 20 pulling abdomen in and out). Practice in Padmasana.
55. Nauli - abdominal muscles move in a surging motion 3 series of 5 times each direction. Practice in Padmasana.
56. Paśčimottānāsana - stretching the back (west) - 1 to 2 times dynamic, 1 time static (hold during 3 breaths).
57. Ānandāsana - bliss posture (holding 5 to 10 min.).
58. Shanmukha mudra with Brahmari pranayama (repeat six breaths).
59. Nāḍī-śodhana prāṇāyāma - breathing exercise for purification of the nāḍīs) - 5 min.
60. Meditation - (20 to 30 min.). Experiencing Samādhi.

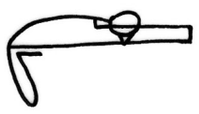
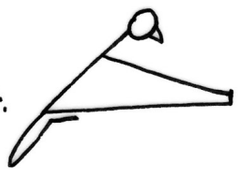
Note:

Asana that generate high levels of energy (in the sequence from 1 - 7) are better performed in the morning, since these asanas provide enormous amounts of energy for the utilization during the activities of the day. On the other hand, the relaxing asanas (in the sequence from 8 - 60), are appropriately practiced in the evening to provide the conditions for healing and recuperation of the body.


9.
IN
EX
11.
12.
13.
15.
16.
17.
18.
20.
21.
23.
24.
25.
FRONT VIEW
LEGS IN PADMĀSANA
ARMS AROUND
KNEES HOLD WRIST
VIEW FROM THE TOP
26.
27.
29.
30.
31.
33.
34.
35.
37.
38

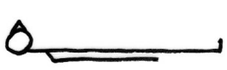
39.  40.  41. 

42.  43.  44.  45. 

46.  47.  48.  49. 

50.  51.  52. 

53. FAST PRĀṆĀYĀMA 54. AGNISARA DHAUTI 55. NAULI

56.  57. 

58. SHANMUKHA MUDRA WITH BRAHMARI PRĀṆĀYĀMA - REPEAT 6 BREATHS

59. NĀḌĪ ŚODHANA PRĀṆĀYĀMA - 5 MIN.

60. MEDITATION - 20 TO 30 MIN.

Personalizing the practice of asanas

Personalization is the process of adapting the yoga practice to the situation and demand of our mind and body. We modify the plan of movements and breathing during the asana practice to maximize the effectiveness of asana on us. We should never force ourselves into the ideal position depicted for an asana. We must look to the asana's purpose, not its form. If we do not have the level of fitness required to remain in the position comfortably and do long and smooth breathing, we must modify that asana to make it easier for us to do it. Personalization must continuously make room for progress. Personalization can involve changes in the following elements that constitute the practice of yoga asana: Mula (base of asana), Desha (part – range of movement), Kala (time – duration of movement), Shakti (force behind the movement), and Marga (direction of the movement).

The concept of brmhana and langhana in yoga and ayurveda

We can do a posture in its simplest form, dynamically with slow breathing or we can, for example in Uttanasana bend down on exhalation while pulling in the abdomen and remain down, holding the breath for 5 to 6 seconds. Such retention after exhalation increases the posture's effect on the abdomen. This is called Langhana. Langhana means “to fast”. In this case we are fasting. In the lungs the effect of purification / reduction occurs. Langhana practices include forward-bending, slow movements, and chanting softly and/or in a lower pitch. Whenever there is a problem below diaphragm, we do Langhana. Langhana helps to increase the function of agni by removing the wastes (ama) that impair the functioning of agni.

On the other hand, if we hold the breath after inhale, then the effect on the chest is increased. This is called Brmhana. Brmhana means “to expand”. It has a strengthening effect. Brmhana practices include backward-bending, fast movements and chanting loudly and/or in a higher pitch. Brmhana practices nourish the body and add to the body tissues. We can use retention of the breath to increase the duration of inhalation and exhalation. Holding the breath after we inhale has effect of increasing the length of inhalation, and holding the breath after we exhale can be used to increase the length of exhalation.

This principle of Langhana and Brmhana should be applied after careful consideration of the person. For Brmhana to be effective, the agni has to be functioning properly. In almost all cases we first apply the Langhana principle and then Brmhana. In many diseased states, Langhana is usually required first to remove the blockage in the functioning of the agni. Only then will be Brmhana possible at all. Even in a situation where Brmhana is necessary, it may be good to start with mild Langhana first. In Ayurveda, the Panchakarma procedure of purifying the body from toxins is Langhana and should always be done before taking Rasayanas (Brmhana principle) for strengthening the physiology.

The seven steps of mastering yoga asana

Mastering yoga asanas is the process of simultaneous development on a horizontal and vertical level. On a horizontal level, mastering yoga asana means developing the stability and flexibility, to be able to assume many varieties of yoga asanas. Mastering yoga asanas on a vertical level is in developing inner awareness within one asana, to be able to consciously experience the effect of the practice on all koshas of your body, while staying in a particular asana. This is practice of yoga in higher dimensions. The apostole Paul said in his Epistle to the Ephesians (3:17, 3:18): "...that you, being rooted and grounded in love, may be able to comprehend, with all the saints, what is width, length, depth, and height...". Width, length, depth, and height are the four dimensions of space and time is the fifth dimension. With development of inner awareness yogi can perceive space within any number of dimensions. For this there are seven steps of developing inner awareness in yoga asana. On all levels of progress, there must be more refined values of the wholeness of mind, breath, and body.

- Mastering Ujjayi breathing – victorious breath: Connecting mind with breath and the muscles responsible for breathing. The purpose is to master the proper movement (expansion and contraction) of the rib-cage during breathing, to develop inner awareness of all muscles involved in the breathing process. Developing inner awareness and connection of mind, breath and action of the muscles responsible for breathing, should be on the level of the feeling, because this makes us more present in "the Now". The more we are consciously present in the Now, the fewer thoughts we have, and the more we feel an upsurge of inner energy, enthusiasm, and happiness in mind and body. The Self is the experience of pure presence ("Totally Now") and thus it is the state of infinite bliss (Ananda). Different thoughts in our mind overshadow the experience of presence and bliss. The Ujjayi sound is the mantra in the practice of yoga asana. Whenever we feel that the mind is on something else (some thoughts), then we bring back the attention to the Ujjayi sound. Practice Ujjayi pranayama in Sukhasana. You can practice this at the beginning of each sequence of asana.

- Breath moves the spine: Further development of inner awareness is achieved by connecting the mind with the Ujjayi sound ("mantra"), the action of the muscles responsible for breathing, and the movement of the spine (including the muscles connected to the spine that are influenced by every inhale and exhale). The inhale stretches the thorax area of the spine and the exhale stretches the lumbal area. We can also do this in Sukhasana before starting the asana practice.

- Breath moves the body: The next stage of development of inner awareness is by connecting the mind with breath and feeling how after 2 or 3 seconds of breathing, it influences the movement of the spine. Then we add the movement of the limbs of the body to support the initial movement of the spine in the direction which was initiated by the action of the breath. While continuing the movement of the limbs, guided by the breath, have the attention on the breath and the area that is being stretched. Another important principle is that the movement starts from that part of the body from where the breathing starts. Inhale starts from the chest and exhale starts from the lower abdomen. This can be practiced in Sa mastithi asana. Start by staying grounded and earth oriented, observe the breath, and vi - sualize the next step. Begin inhaling from the chest. This initially stretches upper back. Then after about 2 seconds, while continuing to inhale, add the movement of rising of arms to emphasize the stretching of the back. While raising the arms keep the chin down and hips and pelvis in a neutral position, so that you feel the stretch along the vertical axes of the spine. Feel the stretching of all the back muscles. Keep the arms and shoulders relaxed, so

that the action of raising the hands is centered on elongating the spine and activating and stretching all the muscles of the back. At the end of raising arms, continue the inhale for 2 more seconds. After completing the inhale, wait for 2 seconds. Then start exhaling by tightening the rectus abdominal muscle from the pubic bone and after 2 seconds, start lowering the hands and continue exhaling. Progressively tighten the abdominal muscles more and more, relaxing the diaphragm and squeeze the ribs as you completely lower the hands. After completing the downward movement of the arms, continue to exhale for another 2 seconds. Then wait for 2 seconds. This is how breath moves the body. Starting with breath prepares the part of the body which will be moved, so that the movement is safe and without effort. This principle should be constantly present in our awareness while practicing yoga asana. With breath we move the body on the outside, while inside we massage and do autochiropractica.

- Sthira sukham asanam: Bringing into awareness and applying this most important principle of proper practice of yoga asana, further develops our inner awareness and removes stress and tensions from our body. Many principles of the correct practice mentioned in this book (stabile base, movement in opposite directions, principle of gravity, moving in two axes at the same time, etc.) are slowly applied and mastered in the practice. On this level of development of inner awareness, it is necessary to practice Shatkarma kriyas, so that the body is purified. This will further improve the practice of asana and increase flexibility and strength. Practice asanas in both their dynamic and static variations. The purpose now is to develop holistic inner awareness, so that awareness of the specific part of the body that is being stretched and awareness of the whole body are maintained simultaneously. During asana practice having only attention on the area of stretching is not enough. We must have very faint intention to relax the area which is being stretched. Intention, desire, brings about transformation. Intention of relaxation accomplishes opening of nadis and marma points in the area of stretching and brings flow of ojas and bliss through that part of the body. With regular asana practice and by taking into account all principles of proper asana practice, your body will become structurally normal and free from tensions and stress. In this way, the asana practice on the level of Anna-maya kosha is mastered. Purpose of the practice of yoga asana is to strengthen all koshas, not only Anamaya kosha (gross physical body). Practice should conserve vital energy and direct it inward to energize our subtle bodies. All levels of our individual existence should be experienced as expression of Sat Chit Ananda (eternal bliss consciousness). The next step is to expand the inner awareness of Prana-maya kosha.

- Application of bandhas, mudras and kriyas in the practice of yoga asana: When our body is free from tensions and the curvatures of our spine are properly aligned, so that the chakras are also aligned and in proper distances to each other, then the nadis open up more and prana can circulate more freely. With the practice of Kriyas we purify our body of toxins, so that bandhas and mudras are more effective. We contract specific muscles (bandhas), with the intention to create mudras that will focus prana in certain regions of the body. This will strengthen our focus and one-pointedness of our mind. Bandhas are muscular locks that seal the energy in clearly defined parts of the body, in order to intensify its flow in a reduced area. Mudras are practices which help to create certain energy configurations. They intensify the energy movement that is already created by the posture and the breathing. Kriyas are techniques which promote powerful localized energy movements. These exercises awaken our inner awareness on the level of Prana-maya kosha. This can be practiced in Maha-bandha and Ashwini-mudra. Once the nadis and intermediary chakras have been purified, the divine light shining in the higher chakra has to be channeled to anahata chakra and from there to muladhara chakra. In this particular process, the descent of light is the moving force that will attract kundalini and make it rise. In this way you master the develop

ment of inner awareness on the level of Sthula sharira (gross physical body, comprised of anamaya and pranamaya kosha).

- Application of mantra: While holding an asana you connect specific mantras with chakras and parts of the body, according to the nature of the asana. When vibrations are produced in the form of mantras, then they reach certain centers of the subtle energy, located on the main axis of the electromagnetic envelope of the body, and enhance their natural har - monic vibrations. The mantras act as a reference axis. Their repetition brings what tends to deviate back into alignment, be it at the subtle level of mind, at the physical level of organic functioning, or even at the biological level of the cells. By constant application of a particular vibration (mantra), the mind absorbs the energy of that vibration and transfers it through the subtle nerves and the physical nervous system to the different organs of the body. With time, the nadis and chakras are purified and become receptive to the influx of spiritual energy transmitted through the mantras. Through the application of mantra, energy is re leased from the chakra and prana is distributed within the energy configuration created by the particular asana. Through application of bandhas, asanas are transformed in mudras. By applying mantras, Manomaya-kosha, Vijnana-maya kosha, and Ananda-maya kosha are being influenced. One's entire being (body, breath, prana, mind, intellect, feeling, ego and Self) is warmed up and consciously participates in the practice of asana. With this way of practice, the grantis are pierced, leading to perfect coordination between the shariras (st- hula sharira, linga sharira and karana sharira), and allowing the chakras to work harmonious- ly in a grid formation. The essence of the sixth level is to draw upon the divine grace, now that the three main grantis have been opened. On this level, the performance of asana is an act of doing puja (worship) to the Supreme Intelligence (God – Ishwarea) with all your being. Then the practice of yoga asanas is at the same time tapas, swadhyaya, and Ishvara pranidha- na. This is Kriya yoga. The practice of asana is asana, pranayama, and meditation in motion. This practice can be done during Suryanamaskar, using the Surya mantras. For example, in the ashtanganamaskar position, during Suryanamaskaram, we touch the ground with 8 parts of the body: Forehead (ego, intellect and mind), chest (pranasthan), 2 palms, 2 knees, and 2 feet. We are offering our mind and body, along with our breath (vital energy – prana) to Pu- rusha. Prakriti is bowing down to Purusha.

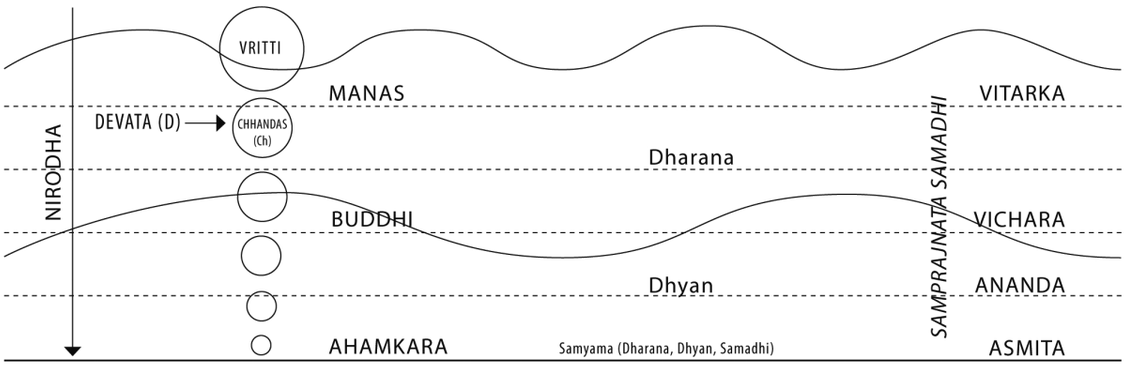
- Shiva nataraja: Development of inner awareness is on the level of the self-referral nature of Pure Consciousness. By practicing asanas as worship to God, more and more the experience of bliss starts to permeate every cell of our body. It develops perception of God conscious- ness. We start to recognize our body as the expression of Pure Consciousness and experi - ence the practice of asana as the self-referral movement of Pure Consciousness. As we move our body through different postures, we experience that Consciousness is moving within itself. Then the differences of mind (Rishi), breath (Devata), and body (Chhandas) are tran - scended, and we become moving Samhita (wholeness). Sat Chit Ananda on the move. This was the origin of all asanas – Shiva Nataraja (Shiva dancer). Then you are the master of yoga asanas. As Shiva dances on the Absolute level of life, like that, the individual moves his body. Then this performance of a sequence of yoga asanas is called Rishi sequence spontaneous improvisation, motivated from inside, as an expression of the Absolute level of life, through the movement of the body. Then our body spontaneously assumes positions of different bandhas and mudras. To reach that state, just like a dancer, we must first learn certain steps, then different combinations of steps, and then different sequences of the dance. Finally, this will bring us to a state in which we start to improvise our own sequence, expressing itself according to the present need of the body. In this way, the practice of yoga asanas can de - velop higher states of consciousness – Unity Consciousness.

It is important to understand that the practice of asana, pranayama, and meditation should all be started simultaneously, so that each practice suport the experience of the other practices. Refinement of the body will support the refinement of the breath and mind. Refinement of the breath will support the refinement of the body and mind, and refinement of the mind will bring about refinement of the breath and body. This mutual influence is possible because prana is also at the basis of the functioning of the mind and body. Yoga is concerned with the refinement of the prana. Only through refinement of prana can we can develop inner awareness, as described above. Also, the practice of Yoga, whether we practice asana, pranayama or meditation, must contain and fulfill the principles of all eight limbs of Yoga (Ashtanga Yoga) and progressively develop different states of Samadhi. "The Zone" is the state of perfect coordination of mind and body in which there is a complete unification of subject and object. This is the state of Samprajnata Samadhi which can be experienced on its more refined levels (Vitarka, Vichara, Ananda and Asmita).

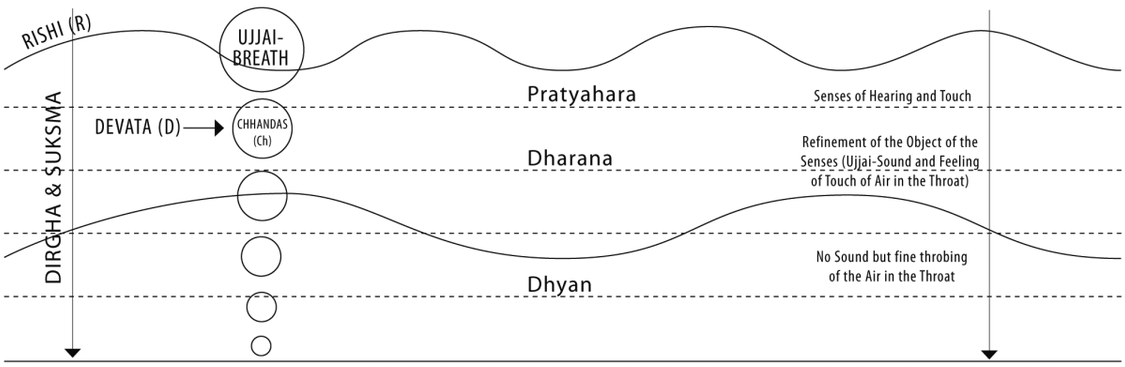
In yoga practice, two main principles are of great importance: Vasikara (mastery) and Vairagya (non-attachment). First, through 7 steps of mastering yoga asanas, we fully develop inner awareness of all levels of our body (vasikara). Then we leave (go beyond) the awareness of the body (vairagya). We also master pranayamas and then our awareness goes beyond breath. Through meditation we master our mind and then go beyond the mind, because our goal (Samadhi) is beyond every expressed value of life. The purpose of asana practice is to stop all movments, the purpose of pranayama is to stop breathing, and the purpose of meditation is to stop the activity of the mind. Through the practice of vasikara and vairagya we can reach perfection (siddhi).

STAGES OF DEVELOPMENT OF INNER AWARENESS IN THE SCIENCE OF VEDIC YOGA

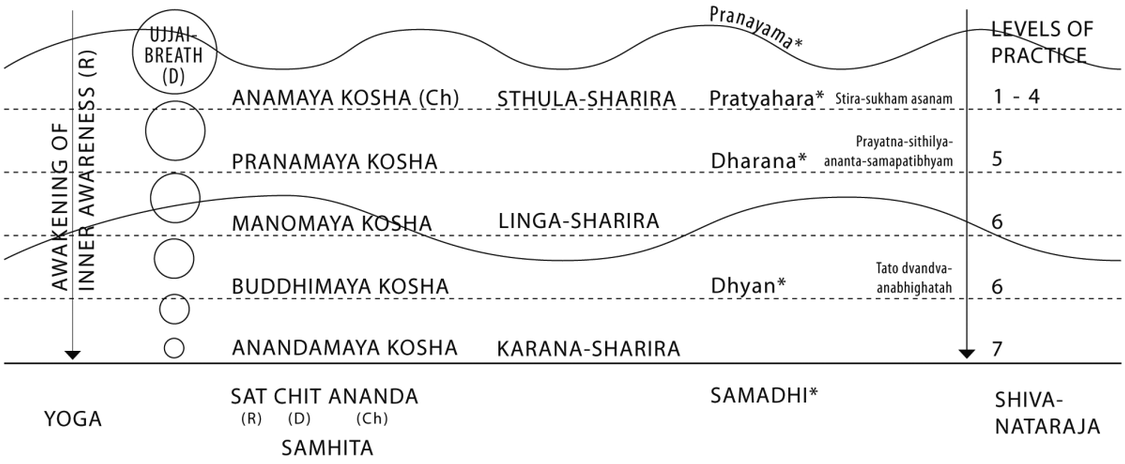
MIND/CHITTA -RISHI (R) Meditation *Antaranga Yoga: Dharana, Dhyan, Samadhi* *Picture 1*



BREATH -DEVATA (D) Pranayama *Picture 2*



BODY/KAYA -CHANDAS (Ch) Yama* Niyama* Asana* *Picture 3



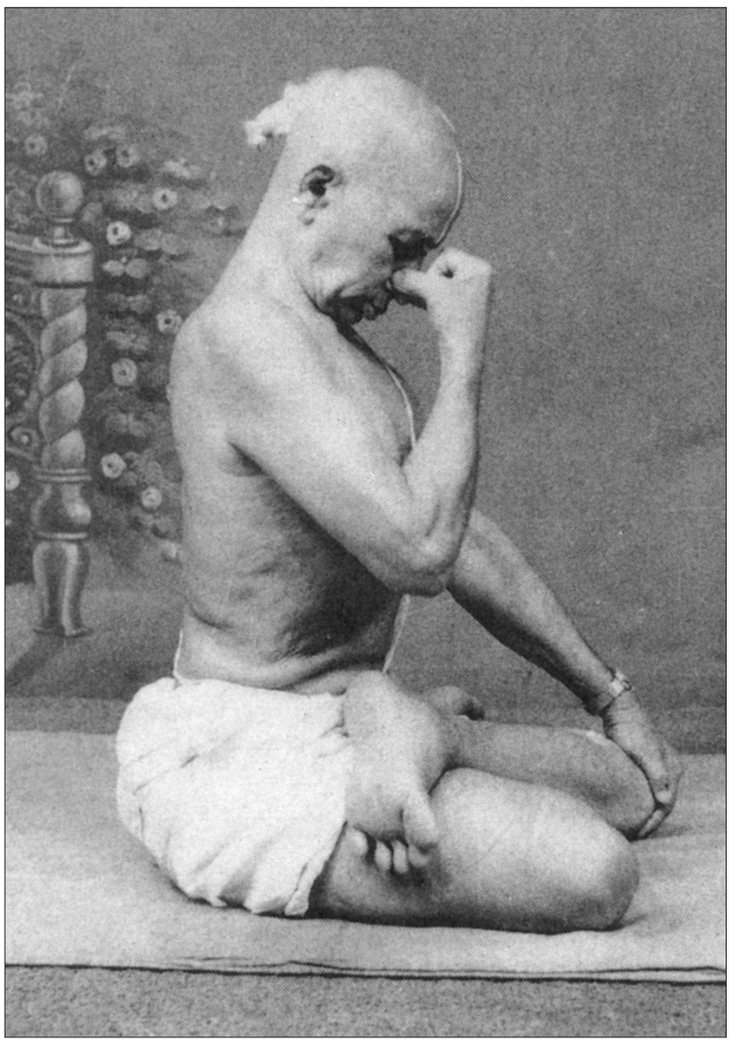
Bahiranga Yoga: Yama, Niyama, Asana, Pranayama, Pratyahara ** Ashtanga Yoga*



CHAPTER 4

PRANAYAMA

Pranayama is a Vedic breathing technique which stimulates and increases the vital energy, ultimately bringing about perfection and evenness of the soft flow of prana within the whole physiology. Prana is the vital force which pervades the whole universe. Prana is the link that connects consciousness and matter, Atma (individual Self) and the body. Pranayama connects the breath of individual life with the breath of Cosmic life. At every rise of the breath, Cosmic Prana receives the identity of individual life force and, at every fall of the breath, the stream of individual life contacts Cosmic Being. Between the fall and the rise of breath the state of individual life is in communion with Cosmic Being. The goal of Pranayama is to uphold the contact of the individual life stream with the eternal life of Cosmic Being, even as the breath continues to flow.

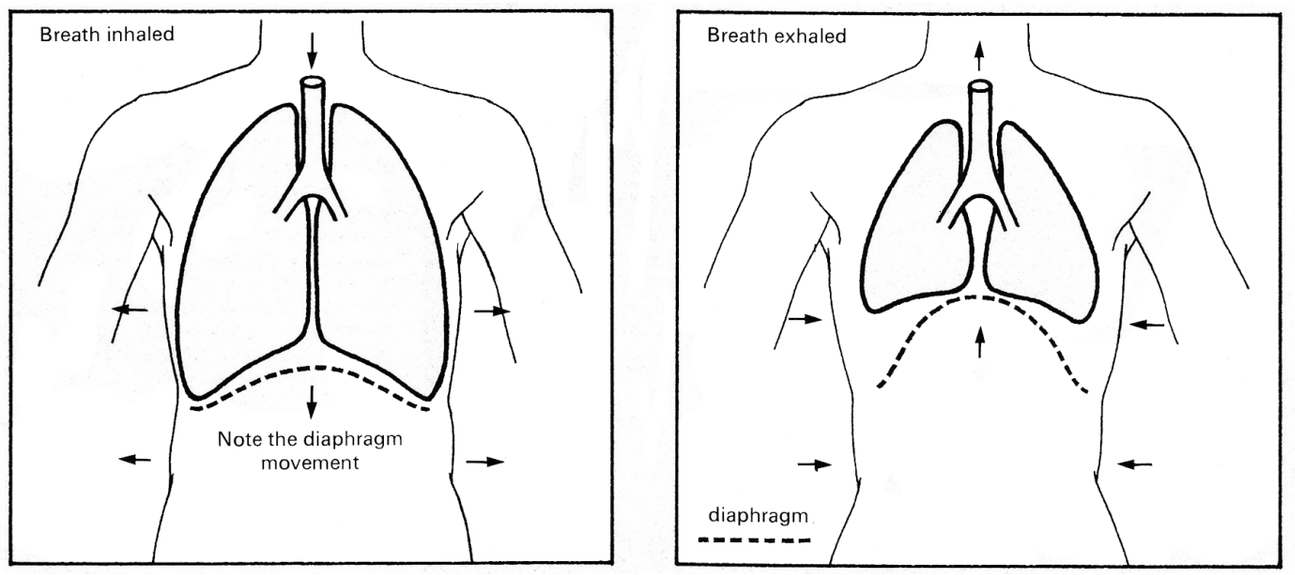


Shri T. Krishnamacharya during pranayama practice

Breathing is the link between body and mind. The breath can lead the body towards wellness and the mind towards calmness. Proper breathing produces an inner massage of the body. Pranayama bestows greater vitality and a long life. The importance of Pranayama in the path of yoga cannot be overstated. It plays a vital role as it influences both bodily health and mental well-being.

The respiratory function is both voluntary and involuntary. Normally our breathing is shallow and involuntary. In pranayama attempt is made to bring it under greater voluntary control, and thereby bring under control many other involuntary conditions of the body and mind and achieve certain

control ower one's own physiological functions. Respiratory function can be more easily influenced than any other vital function and the yogi uses it as a first step in his control of the nervous system. When cortical higher brain control is achieved over one basic function, it is possible to achieve control over other basic functions as vasomotor etc. It is therefore possible to dilate bronchial tubes in an asthmatic, reduce blood pressure or increase it, reduce the rate of heart beat all with the help of pranayama. Yogi is able to control by will many functions that are controlled in ordinary human beings by subcortical areas which is beyond one's voluntary control.



Conscious inhale

Conscious exhale

Pranayama is considered one of the most powerful aids to meditation in classical yoga. Through pranayama samadhi can be reached. Pranayama simply means to „lengthen the breath, to expand prana". Prana-nirodha corresponds to chitta-nirodha. The microcosmic wave function of individual prana expands to become the macrocosmic wave of Cosmic Prana. Making the breath long (dirgha) and subtle (sukshma), we expand individual prana to reach its Cosmic status. As the wave settles down it gains the strength of the unbounded ocean. Then we are connected with the unbounded reservoir of energy (Cosmic Prana) and intelligence. You can reach that state through meditation by refining mental activity, through pranayama, by refining the breath, or through yoga asana practice, by deepening the relaxation of the body. When individual prana expands and reaches the status of cosmic prana, then the individual mind reaches the status of the Cosmic Mind and the intelligence of the individual physiology (micro cosmos) gets in tune with Cosmic Intelligence of the Cosmic Physiology (macro cosmos). The simultaneous practice of meditation, pranayama, and yoga asana enhances the process of transcending and coming in tune with Cosmic Intelligence and Physiology. The result of this is perfect health – Svastha (established in wholeness).

By practicing pranayama, consciousness or awareness can be brought to the chakras and normalize the function of pranamaya kosha. In its basic form, pranayama consists of simply being aware of the breath. Through awareness, the breath naturally becomes smoother and less fragmented. The next step is to begin to regulate our breath, making it smooth and long. Regulation of the breath is the central principle in pranayama and can lead to the ability to suspend breathing. Movement can disturb the breath and distract our focus, so we must keep our body still while practicing pranayama. It is not sufficient to control the breath and still the body. The mind must also be focused. Classically, pranayama is done in a stable, seated position. Practicing asanas is useful for maintain-

ing wellness, but pranayama is necessary for maximizing the life span. If you practice asanas with control over the breath and also do long pranayama, your pulse rate should come down over time. This usually indicates a healthy heart and potential for a long life. The speed of breathing of a creature is a determining factor in its longevity. A turtle normally takes 4-5 breaths in a minute and it lives for 200-400 years. A human being normally takes an average of 16 breaths in a minute. With regular practice of pranayama a person starts breathing 8-10 times per minute. By practicing for a long time, it can come down 4-6 breaths per minute. This prolongs life span. It is the secret of the longevity of Rishis.

The Vedas and Vedic literature sing the eternal glory of pranayama. The famous sage Vyasa, in His commentary on the Yogasutras, said the following: *„There is no greater austerity than pranayama to remove impurities. Pranayama pushes out the impurities in the body and mind. Pranayama removes tamas. The body of the person practising pranayama becomes harmoniously developed, emits a sweet scent, and looks beautiful and lovely"*. In Caraka Sutrasthana it is mentioned that Kayacikitsa is the main medical system of Ayurveda. There are various procedures for the treatment of fire (agni) in Ayurveda. The science of yoga calls this fire by the name of prana. Therefore, if prana therapy, i.e. the treatment of these fires by pranayama, is administered, it will be the simplest, cheapest, most authentic, and scientific procedure.

The Upanishads state that prana and apana are the celestial physicians of the Gods, who administer their therapy to the whole universe. Death cannot attack in their presence. Wherever these godly physicians (prana and apana) will be present, i.e. whoever practices pranayama, will not die of diseases. One will achieve one's full longevity, conquer death, and die at will. As gross matter, impurities of metals like gold, etc. are destroyed when they are heated in fire, similarly the flaws of the senses and mind are also dispelled by pranayama.

Asana - pranayama link

Pranayama should be done in a pure, calm, quiet, and clean place, facing east or north. If possible, it should be practiced near some body of water. If there is air pollution, then a lamp of ghee should be lit up during pranayama. Ideally one should sit in Siddhasana, Sukhasana, or Padmasana with the spine held erect. During pranayama it is important that the back is straight. For that purpose we practice asana to correct the position of the spine, increase flexibility of the joints, and strengthen the back muscles. The sitting position for pranayama must be comfortable so that the body does not draw attention. Sthira sukha asana is the basis for sthira sukha pranayama. In asana we move the body by breath. In pranayama we accept the posture (asana) and forget the body. The only requirement is that we must keep our back straight and feel comfortable. We always rest for a few minutes after finishing our asanas, and then sit in a comfortable posture and do pranayama.



The place used for sitting should be a bad conductor of electricity, e.g. on a blanket or kusa-mat. Those who are unable to sit on the ground can practise pranayama while sitting in the chair. If one feels tired while doing pranayama, one should do some light exercises (sukshma vyayama) or take rest in between. All sitting positions with crossed legs (padmasana, sukhasana, etc.) are asymmetric postures, so one should change the position of the legs in the middle of the pranayama practice, in order to produce a symmetric influence on the hip joints. After practicing Pranayama the body should be given rest in Anandasana for a while.

Prana and kundalini

The Absolute manifests itself as prana, on which is based the growth of thought, which in turn develops into a desire, leading to action. When the action is completed, the fruit of the action marks the full growth of the tree of though or desire. The experience of the fruit of an action leaves an impression which, like the concentrated seed is capable of giving rise to future desires and actions. Prana, the primal energy which underlies the whole of creation (physical and mental), is said to be the life-breath of the universe, that which causes all things to move. Prana is the tendency of the unmanifest to manifest, the tendency of pure still Creative Intelligence to vibrate and become many. Assuming a subjective nature, prana becomes mind. Assuming an objective nature, it becomes matter. Prana is the power of Creative Intelligence which is latent in its unmanifest state and which comes into play in the process of manifestation, when it assumes the role of subjective and objective creation. Prana and the mind can be considered as two aspects of the power (shakti) of the Seer. The mind is the manifestation of the ability of the Seer to cognize (jnana-shakti), while prana is the energy of the Seer that drives this process (kriya-shakti). The two are deeply and intricately linked. When the mind is disturbed, the flow of prana is disturbed, which in turn disturbs the flow of the breath and the functioning of the body. Without prana, the mind, breath, and body are not able to function. Thought is both the impulse of intelligence (jnana-shakti) and energy (kriya-shakti). Without prana there is no manifestation of thoughts and therefore no function of the mind.

Prasnopanishad is one of the Upanishads which speaks about prana. It states that: *"All the three spheres of this universe are under the control of prana. O Prana, Lord of the universe! Protect us children as a mother. Give us prosperity and intellect." – Prasnopanishad 2.13*. The glory of Prana is also sung in the Prana-Sukta of Atharva Veda (11.4.1-26). Rig Veda calls prana the supplier/provider of medicine, panacea and powers: *„O Prana! Get to us in the form of medicine, and whatever impurities, contaminants or diseases are there, O Vata, dispel them. O Prana, you are the panacea as well as the messenger of gods, i.e., you inspire divine sentiments and thoughts ".* The process of building up health through pranayama is divine therapy. We can achieve complete health and full longevity by balancing the two Asvinikumaras: prana (anabolism) and apana (catabolism) in our body. The process of rejuvenating vital fluids in our body is through pranayama.

Sarangadhara Samhita (5.25-26) states that Air (Vayu), the main element among the five elements, sustains life in our body. Among the three doshas it is Vata dosha and in the form of breath (svasa) it is our prana. Atharva Veda proclaims: *„O Prana! The atharvani, angirasi, divine and man-made medicines are efficacious only till you inhabit the body propelling it ". (Atharva Veda 11.4.16)*. Also in Atharva Veda (11.4.1) we find another beautiful praise of Prana: *prāṇāya namo yasya sarvamidaṁ vaśe – „I bow down (surrender) to Prana. All this universe is under the control of Prana ".* This mantra can be used in samantraka pranayama. Prana has been called Brahman (God) in the Brihadaranyaka Upanishad. In the Satapatha Brahmana, prana has been called amrita (elixir of immortality) and prajapati (creator). Taittiriya Upanishad proclaims: *„Living beings are born of prana, on being born they are kept alive by prana, and in the end dissolve into prana." (Taittiriya Upanishad 3.3).*

Prana is the most powerful and useful vital element in the whole universe. It is prana that sustains the body (pinda) and the universe (brahmananda). The invisible power of prana is running the whole world. Our body is also activated by the energy (élan vitale, pneuma, chi) of prana. Our visible annamaya kosha (physical body) is also activated by the invisible power of our pranamaya kosha (etheric body). A person can live for years without food, but without prana, life ceases to exist. Pranic energy is the base of our life-force and immunity. It is prana alone which makes the whole body healthy and energetic. It is pranic energy that activates vision in the eyes, hearing in the ears, smelling in the nose, relishing in the tongue. It provides sweetness in speech, radiance, glow and luster on the face, cognitive power to the brain and digestive power to the stomach.

Through the practice of asana, pranayama, and meditation we are changing the state of mind. Through the process of transcending mental activity, avidya is removed and this allows prana to enter Sushumna nadi. Usually prana travels through Ida or Pingala nadi, but when prana is in Sushumna, then it is not outside of the body. Kundali means "earring". It is avidya. In the same way that avidya has become so powerful that it stops purusha from seeing, kundali blocks prana from entering Sushumna. The moment avidya is removed is also the moment that kundali is removed. Then prana enters the sushumna.

In hatha yoga, bandhas are suggested for the destruction of kundali. Bandhas unite prana and apana. When Prana and Apana unite, they pass as one whole through Sushumna into the cerebral region. When they ascend through the channel of Sushumna, they may be perceived with eyes closed, as light in the centre between the eyebrows. This light appears in various colors, e.g. blue, red, white and yellow. This upward course of the pranas is what is called "awakening of the Kundalini power". It is this stage which further develops into Unmani Avastha, the state of mindlessness and Samadhi.

When the last and the best stage of Pranayama is reached, then prana begins to ascend towards the brain through Sushumna. In the beginning its movement is slow like that of an ant. Afterwards, when Sushumna nadi beyond the three knots is cleansed, the ascent becomes a jumping movement like that of a frog. And finally, when Kumbhaka becomes sufficiently long, then Prana enters Sahasrara, the thousand-petalled lotus through a movement which is similar to the flight of a bird. When prana begins to enter the brain, a heavy pressure is felt in the head. The head is cleansed in a few days, the power of endurance increases and the pain disappears. When after a year or so, prana begins to move more quickly, the mind comes into eternal unity with Sat Chit Ananda (eternal bliss consciousness).

The purpose of pranayama is to expand individual prana to gain the status of Cosmic Prana. The individual prana which is manifested in the human body is one of the five expressions of Cosmic Prana. Cosmic Prana which manifests in the human body on the level of prana maya kosha, as kundalini shakti, is expressed on the level of anna maya kosha as prana, udana, samana, vyana, and apana. Prana on the gross level of the physical body mainly governs the activity in the chest region (breathing). That's why through the process of the regulation of breath, we get a hold of the individual prana. By making the breath long and subtle, we expand the value of individual prana and that expansion activates kundalini shakti on the level of prana maya kosha, so that it travels up along the spine and unites with its source (Absolute level of life). This is how individual prana expands and gains the status of Cosmic Prana and at the same time, the individual mind transcends its boundaries and becomes Cosmic Mind.

The following story explains this: On the top of a big tower (spinal cord) a king (Shiva) was imprisoned. He wanted to be released, he wanted to get freedom. That's why he called upon his wife (Shakti) who was at the bottom of the tower and gave her instructions to put honey on the pincers of a beetle bug and place the beetle vertically on the wall of the tower. She should then attach a small thread to the leg of the beetle and then attach a thicker thread at the end of the small thread, then again a thicker thread and so forth. Finally she should tie a sturdy rope to the end of the thick thread and then let the beetle walk up the tower wall, following the taste of the honey on its pincers. When the beetle reached the top of the tower, Shiva could get a hold of the thin thread and start pulling up all the thicker and thicker threads attached in sequence, until he finally got a hold of the thick rope at the end. He then used this rope to free himself from the tower and unite with his wife Shakti. Through this rope they were once again connected. This story illustrates how, through the practice of Pranayama, individual prana gets expanded step by step, until a sturdy connection between the two energy centers is created and kundalini can rise up from the bottom of the spine to the top of the head.

Types of prana

Pranic energy is one. Prana the vital force is the Hiranyagarbha, the first born cosmic energy in the macrocosm. The vital force is born before the five elements. Having created the gods, it entered into the cavity of the heart of every body and remains in association with the body and the senses perceiving sound. The Brahman which is the space outside is also the space within the person. The space in man is within the heart and that space is all pervading. Prana is known by various names on the basis of its location and functions in the body. There are five main pranas and five upa-pranas in the body. The five pranas are: prana-vayu, udana-vayu, vyana-vayu, apana-vayu, and samana-vayu. Five upa-pranas are: devadatta, naga, krkala, kurma, and dhananjaya. The body and the mind rest on Prana. Prana would go out through the mouth and the nostrils were it not held back by the force of Apana. The force Apana would also depart through the lower orifice, were it not held back by the force called Vyana. Vyana rests on Udana. All the three forces Prana, Apana, and Vyana are fixed to the Udana. All these forces act on Samana. The body, mind and the vital forces are interdependent and work together in an orderly manner dominated by the Self.

The five upa-pranas are situated in the body in the following places:

- **Devadata**: On the upper end of the trachea and in the throat.
- **Naga**: A little above the navel.
- **Krikala**: Above the stomach and on the edges of the trachea.
- **Kurma**: In the eyelids.
- **Dhananjaya**: In the bones, flesh, skin, blood, receptor sensors, hair, etc. It respectively regulates actions like yawning, vomiting, causing the sensation of hunger, opening and closing the eyelids, and nourishing of the body.

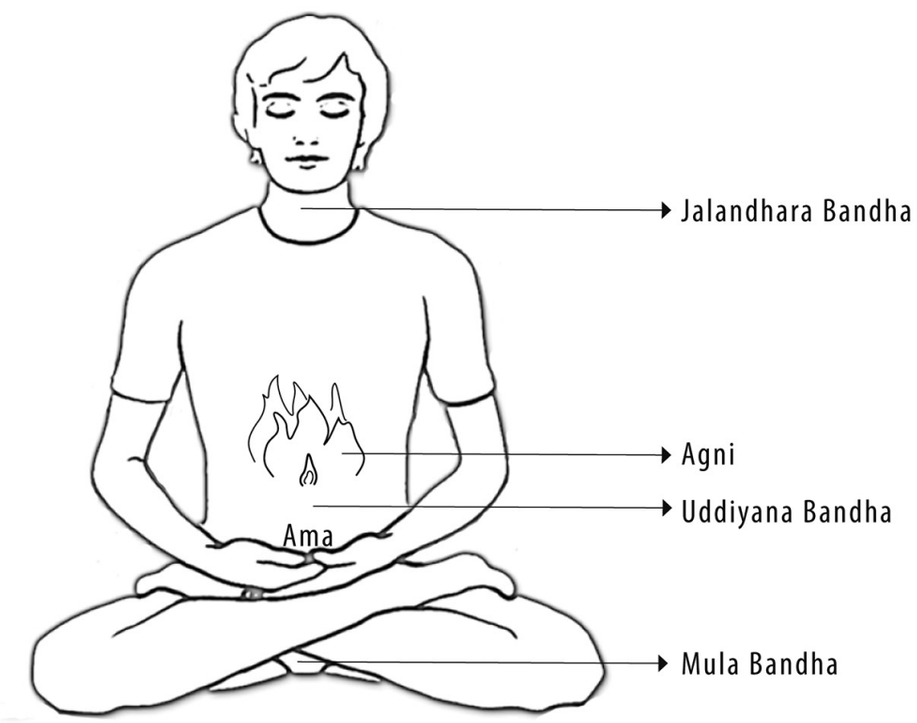
The functioning of the pranas is linked with pranamaya kosa. Pranayama is mainly responsible for keeping these pranas as well as pranamaya kosa itself clean, healthy and disease-free – hence the highest importance and utility of pranayama.

In pranayama we concern ourselves with two basic pranas: prana-vayu and apana-vayu. Pranayama is a movement of prana towards apana and a movement of apana towards prana. Holding the breath after inhalation brings the prana towards apana and holds it there. Holding the breath after exhalation does the reverse.

The main principles of the proper pranayama practice

Removal of impurities (agni, ama, apana)

Inside our body there is fire (agni), located somewhere between prana and apana, near the navel. Inhalation helps to increase agni and activates the metabolism, rather like fanning the flames of a fire. On inhalation there is downward movement of the breath, drawing the flame downward and burning the dirt (ama) in the body. If we hold the breath after inhalation, then the burning of ama is more efficient. Exhalation, being a natural process of elimination, helps eliminating the toxins and wastes that dull agni, and thus enables agni to function better. During exhalation the dirt (ama) that was previously burned up by the inhale, goes towards prana and then out of the body. Importance is given to the exhalation to allow for more time to remove the dirt. It is not enough that we bring the flame towards the dirt (on inhalation). It is also necessary to bring the dirt towards the flame. That is why when we exhale and hold the breath after exhalation we use certain bandhas. Very gradually we develop the lower abdominal muscles so that we can lift the lower abdomen, the area of apana, towards the navel and hold it there during the entire pranayama practice. This is called Mula-bandha. After exhaling with Mula-bandha we bring the dirt towards the flame so that on the next inhalation, the effect of the fire is increased. All aspects of pranayama work together to remove apana and bring prana into the body. Inverted postures naturally bring the flame towards apana. If we do pranayama in inverted postures, its effect is increased. In shoulder stand the stomach and organs of the abdomen rest on the diaphragm and it is difficult to exhale slowly because the weight on the diaphragm tends to make the air rush out. If in spite of this, one can control the exhalation in this position, then one will find the exhalation easier than the inhalation.



Prana = Inhale = O_2

Apana = Exhale = CO_2

Conscious breathing – active regulation or passive observation

The easiest way to feel pranayama is just to observe the breath. Feel how the breath goes in and out and observe the movement of the chest and abdomen. Then do passive observation of the middle of the chest (prana-sthan), seat of prana, from where the inhale starts and the exhale finishes. Through passive observation of the prana-sthan during this basic type of pranayama, you will enliven prana in the chest area (heart region) and it will start to pulsate all over the body. As a witness we have nothing to do with the activity of breathing. We are like a man watching the flow of river. If we are able to do this, it turns almost into a state of meditation. The types of pranayamas, ratios, and other techniques, are only a means. By just being involved with the breath, as an witness to the breath, that is the highest pranayama.

Other types of pranayama emphasize active regulation of breathing. Puraka (inhalation) pranayama is when we emphasize inhalation. Puraka pranayama is a long, timed inhalation, followed by a hold for one or two seconds and finishes with a free exhalation. A free exhalation occurs when we simply witness the body naturally expelling the air. Rechaka (exhalation) pranayama starts with a free inhalation, followed by a hold for one or two seconds and finishes with an extended exhalation. This type of pranayama is very useful for relaxation and removal of tension. In Kumbhaka (holding) pranayama we hold the breath after inhalation or after exhalation or both. In this type of pranayama the attention is upon holding the breath, while the inhalation and exhalation are free. For problems in the abdomen we use rechaka and kumbhaka after exhalation. In certain cases of depression, lethargy or dullness we use puraka and kumbhaka after inhalation. If we want to calm ourselves and relax we use rechaka and kumbhaka after rechaka.

Puraka (inhalation) has to be done in the same way as slowly drawing water through a pipe. A rapid Puraka will create two difficulties: Firstly it will hurt the lungs and secondly it will shorten the duration of Kumbhaka. In itself it is not so harmful. But when Rechaka is also done swiftly, then it will agitate the lungs and the nerves, and that is injurious to the lungs, heart, nose, ears, head, and other vital limbs. Therefore, Rechaka must always be done very slowly, keeping full control over the process.

Components of the breathing cycle and the relationship between them

Components of the breathing cycle in pranayama are: Puraka (inhalation), Antara Kumbhaka (holding the breath after inhalation), Rechaka (exhalation) and Bahya Kumbhaka (holding the breath after exhalation). During inhalation we receive Cosmic Energy. Pranic energy is stored in the brain and the central nervous system. During exhalation we give individual energy to Cosmic Energy. Pranic energy unites with the mind and soul and dissolves itself in the Cosmic Prana. During Antara Kumbhaka, Cosmic Energy is merged with individual energy and the senses and mind are stilled. During Bahya kumbhaka the individual energy is surrendered to the Cosmic Energy and the sense of ego tends to disappear at that moment. Samavritti pranayama is pranayama in which the time of inhalation and exhalation are equal and if the breath is held, this too is equal to the time of the inhale and exhale. In Vishamavritti pranayama, the time of the components of the breathing cycle is not equal, like the classic ratio of 1 : 4 : 2 : 1, described in the classical Hatha Yoga texts. To avoid tension during a pranayama session, we begin with a simple ratio, gradually ascending to a peak and descending to a simple ratio again. For example, after practicing pranayama with bandhas, do simple breathing with a ratio 1 : 0 : 2 : 0 for several breaths, before ending your practice. The concept of ascending, reaching the peak of the practice, and descending in pranayama, is the same as in the practice of sequence of asanas.

Posture during pranayama

The longer we want to do pranayama the simpler the posture must be. The seated posture provides the greatest level of stability and comfort. Although the cross-legged seated position (sukhasana, padmasana, siddhasana) is most often associated with pranayama, it is not the most useful posture if you are uncomfortable in it. In such cases, sitting in Vajrasana or sitting on a chair or stool is the better choice. Make sure your abdomen and chest are free of tension and that the spine is straight, to allow the free flow of breath.

Sthira sukha of pranayama

Breath must be long (dirgha) and subtle (sukshma). That quality of breath should be the same throughout the pranayama practice (sthira) and should not change. If we decide about a certain ratio, then it should not be changed during the entire session of pranayama practice. Also, during pranayama, one should not feel strained, but very comfortable (sukha).

Qualities of correct pranayama: desha, kala, and samkhya

For the breath to become dirgha (long and steady) and sukshma (smooth and subtle), the pranayama practice must include three essential considerations: Desha means "the place" on which the mind is focused during pranayama. The object of attention may be external or internal, gross or subtle. It may be the breath itself, the feeling of touch of the breath, the navel, heart, tip of the nose, the space between the eyebrows, the throat or nostril sound, a chakra, or a mantra. Kala refers to the time (duration) of inhalation, exhalation, retention and suspension. Samkhya means "number" and refers to the number of breaths to be repeated in a given practice, the total amount of time spent in one pranayama session. All the three factors must be considered when designing and personalizing a pranayama routine.

Whether practicing asanas or pranayama, the breath should always be long and subtle. Irregular and fast breathing removes too much carbon dioxide from the body and thus disturbs the balance between oxygen and carbon dioxide. Less carbon dioxide in the body causes oxygen to bind more to hemoglobin and as a result the cells are "starving for oxygen" (resulting in hypoxia). When the breath is long and subtle, it keeps an ideal balance of oxygen and carbon dioxide in the body, resulting in healthy metabolic processes.

Designing personal pranayama practice

1. Before starting a personalized pranayama practice, consider the following points:
2. Evaluate your body, breath, and mind before you practice.
3. Determine the purpose of your practice.
4. Choose the correct type of pranayama and posture for it.

5. Choose the appropriate ratio for the practice.
6. Start with shorter breathing cycles, and gradually work toward lengthening them.
7. Begin with simpler ratios and advance toward more complex ones, over a period of time.
8. End the practice gradually.
9. Rest and reflect when you are done.
10. When starting any alternate nostrile pranayama practice, first one exales through the "ac tive" nostril (the one that is most open).

Daily you should do the number of pranayama cycles which equals to four times your current age. One pranayama cycle is one round of inhalation and exhalation. You should also do pranayama for half the time that you spend on practicing asanas. As you grow older, you must do more pranayama. When you are sixty years old, you must do pranayama for twice the time that you spend on asanas. Yogis practice pranayama for at least three hours a day. These recommendations are for healthy people. Someone with breathing difficulties should do just four breaths, then rest and repeat four more breaths, etc.

Bandhas and mudras in pranayama

The energy which goes outward from our body, while practising yogasana and pranayama is stopped and turned inward through bandhas (locks). Without bandhas pranayama is incomplete. The control of the nostrils is done by the (right) hand, held in a position called Mrigi mudra. The left hand may be in Chin or Jnana mudra (in which the thumb and index finger join to form a circle), while the right hand is used to modulate the breath at the nostrils with Mrigi mudra. Shambhavi mudra is used while holding the breath (kumbhaka). Akasha mudra (Jihva bandha: placing the tongue on the roof of the mouth as far back as possible, comfortable) and Ashwini mudra are also used in some pranayamas. By applying mudras in pranayama we stabilize progressively refined levels of Samprajnata Samadhi.

Note:
Akasha mudra is also sometimes referred to as the hand mudra, where the thumb touches the middle finger. In this section however, Akasha mudra is referred to as placing the tongue on the roof / palate of the mouth.

Application of bandhas in pranayama: Jalandhara-bandha, Uddiyana-bandha, Mula-bandha

After Puraka or inhalation, Jalandharabandha should be applied immediately. When the Bandha is rightly done, the course of breath in the thoracic region is stopped and while you retain the breath (Kumbhaka) after having done the Puraka, no air from the lungs will come above the root of the neck. All the sensory nerves of the body are strengthened by this Bandha. Jalandhara-bandha binds the sixteen vital centers of the body, viz. the toes, ankles, knees, thighs, the centre of the perineum, the genital organ, the navel, the heart, the lower throat (the part below Vishuddhi Chakra), the upper throat (the part above Vishuddhi Chakra), the projection in the centre of the neck, the nose, the eyebrows, the forehead, the posterior head and the Brahmarandhra.

The centre of the sensory nerve is, no doubt, the head and not the Vishuddhi Chakra or the throat centre, but all the limbs of the body below it are regulated and all their messages to the centre above are carried by Vishuddhi Chakra. By means of Jalandhara-bandha, the head is made secure against attacks of air-currents. Jalandhara-bandha protects the head and the sensory nerves. If it is wrongly

done, it will create disorders, especially in the nose, the eyes, the head and the throat. One may even suffer from rheumatism or nerve ailments.

After Kumbhaka, Rechaka (exhalation) has to be done with Uddiyana-bandha, releasing the hold of Jalandhara-bandha. In Uddiyana-bandha we contract the intestines in the belly, pulling them backwards towards the spine. Contraction of the intestines causes a contraction of the lungs also and thus strengthens them. All distempers arising from an inequality of the three doshas (Vata, Pitta, Kapha) are thereby cured and the doshas are harmonized – the channel of Sushumna is purified and Prana flows upwards. Uddiyana-bandha has been described as *"the lion that waylays the elephant of death"*. It is the foremost of the three Bandhas. But when it is done in a defective manner, it weakens the lungs and the liver. While practising Pranayama, the body should be kept bound by Mula-bandha – the perineum and muscles below the navel are kept contracted. This method draws Apana upward. The application of Mula-bandha results in regularity of excretions, keeps the bowels in right working order, and gives vigor to the circulation of blood.

The use of sound (mantra) in pranayama: samantraka pranayama

You can use a mantra to increase the benefits of the pranayama practice. Research with instruments such as the electroencephalograph, or EEG, which measures electrical activity in the brain, has shown that certain mental states are beneficial to both physical and mental health. Specifically, researchers have found a very beneficial condition of "restful alertness", which is typically observed during Transcendental meditation. But "restful alertness" can also be attained during pranayama through the use of a mantra, or repeated pattern of sound. With your attention focused on your breathing, mentally (silently) repeat the syllable „SO" each time you inhale, and then, as you exhale, repeat the syllable „HAM", this is the mantra of the breath. „SO" means He (God) and „HAM" means Aham (I or ego). The meaning of the mantra is „I am God". Such is the nature of „SO – HAM" to draw your attention towards the Divine source of your being, your soul, towards the source of all sources – God. With your eyes closed, during inhale think the word „SO" and during exhale, think the word „HAM". Gradually both the breath and the sound will become quieter and quieter, and the breath becomes so quiet that it almost seems to stop. Breath becomes dirgha (prolonged) and sukshma (subtle). By quieting your breath, you also quiet your mind. When the mantra „SO – HAM" entirely disappears, your breath pauses momentarily. Than you reach state of Kevala kumbhaka – spontaneous suspension (stopping) of the breathing which is the goal of pranayama.

As a mantra for pranayama you can also use some passages from the Vedic literature. For example:

- Rām Brahm Paramārtha Rūpā (Ramayana)
- Gayatri mantra
- Using the mantra "RĀM" – it signifies self-referral dynamics (R) of the Absolute (A) which is eternally going on (M). It is the bija mantra of AGNIM (fire of the apsolute).
- One may also use the Mahamrityunjaya mantra.

Mantras in pranayama are also used as a measuring unit to gauge the length of breath.

Principle of visualization in pranayama

While doing pranayama, you can imagine yourself inhaling vitality, health, strength, and similar desired qualities, circulating them generally throughout the body or directing them specifically to a localized (i.e. painful) area. During exhalation, imagine that you are throwing out all the bad, painful, sick, and impure things along with the breath. While thus breathing deeply, imagine that the inhalation fills you up from top to bottom, and feel the vitality of the good qualities vibrate in every cell of the body. The exhalation should likewise free you from all painful and negative things, making you feel light and healthy within.

The focused visualization of God during pranayama can yield positive results. The traditional description of the breathing is as follows: On the inhalation we invite God inside, as we retain the breath we pray to God, invoking God to remain within us. On the exhale we pray that God remove our impurities, and during suspension, we surrender ourselves at the feet of God. We repeat this cycle long enough to become immersed in the link with God. With this sustained focus, pranayama becomes vibrant, active, and meaningful. Then it is meditation.

Pranayama for therapy

Various types of pranayama can be linked to the doshas and the qualities of heat and cold. Bhastrika and Kapalabhati are heating pranayamas which balance any excess Kapha dosha. Shitali and Sitkari are cooling pranayamas and are useful in balancing excess of Pitta dosha. Nadi Shodana and Ujjayi pranayama with long exhale balance Vata dosha. Surya-bhedana pranayama activates the symphatic nervous system, while Chandra-bhedana activates the parasymphatic nervous system.

In designing a pranayama practice for therapeutic purposes, you

- asses the person's constitution
- determine which dosha is out of balance
- select the corresponding type of pranayama
- determine the appropriate ratio to be followed (taking into account both the person and the problem)
- decide on the mental focus for the person
- choose the appropriate posture for practicing pranayama
- define the necessary preparatory steps for both the posture and the breath
- teach the pranayama

Pranayama practice according to age

From the age of 3, children can practice pranayama and sukshma vyayamas (light exercises). Even the aged must practise pranayama until their last breath. Children should start doing asanas at the age of 5 years. Children from 5 to 10 should practice bhastrika for 1 minute, kapalabhati 5 times, bahya pranayama 3 times, anuloma-viloma for 5 minutes, bhramari 3 to 5 times, and sukha pranayama for 3 minutes. This will make them strong, intelligent, wise, chaste, energetic, and courageous. Boys/girls from 10 to 18 years of age should do bhastrika for 2 minutes, kapalabhati and anuloma-viloma for 10 minutes each, bahya pranayama and bhramari 5 times each, and sukha pranayama for 5 minutes.

If a healthy person does kapalabhati and anuloma-viloma pranayamas for only 5 to 10 minutes each day, he can live a life free from disease and tension. As we grow older we should devote more time to pranayama. This will prolong our life and vitality.

Safe progress in pranayama practice

Pranayama should be done slowly with patience and caution, without any hurry. The ferocious wild animals like lions, elephants, and tigers are tamed gradually with great caution. If this is done in a hurry, these animals can attack and harm us. Similarly, prana (breath) should be brought under control by increasing the practice of pranayama gradually and under supervision of an experienced yoga teacher. Otherwise harm can be caused to a learner. To reap full benefit from the practice of all types of pranayamas one should memorize the text from the Bhagavad Gita: *„If a person eats properly and conducts his life properly, has a set routine for his worldly activities, has a fixed time to go to bed and to get up, only such a person can practice yoga; and by practicing yoga he destroys his miseries"*. After pranayama one should eat easily digestible food. It is not proper to take the same type of breakfast everyday. For complete nourishment of the body one should program one's breakfast for a week, in such a way that one changes from sprouted grains to porridge, to milk, to fruit only, to juice or curd only, to buttermilk etc. This will give complete nourishment to the body. The food of the yoga practitioner should be pure and simple (sattvika). One must drink water once between breakfast and lunch and in small quantities several times between lunch and dinner. This protects us against diseases of the digestive system, the urinary system, obesity, cholesterol, etc.

Pregnant women should not do kapalabhati pranayama, bahya pranayama and agnisara dhauti kriya. They should do the other pranayamas and light exercises according to the stage of pregnancy and after consulting their doctor. During the menstrual period women should not do kapalabhati, bahya pranayama, bandhas and difficult asanas. People suffering from hypertension and heart disease must do all the pranayamas gently. Pranayama is the remedy for them. The only precaution to be observed is that they should practice bhastrika, kapalabhati, bahya pranayama, anuloma-viloma etc. in a gently way, without applying too much force. Kapalabhati pranayama should not be done 4-6 months after any surgery. In case of a bye-pass and angioplasty in heart disease, one must practise anuloma-viloma, bhramari, sukha pranayama, light asanas, and anandasana. One should wait for one week before beginning such practices. This will bring immediate relief and benefit.

Types of pranayama

It must be noted that the practice of Pranayama should not be done after merely reading books on the subject. The various forms of Pranayamas should be practiced under the guidance and in the presence of instructors, who have thorough knowledge of the merits and demerits of Pranayama and understand the different natures and dispositions of the practicioner. By simply imitating the Yoga exercises, the body will become weak and ailments will increase. The Yoga Siddhi says: *"Pranayama practiced systematically under proper guidance cures and prevents many diseases but, if irregularly done, it causes hiccup, asthma, headache, earache, eye troubles, etc."*

There are different types of pranayama for different purposes:

- Purifying pranayamas: Dhouti, Anunasika, Nadi Shodhana, Nadi Shudhi, Shvana
- Stimulating and strengthening: Kapalabhati, Ujjayi, Antara Kumbhaka, Bhastrika
- Cooling: Sitali, Sitkari, Shvana, Kevala Kumbhaka.
- Harmonizing: Savitri, Vibhaga, Sukha, Pratiloma Ujjayi, Mahat Yoga, Bhramari
- Regenerating: Sahita, Surya, Ujjayi, Naga
- Binding energy: Any pranayama practiced with one or more bandhas.

1. Ujjayi

Only when we develop inner awareness and become conscious of the muscles involved in the breathing process, can we make the breath long (dirgha) and subtle (sukshma). For proper practice of asana and pranayama, breath should be trained to be long and subtle. Ujjayi pranayama is a method of controlling the flow of air in order to regulate the length of the breath. It is done by slightly constricting the throat internally, while continuing to breathe through the nostrils, so that the breath is felt in the back of the throat. This type of breathing is also called throat breathing. Ujjai means to master the proper movement of the chest (rib cage) during breathing. While breathing you feel a rubbing sensation in the throat.

Benefits:
This Pranayama removes all excess phlegm, diseases of the stomach, abdominal dropsy, weakness of the bile, indigestion, all disorders of the seven dhatus of the gross body, and diseases arising from constipation. It gives strength and vigor to the body.

2. Anuloma-ujjayi

Anuloma means in the direction of the growth of the hair (loma) in the nostrils (on exhale). In this pranayama we inhale through the throat (Ujjayi) and during exhalation we close one nostril completely and the other partially and exhale through the partially closed nostril. Exalation through the partially closed nostril helps to extend the breath (dirgha and sukshma). When using nostril control, we do not use the throat restriction (Ujjayi), so there is no sound while exhaling through one nostril. While breathing we do control only on one place at a time.

3. Viloma-ujjayi

The air is passing contra the growth of the hair in the nostrils (on inhale). Exhalation is with the restriction in the throat (Ujjayi) and inhalation is through the partially closed nostril while the other nostril is completely closed.

4. Pratiloma-ujjayi

This is the combination of Anuloma and Viloma. We inhale through the throat (Ujjayi – both nostrils open), exhale through the partially closed left nostril while the right nostril is completely closed. Then we inhale through partially closed left nostril and exhale though the throat (Ujjayi – both nostrils open). Then we inhale through the throat (Ujjayi), exhale through partially closed right nostril, inhale through partially closed right nostril, exhale through throat, and inhale again through throat, etc.

5. Sukha Pranayama

The name means „comfortable breathing". It is practiced after the asanas, before Transcendental Meditation. Sit in Sukha asana. Exhale through the left nostril. Breathe in through the same nostril. Then close the left nostril, breathe out through the right nostril, and then breathe in through the right nostril. Practice this for 5 minutes.

Benefits:
Sukha Pranayama strengthens the lungs and the heart, improves digestion, purifies the nervous system, and conserves energy.

6. Anuloma-Viloma

Prana breathed in through the left nostril represents the energy of the moon which symbolizes peace. It has a cooling effect. Hence for purification of the channels through which the energy flows in the body (Nadis), the beginning of this Pranayama has to be made by the left nostril. Close the right nostril with the right hand thumb. Inhale slowly through the left nostril till the lungs are filled. Then close the left nostril, open the right nostril and exhale. Now breathe in through the right nostril, then close the right nostril and open the left and breathe out and in through the left nostril, and so on. Keep Akasha Mudra, Jnana Mudra, Mrigi Mudra and Mula Bandha at all times. Repeat this exercise slowly in the beginning and with practice increase the speed. When performed with a fast speed, it is called "fast pranayama". This Pranayama should be done for 5 to 10 minutes. In summer it should be done for a max of 5 minutes. When one is able to practice this exercise for a long time, then do the inhale with as much force as is possible and exhale also forcefully. This practice of inhalation and exhalation alternatively through the right and left nostril, with force, should be done for 3 minutes. If you practice this Pranayama regularly, then Kundalini Shakti, lying in Muladhara Chakra, begins to awaken. While performing this Pranayama, as a result of the friction and churning of breath in Ida and Pingala Nadis, there is an awakening of Susumna Nadi. A divine light rises upwards from Muladhara Chakra to Sahasrara Chakra. Imagine a divine light on the outside and the inside of the body. Imagine that the supreme power is showering divine energy and divine knowledge, that the supreme power is filling you with divine energy.

Benefits:
Regular practice of this Pranayama cleanses all the innumerable Nadis, makes the body healthy, lustrous, and strong. All kinds of diseases occurring due to a disturbance of Vata dosha, such as rheumatisms gout, and diseases pertaining to the urinary and generative organs, are cured. Regular practice of this Pranayama also cures diseases that are assumed to have a chronic character, such as colds, cataracts, sinus problems, etc. The three Doshas (Vata, Pitta and Kapha) regulate themselves and assume proper proportions. Blockages in the arteries of the heart are removed and the arteries become clean, allowing blood circulation to be unimpeded. If this Pranayama is practiced regularly, it may prevent heart attacks. Pathogenic cholesterol also gets dissolved, making the arterial channels clear for an effective and unimpeded flow of blood in the heart. Negative thinking is replaced by a positive approach to life. Enthusiasm increases.

7. Nadishodana

This pranayama clears the nadis. First, one exhales through the active nostril – the one that is most open. Then inhale through the same nostril partially closed. Retain the inhaled air according to your capacity. Do Jalandhara-bandha and Shambhavi Mudra. Keep Jihva bandha, Jnana Mudra, Mrigi Mudra and Mula-bandha at all times. Unlock Jalandhara-bandha and breath out completely but slowly through the other partially closed nostril. Keep your breath out for some time and then inhale slowly through the same partially closed nostril. Retain the inhaled air for sometime (kumbhaka) and then breathe out through the other partially closed nostril, slowly but thoroughly. Repeat the exercise as many times as you consistently can or at least for 5 minutes.

In Nadi Shodana pranayama we can do both samavritti and vishamavritti. This is recommended before meditation, because it calms the nerves and the mind. In the advanced stages of the practice, kumbhakas and bandhas are introduced. The practice of these bandhas, during the retention periods produces a deep cleaning of the nadis and allows the prana to penetrate deeply into the organism, thereby calming the nerves and the mind.

By doing vishamavrtti in Nadi Shodana pranayama, with application of Mula-bandha, practicing meditation, and eating only milk for some period, it is possible to demonstrate the stop of the pulse and heartbeat.

Benefits:
Calms and steadies the mind. Soothes anxiety and stress, balances left and right hemispheres and promotes clear thinking. Opens the nadi (vital energy channels) and removes blockages to energy flow. Benefits the following conditions: asthma, allergies, high or low blood pressure, stress-related heart conditions, hyperactivity, insomnia, chronic pain, some psychological conditions, metabolic and endocrine imbalances.

Caution:
In it's advanced state this pranayama involves retention of breath (kumbhaka) and in the begining stage of practice it should be avoided.

8. Suryabhedana

The process begins with exhalation followed by inhalation through the solar nerve (right nostril). After the inhalation, hold the breath (Kumbhaka) and continue with Rechaka (exhalation) through the left or lunar nerve. Jalandhara-bandha and other Bandhas are also necessary in this Pranayama. This form of Pranayama is known as Suryabhedana, i.e. piercing the sun. The characteristic of the Suryabhedana is that Puraka is done only through the right nostril and Rechaka through the left.

Another variation of Suryabhedana pranayama is as follows: Draw in the breath through the rigt-nostril and retain it for a four-fold duration of the inhalation. While holding the breath, move the abdomen in and out (pumping). Then close the right nostril and exhale the breath through left nostril, taking twice as long as the inhalation, and by coughing like an old man, but with the mouth closed. Then retain the empty lungs for the time equal to the duration of the inhalation. This procedure is repeated for a fixed number of times. This is 1 : 4 : 2 : 1 ratio, very advanced form of practice. This variation of Suryabhedana pranayama helps to relieve heaviness in the head and sinus reduces kapha and vata dosha. It also helps in cases of many abdominal disorders. It is good for a person with low blood pressure and inertia.

Note:
Summer-time is however not the proper season for this form of Pranayama. Also, people with a lot of Pitta (heat, fire) in their system should not practice this Pranayama.

Benefits:
The right lung is connected with the liver below and that Pranayama has, therefore, the effect of increasing the excretion of bile. It activates sympathetic nervous system. It thus generates heat that removes any excess of Vata (air) and Kapha (phelgm) in the system. Any accumulated phelgm in the forehead, all disorders in the airy nerves, impurities of the blood, skin diseases, intestinal worms, worms born of perspiration, germs of leprosy, and other diseases are thereby eliminated from the body.

9. Chandrabhedana

Chandra-bhedana Pranayama is the same as Surya-bhedana pranayama, but the inhalation is through the left nostril and the exhale through the right. It has effect of helping hypertensive patients because it activates parasympathetic nervous system.

Benefits:
It balances and slows down the movement of inxaling and exaling leading to spontaneous stopping of breath (kevala kumbhaka). This pranayama calms the mind and helps acquiring proficiency and enables one to acquire concentration.

10. Bhastrika

Bhastrika can be practiced either in a comfortable sitting position with legs crossed, or while standing or moving. Inhale through both the nostrils forcefully, till the lungs are full and diaphragm is stretched. While breathing in, the abdominal area should not blow up. You have to fill the air in the chest area, up to the diaphragm, so that the chest with its ribs swells. Then breathe out forcefully also. In Bhastrika there is constriction of the glottis so that the resounding effect is felt at the throat, nostrils and even upto the skull. Depending upon the capacity and health of an individual, this pranayama can be done in three variable speeds: slow speed, moderate speed, and at higher speed. Individuals with weak lungs and heart should do this at a slow speed while performing Rechaka and Puraka. Also, breathing in and out can be done with movements of the hands. It is divided into four parts according to the position of the arms.

- Stretch the arms quickly in front of the body, parallel to the ground with hands open, palms facing downwards and the fingers joined together. At the same time the breath is drawn in. Then close the fists at once and bring the arms quickly to the chest, exhaling the breath at the same time. These movements should be done in quick succession without stop and re peated several times. Do this at the steady tempo of about one cycle per second.

- Lift the arms quickly above the head, hands open, palms facing to the front and fingers joined, drawing in the breath at the same time. Then close the fists at once and bring the hands to the chest, exhaling the breath at the same time. These movements should be done in quick succession without stop and repeated several times.

- Stretch the arms quickly sideways, parallel to the ground, with hands open, palms facing upward and fingers joined, drawing in the breath at the same time. Then close the fists at once and bring the hands to the chest, exhaling the breath at the same time. These move ments should be done in quick succession without stop and repeated several times.

- Close the fists with the fingers facing up. Keeping them near the chest, move them quickly up and down, in short jerks, inhaling with the upward jerk and exhaling with the downward

jerk. Slightly lift the heels with the upward movement and put them down again with the downward jerk (if standing). If sitting, jump upwards slightly, lifting the buttocks when in haling and putting them down when exhaling. These jumping movements should also be in quick succession and repeated several times. This is called Jumping Bhastrika Pranayama. It opens the mouth of the Kundalini. Old and ailing people should be very careful in performing this pranayama very slowly and smoothly.

Namaskara Pranayama: Standing with the feet apart join the hands as in worship and do Bhastrika Pranayama, raising the head slowly upwards and then bringing it down slowly to the knees. Then, while breathing move the torso and head left-right, up-down, in circle. This pranayama consists of drawing in air and expelling it out in quick succession, from the nose with the mouth closed. It is done after Neti.

Note:

During Bhastrika pranayama at all times, keep the eyes closed and hold "modified Jalandhara Bandha", Akasha Mudra, and Mula Bandha. While inhaling, feel as if all the divine powers, purity, peace and joy, all that is good in the universe around you, is entering your body and that you are getting filled with divine powers. While breathing in the abdominal area should not blow up. You have to fill the air in the chest area, up to diaphragm, so that the chest with its ribs swells. Do this pranayama for 3 to 5 minutes every day. During the hot summer months, reduce the number of repetitions of this pranayama.

Another variation of Bhastrika pranayama is done in Padmasana: The breath is rapidly inhaled through the left nostril and rapidly exhaled through the right, without Kumbhaka of any kind. This is done exactly the same way as a blacksmith works his bellows. The process is repeated eight times and at the ninth turn Puraka is followed by Kumbhaka with Jalandhara-bandha. At the end of Kumbhaka the Jalandhara-bandha is released and the breath is slowly exhaled with Uddiyana-bandha through the right nostril. An external Kumbhaka for three seconds follows it and then Rechaka is done successively for eight times through the left nostril. At the ninth turn, again, Puraka is done through the right nostril and then Rechaka as it naturally follows the left nostril. These are two complete Pranayamas. Twelve Pranayamas of this type should be done alternating the process with the right and left nostrils.

This Pranayama rapidly increases the power of Kumbhaka but it should not be done to excess, for it may injure the lungs. This Pranayama cures all diseases arising from a disharmony of the three doshas. It increases the internal fire, destroying the impurities in Sushumna.

Caution:

Those suffering from high blood pressure or from any heart disease should not do this pranayama. In case the nostrils do not open on account of ailments like severe cough or sinus problems, one should first close the right nostril and do respiration (exhalation as well as inhalation) through the left nostril. Then the left nostril should be closed and respiration should be done by the right nostril. This method of alternate nostril breathing should be continued at the desired speed: slow, moderate, or fast, till both the nostrils open simultaneously. Then at the end, Pranayama should be completed by exhaling and inhaling through both nostrils (left – Ida and right – Pingala).

Benefits:

Diseases like colds, cough, allergies, asthma, and respiratory diseases of all kinds are cured. It helps with depression, migraine, paralysis, and diseases of the neural system. The lungs become strong and due to the heart and head getting adequate quantities of pure and fresh air, overall health is improved. Diseases and ailments of the throat area (i.e. related to the thyroid and tonsils) are cured. This pranayama brings about a proper balance of the three Doshas (Vata, Pitta, and Kapha)

and maintains their balance. The blood is purified and the body gets rid of foreign substances and toxins. It stabilizes prana, calms the mind, and helps the upward journey of prana from Muladhara Chakra to Sahasrara Chakra.

11. Kapalabhati

„Kapal" means forehead and „Bhati" means light. Kapalabhati is a breathing exercise that can activate the lungs and cardiovascular system to an level as jogging (a vigorous activity). The primary purpose of kapalabhati is to cleanse the metabolic wastes from the body. Since kapalabhati accelerates the heart rate without requiring a great deal of exertion from the large muscle groups, it is a particularly useful exercise for people who do not have a high level of physical conditioning (as required by conventional athletics). In Kapalabhati, the act of inspiration or breathing in is to be done with normal, usual force (passive inhalation) but the act of exhalation has to be done with as much as force as is at one's command (active inhalation). In doing so, the abdominal area also makes inward and outward movements and considerable force is applied to the Manipura, Svadhisthana and Muladhara Chakra. Keep the eyes closed and also keep modified Jalandhara-bandha and Akasha Mudra, at all times.

To begin, sit with your back straight, either on the floor or in a chair. Your shoulders should be back, and your abdominal muscles should be free to move. A correct posture is extremely important in kapalabhati, because the abdominal muscles must be able to relax thoroughly when you inhale. Also, the chin must be down (modified Jalandhara-bandha) to stretch the spine, especially the cervical part. This has the effect of stretching and flattening lumbal part of the spine. In Kapalabhati pranayama, the strong exhalation influences the lumbal area of the spine. If you do Jalandhara bandha, then the effort of a strong exhalation will not transfer from the lumbal area to influence the cervical area of the spine. Once your posture is established, begin breathing through your nose to establish a rhythm of deep, even breaths (5 ujjai breaths). Then, just when you are about to exhale, contract your stomach muscles quickly and powerfully pullinng the stomach in and up also. This will force the air out through your nostrils. This exhalation should be as complete as possible in one short, powerful blast. Now, as you relax the muscles of your abdomen, the inhalation occurs naturally. This should be completely passive, so avoid any conscious effort to inhale. Breathe in and out in rapid succession from the abdomen, without moving the chest or allowing the anus to contract. This produces a feeling of extreme lightness of the head and makes the body vibrate, sometimes violently. Continue for as long as you can do it comfortably. For the exercise to be effective, you must develop the ability to entirely relax your stomach muscles immediately after you inhale. Start with 30 times or 1 minute and increase after 2 months to 3 minutes and again after 2 months up to a minimum of 5 minutes. Continue increasing to a maximum of 10 minutes. When you first learn this exercise, try to exhale approximately once per second. Then gradually increase the rate to twice per second, but don't try to go any faster than that. As you become more adept, concentrate on exhaling as completely as possible and on relaxing your stomach muscles when you inhale. This is the essence of kapalabhati, and it is more important than the rapidity of your breathing. While doing this Pranayama, keep in mind that, while exhaling you are throwing all mental and physical diseases out of your body.

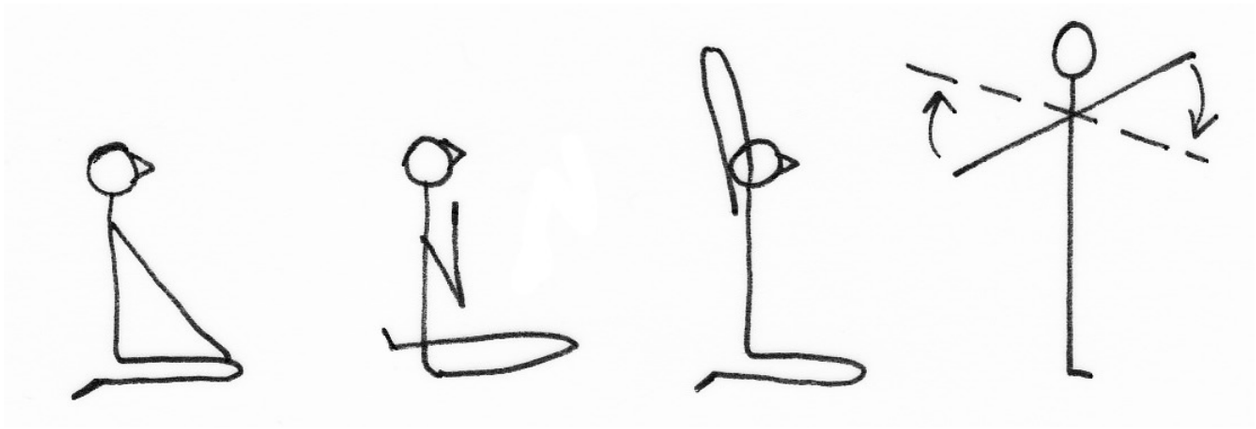
Caution:

People suffering from acute and chronic diseases may practice it for 15 minutes or more as per capability. Those suffering from high blood pressure or from any heart disease, as well as physically weak people, should do it slowly. Those with Pitta Prakriti should not do this pranayama for more than 2 minutes during the hot summer months.

When we do kapalabhati we always follow up with slow breathing, focusing on with long exhalations.

Benefits:

The face becomes lustrous and attractive. Diseases related to Kapha like asthma, respiratory troubles, allergies, sinus problems, etc. are cured. Diseases of the heart, lungs, and brain get cured. Obesity, diabetes, flatulence, constipation, acidity, and diseases pertaining to the kidneys and the prostate glands are cured. If done regularly for 5 minutes daily, it relieves constipation, the blood sugar levels normalize, and the weight in the abdominal region reduces considerably. Blockages in the arteries are also cleared. Peace and stability of mind are achieved. No negative thoughts occur. Troubles like depression are cured. The chakras are purified and filled with cosmic energy. The organs in the abdominal cavity (stomach, pancreas, liver, spleen, intestines, prostate, and the kidneys) function more efficiently and develop immunity towards diseases. It strengthens the intestines and improves digestion.



Practice of Kapalabhati in Vajrasana and standing position. Perform ten strong exhales in every position

12. Shitali

During inhalation, slightly turn up the two sides of the tongue and breathe in through this passage. The technique is to curl the tongue like a tube and to inhale through it while slowly streching the neck and dropping the head back in the process. As we inhale the air passes across the tongue which is usually moist. The air is cooled and refreshes the throat. To make sure that the tongue remains moist, after inhalation (while holding the breath) and throughout exhalation, we roll the tongue backwards as far as possible against the roof (soft palate) of the mouth – Jihva-bandha. This stimulates the glands to produce more saliva and keeps the tongue wet, so that the next breath will be as refreshing as the first. Then stretch the back of the neck, drop the chin to about three inches below the neckpit, forming Kanta-bandha. The exhalation can be done either through alternate nostrils or through both nostrils (Ujjayi).

Benefits:

This form of Pranayama cures a number of diseases such as chronic enlargement of the spleen, intestinal disorders, diarrhea, dysentery, acidity of the stomach, derangement of the blood produced by bile, insanity, suffering from abnormal hunger and thirst, etc. It helps to correct pitta dosha.

Note:

This Pranayama should be done for half an hour both in the morning and evening. But it should be avoided in the winter and should never be done by people of phlegmatic temperament.

13. Sitkari

If some people cannot curl the tongue and do Shitali, they can do Sitkari pranayama. This is done by slightly parting the lips and teeth and placing the tongue gently behind the space between the teeth. This causes the air to pass over the tongue with a hissing sound. In this Pranayama, Puraka is thus done through the mouth. Kumbhaka is then done for four or five seconds and then Rechaka (exhalation) as slowly as possible through both the nostrils (Ujjayi) or alternate nostrils. Bandhas are not required in this Pranayama. But if a long duration of Kumbhaka is desired, Jalandhara bandha becomes necessary.

Benefits:
This Pranayama immediately aids the function of the liver and secretion of bile. It helps one overcome hunger, thirst, sleep and sloth. It checks excess of bile and fills the body with energy. The air drawn in by Puraka adds strength to the Prana energy and does not allow the body to deteriorate.

Note:
Another variation of Sitkari Pranayama is as follows: Hold the tongue lightly between the teeth and draw in the breath through the mouth with a sit sound. Hold the breath inside and move the abdomen in and out several times. Then exhale the air through the nose with the head bent down and coughing like an old man with the mouth closed.

14. Bahya pranayama

Breathe in and then breathe out as much as possible. Do Jalandhara-bandha, Uddiyana-bandha and Mula-bandha, as well as Shambhavi Mudra, while keeping the breath out. Keep yourself in this position for as long as you can. Keep Jihva bandha and Jnana Mudra at all times. Then, when you desire to breathe in, do so slowly, first unlocking all the bandhas. Repeat this 3 to 4 times.

Benefits:
This Pranayama is absolutely harmless. Fluctuations of the mind stop. It improves the digestion. It is beneficial for all kinds of abdominal ailments. It also sharpens intelligence, cleanses the entire body, causes the semen to rise up and cures all kinds of abnormalities.

15. Bhramari

Breathe in till your lungs are full of air. Close your ears with the thumbs and cover the eyes with the middle fingers, applying little pressure. Lightly press the forehead with both the index fingers. Close both eyes. Then press the eyes and the nose bridge from the sides with the remaining fingers. Direct your mind on Ajna Chakra (between eyebrows – Shambhavi Mudra). Close your mouth. Begin exhaling slowly, making a buzzing sound like a bee, while mentally reciting „RAM". When the process of exhalation is complete the bee sound will stop for some time. Repeat the exercise 11 to 21 times or about 10 minutes, according to your capacity. This Pranayama should be done with the thought that your individual consciousness merges with the divine cosmic consciousness. Your mind should be filled with the thought of divine bliss descending on you.

Benefits:
The mind becomes steady, confidence and concentration are increased. It is beneficial for mental tension and agitation, high blood pressure, heart disease, paralysis, and migraine pain.

16. Murcha

The word murcha means “fainting”. It helps to cut off the distractions of the outside world, removes identification with the physical body and brings mental tranquility. Murcha pranayama can be practiced in any comfortable sitting position.

Sit in any comfortable sitting asana. Hold the spine and head upright. Relax the whole body. Fold your tongue against the upper palate (Akasha mudra). Do Shambavi mudra. Take a long and subtle inhale with ujjayi. Simultaneously bend the head backwards so that the movement of the head is synchronized with the inhalation. At the end of the inhalation, your head should lean backwards but not completely. Straighten the arms and lock the elbows, pressing the knees with the hands. Continue to hold Akasha mudra. Hold kumbhaka for as long as possible, but without strain. Fix your whole awareness on the eyebrow center. Then bend the arms. Slowly exhale with ujjayi pranayama as you bend your head forward. Simultaneously practice unmani mudra, slowly closing your eyes as you exhale and moving your head forward. At the end of exhalation your head should face forward and the eyes should be completely closed. Relax the whole body. Breathe normally. Keeping the eyes closed, feel the lightness and calmness pervading the whole mind. This is the end of 1 complete round. Repeat another round. Do Shambavi mudra. Maintain Akasha mudra. Inhale with ujjayi pranayama and slowly lean the head backwards. Continue as before. Do as many rounds as time will allow.

Note:
This is a pranayama with emphasis on long exhales. During Rechaka (exhale), with concentration of mind on the eyebrow-centre, the Prana appears as a vision in the form of light (white, blue, black and red colors). After the practice of this Pranayama take a rest in Anandasana.

Benefits:
It is useful for improving the eyesight and memory. It helps awaken kundalini and is beneficial in meditation by turning the mind inward.

Caution:
People who suffer from high blood pressure, vertigo or brain hemorrhage should not do murcha pranayama. Murcha is beneficial for headaches, migraines, Parkinson's disease, nervous debility, etc.

17. Plavini

The emphasis here is on holding after the inhalation. It starts with a quick inhalation and long suspension after the inhalation. The exhalation is free and slow.

Sit in a steady asana and inhale through both nostrils so that the stomach is puffed up like a bellows and it should appear as if all the air in the body has accumulated there. Now retain for as long as possible and exhale slowly. Repeat the process as many times as you wish.

Benefits:
This Pranayama increases the digestive fire, removes constipation, purifies Samana and Apana Prana, regulates their movements, and does not allow them to become aggravated. It helps cure all stomach ailments and hysteria. It destroys worms and improves the appetite. Who has practiced this pranayama for a long practice time, can float on water without any movements of the hands or feet.

18. Horse Power Pranayama

See the description in the chapter on mudras – Ashvini mudra.

19. Anunasika pranayama

Close the left nostril. Breathe in fully through the right nostril. Then force the air out of the same nostril in six short spurts. Do the same through other nostril and then through both nostrils at the same time. With time, the number of short exhalations can be increased and the rhythm of exhalations can become more powerful.

Benefits:
This pranayama helps to clear the upper respiratory passages and the sinuses.

20. Dhouti pranayama

Sit in Vajrasana or in any other pranayama posture. Place the hands on the thighs and take a full inhalation. Pucker the lips into the shape of a small tube: this is called kaki mudra. Blow out the air through the mouth in short and regular exhalations, produce the sound "TSH, TSH, TSH" by forcing the tongue against the back of the teeth. When the forehead touches the ground, at the end of the exhalation, remain in this position and force out the remaining air from the lungs. Then, on inhalation, come up to the initial sitting position.

Note:
This pranayama is practiced at beginning of practicing asanas or pranayama and it is usually executed three times. In the case of tiredness, it can also be practiced while sitting normally.

Benefits:
This is a cleansing breath which helps to alleviate uncomfortable chest conditions, overcome acidity in the stomach, and to remove tiredness and tension.

21. Kevala Kumbhaka pranayama

Kevala Kumbhaka pranayama is a breathless state. "So Ham" accompanies the normal breathing process. "So" is mentally heard during the inhalation and "Ham" during the exhalation. When this vibration is consciously connected to muladhara, anahata, and ajna chakra, it is known as "hamsa kriya".

Sit in Padmasana. Practice three rounds of Bhastrika and Kapalabhati pranayama. Then, with the eyes closed and the mind relaxed, follow the breath with the mantra "So Ham". Then take in a long and slow breath and hold the air within the lungs, applying the three bandhas, for a period of one minute. After some time the breath will become very subtle and when the mind is fully concentrated in ajna chakra, the breath will automatically stop. The power of inhalation and exhalation cancel each other and cause a complete breath suspension. The same process can be performed by fully expelling the air from the lungs and then remaining in that state.

Benefits:
It balances and slows down the movement of inhaling and exhaling leading to spontaneous stopping of breath (kevala kumbhaka). This pranayama calms the mind and helps acquiring proficiency and enables one to acquire concentration.

22. Naga pranayama - Serpent breathing

This breathing simulates the special skin breathing of the serpent. The human skin has an elimination function like the kidneys or the lungs. It contains a great number of pores which allow toxins to be properly released.

Sit in Vajrasana and inhale deeply through the nose. Hold the breath for a period of ten seconds. Then, take another inhalation and hold the breath again for ten seconds. Exhale slowly through the mouth.

With this practice, the skin becomes warm and perspiration may even begin on the arms. Repeat this process three times and then lie on the back and relax totally.

Benefits:

It improves the breathing capacity.

Caution:
This is a very powerful kumbhaka and a person with weak lungs, bronchial problems, or a weak heart, should not practice it. It is advisable to practice this purification technique before any cycle of pranayamas for regeneration.

23. Sahita pranayama

It is practiced over a period of forty-five days for a complete rejuvenation of the organism.

RATIOS:

Lungs	4:16:8:4
Liver	4:4:16:8
Stomach	8:4:4:16
Kidneys	16:8:4:4
Heart	4:16:8:0

Days 1 to 9	9 cycles of lung pranayama	4:16:8:4
Days 10 to 18	9 cycles of lung pranayama 9 cycles of liver pranayama	4:4:16:8
Days 19 to 27	9 cycles of lung pranayama 9 cycles of liver pranayama 9 cycles of stomach pranayama	8:4:4:16
Days 28 to 36	9 cycles of lung pranayama 9 cycles of liver pranayama 9 cycles of stomach pranayama 9 cycles of kidney pranayama	16:8:4:4
Days 37 to 45	9 cycles of lung pranayama 9 cycles of liver pranayama 9 cycles of stomach pranayama 9 cycles of kidney pranayama 9 cycles of heart pranayama	4:16:8:0

Benefits:

This pranayama regenerates the five important vital organs: lungs, liver, stomach, kidneys and heart

Caution:

As a prerequisite for practicing this very advanced pranayama, one must have fully mastered Nadi Shodana pranayama (with advanced ratios)!

24. Shvana Pranayama - Dog breathing

Sit in Vajrasana and inhale through the nose. Then roll the tongue out, expelling the breath through the mouth on exhalation. Pant like a dog, as fully as possible, about ten times. Rest and repeat again, three times.

Benefits:

It eliminates toxins from the organism. Moreover, the panting movement executed in this pranayama stimulates the renal region and when the sound "Ha" is emitted during the breathing, it acts directly on the kidneys. This pranayama produces a vibratory movement along the spine down to the coccyx, which is beneficial to the entire spine.

Note:

This purification technique is done before practicing advanced pranayamas, in order to improve the lung capacity.

25. Pranayama – coughing like an old man

During this pranayama, do a 1:4:2:1 ratio. Take a comfortable sitting position. Inhale into the belly for 4 seconds, tighten the fists and do jalandhara bandha. While holding the breath, push the stomach in and out 16 times (16 seconds). Then, for 8 seconds, while bending forward (still keeping jalandhara bandha), exhale through the nostrils, while coughing like an old man. Continue bending forward until the forehead touches the floor. Then stay in that position for 4 seconds, without breathing. Return to the starting position while inhaling. Repeat this exercise a few times.

Benefits:

Removes stale air from lngs. Movements of the diaphragm massage the abdominal organs and heart by increasing the blood circulation. The lungs become healthy and powerful.

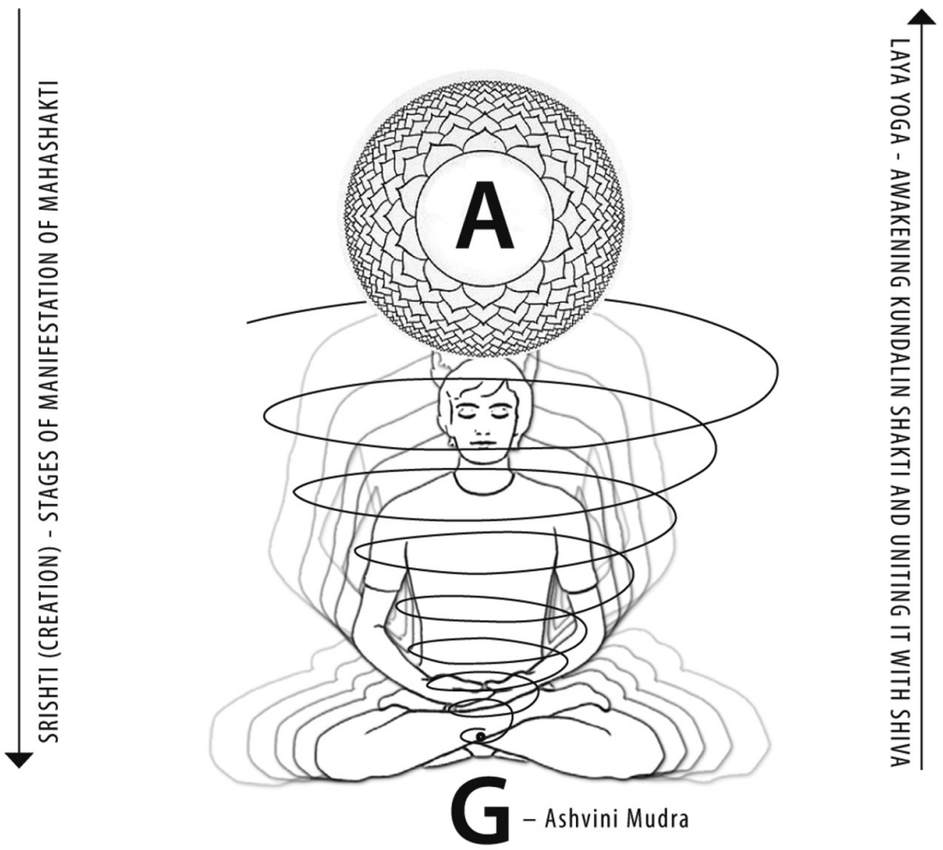
26. The Crow - pranayama

Purse your lips and let the breath slowly stream in through this hole with a slight sound. Notice a cool feeling in the mouth. Hold the breath and puff out your cheeks for a while. Then relax the cheeks and exhale through the nostrils. Repeat this sequence about 10 times.

Benefits:

This relaxes the head physically, eliminates mouth and throat diseases, and improves digestion by increasing glandular secretion.

ANTARA KUMBHAKA WITH ASHVINI MUDRA



27. Spontaneous breathing

This is a breathing, relaxation, and meditation exercise. It is practiced in Anandasana. Experience your whole body, the whole body at once, and feel for some time how it is motionless. Then begin to experience that this motionless body is alive, it is breathing. Let it breathe freely, avoid slowing down or speeding up your breathing, avoid controlling it, breathe freely, spontaneously, and continue being the innocent witness for 10 to 15 minutes. After a while make sure that you are breathing with your belly. Otherwise, use a little bit of willpower and feel that you breathe with the belly, but avoid disturbing the free rhythm of your breath. Let your belly expand as you inhale and let the rest follow. Let your belly sink down and relax when you exhale. Do not border about your mind. Breathe freely and spontaneously with your attention on your belly. Continue noticing how your belly rises and falls with the natural breath. Use this exercise at the end of the practice of a sequence of pranayamas or asanas.

Benefits:
It calms the mind and is good against neurosis and anxiety disorders.

28. Set of pranayamas for strengthening immunity and improving health

- Ujjayi breaths (3)
- Bhastrika Pranayama (moving the hands in three directions - 3 min.)
- Ujjayi breaths (3)
- Kapalabhati Pranayama (three series of 10 breaths. Between series 3 Ujjayi breaths - 3 min.)
- Ujjayi breaths (3)
- Bahya Pranayama with Maha-bandha (3)
- Ujjayi breaths (3) with attention moving along the spine
- Fast pranayama (2 min.)
- Sukha Pranayama (3 min.) with attention moving along the spine
- Nadi Shodhana Pranayama (5 min.) with attention moving along the spine
- Ujjayi breaths (3) with attention moving along the spine
- Bhramari (5 min.)
- Ujjayi breaths (3) with attention moving along the spine
- Antara Kumbhaka with Ashvini Mudra (3)
- Ujjayi breaths (3) with attention moving along the spine
- Shitali pranayama (3)
- Ujjayi breaths (3) with attention moving along the spine
- Ānandāsana 10 minutes

During the pranayamas hold Moola-bandha and Jihva bandha all the time. During Antara and Bahya Kumbhaka maintain Shambhavi Mudra.

Benefits:
It improves the quality of the blood, strengthens immune system and aids in the elimination of toxins from the system. Improves the health of the nervous system, rejuvenates the glands and reduces anxiety levels.

29. Pracchardana pranayama

Sit in Padmasana with a straight spine and throw out all the air contained in the belly through both nostrils. This must be done as if you were vomiting. Then retain the breath out (Antara kumbhaka). The Yoga *sutra I.34 pracchardana-vidharanabhyam va pranasya* says that the air of the stomach should be thrown out with efforts through the nostrils, as if you were vomiting, and then it should be retained out. The word Prachhardana in the Sutra means vomiting and the wor
vidharana means "retaining out". Therefore, the practice consists of exhaling and retaining out the breath – exhaling and retaining, both are done in one pranayama.

Benefits:
The Yoga sutra commentator, Vyasa, explains that this pranayama is meant for steadying the mind and the intellect.

30. Shanmukhi Rechaka Pranayama

Sit in Swastika asana. Press the right nostril and throw out the air contained in the space between the end of spinal cord to the stomach-area. Now, close the ears with the thumbs, the eyes with the index fingers, the nostrils with the middle fingers, the lips with the fourth and the fifth fingers, and do the Jalandhara bandha, while holding out the breath as long as possible (also do Shambavi mudra while holding out the breath). When you have retained the breath out as long as possible and wish to inhale, then lift the middle finger of your left hand and inhale slowly, and then, without any retention, exhale quickly and retain the breath out again. Repeat this from left to right and vice versa.

Benefits:
This pranayama gives real insight and the spiritual light appears. The mind is quieted and becomes steady.

The seven steps of mastering pranayama

When starting to learn pranayama, newer hold the breath after inhalation, as it may lead to chest pains and heart failure. As a lion, elephant, or tiger is tamed slowly, so too should the breath be brought under control gradually. Else it will harm the practitioner. One must take in the breath gradually, and then let it out gradually. One must also retain the breath gradually. Thus success is obtained. Furthermore, such practices should not be done alone, but with proper guidance. Mastering pranayama is similar to mastering asana. It happens on a horizontal level (different kinds of pranayama, from more easy to more difficult), as well as on a vertical level, involving seven steps of developing inner awareness and mastery, over all four phases of breathing, to attain the state of Kevala Kumbhaka:

Stage	**Puraka**	**Antara Kumbhaka**	**Rechaka**	**Bahya Kumbha**ka	
1	1	0	1	0	Samavritti
2	1	0	2	0	Vishamavritti
3	1	0	2	1	Sahita Kumbhaka
4	1	1	2	1	Sahita Kumbhaka
5	1	2	2	1	Sahita Kumbhaka
6	1	3	2	1	Sahita Kumbhaka
7	1	4	2	1	Sahita Kumbhaka
					Kevala Kumbhaka

From steps 1 to 3, the process is langhana (purifying) and the steps 4 to 7 are bramhana (nourishing).

Note:

Make the exhalation equal to or longer than the inhalation. Never make the inhalation longer than the exhalation. First make the exhalation equal to or longer than the retention of the breath after inhalation. The ratio of 1 : 4 : 2 : 1 is very advanced and should not be practiced without proper personal guidance. Let the focus of your practice be on the smooth-flowing quality of inhalation and exhalation (making the breath dirgha and sukshma). If the breath gets strained or jerky, then reduce the threshold. Retention of the breath after inhalation and suspension of the breath after exhalation must not compromise the smooth flow of the inhalation and exhalation. Never force the breath. Go on higher levels only after mastering the previous one. These ratios on each level should be explored cautiously, preferably with the guidance of a trained teacher, within the boundaries of established thresholds. If you practice pranayama in a sequence of about 15 minutes, then for the first 5 minutes (entering phase), use a mild ratio and length of breath. Then, for the next 5 minutes, use the maximum ratio and length of breath, according to your threshold. The exit phase should again be the same (mild) as the entering phase.

Kriyas are Kriyas are the techniques aimed at cleansing the body. The word kriya means “action”.

योग

CHAPTER 5

YOGA PURIFICATION EXERCISES - YOGA SHUDDHI KRIYAS

Kriyas are not necessary if you know how to do proper asana and pranayama. Kriyas should not be practiced as a daily routine. They should be practiced only if there is need to balance some aspect of our physiology which is out of its proper function and if the channels of our body are blocked with impurities. Doing Kriyas everyday, without proper indication of their need, will create imbalances in the physiology.

Kriyas can also be performed in connection with asanas. This makes an asana more intense, but at the same time also more limited. These kriyas can be considered as the dynamic, fragmentary actions of a more general and comprehensive plan, laid out in the enfoldment of the asana itself. Kriyas can be practiced as preparatory movements for the asanas or they can be performed, at a more advanced stage of the practice, as a way of generating more prana within the energy pattern, delineated by the asanas. Some important kriyas are: Agnisara Kriya, Ashta Sandhi Vimochana Kriya, Baddha Hasta Kriya, Bhujangini Kriya, Nauli Kriya, Prishtha Tadana Kriya, Sarpa Kriya, Ushtra Kriya, etc.

Learning and practicing: shatkarma, shankhaprakshalana and kaya kalpa.

Caution:
One should start the following cleaning procedures only under the guidance of a Yoga expert and after consultation with the physician!

Shat-karma

Netir Dhautis tatha Vastis Tratakam Naulikam tatha, Kapalabhatis chaitani sat-karmani samacharet.
These six acts are named Dhauti, Vasti, Neti, Trataka, Nauli and Kapalabhati.
– Hatha Yoga Pradipika II.22

One who has an excess of fat and kapha should practice these six actions of purification before the practice of pranayama. Others should not practice these exercises because their doshas are in balance. Fat and excess kapha in the body interfere with the practice of pranayama and with the advanced practices of Hatha, which aim at controlling the breath for an extended period of time. Therefore, it is important to get rid of fat and excess kapha. This is the real purpose of the kriyas. Kriyas are the preparation for pranayama, not a therapeutic intervention. Practices similar to the kriyas are well known in Ayurveda, such as vamana (emesis), virecana (purgation), vasti (enema), and nasya (administration of nasal medication). Ayurvedic texts (like Caraka Samhita) which predate later yoga texts by many centuries, describe these procedures in details. The kriyas in the yoga texts are not described for the purpose of treatment. It is not possible to use them in treatment without the detailed information available in Ayurveda. Ayurveda emphasizes the need to ensure that natural urges of the body, such as bowel movement, urination, cough, thirst, hunger, vomiting, and sleep are not disturbed. When these urges are either suppressed or provoked, disorders are likely to arise. The practice of some of the kriyas can amount to provoking these natural urges unnecessarily in a healthy person and can result in ill health.
In HYP the "shat-karma" (six actions of purification) are described as follows:

- *Slowly swallow a wet piece of cloth, four fingers wide and fifteen spans long according to the Guru's instructions and slowly pull it out again. This process is called Dhauti. (HYP II.24)*
- *Seated in water up to the navel in the Utkatasana (squatting pose), insert a (small bamboo) tube into the anus and contract the anus (so as to draw water in, shake it and then expel it). Such washing is Vasti. (HYP II.26)*
- *Insert through the nasal passage a smooth thread of the length of a handspan and draw it out through the mouth. This is called Neti. (HYP II.29)*
- *Look with fixed eyes (without blinking) at a minute object with concentration until tears are shed. This is called Trataka. (HYP II.31)*
- *With the shoulders bent down, one should rotate the stomach to the right and the left, with the speed of a fast-circling eddy. This is called Nauli. (HYP II.33)*
- *Perform exhalation and inhalation rapidly like the bellows of a blacksmith. This destroys dis eases of kapha. This is Kapalabhati. (HYP II.35)*
- *Draw up apana to the throat and vomit the substances that are in the stomach. The gradual practice of this brings all the nadis under control. This is called Gajakarani. (HYP II.38)*

Numerous health benefits, both therapeutic and preventive, as well as some spiritual benefits are said to arise from the practice of these kriyas:

- *Without doubt, cough, breathlessness, phila (diseases of the spleen), skin diseases, and all twenty diseases that arise from kapha are removed by the efficacy of Dhauti. (HYP II.25)*
- *By the efficacy of Vasti, gulma, pliha, udara (various abdominal disorders), and diseases arising from vata, pitta and kapha (all the three doshas of ayurveda) are cured. (HYP II.27)*
- *This Vasti, when practiced, refines the body tissues (dhatus), the sense organs and the internal organ (mind). It makes the body bright and increases the digestive power. It destroys (diseases arising from) the increase of all the three doshas. (HYP II.28)*
- *Neti purifies the (region of the) skull and bestows extraordinary sight. It soon removes all diseases of the body above the shoulders. (HYP II.30)*
- *By Trataka, all diseases of the eyes are removed and sloth etc. is overcome. It should be care fully kept secret like a casket of gold. (HYP II.32)*
- *Nauli, the crown of Hatha yoga practice, stimulates the gastric fire, if dull, increases the di gestive power, produces happiness, and destroys diseases arising from all the doshas. (HYP II.34)*

Gheranda Samhita also talks about practice of various kriyas in detail.

When learned from a competent yoga teacher, the purification exercises should be done in the following order:

- Neti
- Khecari
- Kunjara, Kunjala, Gaja Karani, Brahma Datun, Jala Dhoti, Prabhati
- Dhoti, Vastra Dhoti

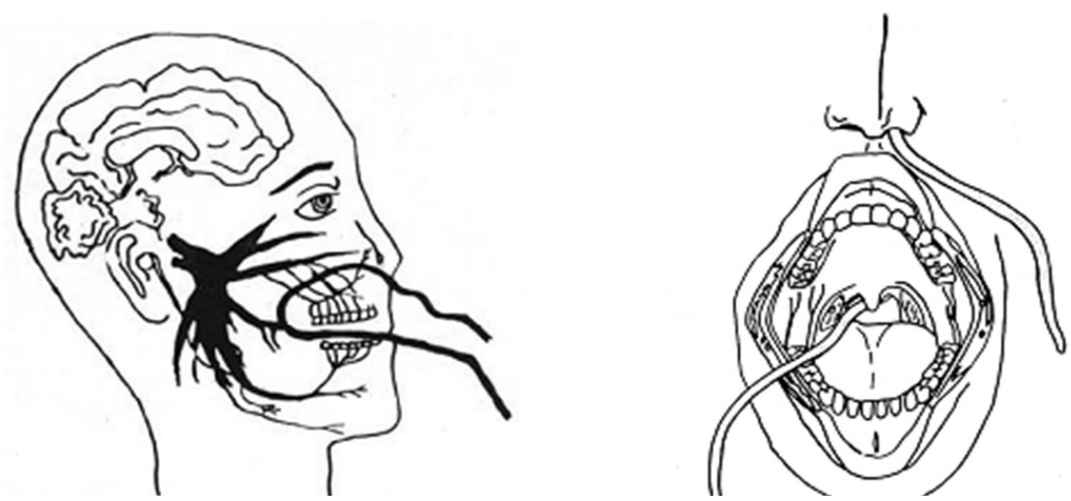
- Vasti
- Ganesa
- Nauli
- Vajroli
- Trataka
- Pranayama

1. Neti

Neti kriya is the most important practice. It stimulates and cleans the eyes, ears, nose and all the sinuses. It removes infections and congested mucus from these areas. For the first two weeks do neti every day, then for next two weeks do it 2 times a week, and then continue doing neti once a week. Through motor and sensory nerves, it acts and reacts on the cerebrum, cerebellum, mid-brain, and the central nervous system, thereby exercising a wholesome influence on the organs and systems of the whole body. It helps in controlling the five human drives or passions: sex or libido (Kama), anger (Krodha), greed (Lobha), infatuation or attachment (Moha), and egoism (Ahankara). These sway the human life and are connected with the eyes, the ears, the tongue, the nose, and the skin respectively. Neti eliminates toxins (mala-sudhi) from the body, rejuvenates the organs and ensures a long and healthy life. The following are the various kinds of Neti:

- Ghee-Neti: Pour 10 drops of ghee (heated and clarified butter) in each nostril, before going to bed every night. It prevents colds, catarrh, many diseases of the sinuses, and of mind and body.

- Ruber-Neti: Take a catheter No.5 (No.3 or 4 for children of 7 to 10 years of age). Pass it through one nostril slowly. When it reaches the throat in the mouth, draw it out with two fingers. Hold its ends in each hand. Then slowly work it up and down, several times keeping the mouth open. Then fill the mouth with clean water and closing it, work the Neti slowly several times. Do the same with the other nostril.



Ruber-Neti

- Water-Neti (Jala Neti): Sprinkle cold water in the eyes 3 to 4 times a day after washing the mouth. Doing Jala Neti after this helps to improve the eyesight. Heat in the head subsides. It prevents / stops the falling out of hair. It also helps with asthma, migraine, and sleeplessness. Take a spouted cup or vessel. Have a jug full of body-temperate and filtered water, with salt added to it (one tea spoon to 1/2 litre of water). Fill the cup or the vessel with water from the jug. Insert the spout in the right nostril and tilt the head to the left. By doing so, the water will flow out from the left nostril. Repeat this by filling the cup or the vessel with water from the jug and inserting the spout in the left nostril, tilting the head to the right and pouring out water from the right nostril. Start mouth breathing as easily as you can while the water is flowing. Practice it for at least for 40 days. After that, water can be drunk through the nose.



Water-Neti

- Milk-Neti: When the nose has been thoroughly cleaned by the water-neti for 40 days, then drink a cup of fresh, lukewarm, and filtered milk through the nose.

- Uparanta-Water-Neti: Fill the mouth with clean filtered salt water. Bend down to the knees and try to spill the water out of the nose. Do it several times.

- Yugala-Neti: Simultaneously pass one catheter through both the right and the left nostrils. Then drawing them out from the mouth, work them up and down in the same way as in rubber-neti.

- Sutra Neti: The same as Ruber- Neti but using a string.

- Namaskara-Pranayama: Stand with the feet apart, join the hands as in worship and do the Bhastrika Pranayama raising the head slowly upwards and then bringing it down slowly to the knees. This pranayama consists in drawing in and expelling out the air in quick succession, from the nose with the mouth closed, to expel all water after doing Jala-Neti.

Note:
Wash the catheter with warm salted water, dry it and preserve it in a wide-mouthed bottle with a lid or stopper. Label the bottle with the name of the user so that nobody else should use it.

Benefits:

These Neti-Kriyas invigorate every vital part of the body like the brain, the eyes, the nose, the ears, the tonsils, etc. Diseases like pyorrhea, asthma, tuberculosis, kidney and gall stones, insomnia, nervous weakness, skin infections, etc., can never attack one who practices them.

2. Khechari Mudra

Filter about ½ liter of milk through a muslin cloth into 2 bowls. Thoroughly soak 2 handkerchiefs in the strained milk. Hold out your right hand with the thumb and the joined fingers apart. The fingers should be one above the other, jutting in front, but parallel to the ground. Then place one of the soaked handkerchiefs over the hand and make a hollow between the thumb and fingers by pressing down the handkerchief. Then stick out the tongue and grasp it within the hollow of the handkerchief, keeping the fingers above and the thumb below the tongue. Massage the tongue vigorously, from its root to the tip, by pulling it for a minute or two.

Then massage the sides of the tongue for a minute or so by holding it between the fingers on one side and the thumb on the other. Lastly, raise the tongue and massage its underside from root to tip. Keep the handkerchief wet throughout the massaging by pouring some milk over it occasionally. When it gets dirty during the massage, discard it and use the other handkerchief that is kept ready in the second bowl.

The main purpose of this exercise is to increase the length of the tongue until it touches between the eyebrows. Khechari Mudra is rolling up the tongue in the mouth, blocking the throat. This catches the drops of ambrosia from the brain and retains all the air in the body. This exercise also helps to cure stammering, deafness, bad eyesight, nervousness, and insomnia.

3. Kunjara-Kriya (Gajakarani):

This kriya can be done only after uddiyana bandha is mastered. Kunjara means elephant. The elephant draws in the water through its trunk into the stomach and expels it out in a jet. Similarly, water is drunk through the mouth, till no more can be taken in, and then it is expelled by the action of the abdominal muscles. It removes phlegm and other impurities from the stomach and makes the body clean, the skin resilient, strong and healthy, and prolongs life. The elephant always breathes through its trunk and continuously sways its body from side to side. We should also breathe through the nose and exercise our spine regularly.

A complete course of cleaning exercises for the body should take 11 days, but if a holiday of this length is not available, 7 or 4 days will suffice, starting on a Thursday:

- Day 1: Take a purgative of triphala (harar, bahera, and amla) or magnesium sulphate. No food should be taken.
- Day 2: Just have a little light food such as rice, green (mung) pulse, a mixture of the two with ghee (khichri), or soup made from vegetables or grams.
- Day 3: The same food, as required, but only a little at a time. At night drink some warm milk mixed with ghee.
- Day 4: To do this kriya, prepare a mixture of lemon juice and salt in warm water (3 to 4 liters) and filter it through a thick cloth into a jug. Select a clean place that is not windy or enclosed.

This should be done on an empty stomach and with a companion on hand. Take a peace of cloth, 10 feet long and 1 foot wide. Your companion should roll it up and tie it around your chest, while you hold your hands above the head. To keep it in place, tie some string around it, but not too tight. Sit down in crow asana, flat footed (thighs tolerably stuck to stomach) and drink as much of the warm water as you can. Then walk about for a minute or two. Again, sit down, drink, and then walk around. Then, if you can, drink some more, so the water comes up to the level of the throat. Then your companion should wash a catheter No.12 and lubricate it with ghee. Put one end of it into the throat and try to pass it down to the stomach, without force. When it can go no further, just keep it there. The water will automatically be regurgitated. If your throat is very sensitive, simply tickle the uvula with a finger. Regurgitation is helped by pushing the stomach in and out. If you suffer from a chronic dis ease, any heart trouble, asthma, or have just had an operation, you should consult the doctor. When all water is out, you should urinate. Undo the cloth and lie down in Shiva Asana. Then drink some tea made of aniseed, liquorices and caraway seeds.

- Days 5-11: Daily do Kunjara Kriya followed immediately by Dhoti Kriya and all the other cleansing exercises described herein, including Neti.

4. Dhoti Kriya

Obtain a 3 meter roll of good quality muslin about 3 inches wide. Unwind it into a basin of warm water or filtered milk. Make a little ball on one end and place it at the back of the throat. Keeping the muslin moist swallow it as far as it will go. At first you may find it impossible to swallow it, but with a little fasting and practice, it will pass down easily with swallowing movements of the throat muscles. Always retain the free end, and when you cannot swallow any more, pull gently and continuously on the muslin until it is all out. If it becomes blocked, simply swallow some water and it will be freed automatically.

The muslin, when out, will be full of phlegm and mucous. Boil it in fresh water and remove the froth that rises to the surface. Then boil a second time in fresh water. Do not use any soap. After rinsing thoroughly, hang it up to dry.

Each day swallow a little more, and when you find that you can easily take in 3 meters, buy a longer piece. This exercise must always be done under the guidance of a Yoga teacher. After Kunjara Kriya, this exercise becomes very easy to do.

5. Vasti Kriya (Enema)

This exercise is useful even for children and should be done once a month, twice a month if possible. Obtain an enema syringe from a chemist shop. Warm some water and add lemon juice and salt to it. Then filter it into an open vessel. Squat down in the lavatory and place one end of the syringe into the water and insert the other into the rectum and stand up. Push the stomach in and out for a few minutes, and do Nauli Kriya until you evacuate fully without force.

Different mixtures of water may be used, but always under the guidance of a yoga teacher. This mixture is safe. Yogis have always done Vasti Kriya in combination with Nauli. It is followed by Vajroli Kriya.



6. Ganesa Kriya

This is practiced in a lavatory after having evacuated. Wash your hands with soap and water. And pare down the nails of both hands, removing all the dirt from them. Then put rubber gloves, as used in surgery, on the index and middle finger of the left hand. Dip the index finger into a container of castor oil and insert it into the rectum and move it around in a circular motion. Massage the base of the spinal chord for a minute or two. After that, do the same with the middle finger dipped in the oil.

Ganesa Kriya removes constipation and nervousness, helps in curing piles and prevents inflammation of the prostate gland in old age and thus any surgical operation of the prostate, which sometimes proves fatal. This exercise is done in the morning after evacuation and in the evening before going to bed. It is best if it is started in childhood.

7. Nauli Kriya

Put on underwear in which the thighs remain uncovered. Rub a few drops of mustard or olive oil on the thighs and the lower part of the abdomen below the navel, which should also remain uncovered for 3 or 4 inches. Assume a standing position, in front of a large mirror if possible, with heels about 6 and toes about 12 inches apart. Proceed as follows:

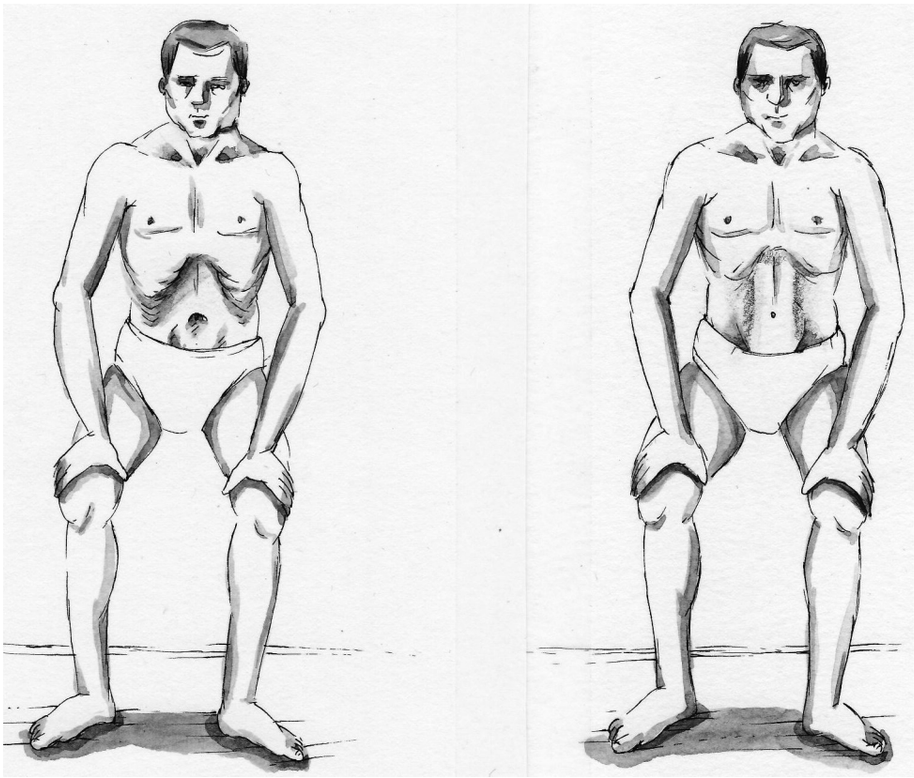
- Put the hands on the sides between the ribs and the pelvis with the thumbs pointing to wards the back and fingers in front.
- Fill the abdomen with a full and deep breath, and push the air down below the navel. Then draw the abdomen in and push it out alternately 10 to 15 times, holding the breath the whole time.

Udiyana Bandha:

- Standing and keeping the hands in the same position as above, empty the lungs as far as possible by exhaling the breath. Holding the breath, draw the abdomen in towards the spine as much as possible and then push it out. Do this 10 to 15 times. Stop, breathe in, and relax for some time.
- Perform Udiyana Bandha as described above and bend the knees a little forward. Then plac ing the palms on the thighs with thumbs kept inward and fingers outward begin rubbing on each side 10 to 15 times. Stop, draw in the breath, and relax for some time.
- Again perform Udiyana Bandha and bend the knees, as described above. Now, holding the breath, rub the thighs simultaneously with both hands. In this way, the central Nauli would begin to work. Repeat the rubbing for 10 to 15 times, stop, inhale, and relax for some time.

Churning of Nauli:

- Perform Udiyana Bandha as before. Bend the knees a little and put the hands on the knees. Move the abdomen in a circular motion from right to left and left to right ten times to each side. In this way, there is the churning of the Nauli. Stop, draw the breath in, and relax.





Uparanta Nauli:

- Breathe into the abdomen and hold it. Bending the body a little, put the hands on the knees. Now roll the abdomen from above downwards 10 times and from below upwards 10 times. This will reduce obesity. Women during menstruation or pregnancy and people suff - ering from chronic diseases or recovering from an abdominal operation, etc., are forbidden to do this Nauli. In other cases, it is extremely beneficial for intestinal, gastric, stomach, kid - ney and gall bladder troubles.

8. Vajroli Kriya

This Kriya is only taught by Yoga teachers to suitable and advanced pupils. Vajroli is described in the Hatha Yoga Pradipika. Vajroli involves training to draw up liquids through the penis, with the eventual goal of being able to draw back the semen that is ejaculated.

9. Trataka

Look at a small round object (Shiva linga), some spot on the wall, or the light of the kindle, without blinking, until tears run down the cheeks. Do not stare, as this involves tension. Simply look at the object, which should not be too near, nor too far, thus focusing unconsciously. When tired close the eyes and meditate on the point between the eyebrows. This greatly improves the nervous system, will power, and is also an aid to meditation.

10. Pranayama

Kapalabhati pranayama: It is pranayama performed sitting in the lotus posture or in any other pose that is comfortable, as long as the spine is erect. Breathe in and out in rapid succession from the abdomen, without moving the chest or allowing the anus to contract. This produces a feeling of extreme lightness of the head and makes the body vibrate, sometimes violently. Continue for as long as you can.

Pani pranayama: Sit down underneath a tap and fill your mouth with water. You must therefore breath through the nose. Breath in and out in quick succession. Water goes into the nose as well and cleans it out. Be careful as the body sometimes does not accept too violent an action and you may choke. Repeat several times. After a few days you will become used to this. It is essential to do neti beforehand otherwise you will quickly choke on excessive phlegm. A variation which should also be done while sitting under the tap is to stretch both arms above your head, palms togeth- er. You can also do this in a river, filling your mouth with water, totally immersing yourself, while breathing rapidly in and out through the nose. Also you can float on your stomach and do this.

Shankhaprakshalana

Shankhaprakshalana is a method of evacuating and cleansing the entire alimentary canal, from mouth to anus. In fact, this is the meaning of the word shankhaprakshalana: Shankha means “shell” and prakshalana means “cleaning shell” by pouring water into its spiral structure. It is such a wonderful technique that it is surprising that it has not been adopted more widely throughout the world. To the best of our knowledge, it is the only systematic, sure, and gentle method of thoroughly cleaning the entire digestive system. Though laxatives empty the system, they do so forcibly and cause excessive irritation. Moreover, laxatives do not scrub the whole digestive tract as thoroughly as the moderate method of shankhaprakshalana.

This practice is also known as varisar dhauti. The word vari means 'to clean' or 'wash'. It is also called kaya kalpa which means a technique to transform the whole body. And indeed it does just this: It improves the condition and health of the entire organism.

Scriptural References

Shankhaprakshalana is mentioned in many of the old yogic texts. However, it is rarely given in detail, for it was intended to be practiced only under the direct guidance of a teacher or guru. It is totally impossible for one to understand and practice the full technique of shankhaprakshalana by reading traditional yogic texts. For example, one of the most detailed descriptions is given in the Gherand Samhita:

"Drink water slowly up to the vocal cord. Move the water in the stomach. Then evacuate it." (ch. 1:17)

The text gives no more practical information, though it does give one more verse to extol the benefits of the practice.

"Varisar is most secret. It purifies the body. One who perfects this with great effort acquires a divine body." (ch. 1:18)

The ancient yogis purposely recorded vague descriptions of this technique and many others. They wanted people to know that the technique existed, yet did not want people to practice it without the direct guidance of an expert. There is a lot of sense in this, for if shankhaprakshalana and other yogic techniques are done incorrectly, they can cause more harm than good. Therefore, the ancient yogis were careful; they encouraged people to be interested, but made it necessary that they seek and find a guru before they could practice the technique. If you do this practice alone, without tuition, you must follow the instructions exactly as given below. If you don't do this, perhaps disregarding a seemingly inconsequential rule, then you may harm yourself. In the section on food restrictions, an example is given of how a person can cause harm to himself, by breaking a basic rule.

Preparation

It is advisable to take only a light, semi liquid diet in the evening and night before shankhaprakshalana.

Don't do any asanas early in the morning before commencing and also do not take any food, tea, coffee, etc. before the practice.

Plenty of hot water should be made available. The amount depends on the number of people intending to do the practice. But a bucket of hot water should be ready before beginning the procedure. There should be one person with you who does not do the practice and he or she can prepare more hot water as it is required. Furthermore, while you are actually doing the practice, this extra person can start to prepare the special food which you will eat when you have completed the practice.

Using another bucket, mix this hot water with cold water so that you have a large quantity of lukewarm water. The water should be reasonably warm, but not so warm that you cannot drink it comfortably. Then you must add salt to this water so that the water tastes salty. In other words, don't add too much salt so that the water is undrinkable, but at the same time add enough so that it can be tasted. As a guide, we suggest that you add salt in the proportion of two full teaspoons per liter of water. This need not be exact. You must use your own discretion. Thoroughly dissolve the salt in the water. The importance of salt is to make sure that the water only passes through the digestive tract and is not absorbed in the intestines. Salty water also loosens dirt accumulated on the walls of the intestines.

A glass should be made available for each person who is doing the practice. Each person is likely to consume more than sixteen glasses of water, so make sure that you have a steady and sufficient supply of warm water.

Wear light and comfortable clothes. The clothing in which you normally practice asanas would be the most suitable.

Climate

It is important that shankhaprakshalana is practiced only when the climatic conditions are not extreme. You should not practice when the weather is very cold. If you live in a country with a cold climate, you should practice in the summer when the days are warm. This is important for it is easy to chill the stomach and intestines if you practice shankhaprakshalana in cold weather. Similarly, don't practice when the weather is oppressively hot, for this will tend to make you sweat during the practice. Remember, that you will be performing five asanas eight times each, and this procedure will probably be repeated more than eight times (that is, 5 x 8 x 8 = 320 movements). This requires a lot of energy. Therefore, practicing in a hot climate will be a most uncomfortable experience. If you live in a hot country, we suggest you practice early in the morning and possibly in the winter time.

Surroundings

The best place to practice is in a garden or on a verandah where you are in contact with fresh air. Also make sure that a toilet is reasonably accessible. In the later stages of shankhaprakshalana it becomes a little difficult, to say the least, if you have to run a hundred yards to the nearest toilet. It

is not necessary to practice in the toilet or immediately outside the toilet, but the toilet should be situated reasonably near, within a few seconds walk, so that you can reach it quickly when circumstances demand it. Another point to note is that it is most ill-advised for large numbers of people to practice together when there is only one toilet available. A good ratio is that there should be one toilet for every two or three people.

Don't start the practice with an attitude of grim determination, for this is a sure way to create tension and prevent free bowel movements. Approach the practice with a feeling of fun and light heartedness, for this is the way to finish the practice quickly and enjoyably. Shankhaprakshalana should be practiced in a jovial and friendly group atmosphere, for it is this setting that makes the practice fun and easy to carry out.

Time

The complete practice of shankhaprakshalana takes two days. This includes about three or four hours for the actual cleansing process and the remainder of the time for rest. If you have a weekend free, without any duties or commitments, we suggest that you practice during this time. Generally, the best time of the day to begin is about seven o'clock in the morning, but this will depend on the weather.

Procedure

1. Drink 2 glasses of warm salty water as quickly as possible.
   Note:
   If you have difficulties drinking the salt water, then imagine (though it may be difficult), that you are drinking a refreshing cup of tea. Don't sip the water – drink it as quickly as possible; if you slowly sip the water it will take you the whole day to finish the practice. And in fact you might not finish at all.

2. When you have drunk 2 glasses, you must perform the 5 shankhaprakshalana asanas:

Tadasana –	8 times
Tiryaka tadasana –	8 times
Kati chakrasana –	8 times
Tiryaka bhujangasana –	8 times
Udarakarshanasana –	8 times

   Make sure that the asanas are performed correctly/properly.

3. Then quickly drink 2 more glasses of salt water. Again repeat the 5 asanas 8 times each.

4. Repeat again: Drink 2 more glasses of salt water and again perform the 5 asanas 8 times each.

5. Now you MUST go to the toilet.
   Note:
   Even though you might not feel any urge to empty the bowels, you must still go. But, under

no circumstances should you strain; merely sit or squat on the toilet for a short time, say a minute or so. It does not matter if you have movements in the bowel or not.

6. Return to the place of practice and drink 2 more glasses of salt water and then perform the asanas again, 8 times each.

7. Then go to the toilet again.
   Note:
   Don't use any force trying to produce a bowel movement.

8. Then drink 2 more glasses of water and repeat the asanas. Again go to the toilet.

9. Continue in this way: Drink salt water, perform the asanas and then go to the toilet, until the end of the practice. After some time, you will have some bowel movements. It may be after 6 glasses, 10 glasses, 16 glasses, 20 glasses, or more. The number of glasses is not important. Some people need many more than others, before they have any results. Don't compare yourself with others under any circumstances. Let them do their practice in their own time. Don't worry if you take much longer to get an initial motion or complete the practice, compared to others.

10. In your first bowel movement, you will probably evacuate solid stool. Continue to drink the salt water and do your asanas.

11. Eventually, you will find that you start to evacuate a mixture of stool and water with each bowel movement.

12. Continue to drink the water and do your asanas. As you progress, you will find that you ex - crete more and more water and less solid stool.

13. Towards the end of the practice, you will merely release a brown or yellow liquid. Continue to drink water and do the asanas. Continue the practice until you emit perfectly clean water.
   Note:
   This is a sure sign that your intestines are perfectly clean, probably the cleanest they have been ever since you were born.

14. Once you are evacuating perfectly clean water, then drink 2 more glasses of water, practice the asanas, and again go to the toilet. This will make sure that your intestines are in the best and cleanest condition.

15. This is the end of the cleansing practice. Some people finish very quickly while others take as long as 4 hours. On the average, between 16 and 25 glasses of salt water must be taken before perfectly clean water is evacuated. Some will take even less and some will take more.

Supplementary Techniques

Though not compulsory, we recommend that the following two practices be done immediately after completing shankhaprakshalana: kunjal kriya and jala neti. Finish shankhaprakshalana with these two practices. This gives the best possible cleaning of the entire digestive tract. First practice kunjal kriya, then jala neti.

Thirst

After completing shankhaprakshalana and the supplementary practices, you may feel thirsty. But you must not drink any water for at least three hours. All other drinks are also prohibited. This is important for various reasons. If you drink cold water then this will tend to chill the digestive system, especially since the digestive system has been scrubbed super clean. Furthermore, immediately after completing the practice, the body starts to build up a new protective layer on the stomach and the intestinal wall. This process is supplemented/supported by the ghee from the food you will eat shortly. If you drink water at this time, then you will tend to dilute and further scrub away the new protective film.

Rest Immediately After Completing the Practice

When you have completed shankhaprakshalana and the two supplementary practices, then you should take complete rest for forty five minutes. Don't sleep. Merely sit quietly. If you wish, you may lie down, but we emphasize that you make sure not to fall asleep (if you do sleep, you may get a thumping headache). This short period of time is important for your whole digestive system to take a well earned rest. Rarely does your digestive system take total rest, for it is almost continuously digesting food. Even when it is not digesting food, it does not completely rest, for then it takes the opportunity to clean out the digestive tract of the debris, impurities, and waste particles of food. These forty five minutes are a time for the digestive system to revitalize itself.

During this period of rest, you might find that you need to excrete more water from the bowels. Don't worry this is normal.

Preparation of Special Food

While you are resting after shankhaprakshalana, another person, who has not done the practice, should be preparing the special food for you to eat. You should not prepare the food yourself, you should only rest.

The food must be prepared from rice (white or brown), pulses (mung dal) or lentils, cooked with ghee (clarified butter). This is known as khicheri. The rice should be high quality and easily digestible. Make sure that the pulses or lentils are also good quality and easily digestible.

Sufficient food must be prepared to fill each person, who has done shankhaprakshalana. That is, each person must eat a sufficient amount to replace the volume of food that has been removed from the digestive system by the salt water.

The rice and lentils can be cooked together in water, until they are soft. Simultaneously the ghee can be warmed and melted. When the rice and lentils are cooked, a little salt and turmeric can be added if necessary, though this is not essential. Then mix in ghee abundantly, so that the final preparation is reasonably liquid.

This special food is absolutely necessary to gently and effectively re-lubricate the whole digestive tract. Remember, shankhaprakshalana not only removes all waste matter from the digestive system, but it also removes all the natural mucus layers from the intestinal walls. Therefore, after the cleansing practice, the walls of the digestive tract are completely bare. The ghee, in reasonable quantities, is essential to replace the natural film on the intestinal walls with a temporary coating. The body will eventually produce a new layer, but this takes some time. It is a completely abnormal condition

for the intestines to be without this protective coating and to be completely empty. Therefore, it is essential to eat a reasonable amount of khicheri. The ghee provides a temporary film on the wall, while the rice provides a simple, easily digestible packing material. The lentils supplement this diet by giving the body an easily digestible source of protein.
Another factor is that the rice (especially white rice) tends to create mucus. This is of course just what is needed after shankhaprakshalana, in order to protect the inner lining of the alimentary canal. More khicheri must also be prepared for the evening meal.

When to Eat

Each person who has done shankhaprakshalana should eat the khicheri preparation after taking the forty five minutes rest. If a large group of people do the practice, it is certain that each person will take their food at different times. Don't allow more than one hour to elapse after finishing shankhaprakshalana before eating your food. Everyone should take more khicheri in the evening. Make sure that you eat sufficient food to fill your stomach. You may not feel like eating, but you must take food, for this is necessary to quickly reline and fill your intestines. Without its natural lining, the intestines are very vulnerable to infection, so make sure that you take plenty of ghee.

Subsequent Rest

Having eaten your food, you should take further rest. However, it is important that you don't sleep for at least three hours. You will be tempted to sleep, but try not to. If you do sleep you will pay the penalty. Premature sleep seems to lead to physical lethargy. So don't sleep for at least three hours after taking your food, if you don't want to be sluggish during the rest of the day and the following day. During these three hours you should rest, without doing any physical or mental work. After this time has elapsed, you may sleep if you wish. In this way you will avoid any negative side effects.

Food Restrictions

These apply for one week – no less! If you cannot abide by these food restrictions, we suggest that you do not practice shankhaprakshalana.

You should avoid the following foods: chemically processed, synthetic, pungent, acidic and non-vegetarian foods. This includes alcohol, cigarettes, tea, coffee, soft drinks, milk, buttermilk, yoghurt, spices and any characteristically acidic fruits such as lemons, oranges, grapefruit, pineapple, etc.

You must eat a simple, pure and reasonably neutral (not over acidic) diet. You may include most foods such as rice, wheat, bread, most types of fruits and vegetables with low acid content, nuts, lentils, pulses, soybeans, etc. Remember that you have cleaned the whole digestive system. If you eat the wrong food it may have adverse reactions on the digestive tract. Furthermore, make sure the food is clean, well cooked (if this is necessary) and not poisonous. After shankhaprakshalana your digestive system is more vulnerable to unsuitable, bad or dirty food, so take extra care to protect your body, following the above instructions. The whole aim of doing shankhaprakshalana is to clean out the poisons and accumulated waste products from the digestive system. Therefore, if you start to load the digestive system with the wrong food after doing the practice, you have defeated the whole purpose of this cleansing technique. You have wasted your time. If you do shankhaprakshalana and you want to gain the most benefits from the practice, take great care to follow the diet restrictions.

Asana practice and other physical activities

You should not do your regular asana program on the day you perform shankhaprakshalana, or on the following day. A lot of energy is expended to practice the shankhaprakshalana asanas, so it is important to give your body a rest. You may continue your asanas on the second day after doing the practice. For two days also avoid excessive mental and physical activities.

Caution:
The rules of shankhaprakshalana are extensive. There is however a valid reason for each rule and they should be carried out without fail. If you disregard even one rule, you may experience harmful or disagreeable consequences, which is a great pity, for this technique can give so many benefits.
Frequency

This is quite a long and complex practice. Normally you should not practice more than twice a year. You should allow six months to elapse before doing shankhaprakshalana again. Under special circumstances however, it may be necessary to repeat the practice after a short time, perhaps if a person suffers from chronic constipation. But don't do it without seeking expert guidance.

Limitations

This practice is not to be done by people who suffer from peptic or duodenal ulcers. People with high blood pressure should not practice alone, but should be guided by a qualified expert.

Benefits

Shankhaprakshalana purifies the whole body. There is no medicine or method (apart from a prolonged fast) that can clean the small and large intestines so thoroughly as this practice. Many diseases are directly or indirectly caused by the accumulation of toxic waste matter in the intestines. This practice expels all impurities from the digestive tract and thereby helps to purify the blood system. This can result in a wonderful and noticeable improvement in general health and also help in removing specific ailments. In particular, it has been found useful for the treatment of diabetes, hyperacidity, constipation, dysentery and many other ailments connected with impure blood, such as bad complexion and excessive occurrence of boils or pimples.

Those people who feel healthy can also do the practice, for they can improve their health, making them feel lighter, more cheerful and exhilarated with life. Furthermore, it will help to make their minds sharper. This is also a very important practice for those people who intend to perform intensive yogic techniques for developing higher awareness. Shankhaprakshalana, by purifying the body before the practice of yoga, helps greatly to make the mind and body more conductive for higher spiritual experiences.

Shankhaprakshalana Asanas

The following five asanas are to be specifically used in the intestinal cleansing practices of shankhaprakshalana:

- tadasana
- tiryaka tadasana

- kati chakrasana
- tiryaka bhujangasana
- udarakarshanasana

This series of asanas performs a special role in this practice, for they systematically open the various intestinal valves between the stomach and the bowels. When performed in the given sequence, these asanas progressively open the pyloric valve (at the outlet of the stomach), then the ileocecal valve (at the exit of the small intestine), and finally the valve (or sphincter) which forms the anus. The prescribed sequence of asanas is important and should be done in the order listed. In this way, the salt water is encouraged to flow from the beginning of the intestines to the rectum. For this reason these asanas are especially incorporated into the cleansing practices. Other asanas can also be used, but experience of yogis throughout the ages has shown that these five particular asanas are the most suitable.

These asanas also give benefits in their own right, apart from the association with these cleansing processes. These will be described in the following paragraphs:

Tadasana

The Sanskrit word tada means "palm tree", so the pose is called "palm tree pose". It is also referred to as the "heavenly stretch pose", because this is exactly what you do in this asana: stretch the body upwards towards the heavens.

Technique

- Stand erect with your feet about 15 cm apart. Keep your eyes open throughout the practice. Gaze at a point directly in front of or above you – this can be a spot on the wall, ceiling, or if you are practicing outside, it may be some spot in the distance. The object of your attention is not important, but you must keep your gaze fixed on it throughout the entire practice.
- Interlock the fingers of both hands and hold your arms directly above your head.
- Gently adjust your hands so that the palms face upward.
- Then stretch your whole body upward as far as possible.
- Straighten your arms, but keep the hands interlocked.
- Raise yourself onto your tiptoes, while all the time trying to stretch up as high as you can. At first, it may be difficult to maintain the balance, but with practice it becomes easier. The important thing is that you keep your gaze fixed on the chosen point.
- Remain in the final position for a few seconds. Then lower the body and bend and relax the arms. Allow the back of your hands to rest on top of your head.
- This is 1 round.
- Rest for a second or two. Then repeat, again stretching your whole body, arms and legs, as much as you can.

Breathing and Awareness

Breathe in deeply as you raise the body. Hold your breath in the final raised position and breathe out as you lower your body. The breathing should also be coordinated with the raising and lowering of the hands.
Direct your attention to any fixed point. Some people prefer to look at a point in front of the body, either at a distance or a near point, while others prefer to watch their raised hands. You must

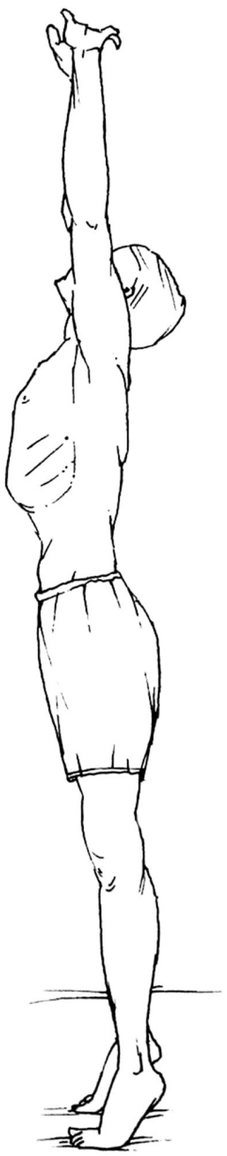
choose for yourself. However, we have found that it is easier to maintain balance if you look at a fixed point in front of you.

Number of Rounds

For shankhaprakshalana do eight rounds. Otherwise, for general health purposes, you can practice as many rounds as you wish. Tadasana should be done as a counterpose after sirshasana (head-stand). In this case, one should stay in the final position for as long as possible, breathing slowly and deeply.

Benefits

This asana develops a sense of balance. The whole body is stretched, which loosens up the entire spinal column from top to bottom. Furthermore, the abdominal organs and muscles are toned up.



Tiryaka Tadasana

It is known as the "wind-blown palm tree pose".

Technique

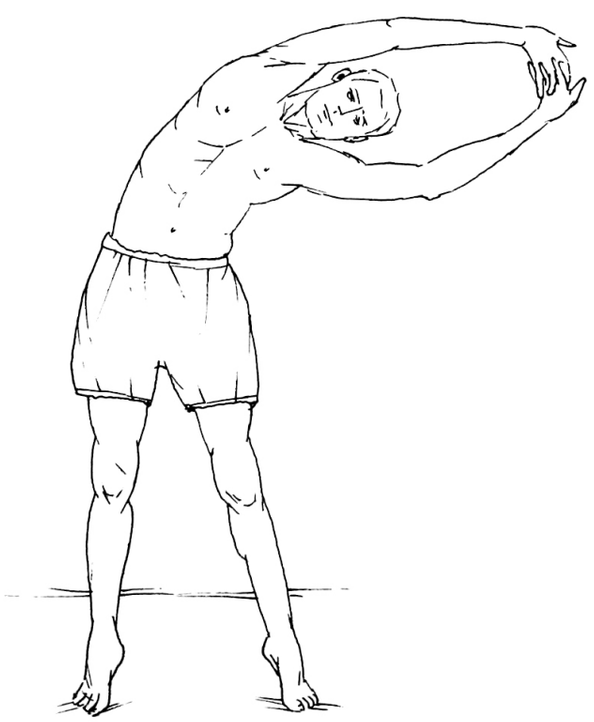
- Stand erect with the feet about 15 cm apart. Stretch your arms above your head, fingers in terlocked, in the same way as described for tadasana. Throughout the practice keep your gaze fixed on a point in front of your body. Stretch your whole body and raise yourself onto the tiptoes.
- Maintain this stretched position, and bend your body to the right.
- Then bend your body to the left, keeping your arms in line with the trunk.
- This completes 1 round.
- Try to bend your body from the waist.
- Do a number of rounds, keeping the body stretched and balanced on the basis of your feet, at all times.
- Then relax your body and stand with your feet flat on the ground.

Some people may find it difficult to balance on their tiptoes for the entire practice. These people can do the asana while standing firmly with their feet flat on the floor. When they develop a better sense of balance, they can start to do the practice on the tiptoes. These people however, should try to balance on their tiptoes for at least a few seconds each time they do the asana, as this will help them to develop their sense of balance.

Breathing
The breathing pattern should be normal.

Mistakes to Avoid
In this asana, keep your body and head facing forward.

Awareness, Number of Rounds and Benefits: these are as given for tadasana.



Kati Chakrasana

The Sanskrit word kati means "'waist" and chakra means "circle", "wheel" or "rotation". Therefore, in English this asana is the "waist rotating pose".

Technique

- Stand erect with the feet about half a meter apart.
- Let your arms hang limply beside your body.
- Then, twist your body to the right, keeping the position of your feet and legs fixed.
- As you twist, allow your arms to rotate and to entwine your body (like a creeper around a tree) – allow your right arm to swing behind your back and your left arm to swing-over your right shoulder.
- Your arms and back should be relaxed as much as possible throughout the practice.
- At the end of the twisting motion, also rotate your head as far as possible, in the same direction as the twist of the back.
- In the final position, your left hand should rest on your right shoulder.
- Your right hand should be in contact with the left side of your waist and your eyes should gaze backwards over your right shoulder.
- Stay in this position for half a second or so.
- Then twist your body in the opposite direction so that eventually you are gazing over your left shoulder, and your arms are wrapped around the body in the opposite direction to what was described above. Again, stay in the final pose for half a second.
- This is 1 round.
- In the same way practice a number of rounds.

Remember your arms should not be stiff while doing the asana. In this way, they will passively encircle your body as you rotate your shoulders from the waist. Perform the whole movement smoothly, without jerking or stiffness.

Breathing and Awareness

The breathing pattern should be normal. Keep your awareness on totally relaxing your arms and on the sense of swinging as you rotate your body.

Number of Rounds

Practice eight times for shankhaprakshaiana. Otherwise, repeat as many times as you wish.

Benefits

This asana tones up the waist, back and hip joints. It is particularly useful for removing any spinal stiffness. Though it is a simple asana, the mere relaxation and swinging movement of the upper part of the body induces a wonderful feeling of lightness. We feel that this asana can be used to remove physical and mental tension when you have little time to spare. Also, if you have been sitting or standing in one positron for a long period of time, you will more than likely feel stiff. This is an excellent asana to quickly and effectively remove this stiffness.



Tiryaka Bhujangasana

The word tiryaka means “triangular” or “diagonal”, and bhujanga means “cobra”. The word tiryaka is used here for two good reasons. Firstly, because in the final pose one gazes over the shoulder diagonally across the back of the body, at the heel on the opposite side. Secondly, because one gazes over each shoulder at the heels, the direction of the gaze from each shoulder forms two sides of a triangle, while the width between the shoulders forms the base or third side of the triangle. However, this is a bit complicated for translation, especially if you try to associate it with a cobra. One English name of this asana is the “twisting cobra pose”.

Technique

- Lie on the floor facing downwards.
- The balls of your feet should be in contact with the ground.
- The feet can be together or slightly separated.
- Place your hands so that they are below and beside both shoulder blades (so that the hands are about half a meter apart).
- Straighten your arms and raise your shoulders and head off the ground.
- Let your back remain limp and passive.

- As you raise your body, simultaneously twist your back slightly to the right.
- Turn your head and gaze over the right shoulder at your left heel.
- Your back should remain totally relaxed.
- In the final position, your arms should be straight.
- Don't strain, but try to twist your head and back as much as you can in the final position, keeping your navel as close to the ground as possible.
- Stay in the final position for a second or so.
- Then face forward again.
- Bend your arms and lower your body.
- Repeat exactly the same procedure, but twisting the body and head to the left side, and looking at your right heel over your left shoulder.
- Having this completed, return to the starting position.
- This is 1 round.
- Practice more rounds according to your capacity and available time.

Breathing and Awareness

Breathe normally in the starting position. Breathe in as you raise your body. While in the final raised position hold your breath and as you lower the body to the ground breathe out. While raising and lowering the body, be aware of the breathing and relaxation of the back, together with the movement of the body. Try to synchronize the breathing with the body movement. In the final position direct your attention to the opposite heel.

Mistakes to Avoid

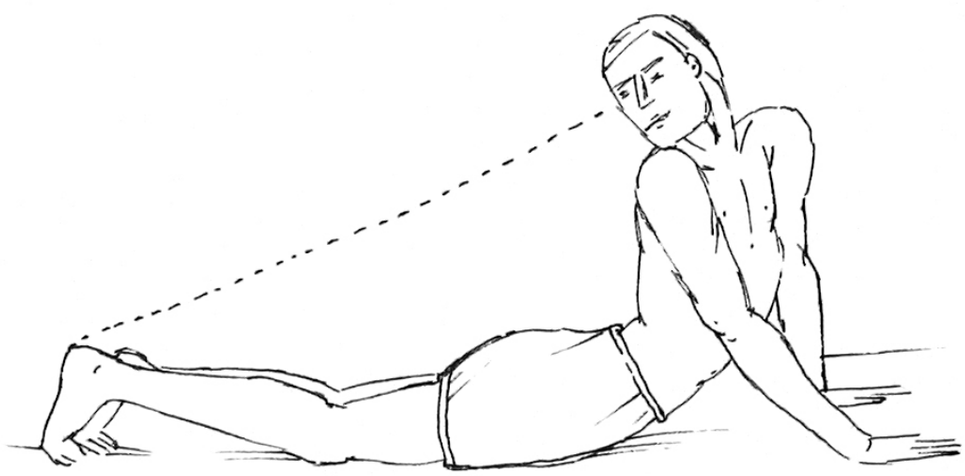
Many people stiffen their backs and raise the abdomen off the ground when they move into the final position. This is wrong. Allow your back to relax, so that it sags towards the ground in the final pose. This relaxation enables greater movement of the trunk.

Number of Rounds

Refer to kati chakrasana.

Limits

Those people who suffer from peptic, or duodenal ulcers, or hernia, should do modified version of this asana (mild twisting of the back to left/right side over the shoulder).



Udarakarshanasana

The word udara means „stomach“, or „abdomen“, and akarshan means „to stretch“or „massage“. Therefore, this is known as the ”abdominal massages pose”.

Technique

- Take a squatting position, with your feet about half a meter apart.
- Place your hands on your knees.
- Turn to the right side, pushing your left knee to the ground.
- Don't move the position of the feet, though you can allow the heels to rise.
- Keep your hands on your knees throughout the practice.
- Twist your head and back as far as possible and gaze over your right shoulder.
- Allow your back to relax.
- Stay in the final position for half a second or so.
- Return to the squatting position.
- Repeat the same procedure, twisting your body in the other direction, pushing your right knee to the floor and looking over your left shoulder. Then return to the starting position.
- This is 1 round.
- Do a number of rounds.

Note for Beginners

Beginners and those who have a stiff back may find it difficult to maintain balance. If that is the case, lean against a wall when you take the squatting position. Your heels should be about twenty centimeters or so from the wall. This will give you support, but at the same time allow you to twist your body in the prescribed manner.

Breathing and Awareness

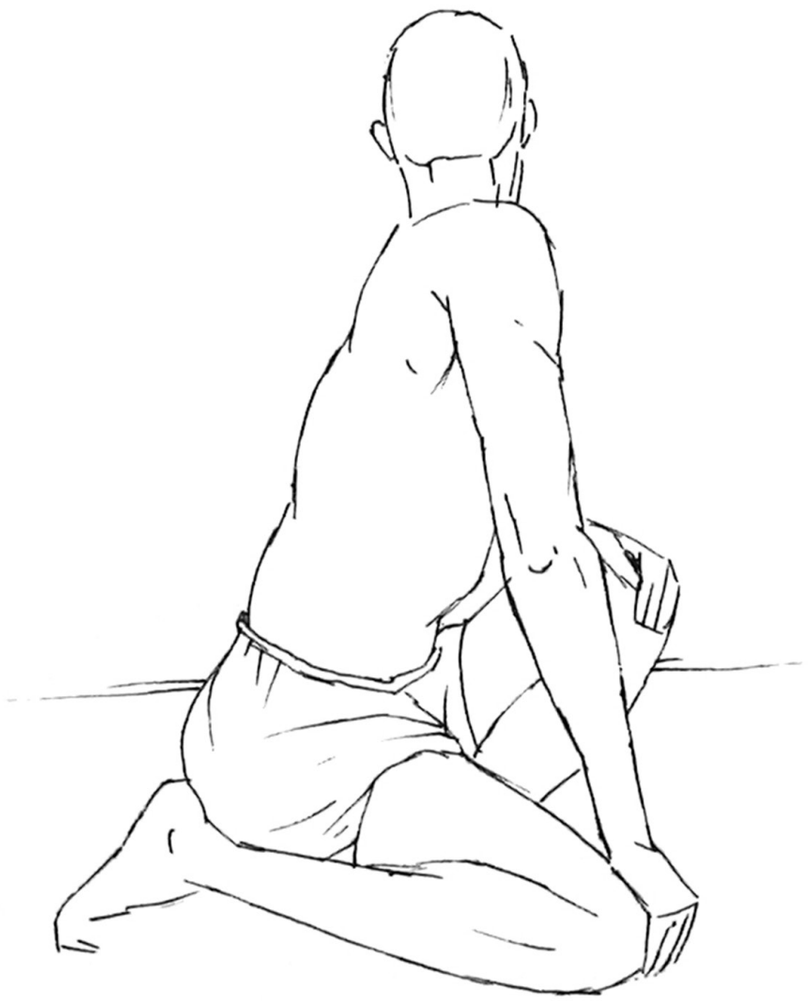
The breathing should be normal. Maintain awareness of the movement.

Number of Rounds

Refer to kati chakrasana.

Benefits

This is a very useful asana for people with abdominal afflictions, because it alternately „compresses” and stretches the digestive organs, nerves and muscles. If one suffers from constipation, we recommend to practice it regularly, since it promotes the normal functioning of the large intestine and the anal sphincter.



Kaya kalpa

Vast herbal knowledge is found in ancient Sanskrit treaties. Kayakalpa is a recipe for rejuvenation expounded in verses nos. 28 to 36 of chapter XXXIX of Ashtanga Hridaya by Vagbhatt. It is also mentioned in various other treatises such as Rasayana Tantra (one of the eight branches of Ayurveda). It is claimed by Vagbhatt that a forty day course of this treatment would give a man imperishable manly strength equal to that of an elephant, with improved muscles, intellect, and vitality and that he would live a thousand years.

The process of rejuvenation is comprises of two stages. After the expiry of the eleventh day, the hair, teeth, and nails of the patient undergoing the treatment, would begin to fall off and then after an interval of some days, these would be restored in full vigor. Himalayan herbs were employed in a rejuvenation treatment which aroused the attention of the world in 1938, when the method was used on Pundit Madan Mohan Malaviya, 77-year old Vice-Chancellor of Benares Hindu University. Pandit Madan Mohan Malaviya was president of the Indian National Congress in 1909 and in 1918. Pundit Malavija underwent the treatment at the hands of the exponent of the Kayakalpa treatment, Baba Vishnu Datta, also known as Sri Tapaswiji Maharaj, reputed to be a centenarian himself, though he looked not more than sixty years old.

The treatment of Kayakalpa was very rigorous. The patients lived all alone in separate chambers, specially prepared for them. Sunlight was completely excluded and also no sounds were heard from outside. Except for when an occasional visitor was permitted inside, they were alone, all the time. Bathing or shaving and use of cold water in any form were prohibited. The only food permitted was milk from a black cow, besides a dose of medicine every morning and evening. The main ingredient of the medicine was amla (myrobalan), to which the Tapaswi Baba added the powder of several herbs, the names of which he revealed to Malaviya after the conclusion of the treatment, with permission to publish them if he liked. Each dose of medicine weighing two ounces had to be taken with two ounces of butter and two ounces of honey. Thus Malaviya was required to take four ounces of butter and four ounces of honey, in addition to the one and half or two liters of milk which he took every day.

After first three weeks of the treatment, Malaviya got sound sleep and gained about ten pounds in weight – he only weighed 102 pounds when he entered the chamber. Some of his gray hair also turned black and his eyesight and memory improved slightly. He told a visitor who called on him during the course of the treatment that he was able to recall some old slokas which he had learned in his childhood. The wrinkles on his face also lessened. On coming out of the underground chamber, he was examined by Dr. R. N. Banerji, a leading physician of the town, who noticed a general improvement in his health. He needed some solid food, starting with the juice of moong dal. It was not till two days after the conclusion of the treatment that he took his first bath – after an interval of six weeks. Narrating his experience of the treatment to a correspondent of the Leader at Banaras on April 29, he said:

„I gained nine pounds in weight. The color and complexion of my face and my eyesight have improved. I have got back something of my old voice. My memory is improved. My hair has become perceptibly blacker. The shaking of my hands has much decreased. I walk straight. The feeling of helplessness has changed into hopefulness and confidence. If I did not suffer from continued irregularity and insufficiency of sleep, the improvement in my health would have been greater. My gain would have been greater also if I had been able to perform the preliminary purification of the body by means of what is called panchakarma. A man should have a perfectly care-free mind before undergoing the treatment ".

Following is the explanation of Kayakapa based on the lecture of Maharishi Mahesh Yogi:

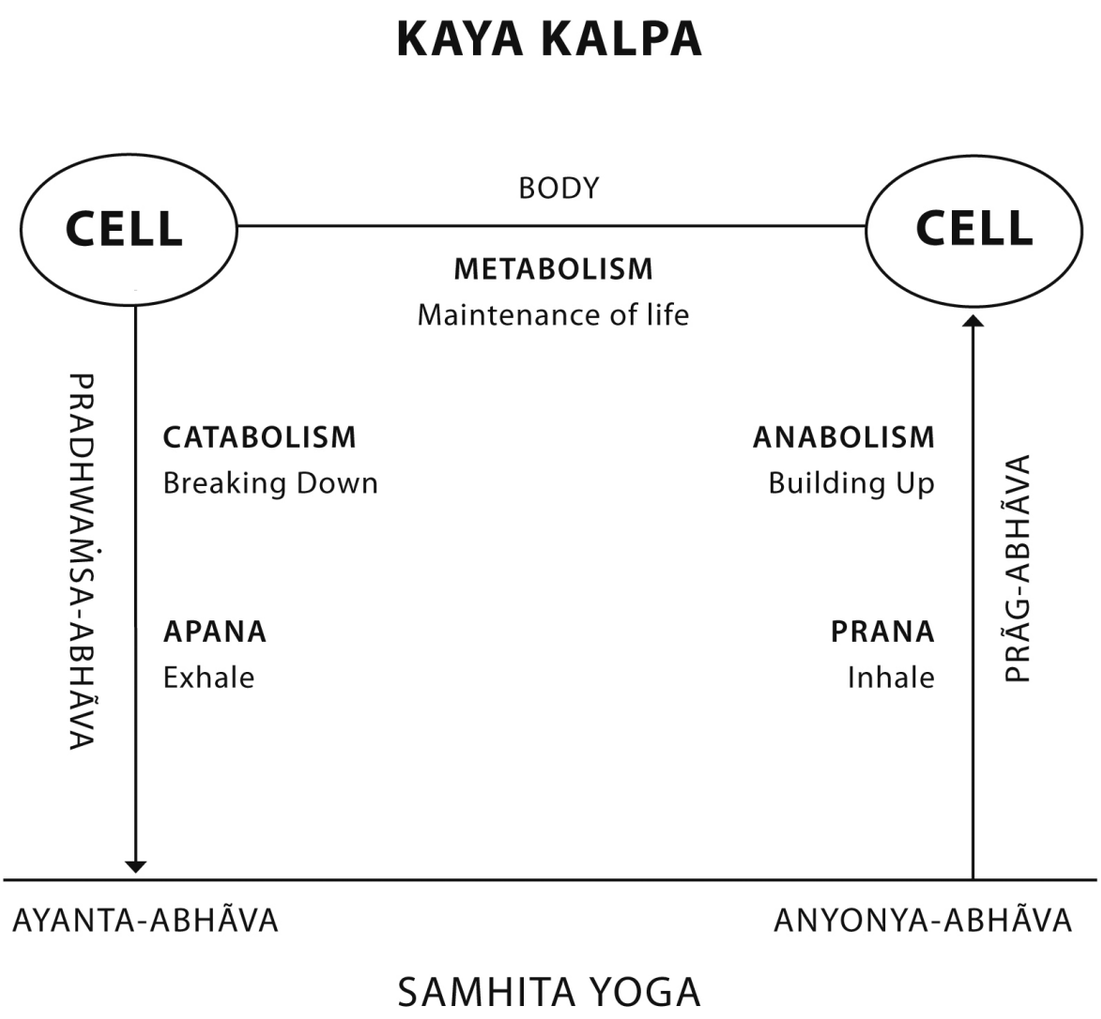
According to the teaching of Maharishi Mahesh Yogi, the restoration of the memory of immortality evokes the response of the transformations of intelligence which is at the basis of continuum of transformations of the body (catabolism, anabolism). This is because the middle point, the connection, has been enlivened. The Smriti (the memory) becomes so very enlivened, that on all levels of different modes of intelligence, the unified wholeness of intelligence is always lively. It means that the junction point is always lively. The Anyonyabhava and Atyantabhava, the values of relationships, are always lively. Enlivening that, it disallows the relationship of one with the other to collapse. Thus change becomes a continuum. Change becomes a continuum when the change of one value does not stop the process of change. This happens from the liveliness of that point, where one quality will merge and the other quality will emerge.

So by handling that unmanifest value, life could continue to produce more and more of these different themes that structure the physical life. They continue to promote the same thing. It is a matter of enlivening the continuum of intelligence in oneself. That means, stabilizing Transcendental Consciousness and the growth of higher states of consciousness (Cosmic Consciousness, God Consciousness and Unity Consciousness).

In that, the unity will prevail without obstructing the playful moods of its own expressions, without damaging the creation of small, small ripples or big waves. The ocean will continue in its awareness of its unbounded dignity. And this will be living immortality in daily life. And that will be immortality within the field of change. If immortality is to be lived in daily life, it is the process of change that has to be handled. And we make the process of change such that change will never stop. When the change will never stop, then every time there is a new body, there is a new inspiration.

The body with all its small parts is changing from point value to infinity. Every point is dissolving into infinity. Then the waves come up from infinity, creating new points which in turn are again dissolving into infinity. Dissolving points give rise to new points; points dissolving give new points to the old points. Transformation of the old into new values is Kayakalpa.

Ayurveda, handling the wave and handling the point – point is also made of waves it is just an aspect of the wave. It is the point and it is the wave and the end of the wave and the beginning of another wave. There the enlivenment of the relationship takes place. Enlivening the relationship, Ayurveda does not allow the relationship to collapse. At the time of collapse, immediately it builds it up as a new fresh mode of intelligence. The old mode gone, but a fresh, new, vital mode has come up. Like that, the continuum of change is to be continued in order to gain immortality. That is the reason why focus of Ayurveda is on the Shrotas. The theme of immortality is based on knowledge. Because once we have found out that it is the forgetting which stops the change, and then knowing will continue the change.



Physical degeneration and regeneration happens through decay (catabolic) and the cellular growth processes (anabolic). Kayakalpa brings these processes into equilibrium through purification and nourishment. Thus degenerative diseases are cured through comprehensive rejuvenation ensuring longevity.

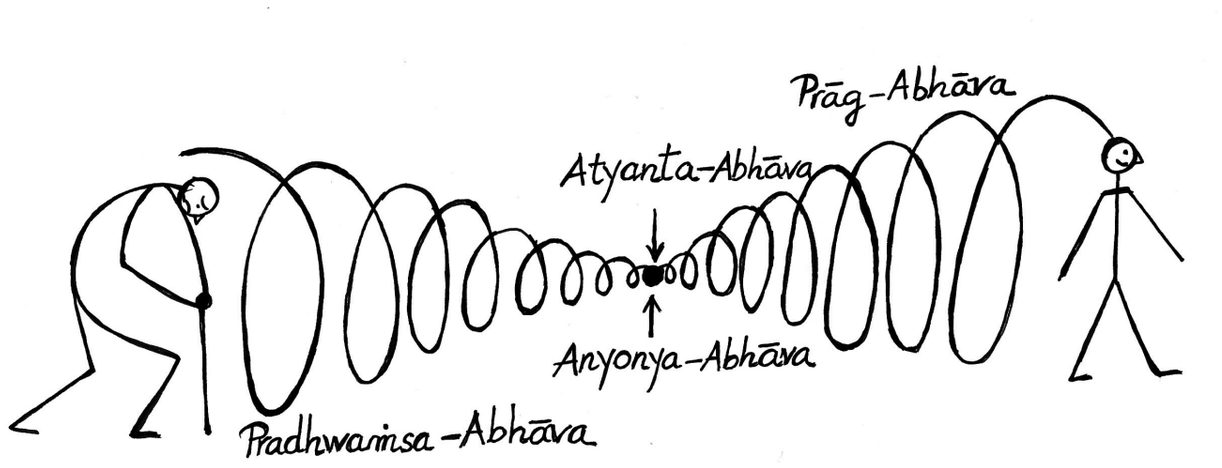
Herbal medicinal elixirs in paste form called rasayana constitute the essential aspect of kayakalpa treatment. During Kayakalpa food should be transformed into rasayana. Rasayanas are given only after purifying and detoxifying the body. Before rasayana therapy, the unique tridosha type is determined to tailor the treatment accordingly. Rasayanas increase ojas (life's vitality) and sattva guna (mental/spiritual clarity), balance the tridosha (vata, pitta, kapha) and maintains rasa, the vital fluid produced by digestion, which sustains life, leading to enhanced immunity. Some important rasyanas are Maharishi Amrit Kalash, Chyavanaprash, Smriti rasayana, Amalaki rasayana, Agastya rasayana, Drakshadi lehya, Ashwagandhadi rasayana and Brahma rasayana. Ancient kayakalpa originaly involved two modes of therapy:

Kutipravesika:

Kutipravesika means living in a kuti (cottage). The patient was required to undergo all the kayakalpa procedures, living in hibernation in a specially constructed cottage secluded from the world, for 90 days. This is a process that requires intense discipline and only very few yogis were able to meet the challenge. Legend has it that the first ever kutipravesika procedure was conducted by the celestial physicians Ashwini Kumaras for the senile sage Chyavana who thus regained youth.

Vatatapika:

This is an easier method mainly involving rasayana therapy only, which can be carried on while leading a regular life. Panchakarma and withdrawal from the world are not required. But benefits are only moderate compared to kutipravesika.



The Vortex – key technology of Kaya Kalpa

Kaya Kalpa Yoga requires that you apply in your life Rishi's principles of Yogic lifestyle; strive for purity in thoughts, speech and action; keep the body free from ama (impurities) and let your food be your rasayana (nourishing all levels of your body), free from toxins. Practise asanas and pranayama for all five koshas (levels of physiology). Remember your original status: that you are the child of the universe (God). Make sankalpa (clear decision of the purpose of your life), that you will live according to your true status, and in accord with the will of God, His laws and teachings. Apply the technology of Kaya Kalpa, such as the process of Yoga Nidra Kaya Kalpa, to regenerate your physiology, and transform your body in the likeness of God, radiant with perfect health and longevity.

योग

CHAPTER 6

YOGA THERAPY - THE THERAPEUTIC APPROACH OF ASANA AND PRANAYAMA

It is extremely essential to be completely healthy to attain the four goals of human endeavor: life in accord with the laws of Nature (Dharma), earning money through work which is in accord with the nature of the individual and through which one can fully express one's creativity (Artha), begetting progeny and a fulfilled emotional aspect of life (Kama), and attaining liberation (Moksha). These goals are at the basis of life, and if they are not fulfilled, life is in suffering. There is hardly any hope of happiness, peace and bliss when the body is disease-ridden. No matter if one possesses everything – name, fame, wealth, opulence, affluence, near and dear ones – one's body is no more than a corpse if there is no proper blood circulation in it, if the limbs are not strong and supple, and the sinews have no strength and energy. Ayurveda and Yoga therapy has emerged to help mankind live in a healthy body and healthy mind.

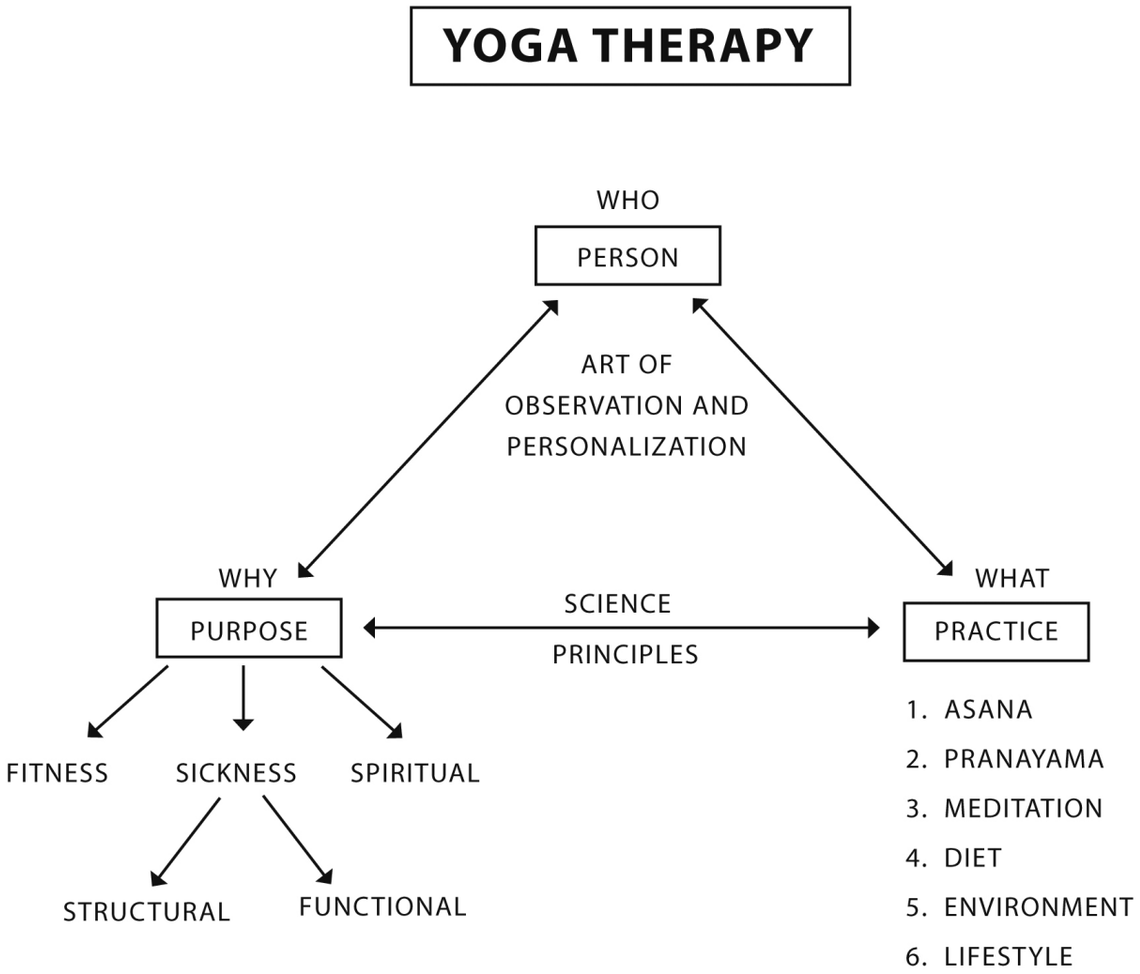
Ancient texts of yoga speak more of prevention and not about treating specific illness (yoga therapy). They describe the influence of asanas on a healthy person. Yoga therapy is a relatively new science, basically promoted by the teachings of Sri T. Krishnamacharya. For a practical implementation of yoga therapy, a person has to have a good knowledge of anatomy, physiology, biomechanics, and kinesiology of the human body. Also, a sound knowledge of different yoga asanas and their modifications is necessary. In the practical application of Yoga therapy, we must first see which kind of the movement gives relief to the problem and then see which yoga asana the person can do comfortably, while breathing naturally, so that it can restore the flow of prana in the body. In yoga therapy healing comes from prana. We find the basic concept of yoga therapy (yoga cikitsa) in the Maharishi Patanjali Yoga Sutras and in Ayurveda.

"Those obstacles that distract the mind are disease, fatigue, doubt, carelessness, laziness, attachment, confused understanding, failure to achieve samadhi and failure to maintain samadhi". Y.S.I.30

"These distractions are accompanied by pain, depression, restlessness and coarse breathing". Y.S.I.31

Yoga cikitsa is a remedial tradition, founded on the recognition that our physical condition, emotional states, attitudes, dietary and behavioral patterns, lifestyle and personal associations, and the environment in which we live and work, are all intimately linked to each other and also linked to the state of our health. According to Yoga, we are under the constant influence of our subconscious urges (kleshas) and live within a framework of constant change (parinama). Within this framework and under the influence of the kleshas, we develop conditioned patterns (samskaras) that are present in every dimension of our lives and that influence our perceptions, thoughts, attitudes, behavior and state of health at every level. We may heal the body through some medical or alternate healing modality, but unless there is transformation at the level of our deep patterns (kleshas and samskaras), we may end up re-creating the same or similar conditions again and again.

Yoga therapy is the art and science of tapping the resources deep within us to heal ourselves. The allopathic physician's orientation is to treat the disease; the Yogic orientation is to treat the person. Diseases are symptoms of imbalance and the orientation of yoga therapy is to restore balance. The main goal of yoga is to develop higher states of consciousness which will naturally be reflected in the healthy functioning of our body and the establishment of perfect health. That is why in yoga therapy we first look at who the person is and the person's state of mind.

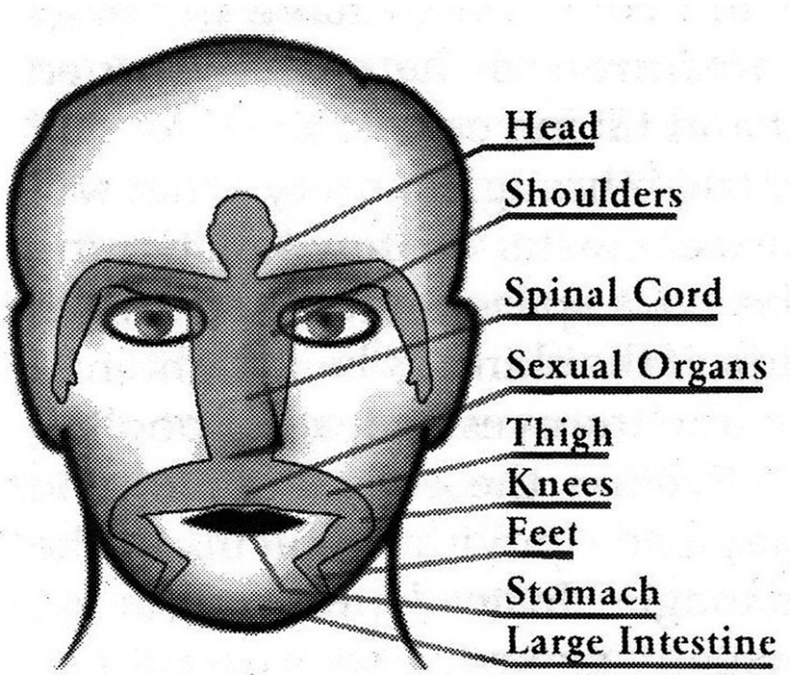


At the first meeting, the Yoga therapist must find out what the situation is, in 8 areas of life of the person (ashtanga yoga – 8 limbs of yoga) and what the person's attitude is, to his or her condition. Then the therapist can assess how or whether, this person can be helped. The yoga therapist also has to find out whether there is a willingness to learn. Very often, being ill gives an individual a valid excuse for not doing things for which they have a dislike. They can always plead a bad back, their nerves, their terrible headache, their arthritis – and people will understand. If these people became well again, they might have to take on more responsibility for themselves. While they are ill though, they are assured of sympathy, concern and help from others. Chronically ill people also command their attention from family, friends, and doctors. This might be lost if they suddenly became well. Not only that, over the years, they become attached to their illness, and the actual illness may be part of their personality. Such people may have organized their lives around their illness. What are they without the illness? What would they do if this long-ingrained lifestyle were to be taken away from them?

Before we want to give any advise to a person, we first must consider the following areas: Vayas (age), Karma (profession), Artha (wealth), Sruta (knowledge – how much a person has heard and understands about his health problem), Abhijana (family life – whether family members will sup-

port change of diet and lifestyle of a person), Jnana (intelligence and ability of comprehension of a person, whether one is able to understand our advise), Vairagya (nonattachment – whether the person will be able to abstain from certain diet which is harmful for his health, whether the person is able to follow our advise). To be effective and beneficial, the program of Yoga therapy must be rewarding and not punishing.

While the person is answering your questions about the situation in the different fields of life (yama, niyama, asana, pranayama, pratyahara, dharana, dhyana, samadhi – ashtanga yoga), observe closely their body language, their gestures. Most people have no idea how much they give themselves away as they speak – and not only by what they say. Then watch and analyze the face of the person.



Every single organ of the body is presented on the face. There are twenty-five major energy channels connected to the head, reflecting internal health on the surface of the skin. Whatever is going on on the face will gave us a clue about the condition of the corresponding organs. For example, the discoloration and puffiness in "dark circles" underneath the eyes is in the most cases connected to blockages of the liver and kidneys. The liver is the purification factory of the human body, where toxins can concentrate when we sit in one place for a long time. Consequently, the toxins from the liver come up and get stored underneath the eyes, causing the darkness. Sitting for a long time also causes the kidneys to get blocked, which creates water retention in the body and also the heart is forced to work harder. The water is taken to each and every area of the body where it can be discarded. If the water cannot be discarded, it is taken to certain areas and stored. The first storage area is underneath the eyes because it is the place where the water is most easily discarded or stored. Sometimes bags beneath the eyes are a reaction from the digestive organs, connected to the liver and kidneys. Each wrinkle indicates a blockage in one of the marmas somewhere in the body. For example, wrinkles around the eyes indicate that the navel marma is blocked. Wrinkles on the upper part of the lips indicate a blockage in the nabhi marma. Wrinkles on the forehead or on the chin indicate that the energy is blocked in the stomach marma. Wrinkles on the chin, or a swollen chin, can be connected to the shoulder marmas. Other external disruptions indicate inter-

nal imbalances. Blemishes on the forehead can be a sign of blockage of the marmas located at the solar plexus. Inflammation underneath the cheek or jaw can mean blockage of the navel marmas. Large pores on the cheeks, or inflammation of the cheeks, indicates blockage of the nerve marmas. Discoloration on the nose indicates a blockage in the heart marma. A red, swollen nose is the outward sign of trouble in the arterial marmas.

For those who study marma science from Dhanur Veda, it is important to know about an opponent's intentions, such as when the opponent is getting ready to attack. Very careful attention must be paid to facial movements, even when a person is smiling. Nearly imperceptible movements – like some part of his face becoming strained, tightened, or loosened – means that his adrenal gland is already starting to produce adrenaline and he is going to raise his arm. That kind of careful, scientific study is necessary if one wants to become a skillful martial artist.

When we are questioning a person in the context of yoga therapy, then it is very important to know the person from the point of view of Atiyoga (too much), Ayoga (no connectedness) and Mithyayoga (wrong connectedness), so that we know what to tell to person in order to correct imbalances. Yoga in this sense means connectedness between mind (senses) and objects. For example regarding diet, fasting is Ayoga. We should know for whom fasting is useful and for whom it is damaging. Fasting should not cause disturbance of the mind. In the case of knee problems, a dancer may be overusing the knees (Atiyoga), while a housewife may be underusing them (Ayoga), and a football player may fall in the category of Mithyayoga (wrong use of the knee joint). We must see whether a problem is caused from excessive movements, not enough movements or wrong movements. After that do pulse reading diagnosis and then start with the physical posture examination to determine the appropriate therapeutic approach.

Ayurveda effectively complements the physical and mental therapeutic practices of Yoga. Yoga and Ayurveda provide a holistic approach to health and well-being. Together, they form a comprehensive and integrated system – both aiming at maintaining health and resolving conditions of ill-health. They are like brother and sister.

Yoga therapy is the art and science of healing according to yogic principles. Good health is a state of integration. The World Health Organization defines health similarly, as a state of physical, mental, and social well-being, and not merely the absence of disease. The Yoga of Maharishi Patanjali is the principal basis for yoga therapy, or the healing of all aspects of one's being. Yoga therapy operates according to the same individualized approach that characterizes all yogic practices. Each therapeutic program considers the patient's current condition, using that as a starting point, and structures the program from that point, in order to be safe, feasible, and effective in each individual case. Yoga therapy considers six factors that we can use to affect and maintain health. They are: diet, environment, lifestyle, exercise, breathing techniques, and mental techniques. From these 6 areas we must see which area is the main cause of a certain health problem and then design a yoga therapy approach according to that. Ayurveda deals with diet, environment and lifestyle. Yoga deals with exercise, breathing, and meditation. After a detailed diagnosis and assessment, you then structure the yoga therapy program for a specific condition. For example, if a person has scoliosis, then he/she should do all asanas asymmetrically. Also, the yoga program should be designed to cover the acute state of the problem, the recovery, and the strengthening phase.

Main approach of Yoga therapy is prevention of injury which can result from improper practice of yoga asana and pranayama. Our body parts and spine are designed only for certain range of movements which we should not ignore. If we push the body beyond natural limits of movement we can cause serious injury. The first reports of yoga injuries appeared decades ago, published in some of the world's most respected journals-among them, Neurology, The British Medical Journal and The

Journal of the American Medical Association. The problems ranged from relatively mild injuries to permanent disabilities. For example if person would sit upright on his heels in a kneeling position known as Vajrasana for hours a day, he will experience difficulty in walking, running and climbing stairs. Staying to long in Vajrasana will create problem to an unresponsive nerve, a peripheral branch of the sciatic, which runs from the lower spine through the buttocks and down the legs. Sitting in Vajrasana will deprive the branch that runs below the knee of oxygene, deadening the nerve.

Also brain injuries can arose not only from direct trauma to the head but also from quick movements of excessive extensions of the neck, such as occur in whiplash – or certain yoga poses. Normally, the neck can stretch backward 75 degrees, forward 40 degrees and sideways 45 degrees, and it can rotate on its axis about 50 degrees. Yoga practitioners typically move the vertebrae much further (hyperflexion of the neck). Extreme motions of the head and neck could wound the vertebral arteries, producing clots, swelling and constriction, and eventually wreak havoc in the brain. The basilar artery, which arises from the union of the two vertebral arteries and forms a wide conduit at the base of the brain, was of particular concern. It feeds such structures as the pons (which plays a role in respiration), the cerebellum (which coordinates the muscles), the occipital lobe of the outer brain (which turns eye impulses into images) and the thalamus (which relays sensory messages to the outer brain). Reductions in blood flow to the basilar artery are known to produce a variety strokes. These rarely affect language and conscious thinking (often said to be located in the frontal cortex) but can severely damage the body's core machinery and sometimes be fatal. The majority of people suffering such a stroke do recover most functions. But in some cases headaches, imbalance, dizzines and difficulty in making fine movements persist for years. For example if we do a shoulder stand with neck maximally flexed against the bare floor for 5 minutes then it can happen that series of bruises ran down the lower neck indicating neck trauma. This can cause blockages of the left vertebral artery between the C2 and C3 vertebrae. The blood vessel can suffer total or nearly complete occlusion and no blood can reach the brain. Inversion can produce other injuries, including degenerative arthritis of the cervical spine and retinal tears (a result of the increased eye pressure caused by the pose). Healthy individuals could seriously damage their vertebral arteries by neck movements that exceed physiological tolerance.

Overstretching during practice of yoga asanas can cause muscle, ligament and tendon damage and torn cartilage. Ligaments – the tough bands of fiber that connect bones or cartilage at a joint – failed to regain their shape once stretched out, raising the risk of strains, sprains and dislocations. Also through extreme backbends and twists person can develop spinal stenosis – a serious condition in which the openings between vertebrae begin to narrow, compressing spinal nerves and causing excruciating pain.

Assessing flexibility, alignment, strength, and function of the body and the state of mind

Give yourself permission to improve. This assessment reflects where you are now, not where you were ten years ago or where you will be after conscientious work. Your body is not set in concrete. All of the tissues (even bones and scars) are malleable and can be realigned with persistent, intelligent effort. Do not accept your current alignment and flexibility as a condemnation, but rather understand that where you are now is a starting point against which your future improvements can be measured. Each time you accept your current limitations and misalignments by saying „This is just how I am“, you give yourself permission to remain the same and to not change. Instead tell yourself „My back is improving“ or „This exercise helps to realign my spine". Your body hears and believes what you think and say. Be sure to give yourself encouragement and permission to improve at every opportunity.

Before the actual physical examination, the yoga therapist can ask the person the following questions: For how long has the present pain been troubling you? Did it come suddenly or did it build up gradually? What were you doing when the present pain started? Did you put your back under any kind of unaccustomed stress in the few days before the pain came on? Does your job or a hobby place abnormal strain on your back? In which part of the back precisely, did the pain start? Where is it located now? Has it spread? Is there any pain in the front or the back of the thigh? Does the pain radiate (spread) below the knees and into the feet? What activities, relieves, or aggravates this pain? Have other symptoms like fever, joint pains, and muscle pains accompanied the back pain?

Since back pain is a symptom and not a disease, the source of the pain may lie outside the spine. For that it is good to ask the person about the family history of certain diseases, as well as other questions relating to elimination, appetite, abnormal bleeding, weight-loss, and chronic cough.

The tests described below help you to determine if a person's back is strong, flexible, and healthy, or if it is weak, stiff, and unfit. They reveal whether or not the muscles can handle the person's weight and height. The test also shows whether the fitness level is on the decline. When we are unfit or do nothing to remain fit, the first muscles to deteriorate are the stomach and the back muscles. The tests look quite easy, but they are actually quite difficult when done correctly and with attention to detail. These tests will help evaluate alignment and flexibility throughout the body, so you can track down the source of the back pain. It will also show which poses to emphasize as one follows one's yoga-based exercise and relaxation program. Even if one thinks that one already knows the cause of the back pain, it's still good to do this assessment – one may be surprised about the results. One may have a definite idea about what one's strength, flexibility, and alignment, based on old information or a body image left over from an earlier period of one's life. However, it is likely that one's alignment and flexibility have changed significantly over the years. The way one walks, stands, and sits, probably feels completely natural and normal, so how would one know whether or not one is out of alignment? For this one needs to do simple examination.

The examination entails an observation of the overall posture. Movements of the spine are observed to note any limitation of range due to pain. To assess muscle power certain movements are to be performed. The legs of the patient (one by one) should be raised passively to detect possible disc disorders. The patient must be asked to draw both knees to the chest to find out if there is any tightness or spasm of the lower back muscles. The abdomen must be examined to detect any possible enlargements of the various organs. The back of the spine is to be palpated for muscle spasms, lumps, any tenderness, or an abnormal curve.

Flexibility and back pain

It is not enough just to be flexible. Although back pain most often affects inflexible people, problems also occur for those with normal and even above-average flexibility. Very often one's back pain is simply a symptom of a problem elsewhere in the body. For most people, the back is a victim of stresses and strains caused by misalignments in other areas. An apparent back problem may really be primarily a foot, knee, hip, shoulder, or neck problem. Normal flexibility will not prevent back pain, if one has poor posture, poor body mechanics, an inactive lifestyle, or recent or remote trauma. Above average flexibility, also known as "ligamentous laxity", can actually predispose a person to back and joint injury when the muscles are not strong enough to provide stability and support for the joints. Ligaments become overstretched and joints deteriorate from the resultant excessive movement.

A Yoga-based exercise program provides whatever is needed. The inflexible become more flexible, while learning improved posture and body mechanics. The overly flexible develop the muscular strength necessary to hold their joints in good alignment. Everyone develops better habits of posture, movement, and balance among the interacting muscle groups.

Self-assessment of alignment and flexibility

Following each test are suggestions for specific yoga postures that will improve strength and flexibility in the part of the body being tested. If one is weak in a particular area, one should emphasize these suggested postures in one's yoga routine. These tests are designed to be safe and painless. If one of them causes discomfort, then repeat the test, stretching less intensely. Remember that no one is entirely symmetrical. One may have minor, insignificant misalignments. But if one has slight misalignments in a problem area or an area in which one has pain or other symptoms, one should pay attention to them and work on correcting them. Understanding asymmetries and misalignments is the first step toward correcting them.

Evaluation of the flexibility of the back (lumbar, sacral, hip joints) and hamstrings

Stand in an erect, balanced position with the arms raised above the head. Slowly and smoothly bend the trunk forward, bringing the arms down in an arc. Stoop forward as much as possible. If the flexibility of the back and hip joints is excellent, one will be able to place one's palms flat on the floor. If during bending forward legs are straight, then it would be more of a test of the flexibility of the hamstrings. For a valid test, the effort must be slow and non-jerking. An effort to touch the floor forcibly may sprain one's back.

To improve the flexibility of the back and hamstrings practice forward-bending asanas like Uttanasana, Paschimottanasana, etc. that stretch the back (west) side of the body.

Evaluation of the lumbar curve

Because a simple visual assessment can be deceptive, the best way to evaluate the lumbar curve is with a "hands-on" approach:

Seated evaluation

You'll need a firm chair with a flat seat. If possible, place the chair next to a long mirror so that you can see yourself from the side. If you don't have a mirror, you can still perform this examination, using the tactile feedback from your hands. Sit on your sitting bones (not your tailbone or sacrum) on the forward half of the chair seat. Place one hand on your lumbar spine (at the back of your waist). Place the other hand on the side waist at the top of the pelvis. Now arch your back and tilt your pelvis forward, so that your navel moves forward toward your knees. Feel how this action increases your lumbar curve to a more swaybacked position. Feel how your pelvis has tilted forward. Now move your navel toward your spine and tuck your tailbone. With the hand on top of the pelvis, feel how the pelvis tilts backward. With the hand on the back waist, feel how the lumbar spine flattens. Notice that when your lumbar spine is flattened, the normal groove down the center of your back disappears, and instead of it, you feel the bony ends of the spinous processes, the projections at the back of the vertebrae. Perform these actions several times, so you understand the range of positions of the lumbar spine, from an increased arch (swayback), through a normal curve, to a decreased arch (flat back). Now sit in your usual posture and assess how your usual lumbar curve compares to these positions.

Standing evaluation

Stand with one side to a mirror. Bend your knees slightly to allow your pelvis to move freely. Place your hands as before, with one at the side waist on top of the pelvis and the other behind the waist on your lumbar spine. Observing yourself from the side, again tip your pelvis forward, so that the lumbar curve is increased to a more swaybacked position. Feel how this motion changes the lumbar spine beneath your hand. Now tilt your pelvis backward by squeezing the buttocks together and tightening the abdominal muscles, while tucking the tailbone and moving the pubic bone up toward the breastbone. Feel how your lower back flattens, and notice that your head simultaneously moves forward, your chest collapses, and your upper back rounds.

This evaluation gives you a good understanding of how your own lumbar spine can move through its range of motion from extension (forward tilt of the pelvis with an increased lumbar curve) to flexion (backward tilt of the pelvis with a flattened lumbar spine). Now straighten your knees and stand in your usual posture. Observe the position of your lumbar spine and compare it to the range of positions you have just explored. Is your lumbar spinal curve increased, normal, or flattened?

The effect of your lumbar curve upon the well-being of your back is enormous. In swayback, as you have just seen, the arch in the lower back is abnormally increased – typically, the belly protrudes in front, and the buttocks stick out behind. The ligaments that should support the spine become slack, and the weight that should have been evenly distributed over the entire lumbar curve becomes concentrated at the peak or point of the arch. This combination – instability plus an abnormal concentration of pressure at the center of the lumbar arch – allows excessive movement between vertebrae and contributes to disc deterioration and reactive bone changes, such as bone spurs (in which the bone actually grows in an abnormal way in an attempt to make itself strong enough to bear the stresses placed upon it).

By pinching together the back portions of the vertebrae, swayback creates a chronic compression on the back of the lumbar discs, the pads that separate the vertebrae. This prolonged compression

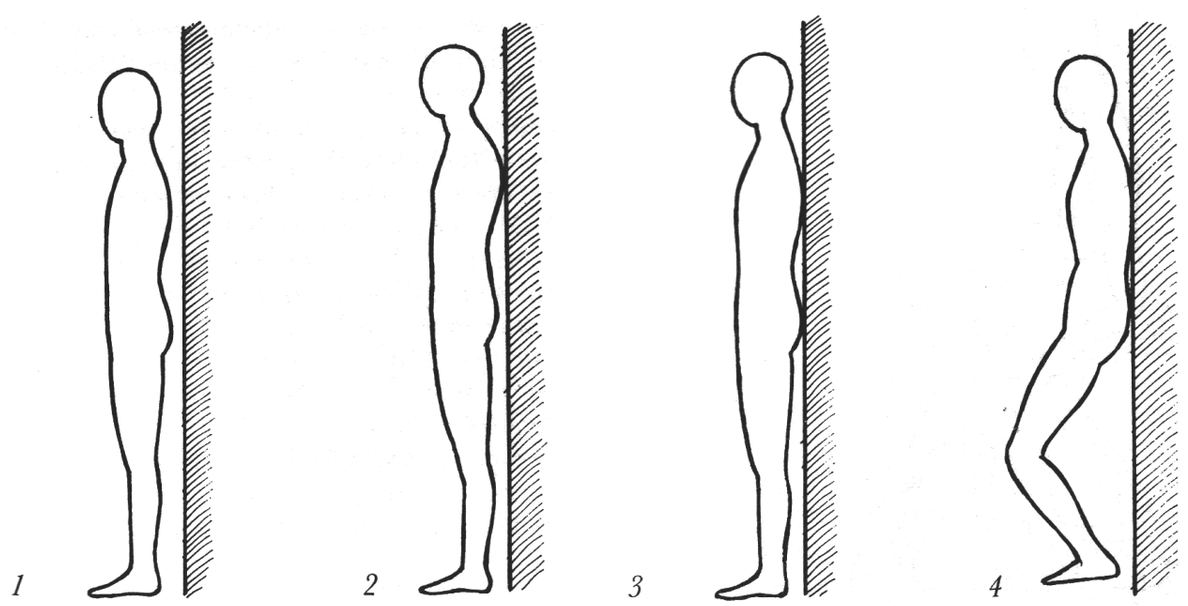
interrupts the flow of nourishment, and the discs begin to deteriorate and shrink. As the disc shrinks, the surfaces of the facet joints (the joints between the bony processes of the vertebrae) are no longer held apart at the proper distance, and they begin to grate against each other, eventually causing a type of arthritis. Abnormally functioning facet joints place additional stresses on the discs. Thus a vicious cycle of injury and deterioration is established.

With a flat back, the normal lumbar arch is flattened or greatly decreased and the buttocks appear to be tucked under. This posture often occurs in back patients who have overcorrected an increased lumbar curve. For many years, back patients were given only flexion exercises, in which the lumbar curve was flattened. Repeated practice of these exercises and misguided efforts at walking and moving with a flat lumbar curve frequently created a new back problem.

Like swayback, the flat lumbar curve can create serious problems. A loss of the normal curve interferes with the spine's shock absorption. Flattening the curve makes the supporting ligaments taut, causing the vertebrae to be held tightly together. This limits motion and compromises disc nourishment. It also forces onto the discs the weight usually borne by the facet joints, resulting in compression, poor disc nourishment, and disc degeneration.

If you have a swayback or a flat back, practice relaxation techniques to remove stress, do horse twisting exercises on the back, Utthitekapadasana, Trikonasana, etc. If you have a flat back, be sure to use a lumbar pad when you do asanas while lying on your back.

The following simple test will enable people to ascertain alignment of their body for themselves. Stand with your back to a wall, with your heels about two inches (5cm) from the wall, and feet about 18 inches (46 cm) apart. At this stage, do not let any part of your body actually touch the wall. Now gradually press your body onto the wall, keeping your toes on the ground. If you are in complete alignment, your shoulder-blades and buttocks should touch the wall at the same time. If you are "one-sided" you will notice that one side of your body touches the wall before the other side. If you hold your pelvis too far forward, your shoulders will touch the wall before your buttocks. If this is the case, bring your buttocks to touch the wall as well. You may be aware of a big gap between the lower back and the wall. Make this gap disappear by bending both knees forward, still keeping the heels on the ground. Anybody who is in a badly misused state will quickly find this position to be tiring. But this practice against the wall will help the stomach to lift and appear slimmer and tauter. This exercise will also encourage body realignment.



This sequence, done against a wall, helps the individual to correct hyperlordosis.

Evaluation of the thoracic curve

If you try to evaluate your thoracic (upper back) curve from the side, without actually looking at your spine in the mirror, you can be fooled into thinking your back is rounded if your shoulder blades are prominent. Here's a way to evaluate your thoracic curve accurately.

Stand with your back at an angle to a mirror so you can look over your shoulder and see your upper spine. If you can reach, place one hand on your upper spine, with your fingers touching the center of your back just below your neck. If you can't reach, just observe your spine in the mirror. Stand as straight as you can and feel the skin of your upper back between your shoulder blades. If your alignment is correct, the skin should feel smooth, with no protruding vertebrae, as you slide your fingers from one shoulder blade to the other. Now slump forward and round your upper back as much as possible. When you do this, you will feel the vertebrae protrude into a lump along the midline. Look in the mirror and view your upper spine's range of motion, from your best erect posture to the slumped position. (Also notice if your spine is so stiff that you cannot perceive a difference in the two positions.) Now stand as you normally would and see if your upper back is rounded or erect.

If your upper back is excessively rounded, practice the horse twisting exercises on back (Asvasana) using a pad below the thorax area of the spine to stretch the kyphosis. All backbending asanas are good (Ushtrasana, Dhanurasana, Bhujangasana, etc.). Also practice the lying twist with lateral bend of the spine (Ardha Jatharaparivrittiasana) and Vimanasana.

Evaluation of shoulder roundedness and shoulder blade position

Stand facing a mirror and observe your shoulders. Roll your shoulders forward and back. As you roll your shoulders forward, you will notice a hollow indentation where each shoulder joins your chest. This hollow indicates that the shoulders are in an abnormal and vulnerable position. As you roll your shoulders back, this indentation will disappear.

Now stand with your back to the mirror so you can look over your shoulder and observe your shoulder blades. Roll the shoulders forward so that the hollows are created on the front of the chest. In the mirror, notice that your shoulder blades slide upward and protrude further. Now roll the shoulders back so the indentations on the front of the chest disappear. At the same time notice that the shoulder blades are moving downward and becoming flatter. This latter position is the healthy one for proper shoulder alignment. This shoulder position encourages the proper relationship of the upper back to the neck.

In case of shoulder roundedness practice a variation of the forward bend (Uttanasana): Cross your hands behind the back, fingers interlocked and while bending forward raise the hands up and forward as much as possible. Also practice the lying twist with lateral bend of the spine (Ardha Jatharaparivrittiasana) and Vimanasana.

Evaluation of standing alignment

Ask a friend to help check your alignment against a plumb line. Tie a small weight to one end of a string and attach the other end to the ceiling or a doorway. To evaluate your alignment from the side, stand so that the string is one inch in front of the center of the outside anklebone. To evaluate alignment from the back, stand so that the string falls midway between the heels. Viewed from the side, a line just in front of the ankle should pass upward through the centers of the knee joint, hip

joint, and shoulder to the ear hole. This alignment places the heavy structures of the head, chest, and abdomen over the weight-bearing portions of your spine and legs. If your head or shoulders are forward of the line, you have a forward head position. This posture may be accompanied by an increase in the thoracic (upper back) curve.

When you stand in front of the plumb bob, the line should pass through the center of the back of your head, the center of each vertebra, the cleft of the buttocks, midway between the knees, and midway between the heels. Minor variations are frequent and usually not clinically significant. If an area of misalignment is painful, however, then it is probably significant and may be related to scoliosis.

Those who have a forward head position should not practice Sarvangasana until they correct their shoulder roundedness and kyphosis. They need to practice Vimanasana, Urdhvamukhasvanasana and Chakravakasana. If your knees are hyperextended, practice Ardha Utkatasana.

Evaluation for possible scoliosis

Examine your ribs before a mirror. Are the ribs on one side more prominent? Is one shoulder higher than the other? These differences may reflect scoliosis (side-to-side spinal curvature). To determine whether you have scoliosis, sit on a firm chair with an observer standing behind you. Bend forward at the hips while your observer evaluates your back for symmetry. With true scoliosis (a curvature that is part of the structure of the spine), one side of the back rib cage will be more prominent than the other. With functional scoliosis (curvature which is not inherent in the structure of the spine, but is caused by other variables, such as imbalances in the pelvis) any curvature which exists while standing up will not be apparent in this forward bending test.

In case of scoliosis all asanas should be performed asymmetrically.

Evaluation of leveled pelvis

Stand in front of a mirror and stretch a tape from the front of one hipbone at its highest point to the other. The tape should run exactly parallel to the floor. If the tape is at an angle, this could indicate a short leg, scoliosis, asymmetry in the length of the muscles that support and balance the pelvis, or asymmetry in the pelvic bones. One leg may appear shorter than the other if one leg is weak, one foot is pronated (collapsed inward), or one knee hyper-extends or collapses inward. There can also be an actual difference in the lengths of the leg bones. If your pelvis is not leveled, be sure to carefully evaluate your knee, ankle, and foot alignment, as these can contribute to pelvic distortion. Also pay special attention to the evaluation for sacroiliac joint asymmetry, as this condition is often present when the pelvis is not leveled.

In case of asymmetry of the pelvis and hip joint practice lateral bends (Utthita Trikonasana, Jathara-parivrittih-asana, Ardha Utkataasna, etc).

Evaluation of the knees

Stand with your feet parallel in front of a mirror and bend your knees. Do your knees come together in the midline, splay apart, or move straight out over your toes. Straighten your knees fully. Do they separate widely as you straighten them?

If your knees come together or separate widely as you bend and straighten them, there is an imbalance in the muscles controlling the bending and straightening of the knees. When you straighten your knees and they move toward each other when they are aligned over your ankles and then separate widely as they straighten even more, you may have hyper extended (over straightened) knees. This condition causes a bow-legged appearance but is not a true bone deformity.

Knee misalignments, frequently associated with flat feet and swayback, can cause excessive pressure on the front part of the pelvis at the hip joint. The abnormal forces on the knee joint can cause it to deteriorate.

If you have knee misalignments practice Ardha Utkatasana, Utkatasana, and Virabhadrasana.

Evaluation of ankle and foot alignment

Have someone stand behind you and evaluate the relationship of your heels and ankles. If the heels and ankles lean inward or outward, this misalignment creates abnormal forces on the feet, knees, and hips. Does one foot lean in or out more than the other? Are your arches flattened? Do you have claw toes, hammer toes, bunions, or big toes that deviate away from the midline? Claw toes have the first and second joints fixed in a claw position. With hammer toes, the first joints (the ones closest to the foot) are fixed in a straight position, but the end joints can bend, giving the appearance of a hammer. Both claw toes and hammer toes can be aggravated by arthritis. These toe configurations usually result from poor weight distribution on the feet, which causes the toes to try to grip the floor for stability. Big toes that deviate away from the midline are usually caused by narrow, pointed-toe shoes and may lead to painful bunions. The poor weight distribution has negative repercussions on the ankles, knees and lower back.

If your ankles and feet are misaligned, go barefoot as often as possible and always practice your yoga barefoot. Make sure your shoes have enough room for your toes to spread out just as if you were barefoot. Emphasize Mountain Pose. Also do all standing asanas with the toes raised off the floor – this will establish proper balance on the feet.

Evaluation of shoulder flexibility

Lie on your back with your knees bent and your feet flat on the floor. Place a folded towel behind your head for support. Press your lower back to the floor and keep it there. Stretch both arms overhead. Your hands should rest easily on the floor while your lower back remains flat on the floor.

If your hands do not reach the floor or if you can't keep your lower back on the floor, your ability to raise your arms is significantly limited. This limitation in shoulder flexibility can place excessive demands on the lower back when reaching overhead. If your shoulders are tight, emphasize “wall push”, practice arm raises while standing with the back against the wall, entwine the forearms (Garudasana), and “one elbow up, one elbow down” (Gomukhasana).

Evaluation of Hip Flexibility

Lie on your back with both knees bent and your lower back touching the floor. Hold one knee to your chest and stretch the other leg out on the floor. If the knee of the outstretched leg can't be fully straightened, this indicates tightness of the hip flexor muscles, which cross the hip joint in the front of the thigh. These muscles which include the quadriceps and the iliopsoas, act to raise the thigh toward the chest. One end of the iliopsoas attaches to the inner side of the pelvis and the

spine and the other end attaches to the upper inner thighbone. Therefore, a tight iliopsoas pulls on the spine, causing an abnormal, stressful increase in the lumbar curve. Tight quadriceps (the muscles of the front thigh) can also increase the lumbar curve, by pulling the pubic bone down toward the legs.

If your hip flexors and extensors are tight, practice Utthitekapadasana, Katiasana, Chandranamaskaram, Virabhadrasana, Trikonasana, Eka-Pada-Kapotasana, etc.

Evaluation of sacroiliac joint asymmetry

If you place the heel of your hand below your waist and the tip of the middle finger on your tailbone, your palm will be over the flat triangular bone called the sacrum. The sacroiliac (SI) joints are the bony knobs on either side of the top of the sacrum, where it meets the wing-shaped bones of the pelvis. To feel your SI joints, hook your thumbs over your hips, thumbs pointing forward and fingertips pointing toward each other below your waist. The tips of your fingers will end up on the slight bulges marking the SI joints. Lie on your back with your knees bent and a folded towel behind your head. Keeping your knees together, move them from side to side so that you feel the pressure of your sacrum against the floor. Evaluate whether one SI joint feels sharper or more pointed and whether the other side feels caved in or depressed. Also note if one side is tender. If you feel a difference between the two sides, you may have “pelvic torsion”, a twisting of the pelvis at the sacroiliac joint that causes compression of one SI joint and overstretching of the other. This condition can be caused by scoliosis (abnormal side-to-side spinal curves), leg-length discrepancies, one hamstring muscle group much tighter than the other, trauma to the pelvis or spine, habitually sitting cross-legged, habitually standing with the weight on one leg, and playing some asymmetric sport, such as golf or tennis. Pelvic torsion places unequal stresses on the hips, knees, sacroiliac joints, and right and left sides of the spine. In case of sacroiliac joint asymmetry, practice complete series of horse twisting exercises while lying on back (Ashvasana).

Evaluation of abdominal strength

The primary aim of this test is to determine the flexibility of the back and to determine the strength of the abdominal muscles. If you have a forward head position or rounded upper back, you will need a folded towel or blanket for this test. Lie on your back with your knees bent at 45 degrees and the feet planted on the ground. Put the folded towel or blanket behind your head. Cross your arms in front of your chest. Now raise your head and shoulders off the floor, towards the sitting position, but without allowing your feet to lift off the ground. Do not raise your trunk with a jerk. This may aggravate a neck problem or you may sprain your back. Do not tuck your feet under something or have someone hold them down. This invalidates the test. It makes it easier to perform because it activates the leg muscles, which pull the back to a sitting position. Pulling yourself up in this way can also harm a weak back.

If lifting your head and shoulders is easy, try it with a more challenging arm position. Cross your forearms behind your head, touching each shoulder with the opposite hand or hold each earlobe with the thumb and index finger of each hand. Do not hold the back of your head with your hands! Now lift your head and shoulders from the floor towards sitting position. If you can't do it, return to the first position and see how many head and shoulder lifts you can do. If you can lift your head and shoulders from the floor in the more difficult arm positions, see how many times you can do it.

You have very weak abdominal muscles if you are unable to lift your head and shoulders from the floor at all. Your abdominal muscles are moderately weak if you are able to lift your head and shoulders from the floor, with your arms crossed in front of your chest, fewer than five times. You have moderately strong abdominal muscles if you are able to lift your head and shoulders in either of the more challenging arms positions more than ten times.

Another evaluation exercise for strength of abdominal muscles is as follows: Lie down on your back. Place your palms underneath the hollow of your back (i.e., between your lower back and the ground). Eliminate the hollow of your back by contracting the abdominal and stomach muscles. Thus, hold your back tightly against your palms. Slowly and smoothly, raise both legs about one foot off the ground. Keep the legs raised for ten counts and then slowly return to the starting position. Throughout the procedure, keep the abdominal muscles contracted so as to keep the hollow of the back flattened. Raising the head off the ground renders the test easier and invalid. Lifting the legs too high also makes the test easier. Concentrate more on the hollow of the back than on the effort to raise the legs. It is the state of the hollow of the back which determines the score.

This test shows whether the abdominal muscles can hold the balanced pelvic position (by eliminating the hollow of the back) under stressful conditions, i.e. while lifting heavy objects or playing sports. An inability to eliminate the hollow of the back is an indication of short (tight) hip flexor muscles, ascertained by the fact that you can flatten the hollow if you bend your knees.

Those who are able to keep the back flat while raising the legs for ten seconds demonstrate a balanced pelvic position and can hold it under extreme stress. Those who are able to raise the legs for several seconds, but the back curves partially away through the test, demonstrate a balanced pelvic position, but need more stomach muscle strength and training to hold a good posture under extreme stress. Those who are able to out lift the legs, but the back curves as soon as the legs are raised, need training to create a balanced pelvic position and increased stomach muscles strength. Those who are unable to lift both legs but can lift one at a time, need extensive training to balance the pelvis position and increase their stomach muscle strength.

Evaluation of hamstring flexibility

Sit with one side next to a wall, knees bent and feet on the floor. Using your arms to support your body, lie down on your side with your buttocks close to the wall and your head away from it. Keeping your knees bent toward your chest, roll over onto your back. Place a folded towel behind your head for comfort. Gradually straighten your legs, sliding your heels up the wall.

If your knees can't be fully straightened or if your buttocks and sacrum aren't on the floor, move your buttocks away from the wall until your sacrum is firmly on the floor and your knees can straighten completely. Note the distance from your buttocks to the wall. If you have to move your buttocks more than two inches away from the wall in order to fully straighten your knees, you have a significant degree of tightness in the hamstrings, the long, powerful muscles in the back of the thighs.
Because the hamstrings attach to the sitting bones (the bony protuberances at the base of the pelvis), shortened hamstrings prevent normal movement of the pelvis and can flatten the lumbar curve. Tight hamstrings put the lower back at risk, by preventing the pelvis from tilting when you bend forward, thus requiring all the movement to come from the lower back.

If your hamstrings are tight, practice, Uttanasana, Paschimottanasana, Utthitekapadasana, etc.

Evaluation of inner thigh flexibility

Lie in the same position as for the hamstring flexibility test (buttocks and sacrum on the floor and the legs up the wall, knees straight, a folded towel behind your head). Start with both legs together, heels against the wall. Let your legs fall away from each other toward the floor so that they form a V. The angle of the legs should be about ninety degrees. If there is pain in the inner side of your knees, pull your toes back toward your head as you stretch outward with the heels. If that doesn't work, bring your legs closer together. To come out of the position, use your hands to push your legs back together.

If the angle of your legs is less than ninety degrees, your inner thigh muscles (adductors) need to be stretched. If the inner thigh muscles are tight, they pull the pubic bone down, tilting the pelvis forward and increasing the lumbar curve. They can also pull the thighbone inward, creating knock-knees. In runners, tight adductors can cause instability and irritation in the pubic area, by pulling the two sides of the pubic bone in opposite directions.

If your inner thighs are tight, rest in the test position just described for thirty to sixty seconds per day. Practice Utthitekapadasana.

Evaluation of the strength of the lateral muscles of the trunk and the legs

This test determines the strength of the lateral trunk and leg muscles which are critical for an upright posture. People who experience undue fatigue or discomfort in the lower back after long walks, jogging or tasks involving forward bending (e.g., sweeping), may have weak lateral trunk muscles.

Lie down on your right side with your legs extended straight out. Fold your arms across your chest. Have somebody firmly hold your feet down by the ankles so that they do not come off the ground during the test. Slowly and smoothly raise your shoulders and the trunk off the ground. Raise your shoulders up as far as possible and hold for ten counts. Then slowly return to the starting position. Repeat the test on the other side of your body. Perform the test slowly and smoothly. Raising the body with a sudden jerk invalidates this test. Do not use your elbow to push your body up. Your body must remain in one straight line during the entire test. Many people bend their bodies forward or backward, thereby bringing into play some other (in this case unwanted) muscles.

A poor performance on just one side of the body usually correlates with past injury to that particular side. Those who are able to raise the upper body completely and hold for ten counts have adequate lateral trunk muscles. Those who are able to raise the upper body easily, but cannot hold for ten counts, need to strengthen their lateral trunk muscles. Those who are able to raise the upper body only a few inches, and are unable to hold need improvement in their lateral trunk muscles. Those who are completely unable to raise the body off the floor need much improvement. To stretsh and strengthen lateral trunk muscles they need to practice Utthita-Parshvakonasana, Parivrtta-Parshvakonasana, Anantasana, Dwi-Pada-Anantasana, Vasishthasana, etc.

Evaluation of the strength of upper back muscles

Lie down on your stomach with arms extended above the head. Have someone hold your feet firmly down by the ankles. Slowly and smoothly raise your extended arms, the head and the trunk off the ground. Hold on for five counts. If you are unable to raise the body, interlock the fingers behind

your neck and raise your head and your trunk off the floor. Hold on for five counts. Perform the movement slowly and smoothly. A sudden jerk may cause strain and neck problems.

Those who are able to lift the body off the ground, with arms extended above the head, have the extensor muscles of the upper back in great shape. Those who are able to lift the body off the ground, with hands interlocked behind the neck, have the extensor muscles of the upper back strong but can strengthen them further. Those who are able to lift the body off the ground, with hands interlocked behind the buttocks there is much room for improvement. Those who cannot lift the body off the ground there is a desperate need to strengthen the extensor muscles of the back.

Evaluating the strength of the lower back muscles

Lie down on your stomach with the arms at the sides of your body and the palms tucked beneath the respective groins. Slowly and smoothly, raise both the legs off the ground. Hold for five counts. If unable to raise both the legs simultaneously, raise first the right leg and then the left leg. Hold on for ten counts each time. The movement should be smooth and slow. A sudden jerky movement may cause a back sprain.

Those who are able to raise both legs off the ground and hold on for five counts, have their lower back muscles in great shape. Those who are able to raise both legs off the ground, but unable to hold on for five counts, have reasonably strong lower back muscles, but can strengthen them be further. Those who are able to raise only one leg at a time and hold each leg for a count of ten there is much room for improvement. Those who are able to raise only one leg at a time, but are unable to hold the leg up in the air for a count of ten there is a desperate need for strengthening the lower back muscles.

Strong muscles provide such magnificent support to joints, that symptoms (especially pain) of even advanced osteoarthritis are not allowed to manifest. Those who have knee pain due to osteoarthritis are advised to strengthen the thigh muscles, especially the quadriceps.

Evaluation of the length and the flexibility of the hip-flexor (i.e., psoas) muscles, which prevent us from falling forward when we are standing

Hip-flexor muscles come into play while standing, lifting, bending etc. If they are shortened then that makes the back vulnerable to injury. Shortness of muscle means weakness. Shortness of the right as well as the left hip-flexors is often found in athletes. This condition may cause no problem during the prime of life, but if the abdominal muscles become weak, later in life, or if a pot belly forms, there will be a tendency to experience backaches. One-sided shortening of the hip-flexors is usually associated with an injury to that side, causing pain down the leg. It is also associated with a weakness of the lateral muscles of that side.

Lie down on the ground, with legs stretched straight out in front. Bend your right leg toward the chest. Grasp the knee and force your thigh against your trunk. What is the position of your left leg? Does it entirely lie on the ground or is it partially or completely raised off the ground? Return to the original position. Repeat the test with the left leg. The head must remain on the floor and the knee must be held snugly to the chest.
Those who are able to bring knee completely to the chest and keep the other leg flat on the floor, their hip-flexors are of the proper length. Those who are able to bring knee to the chest, but the other leg lifts slightly off the floor, need to practice hip-flexors stretches. Those whose leg lifts com-

pletely off the floor when the knee is pulled to the chest, need much improvement in their hip-flexor flexibility. Those whose leg flies up into the air when knee is held against chest, have inadequate length of the hip-flexors and need a great deal of stretching.

Overweight

If you are overweight, you don't need a test to tell you so. But you do need to understand how your weight may be affecting your back. Excess weight concentrated in the abdomen can alter lumbar mechanics and make your lower back vulnerable to injury. Excess fat in the tissues surrounding the intestines causes the contents of the abdomen to push out against the abdominal wall, stretching and lengthening the abdominal muscles, which decreases their ability to support the lumbar spine from the front. The change in your center of gravity, due to the accumulation of fat, increases pressures on the lumbar discs.

Excess weight increases the load on your knees and ankles and exacerbates any misalignments in your feet, ankles, or knees. This can lead to arthritis in the affected joints. If you are overweight, then dealing with it successfully, may require professional help through a structured program, offering education in behavior modification, nutrition, and exercise.

After the evaluation, use the following decision-making process for designing a yoga therapy program for an overweight person. First you must know what movements and breathing will be useful for that condition – you must know whether the condition becomes better or worse with a certain type of movement. Know the progression to be incorporated in the movement and breathing. Observe and asses the characteristics of the person, as well as the intensity of the problem. Decide the most important asanas, the broad outline of the sequence with preparatory and balancing asanas, and the required personalization. Continue to observe and asses as the person practices, and optimize further.

Ideal posture

At birth the newborn infant is characterized by two concave forward-facing curves in the thoracic and pelvic regions. The latter curve is facilitated by the sacrum being composed of individual sacral bones at this stage. At about 3-4 months of age, as the infant tries to raise its head from the prone lying position, gravitational interaction causes the convex forward development of the cervical spine. The final curve, the convex forward lumbar curve, begins to form as the baby sits up. Standing and walking increase the lumbar lordosis so that the centre of gravity lies over the pelvis while standing. At this stage the child's feet are still flat. The foot arches and spinal curves approach adult form by the age of 6 years. By the age of 22, when growth has stopped, the spinal curves and the position of the body's centre of gravity will have matured. The position of the upright stance will remain unchanged until a point in later life, when aging results in a changing interaction between the physical ability and the gravitational pull. As physical strength and mobility decline with age, gravity exerts its influence to change the standing posture, drawing it into flexion (lowering the centre of gravity) and reversing those curves developed during infancy. As a consequence, there is a tendency for the aging population to display an upright stance, with a reduced cervical spine curve, a flattened lumbar lordosis and lowered and bio-mechanically inefficient longitudinal arches in their feet.

One should not cross ones knees when sitting, because in time, it will lead to bodily asymmetry. Avoid chairs (in general) and practice squatting as much as possible. Whenever you do not absolutely have to sit, squat instead. Squatting is an excellent way of regaining body symmetry.

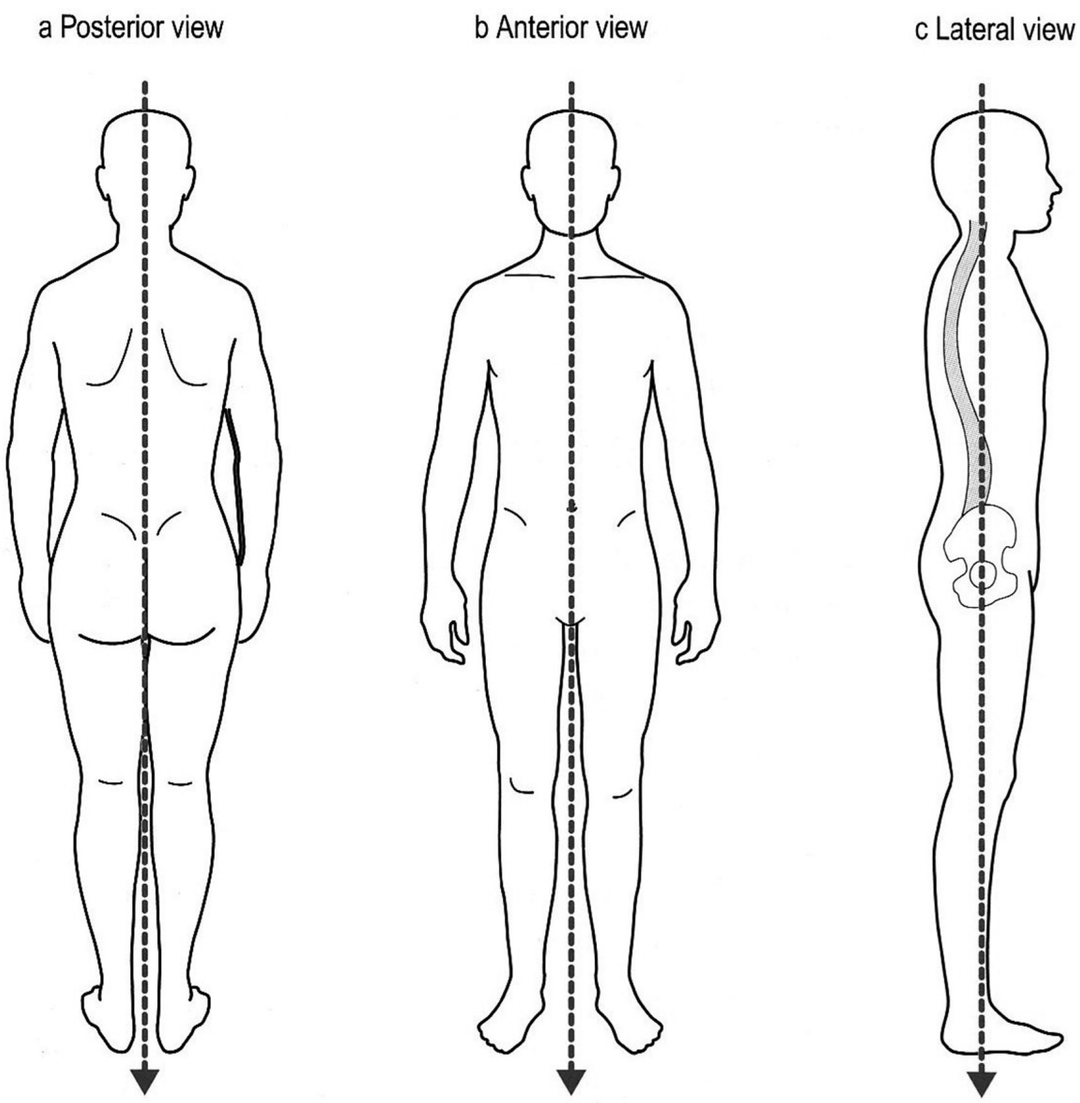
An ideal posture is one that aligns the body segments, so that the torques and stresses generated by gravity are minimized at each point in the chain. Such a posture would require the least internal expenditure of energy to maintain itself. The forces of gravity would be neutralized by minimal internally generated counterforces (active muscle work). One person's posture is not identical to another's, each is responding in a unique way to their gravitational environment, given their unique combination of physical, muscular and soft tissue characteristics. One way to regain correct alignment is to imagine at all times, that there is a cord coming out of the top of your head and pulling you gently towards the sky. This will enable you to lengthen and widen the spine, which is essential for a correct posture and balance.

When there is proper alignment between the head and neck and the rest of the body, then the rest of the body will necessarily be maintained in good shape. By moving the bones in the neck upward and back and tucking the chin to the adam's apple (modified jalandhara bandha), the muscle tension in the neck and lower back is immediately released and the height increases slightly. Also, in the standing position, the knees are not locked rigidly, but are very slightly bent and the thighs are slightly apart. This type of balance enables each vertebra in the back to move separately, rather than being contracted and locked. Pressure is instantly relieved on the fluid-filled discs between the vertebrae, and they can start to expand. This is the mayor reason for the feeling of increased lightness and antigravity in the standing position.

In a proper standing position the whole body – shoulders, elbows, hands, hips, knees, ankles and feet – remains in a position whereby all the joint surfaces lengthen away from each other, rather than being shortened. Every time when we are in a cramped position we shorten the muscles. Recent research by exercise physiologists has confirmed that the important aspect of muscle balance is lengthening, rather than shortening. Most warm-up exercises in yoga are designed to lengthen the muscles and keep them that way. The main reason why the average person cannot sit cross-legged or in the lotus position (padmasana) for very long, is because the muscles have become too short. In Eastern countries, where squatting is the standard form of sitting, and chairs are in short supply, this ability is retained into old age.

For the normal adult, the line of gravity ideally intersects the sagittal plane through the following points: the mastoid process or tragus of the ear – just anterior to the shoulder joint – just posterior to the hip joint – just anterior to the knee joint – just anterior to the ankle joint. The ideal posture has a left–to-right symmetry of the stacked segments, with no single muscle group seen to be heavily active, except the erector spinae. Viewing the posture from behind, the observer would expect to see the following anatomical landmarks, symmetrically aligned with the horizontal plane: ear lobes, breadth of the shoulders, scapulae, waist creases, posterior iliac spines (dimples), buttock creases and knee creases. With the bare feet anteriorly placed and approximately 8 cm (hip distance) apart, the tendo calcanei would follow a perpendicular line to the floor. The spinous processes would follow a direct line from the head to floor, with no deviation to the left or right (scoliosis). A front view will show alignment, such as centrality of the chin above the sternum, a central and relaxed umbilicus, upward-facing anterior iliac spines, and anterior-facing patellae. The observer will also notice a symmetrical distribution of weight through the feet. If you ran your hands around the edge of the feet you would feel that they were equally accepting their base of support, rocking neither inwards nor outwards, and the longitudinal arches would be identical and run in line with the floor. Observing the ideal upright standing posture from either side (lateral view), would show the head balanced on the neck with no excessive chin protrusion or retraction. The spinal curves

would demonstrate an open "S" shape such that the rib cage was facing anteriorly and the abdomen would be flat but relaxed. A side view would show only one cheekbone, one shoulder, one scapula, one nipple, one buttock and one knee. If two of anything can be seen, segmental rotation is occurring. The posture should be observed from both sides in order to clearly assess a segmental rotation.



This picture shows the "ideal" alignment of segments in the standing position:
(a) posterior view, (b) anterior view, and (c) lateral view.

Postural deviations from the ideal

Classical postural analysis has characterized non-ideal postures into six categories: scoliosis, kyphosis, hyperlordosis/hollow back, a combined kypholordotic posture, as well as sway-back and flat-back postures. A misalignment in one part of the body will have to be compensated for in another, in order to keep the line of gravity falling within the base of support. The compensations will depend on the patient and the context, but could include structural realignment and/or increased muscle work in adjoining segments.

Scoliosis:

A static (fixed) or mobile (correctable) lateral curve is usually seen in the thoracic and lumbar spinal regions. Soft tissues and muscles on the side of the concavity will be shortened and strong while those on the convex side will be longer and weaker. Depending on the severity of the scoliosis, a compensatory side flexion may be seen further up the segmental chain. If the deviation is due to a problem lower down in the chain, the scoliosis may itself be the compensation.

Kyphosis:

Kyphosis can be static or mobile. Many people adopt short-term slouching postures with no lasting effect. Kyphosis always refers to an increased anterior curvature of the thoracic spine. An increased kyphosis affects the higher segments such that the eyes focus on the ground unless the cervical spine compensates by increasing its lordosis, a position likely to cause muscle tension and joint compensations. Common symptoms of this effect are pains and headaches, as the neck is not bio-mechanically designed to adapt to this position. A long-standing kyphotic posture will result in shortening all musculature on the anterior chest wall, e.g. pectoral muscles, and the lengthening of the erector spine to compensate. Severe kyphosis may result in impaired lung function, due to altered biomechanics for thoracic expansion. Occasionally kyphosis is the result of a compensation for shortened hip flexors.

Hyperlordosis:

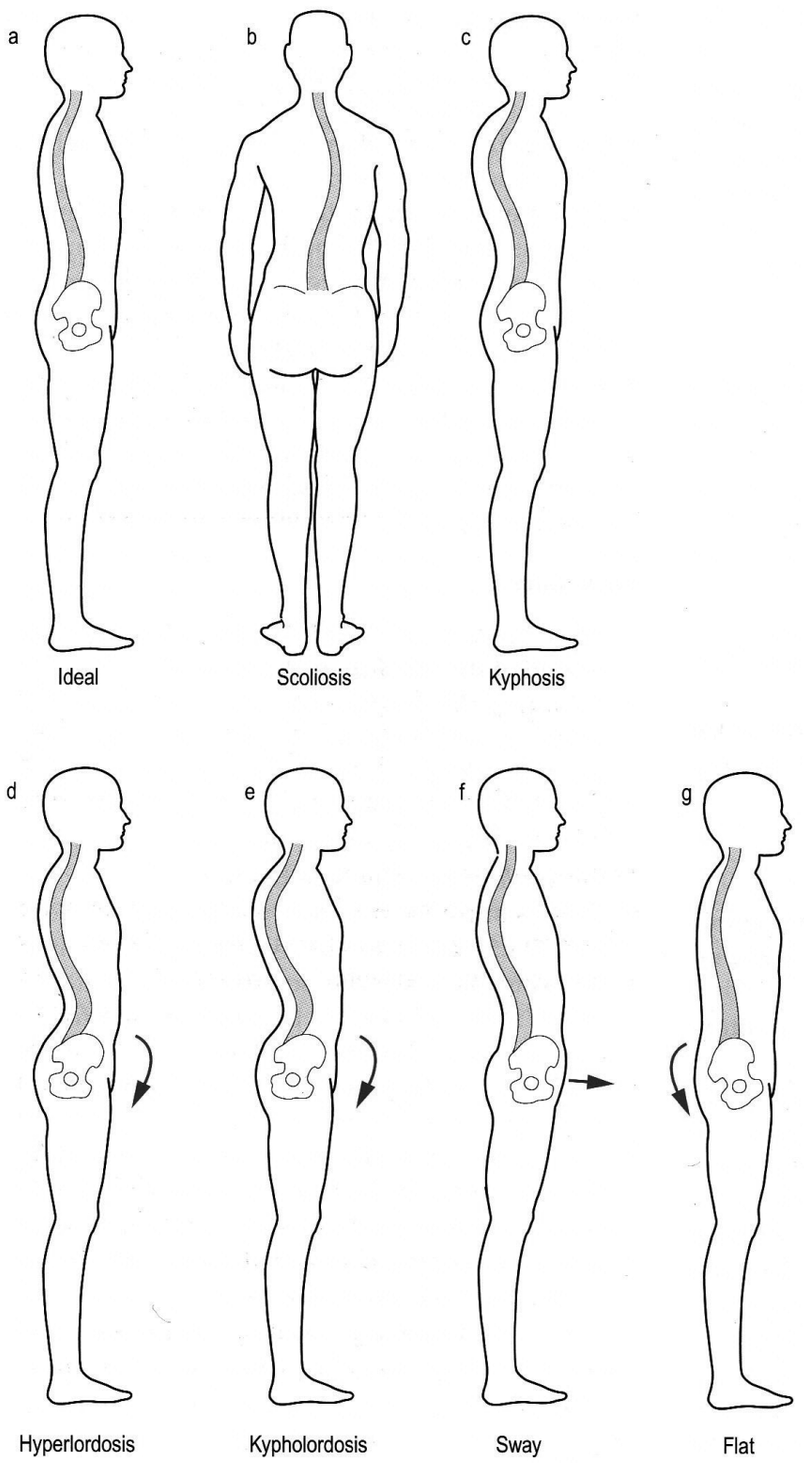
Hyperlordosis is a situation where, in an upright stance, the pelvis is held in an anterior tilt. This is classically seen after pregnancy and when abdominal musculature is weak. This position leads to an increased lumbar lordosis that shortens both the spinal extensors and the anterior muscles controlling the pelvis – iliopsoas, rectus femoris and tensor fasciae latae. The drawing forward of the pelvis will lengthen and weaken the glutei and abdominal muscles. The posture is called “kypholordotic” when combined with a compensatory increased thoracic kyphosis.

Sway back:

Also known as “relaxed ”, the characteristic profile of this posture is the slouch. Adopting this posture uses the least amount of active muscle work, as the posture is generally maintained by soft tissue and ligament length. For example, pushing the pelvis forward so that the hips go into extension, allows the pelvis to hang on the anterior ligaments of the hips. This posture is commonly adopted by boys with Duchenne muscular dystrophy. Working back up the segments, this anterior pelvic shift will need to be compensated for by an increased lumbar lordosis and thoracic kyphosis. The head will usually be held forward of “ideal”. Depending upon the extent of the pelvic shift, the knees may be locked into extension so that stance is maintained via bony approximation. A really mixed picture of altered joint and muscle biomechanics is presented by this posture, each deviation requiring careful assessment and consideration of the cause/compensation conundrum.

Flat back:

The key feature of this posture is a posterior tilting pelvis which reduces the lumbar lordosis and gives the back its characteristic "flat" appearance. People adopting long-term slouched sitting positions commonly develop this posture. A posterior tilting pelvis may result in the person standing in hyperextension at both hips and knees, with lengthened hip flexors. Abdominal muscles are likely to be tight and strong with the erector spinae reciprocally being weak and long. Further up the segmental chain, the loss of lumbar lordosis will be compensated by a slightly increased thoracic kyphosis.



The picture shows the diagrammatic representation of the listed postural deviations from "ideal": (a) "ideal", (b) scoliosis, (c) kyphosis, (d) hyperlordosis, (e) kypholordosis, (f) sway back, and (g) flat back.

Destruction of bone and cartilage

Any disease that destroys the articular cartilage, such as osteo-arthritis or rheumatoid arthritis, will impair the functioning of the joint and thus limit the movement. This may be due to two reasons: Either the destroyed surface will physically prevent the movement or the pain that is produced when the two exposed surfaces grind together, may lead to a reduction in range or deterioration in the quality of the movement. Either in isolation or in combination, these factors may actually prevent movement altogether.

Tearing or displacement of intracapsular structures

Recurrent anterior unidirectional shoulder instability is most commonly associated with an avulsion of the glenoidal attachment of the labroligamentous complex ("bankart lesion"). This would limit the range of movement. Tearing of the meniscus of the knee is a common example of this.

Soft tissue lesions

If there has been an injury to the soft tissue surrounding or within the joint, then repair to that tissue usually takes place by the formation of fibrous or scar tissue which does not have the same extensibility as the tissue it is replacing. Fibrous adhesions may also form and these would bind structures together and hence movement would be restricted.

Injury or immobilization

If immobilization of soft tissue occurs, there are bio-mechanical, biochemical, and physiological changes that take place within one week. These changes are magnified in the presence of trauma or edema. Such structural changes are a result of stress deprivation, causing the matrix of the tissue to be remodeled to its new resting length, while being held immobile. The net result of this will be a decrease in the range of movement. If muscle tissue is held in a shortened position, there appears to be absorption of the sacromeres, causing a change in length. This shortening in length is termed "adaptive shortening" and will limit joint movement.

Muscular changes and pathology

The joint itself may be intact but if the muscles that produce the movement have a dysfunction, then the net result is a reduction in range of motion. If the muscle is atrophied to a large degree, then it would not create sufficient force to move the joint through its full range. Conversely, if there

was a large amount of muscle hypertrophy, the range of motion would also be decreased due to the increased amount of soft tissue apposition.

Neurological impairment

The muscle itself may be intact but its neuronal control may be impaired. This could range from total denervation, causing flaccidity of the muscle, to lack of higher centre control, which may cause spasticity. Local spinal reflexes may also have the effect of limiting movement, by causing the muscle to be in spasm.

Pain

The body's response to pain is usually to keep the part still and avoid movement. This may be only short term, but if the pain becomes chronic then adaptive shortening may occur. The pain may disappear, but the pattern that the brain adopted, due to the memory of pain, may continue. Psychological problems such as depression or lack of motivation or self-confidence may also be responsible for the person not wanting to or not being able to move. Such symptoms may be transient and cause no physical limitation of movement, but if the condition persists then adaptive shortening may occur.

Hypertrophy

When a muscle is overdeveloped, as for example in a body builder or sportsperson, soft tissue apposition may cause a decrease in the range of movement.

Hypermobility

The range of movement exceeds that of the expected physiological range. This could be due to pathological change, either at the joint or elsewhere within the musculoskeletal or neuromuscular systems. It may however be a natural phenomenon caused mainly by the laxity of ligaments or a congenital joint deformity, but it can also result from a deliberate attempt to stretch the joint's range well beyond that which is functionally acceptable (as for example in a gymnast or ballet dancer or in some Yoga practitioners). With increased mobility there may be a decrease in stability, with the disadvantage of possible problems in the future. There is also the possibility of subluxation of the joint occurring during the movement, which could result in neurological damage. If the joint is hypermobile, there is also the possibility that the joint will articulate on bone that is not designed for this function and therefore, there is a great risk of degenerative changes occurring on the joint surfaces.

Psychological causes

Body and mind are intimately related. It is not rare for severely depressed or anxiety-affected patients to focus on the lower back as the source of their pain. Facing some difficulty in life can produce a backache which will miraculously disappear when the problem is solved. A backache can be made to serve as an explanation or excuse for some failure. Backaches may be used to remain away from unpleasant tasks or unwelcome social obligations. Any type of emotional problem (anger, etc.) may give rise to physical complaints such as backaches, headaches, etc. Many diseases are considered psychosomatic. Longstanding psychological problems and chronic mental stress, bring about a chronic tension in the body-muscles. The back, rendered vulnerable due to a sedentary life style, becomes the victim of pain. All backaches, irrespective of their causes, give rise to a certain amount of anxiety and mental tension, which in turn aggravate the back pain. Thus, a vicious circle is formed.

Injuries or special conditions

In addition to assessing your flexibility and alignment, it is important that you take into consideration any special spinal conditions or injuries you might have, such as spondylolysis, spondylolisthesis, spinal stenosis, and spinal arthritis. These conditions cannot be assessed through a simple test. But if you have already been diagnosed with these conditions, the following information will help you understand how they might affect your exercise program.

Subluxation

Subluxation describes the cause of most problems with the back. A medical dictionary defines it as, "a slight dislocation of a bone or joint". Chiropractors speak of a "misalignment or other distortion of the spine". Subluxation is not just a mechanical disorder, and because of the unifying communication pathways of the central nervous system, housed by the spine, its effects are not just local, but also remote.

Basically, there are four causes of subluxation of the spine: physical (injury or trauma), mental (stress), chemical (poisons and allergies), and to a lesser degree, thermal (drafts, under cooling). All of these are an irritation that causes a muscular contraction which pulls on the muscles and draws vertebrae out of alignment. This in turn presses on nerves which go to and affect certain parts of the body. The four successive elements of the subluxation are 1) the misalignment with the vertebra above or below it, or both. 2) This causes a narrowing of the opening through which the nerves pass. 3) That in turn puts a great deal of pressure on the nerves. 4) That pressure leads to interference with the transmission of the nerve impulses to the different parts of the body.

Subluxation causes irritation of or interference with the nervous system, with which it is always in close contact. As an example, let us say that the distortion occurred in the fifth thoracic (10th) vertebra and therefore irritates the nerve leading to the stomach. Communication is now partially cut off and obviously, that can cause serious malfunction of that organ and may eventually lead to disease. Arthritis too, can be brought about by subluxation caused by poor posture or strain.

Disease is the reaction of the body, through the central nervous system, to negative factors of its environment, whether they are internal or external. The main function of the nervous system, in its job of co-coordinating all systems and functions of your body, is that of conduction. Nerve fibers carry messages from one nerve cell to the next, from the brain and spinal cord, to every tissue of the body, and then they carry them back again. It is important to have a healthy spinal column, because it houses and protects the nervous system and its cells. Irritation of nervous system is the cause of many diseases, not only of spinal subluxation, but also of a distortion of any bodily structure, which then creates an environment that is favorable to the development of disease. The pull of gravity in itself is responsible for many distortions. The solution is of course to keep a good posture.

The end result of the disturbance to the nerve-function may vary, depending on factors such as the area of the subluxation in the spine, the degree of irritation or state of nervousness of the person at the time, and the condition of the tissues supplies (importance of proper nutrition). The more irritation there is within the spinal cord, the greater the number of muscles and different parts of the body are affected.

There are many causes of mechanical or physical irritation: car-accidents, chronic stress from poor posture, strains from lifting, falls, occupational distortions, wrenching, gross distortions (such as scoliosis, lordosis, and kyphosis), weak areas, as well as hereditary deformities or disproportions. However, one is not always affected in the same way by the same irritation. A man may have lifted the same heavy weight hundreds of times every day, over a long time, but if he especially fatigued on that day, or has an upset stomach, or is deficient in vitamins, or has over-indulged in some other way, then that same weight (mechanical stress) will suddenly produce a severe, disabling subluxation. A back never "goes out" on its own, without a lot of negative help from you.

Chemical causes of subluxation are “poisons” acting on certain nerves, irritating their structure, causing them to contract muscles, which pull vertebrae out of alignment. For instance, certain foods can be a source of such severe irritation to the gastro-intestinal tract (almost everyone is allergic to some food or other), that they should be entirely eliminated from the diet. If however, one persists in keeping to eat the offending food, one makes it a continuing factor, causing back trouble. Even repeated chiropractic treatments will not improve the condition, unless one stops eating the food that is poison to one's system.

Scientific research clearly illustrates the connection between subluxation and disease. Of a hundred people studied, it was found that all those who suffer from a peptic ulcer, also showed alterations of the spine. What is absolutely fascinating is that there was a corresponding factor between the type of ulcer the patients had and the type of scoliosis (abnormal curvature) of their spine. Unfortunately, once it is established, the ulcerous condition continues to bombard the spine with incoming impulses that cause the outgoing impulses to keep up the muscle tension, which in turn keeps up the scoliosis and subluxation. It is a vicious cycle. Whether the peptic ulcer came first or the subluxation was there from the beginning, is highly individual, but the alteration of the vertebral column is present in all.

Other more minor causes of subluxation are: 1) Constipation, where receptor nerve-endings of the colon are irritated, 2) Chemical irritants in the mucous tissue of the respiratory tract (nose, throat, voice box, windpipe, bronchial tubes, and lungs) which can eventually contribute to spinal distortion, 3) micro-organisms which can produce toxins that irritate, 4) bruising of the nerves, 5) worrying and intense thinking, 6) not enough rest or sleep, 7) auto-suggestion (in the sense that what goes on in the mind has a profound influence on bodily functions), 8) poor work habits, 9) poor posture, and 10) smoking. Irritation that produces muscle tensing, which in turn pulls and tugs at the vertebral column and pulls it out of alignment, can also be caused by any number of

other, more subtle factors. Some of these are: 11) toxemia, where poisonous products circulate in the blood, 12) anoxia (inadequate oxygen supply), caused by a hypoglycemia brought about by a diet high in carbohydrates and coffee, but low in protein and fat, 13) the pH value (acidic or alkaline) of the blood, 14) salt content of the blood, 15) hormone content of the blood, 16) fatigue and stress. This last factor plays an important role in disturbing the excitability of the nervous system and significantly affects its response to the stimuli received from the environment. A mild general fatigue makes the person more irritable. A slight insult may result in a violent reaction, and a slightly poisonous stimulation may result in violent muscle contractions.

Any distortions of the spine of the average person, are the result of the sum of all the stress factors: mechanical, chemical, and mental. The word “disease” itself means the “leak of ease”, i.e. stress. When we are talking of stress with regards to the back, we are concerned with the anatomy (science of the structure of the body and its organs) of stress. Dr. Hans Selye, the “father” of stress, is mainly known for thoroughly investigating the physiology (science dealing with the study of the function of tissues or organs) of stress. In any case, it is stress that produces the tension which eventually pulls the vertebra out of its normal structural and functional position, along with the vertebrae immediately above and below it, or even both.

We can manage to take most physical and chemical stress or irritation out of our lives, but it is the mental stress we need some help with. Stress is the non-specific reaction of the body to the demands made upon it. Every time one is confronted with a stressful situation, the body responds with the "fight or flight" syndrome. It either tries to run away or, if that is impossible, it will try to adapt by turning around and fighting it out. Either way, in the olden days, the conflict was quickly resolved. If you met the proverbial tiger, it either managed to devour you or you managed to run away — over and done with. Not so nowadays. Let us say, that someone did something very reckless to you on the highway, something that almost cost you and your children your lives. When confronted with a life threatening situation, in that moment, adrenaline is coursing through your veins, your heart is beating a mile a minute in your throat, your palms are sweaty, you feel like someone has punched you in the stomach, your breathing is fast and you tingle all over. Above all, you may be shaking with a terrible anger. You may feel like chasing the guy, forcing him over to the side, pulling him roughly out of his car and beating him up, within an inch of his life. At the next light, he gets away and, in your anger, you hadn't even noted his license number.

Now, what has happened to the stressful situation? It certainly hasn't been resolved. You have neither been able to run away from it, nor have you been able to fight it out. Hours later you are still seething. First, it affects the way you act in the office. Later, you might take this frustration out on your spouse, who naturally resents it and you end up not speaking to each other for some time. Stress researchers know that within five days of a stressful event, your body's weakest link will give way and you will have a cold, asthma or arthritis attack, colitis or an ulcer flare up. By now, that one stressful incident has lasted weeks. If your boss fires you as an indirect result of it, the effects will last for years, perhaps. All this time too, because of what happened in your body at the time of the stress, you are becoming more and more depleted and deficient of needed vitamin and mineral stores in your system.

We know that stress affects the heart, the thyroid and the liver, but people who have suffered from stress for long periods will also show enlarged adrenal glands, in an effort to produce greater amounts of substance to allow the body to resist against the stressors. The phases the body goes through in adapting to stress or a threatening situation are:

a) the alarm reaction: i.e. a car accident, losing your job, hearing a burglar in the house, surgery, the cumulative effect of feeling trapped in a situation

b) the resistive stage: when your body tries to deal with and/or resist the problem (during this stage the body calls on all its resources to supply nutrients). In the resistive stage, the body is in a constant state of preparedness to go into battle, thereby using up enormous amounts of nutrients. There is need for more supply of protein and therefore, you are breaking down protein from your frame. It is important to replenish it. Vitamin C and the B-vitamins (especially B12), pantothenic acid and choline are quickly used up. Vitamins E, A, and F are being used more rapidly, as are vast amounts of minerals, particularly calcium and magnesium. Therefore, special care should be taken to increase the intake of these nutrients during stressful situations, whether sudden or more prolonged.
c) the exhaustive stage: when the body has used up its reserves of nutrients and has a nervous breakdown, develops a chronic disease, allergies or a sudden bad back, or gets an arthritis attacks.

As Dr. Hans Selye says, “the stress is the same, the lesions differ”. In other words, where you are weak, you will break down first. This is just one of the many reasons why you must constantly exercise the whole body, and especially the back which houses the all-important spinal cord and which holds us upright. It is a life-time responsibility. Relaxation is important – relax contracted muscles. Contraction of muscles is caused by a primitive fight and flight reaction, as a response to defend its existence.

You can easily notice when your body goes into the resistive stage and when you should be giving it all the help you can. Some of the symptoms of the body coping with stress are: blood pressure increase, water retention, putting on fat, and experiencing a decrease in sexual desire. You might even breathe faster, have a faster heart beat, and sweaty palms. A chronic resistive stage brought on by more psychological causes such as worry, anxiety, anger, frustration, or guilt, would probably give you symptoms such as: shaking, trembling, fidgeting, squinting, pursing the lips, clenching the hands, having chills and palpitations, vomiting, feeling "spent", and having that “sinking feeling” in your gut. You will literally have “a pain in the neck”. Your muscles are tensed up all over. This is often the cause of a subluxation or distortion of the spine. The tense muscles have pulled the vertebrae out of alignment! The result: A “bad back”. The necessity for rest, fresh air, sunshine, eating a balanced daily diet and practicing asana, pranayama and meditation is very important when under stress.

Spondylolysis and spondylolisthesis

Spondylolysis and spondylolisthesis are two closely related disorders of the lumbar spine in which the connections between the vertebrae weaken and break. In spondylolysis, the vertebrae separate on just one side. This fracture allows the bones to move too much, grinding down the intervertebral discs.

In spondylolisthesis, the connections break on both sides of the vertebra, and the vertebral body slips forward over the next lower one. The disc at the slippage site rapidly degenerates. At first, the condition may be without symptoms. When symptoms do occur, they are related to nerve or spinal cord compression, which can produce leg, buttock, hip, or foot pain, as well as numbness or weakness on one or both sides of the body. Gymnasts, bowlers, and rowers often experience these conditions as a result of trauma, since these sports encourage the upper part of the body to slide forward over the lower part.

To prevent the upper vertebrae from slipping forward over the lower ones, do not hold the trunk forward of the pelvis. Do not allow the arch in the lower back to increase. Avoid high heels, forward bends, and such exercises as rowing, bowling, gymnastics, and cycling. Practice movements that encourage the upper vertebrae to move backward over the lower ones, such as lying on your back and hugging your knees to your chest. Strengthen muscles that can provide support for the lower back area, including the paraspinals (the muscles on either side of the spine), hip rotators, abdominals, and the leg and buttock muscles. Increase flexibility elsewhere to avoid excessive demands for motion in the lumbosacral area. Increase the flexibility of the shoulder girdle, arms, and hip joints. Increase rotational flexibility in the upper back.

Ankylosing spondylitis

Ankylosing spondylitis mostly affects men between ages of 20 to 30 years (more frequently than women) and causes pain in, and severe stiffness of, the whole spine. The spinal ligaments are ossified (transformed into bones) so that the spine virtually becomes a rigid tube.

Arthritis of the spine

The facet joints of the spine can develop both major types of arthritis, rheumatoid arthritis and osteoarthritis (degenerative arthritis).

Rheumatoid arthritis

In rheumatoid arthritis, the joint lining becomes inflamed due to abnormal functioning of the immune system. The immune cells erroneously destroy the joint lining as if it were a foreign invader, such as bacteria or a fungus. When this process occurs in the joints of the spine (a condition referred to as ankylosing spondylitis), the inflammation of the spine's facet joints causes the vertebrae to become fused together, so the spine becomes rigid and inflexible. (This condition's X-ray resemblance to a stalk of bamboo is responsible for its well known name, bamboo spine.) The pain and immobility result in muscle weakness. The unstimulated vertebrae lose calcium and become fragile and porous because of the decrease in weight-bearing activity and exercise.

Osteoartritis

Osteoarthritis (also known as degenerative arthritis or degenerative joint disease) is commonly thought to arise from the normal wear and tear on the joints that come with age. In my experience, it is also frequently associated with long-standing incorrect body mechanics due to poor posture or alignment. Osteoarthritis of the facet joints can result from chronic postural strain (for example,

flat back, swayback, and scoliosis, forward head, or any other postural or mechanical problems) that causes abnormal forces on the joints. Degeneration of the spine is characterized by a narrowing of the intra-vertebral joint space due to the thinning of the disc, also by the swelling of the posterior facet joints. The gliding surfaces of these joints become roughened and irregular, and the lining of the joint becomes scarred. In an attempt to buttress the facets to enhance weight bearing in these abnormal situations, the bones may produce spurs, which sometimes impinge upon joints, nerves, and soft tissues, limiting movement or creating pain.

A diagnosis of spinal arthritis does not mean that nothing can be done about the resultant back pain. The exercises in this book will help improve posture and decrease the abnormal demands on the spinal joints. Because bone is a living, self-healing tissue, with time there may even be a reduction in the bony spurs, as posture and body mechanics improve. Don't take a diagnosis of arthritis to mean that the damage is irreparable. Take it as a signal to improve posture and body mechanics.

Note: If you have arthritis of the spine, approach exercise cautiously. Work under the close supervision of a physical or occupational therapist until your exercise tolerance is well delineated and you understand the principles of correct movement. Working with a yoga teacher experienced in therapeutic yoga, in conjunction with a physical therapist and a rheumatologist, can be a great team approach to rehabilitation.

Lumbosacral fusion and other congenital anomalies of the lower back

Several congenital defects in the bones of the lower lumbar vertebrae and sacrum are associated with back pain, including sacralization of the fifth lumbar vertebra, lumbarization of the first sacral vertebra, asymmetry of lumbar facet joints, and spina bifida occulta.

The normal sacrum is a large triangular bone formed by the fusion of the last five vertebrae. In sacralization of the fifth lumbar vertebra, one side of the last lumbar vertebra is fused into a single bone with the sacrum. A similar condition, lumbarization of the first sacral vertebra, occurs when the first sacral vertebra does not fuse into a single bone with the remainder of the sacral vertebrae. Instead, half of it is fused with the sacrum, while the other half has a structure more like that of a lumbar vertebra. In both of these conditions, the partially fused area is insufficiently mobile, creating compensatory hypermobility above it. The disc in the hypermobile segment degenerates and the joints subjected to increased movement can develop wear-and-tear arthritis.

In spina bifida occulta, the neural arches that form the spinal canal don't completely meet. Thus the spinal cord remains slightly or severely unprotected. This condition usually has no symptoms. People with spina bifida occulta who have back pain often blame their pain on their spina bifida, when in fact it is usually due to the same postural flaws and poor body mechanics that cause other people pain.

Another congenital anomaly of the lumbar spine involves asymmetry of the facet joints. Normal lumbar facet joints are designed to limit the rotation of the vertebra. If a facet joint surface is angled improperly, the joint moves much more freely. This can cause increased wear and tear on the neighboring discs.

Yoga therapy for such congenital defects aims to increase the strength of the muscles that can provide support for these abnormal structures (buttock, thigh, abdominal, and paraspinal muscles)

and to decrease the excessive demands for movement and rotational strain at these areas by improving flexibility in the midback, shoulders, and hips.

Spinal stenosis and old spinal fractures

Spinal stenosis is a condition in which bony overgrowth narrows the spinal canal, often impinging on the spinal cord. Sometimes congenital, this condition can also be related to previous spinal surgery, severe arthritis of the spine, or spondylolisthesis. Correction usually requires surgical removal of the excess bone.

Old fractures of the spine often result in scarring, which can render certain areas of the spine almost immobile. Other areas, in compensation, become hypermobile, resulting in disc degeneration and traumatic arthritis of the facet joints. Scar tissue from old fractures can also compress and irritate entrapped nerves.

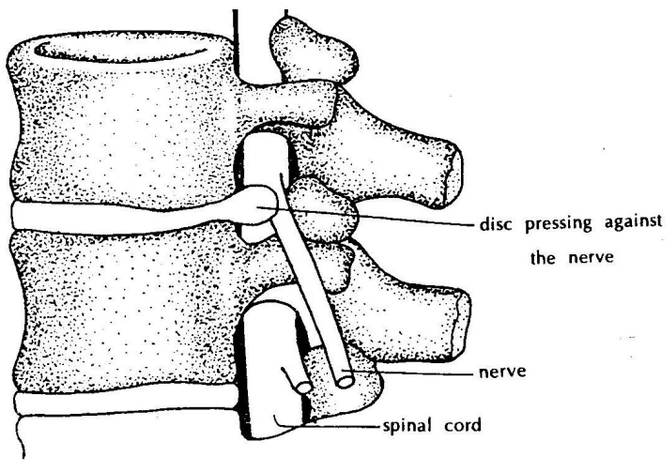
Yoga rehabilitation in these two conditions is basically the same as with lumbosacral fusion and congenital anomalies of the lower back. The supporting muscles (buttock, thigh, abdominal, and paraspinal muscles) must be strengthened. At the same time, flexibility in the midback, shoulders, and hips must be improved, to decrease demands for movement and rotation in the lower back. Because of the unpredictability of the bone struc¬ture, it is difficult to predict whether the exercises for flatback or swayback will be more effective. Try both and use those which work the best for you.

Prolapsed intervertebral disc (herniated disc)

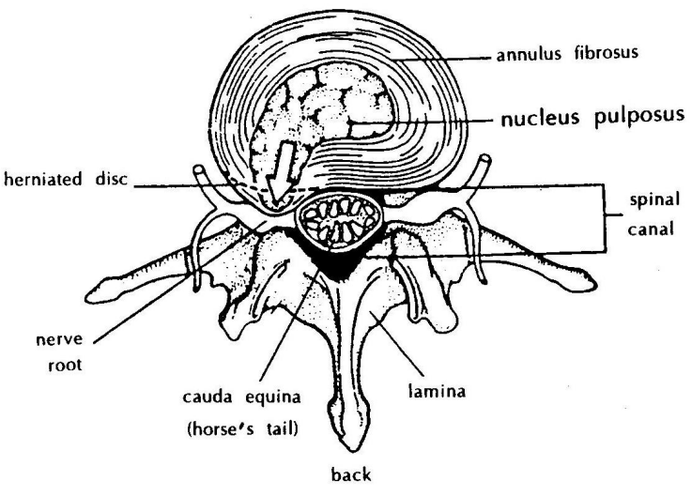
Herniated disc: Disc merely bulges when there is too much pressure or a sudden shearing strain on the spine. The nucleus pulposus can squeeze out of its normal site and enter the vertebral canal where it presses on surrounding structures, for example, roots of the sciatic nerve, causing pain. The disc gradually loses its shock-absorbing capacities and becomes flat and crushed. Herniation of the disc is usually the result of some sudden violent episode such as a fall, an accident, strain while lifting a heavy object, a twisting jerk of the trunk, etc. In the condition of herniated disc person complains of pain radiating or shooting down into the leg (along the course of the sciatic nerve which is being irritated by the impingement or pressure) and muscle weakness. During an examination, the person may be unable to raise the straight leg without pain. Then, there may be changes of sensations in the leg, such as numbness, tingling (pins and needles) or alterations in knee and ankle reflexes. In more serious cases, there may be loss of tone in sphincter muscles of the bladder and the bowel, and loss of sensation in the rectal area. This is a medical emergency requiring immediate treatment. A herniated disc is usually a progressive condition. It is not the beginning of back trouble but the end-result of a process, the warning signs of which have been conveniently ignored. It is simply the final thing that happens to a system that has been out of balance for a number of years.

Treatment

To determine the pathological changes that have occurred, it is vital that the yoga therapist performs a full and detailed assessment, noting how the patient's current posture deviates from the "ideal posture". Once the pathology is known, the yoga therapist can choose a method of treatment whose physiological effects alter the pathological changes that have occurred in the body. It is important to understand that details of the anatomy, arthro-kineasiology, and biomechanics of movement, as well as the pathological changes that have occurred – all these factors have an effect on the logic of the treatment choice. The important and real cause of most backaches is poor posture combined with some mechanical derangement or disease of the spine, as well as weak muscles resulting in a spasm of the back muscles. It is important that people suffering from different pathological conditions are given the opportunity to rest in positions of ease, where their postures are supported, reducing the effort to uphold them, and in which they can maintain deep and unobstructed breathing. A secondary intervention will manage symptom control and recurrence prevention, through a detailed ergonomic review, appropriate muscle strengthening, and joint realigning yoga exercises. Postural rehabilitation is a long-term activity, requiring a high level of motivation on behalf of the patient, as well as interactions with and support from the yoga-therapist. At all times the yoga-therapist must be aware of the individual needs of the patient and the context/environment in which that patient operates, thus helping to make the therapeutic intervention relevant wherever is possible.



Lateral view



Cross-sectional view

Asana and pranayama for structural and functional problems

Yoga should be modified to accommodate a patient's age and limitations. It is important to do asanas with appropriate breathing, control in food habits, and giving up an undisciplined lifestyle. If a person practices yoga without following these guidelines and without knowing the appropriate methods of practice, he/she will not attain freedom from disease. Yoga-therapy uses the following methods: asanas, pranayama, meditation, vedic recitation, yagyas, changes in diet, the use of herbs or Ayurvedic medicines, Jyotish, and Sthapatya-Veda, along with a disciplined lifestyle and certain key changes in the person's habits, according to the disease. Without controlling dietary habits, yogic treatment of disease is much less effective. Complete rooting out of the disease will not be possible unless pranayama, asana, and regulation of diet (ahara) are combined properly and practiced accordingly. If any practitioner of yoga wants to remove any disability or disease, he must practice vairagya (non-attachment). Otherwise, the treatment will not be effective. He will again get the disease.

Yoga therapy program for weight-control

Control over the quality and quantity of food we eat is critical for a successful yoga practice. Even more important, a balanced diet is necessary. For a long life, restricted eating is a must. A yoga practitioner must eat less. People should spare no efforts to never become overweight.

IDEAL WEIGHT CHART FOR MEN AGED 25 AND ABOVE

Height		Small frame		Medium frame		Large frame	
		weight in		weight in		weight in	
Cm	Ft.-inch	Pounds	Kg	Pounds	Kg	Pounds	Kg
158	5′ 2"	111 to 120	50.5 to 54.5	118 to 129	53.5 to 58.5	126 to 141	57 to 64
160	3"	115 to 123	52 to 56	121 to 133	55 to 61	129 to 144	58.5 to 65
163	4"	118 to 126	53.5 to 57	124 to 136	56 to 62	132 to 148	60 to 67
165	5"	121 to 129	55 to 58.5	127 to 139	57.5 to 63	135 to 152	61 to 69
168	6"	124 to 133	56 to 60	130 to 143	58.5 to 65	138 to 156	62.5 to 71
170	7"	128 to 137	58 to 62	134 to 147	60 to 66.5	142 to 161	64.5 to 73
173	8"	132 to 141	60 to 64	138 to 152	62.5 to 69	147 to 166	66.5 to 75
175	9"	136 to 145	62 to 66	142 to 156	64.5 to 71	151 to 169	68.5 to 77
178	10"	140 to 150	63.5 to 68	146 to 160	66 to 72.5	155 to 174	70 to 79
180	11"	144 to 154	65 to 70	150 to 165	68 to 75	159 to 179	72 to 81
183	6′ 0"	148 to 158	67 to 71.5	154 to 170	70 to 77	164 to 184	74 to 83.5
185	1"	152 to 162	69 to 73.5	157 to 175	71.5 to 79	168 to 189	76 to 85.5
188	2"	156 to 167	71 to 76	162 to 180	73.5 to 81.5	173 to 194	78.5 to 88
190	3"	160 to 171	72.5 to 77.5	167 to 185	76 to 84	178 to 199	80.5 to 90.5
193	4"	164 to 175	74 to 79	172 to 190	78 to 86	182 to 204	82.5 to 92.5

IDEAL WEIGHT CHART FOR WOMEN AGED 25 AND ABOVE

Height		Small frame		Medium frame		Large frame	
		weight in		weight in		weight in	
Cm	Ft.-inch	Pounds	Kg	Pounds	Kg	Pounds	Kg
147	4′ 10"	92 to 98	42 to 44.5	96 to 107	43.5 to 48.5	104 to 119	47 to 54
150	11"	94 to 101	42.5 to 46	98 to 110	44.5 to 50	106 to 122	48 to 55
152	5′ 0"	96 to 104	43.5 to 47	101 to 113	46 to 51	109 to 125	49.5 to 56.5
155	1"	99 to 107	45 to 48.5	104 to 116	47 to 52.5	112 to 128	51 to 58
158	2"	102 to 110	46.5 to 50	107 to 119	48.5 to 54	115 to 131	52 to 59.5
160	3"	105 to 113	47.5 to 51	110 to 122	50 to 55	118 to 134	53.5 to 61
163	4"	108 to 116	49 to 52.5	113 to 126	51 to 57	121 to 138	55 to 62
165	5"	111 to 119	50.5 to 54	116 to 130	52.5 to 58.5	125 to 142	57 to 64.5
168	6"	114 to 123	52 to 56	120 to 135	54.5 to 61	129 to 146	58.5 to 66
170	7"	118 to 127	53.5 to 57.5	124 to 139	56 to 63	133 to 150	60 to 68
173	8"	122 to 131	55 to 59.5	128 to 143	58 to 65	137 to 154	62 to 70
175	9"	126 to 135	57 to 61	132 to 147	60 to 66.5	141 to 158	64 to 71.5
178	10"	130 to 140	58.5 to 63.5	136 to 151	62 to 68.5	145 to 163	66 to 74
180	11"	134 to 144	61 to 65	140 to 155	63.5 to 70	149 to 168	67.5 to 76
183	6′ 0"	139 to 148	63 to 67	144 to 159	65 to 72	153 to 173	69.5 to 78.5

Janushirshasana has a therapeutic effect for overweight people. Those who carry excess fat around their waist and belly, will find it very difficult to practice Janusirshasana. If Janushirshasana is practiced diligently, the fat around the waist, belly, and nearby places will melt away, the nadis and joints will become clear, and the head will touch the knees. Fat is the cause that the body is not bending – it will melt away through asana practice. Just as children's limbs are supple and easily flexible, so too should the limbs of adults be, with unhindered flow of prana and circulation of blood. Those who are overweight or with a big belly are often short of breath, and the flow of prana is not smooth all through their body. The accumulation of fat all over their body hinders the flow of prana. If we want the flow of prana to reach all parts of the body smoothly, the fat that is accumulated like a wall must be removed. The power to remove this fat lies only in prana itself, not in medicines. Therefore, this Janushirshasana should be practiced with discipline – it will result in the belly decreasing, however large it maybe. As the fat is reduced, we can be certain that the death residing in, will leave as well. To reducing overweight it is also useful to practice Mahabandha (especially Uddiyana bandha) and kapalabhati pranayama.

We should not fight with our body, we must be friendly with it. Our body becomes our enemy if we eat indiscriminately and become overweight and unwieldy. Our body is our friend if we are lean and healthy – it will help us in practicing yoga. Proper pranayama will not succeed without a controlled diet. If we eat heavily, we cannot possibly do good pranayama. The breath will be short and erratic, the bandhas will be impossible, and the mind will be dull. The following is a recommendation for how to reduce weight and enjoy a balanced diet:

- We follow a disciplined life and eat a moderate and healthy diet. By doing this, we respect and make friends with the body, thus gaining its cooperation for the practice of yoga. Avoid breakfast (drink only fresh juice from vegetables or fruit) and do not eat after 6 P.M.

- f we have strong urge to eat unhealthful food, we begin doing more asana and pranayama, so we do not begin by fighting with the tongue. Instead, we placate it by giving it the food it wants, but we begin doing more asana and pranayama. As we practice more asana and pranayama, we feel lightness in the body and a sense of wellness. Reluctance to lose this feeling of wellness helps us resist eating indiscriminately. Thus we can control our unhealthy food habits over time, supported by a good asana and pranayama routine.

- If the body has too much fat and the mind wanders unnecessarily, asana and pranayama will not be sufficient to turn around one's habits. To break the cycle, it is also necessary to interrupt the support for the tongue. Fasting for a day every now and then or skipping a meal, will help bring the tongue under control. It will also help strengthen our willpower (iccha shakti) by giving our mind the message that all whims will not be satisfied. Folowing fasting procedure can be done for one, two or three days. Tahe 2 tbsp of honey (pine or chestnut), ½ l of fresh orange juice, ½ l of water and juice of one lemon. Mix all ingredients and drink during the day when you feel hungry. During day drink minimum 3 l of water. In the morning, on empty stomach drink 3 dcl of water. For breakfast drink 3 dcl of fresh juice from carrot, beetroot, apple and celery. For lunch eat fresh salad. Drink water one hour before lunch, during lunch you can take only few sips of water, and after lunch do not drink water for at least one and half to two hours.

- If the body and mind are spoiled (full of ama and toxins), a serious transformation can come about only through strong measures. Certain restrictions become necessary, like completely giving up the unhealthy food items that we like most, such as sweets or chocolates, or by avoiding salt of fatty foods entirely for an extended period of time (maybe one month or more). This is a firm discipline for the body and mind, and it may be like going to battle with them. They will protest, but as long as our health is not affected negatively, through measures that are too rigorous, i.e. extended fasting, etc., a strong determination will help us prevail and achieve the desired transformation.

Yoga therapy program for the treatment of backaches

Pain stimulates muscle spasm. Muscle spasm in turn intensifies pain. Thus a vicious circle is formed that tends to worsen matters. The earlier that this cycle is interrupted, the better for the patient as well as his back, which will heal faster. There are three types or degrees of back pain, each with different characteristics. The first is “acute” pain which is sharp, intense, sudden, and unexpected. The second type is “chronic” pain which is long-standing, usually dull and unremitting. The third type, “mild pain”, is not pain in true sense, but just discomfort and stiffness.

Treatment of acute back pain

As long as you do not have trouble in passing urine or you don't feel a distinct weakness in your legs, you can manage the attack yourself. Otherwise you need to ask for medical help. The most important immediate step following an attack of acute back pain, is to take complete bed-rest.

Rest

Most backaches are due to muscle spasms resulting from strains, sprains, or tears. They, like a

sprained ankle, need a period of rest, followed by a period of rehabilitation and gradual mobilization. Knowing how to lie down correctly, so that the injured muscles or ligaments get optimal rest, is vitally important. We have said earlier that the "balanced pelvis" position is the position of health and strength for the back. It is also the position that is conducive to quick pain-relief and healing. The pelvis can be easily balanced in the bed. You should lie on the back with the head resting on a thin pillow and the lower legs kept elevated with the help of two or three pillows, so that the hollow of the lower back is flattened out. The mattress should be firm so that the body is not allowed to sag. Many patients find that the floor is even more comfortable than the bed. The patient lies on the floor, with the legs elevated by keeping them on the edge of a sofa or a chair.

A sore back can also be rested and soothed by lying on your side. Roll over to one of your sides, place your head on a pillow and keep the knees and hips bent towards the chest as much as comfortable (fetal position). Keep a pillow between the two knees to prevent the spine from being twisted and keep your pelvis balanced (i.e., your lumbar hollow flattened). Getting in and out of bed becomes an art when you are struck with a backache. To get out of bed, first lie on your side. Now, without twisting or bending your back, push up to the sitting position, using your arms. At the same time, slide your legs over the edge of the bed to the floor. To get back into the bed reverse the sequence of movements.

Heat

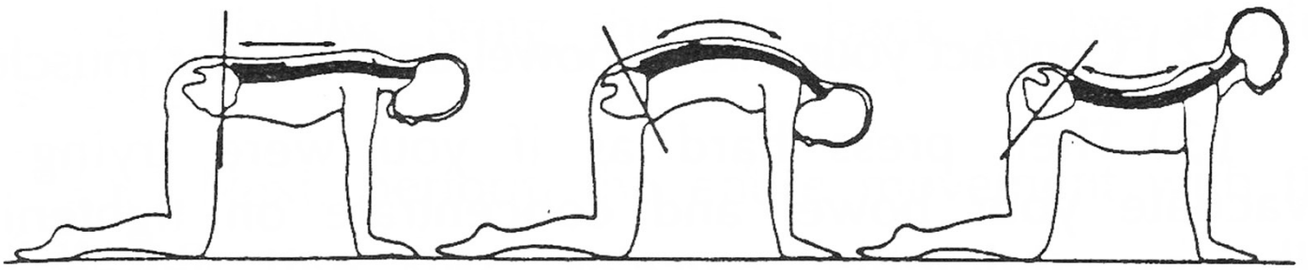
One remedy for back pain is heat. Heat has been used as a remedy for pain by every race throughout the history of mankind. Heat improves the blood supply of the exposed part, so that the toxic wastes, accumulated in spastic muscles, are flushed away. Heat can be applied several times a day as desired, for about fifteen minutes each time.

Recovery and strengthening exercises

After the acute pain is gone, you can start doing some recovery yoga exercises, with very slow and smooth movements and deep breathing to improve circulation to the afflicted area and regain mobility. Then you can start with a strengthening yoga program. Please do not skip the warm-up movements. They help in loosening the muscles and removing their rigidity. They prepare the muscles for exercising. They increase the blood circulation of the muscles, rendering them warm. This is very important because cold muscles are vulnerable to sprains and injury. Proper warm-up movements reduce the possibility of post-exercise pain in muscles and joints. They prepare the lungs and the heart for the exercises. To warm up, you can use the movements of "ashta sandhi vimochana kriya", described previously in the book. To increase the mobility of the spine and strengthen the muscles, you can use the following additional exercises:

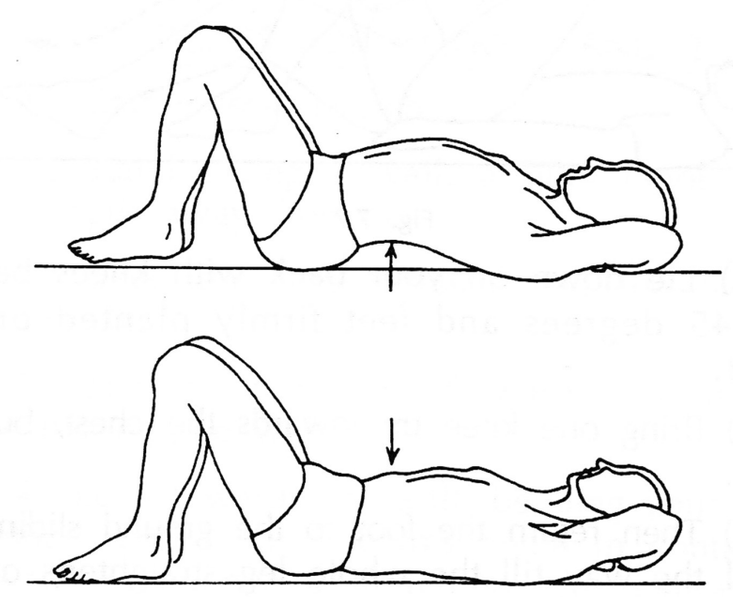
Cat exercise

This movement relives tension in the back muscles and improves the mobility of the lower spine. Kneel on the ground on all the four limbs. With exhale, raise the middle of your back, bending your head downward towards the ground doing Jalanhara-bandha. Thus your spine will form an arch. Next, with inhale, lower the middle of your back, raising your head upward towards the ceiling. Thus, your spine will again form an arch. Repeat these movements dynamically 6 times and then statically for 6 breaths in each position.



Isometric abdominals

This action warms up and strengthens the abdominal muscles. Lie down on your back with knees bent at about 45 degrees and feet firmly planted on the ground. On exhale, contract all your abdominal muscles. This will flatten the hollow of your back. Hold this contraction for five counts. On inhale relax. Repeat five times.



Pad Sanchalan

For releasing the tension of and relax the muscles of the middle and lower back, you can do Pad Sanchalan.

Stretching the calf muscles

To stretch the calf muscles, you can lean forward against a wall in the standing position. Stand facing a wall, a little more than an arm's length away from it. Keep the feet together and the back and hips straight. Stretch your arms forward and place the palms flat on the wall. Lean towards the

wall, bending your arms at the elbow, until your forearms come in contact with the wall. Experience a stretch in your calf muscles. Hold this position for five counts. Using your arms, push your body back to the vertical position. Repeat five times during the first week and ten times during the second week. Make sure to keep your body straight. Do not bend at the waist. Keep your heels in contact with the ground at all times.

Uttanasana

To stretch the key postural muscles (back muscles and the muscles at the back of the thigh), do Uttanasana (bending forward) sitting in a chair.

Pavana Mukta Asana

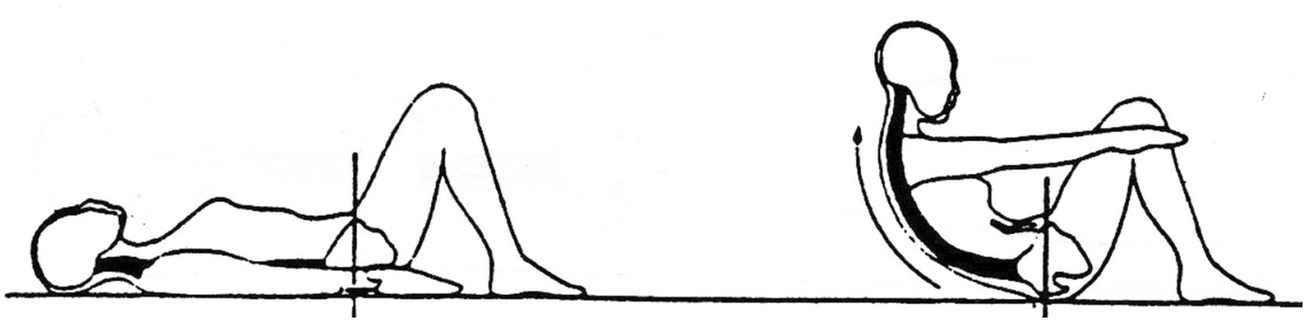
To stretching the muscles at the front of the hip and the thigh, do Pavana Mukta Asana. These are key postural muscles which, when tight (shortened), pull the pelvis downwards and the lumbar spine forward, creating an excessive sway back.

Utthit Ekapad Asana

To stretch the hamstrings, do Utthit Ekapad Asana.

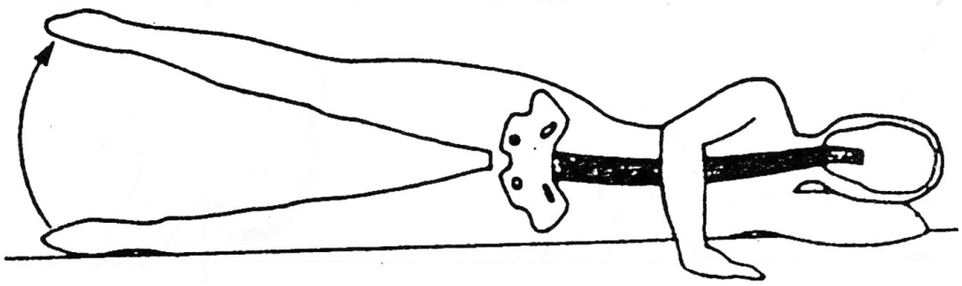
Bent leg sit-up

Weakness of the abdominal muscles plays a major role in the development of poor posture. This exercise strengthens the abdominal muscles and at the same time balances the pelvis. Lie down on your back with the knees bent at about 45 degrees and the feet firmly planted on the ground. Assume the "balanced pelvis" position. Extending the arms forwards, gradually raise the head, shoulders and the upper back off the ground, not allowing your feet to lift off the ground. If your feet lift off the ground, it means that you are raising your body up too far. Immediately, but slowly, return to the starting position. Release the pelvic balance. Repeat five times. During the second week of practice, maintain the raised position of your trunk for up to ten counts. Tuck your chin in while doing this exercise. Jerking the head aggressively may cause discomfort or pain in the neck. Curl up slowly and smoothly. If you try to come up too fast or with jerk, you may precipitate back discomfort.



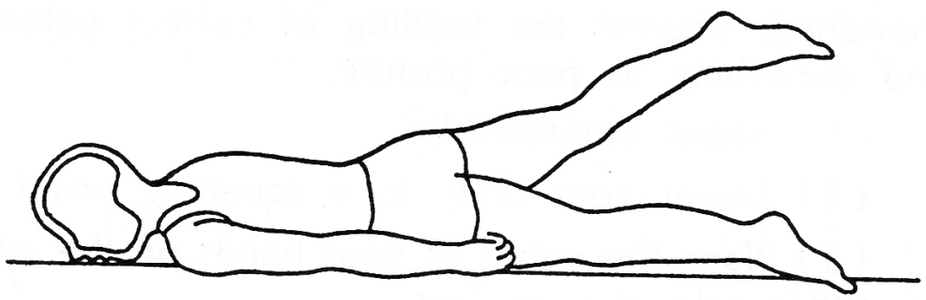
Lateral leg lift

This exercise is designed to strengthen the lateral trunk and thigh muscles. Weakness of these muscles makes one prone to sprains and injury. Lie down on your left side with your left arm supporting your head and the right palm placed on the ground in front of the chest, to balance the body. Ensure that your trunk and the legs lie in one straight line. Assume the "balanced pelvis" position. Raise the upper (right) leg by about a foot and a half. Without pausing, slowly return the leg to the original position. Release the pelvic balance for a while to rest. Repeat six times. Then turn over to the right side and perform the exercise six times with the left leg. Do not allow your body to twist or bend forward or backward, as you lift the leg. Do not jerk your leg up. The movement should be slow and smooth. In the second week, after raising the leg, hold its position for five to ten counts.



Ardha shalabhasana

This exercise is designed to strengthen the muscles of the lower back and the buttocks.



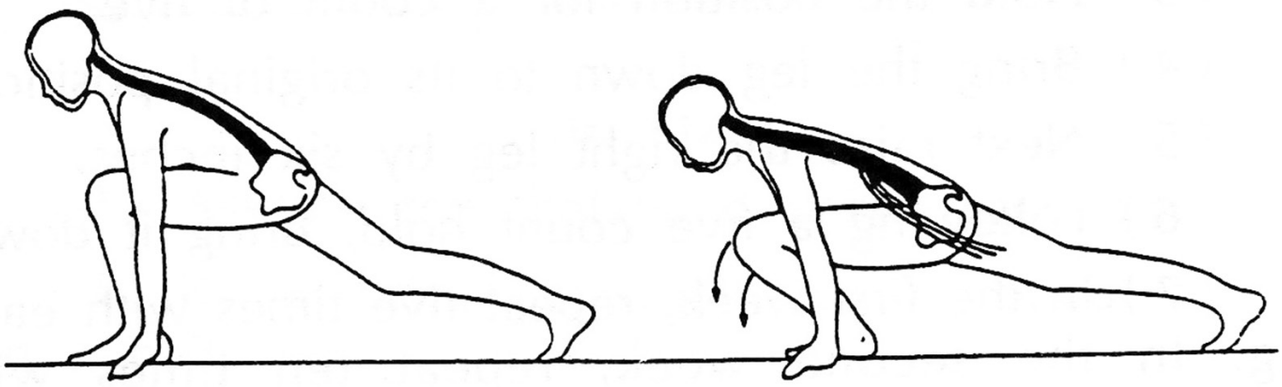
Racer stretch

To stretch the calf muscles as well as hip flexor muscles, practice the "racer stretch". Both of these are key postural muscles which, when shortened, prevent the holding of the correct pelvic tilt and contribute to poor posture. The racer stretch is done in the following way: Stand comfortably. While exhaling lower your body to a squatting position. Place the palms of your hands on the ground, on either side of your feet. While inhaling, extend your right leg backward as far as possible keeping the left foot flat on the ground. During the exhalation, allow the weight of your trunk to rest heavily on the left knee. Feel both calf muscles and the right groin muscles stretch as your body is lowered

down and forward by gravity. Hold for a count of ten while breathing normally. Then relax. Repeat five times with the same leg. Then perform five more repetitions with reversed leg position. Make sure that your trunk is supported by the thigh and the leg so that your back is not strained.

The strengthen the abdominal and back muscles, perform the same exercises that were used to evaluate the strength of these muscles (as described previously). You can also do lateral leg lifts to strengthen the lateral trunk and thigh muscles.

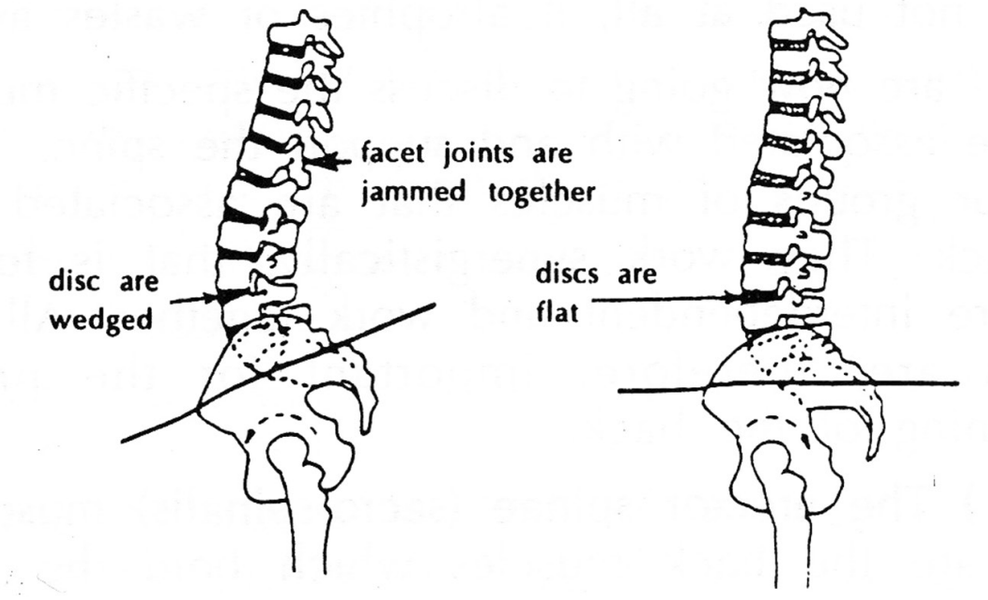
To maintain the fitness of the back (fitness means readiness and ability to do any action), regularly do the above described exercises. The two most important qualities for fitness are strength and flexibility. Muscles that are not regularly used lose both these qualities. True fitness consists of four qualities: stamina and slimness, balanced with strength and flexibility. All these qualities can be easily imbibed if you resolve to regularly perform proper yoga exercises. Remember "that which is used develops, that which is not used will waste away". In other words, "use it or lose it". The marvelous human machine is different from other machines, in that it improves as it is put to use more often, in an intelligent way (through yoga practice).



Good posture

Regular exercise prevents backaches. Prevention is better than cure. Maintenance of a good posture comes through strong and supple muscles of the back and the abdomen. A person's posture can be considered good when the shoulders are held slightly back (but still in the line with the chest), the chin is tucked in, and the hollow at the lower back is somewhat flattened by a contraction of the abdominal muscles.

Good posture hinges on the pelvic tilt. When the pelvis is held in a balanced position, the back automatically curves normally and all parts of the body attain a state of balance. In this state, all the muscles of the body, and especially those associated with the back, are at their efficient best, working optimally and protecting the spine from injury. When a person has an excessively curved back (poor posture), certain groups of muscles are stretched past their optimal working length, while other muscles are required to do extra work. For example, if the abdominal muscles are weak, the pelvis shifts forward, causing the back and psoas (hip) muscles to be over-used. Such over-working produces chronic fatigue and leads to backaches. A good posture centers around the balanced pelvic tilt. Put your pelvis in a balanced position and you will observe that the curves in your back reduce to a healthy minimum. Unless you strengthen weak muscles and stretch short muscles, you won't be able to attain a pelvic balance and correct posture, in spite of all your efforts.



Unbalanced pelvis: weak position,
back is vulnerable to injury

Balanced pelvis:
strongest position for the back

All exercises are to be performed maintaining the pelvis in the balanced position. In this position your back becomes virtually immune to injury or pain. In addition, your muscles are at their strongest in this position, enabling you to perform an exercise with a less effort. You can balance the pelvis in two ways:

- By bending the hips and knees, whether (lying down, sitting or standing). This is called "pel - vic balancing by body-positioning".
- By training the abdominal muscles to straighten the spine. This is called "pelvic balancing by muscle-contraction".

The tendency of the pelvis to tilt down again (i.e. to arch the spine again) can be checked by muscle-contraction. For that reason, strong abdominal muscles are of exceptional importance.

Prevention

To prevent backaches and minimize the chances for injury, the most important “rule” is that, while you are performing any task involving the back muscles, you must adopt and maintain the balanced pelvic tilt throughout the task. For example, the correct lifting technique entails the following: bending the knees and the hips, keeping the back straight, lifting with the knees (which are much more capable of coping with a heavy load), rather than the back muscles, and keeping the elbows bent, so that the weight remains close to your body. A balanced pelvis position, if adopted while lifting, automatically straightness the back, makes it impossible for the spine to twist, makes it necessary to bend the knees instead of the back (because the latter cannot be bent), and allows the abdominal cavity to distribute the force of the lift equally in all directions (the hydraulic sac principle), thereby saving the spine from excessive stress. In other words, if the back is stabilized in the balanced pelvic position, a safe lifting technique becomes automatic. You don't have to think consciously about its application.

Ladies should abandon high-heeled sandals and shoes. Such footwear transfers or displaces the weight of the body forward, arches the lumbar spine, shortens the calf and hip-flexor muscles, and increases the wear and tear of the spine. Health is more important than fashion.

If you want to keep all back problems at bay, keep slim and fit. The erect, two-legged posture of man has already put a lot of weight and strain on his spine. You can avoid adding to your spine's woes by maintaining a trim body. If you are already obese, start reducing your weight immediately. Remember that excessive weight causes not only backaches, but many other grave diseases. Refer to the charts given above to find out whether your weight is correct or excessive, with respect to your height and build. Sitting postures exert more pressure on the discs of the spine than standing postures.

Yoga therapy program for lower back pain caused by damage to the sacroiliac (S-I) joint

Approximately 80 percent of all people experience some form of lower back pain, including sacroiliac pain, during their lifetime. The sacroiliac is one of the joints of the pelvis, formed by two bones, the sacrum and the ilium. While there is a small amount of movement allowed at the S-I joint, its major function is to provide stability. This stability is necessary to transfer the downward weight, while standing and walking, into the lower extremities. Held together by strong yet pliable ligaments, it is designed to "lock in place" when you stand. The sacrum bone wedges down into the pelvic joints, due to the weight of the trunk – similar to the way a padlock closes. This tight sacrum-pelvis connection creates a firm base for the entire spinal column. However, when you sit, this stability is lost because the sacrum is no longer wedged into the pelvis. This is why those suffering from S-I joint pain often prefer to stand.

Sacroiliac pain is a result of stress at the joint, created by moving the pelvis and the sacrum in opposite directions. This can be caused by an accident or sudden movements, as well as poor standing, sitting, and sleeping habits. Pain can occur at the SI-joint due to the unusual and consistent stresses, placed on the supporting ligaments around the S-I joint, while practicing asana (as well as by doing poses that move the pelvis and sacrum in opposite directions).

Women are more likely to suffer from sacroiliac pain than men, mostly because of structural and hormonal differences between the sexes. A woman's anatomy allows one less sacral segment to lock with the pelvis. It may sound minor, but this has a big influence on the stability. Also, the hormonal changes of menstruation, pregnancy, and lactation can affect the integrity of the ligament support around the S-I joint, which is why women often experience the worst pain during the days leading up to their period. Finally, women's wider hips influence the stability during everyday activities. In walking for example, as each hip joint alternately moves forward and backward with each step, every increase in hip width causes an increased torque across the S-I joint. Add the fact that women also make up two-thirds of people walking to get exercise and it's easy to see why sacroiliac pain is found so much more commonly in women than it is in men.

First you have to determine whether your lower back pain is in fact due to a S-I dysfunction. There are a few signs. The most common is pain that exists in an area about the size of a quarter, right over the S-I joint. This pain can be caused by the sacrum either slipping forward or backward in relationship to the ilium. It is commonly felt only on one side and sometimes not on the side of the actual dysfunction. Another simple way to test whether your S-I joint is causing your pain, is to observe your symptoms as you slowly stand and sit. Other signs include pain radiating into the hip socket, down the outside of the leg, or deep inside the belly over the anterior surface of the S-I joint. But pain is not an accurate indicator. There are other situations that mimic S-I dysfunction. It's important to have a health-care professional confirm your intuition, especially regarding which side and in which way the dysfunction has manifested. Once you have been diagnosed, you can use yoga by practicing specific poses in a certain way. Remember however, that while yoga can help strengthen the area around the joint, as well as provide the necessary awareness to help you prevent future problems, asanas in and of themselves may not be sufficient to cure everyone.

The sacroiliac joint remains healthier if it is not stretched too much. In fact, focusing on creating stability is the key to preventing overstretching and thus remaining pain free in the sacroiliac joint. The best poses for sacroiliac pain are twists and asymmetrical forward bends, both of which help to diminish the torque through the joint. Strengthening the muscles around the S-I joint, to prevent future problems, can be accomplished by practicing simple backbends and standing poses. But while these poses can be beneficial, doing them incorrectly can put further stress on the area and end up

causing more harm than good. If your sacroiliac is already out, then twists and forward bends can be especially problematic.

When it comes to twists, the only way to prevent further injury and discomfort is to meticulously move the pelvis and sacrum together. By focusing on allowing the pelvis to move with the spine in all poses, thus preventing the separation of the pelvis and sacroiliac joint, the pain from the sacroiliac joint can disappear.

Sitting in and of itself "unlocks" the sacrum and the ilium. If additional stress is then placed on the joint, discomfort and/or injury could occur. For example, in Janu Sirsasana, the critical side of the asana is the one with the bent knee. As you begin to bend forward, the spine moves while the pelvis and sacrum tend to remain behind, especially on the side where the knee is drawn back. This kind of separation is, by definition, a sacroiliac dysfunction. When you practice Janu Sirsasana, be sure that the pelvis moves forward with the spine. If you put your attention on strongly bringing forward that side of the pelvis, where the knee is bent, then this will help to unite the joint and heal the problem. This is true for all asymetric forward bends, such as Ardha-Hanumanasana and Parshvottanasana. During a therapeutic period, you may want to practice the pose with the foot touching the opposite knee instead of the inner thigh, to further reduce the torque.

Both Baddha Konasana and Upavistha Konasana unlock the sacroiliac joint and potentially strain the transverse ligaments of the sacrum, particularly if you bend forward. If you have S-I problems, it's wise to skip these poses during acute flare-ups of pain. At other times, place a firm, rolled blanket under the outer thighs in Baddha Konasana, especially if you are supple. The blanket reduces the stress that the weight of the thighs places on the S-I joint. Supporting the outer thighs is also good practice for restorative or relaxation poses. Holding these poses for long periods can aggravate already stretched-out ligaments and worsen S-I pain. And under no circumstances should you push down on your knees or place any extra weight on them, in order to increase the stretch.

When you sit in Upavistha Konasana, there is little to support and/or stabilize the sacroiliac joint, and bending forward only adds to this instability. If you suffer from sacroiliac pain, bring the legs closer together than usual and rest the arms and forehead on a chair in order to prevent further discomfort. The piriformis muscles, strong external rotators of the thigh, attach to the sacrum and the femur. Stretching them can increase S-I joint instability.

Healing the sacroiliac joint takes constant vigilance. The most powerful healer is simply not to create the torque that causes the sacrum and ilium to move apart. Strengthening the area can be useful too. One of the best ways to do this is with simple backbends, such as Dhanurasana (Bow Pose), in which the pelvis moves forward and contracts the posterior muscles. This helps to move the sacroiliac into place and also strengthens the muscles of the lower back and hip, which can then help in holding the SI-joint in place.

Standing poses can help strengthen the area around the sacroiliac joint. Focus on Trikonasana (Triangle Pose) and Utthita Parsvakonasana (extended side angle pose), as these poses strengthen the rotator and gluteal muscles that help to stabilize the area of the S-I joint. In standing poses, be careful to avoid any asymmetrical positions that could cause the pelvis and sacrum to move in different directions. Remember that you want the area to be strong and supported by a contraction of the powerful muscle groups of the pelvis and hips, such as the gluteals and rotators.

Also avoid twisting standing poses during flare-ups, because they can create torque on one side of the joint. Keep in mind though, that the best cure for sacroiliac dysfunction is prevention. Understanding the importance of keeping the sacrum and pelvis together in twisting and sitting movements – in your yoga practice and everyday life – is the key to remaining pain free.

The ayurvedic approach to increase bone density

Keeping your bones healthy should be a top concern for anyone over 45, not just women. One out of two women and one in eight men over 50, will have an osteoporosis-related fracture in their lifetime. That's something to think about! Drinking milk is certainly a good start, since milk is high in absorbable calcium, but there are many other factors involved in bone density. Eating foods to nourish your fat and muscle tissue is just as important as eating foods to nourish your bones.

How bones are formed

Bone is one of the seven body tissues, called seven dhatus that are formed in a chain of metabolic interactions. When you're talking about healthy bone tissue, you must consider the health of the raw material that makes up bone tissue – the muscle and fat tissue. There are four factors in creating healthy bone tissue. The first is to make sure the Shukshma (“raw material”) is free of ama. Ama in the muscle or fat tissue creates weak bones.

Ama-free bone material

Symptoms of ama in muscle tissues include mild muscular aches and pains, stiffness, and slow recovery from exercise or physical labor. Weight gain and a heavy feeling point to ama in the fat tissue. The solution for both situations is to eat foods that do not create ama, but nourish the muscle and fat tissue, such as light, easily digestible proteins, good quality fats such as extra virgin olive oil and ghee to cleanse the fat tissue, and the use of spices such as turmeric and coriander to cleanse the muscle tissue. Grains such as quinoa, oats, barley, and amaranth are packed with nutrients but low on ama. Avoid eating leftovers, foods that aren't suitable for your body type, as well as any processed, canned, frozen, or packaged foods of any kinds. Avoid bad fats such as trans-fats, hydrogenated vegetable oils and all cooking oils unless they are cold-processed. Sufficient quantities of healthy nutrients is also a factor. A fat-free diet isn't going to create enough raw material for healthy bones.

Nourishing the bone tissue

It's also important to support the bone tissue itself. Eat calcium-rich foods such as milk, lassi, and panir, as well as sesame seeds, coconut, and cooked greens like spinach, kale, and chard.

Enhancing digestion

The power of transformation in the gaps between the tissues must also be high. If the digestive fire in the gaps between the dhatus is too low, too high, or imbalanced, then ama is created no matter what one eats. To balance the digestive strength, be sure to eat three regular meals a day. Eat at the same time every day, so your digestion can learn to prepare for the meal. Eat your main meal at noon because the digestion is stronger at that time. The evening meal should be light, since digestion slows down at that time. Regular exercise is also important for strengthening the dhatu agnis. Also, weight bearing exercises stimulate bone growth. Walking in the early morning sun is ideal, because this mild exposure is not damaging to the skin but still supplies Vitamin D (a necessary cofactor for calcium absorption). To strengthen the dhatu agnis, it is recommended to cook with a spice mixture and drink spiced water throughout the day.

Spice Mixture for Healthy Bones

Mix equal parts of turmeric, ground cumin, ground coriander, ground fennel and black pepper. Store in a jar. Melt a teaspoon of ghee in a frying pan, add 1/2 teaspoon of the spice mixture, and enough steamed vegetables for one person. Multiply this recipe by the number of people you are serving. You can also add it to vegetables, grains, or soups.

Spice water for healthy bones

Boil two quarts of water on the stove. Add spices (see below) and steep for ten minutes. Strain the spices and place the water in a thermos jar. Sip it throughout the day.

- 2 basil leaves
- 1/2 tsp fennel seed
- 1/4 tsp marshmallow root
- 1 piece of clove
- 2 peppercorns

Cleansing the channels

If the channels that carry raw material to the bone tissue are blocked with ama, then the bone tissue is not going to form properly. The best way to cleanse the fat channels is to include ghee in your diet. The ghee can permeate the fat medium, and the spice mixture sauteed in ghee adds a cleansing element. Drinking spice water also cleanses the channels of muscle, fat, and bone tissues. Avoid vegetables from the popular nightshade family (tomatoes, potatoes, eggplant, and sweet peppers) as these block the channels of the body. They also disturb the absorption of calcium and other nutrients by making the muscle tissue more acidic. Finally, as you approach middle age, both men and women should follow a Vata pacifying diet, to enhance digestion, reduce ama, and strengthen their bones.

The ayurvedic vew on healthy joints

Joint disorders affect 80% of individuals over 50 years of age. Reasons include factors such as obesity and heredity. Improper use of the joints, overexertion, stress, diet, and lifestyle contribute to the problem.

Ayurveda identifies two major types of joint problems. The first type is associated with poorly nourished joints, low bone density, as well as overall weakness in the joints. This kind of problem starts with some discomfort and cracking sounds. If not taken care of, it results in the eventual immobilization of the joints. When the joint is not getting the nourishment it needs, it starts to degenerate. The second kind of problem is associated with a toxic overload in the joints, as a result of too many toxins (ama) in the body. As ama (the sticky, toxic waste-product of incomplete digestion) accumulates in the joint, it first creates stiffness and heaviness. If it stays there for a long time, the joint can become swollen and painful. Damp, cold weather can aggravate this type of joint problem. The third kind of joint problems arise due to trauma, either sudden (through an accident) or through prolonged over-loading the joint.

Vata-related joint problem

When Vyana Vata (the aspect of Vata that governs the circulation and nerve impulses) is aggravated, the first type of joint problem can occur. The person's circulation, metabolism, and ability to absorb food are weakened. As a result, the bone tissue does not receive enough nourishment and eventually starts to degenerate. The imbalance in Vyana Vata and the weakened circulation, metabolism, and absorption, create a drying effect on Shleshaka Kapha, the subdosha of Kapha that governs the lubrication of the joints. This insufficient lubrication of joint creates the discomfort, the cracking sound, and diminished flexibility.

Foods and lifestyle habits to pacify vata

Include all six tastes (sweet, sour, salty, bitter, astringent, and pungent) in your diet. Favor the sweet, sour, and salty tastes, as these help pacify Vata dosha, and eat less of the bitter, astringent and pungent foods. Other healthy foods to include in the Vata pacifying diet are grains (such as quinoa, rye and amaranth, cooked in water with some ghee added to it), freshly cooked organic vegetables, split mung dhal soup, and sweet, organic, juicy fruits. It's important to eat a diet rich in calcium, including high-quality organic milk and vegetables such as spinach, kale, asparagus, and root vegetables cooked with vata-pacifying spices.

Follow a Vata-pacifying daily routine. Go to bed before ten o'clock at night, and rise before six a.m. Avoid too much stimulating activity at night, such as watching television right before bed. Eat your main meal at noon, and eat a light, nourishing dinner early in the evening. Engage in some mild exercise, such as walking for half an hour a day. Practice Transcendental Meditation on a regular basis to dissolve stress and calm your mind. All of these things together will soothe Vata dosha and prevent and correct Vata-based joint problems. A daily Ayurvedic oil massage is recommended to prevent these kinds of joint problems, because it helps settle Vata dosha.

Such a program is most effective in restoring balance to the joints, when there is a small amount of malnutrition of the bone and/or drying of Shleshaka Kapha.

Ama-related joint problems

Joint problems related to ama (digestive toxins) are characterized by a heavy, stiff feeling. Cold and humid weather can often trigger these symptoms. That is the first stage. If nothing is done to dissolve the ama and it sits in the joints for a long time, eventually the ama converts to amavisha, an even more toxic form of ama that is more irritating and reactive in nature. Amavisha causes the joint to become inflamed, swollen, and painful. In this kind of environment, ama also mixes with the natural lubricating fluids in the joint governed by Shleshaka Kapha, forming an extremely sticky, toxic substance known as shieshma. Shieshma restricts mobility and disturbs circulation in the joint. If the ama, amavisha and shieshma stay in the joints for a long time, eventually the structure of the joints and the bone itself becomes damaged. Once these morphological changes happen to the joint and bone, it becomes extremely difficult to correct.

Foods and lifestyle habits to reduce ama

An ama-reducing diet is made up of warm freshly cooked nourishing soups, grains and vegetables prepared with Kapha Churna and spices to stimulate digestion. To keep your digestion working properly, avoid sleeping during the day and go to bed early so you can rise before 6:00 a.m. Exercise for half an hour every day and choose a type of exercise that you enjoy. A brisk walk is ideal for most people, along with yogasana stretches, but if you have more Kapha dosha, you may need some more vigorous exercise to stay balanced. You'll feel lighter and more energetic just by making these simple changes in your routine.

A very effective way to purify the joints is to drink lots of ama pachana water (water infused with ama-reducing spices). To make the water, boil two quarts of water and put it in a thermos flask. Then add two to three thin slices of fresh ginger, 1/4 tsp of cumin, 1/4 tsp of fennel, 2 black peppercorns, and 2 mint leaves. Let it steep. Drinking this water throughout the day has a very purifying effect. It also helps to eat an apple cooked with prunes and figs each morning for breakfast. You can also cook your foods with an ama pachana spice mixture. To prepare this, mix 2 parts turmeric, 6 parts cumin, one part ajowan, 2 parts fenugreek, 1 part black pepper, and 6 parts fennel.

Prevention is the key. It takes a great amount of effort to get rid of ama that has circulated throughout the body and settled in the joints. So once you start taking care of your joint problem by reducing ama, you should be very careful to not accumulate new ama in the future. Examine your tongue in the morning – it should not be coated. If you are eating right, you should not carry any post-lunch fatigue. If you feel even a little stiffness or heaviness in your joints, you should start following all of these recommendations immediately to prevent ama from accumulating. In this case especially, an ounce of prevention being worth a pound of cure!

The placebo effect in yoga therapy

The term “placebo effect” is just another descriptor for a physical change that happens in the absence of any known or accepted medical intervention. The placebo effect comes about because of imagination, but it isn't synonymous with the imagination itself. Its tenacious presence in clinical studies of drugs and surgery provides ample proof for the effect that the mind has on the body chemistry.

The word placebo is derived from a Latin word meaning “I will please”. Theoretically, it can be any dummy preparation or surgical procedure that has been classified as inert. This definition however, really becomes ludicrous, because absolutely nothing that is taken into the body, accompanied by conscious thought, is chemically inert. When a substance is chemically inert, it cannot react to form compounds. But every thought is accompanied by an electrochemical change. After all, that's what thinking is – electrochemical change. So if you take a pill and you feel that it's going to cure you, the pill is metabolized in a very different environment, than if you think that the pill is poison. In the case of pain, the findings have been clear: It has been determined that when placebos are administered, the pain relief is a function of the ability of the placebo to increase the production of the body's own pain relieving chemicals – the endorphins or enkephalins. The active mechanism, of course, is the imagination of the recipient. The magic is clearly not in the sugar pill or in the water injection, but rather in the belief attached to them. So we could say that the entire research about the placebo effect proves the power that belif and the mind in general have on the body.
Placebo treatment works for problems other than pain, although less is known about the biochemical mechanisms that are involved. Placebo has been reported to account for healing in 30% to 70% of all drug and surgical interventions. Placebo has even encouraged the repair of injured tissues. There is no doubt that it accounts for the healing effects when inappropriate treatments are prescribed and even for some of the positive effects of appropriate treatments. Placebo actually grants “permission to heal”. The wise doctor within each of us knows how to make pain disappear, and tumors melt. It knows whether to call forth T-cells or histamines or endorphins – all in the proper order and combination. Placebo only triggers this process, but it is the inner intelligence of the body that creates the healing or soothing effect.

Hopes and fears, previous experiences, archetypal belief systems, and especially any kinds of expectations, all these form the basis for the quality and degree of the response. The placebo effect has been well demonstrated in experimental settings and must be "controlled for" in all studies that show the effects of a certain drug. In other words, when a drug is tested, a group of subjects are given placebos, or fakes that look like the real thing, in order to find out exactly how much of the drug's effectiveness is really due to the patient's imagination. In one study, psychiatric patients improved on a number of moods and behaviors as long as they received a capsule. The ingredients didn't matter, only the capsule was important. The fact that the placebo effect has been identified in thousands of studies on drugs is stark and incontrovertible testimony to the role of the imagination in health. Scientists have invested so much effort to "control" for placebo and so little in identifying how it might be used to the best advantage in health care.

The effectiveness of the placebo effect varies however, depending upon how much the patient expects to benefit. For example, in 1954, Volgyesi (F.A. Volgyesi, “School for Patients,” pp. 8-17.) reported on patients who were hospitalized with bleeding peptic ulcers. They were given water injections and were either told that the injections would cure them or that they were being given experimental injections of undetermined effectiveness. 70% percent of the first group showed excellent improvements in their condition (which were maintained throughout the follow-up period of one year), while in the second group, only 25% of the patients reported these kinds of improvements.

Even the active properties of drugs can be overcome by the imagination. Wolf reports on a pregnant woman who suffering from morning sickness, was given ipecac and told that it would cure her nausea. Ipecac is a well-known emetic that is used to produce vomiting when certain poisons are ingested. It works almost every time. This woman however, experienced a cessation of her discomfort, despite the fact that vomiting and exacerbation of nausea had occurred when she had taken the same drug previously, without these instructions. (S.Wolf, "Effects of Suggestion and Conditioning on the Action of Chemical Agents in Human Subjects," pp. 100-109.). While some valuable information may be gained from this type of research, the ethics of the applied methodology is definitely questionable.

What is most significant about placebos is not so much the verdict they supply on the efficacy of new drugs, but the clear proof that what passes through the mind can produce alterations in the body's chemistry. These facts also indicate, that the same pathways and connections that come into play through the use of placebos, can be activated without placebos. The main ingredient is the human belief system. Confidence in the ability to mobilize one's resources is a prodigious force in itself.

The opposite of placebo is "nocebo". Nocebo is a "negative" belief and imagination about one's health. It may be induced, for example, by a frightening diagnosis of a doctor.

Different methods which use the placebo effect

Theodore X. Barber and other hypnotists claim that the effectiveness of hypnosis actually lies in the imagery that is created within the subject by the hypnotic suggestions. Researchers and clinicians, such as Elmer and Alyce Green, Steve Fahrion, and Pat Norris of the well-established biofeedback laboratory at the Menninger Foundation, acknowledge imagery as a critical element in learning to alter a physical response through biofeedback training. Schools of psychotherapy and psychological theory, including Gestalt, Psychosyn-thesis, and Rational Behavior Therapy, depend on imagery to change behavior, attitude, and health. For all of these, as with shamanic healing, the ability to change physical or mental function primarily depends upon the imagery of the patient or healer, and secondarily upon the imagination of the therapist. Rather than doing therapy or treatment or something "to" the patient, therapists act as guides through the realms of consciousness, by suggesting, coaching, and using their own inner experience, as a blueprint for the territory.

These different techniques are all paths to the same place (goal). They are all systematic manipulations of the imagination of the patient and they all work for some people, but not for everybody. Imagery is integrated with biofeedback, group therapy, individual counseling, and body work. Larry LeShan uses imagination with traditional psychotherapy and meditation. Larry Dossey and other physicians consciously create imagery, through a carefully phrased dialogue with their patients. Joe D. Goldstritch and Dean Ornish use imagery with nutrition, exercise, and other programs for cardiovascular disease. Carl and Stephanie Simonton pioneered the use of imagery with cancer patients in combination with medical treatment, psychotherapy, and lifestyle changes.

The topics that follow are representative of the general work that goes on within mainstream modern medicine. By this, I don't wish to imply that all these techniques are necessarily accepted by the conservative allopathic core of modern medicine, but rather that the mentioned practitioners and practices have an affiliation with mainstream medicine, and that the practitioners have either been trained by or are functioning within its bounds.

Biofeedback

Biofeedback is well established and no longer regarded as an experimental procedure, for treating disorders such as migraine and tension headaches, gastrointestinal problems, Raynaud's syndrome, chronic pain, for rehabilitation following a stroke and injuries, as well as for prevention and alleviation of many stress-related problems. Encouraging results have been published that support the role of biofeedback in the treatment of numerous other conditions, including arthritis, diabetes, cardiovascular disease (especially hypertension), speech disorders, and tinnitus, to mention but a few. The research base is extensive.

Biofeedback generally refers to any technique that uses instrumentation to provide signals of bodily function. As such, both scales and mirrors might be considered biofeedback. Normally though, technical biofeedback implies the use of sophisticated instruments that can accurately measure and rapidly provide feedback in ongoing levels of brain wave activity, muscle firing, blood flow, skin temperature, heart rate, blood pressure, and so forth. The clinical importance of biofeedback is that, once the level and ongoing minute changes in these functions are known, they can be brought under conscious control. There is evidence that every physical function that can be measured in this way, can also be controlled or regulated to some extent. Yogis have been doing it forever, but only after serious concentration and years of quiet, inner focusing. As a consequence of their discipline, they are able to achieve exquisite attunement to internal events and obtain control over them. Biofeedback instrumentation merely makes the process more efficient and more accesible to the general population.

The clinical aspects of biofeedback require that the person learn to do "something" with the mind that allows conscious communication with the body. This "something" does not relate to words, but to images engaging the various sensory and motor systems (the visual and auditory systems, kinesthesis, and touch, for example). These images are the language that the body understands, particularly with regard to the autonomic or involuntary nervous system. The biofeedback instruments are designed to inform the patient of whether or not the image has had the desired effect, i.e., whether the temperature has gone up or down, muscle tension has changed, or brain waves have been altered. Feedback is critical for any kind of learning to occur. Without feedback on whether the performance has been correct or not, we would never learn to ride a bike or work out a math problem, let alone consciously change our physiology.

Biofeedback involves healing in the imaginary realms and fits well within the rubric of preverbal healing, using the imagination. In the case of biofeedback however, the journey is ostensibly inward. Not everyone responds well to biofeedback therapy. An examination of the reasons for those failures points to human, not technological problems. The best success rates across all diagnoses average around 60%. The clinics and laboratories that report these results typically use well-trained clinicians and a combination of biofeedback, patient education, and meditation. Just hooking someone up to a machine doesn't work. In examining the characteristics of people who don't respond to biofeedback, we encounter some common findings. Biofeedback requires the persistent involvement of highly motivated people, who are able and willing to spend time and effort on their own health. It is neither easy nor cheap. It requires a belief that it will work and trust in the practitioner. Beyond these motivational issues, the ability to learn to consciously regulate one's physiology, appears to vary widely across the population – just like any other human trait. Some people are naturally very capable, while others have extreme difficulty in performing the task.

Those individuals who were unable to fantasize, who seldom remembered their dreams, and who were not regarded as particularly creative, had the most difficulty in learning the biofeedback re-

sponse. These findings were incidental to the purpose of the study, which was to compare biofeedback with the usual physical therapy modalities, using a group of women diagnosed with rheumatoid arthritis. Biofeedback was used primarily to train these women to relax. The biofeedback group was highly successful on measures related to decreases in pain, anxiety, and sleep problems. The most encouraging findings came from a blood analysis used to measure disease activity, called sedimentation rate. All of the biofeedback subjects' blood tests had returned to normal, non-diseased levels, by the end of the study. The best results however, were obtained from those women who were able to use their imaginations – particularly as it related to imaging the desired health outcome. This, as well as results from the field in general, points to the conclusion that the function of biofeedback is actually to teach imagination, where the person learns to communicate to the bodily systems, via the imaginary paths.

Autogenic therapy

An extensive body of literature supporting the use of imagery in medicine, has been compiled by J. H. Schultz and reported in a seven volume series, edited by Wolfgang Luthe. The techniques reported by Schultz and Luthe are collectively known as “autogenic therapy” and are the immediate forerunners of the current application of visualization or guided imagery. Careful clinical descriptions of the methods and results are reported for approximately 2,400 cases of every conceivable diagnosis.

Schultz and Luthe employed six standard exercises to be done while patients were sitting or lying in a state of relaxation. The preliminary instructions were for the patient to imagine being in mental contact with the parts of the body, by centering concentration there, to repeat a special phrase, and to have a casual attitude about the results. The gist of the therapy involved relaxing, imaging the part of the body, and then letting the exercise work, instead of trying to force a change (using "passive volition"). These are the major ingredients of all techniques that use imagination for healing purposes.

The six specific exercises that Schultz and Luthe developed are done in a sequence. First, one is to state over and over, "my right arm is heavy" (the patient might think this silently or may be guided by an instructor). In the second exercise, the task is to imagine feeling warmth in the arms and legs. Then, for the third exercise, the patients continue on to other body parts, through thoughts such as "heart beat calm and regular". The fourth exercise focuses on breathing, the fifth on warming the solar plexus, and the sixth on cooling the forehead. Variations are provided for different illnesses. Advanced exercises involve complex imagery procedures, intended to help gain access to information that is not readily available to patients on their normal conscious level of awareness.

Autogenic therapy has been documented as successful for both acute and chronic diseases, including asthma, headaches, diabetes, arthritis, low back pain, gastritis, surgical procedures, and dentistry. Physical changes that have been measured include positive effects on muscle potentials, skin temperature, blood sugar, white blood cell counts, blood pressure, heart rate, hormone secretions, and brain waves. Schultz and Luthe recognized the power of these techniques to heal, if used appropriately. But they were also fully aware of the damage that inappropriate visualizations might cause. For instance, one phrase used in conjunction with the relaxation of the abdominal muscles is "my solar plexus is warm". They adamantly state that such a phrase should not be used by people with gastritis, since those patients are already suffering from increased gastric motility. The increased warmth (which stems from increased blood flow) would in these instances be contraindicated. Autogenic therapy is a process similar to the practice of Yoga Nidra, because it is based on the same principle of imagination.

Yoga nidra

The sleep of yogis is called Yoga Nidra. The yogi does not sleep – only his body sleeps. Jivatma (the Self of the yogi) is constantly awake. In the practice of Yoga Nidra, the yogi relaxes his body parts one by one and thereby induces a process of relaxation.

Benefits of yoga nidra

Physical, mental, and emotional stress is removed by the practice of Yoga Nidra. The body parts become active and strong. Several disorders of the body, mind, and brain, such as stress, diabetes, high blood pressure, angina, heart disease, and general weakness may be cured by this practice. By practicing Yoga Nidra, control on the mind becomes possible. By controlling the mind, the yogi overcomes lust, anger, pride, greed and attachment. He leaves indolence and becomes active. The energy to do work is maintained and fatigue is removed. Yoga Nidra provides the easiest way to reach the inner recesses of the heart. The person attains purity, stability and peace by this practice. It also endows energy and peace to the mind, the brain, and the nervous system.

Yoga Nidra is an important process of Yoga. Its practice leads the person not only to the innermost recesses of his heart, but empowers him to achieve the state of restful alertness in which his entire being gets filled with a wonderful freshness and bliss.

Asana for yoga nidra

For practicing Yoga Nidra, one should lie down peacefully on level ground in Anandasana. Lie down on your back. Keep the legs a little apart. Also keep the arms a little away from the body. Keep the head straight. The palms of the hands should face upwards and the fingers should be naturally bent. Keep the eyes gently closed. Relax the whole body. Breathing should be slow and normal.

Precautions

- The practice of Yoga Nidra should be done with an empty stomach after going to the toilet and after taking bath.
- After finishing the practice, wait for half an hour before eating something.
- The practice of Yog Nidra should not be undertaken for at least three hours after any major meal.
- Keep the eyes gently closed during the practice. Do not try to open the eyes off and on.
- Before starting the practice of Yoga Nidra, do Tanasan.

The technique of tanasan

Lie down on your back. Now join your knees, heels and toes together, with the legs stretched out. Interlock the fingers of your hands and turn back the palms. Straighten your arms and take them beyond your head. After this fill the breath and hold it, doing Antara Kumbhaka. Now pull the upper part of the body backwards from the navel region and pull the lower part of the body towards the feet, fully stretching the entire body. Stay in this position for as long as you comfortably can. After this, relax the whole body while doing Rechaka (breathing out) and bring the body in a state of complete relaxation while breathing normally.

Benefits of tanasan

By doing Tanasan, the body is first pulled and stretched. After this, when the body is loosened and relaxed, the hardness, stress and strain of the veins and arteries are removed and they become flexible. In this way, blood circulation is normalized and indolence is removed.

Before starting the practice of Yog Nidra, one should do Tanasan. After Tanasana, one should do fish relaxation, then lie down in Anandasana and feel the incoming and outgoing breath through the nose. No incoming or outgoing breath should escape your attention and awareness. But there should also be no interference in the pace of breathing. Let the breathing be normal – one has only to witness it. One should neither shorten nor lengthen any breath.

There are two methods doing Yoga Nidra:

- First method: Guided practice. The guide should name the body part which he/she wants the person to feel, so that the person directs the attention on it.
- Second method: Personal practice. In this method, the person himself/herself directs the awareness on the body parts, giving directions to oneself to relax that particular body part. As one directs one's awareness onto the different body parts, they slowly relax.

Sequence of directing attention on the body parts

There is no fixed procedure in this regard. Some yogis start Yoga Nidra from the centre of the eyebrows. From there the awareness of person is directed to the neck, right arm and right palm, then again coming back to the neck, left arm and left palm. Returning from the left palm, the awareness is again directed to the neck and from there to the chest, and then going lower, it is directed at right leg and foot. From the right foot it is returned to the navel and from there to the left leg and left foot. Then again the person undertakes the journey from the left foot to the neck and finally returns to the centre of the eyebrows.

Some yogis start the practice of Yoga Nidra from the big toe of the right foot and go up to the waist. Then they continue from the big toe of the left foot and again go up to the waist. After this, they start from the thumb of the right hand and go up to right shoulder and continue with the thumb of the left hand up to the left shoulder. Then they proceed from the anus to the navel, abdomen, chest, face, and then journey to the centre of the eyebrows.

Some yogis start from thumb of the right hand and go to elbow, shoulder, and right side of the chest, armpit, right thigh and toes of the right foot. After completing this journey, they start from the thumb of left hand and go to elbow, shoulder, chest, armpit and left thigh, ending with the toes of the left foot. Then they start from the big toe of left foot and go to heel, knee, thigh, armpit, left side of the chest, shoulder and elbow, finally reaching the palm of the left hand. Similarly, starting from the big toe of the right foot, they reach the palm of the right hand, by going through the right heel, knee, thigh, right side of the chest, armpit, right shoulder and elbow. After this, they perform the journey on the back of their body and face, etc.

There are some others who start from the thumb of the right hand or left hand. Some yogis start this practice from head or navel also.

The process of yoga nidra

Fixing the awareness on the body parts of the right side

As you fix your attention on a particular part, mentally name that part and think "be relaxed, be tension free". Thumb of right hand; index finger; middle finger; ring finger; little finger; palm; wrist; forearm; back of elbow; upper arm; shoulder; right side of chest; right side of abdomen; right side of waist; thigh joint of right leg; thigh; knee, back of calf; ankle; back of foot; big toe of right foot; first toe of right foot; second toe; third toe; fourth toe.

Fixing the awareness on the body parts of the left side

As you fix your attention on a particular part, mentally name that part and think "be relaxed, be tension free". Thumb of left hand; index finger; middle finger; ring finger; little finger; palm; wrist; forearm; back of elbow; upper arm; shoulder; left side of chest; left side of abdomen; left side of waist; thigh joint of left leg; thigh; knee, back of calf; ankle; back of foot; big toe of left foot; first toe of left foot; second toe; third toe; fourth toe.

Fixing the awareness on the front body parts from head to mooladhar

While fixing the awareness on each body part, mentally name that body part and think "be relaxed, and be loose". Head; brahmarandhra (Sahasrara); forehead; right eyebrow; left eyebrow: centre of the eyebrows (Ajna chakra); right eye; feft eye; right ear; left ear; right cheek; left cheek; right nostril; left nostril; upper lip; lower lip; chin; throat; Vishudhi chakra; right side of chest; left side of chest; heart (Anahata chakra); navel (Manipur chakra); right side of abdomen; left side of abdomen; belly; Svadhishthan chakra; genitals; Mooladhar (perineum).

Fixing the awareness on the body parts of the back side

While fixing the awareness on a particular body part, mentally name that part and think "be relaxed, be loose". Back of head; neck; spine; right side of back; right side of waist; right hip; right buttock; back of right thigh; back of right knee; right calf; right ankle; heel of right foot; sole of right foot; big toe of right foot; first toe of right foot; second toe; third toe; fourth toe; left side of back; left side

of waist; left hip; left buttock; back of left thigh; back of left knee; left calf; left ankle; left heel; sole of left foot; big toe of left foot; first toe of left foot; second toe; third toe; fourth toe.

Journey through parts of the body

While fixing awareness on a body part, name that part mentally and think "be relaxed, be loose". Head; face; throat; both the shoulders; right arm; left arm; chest; belly; right leg; left leg; genital region; waist; back; neck; and head.

Fixing the awareness on the whole body

Fix your awareness on the whole body and relax it. Now go deeper in the practice. Let the body lie where it is. You (jiva) come out of the body and stand near your right arm. Look at your body as a witness in the same manner as you look at your body through a mirror. Fix your awareness on the whole body. The whole body is in light and is seen clearly. Witness it, witness it, and witness it.

Menstrual problems, pregnancy and menopause

Menstruation

Menstruation usually starts from the age of 10 to 15. The menstrual cycle is considered regular if it lasts between 25 and 30 days. The cycle usually lasts three days but it can be prolonged to 5 or 7 days. The exhaustion is normally present during the three days and then it is important to rest, not to take bath or go swimming. During these three days it is better not to practice yoga asanas and for five or seven days from the beginning of the cycle, avoid backward bends, like Bhujangasana. Also avoid exercises which create pressure on the stomach, twisting, and upside down positions. Practice more pranayama and meditation. A regular cycle is a sign of good health. Menstruation is like a small panchakarma – regular monthly purification of body. In case the cycle gets disturbed for some months, it should be seriously considered. In Ayurveda this is considered an imbalance. There can be many causes of this imbalance: stress, tiredness, exhaustion, different psychological states, diet, travel, constipation, etc. During the cycle it is important not to strain. Exert less physical and mental effort and take more rest, because during the cycle the body is undergoing physiological changes. Also avoid emotional tensions, as this can also disturb the cycle. If the person follows the previously mentioned suggestions, she will feel good. Menstrual problems in women are similar to prostate problems in men. Men often have a blockage of the manya marma, located in the neck area.

If the cycles are painful and not regular, this can be corrected by the practicing yoga asanas and pranayama. Positions like Viparita Karani asana and Mahamudra are useful for balancing the menstrual cycle. To perform these asanas one must learn and practice preparatory and balancing asanas. A sequence of asanas is designed in which Viparita karani asana and Mahamudra are the main asanas. This sequence should not be practiced during the first three days of the cycle, because at that time the upside-down positions are contraindicated. This sequence is practiced before and after the menstrual cycle. Also, it is good to practice asymmetric yoga asana positions. The exhale should be long and also, holding of the breath after exhale may be performed.

During the menstrual cycle the activity of apana (apana vayu is one of prana which regulates elimination of urine, stool, digestion and menstruation) is increased and therefore its function which is in the downward direction should not be disturbed by yoga exercises such as: Uddyana bandha, Mula bandha, Ashvini mudra, Nauli, Agnisaradhauti, Kapalbhati pranayama, Viparitakarani asana, Sarvangasana, Sirsasana, Adhomukhasvanasana, etc. During the menstrual cycle easy yoga positions which do not create pressure on the stomach (Chakravakasana, sitting positions, Anandasana) can be practiced and more time should be devoted to the practice of pranayama (especially Ujjayi and Sukha pranayama). For ladies it is generally not good to practice strenuous positions like Mayur asana and jumping from one position to the next, because of the sensitivity of the reproductive organs. Engaging in strenuous exercising and jumping can cause problems in the menstrual cycle and disturb conception. For healthy and normal conceiving, the regularity of the menstrual cycle is very important. A properly designed sequence of yoga asanas with proper breathing can correct disturbances (pain, spasms, etc.) and irregularities in the menstrual cycle. For correcting any irregularity in the menstrual cycle, it is good to eat integral, organically grown food items. Raw food is very useful for the regulation of the menstrual cycle. Also, the routine of life should be disciplined without taking any medicines which cause disruption of the cycle. Heavy and very spicy food should be avoided in case of menstrual cramps. Also avoid sour foods. It is good to eat pomegranate. Use spices like lemon juice, black pepper and ginger. Eat fruits and do not drink coffee, alcohol, carbonated beverages and do not smoke.

Four days before menstruation, reduce back bends like Urdhva Dhanurasana (bridge) and introduce more forward bending positions like Paschimotanasana. During the practice of asana extend the exhale (make it longer than the inhale). Do all asanas in a relaxed manner. Also, it is recommended to practice Sitali or Sitkari pranayama. After the cycle it is good to do oil massage of the whole body, and then take a shower. This helps the body regain its balanced functioning. It is good to do this oil massage at least once a week. Everyday put a few drops of oil (brahmi oil, amla oil, or triphala oil) on the fontanela (top of the head). Brahmi oil increases memory and amla oil has a cooling effect. Sesame oil may be used for the whole body massage. Coconut oil may also be used daily. It has a cooling effect. You may also use olive oil.

Proper digestion of food and elimination of stool has an important influence on menstruation. Constipation affects menstruation and makes it more painful. Proper exercising of yoga asanas, breathing exercises, and diet will remove constipation and normalize menstruation. If this is not helpful, then some mild purgative should be used to remove the constipation. Meditation removes stress and regular practice of asana and pranayama stabilizes the psycho-physical state.

For normalizing menstruation the following sequence of yoga exercises are recommended:
Start and finish with Sitali pranayama. At the end of the sequence, after Sitali pranayama, do 24 breaths of Anuloma Ujjayi pranayama. Then do meditation. While exercising, the emphasis is on long exhalations.

Do the asanas in the following sequence:

Sukhasana (raising and lowering hands – repeat 6 times),
Chakravakasana (in combination with Shasankasana – repeat 6 times),
Ardha Uttanasana (support with chair – repeat 6 times),
Utthita trikonasana (with twisting – repeat 3 times on each side),
Rest in Anandasana (with bent knees),
Kati asana (repeat 6 times, followed by Apanasana which is also repeated 6 times, holding the breath after every exhale for 5 seconds),

Anandasana (rest 2 to 3 minutes),
Sitali pranayama (12 breaths – ratio 6:0:12:0),
Anuloma Ujjayi pranayama (5 minutes with ratio 1:0:2:0)

End sequence with meditation

In the evening, it is good to relax lying on the back with legs raised on a chair. In this sequence of asanas, for removing constipation, you can replace Ardha Uttanasana and Utthita trikonasana with Chakravakasana, Shalabhasana, Pavana Mukta asana, Tataka mudra (stay 6 breaths), and Apanasana.

Pregnancy

Pre-natal period

Nine months of pregnancy can be divided into 3 periods of three months. During first three months exercising should be easy and simple. If the person practiced yoga regularly before pregnancy, then she can continue regular practice but modifying asanas and avoiding any strain. You can also easily do Uttanasana and Paschimottanasana. During first three months it is very important to stabilize any nausea and vomiting sensations that may be experienced in the morning and evening. Studies from Denmark found that almost three out of four pregnant women received some relief of their nausea from ginger, without any limiting side effects. The easiest way to take ginger is to make a tea, using 1 tea spoon of freshly grated ginger root with 2 cups of hot water. Sweeten the tea with honey (add honey after letting the tea cool down to 40 ºC) and sip it throughout the day. You can also chew on ½ teaspoon of grated ginger root mixed with maple syrup when you are feeling nauseated. Peppermint, chamomile, and cinnamon teas can sometimes soothe an upset stomach, as can alfalfa. If you feel nauseated then you should do simple and easy bending forward positions and more pranayama practice.

After three months these positions should be modified to not create pressure on the stomach. Forward bending asanas can be done from sitting on the chair. Sit at the edge of a chair and bend forward, then return to the starting point. This will strengthen the back muscles. If the forward bending is done from sitting on the floor, then the legs should be kept apart. During the fourth and the fifth month of pregnancy it is possible to perform mild variations of Kati asana, but only if the pregnant woman has already practiced this asana before. After the fifth month of pregnancy Kati asana should not be practiced. Also lateral bendings should not be performed. During the pregnancy inverted positions (Sarvangasana, Sirsasana, Adho Mukha Svanasana) should be avoided. Also, positions of lying on the stomach, twisting and bending backward should not be done, because these positions are not comfortable for the baby. From the forth or the fifth month of pregnancy the same sequence of asana practice should be practiced till the end of pregnancy.

If the strength and suppleness of the back were to be maintained by means of suitable and regular exercise, common conditions such as dropping shoulders, arched back, sunken chest, sagging breasts, and an unduly exaggerated inward curve of the lower spine could be avoided, with consequent improvement of posture. Such improvements of posture will make the back and abdominal muscles stronger. Also it will give strength to the pelvic floor muscles, and drastically reduce minor aches and pains, especially in the lower back. The internal organs would fall into their correct anatomical positions and the entire body would function in a more healthy way. During the preg-

nancy, the body's centre of gravity is altered by the increase in size and weight of the uterus. The result is that the pelvis is tilted in such a way as to increase the lumbar curve of the spine. With this increased spinal curvature often comes back strains and backaches. However, strengthening the abdominal muscles and those of the back, as well as observing correct postural habits, can control these abnormal conditions and keep them to a minimum. During the expulsive stage of delivery, when the baby is being literally pushed out of the birth canal, good abdominal muscle tone will be an asset, as it will enable the woman to contribute more actively to the pushing action that will help the baby to be born.

Asanas which strengthen the spine and the back should be practiced. While coming back from bending forward we are strengthening the back muscles. Also we should practice some sitting positions which work on opening the hip joint like Baddha Konasana and Mahamudra (performed without bandhas). Pregnant woman should sit with crossed legs as often as possible. Preparatory exercises for sitting positions can be mild bending forward from the standing position (modification of Uttanasana - using a chair for support). It is good to raise the hands from the side so that the body is more stretched. Also you can practice a modification of Paschimottanasana, using a belt to embrace the feet and slowly bend forward in hip joint, while keeping the back straight, avoiding pressure on the stomach. For doing deeper forward bends, the legs must be spread apart. Practice Chakravakasana and Marjaryasana in a kneeling position. Other useful positions for a pregnant woman, preparing her for delivery is Ardha Utkatanasana (with legs spread apart) and Chakravakasana. Those positions can be practiced from the forth month to the end of pregnancy. Proper breathing is most important, so that with breath you move the spine and the body and thereby strengthen the spine. It is important for a pregnant woman to learn how she can relax muscles with breath, then she will be more relaxed and delivery will be much easier and painless. When towards the end of the pregnancy more retaining of water in the organism starts, it can cause swelling of the legs. Then it is good to raise the legs on the chair from the lying position on the back and relax the body by breathing deeply (slow and extended breath).

It is very important that during the exercise sequence of asanas or pranayama, the pregnant woman makes conscious contact with baby through her breath, and that this contact is maintained during the movement of the body at all times, feeling that the baby is comfortable during asana practice, enjoying every movement. In later months of pregnancy, practice asanas for a maximum of 45 minutes and devote more time to pranayama and meditation. During the practice, do not hold the breath for longer periods. At the end of exhale or inhale hold the breath only for 2 to 3 seconds. Pregnant woman should not do Bhastrika and Kapalabhati pranayama. It is important that she exhales with tightening the stomach muscles. Exhale can be also through the mouth accompanied with sound AAAA or RAM. Making sounds extends the exhalation and can help your body relax and open. Moaning, sighing, or groaning with the outflow of your breath creates a soothing vibration that moves through and resonates with your whole body. As you exhale, allow your breath to vibrate along your throat and resonate down through your body and out your pelvic floor. Focus on long and slow exhalations. Try sounds that are low pitched and deeply resonant.

For a healthy pregnancy it is important to have mental peace, a healthy diet, and happy feelings. Avoid stress as much as possible. It is important that pregnant woman every day enjoy walking in nature with the fresh air. If the pregnant woman is cooking then she must be careful not to come to close to fire (heat) with her belly. It is important that a pregnant woman has all her needs and wishes for different food items satisfied, taking care that food is organic and healthy for the mind and body. Before sleep it is good to drink one cup of warm milk with saffron. Pregnant ladies should not eat papaya.

Massage of the whole body with oil should be done at least once a week. It relaxes the muscles.

Self-massage is usually performed over five to ten minutes. Begin by warming the oil under hot water. Pour a small amount of oil in your hands and use it to massage your scalp vigorously. Cover your entire scalp with small, circular strokes as if you were shampooing your hair and caressing your scalp with your fingers. Close your eyes and enjoy the sensations. Then move to your face and ears. Gently massage the backs of your ears. According to both Ayurveda and traditional Chinese medicine, your ears have many sensitive nerve endings that connect to all areas of your body, so massaging them is especially calming. Apply a little more oil to your hands and with circular motions, massage your temples, forehead, eyebrows, nose, cheeks, jaw, mouth, and chin. Massage the front, back, and sides of your neck. Next massage your arms. The process for both your upper and lower limbs is to use a circular motion over the joints and a back-and-forth motion over the long bones. Apply the oil in a circular motion to your shoulders, back and forth over the forearms, circular at the wrists, and then massage each finger from the base of your palm to the fingertip. Be very gentle over your trunk. Use large circular motions over your breasts, and lower abdomen. As you massage your belly and pass your hands over your womb, send love and tenderness to your growing baby. Apply a little more oil and reach around to massage your back as best as you can. Finish your legs and feet. Massage your legs as you did your arms, using circular motions at your hips, back-and-forth strokes on your thighs, circular over the knees, and long back-and-forth strokes on your lower legs. Very gently apply circular motions over the ankles, and then vigorously massage your feet with a back-and-forth motion and then stroke and pull each toe, if possible. Allow the oil to soak into your body. Leaving on a thin layer of oil will protect and nourish your skin and help keep your muscles warm throughout the day. If you don't have time for a full-body massage, then rub some warm oil into your scalp, using the small, circular motions described above. Use your palm to massage your forehead from side to side. Gently massage your temples, using circular motions. Then gently rub the outside of your ears. Spend a few moments massaging the back and front of your neck. With a little more oil, massage both feet with the flat of your hand. Work the oil around your toes with your fingertips, and then vigorously massage the soles of your feet with brisk back-and-forth motions of your palms. Sit quietly for a few seconds to relax and let the oil soak in, and then bathe as usual.

Oil massage of the belly and perineum should be done more often. This will increase elasticity of the skin of the belly and perineum and prevent appearance of striae on the belly. The perineum refers to the structures around the floor of the pelvis, covering the areas from the pubic bone in front to the coccyx bone at the tip of your spine. Although the soft tissues around the perineum become elastic and stretchy during birth, it is recommended that you begin tenderly massaging your perineal area with oil about four to six weeks before your due date, to help prepare for delivery. This may help reduce the likelihood of tearing or injury and can facilitate the healing of tissues after birth. It will also help to familiarize you with the feeling of your perineum stretching. This massage should be continued also after delivery.

The practice of yoga asanas helps you listen to your body, your needs, and the needs of your unborn baby. You will find yourself feeling more intuitive and balanced in all aspects of your life which will help you throughout labor and birth. Yoga poses will enhance your joint flexibility while toning your muscles during pregnancy. During pregnancy asanas such as dandasana, padmasana, virasana, bharadvajasana, vajrasana, marjaryasana, dvipadapitham, mahamudra, baddhakonasana, and tadasana are useful. Strong forward bends are to be avoided. Jalandhara bandha is useful, but Uddiyana bandha and Mula bandha are contraindicated. Ujjayi, Sitali, and Nadishodana are useful types of pranayama, though others can be done as well.

Baddhakonasana (butterfly pose) especially prepares your pelvis for delivery. The pelvis consists of four plates of bone joined together by muscle and ligaments. These make up your pelvic girdle. Your baby will be passing through the ring of your pelvic girdle during birth. Throughout pregnan-

cy your body releases hormones that help to soften these ligaments in preparation for birth. The increasing flexibility of your pelvis enables it to shift and widen, making it easier for your baby to maneuver her way through your body as she journeys into the world.

Marjaryasana (cat pose) increases spinal flexibility and hip mobility. Performing this posture when you are experiencing low back pain will help stretch the tight muscles that are contributing to your discomfort. The cat pose can also be performed during and between labor contractions. It has been suggested that this pose may help rotate babies that are posterior.

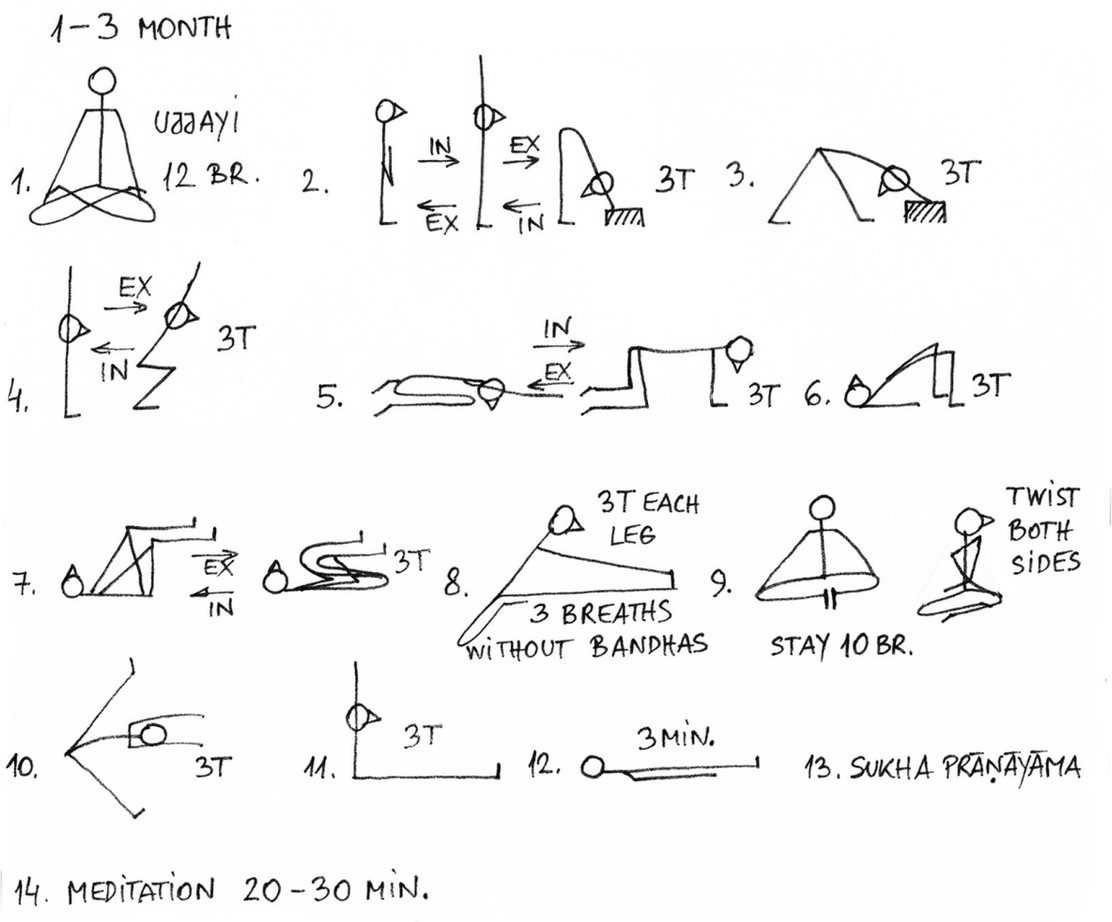
Women throughout the world assume the squatting pose to give birth. This position widens the pelvis and works with gravity to move the baby through the birth canal. Practiced during pregnancy, the squat pose relaxes the pelvic musculature. Whether or not you decide to give birth in this position, this posture can help ease labor and reduce the chances of tearing the perineal tissue. This is a variation of Utkatasana with spread feet and legs. From the standing position bend your knees and slowly lower your buttocks down toward the floor. Now clasp your palms and fingers together in front of your heart. Place your elbows between your knees and use your elbows to spread your knees apart. If your heels do not rest comfortably on the floor, place a folded blanket or mat underneath them to support you.

To improve spinal flexibility and relieve congestion in the lower back muscles Dvipadapitham asana is very useful. It also helps to improve circulation in the pelvic area and massages your internal organs. After this asana, as pratikriya asana (counter-stretch), it is good to do Shashankasana (child pose). In this pose spread your knees apart to create room for your baby. This is a resting pose that helps to release tension in your back muscles and hips, while allowing your belly muscles to soften and relax. It helps to enhance the flexibility of your pelvic joints as it widens the space through your pelvis. Also, towards the end of the practice of the asana sequence, it is good to do simple twists in Sukhasana. Inhale stretching your spine vertically along its axes and while exhaling begin twisting your torso, starting with your waist. Continue twisting through your chest, shoulder, neck, and chin. During this pose your internal abdominal organs are massaged while your spinal muscles gently stretch. People often report a sense of enhanced vitality after performing this pose in both directions.

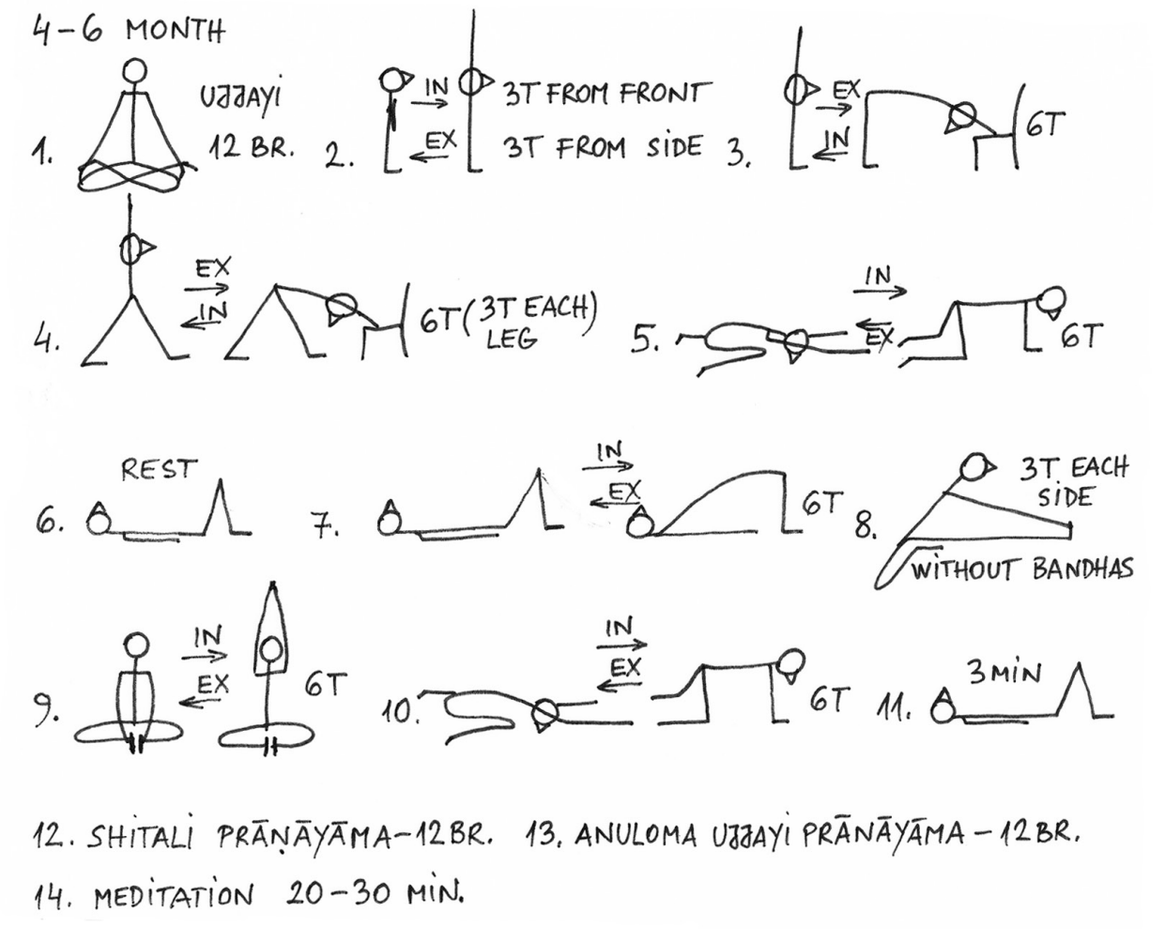
The pelvic floor muscles provide support for the pelvic and abdominal organs. During pregnancy the pelvic floor muscles support the expanding uterus and the baby. You can consciously learn to strengthen these muscles by contracting and releasing them throughout the day. For this you can do Kegel exercises. Sitting with your legs crossed, close your eyes and bring your awareness to your pelvic floor – the space surrounding your urethra, vagina, and anus. Contract the muscles around your anus and then around your vagina and urethra. Continue to contract these muscles inward and upward toward your belly. Imagine moving your energy from your pelvic floor to your abdomen. Hold for a few breaths, and then slowly release the muscles leading your attention back down to pelvic floor. Now focus on how your muscles feel back at the pelvic floor and see if you can soften and release them even more. Continue to release these muscles, feeling them relaxed and open. Another Kegel exercise is that you contract the muscles around your anus, then around your vagina and into your urethra, as though you were contracting these muscles toward your pubic bone. It will feel as though a wave was washing over your pelvic floor from your anus to your pubic bone. Slowly release the muscles from your urethra to anus as though the wave were releasing back to the shore. Start by simply contracting toward your pubic bone and releasing, and then see if you can slow down the motion, hold for a breath at the deepest contraction, and then release slowly. Kegel exercises help prevent urinary incontinence in late pregnancy and postpartum. Keeping your pelvic floor muscles in good tone will improve circulation and may prevent hemorrhoids. The perineal or pelvic floor muscles form a figure-eight pattern around vagina and anus. You use these muscles

automatically during love making and when you resist the urge to urinate. As you practice tightening and releasing these muscles, you will find that you can hold them in the contracted position for longer periods of time. You will also be better skilled at keeping them relaxed, when you need to, during the final stages of labor. It is good to perform 50 to 100 Kegel exercises every day.

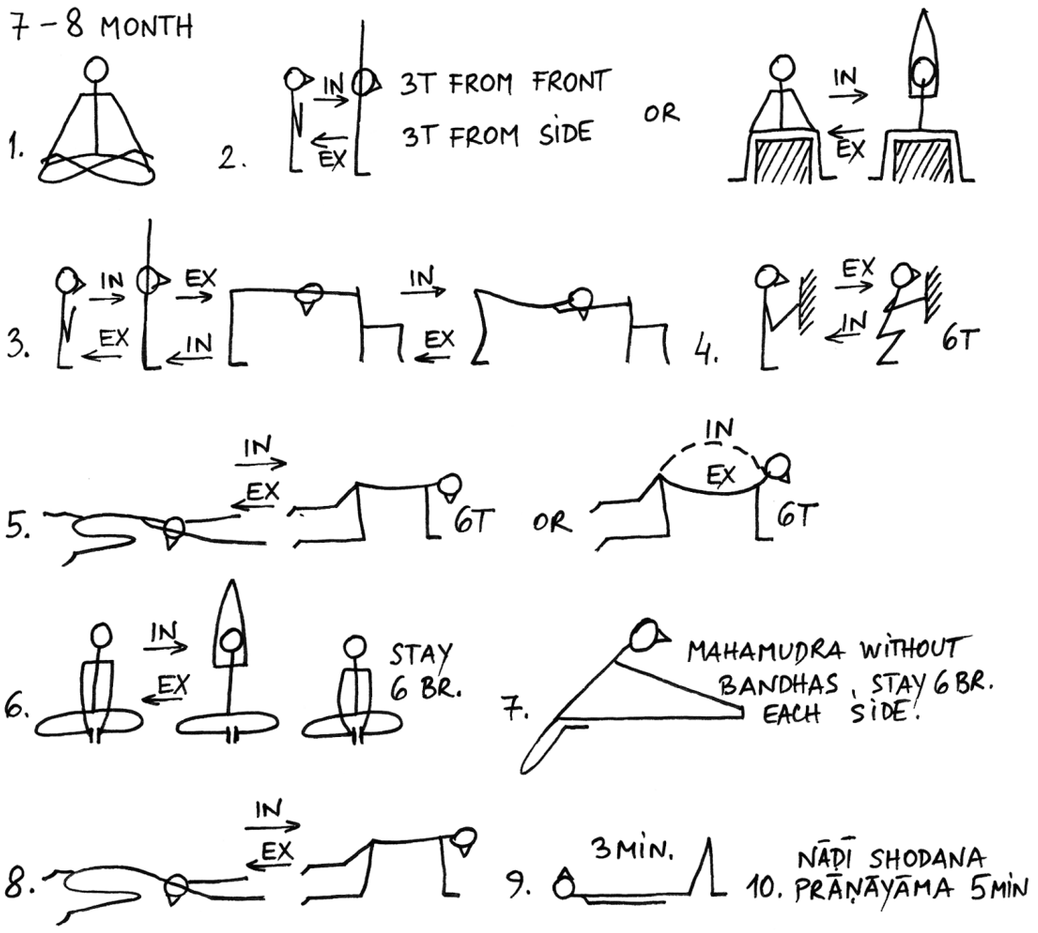
Sequence of yoga asanas for the first three months of pregnancy: First do 12 Ujjayi breaths in Sukhasana then do Samasthiti, Tadasana and Uttanasana. Continue with Parsva Uttanasana, Ardha Utkatasana, combination of Shasakasana and Chakravakasana, Dvipadapitham asana, Apanasana, Mahamudra (without bandhas), Baddha Konasana, simple twist in Sukhasana, Upavistha Konasana, Dandasana, Anandasana (rest for 3 minutes), and Sukha pranayama (5 minutes), followed by meditation.



Sequence of yoga asanas for fourth to sixth months of pregnancy: First do 12 Ujjayi breaths, Tadasana (raising hands over the head – 3 times from the side and 3 times from the front), Ardha Uttanasana (repeat 6 times), Parshva Uttanasana (3 times each side), Ardha Utkatasana (repeat 6 times with support), Utkatasana with feet and knees spread apart, combination of Shasakasana and Chakravakasana, with feet and knees spread apart (repeat 6 times), Anandasana (rest with bent knees), Dvipadapitham asana (6 times), Mahamudra (without bandas – repeat 3 times to each side), Baddha Konasana (repeat 6 times), simple twist in Sukhasana, combination of Shasakasana and Chakravakasana with feet and knees spread apart (repeat 6 times), Anandasana (rest 3 minutes), Shitali pranayama (12 breaths), and Anuloma Ujjayi pranayama (12 breaths), followed by meditation.



Sequence of yoga asanas for seventh to ninth months of pregnancy: First do 12 Ujjayi breaths, Tadasana with legs together or sitting on the chair with legs separated as much as possible (raising hands over the head – 3 times from side and 3 times from front), Ardha Uttanasana with support (remaining in the position of Ardha Uttanasana do 6 inhales and exhales and with every inhale arch the back backward), Ardha Utkatasana (repeat 6 times with support), Utkatasana with feet and knees spread apart, combination of Shasakasana and Chakravakasana with feet and knees spread apart (repeat 6 times) or Marjariasana (cat pose – repeat 6 times), Baddha Konasana (first 3 times raising the hands over the head and then stay in the position for 6 breaths), simple twist in Sukhasana, Mahamudra (without bandas – repeat one time to each side but stay in the position for 6 breaths), combination of Shasakasana and Chakravakasana with feet and knees spread apart (repeat 6 times), Anandasana (rest for 3 minutes), and Nadi Shodana Pranayama (24 breaths), followed by meditation.

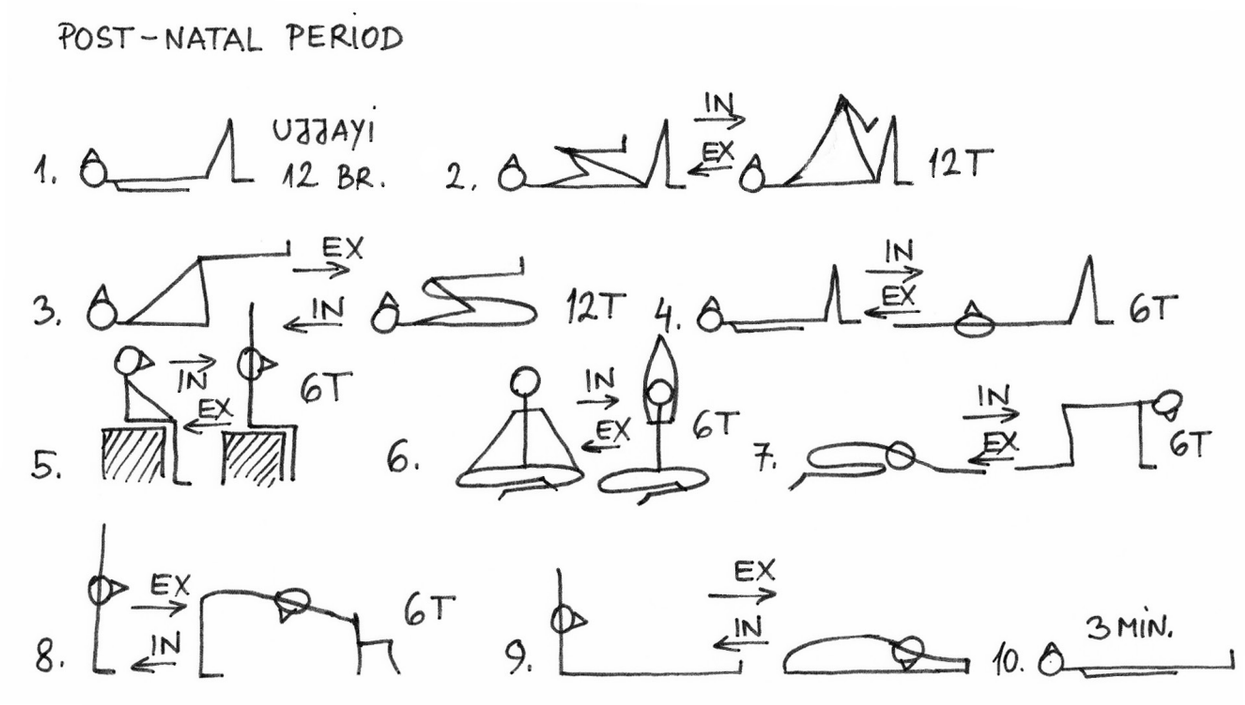


Post-natal period

Before engaging in any form of exercise check with your doctor as you did pre natal. There may be reasons why your doctor may not wish you to exercise in the early days after childbirth. The nature of your delivery will determine largely the type of activity in which you may indulge and how soon to start. Immediately after the birth, muscles and ligaments which support the uterus are lax. They have been stretched enormously during pregnancy and labor. The uterus can therefore be easily displaced, until its supporting structures regain their normal tone.

Immediately after delivery introduce breathing while lying down with bent knees, three times a day. Make the exhale longer and longer over time so that the exhale becomes twice as long as the inhale. This exercise strengthens the abdominal muscles which have become loose and weak during pregnancy. Tightening the abdominal muscles during exhale strengthens them, while a lose abdomen is brought back to its normal shape. Then slowly introduce holding the breath after exhale and after that, start with mild yoga exercises. Start with very gentle body movements, done slowly and carefully, gradually working toward more challenging poses. Perform Apanasana first with one leg bringing the knee to the chest and later do it with both legs simultaneously. Do Apanasana with two times longer exhale than inhale. Then add simple movements of the hands, stretching them

behind the head, while lying down on the back. Start practicing exercises from the sitting position (in the beginning sit on a chair) and after three months slowly come back to your normal yoga exercises. Introduce Chakravakasana, bending forward from the sitting position (Paschimottanasana), as well as from the standing position (Uttanasana). Later introduce twisting and lateral bending from the standing position (Utthita trikonasana). While coming back to the starting position from a forward bend, emphasize bending the spine backward to strengthen the back, and 6 months after delivery introduce back bends. In the beginning (immediately after delivery), pranayama can be practiced while lying down and later again in the sitting position. After delivery it is good to practice Anuloma Ujjai and Nadi Shodana pranayama. During that time it is important that all inner organs (uterus) return to their proper place, with regular practice. It's also good to practice asanas which strengthen and relax the lower back. In case of caesarean-section delivery, practice breathing exercises while lying down for the first month and later start with simple and easy yoga exercises.



During the first three months, a mother must have enough rest to regain strength. That is why she must have help and moral support from her relatives. In case of post-natal depression it is good to practice more pranayama with emphasis on long exhalation. After delivery it is good to do oil massages for mother and baby, every second day. This relaxes the muscles of the baby and improves sleep. During the first three months the diet must be light, avoiding potato and other root vegetables which are heavy to digest and which cause flatulence. Don't eat spicy foods, such as chili, etc. It's good to add a little cumin and black pepper to the food, as these spices remove Kapha dosha from the mother's milk and purify the blood. It is good to eat a lot of green vegetables which are easily digested. Avoid eating yoghurt in the evening because it can create mucus in the baby. It's good to eat mung dhal along with the vegetables. Saubhagya Shundhi is an Ayurvedic preparation that is given to mothers after delivery to improve digestion. Food should be taken in proper intervals. Milk should be cooked before drinking because then is easier to digest. Bread is more easily digested if it's toasted. Pasta is good to be eaten with vegetables. Rice is also good, as it is easy to digest. Buttermilk should be taken during lunch and not during dinner. Taking ghee strengthens Agni (digestive fire). Asafetida (Hing) prevents flatulence. Tea from Betel leaf is very good for the baby's digestion. It is also good to warm a betel leaf and to place it on the baby's chest. Betel leaf

is also good for the mother because it contains a lot of calcium. It should be eaten raw. To produce a lot of milk, the mother must have enough sleep and be relaxed.

The mother should do an oil massage of the whole body, twice a week. Also, half of a teaspoon coconut oil should be put on the top of the head (fontanela) every day. Leave it on during the night. It has a cooling effect and improves the eyesight. After one week wash the hair. Amla oil may be used to improve hearing. When you do oil massage of the whole body, then do not expose the body to a lot of heat from the sun and don't go immediately swimming. Massage oil should be warm, about 40 degrees of Celsius. Applying cold oil on the skin will block the shrotas (channels). Oil should also be especially prepared for massage ("ripen"), so that it may penetrate into the skin more easily. After the massage rest and avoid exhausting activities. Once the menstrual cycle returns, on the fifth or sixth day from start of menstruation, do a whole body oil massage. Do not do oil massages during menstruation.

The traditional position for massaging the baby is as follows: While sitting on a chair, lean the baby against your lower legs, with its front part of the body facing your lower legs, so that baby embraces your lower legs with its legs and hands. Then you can very comfortable massage the back side of the baby. This position is for babies up to 3 month of age. Massage the baby every second day. Do regular exercises with baby. Massage the baby with slight pressure. First, oil should be applied on the baby, then massaged and after the massage warm water should be poured from the top of the head over the body of the baby to remove the oil. The remaining oil is removed by massaging the baby with a mixture of the powder of lentils, water and turmeric. You may also use the powder of chickpeas mixed with water and turmeric. Turmeric is given especially to the girls because it has the effect of slowing down the growth of hair on the body and it is very good for the health of the skin. For the baby's head use only the powder of chickpeas mixed with water but without turmeric. Then you turn the baby to lean with her back on our lower legs and massage the front part of the body. Use mildly warm water on the head of the baby. For the rest of the body the water can be warm. Usually sesame oil is used for baby-massages.

Sequence of yoga asanas for the post-natal period: First start with Anandasana (with knees bent, doing long exhales while tightening the abdominal muscles), Apanasana (first with one leg only – keeping the foot of the other leg on the floor, with bent knee), Apanasana (with both legs), while lying down with knees bent, stretch the hands behind the head, from the sitting position on a chair, stretching the hands above the head, from a sitting position on the floor, stretching the hands above the head. After three months, introduce combination of Shasakasana and Chakravakasana, Ardha Uttanasana with support, and Paschimottanasana.

Menopause

Menstrual- and menopause problems are very much related. A woman who has had menstrual problems for a long time tends to enter menopause earlier. Menopause is a part of every woman's life. It is the stage when your menstrual period permanently stops. This stage usually occurs between the age of 40 and 60 and is associated with hormonal, physical, and psychological changes. These changes can occur gradually or abruptly. It can start as early as the age of 30 and last until as late as the age of 60. It can also occur when the ovaries are removed or stop functioning. Menopause is not an illness but a natural biological process, though the risk for heart disease and osteoporosis rises after menopause.

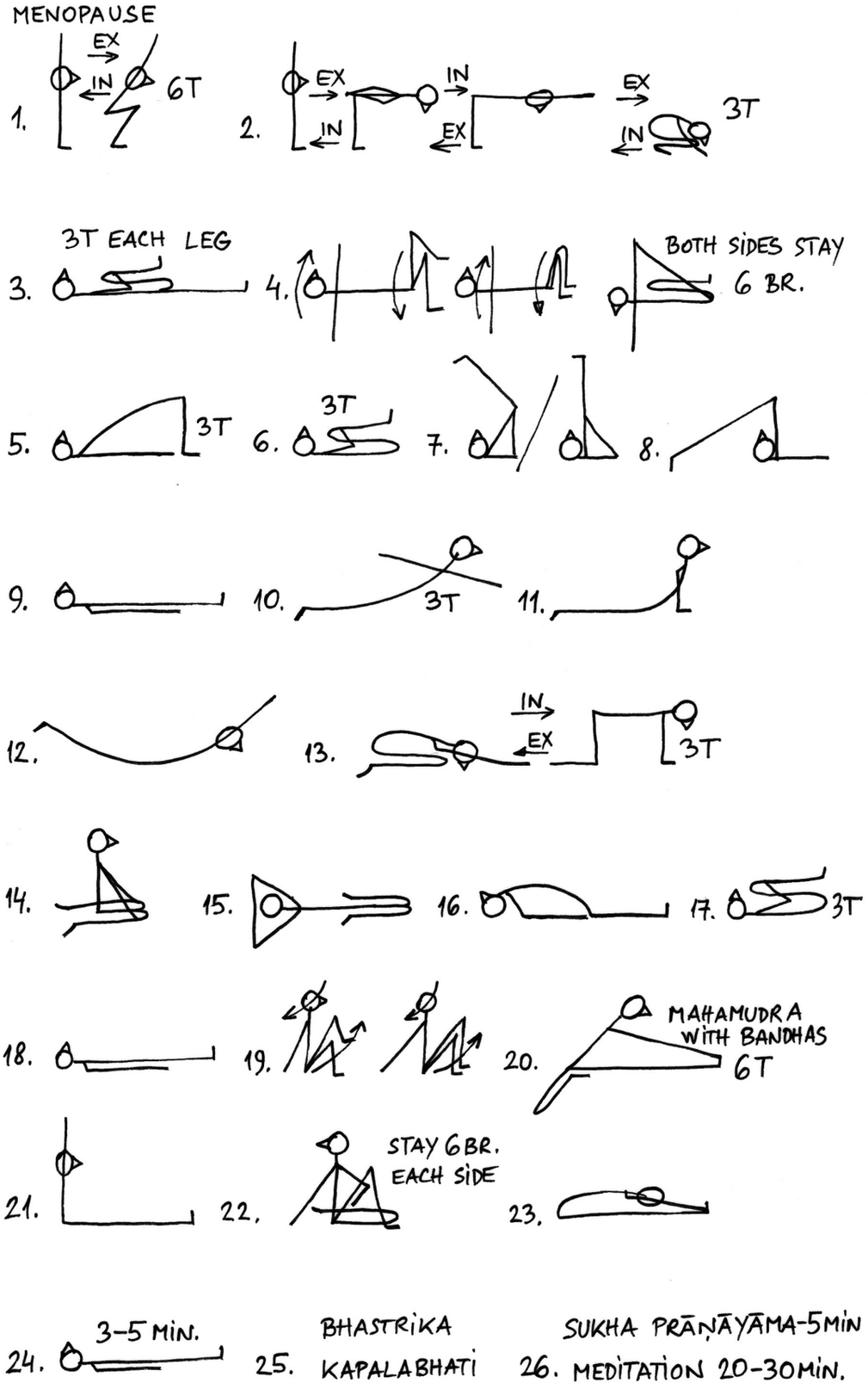
Symptoms include irregular menstruation, changes in sexual desire, hot flashes, vaginal dryness,

urinary problems, changes in appearance, mood changes, sleep disturbances, palpitations, reduction of the density of bone tissue, weakness in the joints, osteoporosis, and backaches. Not all women experience these symptoms, some are not even aware of any changes occurring in their body. Estrogen and progesterone level plays the biggest part in menopause. The ovaries start producing less estrogen and progesterone. Estrogen is the female hormone that plays a major role in shaping a woman's body and in preparing it for pregnancy. When the body produces less of these hormones, the parts of the body that depends on estrogen to keep them healthy will react and this often causes discomfort. Menopause is divided into two stages: Premenopause and postmenopause. Premenopause is the time when a woman is beginning to experience some signs and symptoms, but is still ovulating. She may experience uneven rising and falling of her hormone levels, often causing her to feel hot flashes and variations in her periods. Postmenopausal stage is when a woman is about 12 months past her last period and her ovaries no longer produce estrogen and progesterone, nor release eggs. If the menopause starts later, then the symptoms tend to be milder. The menstrual cycle starts to be longer and longer, first every 2 months, then every 4 and so on. The discharge is also less and less and eventually stops completely. Menstruation should not stop suddenly, but there should be a smooth transition, that comes in stages. The body has the natural ability to adjust to these physiological transformations without any discomfort.

The menopause does not really require any medical treatment, since it is a natural biological process. The menopause treatments actually focus on relieving the symptoms of menopause and aim to prevent any chronic conditions that may occur during the postmenopausal years, such as heart disease and osteoporosis. Some undergo Hormonal Replacement Therapy (HRT) which provides a low dose of estrogen in the body that helps in alleviating symptoms, such as hot flashes and vaginal dryness. HRT may also combine progestin with estrogen. Women who have experienced hysterectomy only undergo Estrogen Replacement Therapy (ERT). HRT however, has some serious side effects and increases the risk of heart problems. Exercising, proper diet, not smoking, and reduction of stress are also effective ways to make menopause more bearable and can also facilitate in preventing any chronic ailments that can occur in the postmenopausal years.

For hot flashes Sitaly or Sitkari pranayama is very useful because they are cooling pranayamas and they reduce any excess of Pitta dosha. Also it is good to follow a Pitta pacifying diet. For yoga asana practice it is good to do Ardhauttanasana (half-squat position) which creates pressure on bone structure of the legs. Pressure on the end of the bones creates the Piezo-electric effect. On the ends of the bones polarity is created which stimulates electric current to pass through bone and this helps the bone tissue to integrate calcium in its structure. This strengthens the bone structure. It is good to do asanas with movements against the force of gravity. Also backward bends are good to strengthen the muscles of the body. After a forward bend position, return to the starting position by bending the back backwards. Useful yoga positions are Katiasana, Salabhasana, Ardha Utkatasana, Ardha Uttanasana, Uttanasana, Paschimotanasana (variation with legs spread apart), Janusirsasana, Virabhadrasana, Prasarita Padottanasana, Adho Mukha Svanasana, Supta Virasana, Matsyasana, Viparita Karaniasana, Halasana, Mahamudra, and Anandasana. For better functioning of the endocrine system, backward bends and upside down positions are useful.

The following sequence can be practiced: Chakravakasana, Adho Mukha Svanasana, Urdhva Mukha Svanasana, etc. It is good to perform yoga positions in a static way and staying in the position as long as it is comfortable. If the person was not practicing yoga before, all positions should be modified to suit the person. During exercising it is important for the breath to be long and subtle, especially the exhale should be long, to activate the lower abdomen. Mahamudra and Sarvangasana should be practiced every day because those positions have a good effect on ovaries (fibrotic changes in the ovaries). For strengthening and increasing the flexibility of joints, swimming is very good.


MENOPAUSE
1.
EX
IN
6T
2.
EX
IN
IN
EX
EX
IN
3T
3.
3T EACH LEG
4.
BOTH SIDES STAY
6 BR.
5.
3T
6.
3T
7.
8.
9.
10.
3T
11.
12.
13.
IN
EX
3T
14.
15.
16.
17.
3T
18.
19.
20.
MAHAMUDRA
WITH BANDHAS
6T
21.
22.
STAY 6 BR.
EACH SIDE
23.
24.
3-5 MIN.
25.
BHASTRIKA
KAPALABHATI
SUKHA PRĀṆĀYĀMA-5MIN
26. MEDITATION 20-30MIN.

Ayurveda uses medicinal plants for regulating hormonal production and calming emotions. Because menopause is connected with a transition to a Vata predominant period of life (older age), it is characterized with Vata disturbances like, increased anxiety, depression, insomnia, etc. The main approach of Ayurveda is for calming down Vata and Pitta dosha. Plants for strengthening a woman's reproductive organs are aloe gel, shatavari, and ashvagandha. They are boiled in milk. Aloe gel rejuvenates a woman's reproductive organs. Chyavanprash and Maharishi Amrit Kalash are also very useful.

A Pitta type menopause expresses itself in angriness, irritability, low tolerance, and very frequent and strong hot flashes. A treatment for calming down Pitta is using Aloe gel and Shatavari. A Kapha type menopause is characterized with feelings of drowsiness, heaviness, lack of motivation, gaining body weight, and retaining body liquids. A treatment for reducing Kapha is by using hot spices like trikatu formula, together with aloe gel.

Regular massages of the body (joints) with oil, is very useful because it balances Vata, increases flexibility, and removes stiffness. It is very important to massage the lower back and the joints. Use sesame oil or Prabhanjana Vimardhana oil. After the massage take a hot shower.

Avoid eating root vegetables, as they tend to increase Vata. Eat more green vegetables and easy digestible food. Meals and exercising should be regular. It is good to eat millet and one tea spoon of ghee with each meal. Add some mustard seeds when cooking vegetables. Many ladies are on a raw food diet have no problems during menopause.

Try this recipe against hot flashes: Cook rice in the evening, then mix 2 table spoons of cooked rice and 2 cups of water (room temperature water) and leave it over night (not in the refrigerator). In the morning drink the water from this mixture on an empty stomach. This has a cooling effect.

Scientific research on asana and pranayama

Research on biofeedback and yoga

Elmer Green Ph. D. and his wife Alyce Green M.D. of the Menninger Foundation report of their very impressive research in their book: "Beyond Biofeedback," E. & A. Green, Knoll Publishing, ISBN 0-940267-14-4. In one of their settings, they had Swami Rama hooked up to their machines and observed how Swami Rama displayed control over temperature, blood flow, brain waves and heart beat, which at one time he stopped for a certain period of time. As a result of techniques from Hatha and Raja Yoga, other Yogis had already demonstrated this enormous ability to stop the heart beat, at times, for a considerable time span.

Other researchers, like James Funderburk, Ph. D., observed a significant drop in blood pressure as the result of Yoga. He also found an increase in red blood cells, a significant change in the hematocrit values, and increases in hemoglobin and lymphocyte counts. His findings are published in "Science Studies Yoga," James Funderburk, Ph. D., Himalayan Publishers.

Similar findings concerning the benefits of Yoga were reported in:

- Wood, Journal of the Royal Society of Medicine 93; 86(5):254-58 "Yoga and Biofeedback in the Management of Hypertension"
- Patel, Lancet 73:1053 "Treatment of Bronchial Asthma by Yogic Methods"
- M.V. Bhole, Yoga-Mimansa, 1967 "The Effects of Yoga and the 5BX Fitness Plan on Selected Physiological Parameters"
- V.H. Dhanaraj, Ph. D. dissertation, University of Alberta, 1974

Yogis have demonstrated their ability to change their brain waves at will. Regular thinking happens in the beta range at 14-16 cps (cycles per second - Hz). The relaxed but normal state of alpha is in the range of 8-13 Hz. Delta has a range of 1-3 Hz and the deep meditative state of theta occurs in the range of 4-7 Hz.

A simple way of changing brain dominance comes to us as the result of pranayama (breathing techniques of yogis). It is possible to activate the right brain by inhaling through the left nostril only and increase left brain activity by inhaling through the right nostril. The resulting changes can be shown on an EEG.

More people reported finding relief from back pain through the practice of Hatha Yoga than those who saw a neurosurgeon (Klein in "Backache Relief" New American Library, 1985, New York).

Adriane Fugh-Berman, MD in "Alternative Medicine: What Works" (Odonian Press) refers to both published and unpublished studies which found evidence that certain Yoga techniques improved pulmonary function, asthma, and high blood pressure.

Research on carpal tunnel syndrome

According to a recent study at the University of Pennsylvania Medical School, a simple yoga program – no drugs, no expensive equipment and no surgery – is more effective than conventional treatments in reducing pain and improving the hand strength of patients with Carpal Tunnel Syndrome. Carpal Tunnel Syndrome, common among computer users, is a potentially debilitating nerve disorder of the hand, usually caused by repetitive motion, like typing. It results from pressure on the median nerve, which controls sensations in the thumb, index and middle fingers. The condition can be so painful that many sufferers cannot use the affected hand.

The randomized, single blind, controlled study included a yoga group and a group who only received wrist splints, the most common form of treatment. The yoga group took a 1.5 hour class twice a week. They performed simple postures designed to take each joint of the upper body through its full range of motion, stretching, strengthening and aligning the hands, wrists, arms and shoulders. After eight weeks, the yoga group had significantly less pain and greater hand strength, whereas the control group experienced no significant reduction in pain or increase in hand strength.

The postures used in the program included:

- Staff position (dandasana): Sitting on a chair, trunk upright, press hands into chair, press shoulder blades into the back, and move shoulders back and down.
- Prayer position: Press palms and fingers together, stretch and bend the fingers.
- Arms overhead (urdhva hastasana): Lift arms over head, keep arms straight and shoulders down.
- Arms overhead, fingers interlocked (parvatasana): Same as above, clasp fingers, turn palms upward.
- Chair twist: Sit sideways in a chair with the right side against the back of the chair. Place both hands on the back of chair, twist to the right using the hands for additional support. Repeat on the other side.
- Mountain (tadasana) – standing posture.
- 90 degree forward bend to a wall: Stand with the feet about hip-width apart, raise the arms over-head, bend at the hips, bringing the hands to rest on the wall.
- Arms overhead with the hands in prayer position: Stand in tadasana, raise the arms to "tree position", turn the palms up, then rotate the arms in small circles, first forward then back. Lift the arms straight over the head and join the hands in the prayer position. Stretch up and look up at hands.
- Dog pose with chair: Stand with the feet hip-width apart, facing the seat of a chair. Bend, placing the palms on the seat, shoulder-width apart. Straighten the arms and lift the waist, hips and knees a few inches above the chair. Turn the arms out and curve the trunk back between them. Bring the coccyx, sacrum, and lumbar spine forward, keeping the buttocks tight. Stretch the front of body from the pubis. Raise the sternum and ribs. Hold the shoul - ders back. Press the shoulder blades and dorsal spine in.
- Hands in prayer behind the back: Stand in tadasana, bring the palms together behind back, fingers pointing up. Turn the fingers up and raise them as high as possible between the shoulder blades.
- Relaxation – lying on the back.

Each posture is held for about 30 seconds.

From "Yoga-based intervention for Carpal Tunnel Syndrome: A randomized trial," by M. Garfinkel, A. Singhal, W. Katz, et al, in The Journal of the American Medical Association, November 11,1998.

Research on asthma

More hope for asthma sufferers... A 16-week yoga program improved the quality of life for a group of asthmatics in a Colorado study. Patients went to yoga classes three times a week and were taught pranayama, postures, and meditation. After 16 weeks the yoga group reported a significant degree of relaxation, positive attitude, and improvements in doing the yoga exercises. They also tended to use their inhalers less often. There was no significant difference in pulmonary functions between the yoga group and a control group that did not do yoga. Nonetheless, the researchers concluded that yoga seems beneficial as an adjunct to the medical management of asthma. Yoga may help asthma sufferers in several ways. First of all, asanas improve respiration and relax the chest muscles. A pranayama technique called the three-part breath promotes deeper breathing by using more of the lungs, while alternate nostril breathing induces calmness. Meditation also promotes calmness and relaxation.

From "Clinical study of yoga techniques in university students with asthma: a controlled study," by P.K. Vedanthan, L.N. Kesavalu, K.C. Murthy, K. Duval, et al, published in Allergy Asthma Proceedings, January 1998.

Asthma sufferers show quick improvement after yoga training: Asthma sufferers showed significant improvement following a seven day yoga training program. "Study of pulmonary and autonomic functions of asthma patients after yoga training," by A.A. Khanam, U. Sachdeva, R. Guleria and K.K. Deepak (Department of Physiology, All India Institute of Medical Science, New Delhi), published in Indian Journal of Physiology and Pharmacology, Oct. 24, 1996.

Yoga helps obsessive-compulsives: The use of yoga breathing shows promising results in the treatment obsessive compulsive disorders. "Clinical case report: efficacy of yogic techniques in the treatment of obsessive compulsive disorders" by D.S. Shannahoff-Khalsa and L.R. Beckett (Research Group for Mind-Body Dynamics, University of California, San Diego, La Jolla Calif.), published in International Journal of Neuroscience, March 1996.

Research on heart disease

Study shows that lifestyle changes reverse heart disease: Lifestyle matters, especially for patients with hart problems. Those are the findings of a new study by Dr. Dean Ornish in which an experimental group who made intensive changes in diet, exercise, stress management, and other lifestyle factors, including yoga, showed greater reversal of coronary heart disease after five years, than patients who followed a program advocated by the American Heart Association. In fact, the control group got worse over the five years, even though half of them were on lipid-lowering medications.

The study was a follow-up to the groundbreaking “Ornish's Lifestyle Heart Trial”. The original trial found that after one year, heart patients who made intensive lifestyle changes, had a 37.2 percent reduction in LDL cholesterol ("bad" cholesterol), less frequent angina (chest pain), and a reduction

in stenosis (narrowing of the blood vessels). By contrast, patients who made moderate changes reduced LDL cholesterol by only 6 percent, had more frequent angina, and greater stenosis. Among the 48 patients from the original study, 35 agreed to take part in the follow-up and continued through the entire five years.

Patients in the experimental group were prescribed an intensive program that included a 10 percent fat vegetarian diet, moderate aerobic exercise, stress management training, smoking cessation, and group psychosocial support. Control group patients were asked to follow the advice of their personal physicians regarding lifestyle changes, consistent with the American Heart Association's Step II diet guidelines. No experimental group patients took lipid-lowering drugs, while 60 percent of control patients received lipid-lowering medication. Angiograms were done at the end of five years for the 20 experimental group patients and 15 control group patients who completed the program.

Findings of the study include:

- Experimental group patients had a 91 percent reduction in frequency of angina after one year, and a 72 percent reduction after five years. Control patients had a 186 percent increase in frequency of angina after one year, and a 36 percent decrease after five years. Three of the five control patients who reported an increase from baseline to year one underwent coronary angioplasty before year five.
- The reduction in LDL cholesterol levels in the experiment group was comparable with results achieved by lipid-lowering drugs for ambulatory patients.
- In the experimental group, the average percent diameter stenosis showed a 7.9 percent relative improvement after five years, while the control group showed a 27.7 percent relative worsening. The researchers also found more than twice as many cardiac "events" in the control group (45 events, 2.25 events per patient) than in the experimental group (25 events, 0.89 events per patient). Events included heart attacks, coronary angioplasty, coronary by pass surgery, cardiac-related hospitalizations and cardiac-related deaths.

The bottom line for the study is that major lifestyle changes can help reverse heart disease. Following the program recommended by the American Heart Association does not. Interestingly, in news reports following the publication of the study, the American Heart Association refused to endorse its results, saying that the Ornish program was too difficult for most people to follow, while their program was easier. Apparently, the fact that you also have a higher chance of dying, if you follow the Heart Association's program, doesn't factor into their thinking.

From "Intensive Lifestyle Changes for Reversal of Coronary Heart Disease," by Dean Ornish, MD, Larry W. Scherwitz, PhD, James H. Billings, PhD, MPH, K. Lance Gould, MD, et al, published in the Journal of the American Medical Association, December 16, 1998.

Research on rehabilitation

Yoga for Rehabilitation, an overview: The use of yoga for rehabilitation has diverse applications. Yoga practice benefited mentally handicapped subjects by improving their mental ability, as well as the motor co-ordination and social skills. Physically handicapped subjects had a restoration of some degree of functional ability after practicing yoga. Visually impaired children showed a significant decrease in their abnormal anxiety levels when they practiced yoga for three weeks, while a

program of physical activity had no such effect. Socially disadvantaged adults (prisoners in a jail) and children in a remand home showed significant improvement in sleep, appetite and general well being, as well as a decrease in physiological arousal. The practice of meditation was reported to decrease the degree of substance (marijuana) abuse, by strengthening the mental resolve and decreasing anxiety. Another important area is the application of yoga (and indeed, lifestyle change) in the rehabilitation of patients with coronary artery disease. Finally, the possible role of yoga in improving the mental state and general well being of HIV positive people and patients with AIDS is being explored.

"Yoga for rehabilitation: an overview" by S. Telles and KV Naveen, Vivekananda Kendra Yoga Research Foundation, Banglore, India, published in Indian J Med Sci, April 1997.

Research on the effect of meditation on shooting performance

Meditation helps to shoot straight: Probably not what Patanjali had in mind, but it provides more evidence on the overall benefits of meditation. Researchers found that meditation helped improve the performance of a group of competitive sharp shooters.

"The effect of meditation on shooting performance," by E.E. Solberg, K.A. Berglund, et al., published in the British Journal of Sports Medicine, December 1996.

Research on yoga breathing

Yoga breathing improves “right brain scores”: Students practicing yoga breathing showed a major improvement on tests of spatial memory, said to be a right brain function, according to a study by Indian researchers. School children of the age between 10 to 17 were assigned to one of four groups, each of which practiced a specific yoga breathing technique: right nostril breathing, left nostril breathing, alternate nostril breathing, or breath-awareness without manipulation of nostrils. After 10 days of breath training, all four groups showed an average 84% improvement in scores on tests of spatial memory vs. a control group of students which showed no improvement in scores.

"Yoga breathing through a particular nostril increases spatial memory scores without lateralized effects," by Naveen KV, Nagarathna R, Nagendra HR, Telles S., of the Vivekananda Kendra Yoga Research Foundation, Bangalore, India, published in Psychol Rep, 1997 Oct, 81:2, 555-61.

Pranayama increases grip strength: Indian researchers report that the practice of pranayama led to an increase in hand-grip strength. The researchers divided a group of 11-18 year old yoga camp students into five groups. Each group was given a different breathing practice, to be done in addition to their regular daily yoga exercises. The five breathing practices included breathing through the right nostril only, left only, alternate nostril breathing (nadi sodhana), breath awareness, and mudras. The researchers measured the hand-grip strength of the students before and after the program. At the end of the 10-day program, students who practiced left, right, and alternate nostril breathing, showed a significant increase in hand-grip strength in both hands. There was no change in the students who practiced breath awareness and mudras.

"Pranayama increases grip strength without lateralization," by P. Raghuraj, R. Nagarathna, H.R. Nagendra, S. Telles of the Vivekananda Kendra Yoga Research Foundation, Bangalore, in the Indian J. Physiological Pharmacology, April 1997.

Research on application of yoga in psychotherapy

Hatha yoga proved no better than, but just as good as, traditional psychotherapy in helping patients in a methadone program, according to a study by Harvard Medical School researchers. Many treatment programs are experimenting with alternative therapies in hopes of finding ways to improve the effectiveness of treatment programs. In the Harvard study, a group of patients were put into either a Hatha yoga program or psychotherapy. At the end of six months, the two groups scored about the same on a variety of physical and psychological tests. In their study, the researchers noted that both yoga and psychotherapy contributed to a program that helped significantly reduce drug use and criminal activity by the patients.

"Comparing Hatha yoga with dynamic group psychotherapy for enhancing methadone maintenance treatment: a randomized clinical trial," by Shaffer HJ, LaSalvia TA, Stein JP, of Division on Addictions, Harvard Medical School, Boston, MA 02115, USA, published in Altern Ther Health Med, 1997 Jul, 3:4, 57-66.

Research on application of yoga in sociology

Meditation boosts health, self-esteem for inner-city patients: Mindfulness meditation and yoga improved the self esteem of inner-city participants in a community health program in Meriden, Conn. The English and Spanish-speaking patients in the program reported a significant improvement in their physical and mental health, with many patients noting dramatic changes in attitudes, beliefs, habits, and behaviors.

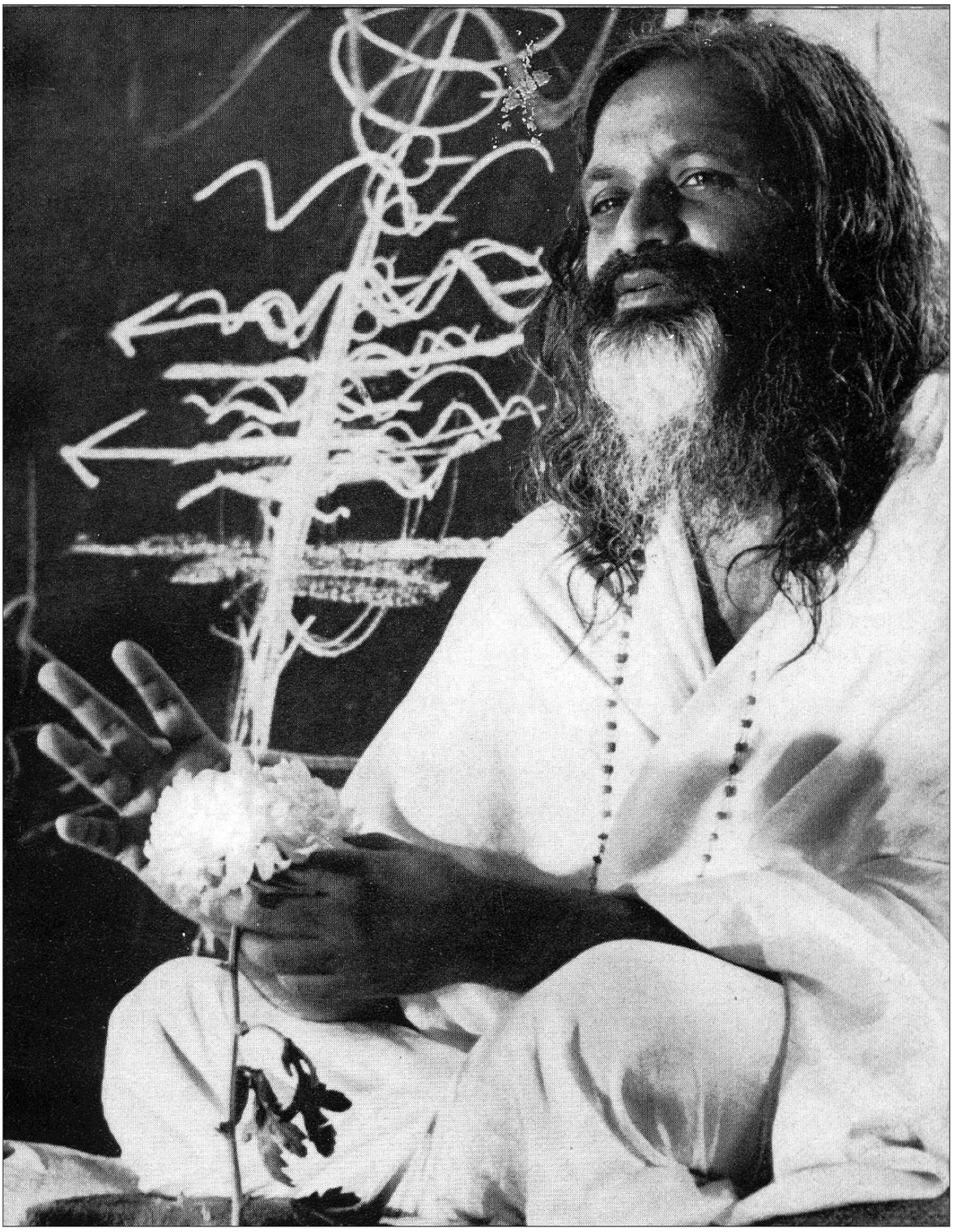
"Mindfulness meditation-based stress reduction: experience with a bilingual inner-city program," by B. Roth and T. Creaser (Stress Reduction Program, Community Health Center, Meriden, Conn.), published in Nurse Practitioner, March 22, 1997.



CHAPTER 7

MEDITATION

During Meditation stress and tensions are released. A state of deep relaxation is achieved effortlessly and in a systematic way. Meditation is experienced as something very useful, pleasant, and refreshing. It strengthens us mentally and physically. It develops the full mental potential and brings more stability and success to our life in all our endeavors.



Maharishi Mahesh Yogi teaching Transcendental Meditation

The Theory of Meditation

The word "meditation" comes from the Latin word "meditire". The first part of this word signifies "medium" (the source, center of our being) and the second part "ire" means "to move". It is the same meaning which we find in the Yoga Sutras of Maharishi Patanjali: *"yogaś ćitta-vṛtti-nirodhaḥ"* (Y.S.I.2.). Yoga means to transcend the activity of the mind. This sutra gives the principle of meditation. Transcend all mental activity and come back to yourself. During our daily activities we are more or less out of ourselves. The purpose of meditation is to experience our true self which is pure, transcendental consciousness, the state of Yoga. To achieve this, many meditation methods were designed. Each method takes some area of life from which it starts its journey, enabling the meditator to transcend the mental activities and reach the goal, the Self. To serve its purpose, meditation must transcend its own process. Any of the senses can be used to bring awareness inward (pratyahara) and hold attention on the object of the sense (dharana), experience finer levels of the object of that sense organ (dhyana), and finally transcend the finest experience of the object and achieve unity of subject and object (samapati), in their common basis of the Unified Field, Pure Consciousness (Samadhi). Ancient Rishis (seers) designed the quickest process of transcending mental activity, by using the sense of hearing (finest sense of all senses) and the sound (mantra) as the object of experience. This technique in modern times is known as Transcendental Meditation which was taught by Maharishi Mahesh Yogi.

There are two main types of meditation: Saguna Brahman meditation and Nirguna Brahman meditation. The Saguna Brahman type of meditation has as its main goal to realize the unity of the meditator with his chosen deity. Saguna Brahman means "God with special qualities" (name and form). This type of meditation is usually practiced in religious practices. Nirguna Brahman meditation brings unity of the meditator with his own Self (God without qualities, no name and form, just pure Being). This is non-religious meditation. Transcendental Meditation belongs to this category.

Development of higher states of consciousness

During the process of the development of consciousness, adequate attention must be given to the following requirements:

- Diet should be balanced in nutrition and amount.
- Habits which cause strain or fatigue should be avoided.
- Adequate and regular rest should be taken, along with the regular practice of experiencing and enlivening Transcendental Consciousness.
- Perception must be skilful, so that the bliss that results from the experience of unbounded awareness, is never overshadowed.
- Every aspect of experience and behavior must be spontaneous and free of the element of wear and tear for both the mind and body. Wear and tear is the result of anxiety and mood - making.
- The process of transforming and training the physiology to sustain the experience of unbou - nded consciousness must not occur too rapidly. The physiology must not be strained to produce any abnormal experience which will again cause aging.

Following description of higher states of consciousness is based on the notes from the lectures of Maharishi Mahesh Yogi.
According to western science our body consists of biological cells. Cells in turn consist of molecules and atoms which consist of high energy particles which are fluctuations of the basic field of Nature from where everything emerges. Vedic science also delineates eight basic elements (Prakritis) of creation and the body – the eight smallest components or „fundamental principles", from which everything is constructed:

1. Earth (Prithivi) - the firm
2. Water (Jala) - the flowing
3. Fire (Agni) - the flammable
4. Air (Vaju) - the gaseous
5. Space – ether (Akasha)
6. Mind – „what thinks" (Manas)
7. Intellect – „what distinguishes" (Buddhi)
8. Ego – the I consciousness (Ahamkara)

The elements here are listed in sequence from the grossest to the finest. We have a body that is primarily constructed from the rougher elements (earth, water etc.). With progressively higher states of consciousness, the body is also refined. Vedic science associates this with progressively finer prevailing Prakritis (elements). Except during deep sleep, all the elements are always lively in the body, but the two prevailing elements clearly delineate the state in which we find ourselves:

- **Deep sleep**: „Earth" is the prevailing element, while the other elements are all asleep. This is the condition with the minimum of consciousness. It is extremely rejuvenating for the body.
- **Dream Consciousness**: „Earth" is the prevailing element, and „water" is in second place. Our perceptions and actions in this state are not real (with regard to waking consciousness).
- **Waking Consciousness:** „Water" is the prevailing element, and „earth" is in second place. Ma-

harishi spoke of the fact that the earth element maintains our body consciousness, while the water element ensures that the next higher element (Agni) develops, because each element always promotes the next higher element. Agni is of highest importance for human life; it reaches full bloom in God consciousness, by promoting (the next higher element) the air element.

- **Transcendental Consciousness:** the Agni (fire) is the prevailing element, and Akasha (space) is in second place. This condition occurs if we meditate in cosmic consciousness. In this state we still have the elements of waking consciousness (water and earth) lively in the body during meditation which, however, refines itself noticeably. Already in 1970 Dr. Keith Wallace had written his famous doctoral thesis regarding the fact that the functioning of the body is so obviously different during TM that, in the scientific sense, we must speak of it as a new state of consciousness: Transcendental Consciousness – Maharishi: *„the Akasha element ensures that we retain our transcendental self-awareness. Transcendental Consciousness is the direct experience of the integrated wholeness of pure intelligence. It is the fourth state of consciousness, as described in the Mandukya Upanishad: "The fourth, say the wise, is the pure Self alone". "It is known only through becoming it."* It is the self –referal state of consciousness (Samhita).

- **Cosmic Consciousness:** This is the state of enlightenment in which we experience the pure, transcendental light of our higher Self (Atma) day and night. We are witnessing our activity as well as our dreams, and at night, during a sleep we experience complete wakefulness. During the day we find that we are a silent witness with regard to activity and we experience ourselves as separate from everything that is happening around us. In Cosmic Consciousne, the Samhita of Pure Consciousness is permanently established on the level of rishi; the silence of Transcendental Consciousness is a perpetual witness to activity. Our self has evolved to its absolute value. Agni (fire) is the prevailing element, and Vayu (air) is in the second place.

- **God Consciousness** (or refined Cosmic Consciousness): Vayu (air) is the prevailing element in the body, and Agni (fire) is in second place. Our internal five subtle senses are opened, and we now have the ability to perceive everything in the universe (to hear, see, smell, taste, feel, etc.). Thus in God Consciousness the values of both rishi and devata have been enlivened in individual awareness. In God Consciousness, the individual experiences the hierarchy of creative intelligence in nature. Nothing remains anymore hidden from us and we are not capable of misusing our abilities. He who is once enlightened, loses the ability to make errors; and he who is not enlightened, he is not yet quite able to do everything completely without error. The Vayu element (air) maintains the separation between our transcendental interior word and the refined external word. In God Consciousness we have heavenly perception (and we are now able to, for example, speak with our guardian angel without any problem). All these refined abilities develop gradually day by day with the TM-Sidhi program and the TM advanced techniques.

- **Unity Consciousness:** Akasha (space) is the prevailing element, and Vayu (air) is in second place. While in the fourth state (Transcendental Consciousness) Akasha is in second place, retaining our transcendental self-awareness, Akasha now takes the first position in the body and allows the experience of Unity Consciousness to be possible. Each item, which we are aware of, we perceive in the full value of our Transcendental Self. This perception of unity is an achievement of the finest intellect, thus our most highly developed ability of discrimination. In Unity Consciousness, the individual regains the memory of his unbounded status *("I have regained my memory." – B.G.XVIII.73);* even the chhandas aspect of life has become "transparent", revealing that everything is the infinity of "Myself". This experience eliminates the fundamental mistake of the intellect (pragyaparadha), in which differences are not experienced in terms of their underlying unity and wholeness. In this way, Unity Consciousness eliminates the source of all mistakes, problems and suffering.

- **Brahman Consciousness** (first level in the refinement of the body). Akasha (space) is the prevailing element and Vayu (air) is in second place (as in Unity Consciousness – however, in Sanskrit both states, the 7th and the 8th, are called „Brahmi Chetana", the distinction isn't delineated). The body in this state is more refined than in the 7th state and the proportion of grosser elements (earth, water, fire) in the body decreases significantly. The „realization of unity in each perception" has changed completely with regards to the 7th state: While in Unity Consciousness we experienced unity exclusively with regard to the object of perception, we constantly have this experience of absolute unity in Brahman Consciousness with regard to everything around us, near or far. Therefore, our perception here has developed to its absolute value, while in Cosmic Consciousness our self had already developed to its absolute value. Thus everything in our life is now experienced in its absolute value – except the body. It refines itself only in the later states.

  Brahman Consciousness (2nd level in the refined body): Manas, the 6th element of the thinking mind, becomes prevalent in the body, and Akasha is in second place. Whoever achieves this elevated state is guaranteed a place in the Guiness World Book of Records. It is believed that the illumined Gopis (Krishna's playmates in Vrindavan) reached this state 5200 years ago.

  Brahman Consciousness (3rd level in the refined body): Buddhi (7th element, the finest intellect) becomes prevalent in the body. This state is unique. Shri Radha, who among all the Gopis was the most highly enlightened, and whom Krishna admired the most, reached this state.

  Brahman Consciousness (4th level in the refined body): Ahamkara, 8th element of the „I Consciousness" (finest Ego) becomes prevalent in the body. In this state our body is totally refined, as a body of light existing on the finest level of creation, far beyond a so-called heavenly body („Celestial Body"). Examples of this state are not available at the present time – however, someone to report to us how it feels is eagerly sought after.

  Krishna Consciousness. Pure consciousness now not only prevails in the body, but it has transformed every last trace of the eight elements in the body into absolute Being. Maharishi: „*This is the body made of absolute Being.*" Starting with the all-knowingness of Brahman Consciousness we now also add physical omnipresence and omnipotence. However, there is no being that could ever be completely equal to God. Even in Krishna Consciousness, on the absolute pinnacle of any developmental possibility, one is still an individual, who can think „only one thought at a time" (although with maximum speed). Only God alone can think infinitely many thoughts at a time, but us human individuals can transcend (in the end) even our individual personality and in Mahasamadhi become one with God, as Guru Dev has done. Then we are again completely one with the source of all beings. 5200 years ago in Vrindavan, in His terrestrial incarnation, as the ninth avatar, Krishna had an absolute body and Krishna Consciousness. He was revered as the embodiment of Transcendence and as the incarnation of Vishnu's transcendental aspect.

  Finally, to explain the heavenly body which we as humans, can also attain in the 8th state before the „second level of Brahman Consciousness": The devas (Gods) who are under Indra, the king of the Gods, have a heavenly body without boundaries, so they can watch over and simultaneously administer their own law of nature everywhere in the universe. In this body the element Akasha becomes prevalent, and the four low elements: earth, water, fire and are completely refined and only „available in seed form". This last trace of the relative world is necessary so that the devas are able to be active in the world. Infinite harmony and pure

Sattwa are prevalent in them, but Moksha, spiritual liberation or complete enlightenment is not available for the devas. They sometimes therefore accept a human birth in order to disseminate the highest knowledge (as did Bhishma, the Eights of the Vasu Devas, the son of Ganga Devi, or the five Pandawas: Yudhishthira, Arjuna, Bhima, Nakula and Sahadeva, each of whom, in ancient times, all already reined once as Indra over the devas).

There are 16 levels (kalashes of Brahman) that human beings can reach: vegetable kingdom reflect 1 kalash of 16 kalashes of Brahman; creatures born of water reflect 2 kalashes of 16 kalashes of Brahman; egg born kingdom reflect 3 kalashes of 16 kalashes of Brahman; born of mother's womb – animals reflect 4 kalashes of 16 kalashes of Brahman and humans reflect 4 to 7 kalashes of 16 kalashes of Brahman; Incarnatins reflect 8 kalashes of 16 kalashes of Brahman and Krishna, Christ reflect all16 kalashes of 16 kalashes of Brahman

Levels of consciousness:

- **Levels 1-8** in the „human" nervous system, up to the highest form of enlightenment in Brahman Consciousness, the realization and perception of one's own divine Self in each point of the entire universe.
- **Levels 9-12** in the "heavenly" nervous system, up to the highest form of realization in this stage of development, that of "Devi-consciousness", with the additional realization and per ception of the divine creative power in each point of the entire universe.
- **Levels 13-16** in the "Absolute" nervous system, up to the highest form of realization in this stage, that of "Krishna Consciousness", with the additional realization and perception of any individual perceptions of all living beings in each point of the entire universe at the same time.

Practice of Meditation

Transcendental Meditation

Transcendental Meditation, brought to light by Maharishi Mahesh Yogi, is a simple, natural, and effortless technique which gives the experience of “restful alertness”. Transcendental Meditation is practiced for 15-20 minutes twice a day, sitting comfortably with eyes closed. In these few minutes, stress and tension are dissolved. In a natural way Transcendental Meditation creates a state of deep rest and relaxation that is not achieved even during deep sleep. At the same time, the mind remains fully awake. In contrast to other methods of relaxation, no concentration or contemplation is required. Thoughts are a natural part of this meditation and need not and should not be suppressed. The deep state of relaxation comes about effortlessly and systematically and the meditation is experienced as extremely beneficial, enjoyable, and refreshing. The technique strengthens a person’s physical and mental condition. Deep-rooted tension and fatigue is dissolved. The meditator experiences deep rest (mental and physical) which is at the basis of the wide range of medical benefits. The regular practice of Transcendental Meditation results in the full unfoldment of the personality as a whole and leads to more stability in daily life and greater ability to achieve one's goals.

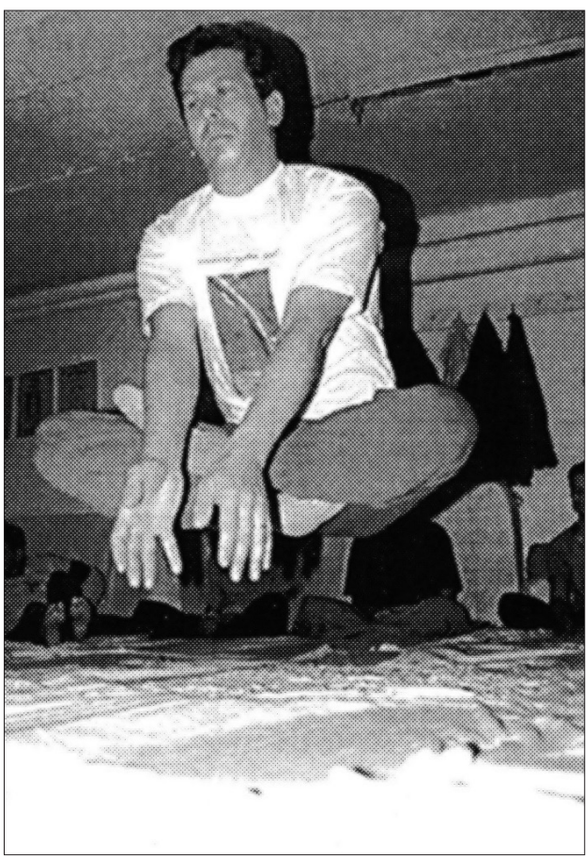
Electro physiological measurements under controlled and reproducible laboratory conditions have demonstrated that TM is a scientific technique and produces scientifically verifiable results. Transcendental Meditation has the effect of developing order and coherence at the deepest levels of physiological and psychological functioning, resulting in a profound improvement in the integration of the individual with his environment. Regular practice of Transcendental Meditation helps reduce the



metabolic rate, increases brain wave coherence, regulates blood pressure, brings relief from insomnia strengthens and balances the entire system and initiates holistic patterns of growth in all areas of life. Also, a marked improvement in intelligence has been observed along with overall personality developments and increased creativity. Please refer to the eight sample researches studies described in following pages. Transcendental Meditation does not involve any religious belief or practice. Millions of people of all religions and nationality practice TM regularly.

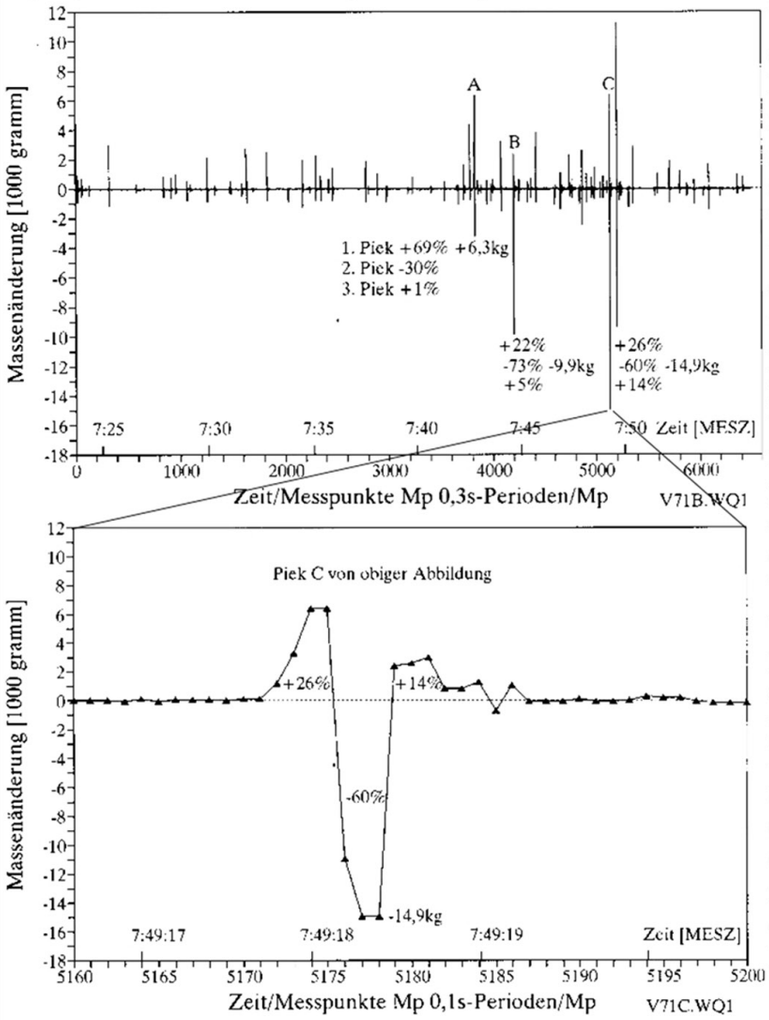
The TM-Sidhi Programme

The TM-Sidhi Programme is an advanced aspect of the technology of Maharishi's Vedic Science. It trains the individual to think and act from the level of Transcendental Consciousness, greatly enhancing the co-ordination between mind and body, as indicated by the high levels of EEG integration during the practice. The TM-Sidhi Programme is essential for rapid progress to higher states of consciousness. Yogic flying is part of the TM-Sidhi Programme and demonstrates the functioning of self-referral consciousness, or Transcendental Consciousness, the state of Yoga, on the level of intelligence. Correspondingly, the whole physiological structure functions in an integrated manner, demonstrating perfect mind/body integration. The effect is that the body loses weight and lifts up in the air. Yogic flying develops in three stages, as mind-body coordination increases and as one grows in enlightenment. People practicing Yogic flying have achieved the first of these three stages. The first stage is "hopping like frog" (dardura). In the first stage the body rises into the air in a series of short hops. In the second stage of Yogic flying, the body rises up and floats in the air. In the third stage, the body flies through the air at will.



Jadranko Miklec, 1995. Zagreb, Croatia

Information Box Yogic Flying: Test results obtained with a person who was practicing Yogic Flying on a modified balance of Sartorius (total load 100 kg, reproducibility ± 0.1g with PC online data registry), are shown in the subsequent two Figures.



While completely quietly sitting, with effortlessly the hands on the thighs, a baseline resulted by subtracting the initial weight from all subsequent measured weights. The seating position allows body movements upwards only. Such movements lead to weight changes with a small peak group in which the 1st peak, due to an increase of weight, has a positive value, followed by negative and positive subsequent peaks each with damped, i.e. decreasing intensities until the baseline again is reached. A typical example shows the peak group marked with A, see for details of signs and peak intensities in the upper Figure. Most peaks in this measurement follow this course and therefore are based on purely mechanical body movements which can occur during the practise of Yogic Flying.

The two peaks marked as B and C, however, do not follow this pattern. As can be seen on the enlarged peak C in the lower Figure, only a relatively weak positive 1st peak (with only +26% share of the total peak group) occurs, followed by an essentially stronger negative 2nd peak (with a greater proportion of –60%!) before the weight change of the person after a dampened positive 3rd peak (with +14%) returns to the baseline, see also the information given in the upper Figure. A strong body movement, such as hard beating downwards of hands or arms did not happen in the test. Therefore the decrease of weight by –14.9 kg at peak C cannot be explained as resulting from purely mechanical movements. The two peaks B and C, and some other smaller peaks, indicate that during the subjective exercise of Yogic Flying by the person seated on the scale, weight diminishing, non-classical levitation effects have occurred, that could be measured objectively in the experiment. This corresponds to the comments in the text, that Yogic Flying results from the enhanced absorption of field-quanta of subtle matter with negative sign by the person practicing Yogic Flying. About such quanta with a negative sign it is known from the experiments, however, to have negentropic healing power, i.e. causing material and subtle metabolic psychosomatic regeneration effects when acting in higher intensity on a living system, see Fig. 21, but also Fig. 44 and 45, as well as the information box „Meditation“. Since the regenerative effect of these absorbed field quanta reaches spatially far beyond the gross body the results in Fig. 42 and 43 will also be understandable.

Klaus Volkamer, 15 July 2010, dr.volkamer@yahoo.de

"It needed a scientific age for the world to appreciate the significance of the philosophy of Yoga and its practical application in creating integrated individuals, integrated nations, and an integrated world family. Yoga means union, the union of the individual awareness with the unified field of all the laws of nature in the state of Transcendental Consciousness. 'Yogic Flying' demonstrates the ability of the individual to enliven the total potential of natural law in all its expressions – mind, body, behavior, and environment. Yogic Flying presents in miniature the flight of galaxies in space, all unified in perfect order by Natural Law."

Maharishi Mahesh Yogi

The scientific research on the benefits of transcendental meditation

More than 600 independent research studies, conducted at 250 institutions in 33 countries, document the comprehensive benefits of Transcendental Meditation. Many of these studies demonstrate the benefits in the field of health (for a selection of scientific literature and short summaries, see Appendix 2):

- Reduction of high blood pressure, systolic and diastolic
- Improvements in coronary heart disease
- Reduced serum cholesterol
- Decreased mental and physical effects of stress: e.g. reduced workload on the heart, breath rate, blood lactate, stress hormones, galvanic skin response, and susceptibility to disease; and increased physical relaxation.
- Improved brain function and increased blood flow to the brain
- Reduced headaches and migraine
- Relief in patients with bronchial asthma
- Decreased sleeplessness
- Reduced consumption of alcohol, nicotine, and drugs
- Reduced anxiety, depression, and neuroticism
- Reduced health costs: for example 50% less hospital admissions, with reductions of up to 87% in some disease categories.

Metabolic and functional indicators of deep relaxation during transcendental meditation

The technique of Transcendental Meditation produces physiologically measurable relaxation, right from the first session. During the initial course of instruction, every practitioner learns to recognize for himself the physical criteria of deep relaxation, and thus to evaluate subjectively the correctness of his own practice. One special feature of Transcendental Meditation is that the level of physical and mental relaxation becomes progressively deeper as the months go by – a fact which has been established through research comparing long-term meditators with practitioners which had been meditating for only a short time.

- Kemmerling, T.: Wirkung der Transzendentalen Meditation auf den Muskeltonus. Psychom - etrie (4): 437-438, 1978
- Robert K. Wallace: Physiological Effects of Transcendental Meditation.Science 167, pp. 1751-1754, 1970
- Bennett, J.E.; Trinder, J.: Hemispheric laterality and cognitive style associated with Transcen - dental Meditation. Psychophysiology 14: pp.293-296, 1977
- Pagano, R.R.; Frumkin, L.R.: The effect of Transcendental Meditation on right hemispheric functioning. Biofeedback and Self-Regulation 2(4): pp.407-415, 1977
- Orme-Johnson, D.: EEG-coherence during transcendental consciousness. Electroencepha - lography and Clinical Neurophysiology. 43(4): pp.581-582(Abstract), 1977

- Jevning, R.; Wilson, A.F.; Smith, W.R.: The Transcendental Meditation technique, adrenocorti cal activity and implications for stress. Experentia 34: 618-619, 1978
- Jevning, R.; Wilson, A.F.; Vanderlaan, E.F.: Plasma prolactin and growth hormone during meditation. Psychosomatic Medicine, 40(4): 329-333, 1978
- Jevning, R.; Wilson, A.F.; O'Halloran, J.P.: Muscle and skin blood flow and metabolism during states of decreased activation. Physiology and Behaviour 29(2): 343-348, 1982

Bronchial asthma

Lung function tests on healthy individuals have established that during the practice of Transcendental Meditation airway resistance is significantly lower, and that oxygen consumption and breath rate are reduced. In contrast, none of these changes were seen in the control group who was merely sitting and relaxing.

Corresponding effects have been noted in patients with bronchial asthma: After just three months of regular practice, asthmatic patients showed significant improvements in airway resistance, both according to the assessment of the doctor and according to the patients themselves.

Doctors have frequently observed in their practice that the majority of patients with bronchial asthma exhibited markedly fewer asthma attacks after just a few months of regular meditation and that these attacks were of lesser intensity. They also noted that over a period of six months to one year many patients became completely free of symptoms.

- Ronald W. Honsberger, Archie F. Wilson: The Effect of Transcendental Meditation upon Bronchial Asthma, Clinical Research, vol. 21, 1973, p. 278
- Archie Wilson, Richard Honsberger, John Chiu, Harold Novey: Transcendental Meditation and Asthma, Respiration, vol. 32, 1975, pp. 74-80 (Karger, Basel, 1975)
- Ronald Honsberger, Archie Wilson: Transcendental Meditation in treating Asthma, Respira - tory Therapy; The Journal of Inhalation Technology, vol. 3, 1973, pp. 79-80
- Wolkove, N.; Kreisman, H.; Darragh. D.; Cohen, C.; Frank, H.: Effect of Transcendental Medita - tion on breathing and respiratory control. Journal of Applied Physiology: Respiratory, Envi - ronmental and Exercise Physiology 56(3): 607-612, 1984

Insomnia

In one study, subjects who had been practicing Transcendental Meditation for only 30 days showed a reduction in average time taken to fall asleep, from 75 minutes to 15 minutes. In monthly follow-up checks for up to one year after starting Transcendental Meditation, this effect was shown to be sustained. In the doctor's practice this effect is often seen not only in patients who had difficulty falling asleep, but also with all forms of insomnia. Doctors report that a large proportion of patients, even those who have used medication for years, for various kinds of sleep disturbances, can return to a pattern of healthy, refreshing sleep as a result of regular practice of TM.

- Miskiman, D.E.: The Treatment of Insomnia by the Transcendental Meditation Program. Grad-

uate Department of Psychology, University of Alberta, Edmonton, Alberta, Canada, 1972
- Miskiman, D.E.: Long-term effects of the Transcendental Meditation in the treatment of in somnia. Graduate Department of Psychology, University of Alberta, Edmonton, Alberta, Canada, 1975

Essential hypertension, coronary heart disease and hypercholesterolemia

It is particularly rewarding for a doctor to recommend Transcendental Meditation to hypertensive patients as an adjunct to conventional treatment. The reduction in both systolic and diastolic blood pressure that has been established by extensive scientific research, can often be seen within days or weeks after starting the practice of Transcendental Meditation.

In the first months after starting Transcendental Meditation, it may be useful to emphasize to the patient that he should practice the technique regularly, i.e. twice a day. The experience of many general practitioners is that patients who do Transcendental Meditation only once a day generally have less success in reducing hypertension. Just after starting the practice of Transcendental Meditation it may be necessary to monitor the blood pressure quite frequently, so that the patient's medication can be adjusted in response to the relatively rapid normalization of blood pressure. The reduction of high blood pressure through the regular practice of Transcendental Meditation gradually develops over time. Long-term meditators (more than 5 years of practice) showed significantly lower blood pressure than short-term meditators.

Patients suffering from angina pectoris showed significantly better performance in a stress exercise test after 6-8 months of practicing TM (duration of exertion, start of ST depression, maximum ST depression, results of coronary angiography). The TM group also reported reduced use of nitroglycerine.

In line with the above research findings, patients in the doctor's practice reported a clear reduction in angina pectoris symptoms in daily life. Risk factors which lead to arteriosclerosis are reduced through the practice of Transcendental Meditation. Reductions in serum cholesterol have been shown, along with reduction of obesity and nicotine consumption.

- Schneider, R., Staggers, F., Alexander, C., Sheppard, W., Rainforth, M., Kondwani, K., Smith, S., King, C.: A randomized controlled trial of stress reduction for hypertension in older African Americans: Hypertension, 26: pp. 820-827, 1995
- Alexander, C., Schneider, R., Staggers, F., Sheppard, W., Clayborne, B., Rainforth, M., Salerno, J., Kondwani, K., Smith, S., Walton, K., Egon, B.: Trial of stress reduction for hypertension in older African Americans II – sex and risk subgroup analysis. Hypertension, 28: pp. 228-237, 1996
- Benson, H., Wallace, R.K.: Decreased blood pressure in hypertensive subjects who practiced meditation. Circulation, Supplement II to vols. 45 and 46, p.516,1972
- Blackwell, B., Hanenson, I.B., Bloomfield, S.S., Magenheim, H.G., Nidich, S.I., Gartside, P.: Effects of Transcendental Meditation on blood pressure: A controlled pilot experiment. Psy chosomatic Medicine 37 (1): 86 (Abstract), 1975
- Jevning, R., Smith, R., Wilson, A.F., Morton, M.E.: Alterations in blood flow during Transcen - dental Meditation. Psychophysiology 13, 168, (Abstract), 1976

- Wallace, R.K.; Silver, J.; Mills, P.J.; Dillbeck, M.C.; Wagoner, D.E.: Systolic blood pressure and long-term practice of the Transcendental Meditation and TM-Sidhi program: Effects of TM on systolic blood pressure. Psychosomatic Medicine 45(1): 41-46, 1983
- Cooper, M., Aygen, M.: Effect of Transcendental Meditation on Serum Cholesterol and Blood Pressure. Harefuah, the Journal of the Israel Medical Association, vol. 95, no.1, 1978, pp. 1-2
- Cooper, M., Aygen, M.: Transcendental Meditation in the Management of Hypercholesterolemia, Journal of Human Stress, vol. 5, no. 4, Dec. 1979, pp. 24-27
- Weldon, J.T.; Aron, A.: The Transcendental Meditation Program and normalization of weight. Department of Psychology, Maharishi University of Management, Fairfield, Iowa, 1974

Reduction of anxiety, depression, and neuroticism; increase of positive personality characteristics

The scientific research on Transcendental Meditation includes a large number of psychological studies, conducted by different research teams over the past three decades, using personality tests that are most current in each country. Taken together these research studies document the increase in psychological stability within a wide range of personality variables, as well as the TM-meditator's growing tolerance of stress. Transcendental Meditation is thus recommended especially for people with recurring infections, psycho-physiological overload, and, in addition to disturbances that are purely psychological or neurological, also for all types of problems that are aggravated by the many stresses of everyday life.

- McIntyre, M., Silverman, F., Trotter, W.: Transcendental Meditation and stuttering: A prelimi nary report, Perceptual and Motor Skills, vol. 39, 1974, p. 294.
- Ferguson, P.C., Gowan, J.C.: Psychological findings on Transcendental Meditation, Journal of Humanistic Psychology, vol. 16, no.3, pp.51-60, 1976.
- Dillbeck, M.: The effect of the Transcendental Meditation technique on anxiety level, Journal of Clinical Psychology, vol. 33, no. 4, pp. 1076 - 1078, 1977.
- Seeman, W., Nidich, S., Banta, T.: Influence of Transcendental Meditation on a measure of self-actualization. Journal of Counseling Psychology 19,: pp.184-187, 1972.
- van den Berg, W.P., Mulder, B.: Psychological research on the effects of the Transcendental Meditation technique on a number of personality variables. Tijdschrift voor Psychologie (Behaviour: Journal for Psychology) 4, pp. 206-218, 1976.
- Brooks, J.S.; Scarano, T.: Transcendental Meditation in the treatment of post-Vietnam adjust ment. Journal of Counseling and Development 64: pp 212-215, 1986.

Reduced levels of physiological stress and improved ability to cope with everyday life

The subjective improvement in quality of life, which is measurable psychologically, has its corresponding physical parameters showing that a state of deep relaxation is gained during the practice of Transcendental Meditation. A wide range of physiological indicators associated with stress point

to an endocrinologically measurable state of relaxation (e.g. blood lactate, serum cortisol, serotonin, noradrenalin, dopamine, plasma-phenylanaline, plasma-prolactin hormone, growth hormone, and skin resistance). A significant feature of Transcendental Meditation is that these parameters of physical relaxation are found not only during the practice itself, but also increasingly in daily life (as seen with patients who have been practicing the technique regularly for some time). At the same time, there is no loss of alertness or intellectual capacity: on the contrary, these are actually found to increase relative to non-meditators.

- Overbeck, K.-D.: Auswirkungen der Technik der Transzendentalen Meditation ™ auf die psy chische und psychosomatische Befindlichkeit. Psychotherapie, Psychosomatik, Medizinische Psychologie. 32(6): 188-192, 1982
- Bevan, A.J.W.; Young, P.M.; Wellby, M.L.; Nenadovic, P.; Dickins, J.A.: Endocrine changes in re laxation procedures. Proceedings of the Endocrine Society of Australia, 19: 59 (Abstract), 1976
- Bujatti, M,; Riederer, P.: Serotonin, noradrenaline, dopamine metabolites in the Transcenden tal Meditation technique. Journal of Neural Transmission 39,: pp. 257-267, 1967
- Jevning, R,; Wilson, A.F.: Altered red cell metabolism in TM. Psychophysiology 14: 94 (Ab stract), 1977
- Jevning, R,; Pirkle, H.C.; Wilson, A.F.: Behavioural alteration of plasma phenylanaline concen tration. Physiology and Behavior 19, pp. 622-614, 1977
- Kanellakos, D.P.: Transcendental consciousness: Expanded awareness as a means of prevent ing and eliminating the effects of stress. Stress and Anxiety, ed. Spielberger and Sarason, vol. 5, pp. 261-315, 1978

General increase in health

One study compared the utilization of medical insurance in the USA of about 2,000 people who were regularly practicing Transcendental Meditation with the average of all the 600,000 people insured with the same carrier. Hospital admissions were, on average, 56% lower among the meditators. There was also a marked reduction in occurrence of the 20 most common disease categories: a reduction of 87% for cardiovascular disorders, 55% for tumors, 87% for diseases of the nervous system, and 73% for nose, throat and lung disorders. It is worth noting that the TM group had the same statistical health status before learning TM as the non-meditating control group.

Reduced consumption of alcohol, nicotine, and drugs

One of the side-benefits of the practice of TM is that, over time, practitioners begin to exhibit more health-conscious behaviour. Many research studies have shown a spontaneous reduction in the consumption of cigarettes and alcohol, as well as a significant reduction in the use of non-prescribed drugs. This has been successfully applied in the treatment of addictions in many institutions.

Even patients who have been smoking heavily, find that they gradually – or sometimes suddenly – reduce their nicotine consumption, and, interestingly enough, this takes place without the usual

withdrawal symptoms. It goes without saying that this makes Transcendental Meditation an effective method to reduce risk factors for many diseases, provided that the patient practices the technique with some degree of regularity.

- Gelderloos, P., Walton, K., Orme-Johnson, D., Alexander, C. Effectiveness of the Transcen dental Meditation programme in preventing and treating substance misuse: a review. International Journal of the Addictions, 26(3): pp293-325, 1991
- Alexander, C., Robinson, P., Rainforth, M.: Treating and preventing alcohol, nicotine, and drug abuse through Transcendental Meditation: a review and statistical meta-analysis. Alcohol Treatment Quarterly, 11: 1-2, pp 187-220, 1994.
- Stutz, E.: Transzendentale Meditation in der Behandlung Drogenabhängiger. Das öffentliche Gesundheitswesen, 39,: 759-766, 1977
- Kniffki, K.-D.: Transzendentale Meditation – TM u.a. eine nicht-chemische Methode gegen den Drogenmissbrauch. Niedersächsisches Aerzteblatt 44(24): 805-809, 1971
- Geisler, M.: Therapeutische Wirkungen der Transzendentalen Meditation auf Drogenkonsu menten. Zeitschrift für klinische Psychologie 7(4): 235-255, 1978
- Wallace, R.K. et al.: Decreased drug abuse with Transcendental Meditation: A study of 1,862 subjects. Drug Abuse: Proceedings of the International Conference, ed. Chris J.D. Zarafonetis, pp. 369-376. Philadelphia: Lea and Febiger, 1972
- Shafii, M. Lavely, R.A., Jaffe, R.: Meditation and the prevention of alcohol abuse. American Journal of Psychiatry 132: pp. 942-945, 1975
- Shafii, M. Lavely, R.A., Jaffe, R.D.: Meditation and marijuana. American Journal of Psychiatry 131: pp. 60-63, 1974
- Aron, E.N.; Aron, A.: The patterns of reduction of drug and alcohol use among Transcendental Meditation participants. Bulletin of the Society of Psychologists in Addictive Behaviours 2(1): 28-33, 1983

Seven steps of learning transcendental meditation

The first step is an introductory lecture which gives a vision of possibilities for personal development through the Transcendental Meditation programme. In the second step, one gains knowledge of the mechanics of the technique which is distinctly different from any other program (this also includes knowledge of the origin of Transcendental Meditation, with its roots in the age-old Vedic tradition). The third step is the private interview. In this step the teacher can become acquainted with those who are about to start the TM technique, allowing e.g. for some personal points to be addressed. Steps four, five, six and seven are instructions in the actual practice itself. This is always done on four consecutive days involving about 1-2 hours each day. On the first day of instruction (the fourth step overall), the person sits with the teacher and receives personal and private instructions. Then the person returns on each of the following three days for verification of experiences and additional instructions, which are only meaningful in the light of the actual experiences with the practice of the TM technique. The theme of the fifth step is verification and validation of the practice. The theme of the sixth step is verification and validation of personal experiences – the effects of Transcendental Meditation on mind and body. The theme of the seventh step is a vision of the goal: evolution, freedom and fulfillment through the development of higher states of consciousness.



CHAPTER 8

AYURVEDA

Ayurveda is the science of life. It consists of various therapeutic approaches relating to the human physiology. Each of these approaches, ranging from the simple lifestyle recommendations to directly focused treatment interventions, should be individually tailored to address the unique make-up of imbalances in a person's psychophysiology.

The purpose of Ayurveda is to maintain balance. Balance is the natural state of life. Life is always balanced because the basic characteristic of its fundamental element, the Unified Field of all the laws of nature, is complete balance. In the process of expression of the Unified Field, consciousness becomes matter and matter assumes different characteristics. In this process imbalances come along, breaking down the coordination between mind and some aspect of the body. This breaking of coordination is also a natural process. We have seen how the threefold structure of the Veda – Rishi, Devata and Chhandas – breaks from their state of unity. This is a "spontaneous, dynamic symmetry breaking", as it is called in quantum field theory. Because this breaking of symmetry is a natural phenomenon, imbalance is also a natural phenomenon. Balance is a natural phenomenon and imbalance is also a natural phenomenon. Balance is a state of satisfaction. Deviation from balance is dissatisfaction. Anywhere in the process of manifestation of intelligence into matter or in the reaction of matter with matter, anywhere in those space-time boundaries where the self-referral condition is unavailable, there is pain and suffering. The knowledge of Veda is firstly for prevention and the secondly for cure. The primary aim of Ayurveda is to maintain the whole brain physiology so that the mutually functioning brain elements generate a very coherent state of consciousness. Consciousness should be so coherent to also comprehend the underlying unity, when it comprehends the surface value of multiplicity.

In Ayurveda "health" is defined as follows:

Samadoshah samagnish ca samadhatumalakriyah prasannatmendriyamanah svastha ity abhidyate.
"Health is when the digestive fire (agni) is in a balanced condition; the bodily humors (vata, pitta and kapha) are in equilibrium, the three waste products (urine, feces and sweat) are produced and eliminated normally, the seven bodily tissues (rasa, rakta, mamsa, meda, asthi, majja and shukra/artava) are functioning normally, and the mind, senses and consciousness are working harmoniously together."

– Sushruta Sutrasthanam 15,41

When the balance of these systems is disturbed disease or disorders begin. Vitiated doshas produce dullness in Agni (gastric or other fire) through which Ama (immature, undigested food substance) is caused. Ama dosha traveling in the body gets stuck and obstructs the channels of circulation and disease is caused. The intrinsic cause of disease is Ama. Panchakarma is best for removing Ama.

According to Ayurveda, every human being is a unique phenomenon of Cosmic Consciousness. The principle of biologic individuality is central to Ayurvedic diagnosis and treatment. There is an unseen but well perceived link between mind and body exerting a deep and powerful influence over the body in terms of health and longevity. Disruption of homeostasis or immune mechanisms is the primary factor in the etiology of disease. Mental and emotional factors are critical to the development of these diseases.

Ayurveda has identified the points of connection between mind and body. The specific meeting point of mind and body is a constellation of unique psycho physiological characteristics that constitutes the individual. According to Ayurveda, three irreducible physiological principles called doshas regulate the different functions of mind and body. In Sanskrit, the three doshas are called Vata, Pitta and Kapha. Although the doshas regulate thousands of separate functions in the mind/

body system, they are recognized as having three basic functions. Vata (ether plus air), pitta (fire plus water) and kapha (water plus earth) are called the tridosha, meaning the three humors or the three organizations of the body, which are also derived from consciousness.

Vata dosha represents motion and flow. Physiologically, it is at the basis of respiration, circulation and neuromuscular activity. A vata imbalance predisposes to diseases of the nervous system, chronic pain, cardiac arrhythmias, rheumatic disorders, constipation, anxiety and insomnia.

Pitta dosha directs all metabolic activities, energy exchange and digestion. A pitta imbalance predisposes to peptic ulcers, hypertension, inflammatory bowel diseases, skin diseases and allergic reactions. It is also responsible for anger, envy and jealousy.

Kapha dosha represents structure and cohesion and fluid balance. A kapha imbalance predisposes towards diseases of the respiratory system, sinusitis, diabetes mellitus, obesity, atherosclerosis and tumors. It is also responsible for feelings of attachment and greed.

Knowing the psycho - physiological type can help the allopathic physicians diagnose existing disorders and predict risk for future illness.

The balance of vata, pitta and kapha is a natural state of order. Thus, when this doshic balance is disturbed, it creates imbalance which is disorder. Health is order and disease is disorder. Within the body there is a constant interaction between order and disorder, thus once one understands the nature and structure of disorder, one can re-establish order. The principal means of assessing an individual's unique dosha proportions and current state of dosha imbalance is nadi vigyan or pulse diagnosis. The pulse provides a channel through which one can learn not only about the state of the bodily organs, but also about the interaction and balance of the energies in the mind-body complex. For prevention of disease we must help the body to eliminate toxins. For that, Ayurveda suggests putting the person on a proper diet, with an appropriate lifestyle, habits and the practice of asana, pranayama, meditation, as well as administering a proper cleansing program such as panchakarma.

The twenty approaches of Maharishi ayurveda

Maharishi Ayurveda promotes balance in body and mind and incorporates a range of twenty complementary approaches to maintain perfection in all areas of life, including health on the psychological, physiological and emotional levels. The twenty approaches of Maharishi Ayurveda are:

- Consciousness: Development of higher states of consciousness through Maharishi's Tran - scendental Meditation programme, its advanced techniques, and the TM-Sidhi programme.
- Primordial Sound: Use of the primordial sounds of Samhita, the four aspects of Veda and their Vedangas and Upangas, to eliminate imbalances in the functioning of human nature and nature as a whole.
- Intellect: To correct the mistake of the intellect, pragya-aparadha, so that the totality of the unified structure of life is perceived, while also perceiving its diversified expressions. In this state of knowledge of the self, disease cannot flourish because life is intimately connected with the source of Natural Law.
- Emotions: Strengthening the finest level of feeling to fully develop the emotions.
- Language: Using Vedic principles of the structure of language to promote balance and in tegrity in mind and body.
- Gandharva Veda: Traditional music therapy using sound and melody to restore harmony in the physiology and to eliminate the imbalances responsible for disease.
- Senses: Vedic procedures to enliven perfect balance in all areas of life through the senses.
- Psychological integration: Restoration of homeostatic balance in the physiology and psy - chology.
- Neuromuscular integration: Vedic exercises pertaining to the acceleration of neuromuscular co-ordination to restore integrated functioning at all levels of life.
- Neurorespiratory integration: Vedic exercises pertaining to the physiology of breathing to restore an integrated functioning at all levels of mind and body.
- Panchakarma program: Physiological purification – sophisticated purification procedures applied at regular intervals, to eliminate and prevent accumulation of physiological impurities.
- Diet: Appropriate dietary measures to support the restoration of physiological balance for prevention and treatment of disease.
- Herbs and minerals: Medicinal flora and minerals from every country to bring perfect bal ance to the functioning of mind and body. The principle of complementarity in Maharishi Ayur Veda holds that the sequence of biological information as stored in plants corresponds to the sequence of biological information in the human physiology. These preparations act like special biological “software” that supplies the essential program to reestablish balance in the source code of the system. In this way the body can automatically correct any imbalance that might lead to disease. When biological information is highly ordered and integrated, the result is physiological balance – a state in which the parts of the organism are functioning in an integrated and harmonious equilibrium.
- Rasayanas: Sophisticated herbal and mineral preparations formulated for the prevention and cure of disease and the promotion of longevity. These preparations include food supplements which are designed to promote balance in specific areas of the physiology based on the individual's psychophysiological type and particular imbalances.
- Behaviour: Bringing behaviour in accord with Natural Law through daily and seasonal routine.
- Pulse diagnosis: Detecting any existing or forthcoming imbalances simply by feeling the pulse.

- Jyotish: Securing perfect health for the future; mathematical prediction on environmental influences on health.
- Yagya: Vedic performances to restore environmental balance and promote individual and collective health.
- Environment: Creating collective health through the TM and TM-Sidhi programme, so that society provides a nourishing and strengthening environment, for the individual to rise to perfect health.
- World health/World peace: Group performance by 9000 experts in Maharishi's Transcendental Meditation and TM-Sidhi programme, to create coherence in world consciousness, the basis of world peace and collective health on a global scale.

Yoga and Ayurveda

Yoga and Ayurveda are connected. One without the other will not give complete results. Ayurvedic medicines will not be as effective, if the five pranas (prana, apana, samana, udana, vyana) are not enlivened in the physiology through the yogic practice of asana and pranayama. Yoga and Ayurveda are like brother and sister. Yoga is part of Ayurveda and Ayurveda is part of Yoga. Yoga is for spiritual development and Ayurveda is for regaining health. Yoga is important for dissolving physical stress and calming the mind before meditation and is central to dinacharya, the Ayurvedic routine. It is the ideal Ayurvedic exercise, because it rejuvenates the body, improves digestion, and removes stress. Yoga balances all three doshas, with different poses having different effects. Forward bending postures cool Pitta dosha. Twists are good for Kapha because they stimulate digestion. Backward bends are heating, and thus balancing for Vata types, as long as the person has the strength to do them. Yoga postures tone every area of the body, and cleanse the internal organs of toxins, thus supporting one of the goals of Ayurveda. At the same time, yoga practitioners can benefit from the Ayurvedic daily routine as part of their yoga practice. For instance, abhyanga (Ayurvedic massage) helps remove toxins from the body and relaxes the muscles for the practice of yoga. It is good to massage the body with sesame oil and then do asanas while oil is still on the body. Then the oil has a more cleansing effect. After the practice of asana, take a shower and then do pranayama and meditation.

Without a foundation in Ayurvedic knowledge, Hatha Yoga runs a risk of becoming just pure physical exercise. Yoga aims to cleanse the nadis or channels, with different asanas and pranayamas. But trying to do that without using the ayurvedic principles for removing ama is not efficient. That's why traditional yoga has always taught Ayurvedic principles as well as yoga asanas, because the two are so interdependent. If someone is doing asanas, he is starting to dislodge ama (digestive impurities) in the body. But if he maintains a lifestyle and diet that creates ama, all he is really doing is moving his ama (sludge) around. The yoga practitioner needs to know how to detoxify through the dietary, lifestyle, and purification practices of Ayurveda. For treating imbalances of Vata, Pitta and Kapha, yoga recommends certain pranayamas and certain mantras for Vata, Pitta and Kapha. Then the balancing effect is very strong. Also, certain charitable activity (Danam) are recommended, according to the latent impressions (Vasana) of the person, caused by her past actions (Karma), which in turn have caused the present health problems.

The basic principles of Ayurveda

In Ayurvedasutram (ancient text written on palm leaves in the 16th century) great emphasis is on fasting and long and subtle breathing (Pranayama), as a sure means to both cure and prevent all those diseases which are found to defy the power of drugs in the form of churna, taila, lehya, or rasayana. No other Indian medical work, ancient and modern, attaches that much efficacy to the theory of fasting and Pranayama, coupled with natural “Rasa diet” (food items which are very nourishing so that no Ama is created).

Fasting – abstinence of food until natural hunger calls for it – is the best way to bring about recovery from disease. Proper fasting (such as 1 day per week) gives the stomach some rest from all its work and thereby improves digestion, absorption of nutrients, and circulation of the blood all over the body, thereby refreshing the cells and giving them more nourishment.

According to Ayurveda, all diseases are due to Ajirna, indigestion, which in turn is brought about by the accumulation of mucus (Ama) in the alimentary canal. Through proper fasting, Ama is removed from the body, digestion is improved, and disease is cured.

Ayurvedasutram places great emphasis on Yoga practices, acknowledging the intimate connection between Yoga and Ayur-Veda. Emphasis is laid on the experience of Samadhi, Yogic one-pointedness of mind, with regulation of breathing (Pranayama), in view of getting rid of bodily ailments. In connection with this topic, the first two Padas of Patanjali's Yoga Sutra are intermingled with the Ayurvedastutram and a few sutras of the first Pada of the Yogasutra are scattered here and there in the first five Prasnas of the Ayurvedasutram. Ayurvedasutram goes to the length of saying that the only means to eradicate diseases defying drugs and to attain a long life and final emancipation is through Pranayama, long and subtle breathing, as taught in Yoga.

Creation of the Universe

Ayurveda and Sankhya give a clear picture of the sequential order of the creation of the Universe. According to Ayurveda, the source of all existence is universal Cosmic Consciousness, which manifests as male and female energy. Purusha, often associated with the male energy, is pure existence, the infinite silence of the Absolute level of life. Prakriti, the female energy, is the intelligent, dynamic aspect of the same reality. These two energies are present in all living organisms, including every man and woman, as well as all inanimate objects. Purusha takes no active part in creation but remains a silent witness. Prakriti which has form, color, and attributes, is the divine creative will that dances the dance of creation. Prakriti is the one that becomes many. Purusha is the lover, Prakriti is the beloved. Creation of this universe happens through their love. All of nature is the child born from the womb of Prakriit, the Divine Mother.

In the manifestation of nature from Prakriti, the first expression is Mahat, intelligence or cosmic order. In human beings it is referred to as buddhi (intellect). Next is Ahamkar or ego, the sense of self-identity, the center in our individual consciousness from where we think, act, and react. Ahamkar expresses itself in three universal qualities: Sattva (stability, purity, wakefulness, essence, clarity and light), Rajas (dynamic movement, causing sensations, feelings, and emotions), and Tamas (the tendency towards inertia, darkness, ignorance, and heaviness). Tamas is responsible for deep sleep and periods of confusion. It also leads to the creation of matter. According to Vedic Science, Sattva corresponds to the Rishi value of Samhita (Absolute level of life), Rajas corresponds to the Devata value of Samhita, and Tamas corresponds to the Chhandas value of Samhita.

From the essence of Sattva are born the mind (manas), the five sense faculties (tanmatras) and their organs (jnanendriyani – ears to hear, skin to perceive touch, eyes to see, tongue to taste, nose to smell), as well as the five motor organs or organs of action (karmendriyani): the mouth (for speech), the hands, feet, reproductive organs, and organs of excretion. Rajas is the active force behind the movement of both the sensory and motor organs. Tamas gives rise to the five elements (mahabhutani), which form the basis of the material creation: space (akasha), air (vayu), fire (agni), water (jala), and earth (prithvi).

Man, a creation of Cosmic Consciousness, is considered to be a microcosm of the macrocosm (the universe). Whatever is present in the cosmos, the same is present in human beings. Man is the miniature of Nature.

The three main means of diagnosis in Ayurveda

Darshanam – observation (using the sense of sight), inspection, appearance

Sparshana – palpitation (using the sense of touch), pulse diagnosis, physical examination

Prashnam – questionnaire, including questions in relation with Darshanam and Sparshanam

Pulse diagnosis (Nadi Vigyan)

Maharishi describes Maharishi Ayurveda pulse diagnosis as follows:

"With the Maharishi Ayur Veda Pulse Diagnosis, the soul of the vaidya connects with and enters into the soul, the atman, of the patient. It connects at this level, the level of all life, and gets thrilled. It's like a sutra; it's like transcending, the thrill of bliss rises up. Then the heart and mind are filled with such welling-up of emotions and love and affection for the patient and that love is like the love of a mother for her child. She automatically knows what the cry of the child represents. On the ground of that balanced consciousness of the vaidya, in the great love for the patient, the vaidya detects the imbalance and immediately prescribes the remedy. By this means the vaidya never gets tired, he is drawn to his patients, he gains from them. Just like the teacher gains more than the student, the vaidya gains more than the patient".

– Maharishi Mahesh Yogi

Rasayana

Rasayana substances rebuild the body-mind, prevent decay, and postpone aging. They may even help reverse the aging process. Their action sustains the optimal form and function of the various organs, dhatus and doshas in the body. Rasayana treatment includes special herbs, but goes far beyond the bounds of any ordinary medical treatment. It includes meditation (Brahma Rasayana) which is the real catalyst for this process.

According to Ayurveda, plants possess Soma, which is the ambrosia or nectar of immortality. It is also the subtle invigorating fluid, Ojas, the innermost sap of the body. Soma (Ojas) is the basis for clarity of perception, physical strength, endurance, and longevity of the tissues. Typical Rasayanas include:

- For Vata: ashwagandha, calamus, garlic, ginseng, guggul, haritaki.
- For Pitta: aloe vera, amalaki, comfrey root, gotu kola, saffron, shatavari.
- For Kapha: bibhitaki, elecampane, guggul, pippali.
- Other rasayanas: angelica, bala, licorice, manjishta, marshmallow, myrrh, oatstraw, onion, rehmannia, saw palmentto, sesame seeds, Solomon's seal, spikenard, vamsha rochana, vidari kanda, wild yam.

Vajikarana

Vajikarana is a special branch of ayurveda, which deals with impotency and sterility. Most of these diseases are psychosomatic diseases. Impotency may be due to some psychological "error" or some physical anomaly or both. Sometimes this may be due disharmony between the two partners. Vajikarana is the subject that deals with enabling an individual to have better potency and to fight out sterility and bring about fertility. Vajikarana is an aphrodisiac therapy which enables one to get offspring, increases sexual stimulation and helps to perform the act for a long time. It helps promote fertility and semen production in elderly people. "Vaji" means horse. Vajikarana deals with substances that give the power or vitality of a horse, particularly the horse's great capacity for sexual activity. More commonly, one could call them aphrodisiacs. Vajikaranas reinvigorate the body by reinvigorating the sexual organs.

Formulations and aphrodisiacs: Vajikarana grita, Aswaganda, Vrushya kukkuta mamasa prayoga, Vrushya anda prayoga, Dadhisara prayoga, Vrushya pippali prayoga, Vrushya Satavary grita. The factors which are sweet, unctuousness, life giving, nutritious, heavy and delightful to the mind are considered to be aphrodisiacs. Many aphrodisiacs increase Kapha, while some which are hot and pungent increase Pitta.

Ayurveda also discriminates those herbs that enhance spermatogenesis. These are substances that are nutritive tonics to the reproductive secretions, like semen and breast milk. Such nutritive aphrodisiacs include: angelica, aswagandha, ghee, ginseng, licorice, lotus seeds, marshmallow, onions (raw), rehmannia, saw palmetto, sesame seeds, shatavari, Solomon's seal, sugar (raw), wild yam. Those aphrodisiacs whose nature is sattvic, and are strong in energy, also enhance Ojas. Such substances include aswagandha, ghee, lotus seeds and shatavari.

Bee pollen is considered "Shukra of the plants". It is very nourishing for the human physiology and helps create Ojas. Taking one teaspoon, mixed with some honey, on an empty stomach is an excellent tonic. It is said that the ancient Greek athletes were using bee pollen to naturally enhance their performance.

The potency depends on physical strength, shukra, and cheerfulness of the mind. The semen or reproductive tissue (shukra) is the essence of all the dhatus, the cream of all the tissue-elements in the body. It contains the power to create life. This means not only the capacity to bring a new life into existence, to create a child, but also to renew one's own life, to return our cells to the vigour of youth. That same life-creating energy, if directed inwards, can aid in the renewal of both body and mind. Semen is the Soma of the body which, if catalyzed in the right way, by Rasayana and Vajikarana substances, brings about the renewal of the mind. In a similar way it helps strengthen the bones, muscles, ligaments and blood.

Properties of Shukra (Reproductive tissue): Abundantly viscous, sweet, unctuous, heavy, slimy, white and profuse and semen free from bad odor is said to be fertile. Shukra is pervasive all over the body just like the juice in the sugar cane, ghee in butter, oil in sesame seeds. The purpose of Shukra is the production of an embryo.

Characteristics of a body with fully developed essence of Shukra are: Gentleness, gentle look, eyes as if filled with milk, cheerfulness, unctuous, round, strong, even, beautiful teeth, clear and unctuous complexion and voice, and dazzling appearance. Such a Person is loved by the opposite sex and is strong, happy, powerful, healthy, wealthy, and honorable and has children. Such a person has virya – creative life power.

Vyadhi Kriyakala - stages of disease

According to Ayurveda, diseases progress through six stages of development. Kriyakala marks the period of active physiological changes and pathological progress in the body, with respect to season and disease (dushya and doshas). Throughout the pathological development in the body, there is commonly some involvement of the srotas, affecting the process of manifestation of disease.

Kriyakala is described in six phases (from subtle to gross):

- Sanchaya – accumulation of imbalances (dosha) in their own place
- Prakopa – aggravation of imbalances, manifests as preliminary symptoms
- Prasara – spreading of imbalances, dissemination in the body
- Sthana Samsraya – localisation in tissues and organs, Doshas will stick to Ama in a particular organ where Srotas are vitiated, symptoms start to manifest
- Vyakti – full manifestation of symptoms
- Bheda – disruption of physiological functions; disease becomes chronic or complications manifest (according to vitiated Dhatus or Doshas)

1. Sanchaya Kala – accumulation of imbalances:

- Sanchaya means that dohas get augmented and gradually begin to accumulate due to etiological factors, in their original sites e.g. – vata in intestines, pitta in stomach, and kapha in chest region.
- The person develops a desire for opposite foods and inclination for contrast regimens to that of cause. If the person responds to those signs adequately, he is likely to regain health.
- If one continues with the same causative factors, then one will go into next stage.

2. Prakopa – aggravation of imbalances:

- In this stage, the deposited doshas further begin to excite the system and hence cause the aggravation. At this phase they aggravate to the extent that they spread to other sites of their own and express the characteristics there. This is called unmarga gamana – "going in the opposite direction".
- Now doshas are more powerful than in the previous stage. In this condition the patient can resort to self remedies, instead of consulting a doctor. If the imbalances are not corrected at this point, the third stage of the disease process begins to occur.

3. Prasara – disseminating, actual spreading of imbalances:

If the patient fails to remedy the situation sufficiently and constantly indulges in the etiology, the excited doshas begin to exert pressure on the system (channels) and are encouraged to move to their own or other adjacent tracts. Sometimes they disseminate by diffusing to other doshic sites producing more powerful signs. The individual begins to feel the intensity and realizes that he/she should consult a physician. During this phase, the doshas move to all other body parts by circulating rasadhatu and aggravating the form of the disease.

Vata vikriti lakshanas (definition/specification of Vata disturbance):

- Symptoms of increased Vata include: skin color changes (ash color, dark colors, lack of glow); dryness; roughness; reduction of weight; flatulence (too much gas); numbness; squeezing pain; tremors; insomnia; cracking of feet and palms; stiffness; unrest of the eyelids (blinking);

constipation; weakness of organs of the senses; dizziness; general lack of strength; too much meaningless speech; mental abnormalities (nervousness, delirium, delusion, waveryness, unconsciousness); trembling of the body; need for hot things; wanting to cover the head at night; reduction of life span

- Symptoms of decreased Vata (similar to symptoms of increased Kapha): lack of motivation for work or wanting to move; intellect not functioning well; tiredness in the body; dullness; lack of appetite; anorexia; weak digestion; too little speech

Pitta vikriti lakshanas:

- Symptoms of increased Pitta include: Skin, hair, nails, and/or urine and stool become yel lowish and/or white of the eyes becomes yellowish or reddish (these are common symptoms of jaundice, indicating disturbance of the liver); lack of appetite; vomiting; not feeling thirsty; too much acidity (burning sensation between stomach and mouth); ulcers; sour taste when belching; interrupted sleep (insufficient sleep)
- Symptoms of decreased Pitta include (similar to symptoms of increased Vata): indigestion; feeling coolness in the body; lack of luster in the face

Kapha vikriti lakshanas:

- Symptoms of increased Kapha include: weak and slow digestion; lack of appetite; production of too much saliva; idleness, laziness; non-satisfaction and depression; heaviness in the body (especially in the head); paleness of the face, nails, and eyes; coolness; sluggishness; bronchitis; asthma; too much sleep; itching; cellulite
- Symptoms of decreased Kapha include: dizziness; dullness of the mind; lack of strength in all parts of the body that are governed by Kapha (e.g. lungs, which may lead to tuberculosis); stiffness and pain in the joints; increased heart-rate

4. Sthana Samsraya – localization in tissues and organs:

- In the former 3 stages the abnormal interaction of doshas with dhatus doesn't take place. If further progression of disease is not interrupted, then the vitiated doshas begin to enter the dhatus (tissues), starting with rasa dhatu. They may then interfere with the proper function of the shrotas and produce disease in the corresponding tissue. With their localization in certain tissues or organs in the fourth stage, imbalances will start to cause subtle subclinical impairment. The spreading of imbalances into the tissues and organs is caused by diminished ojas and further aggravation of the doshas.
- At the beginning agni vikara (impaired function of agni) occurs at the stomach level and produces ama (toxins). They enter the channels and cause blockages of the shrotas leading to roga – disease.
- This stage of the disease can be referred to premonitory symptoms of disease manifestation.

5. Vyakti – manifestation of symptoms of disease in the tissues and organs:

- In the fifth stage, subtle clinical impairment reaches the point of manifestation, when actual symptoms appear. Imbalance develops further and tends to exhibit its features prominently – signs and symptoms of the disease.
- The initiating local factor is usually a site specific factor and the external factor invades from other places and is thus considered very strong and extensively damaging. The therapeutics should be primarily targeted at the external factor. For example in Vatajwara – fever caused by vata, pitta is localized and vata is the external factor. In this case, Vata should be treated first, as it has a tendency to fan and spread the fever (fire) and thus further increase pitta.

6. Bheda – manifestation of disease and disruption of physiological functions:

- The sixth and final stage of the disease process consists of the disruption of physiological functions which, if not checked, will progress to the point of impairment, disability, or death. Imbalances may occur in 2 types: *"Prakriti sama samavaya"* (cause and symptoms are homogenous, i.e. there is a 1-to-1 correspondence of cause and symptoms) and *"prakriti vishama samavaya"* (cause and symptoms are heterogeneous, i.e. multiple tissues or organs may be affected by the same cause). The diversification (spreading) of the manifestation of disease occurs with the strong derangement of the function of dosha, dhatus, shrotas, and organs. In the absence of immunity this may lead to death. During the state of spreading of disease, the person becomes deprived of normal social living, confines himself to bed, and needs rest with proper care or sometimes may need supervision by experts.

  When all medical or surgical measures fails to restore health or the incurability and severity of disease is in an advanced stage or when the person is sure to succumb to death, then the following signs indicate that death may overcome the person in the near future.

  These signs are referred to as "Arishta lakshanas":

  - Roopa (sight) – changes in shape (extreme weakness and weight-loss), complexion becoming dark and without luster, and there may be visual hallucination
  - Rasa (taste) – extreme sensitivity (intolerance) to contrasting tastes or loss of taste (diminished function of the sense of taste)
  - Gandha (smell) – the body of the person starts emanating foul and offensive smells
  - Sparsha (touch) – highly diminished functioning of the sense of touch (lack of sensitivity)
  - Shabdha (hearing) – hallucinations through the sense of hearing (e.g. hearing voices)

Sapta Dhatus – seven bodily tissues or tissue elements

Once food has been digested into its nutritive essence (Ahara Rasa), it is metabolized by the body – assimilated to produce energy and growth – through a sequence of seven stages. Each stage involves a different tissue element (Dhatu): plasma, blood, muscle, fat, bone, bone marrow, and reproductive tissue. Through the stages of metabolism, the digested food becomes increasingly refined. If metabolism is complete and perfect at each of these stages, the associated aspects of body, mind, and behavior of the individual are fully developed and healthy, and the most refined, final product of metabolism (Ojas) is created. Ojas is the physical expression of Soma, the unifying value of intelligence, which connects body and mind, physical existence and consciousness.

Rasa – plasma, chyle. The first product of digestion and metabolism. Its function is to nourish.

Rakta – the cellular part of the blood. Erythrocytes, including hemoglobin. Its function is the maintenance of life activities.

Mamsa – muscle tissue. Its function is to envelop (cover).

Meda – fat tissue. Its function is to lubricate.

Asthi – bone tissue. Its function is to support the body.

Majja – bone marrow, central nervous tissue.

Shukra – reproductive tissue including semen and ovum. Its function is the production of embryos.

Factors aggravating the three doshas

Vata is aggravated by:

- excessive wakefulness (staying awake at night, insufficient sleep)
- fear, grief, worry, anxiety, agitation, anger
- mental or physical exertion (excessive work, exercise, traveling, speaking, strain and fatigue)
- suppression of natural urges
- fasting (not invariably), insufficient food
- rough, dry, light, astringent, and bitter foods
- wasting, excessive weight loss (incl. due to disease)
- vata kala (old age, early morning, late afternoon, as well as dry, cold, windy, and changing climate)
- irregularity in daily and seasonal routines
- falling down from somewhere, bone fractures, injuries.

Pitta is aggravated by:

- exertion
- excessive activity, speaking, and thinking
- excessive heat and sunshine
- fire, burning sensation, and acidity in the body
- anger, hatred, jalousie, passion
- fasting (not invariably)
- hot, sharp, sour, salty and pungent foods
- alcohol and smoking of tobacco
- pitta kala (middle age, midday, midnight, hot weather)

Kapha is aggravated by:

- excessive rest and sleep (sleeping in the daytime, after meals or too much sleep in general)
- insufficient exercise
- insufficient mental and physical work
- excessive food intake (not invariably)
- heavy, unctuous, cold, sweet, sour, saline and also slimy and sticky food
- kapha kala (childhood, morning, evening, cold and wet climate)

The states and three types of functioning of the doshas

The three states of the functioning of the doshas are:

1. Sama (balanced): proper functioning
2. Vriddhi (growth, increase, aggravation): manifestation of signs and symptoms (lingam) acc - ording to the degree of aggravation
3. Kshaya (diminution, decrease): absence of normal signs and symptoms (of proper functioning)

Thirteen natural urges (vegas) not to be suppressed

The 13 natural urges that are not to be surpressed are:

1. Mutra (urine)
2. Purisha (faeces)
3. Retasa (ejaculation of semen)
4. Vata (flatus)
5. Chardya (vomiting)
6. Kshava (sneezing)
7. Udgara (eructation, belching)
8. Jrimbha (yawning)
9. Kshud (hunger)
10. Pipasa (thirst)
11. Vashpa (tears)
12. Nidra (sleep)
13. Svasa (breathing caused by exertion)

These natural urges should not be suppressed when already manifest and they should not be forcefully stimulated when non-manifested.

Caraka Samhita also lists "urges" which can or actually should be repressed. These are considered unnatural urges that express themselves due to imbalances:

"One desirous of his well-being during his lifetime and after, should suppress urges relating to rashness and evil deeds – mentally, orally and physically. Similarly, a wise person should refrain from satisfying the urges relating to greed, grief, anger, vanity, shamelessness, jealousy, too much of attachment and malice. One should also refrain from letting loose the urges of speaking extremely harsh words, back-biting, lying and use of untimely words. Violence to others whatsoever, urges relating to such physical actions including adultery, theft and persecution are to be restrained. The virtuous one, who is free from all vices relating to mind, speech and physical actions, is indeed happy and he alone enjoys the fruits of virtue (dharma), wealth (artha), and desire (kama)."

– Charaka Samhita, Chapter VII, 26-30

Ojas: its importance and functions

With the full enlivenment and alertness of Ojas in the physiology, the intellect blossoms in it's full (self-referral) awakening. This is how pragya aparadha is overcome and this is how the basis of sickness and suffering is eliminated. It marks the breaking away of individual boundaries and the awakening to Cosmic Reality. For this purpose Ayurveda or the knowledge of physiology, attempts to maintain the entire physiological structure and functioning in such a way, that Ojas is constantly generated and maintained on its highest and supreme level of efficiency and effectiveness. Having thus seen the grand purpose of Ayurveda, we enter into the different aspects and structure of Ojas, the different values of physiology. Ojas is the end-product of perfect digestion and metabolism, but it's actual status is much more profound. It is said to stand between consciousness and matter, connecting them and thus ensuring that the sequence of Natural Law is expressed properly in the body. It is also said to nourish and sustain the various tissues of the body, pervading its entire structure. When the quantity of Ojas diminishes too much, life itself is threatened. When Ojas is present in abundance, it gives strength, contentment, and good digestion. It is said to be the most important biochemical substance mediating the influence of consciousness on the body. Ojas is described as a white, oily substance. There are two types of Ojas, ordinary and superior. The superior type is said to exist in eight drops in the heart (hridaya).

Ama

Ma means mother – the nourishing quality. Ama means "that which is not nourishing". It prevents the normal functioning of the body. It is the end-product of poorly digested food. Ama is said to clog the channels in the body (the shrotas), giving rise to disease. Clogging the shrotas, it can cause lethargy, dullness, and heaviness. It is a precursor of illness.

There are two types of Ama: That which originates from inside the body, consisting of internal metabolic and cellular waste products (such as the free-radical-damaged cells). The second type of Ama is that which comes from the outside as external impurities and toxins (such as pollutants and toxins in some of the food that we eat). The internal environment is governed by vata, pitta and kapha, which are constantly reacting to the external environment. Poor diet, habits, lifestyle, incompatible food combinations (e.g. milk and fish, melons and grain, yogurt and meat, cooked honey, etc.), seasonal changes, repressed emotions, and stress factors can all act either together or separately to change the balance of vata, pitta and kapha. According to the nature of the cause, vata, pitta or kapha undergo aggravation or derangement, affecting the agni (gastric fire) and producing ama (toxins).

In Ayurvedic terms, all these impurities (collectively called ama) block the body's inner intelligence. If left to accumulate, such impurities can lead to degenerative disorders and eventually life-threatening disease. This ama enters the blood stream and is circulated throughout the body, clogging the channels. Retention of toxins in the blood results in toxemia. This accumulated toxicity, once well established, will slowly affect prana (vital life energy), ojas (immunity), and tejas (cellular metabolic energy), resulting in disease. This can be nature's effort to eliminate toxicity from the body. Every so-called disease is a crisis of ama toxicity. Ama is the basic internal cause of all disease, due to the aggravated doshas.

Agni

The central factor in the prevention of ama is agni (fire). There are 13 agnis governing different aspects of the digestive process and parts of the body. The most important agni is what we have called the digestive fire (jatharagni). Digestive fire refers to the digestive system's overall ability to digest food. It is equivalent to digestive enzymes.

Prakriti

Birth prakriti is the innate balance of doshas which is natural for that person. The birth prakriti is determined by the condition of sperm and ovum, nature of season, condition of the uterus, diet and regimen adopted by the mother during pregnancy, family traits, time, location, etc.

Body prakriti is the constitution at any particular point in time. The actual appearance of the body prakriti is through chronic long-term variances in behavior, diet, daily routine, seasonal influences, age, etc. The state of imbalance or deviation from the birth prakriti may not yet have precipitated into a disease, but may be the precursor of disease. When pragyaparadh is eliminated then the body prakriti re-aligns with the birth prakriti. This is called Prakritisthapan.

Vikriti

Vikiti is a state of advanced imbalance, where the steps of pathogenesis have progressed to produce discernible changes in the direction of a disease.

Asana and pranayama in ayurveda

According to Ayurveda we all possess different individual constitutional types in mind and body. The requirements of one type in terms of food, exercise, and life-style, will be different from that of other types. Yoga asanas and pranayama similarly should be done in harmony with one's individual constitution both physically and psychologically. Asana regimens are more effective if designed according to individual needs and Ayurvedic constitutional considerations. Ayurveda champions Asana practice as the ideal and complete exercise system to keep the body functioning at its best.

Asana for vata, pitta and kapha

Each asana has a particular effect with regards to the three doshas. This is similar to Ayurveda classifying foods according to their effects on the 3 doshas, depending upon the tastes and the elements that compose each food article. We can look upon different asanas according to their structural ability to increase or decrease the doshas. Asanas aimed at reducing Vata release tension from the large intestine and lower abdomen, including dispelling gas. Asanas aimed at reducing Pitta release heat and stress from the small intestine and central abdomen, cooling the blood and liver. Asanas targeting Kapha release congestion and stagnation in the region of the stomach and chest, helping to dispel mucus.

There are also general effects of asanas on the different doshas. Doshic application of asanas is twofold: According to the constitution of the individual (defined by one's doshic type) and relative to the impact of an asana on the doshas, in terms of the general physiological functioning. Each dosha has its sites and actions in the body that are affected by different asanas. Most asanas reduce Vata because they activate muscles and create a massaging action that soothes Vata. Pitta reducing asanas are those which stimulate the circulation and proper liver functioning and which reduce bile. Asanas that increase and deepen breath and heart rate, reduce Kapha.

However, this doshic equation of asanas should not be taken rigidly because the pranic effect of an asana can outweigh its structural effect. All asanas are beneficial for all doshas, subdoshas, agnis, shrotas, and dhatus, but each asana is specially beneficial for balancing some specific doshas, agnis, shrotas, and dhatus. The form of the asana is not its main factor. Through the use of breath we can modify or even change the doshic effects of the asana. We must remember the importance of mind and intention in asana practice as well. Considering the asana, prana and the mind, we can alter a particular asana or adjust the entire practice toward a particular doshic result. By combining specific asanas, pranayama and meditation, a state of complete internal balance can be created and sustained.

Yoga postures for balancing vata

Anandasana, Siddhasana, Vajrasana, Simhasana, Virasana, Suryanamaskarah, Vrkshasana, Trikonasana, Virabhadrasana, all forward bending postures from the standing position, Shirshasna, Sarvangasana, Viparita Karani asana, Bhujangasana, Shalabhasana, Janushirshasana, Pashchimottanasana, Kurmasana, Parivrtta Janu Shirshasana, Navasana, Yoga Mudra, twists like Matsyendrasana.

Yoga postures for balancing pitta

All sitting postures except Simhasana, standing postures Chandranamaskarah, Vrkshasana, Trikonasana, Ardha Chandrasana, Prasarita Padottanasana, Sarvangasana, Viparita Karani Asana, Navasana, Matsyasana, Bhujangasana, Dhanurasana, all forward bending postures from the standing position, Upavishta Konasana, Kurmasana, Pashchimottanasana, twists like Ardha Matsyendrasana, Yoga Mudra and Anandasana.

Yoga postures for balancing kapha

Simhasana, sitting postures with Pranayama, Suryanamaskarah, strong Vinyasa, Virabhadrasana, Utthita Hasta Padangushthasana, Urdhva Prasarita Ekpadasana, Ardha Chandrasana, Adho Mukha Shvanasana, Urdhva Mukha Shvanasana, Adho Mukha Vrkshasana, Pincha Mayurasana, Shirshasana, Sarvangasana with variations, Halasana, Ushtrasana, Shalabhasana, Jathara Parivartanasana, Marichyasana, Anandasana.

Detailed Ayurvedic Effects of Specific Asanas

Vata (V) **Pitta (P)** **Kapha (K)**

Lying on the Back Postures

- Anandasana – balances V and P
- Supta Pavan Muktasana – balances V
- Urdhva Prasrita Padasana – balances V and K

Sitting postures

- Sukhasana – balances V, P, K; used for pranayama and meditation
- Samvahan – reduces K and V
- Dandasana – reduces V, P, K; increases udana
- Padmasana – regulates V; controls Apana; allows for the prana to move into sushumna; it is the best posture for pranayama and meditation
- Sidhasana – reduces K, strongly reduces V and P; keeps prana moving upward; it does not aggravate the other doshas; excellent posture for meditation
- Vajrasana – balances V and P; it is an excellent posture for pranayama, particularly of the heating types such as right nostril breathing, Bhastrika, and Kapalabhati; it helps awaken prana and kundalini and is excellent for stimulating pranagni
- Simhasana – increases agni and P on all levels; energizes the head, eyes, throat and digestive system; it reduces K and V, countering cold and low energy
- Baddha Konasana – reduces K, strongly reduces V and P
- Virasana – reduces K, strongly reduces V and P
- Navasana – very strongly reduces V, strongly reduces K, can increase or reduce P
- Ubhya Padangushthasana – reduces K and P, strongly reduces V
- Anantasana – strongly reduces V and P
- Urdhva Prasarita Padasana – reduces P and K, strongly reduces V

- Vasishthasana – strongly reduces V and K, increases P
- Purvottanasana – reduces V, very strongly reduces K, increases P
- Yoga Mudrasana – very strongly reduces V and P, reduces K

Sitting forward bends

- Janushirshasana – reduces and balances V and P, increases K
- Supta Padangushthasana – strongly reduces V, very strongly reduces P, increases K
- Upavishtha Konasana – strongly reduces V, very strongly reduces P, strongly increases K; increases calm and steadiness
- Triang Mukhaikapada Pashchimottasana – strongly reduces P, very strongly reduces V, very strongly increases K
- Ardha Baddha Padma Pashchimottanasana – very strongly reduces V and P, very strongly increases P
- Parivrtta Janu Shirshasana – strongly reduces V and P, increases K
- Urdhva Mukta Pashchimottanasana – very strongly reduces V and P, increases K
- Kurmasana – very strongly reduces V and P, very strongly increases K
- Pashchimottanasana – very strongly reduces V and P, very strongly increases K
- Shashankasana – balances V, P, K
- Maha Bandha – reduces V and P; the best for regulating vyana
- Maha bheda – reduces V and P

Standing postures

- Tadasana – reduces P and K, very strongly reduces V; it is a grounding posture
- Vrkshasana – reduces P and K, strongly reduces V
- Trikonasana – reduces V, P, K; it is particularly good for vyana
- Parivrtta trikonasana – reduces K and P, strongly reduces V
- Virabhadrasana – reduces V, strongly reduces K, increases P; opens the chest and lungs; increases pranagni and vyana; it is grounding and stabilizes V
- Parshvakonasana – reduces V, strongly reduces K, increases P
- Utkatasana – reduces K, very strongly reduces V, strongly increases P
- Padottanasana – reduces K, very strongly reduces P, strongly reduces V
- Parshvottanasana – reduces P and K, strongly reduces V
- Ardha Chandrasana – reduces V and P, very strongly reduces K
- Padangushthasana – reduces K, strongly reduces V and P
- Urdhva Prasarita Ekapadasana – reduces P and K, very strongly reduces V
- Padahastasana – reduces K, strongly reduces P, very strongly reduces V
- Uttanasana – reduces K, strongly reduces P, very strongly reduces V

Inverted postures

- Adho Mukha Shvanasana – very strongly reduces V, strongly reduces K, can increase or reduce P; it is especially energizing for K and grounding for V; it helps balance all the doshas
- Sarvangasana – reduces P, strongly reduces K, very strongly reduces V
- Salamba Sarvangasana – regulates udana vayu and K in the region of the chest; it counters high P and reverses apana vayu; it is a good blood purifier and nourishes the brain, throat and lungs;

good for hypothyroidism; relieves headaches; counters constipation
- Viparita Karani Asana - reduces K, strongly reduces P and very strongly reduces V
- Halasana – reduces P and K, very strongly reduces V
- Dvipada Pitham Asana – reduces and balances P, strongly reduces K and V
- Shirshasana – very strongly reduces V and K; very strongly increases P
- Adho Mukha Vrkshasana – very strongly reduces K, can increase or reduce V and P
- Pincha Mayurasana – strongly reduces V, strongly reduces K, strongly increases P

Backbends
- Bhujangasana – very strongly reduces K, harmonizes P, calms V in the colon; regulates Samana; stimulates agni; improves circulation in the digestive region; it also stimulates kundalini
- Shalabhasana – strongly reduces K, balances V and P
- Makarasana – strongly reduces K, can increase or reduce V and P
- Dhanurasana – very strongly reduces K, strongly increases V, can increase or reduce P
- Urdhva dhanurasana – very strongly reduces K, very strongly increase V, can increase or reduce P
- Eka Pada Urdhva dhanurasana – very strongly increases V, strongly increases P, very strongly reduces K
- Eka Pada Rajakapotasana – very strongly reduces K, strongly increases V, can increase or reduce P
- Dvi Pada Viparita Dandasana – very strongly reduces K, strongly increases V and P
- Matsyasana – reduces P and K, increases agni and helps move P out of the digestive system and liver; it is also good for the throat and lungs

Twists
- Vakrasana – balances V and P
- Ardha Matsyendrasana – reduces V, P, K; strengthens the spine; counters scoliosis; improves digestion; it helps detoxify the liver; removes heat from the small intestine
- Jathara Parivartanasana – reduces V, P, K; improves circulation to the spine and nadis; especially good for vyana, V and P

Ajurvedic effects of pranayama – yogic breathing
- Ujjayi Pranayama – has a heating effect; it reduces K and V; improves agni; stimulates prana in the head, throat and heart
- Nadi Shodhana (alternate nostril breathing), Sukha Pranayama – has a calming effect; balances V, prana and apana
- Kapalabhati – heating type of pranayama; activates prana; improves digestion and increases agni
- Bhastrika – strongly heating type of pranayama; clears kapha from the head and chest and increases agni and prana; counters cough and mucus and helps reduce body weight and fat; aids in the awakening of kundalini
- Shitali – cooling type of pranayama; counters thirst and builds plasma; used for high fevers; excellent practice during the summer; good for high blood pressure and hyperacidity; mainly used for pitta types
- Sitkari – benefits are similar to shitali; clears heat from the head and cools the emotions

Panchakarma

While the body has various self-purifying mechanisms, these prove increasingly inadequate as one ages, especially given the high level of toxins and pollutants present in modern industrial society. Here is the key to the prevention of disease: help the body eliminate the toxins. To stop the further production of ama, Ayurvedic literature suggests putting the person on a proper diet with appropriate lifestyle, habits and exercise, and administering a proper cleansing program such as Panchakarma. (Note: Although Panchakarma is often thought of as the entire procedure, it really is only one part of a group of therapies belonging to a class of cleansing procedures called Shodana. There is also a group of milder techniques called Shamana for those who are not strong enough for Shodana.)

Panchakarma is a group of traditional Ayurvedic therapies designed to purify the body, and thus avert or reverse the development of disease and aging. Treatments are designed to first loosen impurities from bodily tissues, then eliminate them from the body altogether. Each treatment is individualized, depending on the patient's doshic balance and imbalance. Panchakarma can be taken for as few as 3 consecutive days and as many as 30 days. It can be done in residence or on an outpatient basis. It is most effective if done regularly – ideally, at the beginning of each season, to eliminate impurities gathered over the previous season.

In the first week of treatment, we begin by flooding the body with increasing doses of ghee for 3-5 days. This lubricates and loosens up the impurities. We apply abhyanga (oil massage) and swedana (steam bath). That liquifies the impurities and opens the channels of circulation so the impurities can float to the gastro-intestinal tract. Here the impurities are in position where we can get rid of them quite easily through purgation – virechana. This is then done by means of effective laxatives in individual doses. The following two or three days are without treatment. We give the physiology some time to readjust to the new level purity. The second week of treatment consists of daily abhyanga, svedana and basti. Basti means enema, complex and very sophisticated mixtures of various oily substances, herbal decoctions, etc. This is the most powerful procedure because these enemas eliminate and balance vata, the king of the doshas and main cause of diseases. During the second week shirodhara (pouring a stream of oil on the forehand) is also applied daily, removing turbulence from the brain and quieting the mind.

Panchakarma consists of three stages, as described in the following paragraphs.

1. Purva karma: pre-purification measures

Pachana – *use of digestive medicines:*

Before each meal, take one small cup of the digestive decoction.

Snehana – oleation therapy:

Impurities are typically stored in fat cells, where they can remain for decades. To flush them out, panchakarma begins with a form of internal oleation therapy called snehana, which takes 4 days. During this time, the individual especially reduces the consumption of oils and fats and of calories in general. One will drink melted ghee, first thing every morning, on an empty stomach. Sometimes other oleated substances, such as sesame oil, are used. The amount of ghee is specified by the phy-

sician and increases daily. Take 25ml of ghee on the first day, 50 ml on the second, 75ml on third, and 100ml on the fourth day. Ghee should be warmed up to make it liquid. Drink a little hot water right after taking the ghee. Higher doses of ghee may be taken after asanas. Don't eat until the ghee is digested and you feel hungry. If you have doubts about the ghee being fully digested, drink some hot water. When the up-coming air has no ghee flavor, then the ghee is digested. The ghee should be digested within 6 hours. If a lower dose already takes 6 hours to digest, then do not increase the dose the next day. If one is feeling nauseous during the period of ghee digestion, one may take a little fresh, pure lemon juice, but only if necessary.

During snehana the reduced ingestion of fats and of calories in general favors consumption of body fat stores. If the fat cells lose fat, the impurities stored within the cells (usually polyaromatic hydrocarbons – PAHs) become more concentrated in the cells by default. Next, the ghee floods the bloodstream with triglycerides. Unlike the triglycerides inside the cells, these circulating ones are free of PAHs, so a concentration gradient is created between the fat inside the cells and the fat outside (the gradient is steeper if in fact the fat cells have lost some of their fat). By the process of osmosis, impurities concentrated within the fat cells flow out into the impurity-free plasma triglycerides produced by the ghee. Next, these plasma triglycerides, now containing PAHs and other impurities, flow toward the gut. Because one takes increasing amounts of ghee on successive mornings, a good deal of non- circulating ghee is left in the gut, so once again, a concentration gradient is set up between the ghee that has circulated the bloodstream and the impurity-free ghee that remained in the gut. As a result, the impurities picked up by the circulating ghee move by osmosis into the gut. Also, the liver removes some of the impurities from the bloodstream and sends them to be eliminated. Next, the hot bath increases blood flow to the skin and the underlying adipose tissue; the vasodilatation causes lipid-soluble toxins to flow into the blood stream.

Abhyanga (herbalized sesame-oil massage):

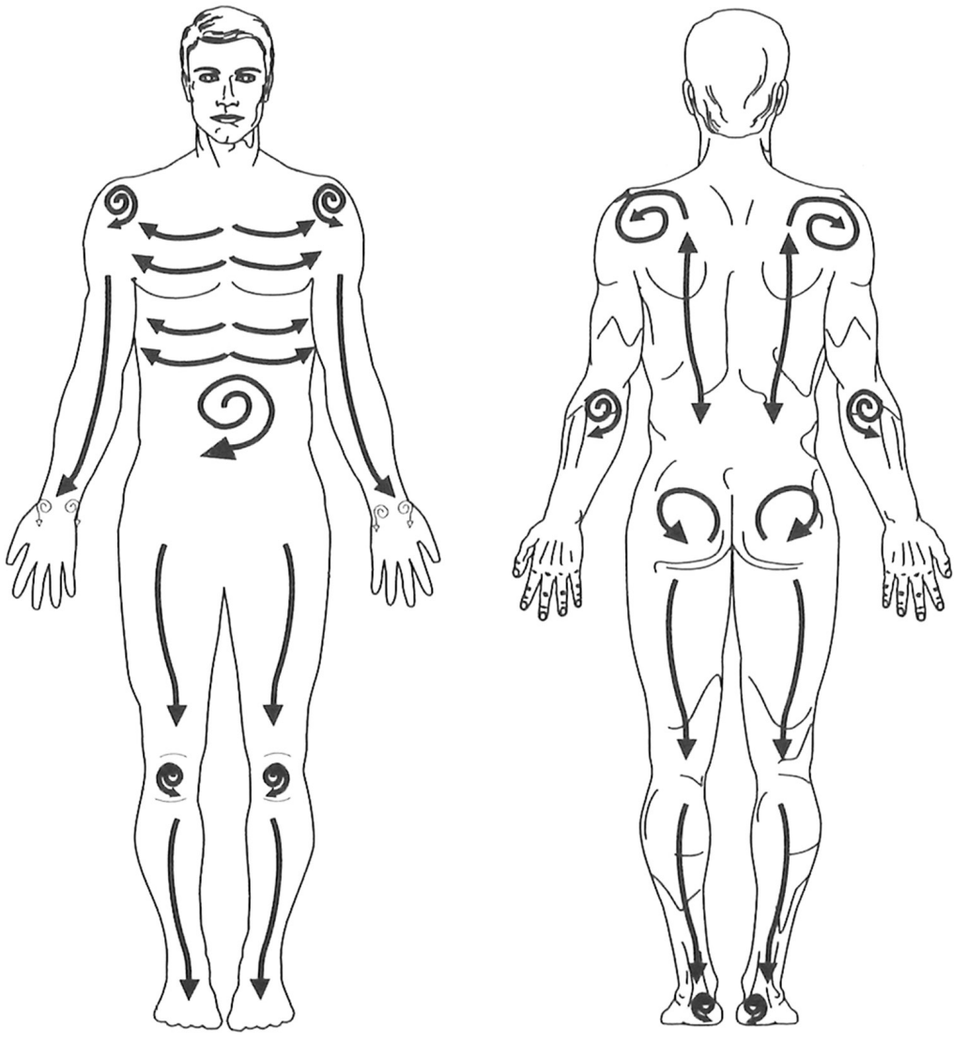
Before the actual operation of purification begins, there is a need to prepare the body with prescribed methods to encourage it to let go of the toxins. These two procedures are abhyanga and svedana. Abhyanga is the oil massage. Oil is applied to the entire body with a particular type of massage that helps the toxins to move towards the gastrointestinal tract. The oil massage also makes the superficial and deep tissues soft and supple, thus helping to remove stress and nourish the nervous system. Abhyanga is given daily for three to seven days, as indicated. Abhyanga is a process during which the person’s body is massaged with medicated oil with the specific pressures and movements. Considering the patient's conditions procedures may differ. Abhyanga is a part of many procedures. The oil application procedure itself is designed to stimulate both further release of toxins from the cells and circulation in the subcutaneous tissues. The warm sesame oil penetrates the pores of the skin, and reaches the subcutaneous adipose tissues, again loosening impurities and toxins.

Don't eat heavily right before the treatment. When you get the treatment early in the afternoon, don't eat lunch, but take a light breakfast instead. It's good to have a little something in the stomach during the treatment. During abhyanga and also during Shirodhara, Swedana and Basti, we observe silence as much as possible and stay “within”. It adds to the effectiveness of the treatment.

Indications: For all types of vata and nervous system disorders, including tiredness; people who engage in much work (physical and mental); helps people who regularly consume alcohol; the aged and children; regular massage is very helpful for insomnia; people with lean and thin body-types.

Contra-indications: kapha disorders; after shodhana; during ajeerna (indigestion); in cases of food poisoning; atisara – diarrhea.

Properties of massage: it promotes longevity; it relieves weakness; reduces vata in the body; strengthens body vigor; induces the sleep.



Swedana (fomentation therapy):

Svedana means sweating and is given every day immediately following the abhyanga. Herbal concoction may be added to the steam to further loosen the toxins in the body. Svedana liquefies the toxins and increases the movement of toxins into the gastrointestinal tract. The vapors soften and dilate the channels of the body, allowing the impurities to move out. Swedana also balances Vata and Kapha dosha.

During Swedana one should feel comfortable. If the temperature is too low, it does not produce the desired effect. If it is too high, it puts a great burden on the physiology and may even be dangerous. The head must be protected from the heat.

Indications: constipation, back problems, joint problems, earache, headache, asthma, cough, and many other disorders.

Contra-indications: alcoholics, pregnant women, diabetics
After three to seven days of abhyanga and svedana, the doshas become well "ripened." A particular panchakarma method is then given according to the individual's constitution and disorder, prakriti and vikriti, respectively.

2. Pradhana karma: five basic shodanas - cleansing methods

Virechan: purgation; Vamana: therapeutic vomiting or emesis; Basti: enema (Anuvasana Basti – use of oil and Niruha Basti – use of water): Nasya: elimination of toxins through the nose and nasal administration of drugs; Rakta Moksha: detoxification of the blood.

Virechan: purgation therapy

In virechana, the castor oil laxative eliminates the toxins and ghee from the intestines. It is a procedure by which the doshas (toxins) are made to pass through the anus region. By this method not only impurities from the colon and rectum passes out, but also impurities from the whole body at the cellular level comes out.

When excess bile (pitta) is secreted and accumulated in the gall bladder, liver and small intestine, it tends to result in rashes, skin inflammation, acne, chronic attacks of fever, biliary vomiting, nausea and jaundice. In these conditions, the Ayurvedic literature suggests the administration of therapeutic purgation or a therapeutic laxative. Purgatives eliminates the excess pitta (that was causing the bile disturbance in the body). Purgatives can in fact completely cure the problem of excess pitta. When purgatives are used, the patient should not eat foods that will aggravate the predominant humor (dosha) or cause the three humors to become unbalanced.

Procedure of virechan:

In the morning of the day following the last day of ghee, massage your whole body with sesame oil for about 20 minutes. Then take a hot tub bath for another 20 minutes. Then take castor oil: man 50 ml, ladies 40 ml. Take in 1 glass of hot water with some ginger and a bit of salt. Mix as well as possible. When the elimination starts, count the motions of bowels within one sesion (not the sessions). Observe the consistence, color, quantity, etc. of the stool. Don't eat anything until the virechana effect is more or less over. But do drink enough (warm water is best). The first two meals after virechana are always only “peya” (a thin soup of rice, mungdhal, some ginger, salt, and a little ghee). A thin rice soup is also OK. For the next two meals, one can add some boiled vegetables, but they should still be very light.

Indications: skin diseases; constipation; diabetes; liver and spleen disorders; tumors; visual disorders; asthma; bronchitis; epilepsy; obesity; piles; fistula; jaundice; insanity; high blood pressure.

Snehana and virechana can be done at home, usually within a few days or a week prior to beginning the panchakarma treatment in the clinic. They are referred to collectively as “home preparation”. After virechana further treatments follow in sequence. The first group of treatments further stimulates the release of toxins from the cells; the second group causes vasodilatation and moves impurities to the organs of elimination; the third group of treatments then eliminates the toxins from the body. We can call these three groups external oleation, heating, and elimination therapies.

Vamana: emesis therapy

When there is congestion in the lungs causing repeated attacks of bronchitis, colds, cough or asthma, the Ayurvedic treatment is therapeutic vomiting (vamana), to eliminate the kapha causing the excess mucus. Often times this also releases repressed emotions that have been held in the kapha areas of the lungs and stomach along with the accumulated dosha. Once the mucus is released,

the patient will instantly feel relieved. It is likely that any congestion, wheezing and breathlessness will disappear and that the sinuses will become clear. It is a process by which the vitiated doshas (kapha,vata) are eliminated from the stomach and the whole body. The endotoxins (aggravated kapha, pitta) which are present in the stomach, as well as in the cells and tissues of the entire body, are eliminated by the vamana therapy.

Therapeutic vomiting is indicated in bronchitis and asthma, sinusitis, ear-nose-throat diseases, breast diseases, obesity, tumors, diabetes, chronic cold, lymphatic congestion, chronic indigestion, reduced hyperacidity, skin diseases, epilepsy and insanity. After vamana, resting, fasting, and not suppressing natural urges (i.e., urination, defecation, gas, sneezing, coughing) is recommended. If vamana is administered properly, the person should feel relaxation in the lungs, will be able to breathe freely and experience lightness in the chest, will have clear thinking, a clear voice, a good appetite. All the symptoms of congestion will disappear. Vamana also eliminates toxins in the thorax.

Basti: enema therapy (elimination therapy)

Each day, at the end of the treatments, after impurities from different parts of the body have been loosened and drawn into the intestinal tract, the patient receives a basti. This gentle internal cleansing treatment uses either anu (warm herbalised oil enemas) or niruha (water-based herbal decoctions) to eliminate impurities from the intestinal tract. This is one of the most important aspects of the entire treatment. By basti alone 50% of illnesses can be cured. Basti is the most powerful treatment for balancing Vata dosha. There are two basic kinds of bastis:

- lubricating, balancing, nourishing, strengthening, pacifying – brmhana principle
- eliminating and reducing – langhana principle

Vata's predominant site is the colon. Ayurvedic basti (enema) involves the introduction of herbal concoctions (of sesame oil and certain herbal preparations in a liquid medium) into the rectum. Basti is the most effective treatment for vata disorders, although many enemas over a prescribed period of time are usually required. It relieves constipation, distention, chronic fever, colds, sexual disorders, kidney stones, heart pain, backache, sciatica and other pains in the joints. Many other vata disorders such as arthritis, rheumatism, gout, muscle spasms and headaches may also be treated with basti.

Vata is a very active principle in pathogenesis (disease). If we can control vata through the use of basti, we have gone a long way in treating the root cause of the vast majority of diseases. Vata is the main etiological (causal) factor in the manifestation of diseases. It is the motive force behind the elimination and retention of feces, urine, bile and other excreta. Vata is mainly located in the large intestine, but bone tissue (asthi dhatu) is also a site of vata. Hence, the medication administered rectally affects asthi dhatu. Basthi therapy is the process by which the medicated oil or decoction is administered into the intestines, through the anal region. The mucus membrane of the colon is related to the outer covering of the bones (periosteum), which nourishes the bones. Therefore, any medication given rectally goes into the deeper tissues, like bones, and thereby corrects vata disorders.

Indications:
all neurological disorders; paralysis; Parkinsons, etc.; arthritis; obesity; peripheral neuritis; lower back pains; osteoarthrosis; strengthens the intestines and the genital - urinary organs.

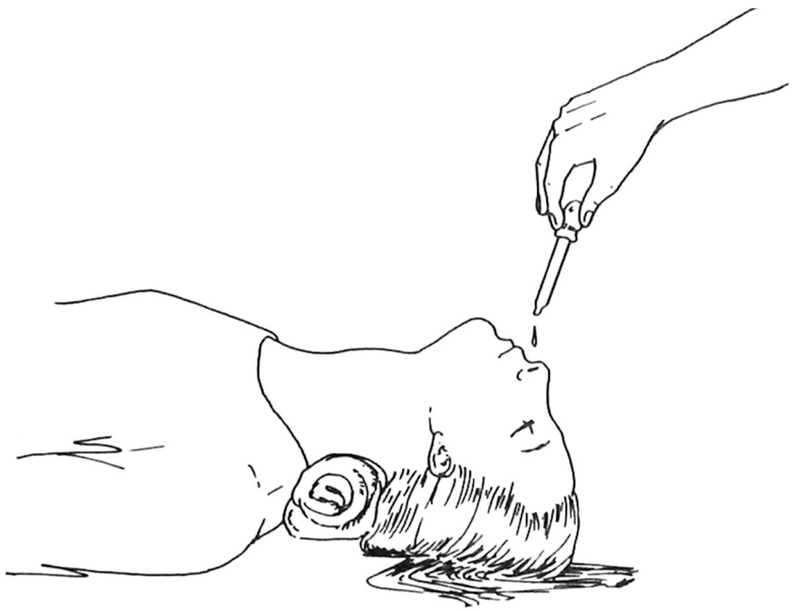
Nasya: nasal administration

This is a special treatment for the head, neck, shoulders, and sinuses. It is a process during which the medicated herbal oil drops or powder is administered through the nostrils, to clean the nasal passages. During the nasya treatment, herbal steam is inhaled through the nose, helping to clear excess mucus from the nasal passages and lungs. By this method, the toxins from the head, neck, and whole body are removed. The nose is the doorway to the brain and it is also the doorway to consciousness.

The nasal administration of medication is called nasya. An excess of bodily humors (doshas), accumulated in the sinuses, throat, nose, or head areas, is eliminated by means of the nearest possible opening, the nose. The base of the brain is right behind the nasal cavity. Thus nasya is said to stimulate the base of the brain through its effects on the olfactory nerve endings, bringing greater clarity and balance to the mind, brain and senses. Prana, life force as nerve energy, enters the body through the breath taken in through the nose. Prana is in the brain and maintains sensory and motor functions. Prana also governs mental activities, memory, concentration and intellectual activities. Deranged prana creates defective functioning of all these activities and produces headaches, convulsions, loss of memory and reduced sensory perception.

Indication:
Nasya is indicated for prana disorders, sinus congestion, migraine headaches, convulsions, certain eye and ear problems, neck problems, and brain disorders. It stimulates the whole nervous system and helps the functioning of the endocrine glands.

Breathing also can be improved through nasal massage. For this treatment, the little finger is dipped into ghee and inserted into the nose. The inner walls of the nose are slowly massaged, with the finger going in as deeply as possible. This treatment will help to open the emotions. (Note: The nose tissue is tender and for this application the fingernails must be kept short to avoid injuring the delicate mucus membranes). Since most people have a deviated nasal septum, one side of the nose will be easier to penetrate and massage than the other. The finger should not be inserted forcibly. The massage should proceed by slow penetration, the finger moving first in a clockwise and then in a counter-clockwise direction. By this means, emotions that are blocked in the respiratory tract, will be released. One may use this treatment each morning and evening. In this way, breathing patterns will change as the emotions are released. The eyesight also will improve.



Rakta moksha: traditional ayurvedic method for purification and cleansing of the blood

Rakta Mokshana (leech therapy) is treatment for skin and blood disorders by a "leech application method". Toxins present in the gastrointestinal tract are absorbed into the blood and circulated throughout the body. This condition is called toxemia, which is the basic cause of repeated infections, hypertension and certain other circulatory conditions. This includes repeated attacks of skin disorders such as urticaria, rashes, herpes, eczema, acne, scabies, leukoderma, chronic itching, or hives. In such conditions, along with internal medication, the elimination of the toxins and purification of the blood is necessary. Rakta moksha is also indicated for cases of enlarged liver, spleen and gout.

Pitta is produced from the disintegrated red blood cells in the liver. Pitta and blood have a very close relationship. An increase in pitta may go into the blood, causing toxicity. Extracting a small amount of blood from a vein relieves the tension created by the pitta-genic toxins in the blood. Bloodletting also stimulates the spleen to produce anti-toxic substances that help to stimulate the immune system. Toxins are thus neutralized, enabling radical cures to many blood-borne disorders.

Certain substances, taken in excess, such as sugar, salt, yogurt, sour-tasting foods, and alcohol are toxic to the blood. With certain blood disorders, these substances should be avoided, in order to keep the blood pure. For rakta moksha treatment other than bloodletting, there are blood-purifying practices involving herbs, gem therapy or color water therapy. For any rakta moksha treatment or related alternative treatments, it is beneficial to refrain from yogurt, salt, sugar, alcohol, marijuana, sour and fermented foods.

Indications: all the skin disorders – eczema, psoriasis etc.; wounds; tumors and unhealed wounds

Additional procedures applied during panchakarma treatment

Heating treatments

Heating treatments dilate the shrotas (the channels of the body such as the arteries, veins, and the lymph system), allowing the impurities that were loosened through the oil massage to be swept away. Heat helps loosen the impurities (ama) so they can more easily be broken down and eliminated. The ama becomes less solid and begins flowing toward the intestinal tract for elimination. The heating treatments increase circulation of fluids, allowing the impurities to flow easily through the lymphatic and circulatory systems. All the heating treatments help remove impurities from the musculoskeletal system, where Vata and Kapha dosha tend to lodge and cause disruption. This eliminates aches and pains in the joints, muscles, and bones. Many different types of heating treatments are used in panchakarma, including: Swedana, Pizzichilli and Pinda Swedana.

Pizzichilli

In this treatment, gallons of warm oil are poured over the body while it is being massaged. The oil goes deep into the tissues to balance Vata dosha. This is especially helpful for Vata problems that are at a deep level of the musculoskeletal system. Warm milk is sometimes used, which is balancing to the skin as well as to Vata dosha.

Pinda swedana

This heating treatment uses boluses, or cloth pouches filled with a precooked mixture of herbs and medicated oils. The technician rubs these hot packs over the body. This is especially helpful in treating musculoskeletal disorders.

Udvartana

This massage with a paste made of ground grains cleanses the skin, increases circulation to the subcutaneous tissues, and promotes weight loss.

Garshan

Garshan is massage with raw silk or wool, creating friction and static electricity on the surface of the skin, thus increasing circulation in the body. It promotes weight loss and clears away clogging impurities that might cause problems such as cellulite.

Shirodhara

Shirodhara is pouring of fluids like decoction, medicated oils, medicated milk, etc. over the head continuously, for a specific period. Shirodhara is a cooling treatment that settles the mind and profoundly relaxes the central nervous system. It is specifically said to strengthen the dhatus, to nourish the nervous system, to increase the glow of the complexion, to increase ojas and stability in the mind, and to remove malaise.

Indications:

Useful in insomnia, it induces sleep, reduces headache, baldness, graying of hair; it is very useful in all types of nervous system disorders. It removes anxiety and worry and is advised in hypertension, paralysis, in anxious patients. It reduces aggravated Vata dosha and Vata disorders, prevents exhaustion and urinary disorders. It can also be used in cases of ear and eye disease.



Gandusha (oil pooling treatment)

It is a process by which medicated oil or medicated decoction should be held in the mouth for a certain period.

Indications:
It improves the voice and strengthens the jaws; it improves the taste of food; it relieves tooth aches; it strengthens the gums and teeth; teeth will not get caries.

Karnapoorana

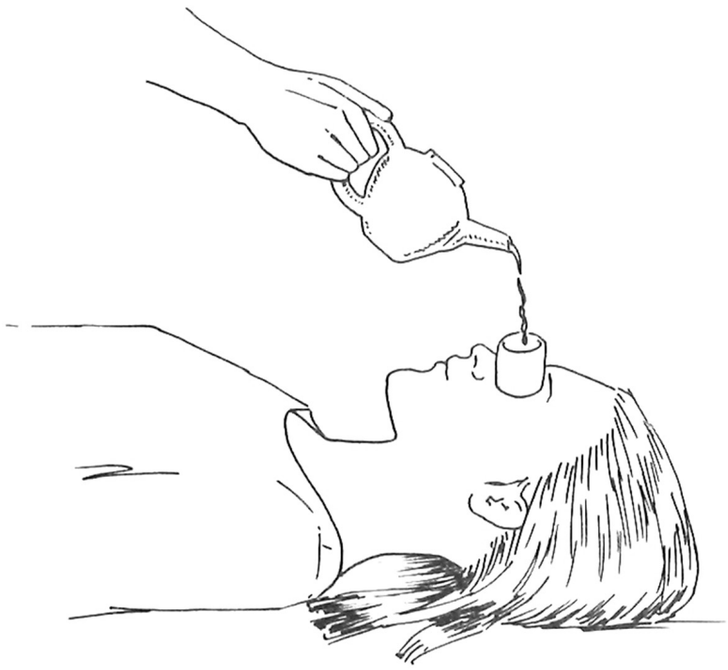
It is a procedure by which the warm medicated oil or warm ghee is poured into the ears.

Indications:
It prevents the vata disorders, such as giddiness and ear pain; it prevents and helps cure neck pains; it relieves tinnitus, etc.

Tarpana

It is a process of keeping oil or ghee in the eye with the help of a special vessel that is placed around the eyes.

Indications:
Burning sensation in the eyes; roughness in the eyes; stiffness in the eyes, eye diseases caused by vata and pitta doshas; difficulty in opening the eyes; inflammatory conditions; glaucoma; corneal ulcers; loss of lacrimal fluids



3. Pashat karma – after treatment

Peyadi Sansar-jana karma – restoring digestion by dietetics

A mono-diet of kitchari and ghee is recommended, as well as essential restrictions on cold drinks, cold food, caffeine, white sugar, recreational drugs or alcohol and dairy products – all substances which should not be resumed (if at all) until some time after panchakarma is completed. During the cleansing process, the digestive fire (agni) also takes a rest – thus the restricted diet immediately after panchakarma. Also, as toxins move back into the gastrointestinal tract, the power of digestion is further slowed down. Kitchari will provide adequate nourishment, is very easy to digest, nourishes all the tissues of the body, is excellent for rejuvenating the cells and assists in the detoxification and cleansing process. Kitchari is a seasoned mixture of rice and mung dal, and is basic to the Ayurvedic way of life. Basmati rice and mung dal both have the qualities of being sweet and cooling with a sweet aftertaste. Together they create a balanced food. It is an excellent protein combination that is tridoshic.

Shamana – dosha pacifying therapy

To maintain the results of panchakarma at home, it is recommended to do a daily abhyanga massage in the morning, followed by a warm bath. This self-massage loosens the impurities and clears the channels of the body. Abhyanga also settles the nerves through the sense of touch. The warm bath or shower that follows, allows the shrotas to dilate and the impurities to flow out, as do the heating treatments (svedana) of panchakarma. The simple home routine is an effective way to assist the body in removing waste and impurities, and thus to maintain, or even increase, the benefits of panchakarma.

Rasayana – increasing strength and lifespan

One of the main purposes of panchakarma is to prepare the body for rasayana therapy. Once the shrotas are clear, the herbs and rasayanas can have a much more powerful effect. The panchakarma procedure is considered “langhana” (cleansing). Taking rasayanas is “brmhana” (nourishing).

Life-style and diet guidelines during and for one week after panchakarma

During any step of panchakarma therapy, traditional Ayurveda recommends certain lifestyle and diet guidelines. This will make the whole treatment smoother and more comfortable for the physiology and ensures maximum effectiveness. These general recommendations should also be observed during the first week after the treatment ends:

1. Keep every part of the body comfortably warm all the time.
2. Use only warm water for drinking, shower, and bath.
3. Go to bed in time, take enough rest. Sleeping during the day is not recommended.
4. Don't suppress natural urges (urine, stool, wind, sneezing, yawning, thirst etc.).
5. Avoid mental and physical strain.
6. No heavy exercise and work.
7. No strenuous traveling or going on long walks. A gentle half-hour daily walk is all right.
8. No exposure to cold, heat, draught, wind, dust, or smoke.
9. Avoid emotions like anger, worries, fear, tension.
10. Avoid excessive talking.
11. Observe celibacy.
12. Don't take any remedies, drugs, etc. during the treatment.
13. Eat only wholesome food.
14. Eat well-cooked warm foods. No salads. Fruits in moderate quantities are OK.
15. Lunch is the main meal of the day when Agni is strongest. Don't overeat, especially not at dinner time.
16. Do not eat before the previous meal is digested.
17. Eat only easily digestible food, preferably soups and liquids. Take less dairy products (no hard cheese), less nuts, fried foods, fatty foods, and sweets. No ice-cream.
18. Don't take much salt nor things which are too pungent. Some ginger, cumin and turmeric is alright.
19. Don't eat yoghurt. It tends to obstruct the body's channels.
20. Food should not be incompatible like e.g. milk and sour fruits, and don't mix hot and cold food.

The purification procedures should be done during the full moon.

Contra-indication for panchakarma:

During acute ailments like colds, fever, diarrhea etc., it is not good to begin with the treatment. Also, one should not start right after a big strain, such as strenuous traveling, exhaustive work, etc. First recover for few days and then you may begin the treatment. Ladies should not take panchakarma during pregnancy and during their monthly period.

Panchakarma is a very special Ayurvedic operation, requiring proper guidance from a highly trained and skillful Ayurvedic practitioner. This should not be undertaken with information from an article or a book. One should consult with an Ayurvedic physician, not just someone with a modest amount of training. Panchakarma is done individually for each person with their specific constitution and specific disorder in mind, thus it requires close observation and supervision.

Ayurvedic and herbal remedies for common ailments

- **Constipation**

Constipation is related to an imbalance of Apana Vata. Most of the disorders are related to constipation. Always start by treating constipation, if present. Causes of constipation are: wrong food, long travel, sitting in the same position for a long time, sitting a long time on a rough surface, lack of exercise, and staying awake late at the night.

To remove constipation, the person should exercise yoga asanas regularly. Drink a lot of warm fluids. Eat fruits and leafy vegetables. Drink lassi regularly (also helps digestion). Before going to bed, take 1 tablespoon of soaked raisins and/or 200 ml of warm milk. Drink a cup of warm water in the morning upon arising. Avoid dates, honey and root vegetables, roasted nuts with salt (all nuts if digestion is low). Avoid yogurt and butter. Avoid very salty food, prefer rock salt. Avoid Vata increasing food.

- **Weak digestion**

Weak digestion is the basis of many other disorders. Agni Mandhyam causes Ama which can cause diarrhea, irritable bowel syndrome, constipation, hemorrhoids, and ulcerative colitis. Causes of weak digestion are: irregular routine or irregular food habits, eating before the previous meal is digested, over eating, eating too little, eating inappropriate food, forcing or restraining natural urges, mental tensions or worries, Ama, diarrhea, and existing diseases. Disturbed sleep causes a vicious cycle with Agni Mandhyam.

To improve digestion, the person should avoid heavy food. Eat Kanjee (rice soup). Take the following special lassi: ¼ teaspoon of turmeric in 500ml lassi (1 to 4 yoghurt to water) and 5 gr of fresh curry leaves; bring to a boil. Kanjee can be added to it. Cool down before drinking (do not add cold water). Sip hot water or drink the following decoction: Take boiling water and add 2 or 3 pinches of black pepper, 1 teaspoon cumin seeds, a little salt, and 1 teaspoon coriander seeds. Boil together for 3 more minutes. You may add some sliced fresh ginger (when you do, then reduce the black pepper) or dry ginger powder to replace the pepper. Keep warm in a thermos flask. Drink throughout the day.

- **Anemia**

Modern medicine has delineated several types of anemia: iron-deficiency anemia, pernicious anemia, sickle-cell anemia, hypoproteinemic anemia (lack of protein in the blood), as well as certain vitamin-deficiency anemia (such as B-12 and folic acid-deficiency anemia). Ayurveda classifies anemia as a Vata, Pitta or Kapha type of disorder.
For all types of anemia it is important to eat iron rich foods. Iron is a good blood builder, so foods rich in iron, such as beets, carrots, grapes, raisins, and currants, are used in the Ayurvedic treatment of most anemia. Figs, dates, and date sugar are also good sources of iron. Ayurveda often prescribes the use of chlorophyll as well, generally in the form of spinach, chard, and other fresh green vegetables.

The following recipe very efficiently removes iron-deficiency: Grind fenugreek seeds and take 1 tablespoon of the fenugreek powder, mixed with one cup of yogurt, on empty stomach, in the

morning, for 8 days. Then pause for 8 days and then repeat again. This procedure can be repeated 3 to 5 times. It will bring the iron in the blood to a normal level.

Vata and Kapha individuals may find copper water to be effective. Fill a genuine cooper cup with water and let it stand overnight, then drink it first thing in the morning.

- **Diabetes**

Diabetes is a metabolic kapha type disorder, in which the diminished functioning of agni (digestive fire) leads to a tendency toward high blood sugar. A simple and effective herbal way to control blood sugar is to use turmeric. Fill some 00-size capsules (available at a pharmacy or natural food store) with turmeric and take 2 capsules, 3 times a day, a few minutes before meals. You can continue this program for up to a month and then reevaluate your condition. Clinical observation suggests that a person who is insulin dependent will experience a markedly diminished need for insulin. In this way diabetes can often be brought under control.

To help regulate your blood sugar level, you can try taking ½ teaspoon of ground bay leaf and ½ teaspoon of turmeric, mixed in 1 tablespoon aloe vera gel. Take the mixture twice a day before lunch and dinner.

- **Obesity**

Though it is not a serious disease in itself, it may shorten the span of life, as well as create diminished efficiency in life undertakings, and bring out any predisposition to diabetes, hypertension, low libido, and arthritis. Ultimately, obesity reduces happiness. Obesity is a kapha disorder. In obese individuals the gastric fire is strong, but the cellular fire in the tissue is relatively low. Whatever excess food or calories a person consumes are not burned and instead turn into adipose tissue, leading to overweight and obesity.

To reduce obesity drink warm water and honey. Whenever you become hungry, drink a cup of warm water with 1 teaspoon honey and 10 drops of lime juice added to it. This will be a good substitute for eating and will help to melt any excess fat.

- **Tinnitus (ringing in the ears)**

According to Ayurveda, ringing in the ear is a Vata disorder. To alleviate this root cause – aggravation of Vata in the nervous system – prepare a tea made from equal amounts of comfrey, cinnamon, and chamomile. Steep up to 1 teaspoon of this mixture per cup, and drink 2 or 3 times a day. You can also take Guggulu (Commiphora mukul / Salai Tree: 200 mg, 2 or 3 times a day) with warm water, after food.

Gently rubbing the mastoid bone (behind your ear) with warm sesame oil may be helpful. Try it twice a day, morning and evening, for a week, and see if it helps.

- **Sore throat**

A sore throat is caused by irritation and inflammation of the throat. The simplest remedy, and one

that is quite effective, is gargling. Ayurveda recommends using 1 cup of hot water (not so hot that it might burn your throat) with ½ teaspoon of turmeric and ½ teaspoon of salt. Gargle with this mixture morning and evening.

Another very good preparation is to mix one tablespoon of honey with turmeric, cinnamon and fresh ginger. Keep in the mouth and swallow slowly.

Turmeric milk: Drinking 1 cup of hot milk boiled with ½ teaspoon turmeric is also helpful for a sore throat.

Another remedy that works well is ginger-cinnamon-licorice tea in the following proportions: 2 parts of ginger, 2 parts of cinnamon, 3 parts of licorice. Steep 1 teaspoon of the herbal mixture in water for 5 to 10 minutes and drink up to 3 times a day.

The yoga posture known as the lion pose is traditionally recommended for sore throats. Yoga mudra is also effective. You may also practice brahmari pranayama.

- **Rashes and hives**

Skin rashes and hives indicate excess pitta or heat in the body. The Ayurvedic approach is to provide a cooling effect from both the inside and outside. Whatever the cause of the rash, whatever allergies, an insect bite, or something else, cilantro juice will be immediately effective. Wash fresh cilantro, chop it into pieces, put it into the blender, add 1/3 cup of water, and blend. Drink the juice, and apply the pulp directly onto the skin. Also if you have a fresh coconut, break it open and apply the coconut water to the rash. Also you can use a paste made of sandalwood (1 part) and turmeric (2 parts) powders mixed in goat's milk. This paste is healing for the skin.

The following formula is very effective to help restore health to your skin from the inside: 2 parts of coriander, 1 part of cumin, and 2 parts of raw natural sugar. Steep ½ teaspoon of this mixture in a cup of hot milk and drink it once or twice a day until the condition is healed.

- **Prostate problems**

In middle-aged men, it is common for the prostate gland to become enlarged, resulting in a number of uncomfortable symptoms. Massage the area of the prostate gland with castor oil. Apply a small amount of the oil (sesame oil is also beneficial) to the perineum, the area in between the anus and the testicles. First rub in a circular motion, then finish with strokes from the anus toward the base of the penis. Don't press hard, use light strokes.

A number of herbal remedies are effective in treating prostate problems. Prepare the following formula of Ayurvedic herbs: 2 parts of Punarnava (Boerhaavia diffusa / Spreading Hogweed), 1/8 part Shilajit, 2 parts Gokshura (Tribulus terestris / Puncture Vine). Take ¼ teaspoon twice a day, after meals, with a little warm water. Continue to take this until your symptoms disappear. You can also use ginseng, hibiscus, or horsetail tea.

The yoga tradition recommends to perform Ashwini Mudra: pulling or sucking the anus inward in a series of tense-and-release movements. Do about 10 repetitions of Ashwini Mudra in the morning and evening. The Kukutasana (Elevated Lotus pose) is also helpful for prostate problems. One may also try sitting with the perineum on a tennis ball, slightly moving the body to massage that area.

- **Osteoporosis**

Osteoporosis is a thinning and increasing porosity of the bone due to increased Vata. Osteoporosis is more common in women than men. Women lose bone rapidly after menopause. This is because the postmenopausal body produces little or no estrogen, which is necessary for maintaining bone metabolism, utilizing calcium, magnesium, zinc, and other materials for building bone tissue.

To strengthen the bones it is important to get a plentiful supply of calcium from natural food sources, such as sesame seeds, soybeans, soy milk, cow's milk, cheese, carrots, and coconut. Almond milk also contains a significant amount of calcium.

Certain herbs can help to produce estrogen in the metabolic cycle. Try the following formula: 5 parts of shatavari (Asparagus racem), 3 parts of vidari (Pueraria tuberosa – Indian kudju), and 2 parts of wild yam. These herbs are food precursors of estrogen and progesterone. To this formula you can add 1/8 part each of shanka bhasma (conch shell ash) and kama dudha (coral shell ash). They contain a natural source of calcium bicarbonate, which can help to prevent osteoporosis. Take ¼ teaspoon of this mixture twice a day with warm milk. Treat this as a daily maintenance dose, and take it indefinitely to help prevent osteoporosis.

These are only a few of many health problems which can be efficiently addressed through Ayurveda. Ayurveda has more of a preventive character and is great for restoring any imbalance of the doshas. I recommend the use of any traditional medicine which can help restore health, without the damaging side effects of modern medicine.

- **Cancer**

According to Ayurveda, cancer comes about from pragyaparadh of the cell, mistake of the cell's intellect. Ayurveda sees cancer as a failure of the DNA to reflect the Pure Intelligence (Consciousness) that structures the DNA. Pragyaparadh, or mistake of the intellect, refers to the intellect forgetting the memory of its higher Self – the abstract level of consciousness that underlines it. The intellect gets lost in the complex, ever-changing vision of the world at the expense of the memory of the silent unity of life which is the basis of all creation.

The body is Pure Consciousness. Pure Consciousness vibrates in one way and becomes your liver. It vibrates in another way and becomes your pancreas, etc. When pure consciousness vibrates it produces sound, Vedic sound. In one research study on this topic of sound, human cancer cells were grown in the laboratory, and the effect on the cells from a Vedic sound called Sama Veda was compared to that of hard rock music. The result showed that Sama Veda decreased the growth of the cancer cells, whereas the hard rock music increased the growth of the cells.

Different herbs posses specific vibration and intelligence which, when specially prepared and consumed, resonate with the vibration of certain aspects of our physiology, enlivening the intelligence which is at the basis of a healthy functioning body. The following recipes may be used for treating cancer:

Take 300 grams of the leaves of an aloe plant (Aloe arborescens Mill.). The aloe plant used should be more than 2 years old and should not be watered for 5 days before being picked. Add 600 grams of comb-honey (honey still in the comb) and mix it with the aloe (place both comb-honey and aloe leaves in a vessel and crush and mix the two – this is better than using a blender as honey should not come in contact with metal). Then add 7 dcl of organic dark red wine which should have a min-

imum of 12% alcohol content. Add 3 dcl of 96% alcohol and 50 grams of wild chicory (Cichorium intybs L.). Mix all these ingredients together and store in a glass bottle or jar in dark place for 5 days before use. Then take for 5 days, 3 times a day, one tea spoon before each meal. Then continue taking one table spoon 3 times a day before meals, until all of the mixture is used up.

Along with above mentioned preparation, daily take the following preparations and teas:

1. In 5 liters of organic white wine put 10 to 15 heads of leek (Allium porrum L.), without leafs. Cook until half the quantity has evaporated. Then remove the leek from liquid and wait until liquid has cooled down to at least 40 degrees celsius. Then add 3 table spoons of natural, organic honey and fresh pressed juice from 2 lemons. Drink half a dcl of this preparation every morning on an empty stomach. After that don't eat for half hour. You can drink this preparation also during day in small quantities.

2. Boil half a liter of water and remove from the stove. Add 2 big flowers of elderberry (Sambucus nigra). Cover the pot with a lid and wait for 10 to 15 minutes. Remove the elderberry flowers. Drink 1 dcl every 2 hours, without adding honey or sugar.

3. Boil 1 liter of water and remove from the stove. Add a handful of heat speedwell (Veronica offi cinalis L.). Cover the pot with a lid and wait for 10 to 15 minutes. Then remove the heat speed-well. Drink 1 or 2 dcl every 2 hours, without adding honey or sugar.

4. Boil half a liter of water and remove from the stove. Add half of handful winter savory (Satureja montana L.). Cover the pot with a lid and wait for 10 to 15 minutes. Remove the winter savory. Drink 1 dcl every 2 hours, without adding honey or sugar.

5. Boil half a liter of water and remove from the stove. Add 2 table spoons of chamomile (Matricaria chamomilla l) and 1 table spoon of African marigold (Calendula officinalis L.). Cover the pot with a lid and wait for 10 to 15 minutes. Remove the chamomile and marigold. Add some honey (once the tea has cooled down to at least 40 degrees) and drink 1 or 2 dcl every 2 hours.

There should be a gap of at least 30 minutes between taking these preparations and teas.

For an external application on the affected body part, the following preparation can be used:

Take 1 kg of onion (Allium cepa L.), half kg of leek (Allium porrum L.) and handful of garlic (Allium sativum L.). Blend all ingredients together, making a paste. Put the mixture on a cotton cloth (gauze) and apply to the suffering part of the body.

Application of the above mentioned preparations, along with strict regulation of daily routine and eating habits, has shown to have a cancer reducing effect within one month.
Also one should avoid eating sugar in any form except that which is naturally present in fruits and honey. One should not consume alcohol, cigarettes, coffee, meat, processed salt (himalayan rock salt should be used instead), white bread, fats from animals (except for milk products). One should consume plenty of fresh organic fruits and vegetables, green vegetable juices, cereals, nuts and seeds, organic diary products, specially lassie, etc.

For developing more ojas in the body one should regularly practice meditation (Transcendental Meditation), pranayama and asanas, and also one should follow behavioral rasayanas to increase sattva in the mind. Ojas nourishes tissues at their finest level. It builds immunity. When ojas is de-

ranged, the transformation of the cells gets disturbed. The body produces unwanted cells, and that is cancer. The practice of Ishwara-pranidhana also connects the individual with Cosmic Intelligence, awakens cosmic intelligence in every cell of the body and has a healing effect (i.e. advanced technique of Transcendental Meditation or sun salutation with sun mantra or sun-gazing).

Ayurvedic and yogic recommendations for daily routine and diet

Following recommendations are very important for supporting asana, pranayama and meditation practice, to realize enlightenment and perfect health. All aspects of life should be brought in tune with nature.

Ayurvedic routine in accordance with the rhythms of nature

The mind-body system is a biological structure of time. The functioning of the entire organism is determined by a biorhythm. The biorhythm changes during the course of a day, a month, different seasons, and during the different phases of life. Health means the integrated and coherent sequence of all biological cycles in the organism.

Sickness can have a disturbing effect on the biorhythms and/or may be caused by a disarrangement in the biological cycles. In Ayurveda, a good health promoting daily routine, in tune with the changes of the physiology, is important for healing and maintaining health. For stabilizing the biorhythm, the following routine is recommended:

In the morning:

1. Get up in the morning without an alarm clock.
2. Put one drop of Shadbindu oil, Sesame oil or oil prescribed by your doctor in each nostril.
3. Drink one glass of water (room temperature).
4. Evacuate bladder and bowel.
5. Do an oil massage on the whole body, with warm and ripened Ayurvedic herbal oil, prescribed by your doctor, or use Sesame oil.
6. Do your oral hygiene.
7. Clean the tongue with a tongue scraper.
8. Gandusha: gargle with ripened Irimedadi oil or Sesame oil.
9. Do Surya Namaskaram (salutation to the Sun).
10. Exercise up to 50% of your capacity. Afterwards rest lying on your back.
11. Take a warm shower.
12. Do asanas, pranayama, and meditation.

During the day:

1. Regular activity without too much exertion. You should not be tired in the evening.
2. Be regular in your meals – rest afterwards for 15 - 20 minutes.
3. Don't sleep during the day.
4. Do asanas, pranayama, and meditation.

In the evening:

1. Do some enjoyable and relaxing activity.
2. Before going to bed (and if possible also in the morning) go for a short walk (10 – 15 minutes).
3. Before going to bed take one cup of warm milk with some ghee, ginger, cardamom and brown sugar.
4. Massage the soles of your feet with warm sesame oil.
5. Go to bed before 10:00 p.m.

Ayurvedic diet recommendations

Kapha-pacifying diet:

Favor foods that are: light, dry, warm, spicy, bitter (green leafy vegetables), astringent (beans)
Reduce food that are: heavy, oily, cold, sweet (sugar, wheat), salty (potato chips), sour (sour citrus, cheese, yogurt)

Pitta-pacifying diet:

Favor foods that are: cold, heavy, oily, sweet (wheat, milk, rice), bitter, astringent
Reduce foods that are: hot, light, dry, spicy, salty, sour (tomatoes, cheese, yogurt, citrus)

Vata-pacifying diet:

Favor foods that are: warm, oily, heavy, sweet (wheat, milk, rice), sour (yogurt, tomatoes, citrus fruit), salty
Reduce foods that are: cold, dry, light, spicy, bitter (green leafy vegetables), astringent (apples, beans).

General guidelines for balancing the diet and bringing balance and nourishment to your physiology. For maximum, long-term results, the following guidelines are recommended:

Do's

- Eat at regular times.
- Eat only if you feel hungry (make sure the previous meal is digested).
- Eat according to your hunger level (don't overeat, don't eat too little).
- Sit and eat in a settled environment.
- Chew well as the digestive process starts in the mouth.
- Sit quietly after the meal for a few minutes.
- Always prefer fresh and freshly prepared food.
- Eat warm, cooked food. During summer eat more raw food diets (salads, etc.).
- Vegetarian diet is more healthy and easy to digest (non-vegetarian diet is known to produce a lot of toxins).
- Favor organically grown food.

Don'ts

- Don't take any food or drink directly from the refrigerator.
- Avoid heavy, oily, or fried food (cheese, deep fried foods, yogurt, potatoes, chocolate)
- Avoid carbonated and caffeinated drinks.
- Avoid frozen and processed food.

- Avoid gas producing food: cabbages, brussel sprouts, beans and peas, especially for dinner.
- Minimize intake of root vegetables: carrots, beet roots, celery, etc.
- Do not cook or heat honey. Do not take honey with hot drinks or hot food.
- Do not reheat food which has already been cooked.
- Avoid genetically manipulated food.

A good indicator is that you feel fully satisfied and light after eating. Be self-referral and spontaneously choose the diet that is suitable for you and do not eat that which yon know is not good for you!

Examples of meals:

Food should be delicious, warm and properly cooked. It should be freshly prepared from wholesome and seasonal ingredients. The six tastes (sweet, salty, sour, pungent, bitter, astringent) should be included in the daily food intake.

Breakfast:

- Take breakfast only if you are hungry
- Warm milk alone or with either cereals or a few raisins and almonds
- Kanjee or herbal tea (Vata, Pitta, Kapha, mint, fennel, etc.)
- Luke warm water with a few drops of lemon juice and 1 teaspoon of honey. It can be taken as soon as you get up to release any toxins (ama) which may have been accumulated overnight Never take it with milk!
- If you take bread or crackers, take them preferably with ghee, home made jam, or honey.
- Bread should be taken fresh and toasted and when possible be without yeast

Lunch and Dinner:

- Lunch should be the main meal of the day
- Begin your lunch with the food which is the most difficult to digest (heavy and sweet in taste), when the digestive power is at its maximum
- A balanced diet includes grains, dal, vegetables, chutney, ghee, salt, spices or churna. Dal can be replaced by lentils, beans or peas. Chapatis or fresh breads are optional.
- If you feel thirsty, drink salty lassy or sip hot water.
- Take an early and light dinner (6-7 pm is ideal. Wait at least 1 hour before going to bed so the dinner is better digested).
- Favor vegetable soup, dal, khichari, or other grains, or have milky dessert alone.

What to include in your diet:

- Ripe, sweet fruits: in between meals.
- Ghee (clarified butter), for cooking or to add to your meal after it's been cooked. Adjust the dose to your digestive capacity. Ghee should never be burnt!
- Cereals and pulses: All grains can be used: rice, pasta, couscous, barley, polenta, etc. Among the pulses, yellow mung dal is the easiest to digest.
- Fresh herbs: parsley, coriander leaves, basil, mint, thyme, etc. Use in moderation.
- Lassi – during lunch or in the afternoon, to improve digestion. May be salty, with rock salt and

dry roasted cumin or sweet with ginger, cardamom and sugar. Mix 1 part yogurt with at least 3 parts of water. Yogurt should be fresh and not sour.

- Milk: should taken warm, either alone or with cereals only. It should never be mixed with sour or salty foods. It is easier to digest when boiled with spices, such as ginger and cardamom. Water can also be added before boiling to make it lighter.
- Raisins: soaked in water overnight.
- Spices, salt, etc.: cumin, ginger, turmeric, cardamom, cinnamon, cloves, mustard seeds, asafoetida, black pepper, rock salt (himalaya salt is best), churnas (spice mixtures). In general, spices should be added at the beginning of the cooking process. Churnas and salt can be added after cooking. Consume in moderation.
- Sweeteners: Jaggery (raw cane or palm sugar), home made jam, honey. Use in moderation.
- Cooked vegetables: steamed, cooked with ghee or as a soup.
- Boiled warm water: sip regularly throughout the day according to thirst. It pacifies, gives energy and stimulates digestion. It is better to boil the water for 10 to 20 mins, possibly with 1 or 2 slices of ginger or cumin / coriander / ajowan (carom seeds). The water can be kept for the whole day in a thermos flask.
- If you have good digestive power, only in small quantities: nuts (almonds, nuts, sunflower seeds, etc.) and raw vegetables (grated cucumber, ripe tomatoes, basil, parsley, coriander, mint, fresh grated ginger, etc.). If possible remove the skin and seeds of tomatoes. You can add a high quality olive or sunflower oil, lemon juice, black pepper, rock salt, and churnas, according to taste.

Incompatible food combinations (virudha-ahar):

Within the field of holistic health and nutrition there is a great deal of controversy about food combining. Even among the population at large, there is growing concern about diet and confusion over the large number of conflicting theories on the subject.

Ayurveda, an ancient holistic science of healing, offers a logical and scientific approach for determining an appropriate diet, based upon an individual's constitution. Vata, pitta and kapha (the tri-dosha) are the elements which comprise individual constitution. This approach is quite different from the "traditional" view of a balanced diet; viz., eating daily from the basic food groups; meat, dairy, fruit, grains and vegetables. According to the Ayurvedic literature, such a scheme is insufficient for leading us to good health.

In the Ayurvedic literature there are five types of nutritional disorders:

1. Quantitative dietary deficiency. This includes under-nutrition due to insufficient food and even starvation.
2. Qualitative dietary deficiency. This includes wrong food combinations and results in malnutrition, toxemia, and a lack of essential nutrients.
3. Qualitative and quantitative over-nutrition. This includes emotional overeating which can result in obesity and/or high cholesterol and may lead to hypertension, heart attacks, or paralysis.
4. Toxins in the food. Certain foods and food combinations lead to toxemia and to digestive disorders.
5. Foods not suitable to one's constitution may affect one's natural resistance and cause disease.

These five factors are closely connected to the strength of agni (the gastric fire). The agni that digests food (Jatharagni functioning in the digestive tract) is regarded as the master of all Agnis because an increase and decrease of the other Agnis (functioning in the different tissues) depends on the digestive fire (Jatharagni). Therefore, one should maintain it carefully through proper intake of wholesome food and drinks, because the maintenance of life-span and strength depends on the maintenance of agni. One who eats greedily, leaving aside all rules and guidelines, soon acquires disorders due to morbidity in the duodenum (Grahani).

Factors that disturb agni (Dushyanti Agni) are: starvation; eating during indigestion; over-eating; irregular eating; intake of unsuitable, heavy, cold, too rough, and contaminated food; faulty administration of physiological purification procedures; emaciation due to disease; faulty adaptation to place, time and seasons; suppression of natural urges. Agni thus deranged becomes unable to digest even light food, and the food being undigested becomes acidified and toxic.

There are four types of agni:

1. **Vishama Agni**: Due to vata dosha the gastric fire becomes vitiated, causing irregular appetite, indigestion and gases. Emotionally this can result in anxiety, insecurity, fear, and neurological or mental problems.
2. **Tikshana Agni**: Pitta dosha is responsible for this type of agni disorder. It may cause hyper-metabolism, hyperacidity, heartburn and hypoglycemia leading to inflammatory diseases.
3. **Manda Agni:** This is due to an excess kapha condition, leading to slow metabolism, overweight, allergies and congestive diseases.
4. **Sama Agni:** This type of agni is the result of balanced tri-dosha. A person having this type of agni can eat almost any type of food without difficulty. Digestion, absorption, and elimination are all normal.

The nutritionist should give consideration to these types of agni when making suggestions concerning diet. According to Ayurveda, every food has its own taste (rasa), a heating or cooling energy (virya) and post-digestive effect (vipak). When two or three different food substances of different taste, energy and post-digestive effect are combined together, agni can become overloaded, inhibiting the enzyme system and resulting in the production of toxins in the system. While it is true that an individual's agni largely determines how well or poorly food is digested, food combinations are also of great importance. When foods (proteins, carbohydrates, and fats) with attributes, tastes, heating or cooling properties, and post-digestive effects are eaten together, agni will be slowed down. The foods can then remain in the stomach for seven to eight hours. These same foods, if eaten separately might well stimulate agni, be digested more quickly and even help to burn ama. Thus, according to Ayurveda, one should eat according to one's constitution and take fruits, starches, proteins and fats separately at different times of the day. Combining foods improperly can produce indigestion, fermentation, putrefaction and the formation of gas. This condition, if prolonged, can lead to toxemia and diseases. For example, eating bananas with milk can diminish agni, change the intestinal flora, produce toxins, and may cause sinus congestion, colds, cough and allergies.
Some basic concepts of an Ayurvedic Food Combining program include the following:

- Avoid taking milk or yogurt with sour or citrus fruits.
- Avoid eating fruits together with potatoes or other starchy foods. Fructose (and other sugars) is digested quickly, whereas starch takes quite some time. In this case the sugar would not be properly digested.
- Avoid eating melons and grains together. Melons digest quickly whereas grains take more time. This combination will upset the stomach. Melons should be eaten alone or left alone.

- Honey should never be cooked (or heater over 40°C). Honey digests slowly when cooked and the molecules become a non-homogenized glue which adheres to the mucous membranes and clogs the subtle channels (shrotas), producing toxins. Uncooked honey is nectar. Cooked honey is poison.
- Do not eat meat protein and milk protein together. Meat is heating, while milk is cooling, so they counteract one another, disturb agni and produce ama.
- Milk and melon should not be eaten together. Both are cooling, but milk is laxative and melon is diuretic. Milk also requires more time for digestion. Moreover, the action of hydrochloric acid in the stomach causes the milk to curdle. For this reason Ayurveda advises against taking milk with sour fruits, yogurt, sour cream, cheese, and fish.

Among the digestive aids referred to there are:

- Water, which imparts a liquid quality and helps in digestion and absorption of food.
- Salt also aids digestion, and helps to retain water.
- Alkalies help digestion and regulate gastric fire (HCL).
- Ghee stimulates agni and improves digestion.
- Milk invigorates.

Influence of foods on the tri-doshas:

- Pitta is increased by foods which are sour and pungent.
- Kapha is aggravated by milk products.
- Vata is over-stimulated by beans, dry fruits, astringent and bitter substances.

The daily diet should contain:

- 20 - 30% well-cooked basmati rice, barley, corn, or wheat depending upon one's constitution
- 15 - 20% well cooked legumes
- 2 - 5% vegetable soups
- 1/2 teaspoon of pickles
- 50% fresh salads, fruits

In order to stimulate the appetite one can chew and eat 1/2 teaspoon fresh grated ginger with a pinch of rock salt before each meal.

Ayurveda insists that iced water should not be drunk during or after a meal as it slows agni and digestion. Small sips of warm water taken during the meal serves to aid digestion. While eating one should properly masticate (chew) the food in order to soften it and ensure that it is thoroughly mixed with saliva. If desired, one can finish a meal by drinking a cup of lassi (or takram). This can be made by blending four teaspoons of yogurt with two pinches of ginger and cumin powder in one cup of water.

When eating, only one third of the capacity of the stomach should be filled with food, one third with liquid and one third should be left empty. This will aid in proper digestion and also promotes mental clarity.

Incompatible food combinations:

- Milk is incompatible with: bananas, fish, meat, melons curd, sour fruits, kitchari, bread containing yeast, cherries
- Melons are incompatible with: grains, starch, fried foods, cheese
- Starches are incompatible with: eggs, tea, milk, bananas, dates, persimmons
- Honey is incompatible with: ghee (in equal proportions) and it should not be heated or cooked
- Radishes are incompatible with: milk, bananas, raisins
- Nightshades, (potato, tomato, eggplant, chilies) are incompatible with: yogurt, milk, melon, cucumber
- Yogurt is incompatible with: milk, sour fruits, melons, hot drinks, meat, fish, starch, cheese
- Eggs are incompatible with: milk, meat, yogurt, melons, cheese, fish, bananas
- Mangos are incompatible with: cheese, cucumbers
- Corn is incompatible with: dates, raisins, bananas
- Lemon is incompatible with: yogurt, milk, cucumbers, tomatoes

The above guidelines are by no means an exhaustive list. It must also be remembered that a proper Ayurvedic diet should consider nutritional value, constitution, seasons, age and any existing disease conditions.

Yogic diet

The purpose of yoga is to create as much sattva as possible. Sattva is maximum coherence, coherent vital energy (prana), negative entropy. The Hatha Yoga Pradipika, the main classical Hatha Yoga textbook, gives description of a sattvic diet (section 58). It recommends avoiding *"alcohol, fish, meat, curds, berries, oil, cakes, asafetida (hing), and garlic."* It lists good foods for Yoga: grains, wheat, rice, barley, milk, ghee, butter, honey, dry ginger, cucumber, fine leafy vegetables, green garam (an Indian seasoning), and pure water. Sattvic food, according to the Bhagavad-Gita, is food liked by sattvic people, which promotes longevity, goodness, strength, health, happiness, and pleasure, which and is juicy, rich, nourishing, and agreeable. The equivalent of a traditional sattvic diet today consists of organic, whole, natural fruits, vegetables, beans, edible greens, wheat, rice, barley, milk, ghee, butter, honey, nuts, seeds, and grains. The experience of a sattvic diet is that of inner strength, harmony, peace, and balance.

In yogic diet, it is important to have the following in mind:

A) sattvic food items:

Food has a very great influence on the mind because everything we eat and drink is transported by the blood which sustains the nervous system. Therefore, the quality of food has a great deal to do with the quality of the mind. Mind depends on the quality of food that one eats. Food items should be sattvic, not rajastic or tamastic. All foods are divided into three classes: Tamasa, that which causes drowsiness, lethargy and indolence; Rajasa, that which causes hot temper, incessant activity and indiscreet proceedings; and Sattvika, that which causes calm and serene temper, tranquility of mind, balanced judgment and discretion. The combination of flavors are said to result in rasa, agreeable flavor, virasa disagreeable, or viruddharasa, hostile flavor. "Svabhavika Madhura", naturally sweet

foods (as contrasted with "artificial sweet meats") is commended as the only safe diet, conducive to a long life and emancipation. A naturally sweet diet promotes a serene temper of mind, while acidic food promotes an active temper and salty and spicy food a lethargic temper. One who is desirous of long life and emancipation should confine himself to sweet food.

Sattvika food promotes correct and valid perception while a Tamasa diet results in various forms of incorrect perceptions. Sattvic diet is that which is unctuous, pleasing to heart and mind, which stabilizes the body and gives a long life, as well as strength and health in mind and body. A sattvic diet promotes happiness and love for all creatures. A Sattvic diet is sweet, light, unctuous and cooling in nature: cow milk, ghee, butter, wheat, healthy rice, mungdal, buttermilk (lassi), fruits, and all light and fresh foods. Sattvic food is wholesome. Rajastic and tamasic food is basically unwholesome. The food articles which maintain the equilibrium of the dhatus and help eliminate the disturbance of their equilibrium are to be regarded as wholesome; otherwise they are unwholesome.

Tamasa diet is that which is stored and spoiled, which is without taste and which has a bad smell. It also includes left-overs and food which does not look appealing. Tamasic food is heavy, cold, dry, tasteless, decayed, and spoiled. Tamasic food is not fresh and heavy to digest. It has a high level of entropy (disorder).

Rajasic food creates excitement of the mind, while tamastic food creates dullness in the mind. A rajasic diet is that which gives unhappiness, sorrow and diseases. It contains mostly the tastes pungent, sour and salty. It is too hot, sharp, and dry, and causes a burning sensation. A rajasic diet is often too spicy and strong tasting (e.g. old cheese). It includes most heating foods, such as chilli, garlic, pepper, tomatoes, cheese (old, salted), ripe eggplants, heating pulses, meat, fish, sea food, and alcohol.

The food which we take must nourish all five Koshas of the human body. Only wholesome or sattvic food can accomplish this. The five Koshas are dominated by the five fundamental elements (space, air, fire, water, earth). Therefore the diet must be balanced in accord with the individual constitution. The food that we ingest through the mouth primarily influences the physical and secondarily the other levels of our existence.

The food in the form of experiences which enter our mind in the form of different thoughts, feelings, and perceptions, is mainly the food for the mental body. To have proper nourishment of the mental body, it is necessary to have „sattvic mental food" (coherent, happy, content, peaceful, enthusiastic thoughts and experiences). As we are responsible and able to choose what we eat and put into our mouth, so we are also responsible for certain mental contents (quality of thoughts). If we notice the appearance of „negative thoughts", we consciously decide to think the opposite. In the Yoga Sutra of Maharishi Patanjali, this process is called *„pratipaksha-bhavana" (Y.S. 2.33),* meaning „think opposite", consciously making the change. In the commentary of Adhi Shankara on the Yoga Sutras, he elaborated on this principle, explaining that if we notice negative thinking and allow it to go on and even speak it out or act on it, then it'll be like a dog vomiting and then eating his own vomit. By taking on the practice of pratipaksha-bhavana, we are breaking the self-feeding loop of negativity and create a real, positive change in our mental body.

The quality of pranamaya kosha or energy body directly influences the physical and the mental body. Prana or life energy has the main influence on the energy body. Prana can also be understood as primordial food, like „pra" (primordial) and „ana" (food). We have direct access to prana through the practice of asana, pranayama, and meditation, and also through wholesome food, sunrays, pure spring water, fresh (ionized) air, etc. In that sense the yogic diet includes recommendations on the level of behavior, wholesome foods, and mental procedures for gaining a sattvic state of the mind,

as well as physical exercise which energizes the body and insures a good metabolism.

For the health of the emotional body („anandamaya kosha"), the best food is sattvic, positive emotions: Feelings of security („mother is at home"), happiness, love, and laughter. This develops emotional intelligence which becomes the basis of the function of our intellect.

The best food for all five kosha which everyone must consume daily, for the health of all the five koshas, is the experience of transcending, twice daily, experiencing your Self. This is the main spice without which all other foods are without taste and will never nourish all levels of our body. Transcendental Consciousness is the state of perfect order, zero entropy, which neutralizes any increase of entropy in physiology.

Erwin Schroediger in his book "What is life?" scientifically explains the importance of satvic (orderly) food items. Here is the explanation from his book:

„Living matter evades the decay of equilibrium... What is the characteristic feature of life? When is a piece of matter said to be alive? When it goes on doing 'something', moving, exchanging material with its environment, and so forth, and that for a much longer period than we would expect of an inanimate piece of matter to 'keep going' under similar circumstances. When a system that is not alive is isolated or placed in a uniform environment, all motion usually comes to a standstill very soon as a result of various kinds of friction; differences of electric or chemical potential are equalized, substances which tend to form a chemical compound do so, temperature becomes uniform by heat conduction. After that the whole system fades away into a dead, inert lump of matter. A permanent state is reached, in which no observable events occur. The physicist calls this the state of thermo dynamical equilibrium or of 'maximum entropy'.

... It is by avoiding the rapid decay into the inert state of 'equilibrium' that an organism appears so enigmatic; so much so, that from the earliest times of human thought some special non-physical or supernatural force (vis viva, entelechy) was claimed to be operative in the organism. How does the living organism avoid decay? The obvious answer is: By eating, drinking, breathing and (in the case of plants) assimilating. The technical term is metabolism. The Greek word means change or exchange. Exchange of what? Originally the underlying idea is, no doubt, exchange of material (e.g. the German word for metabolism is 'Stoffwechsel'). That the exchange of material should be the essential thing is absurd. Any atom of nitrogen, oxygen, sulphur, etc., is as good as any other of its kind; what could be gained by exchanging them? For a while in the past our curiosity was silenced by being told that we feed upon energy. In some very advanced country (I don't remember whether it was Germany or the U.S.A. or both) you could find menu cards in restaurants indicating, in addition to the price, the energy content of every dish. Needless to say, taken literally, this is just as absurd. For an adult organism the energy content is as stationary as the material content. Since, surely, any calorie is worth as much as any other calorie, one cannot see how a mere exchange could help. What then is that precious something contained in our food which keeps us from death? That is easily answered. Every process, event, happening – call it what you will; in a word, everything that is going on in Nature means an increase of the entropy of the part of the world where it is going on. Thus a living organism continually increases its entropy – or, as you may say, produces positive entropy – and thus tends to approach the dangerous state of maximum entropy, which is of death. It can only keep aloof from it, i.e. alive, by continually drawing from its environment negative entropy – which is something very positive as we shall immediately see. What an organism feeds upon is negative entropy. Or, to put it less paradoxically, the essential thing in metabolism is that the organism succeeds in freeing itself from all the entropy it cannot help producing while alive.

... How would we express in terms of the statistical theory the marvelous faculty of a living organism, by which it delays the decay into thermo dynamical equilibrium (death)? We said before: 'It feeds upon negative entropy', attracting, as it were, a stream of negative entropy upon itself, to compensate the entropy

increase it produces by living and thus to maintain itself on a stationary and fairly low entropy level. If D is a measure of disorder, its reciprocal, l/D, can be regarded as a direct measure of order. Since the logarithm of l/D is just minus the logarithm of D, we can write Boltzmann's equation thus:

- (entropy) = k log (l/D)

Hence the awkward expression 'negative entropy' can be he replaced by a better one: entropy, taken with the negative sign, is itself a measure of order. Thus the device by which an organism maintains itself stationary at a fairly high level of orderliness (= fairly low level of entropy) really consists of continually sucking orderliness from its environment. This conclusion is less paradoxical than it appears at first sight. Rather it could be blamed for triviality. Indeed, in the case of higher animals, we know the kind of orderliness they feed upon well enough, viz. the extremely well-ordered state of matter in more or less complicated organic compounds, which serve them as foodstuffs. After utilizing it they return it in a very much degraded form – not entirely degraded, however, for plants can still make use of it."

Satvic food has negative entropy and has an effect of rejuvenation. If the procedure of growing food in the fields is enriched and supported by the Vedic Vibrations of all the forty qualities of intelligence, available in the forty fields of the Vedic Literature, the quality of food will be nourishing for all, and the thought, speech, action, and behavior of everyone will be in the direction of evolution.

"EF – ED >0":
One simple formula can give us a clear meaning of diet. When from EF (energy contained in food items) we deduct ED (energy spent on digestion of those food items), the result should be more than zero to approve usefulness of diet. Useful food items will be those which have a lot of prana (negative entropy energy) and are easily digestible.

B) Sattvic earning for food items:

Apart from the "material quality" in the food, it is important how that food has been earned. When a man earns his livelihood by honest means, then the food has a good influence on his mind, but food bought from dishonest earnings will produce dishonesty in his mind. Earnings must be obtained in a sattvic way, by activity which supports evolution and increases other's happiness and health.

C) Sattvic mind of the cook:

Food is affected by the tendencies of the cook who prepares it. An example of this comes from the Mahabharata: Bhīṣma was eating food that was served to him by Duryodhana and this way he lost the clarity of intellect to distinguish between right and wrong. In the story when Duśāsana wanted to remove the sari from Draupadi, Bhīṣma was present but didn't react on that unrighteous act of Duśāsana, because the food that he ate from Duryodhana, made his mind tamastic (inertia) and rajastic (anger, unstable intellect); so he could not no longer distinguish between good and bad.

D) Sattvic mind of eater and sattvic way of eating:

Food is also affected by the tendencies of the mind and the quality of thoughts while it is being eaten. So the frame of mind in which one eats and the company one keeps, are highly important. This is the real meaning of saying grace or giving thanks, before meals. Before eating you must offer the food to God. What you are offering is your feelings – God will not eat it, the food will not

become less in its amount. By offering the food to God, the food will become purified and sattvic and by eating such sattvic food our intellect will become sattvic as well.

In his book "Science of Being and Art of Living", Maharishi has suggested the following thoughts for "giving thanks" before a meal:

In Thy fullness, my Lord,
Filled with Thy grace,
For the purpose of union with Thee
And to satisfy and glorify Thy creation,
With thanks to Thee with all our hearts
And with all our love for Thee,
With all adoration for Thy blessings
We accept Thy gift as it has come to us.
The food is Thy blessing and in Thy service
We accept in all gratitude, my Lord.

Such a frame of mind, inspired by the thought of God and "our service to Him", "His grace" and a feeling of gratitude, certainly has a good effect. Purity of food (āhara śuddhi) purifies mind and body. From āhara śuddhi will be realized antahkaraṇa śuddhi. Antahkaraṇa śuddhi consists of: ćitta (individual consciousness) – manas (mind), buddhi (intellect), and ahamkara (ego).

Eating is a yagya. A yagya is performed on a specially designed ground, with a shape that reflects cosmic proportions (this shape is called yantra). In the middle of that construction, there is a fire place (Agni), on which the priest offers different food items (rice, ghee, etc.). The fire transforms these food items to be conducive as a food for the gods (devatas), so that these gods can be nourished and in return will bless us with health, happiness, wisdom, and affluence. In the process of eating, our body is the yantra, digestive fire is Agni, different aspects of intelligence of our body are the devatas, and we are the priests. We should eat with a feeling of devotion and offering food to the digestive fire, thereby nourishing the gods in our physiology so that they bestow upon us perfect health and enlightenment. Our body is a temple of gods and we must be careful what food items we give to them. Sattvic food strengthens the gods (devatas or constructive and coherent forces), thus giving us health. Rajastic and tamastic food strengthens the demons (asuras or destructive, entropic forces), thus resulting in illness. Eating pure food, one attracts light, eating impure food, one attracts darkness.

Traditionaly before eating, oblations are made to the four fires that are situated in our body. These oblations are known as Pranagnihotra. Surya, called the Ekarishi, rests on the head. Darsanagni exists as Ahavaniya in the face. The Dakshinagni rests in the heart. The Koshagni digests food and water. The assimilated food is taken to all parts of the body. This is called Garhapatyagni and rests in the navel.

Prana is propitiated by giving oblations: Oblations are made by saying *"Pranaya svaha"* and so on, in respect of each category of Prana *(Prāṇāya Svāhā, Apānāya Svāhā, Vyānāya Svāhā, Udānāya Svāhā, Samānāya Svāhā)*. The oblations are given to the prana holding the food by particular fingers. To prana the little finger and the thumb are used and the oblations are offered by saying *"Prāṇāya Svāhā"*. For apana the oblations are made with ring finger and the thumb. The oblations are made with the middle finger and the thumb for vyana, with all the fingers to udana and with the first finger and the thumb to samana. When oblations are made the different Pranas are satisfied and they bestow boons on the eater.

A small quantity of water is taken before the oblations are made saying *"Hrahmaṇi Ma Ātmāmṛtatvāya"*. After the dinner is completed a little of water is sipped saying *"Amṛtāpidhānamasi"*. This water covers the ingested food.

E) Satvic atmosphere and way of eating:

The best is to eat in silence and in calm and pleasant atmosphere. Company and environment should be pleasant. Do not work, read, or watch television during meals. Always sit to eat. The best is to eat food directly with the hands. The food we take inside ourselves recreates our body. We have to love that food, to feel it and touch it. When we touch our food, the five fingers connect to the five organs and assist the organs by relaying the message contained in the energy of the food. The organs respond to this energy and function appropriately.

F) Sattvic digestion:

Do not eat too quickly or too slowly. Eat to about ¾ of your capacity. Do not leave the table very hungry or very full. What we eat is important, but it is even more important what we make out of what we eat. Digestion depends on the state of the nervous system and the state of nervous system depends on the state of consciousness of the eater. Higher states of consciousness correspond to a more efficient functioning of the nervous system and with that an improved digestion. The ideal is to gain Brahman Consciousness. In the Brahma Sutras it is mentioned that Brahman eats everything and nothing remains undigested:

Attā charāchara grahaṇāt
"Whole Prakṛiti is eaten up – Brahman is the devourer of all diversity"
– Brahma Sūtra 1.2.9

Everything you see or experience through the five senses (also your body) is experienced in the value of the Self. You completely "digest" your body, so that it is not any more experienced as different from consciousness. Then the full value of consciousness is awakened in every cell of our body, the body's intelligence is fully awake. The processing and transformation of food is ideal and in accord with the sequential emergence of the sounds of the Veda. Then the body can produce anything (vitamins, minerals, ojas, etc.) that is needed for maintaining the state of perfect health and enlightenment. In yoga, we consider all experiences as food. Experiencing pure consciousness is the most sattvic food. Development of higher states of consciousness fulfills the purpose of eating.

The food items mentioned in different books of Hatha yoga (i.e., Hatha Yoga Pradipika) is for yogis who have a very strong digestive fire, because they are practicing asanas, pranayama, kriyas, bandhas, kapalabhati, agnisara dhauti, etc. Otherwise, for an unhealthy person, it can be too heavy for digestion. A person who does not have a very strong digestion should follow the advice of Ayurveda instead. We must know strength of our digestion before we decide which way food should be prepared and eaten.

The first part of digestion is by cooking food. The second is chewing in the mouth. Here you can follow the suggestion of: "Eating you drink and drinking you eat". It means that every sip of the liquid (water), you chew in the mouth before swallowing, as if you were eating. Likewise, food should be chewed until it becomes a liquid in the mouth so that you can swallow it like a drink. Also, everything what comes to the stomach must be body temperature, to not disturb the normal functioning of the stomach. The third step of digestion is in the stomach. The forth is in the intestines. For this reason, don't drink water for 3 hours after a meal, until the process of resorption of nutritional value

in the intestines has been finished. Avoid taking meals before the previous meal has been digested. Allow approximately 3 to 6 hours between meals.

Weak, limited consciousness ruled by kleshas creates a weak and tense nervous system, resulting in weak digestion: Feeling weak or tired (without physical exertion), heaviness of the body, feeling of obstruction in the abdomen, giddiness, improper movement of Vata (moving here and there), constipation or diarrhea, and the general symptoms of Ajirn (indigestion). The symptoms of Ama Ajirna (caused by Kapha) are heaviness, nausea, swelling of the cheeks and eyes, and belching similar to that occurring soon after meals. The place where Ama resides gives rise to pain and becomes the origin for many diseases, because the Doshas associated with Ama spread all over the body. For digestion of Ama (Ama Pachan) use ginger, cumin, black pepper, fennel, other spices, and hot water. To clean the digestive tract use lemon juice, honey, and warm water. The symptoms of Vidagdh Ajirna (caused by Pitta) are giddiness, thirst, fainting, sour and hot belching, perspiration, a burning sensation in the body, and other symptoms of aggravated Pitta. The symptoms of Vistabha Ajirna (caused by Vata) are abdominal pain, tympanites (swelling of the abdomen due to gas), Vata type of pain, retention of stool and flatus, and pain of the limbs and various parts of the body. Ajirna occurs mainly due to improper diet, by eating large quantities of food recklessly, like cattle. Ajirn is the cause of many other diseases.

In addition to excessive intake of food, the following factors also affect the body by vitiating the food which is not yet digested: foods and drinks that are heavy, rough, cold, dry, disliked, distending, irritant, unclean, antagonistic, or taken at improper times; intake of food and drinks when the individual is afflicted with passion, anger, greed, confusion, envy, bashfulness, grief, conceit, excitement, or fear. Symptoms of proper digestion of food are: pure belching (without bad smell or taste); enthusiasm; proper elimination of faces, flatus and urine; lightness of the body; hunger; a desire for water.

Holistic consciousness is the cause of strong nervous system which ensures strong digestion.

Diet for strengthening ojas

Once food has been digested into its nutritive essence, it is metabolized through a progression of seven Dhatus (tissues of the body). From Rasa (plasma – nourishing), Rakta (blood – maintenance of life activities) gets formed, then Mamsa (muscle – enveloping, covering) from Rakta; from Mamsa, Meda (fat – lubrication) gets formed, then Asthi (supporting) from Meda; from Asthi, Majja (bone marrow, nervous tissue – filling the inside of the bones) gets formed, then Shukra (reproductive tissue – production of the embryo) from Majja; from Shukra, the Garbh (embryo) gets created. From Shukra, Ojas, the final and most refined product of digestion and metabolism is formed; from Ojas Soma is created. Soma is the unifying value of intelligence, connecting body and mind, physical existence and consciousness.

Ojas undergoes a decrease (in quantity) through anger, hunger (starvation), worry, grief, exertion, and improper diet. With such a decrease the person becomes fearful, debilitated, frequently and greatly worried (without apparent reason); one feels discomfort in the sense organs, develops a bad mental state, and dryness. A good treatment of reduced Ojas is with kheer (rice boiled in milk), exposed to the rays of the full moon over night and then consumed in the morning. An increase of Ojas brings contentment, nourishment of the body, and an increase of strength. Ojas is sustained and increased by eating a pure diet and by dharmic living (life in accord with Yama and Niyama).

Building up Ojas with a diet of live foods requires a greater emphasis on: nut milks and seed milks; nuts and seeds; juicy and oily vegetables, such as avocado; low-glycemic fruits, especially berries, such as goji berries; other foods with a slight sweetness in taste, like apples, carrots, coconut, bee pollen; and sprouted grains. Certain tonic herbs like ashwagandha (Withania somnifera – Winter-cherry), shatavari (Asparagus racem), ginseng, and licorice are also good for increasing Ojas. Drinking plenty of structured water, with non-heated full mineral salts in ionic form, helps to build Ojas and prevent dehydration. The crystal energy helps to structure the water. Strengthening of Ojas is also achieved by following a brahmacharya lifestyle, getting enough sleep, control of the senses, devotion to God, and regular abhyanga.

Fasting

Fasting means abstention from taking any kind of food for a definite period, with a view to giving rest to the different organs of the body and their processes, thereby helping them to get cleansed. One may observe a fast by abstaining from food at one meal-time, or by taking only fruits or fruit-juices, or by taking water only. A fast for a meat eater, for example, may be a vegetarian diet. Another way of fasting is to abstain from that which is toxic to body and mind, and thus eliminating toxins from the system.

Another definition of fasting includes any process that initiates autolysis, during which poorly functioning cells are destroyed. This happens first in the process of fasting and then the cellular components are broken down and re-metabolized. This process usually begins after three days of juice or water fasting. As you begin to undertake longer fasts, you will recognize that the body first uses up the sugar in your system. Then, after three days, it switches over to glycogen stored in the cells and liver. The body will eventually tap into the body fat and begin converting that to fuel until it is depleted. Protein breakdown is the last thing the body turns to for fuel. Each kind of fasting has its special effect. Yogis were getting knowledge about healthy living by observing life in Nature. Observing birds and animals around us we see that when they fall ill, first of all they instinctively leave food, observing a fast. They get cured from their illness merely by observing a fast without any kind of medicine or therapy.

Healthy functioning of the body begins to deteriorate when the normal process of cell regeneration and building becomes slower than the emergence of unhealthy cells in the body. This is usually connected with the accumulation of toxins in the tissues and cells, to an extent that it interferes with the proper nutrition and rebuilding of cells. Excess protein intake, causing a protein storage disease, by blocking the basement membrane, is a clear explanation of how this works. When the basement membrane is clogged, nutrients, including oxygen, cannot get through to the cells, and waste products cannot diffuse out of the cell back into the capillary bloodstream. The result is that the cells begin to malfunction and degenerate. With excess toxicity and insufficient nutrients, the process of new cell growth slows down. When cells are degenerating faster than new cells are regenerating, we experience aging and disease. Fasting helps to clear out the basement membrane so that nutrients can begin to get to the cells and new cell growth can be stimulated. The proteins from the broken down cells are re-metabolized and used to build new cells during the fast, so that even without the intake of exogenous protein for cell building, the cells regenerate.

During illness the body uses its full energy in its fight against the disease. During this period, as the body requires no particular nourishment, we feel a loss of appetite. During illness, the elimination of toxins and foreign elements from the body is of utmost importance. When the body needs no

nourishment, when it is necessary to remove toxins from the body and appetite is dormant, abstention from taking food is called fasting. During a fast, the body is burning toxic elements accumulated in it. A fast not only maintains health but can also cure most of the chronic diseases and many acute diseases.

Fasting can be done to improve health, cure diseases, or for spiritual purposes. With regards to the curing of diseases and improving health, fasting has following effect: The digestive system gets rest and the energy which is usually used for digestion is employed for eliminating a disease. When the digestive system is at rest, the toxic elements accumulated in it get disintegrated. The natural curative power of the body takes up the task of removing these toxic elements from it. These toxins are gradually eliminated. During a fast, the eliminative systems of the body – the skin, lungs, liver, kidney, and bowels – become more active. The liver is the main organ which eliminates poisonous elements of food. Because the body is not spending energy on digesting and eliminating fresh toxins in the system, it is able to direct all its energy toward the elimination of accumulated toxins and waste products. The increased release is usually evidenced by foul breath, body odor, dark urine, increased mucus secretion, and foul-smelling bowel contents. When, on account of fasting, toxic elements begin to be eliminated from the body, there is an increase in the natural resistance power in the body. Thus roused and revived, resistance power acquires the capacity for relieving the body of diseases. Because of the extra energy freed by resting the digestive system and through the detoxification as well as the fresh minerals gained from a juice fast, fasting has a normalizing effect on the biochemical and mineral balance in the tissues. It also tones the nervous system. While fasting mental power (will power) also increases, supporting the process of healing.

Fasting done for a spiritual purpose calms the vrittis (excitation) of the mind, purifies the koshas, clears the nadis, and sets the pre-conditions for the awakening of Kundalini. Fasting, practiced as an essential discipline or the attainment of true knowledge, has its history in the spiritual practices of almost all religions. Socrates, Plato, and the Stoic and Neoplatonist philosophers, such as Epicterus and Plotinus, used fasting to purify the spirit in order to better perceive the Truth. Socrates and Plato practiced ten-day fasting. Pythagoras, the great mathematician, practiced forty-day fasts. Fasting allows our physical bodies to turn toward the assimilation of pranic energy rather than biochemical energy. By accelerating the purification of the body, it allows the physical body to become a better conductor of the Kundalini energy. This improves the alignment of the chakras and subtle bodies, making it easier for cosmic prana to enter the body and increasing the possibility of awakening of Kundalini Shakti.

Although formally defined as complete abstinence from food and water, fasting, in a larger context, means to abstain from that which is toxic to mind, body, and soul. While fasting, it is good to completely silent and free from worldly responsibilities.

The hunger which a person feels during the first two or three days after the commencement of his fasting is habitual. It is not a real hunger. This false hunger vanishes after two or three days. A real hunger gets revived after the internal cleansing process of the body is completed. This condition indicates the deadline of fasting. Thereafter, if food is not taken, starvation begins. We stop a fast when the elimination of waste products is complete and autolysis moves from destroying unhealthy cells to destroying healthy cells. This point is usually indicated by a return of appetite (genuine hunger) and the disappearance of the white coating on the tongue.

It is very important to break the fast carefully and consciously. During the fast, the digestive system has shut down and must be carefully restarted. At the end of the fast, the body absorbs everything much more easily, so what we put back into our bodies should be the foods which we really want to rebuild our bodies with. The end of the fast is a very good opportunity to reorganize ourselves

with a new quality of diet. One should take a minimum of three days to come off a 7 to 21 day fast. It is good to break the fast in the morning with some juice (such as orange-juice, etc. or better just warm water with lemon and honey) to stimulate the flow of gastric juices. It is also suggested to take certain herbs, such as ginger and anise, to speed up the process of eliminating toxic gas from the system and activate the pyloric valve at the bottom of the stomach. Acidophilus is useful for replenishing the bowel flora that is depleted. Triphala is useful for restoring bowel peristalsis.

After ending the fast and taking the first dose of fruit-juices it is desirable that the bowels are evacuated after three or four hours. If this does not happen naturally, it can be stimulated by use of enema. At the initial stage, liquid food like fruit- or vegetable-juices should be taken for two to four days. The quantity of liquid food should initially be as little as possible and then be gradually increased. After four to five days of juices, some soft fruits, avocados, green leafy vegetables, and a small quantity of dried fruits may be taken (preferably blended). It's recommended to break a fast with juicy alkaline fruits, such as papaya, cucumber, fresh figs, grapes, or cherries. One should take rest for about a week after completing a longer fast.

General fasting guidelines:

- While fasting, drink as much water as possible (about 4 liters of water each day). The first dose of water to be taken in the morning should be mixed with lemon juice and a little honey. During the day, when you feel hungry, drink a little of the following: mix 2 table spoons of honey (pine-tree honey is best), half a liter of orange juice, the juice from one lemon, and half liter of water. Also, a small quantity of salt may be added twice or three times a day. This helps to maintain the supply of salt to the body and prevents acidosis which generally occurs during the period of fasting. The salts and the vitamins derived from fruit-juices also help in cleansing the body.

Fasting can also be done on fresh spring water, mixed with fresh lemon juice. The lemon juice acts as an internal “soap” by dissolving mucus and cooked-food residues. During shorter fasts of 2 to 3 days, you can include coconut water, fruit-juices, and green vegetable juices.

- Take an enema once per day so that stool may not be accumulated in the large intestine and absorbed by it. If the stool begins to be absorbed in the intestine, its poisonous elements mix with blood.
- Brush the skin for 3-5 minutes once or twice daily and follow this with a bath and skin scrub to remove any excess dead cells and draw more toxins out of the system.
- Get a plenty of sunshine and do deep breathing exercises to help detoxify skin and lungs.
- Do some moderate exercise during the fast to help activate the system to eliminate toxins. This may include a 30-60 minute walk in nature with fresh air or some swimming, etc.
- Practice Yoga daily, to activate the lymphatic system and as a form of general exercise.
- Steam bath enhance perspiration. This helps the detoxification process.
- Abstain from sexual activity to conserve energy for healing and regenerating.
- Scrape the tongue each day to remove toxins on the tongue.
- Observe silence as much as possible. Have a positive state of mind. Remain cheerful.
- Try to fast when the seasons change or during the full moon. These are the times when the body cleanses the strongest.

One who observes a fast should have a clear conception about the aim and purpose of fasting. As a preparation for observing longer fasts, one should get some prior experience with a fast of short duration (e.g. one or two days or fasting 1 day per week.

Simple, light and nutritious food should be taken for five to seven days before the beginning of a fast of longer duration. Raw vegetables, sprouted pulses and sprouted cereals should be taken in large quantities. These food-items are full of vitamins and minerals which help in eliminating toxic elements inhabited in the body. In addition to this benefit, the surplus vitamins and minerals, which one gets from the above food-items, are stored in the body and later prove to be useful to the body, during the fasting period. Cleanliness of bowels is necessary before beginning a fast. A mild purgative like terminalia chebula or some enema will be helpful in getting the bowels cleansed. This should be done on the first day of the fast.

Fasting should be used as a cure, only after symptoms and conditions of a disease have been clearly diagnosed. Fasting should never be used as a cure without consulting a physician first.

Some contraindications: pregnant and lactating woman, people who are more than ten pounds underweight, those suffering from degenerative diseases, severe malnutrition, cancer, tuberculosis, beriberi, pellagra, night-blindness, rickets, scurvy, keratomalacia, marasmus, kwashiorkor syndrome, thyrotoxicosis, hyper-adrenalism, diseases of liver and kidneys, and diabetics should not fast. People taking medications which have side effects or recreational drugs should also not fast, until they have detoxified their body, eaten a mineral rich, organic diet, and stopped the intake of all such contra-indicated substances. Otherwise, fasting may cause too much poison to flow out of the lymph fluid into the blood too quickly.

योग

CHAPTER 9

YOGA AND AYURVEDA IN SPORT

Yoga and Ayurveda programs counterbalance the negative effects of sports. Today highly trained children in sports and athletics can experience physical problems in later life. This happens because many sports coaches and instructors rarely pause to consider what they might be doing to a youngster's body when they encourage him or her to concentrate on breaking records or winning more matches. Young gymnasts, for instance, spend most of their childhood practicing, in order to reach an international standard by the age of 14 or 15. The constant practice demanded by today's high standards means that their bodies will have become permanently deformed by the time they reach early adolescence. The same happens to promising tennis players, swimmers, track and field athletes, dancers, and athletes from many other sports. As most such activities require the body to be twisted into unnatural positions, sometimes for hours on end, it is not surprising that in time, all joints and muscles will be out of alignment. If, for example, one damages a knee, it will inevitably affect other joints. This is because everything in the body is interconnected and nothing works in isolation.

Studies on sports and exercise have shown that physical exercise, performed in a balanced, recreational way, can help to reduce stress levels in the brain. It does this mainly by encouraging the release of endorphins, the body's natural painkillers, which enable us to overcome stress.

Muscle tears, hip diseases, achilles tendon pain, torn hamstrings, are all conditions resulting from overuse of a very small group of muscles. In later life, these injuries can lead to rheumatism, arthritis, gout, and the need for hip replacement operations. Far from making people fit, modern, competitive sports programs tend to "unfit" them for later years.

Pressure, expectations, and getting excited about winning in competitive sports, causes increased stress and leads to hyperventilation (breathing in quick, chest-heaving pants). This kind of shallow breathing takes place in the upper part of the chest only and the balance of carbon dioxide and oxygen is disturbed (far too much carbon dioxide is expelled from the body). When the CO2 concentration is too low, blood vessels in the brain contract and the circulatory flow is reduced. Symptoms of this condition are: sudden changes of behavior; nervousness; inability to concentrate; headaches; tiredness. When hyperventilation becomes the habitual way of breathing, in time, every organ in the body is affected, and can cause a variety of symptoms as: hyper-sensitive nerve endings, as well as abnormal sensitivity to noise, petrol fumes, perfume, wool, pollen, house dust, or certain foods. The classic sign of hyperventilation is sensation of pins and needles, especially in the hands and feet.

The cure for the problem of hyperventilation is to learn a proper yogic breathing technique (ujjayi breathing). Exercises recommended by Yoga and Ayurvedic can release pent-up emotions and stresses which have led to the problem of chronic hyperventilation.

By applying principles of Yoga and Ayurveda to sports, one will enjoy athletic activities throughout one's life, stays healthy and fit, and also achieves better results in competitions.

Principles of application

A regular yoga programme can help an athlete to both achieve, and maintain a good level of structural fitness. When an athlete is structurally fit, they are more likely to stay injury free and at the same time become more energy efficient. The key is to make yoga relevant to the athlete by understanding their sport's specific demands, as well as how it fit into their overall training schedule.

World class athletes do not react to information before it is necessary. They are more present in "the now" and they have a clear mind that is not occupied with unnecessary thoughts. More integrated brain functioning will lead to clearer thinking and more successful behavior. In other words, more coherent brain functioning should translate into better results of an athlete's performance. Excellence in sports is all about reacting to situations on the playing field, and the quicker your reaction, the greater your success. When a player's mind is established in Pure Consciousness, then all computation is done by Cosmic Intelligence, automatically making the best possible choices.

For competitive sportsmen, it is most important to be in "the ZONE" (Samprajnata Samadhi), because from that state, the body will automatically react in the best possible way. When you are in the ZONE then there is perfect mind-body coordination and the body follows the mind's intentions with ease. When you are in the ZONE, then the mind is free from disturbing thoughts. In the case of fighting with an opponent in karate, the opponent's movements appear to go in slow motion, allowing you to notice each of his gestures and plans, even before he moves a hand or leg. On the contrary, when your mind is full of disturbing thoughts then the same opponent looks very fast and you can not defend yourself.

Another principle is that "flexibility of the mind determines the flexibility of the body". When an athlete restrains from acting on information until it is necessary, his mind becomes more flexible. The mind becomes more flexible while waiting to receive more information in the gap. In a sense, it is "forced" to exist in a state of silence and freedom until that information is received. The minds of world-class athletes are fluid. Their thoughts are moving like a river, rather than a frozen pond. Fluidity of thinking means they can make adjustments in their thinking. They are not prisoners of thoughts they just had. They are able to analyze a situation and when new information appears on the scene, they are able to integrate that information seamlessly. Fluidity of thinking also means the mind is silent inside. Because of the mind-body connection, when the mind experiences silence, the body will be infused with that silence as well. This makes the muscles supple.

Players in every sport can be classified by how many possibilities they leave themselves at the last second. The field of all possibilities is always available until the point of no return. The great athletes often do the unexpected because they do not react to information before it is needed, they are able to make split-second adjustments and not establish a discernible pattern that their opponent can read. They know how to properly digest all the information while waiting in the gap (in the ZONE – Samprajnata Samadhi) and this allows them to hold their action until the last possible second.

Yoga program for an invincible tennis player

The psysical requirements in tennis are muscular strength, mobility, endurance, postural balance and focus. A player needs high levels of energy, stamina, a balanced temperament and positive attitude. A game of tennis can last up to 5 hours and often a game is either won or lost in the mind of the athlete. A player needs to be able to maintain good stroke technique throughout the game, whilst hitting the ball at high speed, they must position themselves quickly to recover the court to receive the next ball. This requires a high level of fitness, good mobility to move into position and excellent stability to deliver the shot. Good rotational mobility of pelvis, torso and shoulders is required to ensure unrestricted movement and enable a dynamic release of elastic energy. A player needs good foot mobility to ensure that the feet are receptive to the ground and can be light and steady throughout the match. A good range of movement within the shoulder girdle is required to allow for efficient follow through of the stroke. A player must also have excellent hand-eye co-ordination to hit the ball accurately. Muscles used in tennis: Muscles of the foot and leg give power on the serve and strength during ground strokes; Muscles of the torso and pelvic muscles provide core stability; Muscles of the shoulder girdle generate speed of the racket; Muscles of the arm and hand assist in the powerful delivery of a forehand and backhand. Those muscles should be strong and flexible. Yoga programme designed with an understanding of the tennis player's biomechanics can help them achieve functional stability they require to remain structurally fit and injury free. Yoga therapy programme can remove common injuries in tennis, like: shin splints, tennis elbow, shoulder pain, lower back pain, scoliosis, etc.

It is important to be realistic about introducing additional training to an tennis player often already heavy schedule, so yoga programme should last between 5 to 30 minutes, enabling tennis player to achieve his training target. Following are some yogic recommendations for tennis player.

In the morning clean the tongue and nostrils (neti). Then do the exercises 1 to 11 from the advanced sequence no. 1. This sequence of exercises should also be done before entering a competition and as a warm-up before a training session. After the training or match, to relax the effort from the body and recharge the energy, do the exercises from 11 to 40 from the advanced sequence No.1. Eat Kolath breakfast and fresh fruit juices. Do sun gazing and expose the back to the sun (sun bath). Do mental preparation (visualization of perfect movement). Have faith in yourself, thinking that you will win (placebo effect). Practice breathing combined with affirmation and visualisation. Breathe Ujjayi. With breath move the body. Coordinate the power of breath with the speed of the movement of the body. Be in a neutral, relaxed position. Relaxed does not mean passive but inside awake, with full readiness to move the body to where it is needed, at any moment. Contract all body muscles only in the moment when you hit the ball and in the next moment again relax. A quick exchange of contraction and relaxation gives more efficiency in playing tennis. Extend awareness to tennis racket, ball, tenis court and oponent. Feeling everything as part of you, then the game is played within you.

Scientific research

Published Scientific research: "Higher psycho-physiological refinement in world-class Norwegian athletes: brain measures of performance capacity"

- H. S. Harung, F. Travis, A. M. Pensgaard, R. Boes, S. Cook-Greuter, K. Daley, Oslo University College, St. Olavs Plass, Oslo, Norway,
- Center for Brain, Consciousness and Cognition, Maharishi University of Management, Fairfield, Iowa, USA
- The Norwegian School of Sport Sciences, Ullevaal Stadion, Oslo, Norway,
- Independent Scholar and Management Consultant, Wayland, Massachusetts, USA,
- Department of Exercise and Sport Science, Maharishi University of Management, Fairfield, Iowa, USA

Corresponding author:

- Harald S. Harung, PhD, Oslo University College, PO Box 4 St Olavs Plass, N-0130 Oslo, Norway.

Published in: Scandinavian Journal of Medicine& Science in Sports, February 2011.

This study tested the hypothesis that the degree of psycho physiological development is related to performance levels in world-class athletes. The world-class performance athletes had significantly higher scores on the Brain Integration Scale, more rapid habituation to a loud stimulus, and higher levels of self-development and moral reasoning than the control athletes. All these measures give different angles into how athletes may be able to excel.

Brain integration may be the next frontier of training for excellence in sports. The hand moves; but who moves the hand? Brain functioning underlies how we make meaning of daily experiences; how we perceive the world; and how we respond to challenge. Higher brain integration supports higher levels of self-development, higher ethical values and behavior, and a higher quality of life. Methods for enhancing brain integration may therefore be critical for becoming a champion. Inner development could give the added edge for outer performance. The Brain Integration Scale may provide an objective measure to allow athletes and coaches to monitor growth of inner development, and by inference performance potential, as the athletes actualize their athletic career game plan.



CHAPTER 10

TEACHING METHODOLOGY

For teaching to be authentic and useful, the teacher one should live in accordance with what he teaches. The Yoga Teacher Training Course will give to all course participants this quality which will make them authentic and efficient teachers of the ancient science of Yoga.

Principles of demonstration, observation, personalization, sequencing for individual needs, assisting/correcting, instruction, teaching styles

Teach asanas in a particular order and let the students memorize the sequence and practice it daily at home. Teaching must be orderly and progressive. Each session should consist of about eight to ten asanas, with variations, followed by pranayama. During a session students first do a few simpler asanas, then do more challenging ones, and finish with some simpler asanas. Introduce asanas of greater difficulty over several classes, spanning weeks and months. A class on asanas should include such information as the benefits of an asana, recommendations, classical references and derivations from ancient sources, common variations, useful modifications and therapeutic applications, mental focus during the practice, suggestions for the practice of bandhas, etc.

When teaching a yoga class for children, for fitness (sikshana), we might use continuous sequences of asanas that include jumping, balancing, and inversions. Instead of just doing slow or controlled movements, these more dynamic elements make the practice more fun and challenging for them. But if an elderly man wants to learn yoga for fitness, we would not use the same dynamic style that we use for children. For him, we would teach shorter sequences of asanas and have him hold some selected asanas for some breaths. We would also employ regulated and slow breathing, pranayama, and meditation in the practice. Never use force in teaching or practicing yoga asanas.

Qualities of a teacher and the student's process of learning

A Yoga teacher must know how to teach asanas with correct breathing. They should teach each asana individually, without vinyasa, and understand the final pose. Then they must teach the asanas with vinyasa. They should learn how to use asanas for the following: teaching a group, their own practice, and one-on-one teaching (designing a personalized practice). Yoga teachers should remember that asanas are to be done on an empty stomach and that the practice will be different for people who have some disease, for pregnant women, for overweight and lean people, and so on. Asanas can be considered as slishta (joined or grouped together, in a sequence) or a-slishta (each asana separately).

Establishing a personal practice with guidance

Taking into account the structure of the body and the distortions in the body one should do the appropriate asana. Only experts can guide the student. We have to take into account the individual bodies while teaching asanas, since each body is different. One person may easily practice Uttana-sana, while another cannot. We must differentiate each person and teach asana suitable to the individual's needs / abilities.

Conducting classes for small and larger groups

Here is a sample structure for Yoga classes:

Science of vedic yoga course: 7 steps of learning Vedic exercise for holistic health

It takes into consideration the present state and need of the individual. The seven steps can be held as a weekend residence-course or as a one-week-course (lecture each evening).

Each of the 7 steps will take about 2 hours.

Step 1 (Friday evening)

- Introductory lecture: «The philosophy of Yoga»
- Course participants should then fill out an application form and health questionnaire

Step 2 (Friday evening and Saturday morning)

- Personal interview, evaluating the state of the individual's health
- The personal interview will take 10 minutes per person

Step 3 (Saturday morning, continued)

- Introduction to Vedic Technology to develop inner body-awareness
- Learning Vedic breathing and how to connect mind, breath, and body
- Experiencing wholeness (Samhita) on the move

Step 4 (Saturday afternoon)

- Learning and practicing Vedic exercises: Suryanamaskaram and the basic set of Vedic Yoga Exercises which address the most common health-problems of this age
- Personalization of the practice

Step 5 (Saturday evening)

- Understanding the mechanics of Vedic exercises
- Moving the spine through all three axes and increasing strength, flexibility, and structural alignment of the body
- Improving the functioning of the whole physiology
- Principles of the correct practice

Step 6 (Sunday morning)

- Practicing Vedic exercises
- Learning and practicing Vedic breathing: Sukha Pranayama

Step 7 (Sunday afternoon)

- Vision of the goal of Vedic exercises
- Vedic daily routine and enjoyment of perfect health
- Advanced Vedic Yoga courses
- Approach of Yoga-therapy
- Other Vedic Yoga programs



CHAPTER 11

CONSIDERING DIFFERENT SYSTEMS OF YOGA

Considering the theory and practice of the most prominent yoga systems

Each yoga system has the same goals: To create a balanced functioning of body and mind, to give the experience of Samadhi, and develop higher states of consciousness. The approach can be different but the goal is the same. That is why there is only one Yoga, because the goal is only one, the state of Yoga.

Different styles of asana, pranayama and meditation practice

It is good to know many different styles of yoga because they represent a variety of possibilities of practice. It is not that one style is correct and another incorrect. There is only one correct style of practice, and that is the style of practice which gives the benefits to the person, and which does not harm him/her. A properly designed practice for the person's psycho-physical condition at that moment in time, taking into consideration many other circumstances, is the only correct way of practice.

Raja yoga, Hatha yoga, Kundalini yoga (Laya yoga), Mantra yoga, Kriya yoga, Solar (Surya) Yoga, Christian yoga, and Tummo yoga

The philosophy of Yoga is the philosophy of union. Union of the lower Self with the higher Self; union of man with God, or union of God with man. All the different ways of union, all the different ways of God realization, divine unfoldment, have been divided into four parts by Maharishi Patanjali, who is the authoritative exponent of the Yoga philosophy: 1) Hatha Yoga, 2) Mantra Yoga, 3) Laya (or Kundalini) Yoga, and 4) Raja Yoga.

Hatha Yoga, Mantra Yoga, Laya Yoga – all these three aim at bringing the mind to that eternal silence which is the state of Being. They aim at “silencing the mind” to that great extent where the mind is left to itself, the experience is left to his own state of being, pure consciousness, which is called Self-awareness, Self-consciousness. From the field of the manifested, the field of diverse experience to the field of the unmanifest, is the range of these three classes of Yoga. Then, from that field of unity back to the field of diversity, bringing the state of Being, of the Transcendent, to be lived in the field of diverse experiences in the world – that is the field of Raja Yoga. Raja Yoga brings the Self-consciousness to Cosmic Consciousness.

Raja yoga

Raja Yoga begins from where Hatha-Yoga, Mantra-Yoga, and Laya-Yoga end. These three end in getting to Self-consciousness. In Transcendental Meditation we do take a mantra for its value of vibration (sound). The mantra is a thing of Mantra Yoga, so we can not say it is not Mantra Yoga. We say it is Mantra Yoga, but it is something more than Mantra Yoga, because Mantra Yoga is limited

to the realization of the mantras of the Gods (Devatas). In Transcendental Meditation we directly transcend through a mantra and having transcended, we come out to the field of experience again. Transcendental Meditation fullfils the purpose of all the three Yogas (Hatha, Mantra, Laya), easily leading the mind to the state of Self-consciousness and simultaneously serves the purpose of Raja Yoga, raising Self-consciousness to Cosmic Consciousness.

Hatha yoga

Hatha yoga is the process of establishing perfect physical, mental, emotional, and psychic equilibrium by manipulating the energies of the body. The system of Hatha yoga was designed to transform the physical elements of the body, so that they can receive and transmit much more subtle and powerful energies. This system uses different physical postures called asanas, to achieve this goal. Asanas directs the blood flow to particular parts of the body – often parts that are rarely used. A shoulder stand, for instance, gets the blood flowing in the opposite way of its usual course. In general, asanas help reduce stress in the body. They sooth the muscles and soften blocks of stress that have been accumulating over a lifetime. There are scores of asanas to choose from.

Hatha Yoga aims at silencing the mind through controlling the body, Prana, and the senses. Hatha-yogapradipika, the classical text on Hatha yoga authored by the Yogi Svatmarama in the fifteenth century, states:

„Yogi Svatmarama, having saluted his Lord and Guru, teaches the knowledge of Hatha (Yoga) solely for the attainment of Raja Yoga. To those who wander in the darkness of conflicting doctrines, being ignorant of Raja Yoga, the most compassionate Svatmarama Yogi offers the light of knowledge of Hatha (Yoga)." (HYP I.2-3)

Practice of Hatha Yoga promotes good health and wards off disease. Patanjali writes that among the first obstacles a practitioner should overcome is disease of the body (Yogasutras I.30).

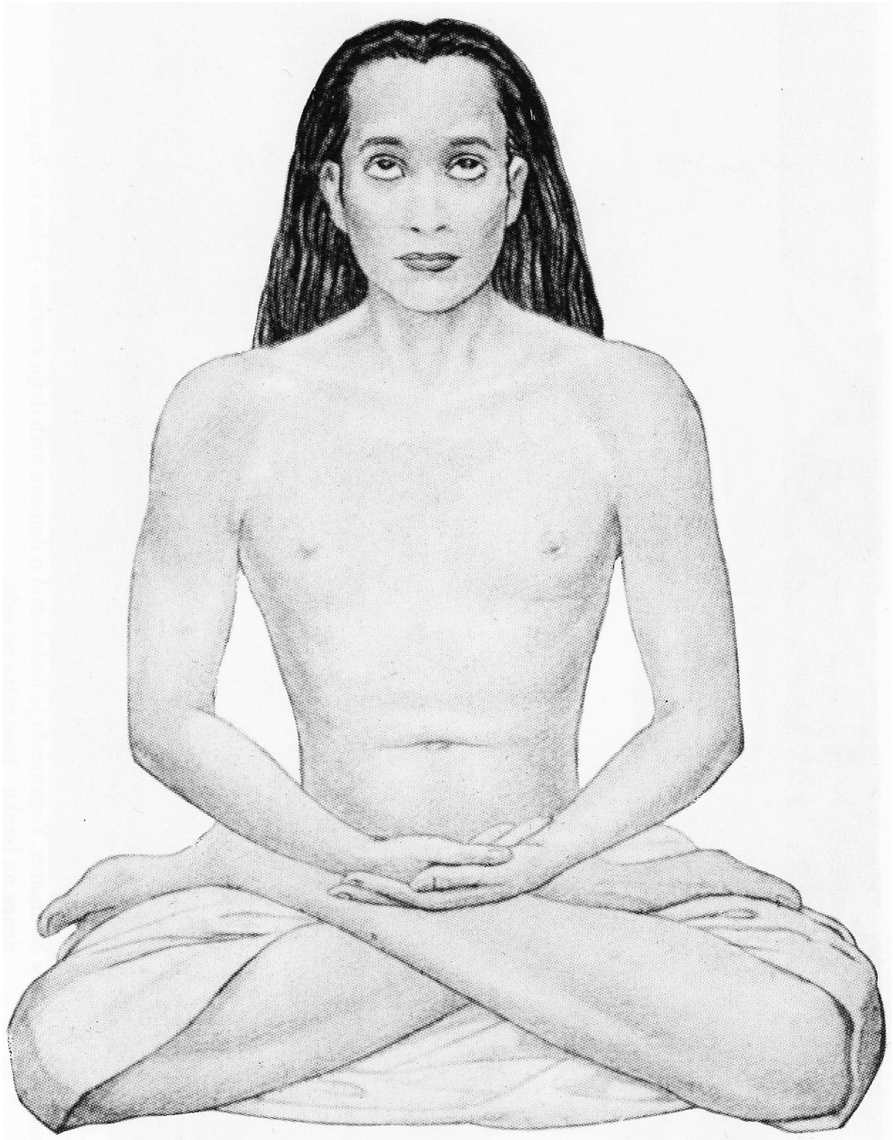
„The signs of perfection in Hatha yoga are: slimness of the body, brightness in the face, manifestation of the inner sound (nada), very clear eyes, freedom from disease, control over the seminal fluid, stimulation of the (digestive) fire and complete purification of the nadis". Hatha Yoga Pradipika, II.78

Mantra yoga

Mantra Yoga goes through devotion. Mantra Yoga takes a mantra to tune into some higher Gods (Devatas) to raise the standard of the mind from temporary joys of the world to the happiness of the great glory of God – not by force, but through the ladder of affinity.

Kriya yoga

Kriya yoga is a process of perfection. Perfection is already our natural state. We simply remove the rust and dirt and false notions that disguise the truth of our God-given perfection. If we are created in the image of a perfect God, how can we be less than perfect? Anything else is a self-created illusion. Practicing Kriya and living in accordance with the laws of nature (Will of God) gives us the recognition of our true nature. Everything that is not real or not true falls away and we are left with our being-ness in God. Maha Avatar Baba Ji (exponent of Kriya yoga) said „Don't change yourself, purify yourself." There is nothing to add or change. The self is the perfect imagination of the perfect Lord and when this is truly remembered, our life becomes puja, worship to the creator. Kriya means consciousness binding with God. God consciousness is the purpose and the basis of Kriya.



Maha Avatar Baba Ji

Solar yoga

From time immemorial light has been recognized as a universal principle and the adoration of the sun was one of the first mystical feelings of human beings out of which religions grew. Solar Yoga is of great antiquity and corresponds to a remote period of history when human beings still possessed an integrated and unified nature of body, mind and spirit.

The solar reality has to be experienced in three different planes before the energies of the sun can be made to transform human nature in a positive manner. These are the physical sun, with the processes of visible light, heat and movement; the psychic sun, with the phenomenon of energy and breath; and the spiritual sun, with the dynamic inner awareness of all-pervading consciousness. The yogic practice consists in attracting the light and the energy of the sun in order to achieve a constant purification and regeneration of the body, the mind and the spirit. One of the Solar Yoga practices is Sun Gazing.

Hira Ratan Manek (HRM) experimented on his own body for three years and devised this method based on trial and error. This can be accomplished by anyone in any part of the world at any time of the year. Now thousands are using this method and achieving results. This is a rebirth of a science that was practiced a long time ago. Originally this was a spiritual practice in the ancient times and now it is becoming a scientific practice, which can be followed by anyone as described below
Safe Sun Gazing Practice:

Sun gazing is a one-time practice in life, usually done for a period of 9 months. You can break up the practice in three phases. 0-3 months, 3-6 months, and 6-9 months. You have to walk barefoot for 45 minutes every day for the rest of your life. Food makes us commit the maximum pain to others and exploit others. The practice entails looking at the rising or setting sun one time per day, during the “safe hours”. No harm will come to your eyes during the morning and evening safe hours. The safe hours are anytime within the 1-hour window after sunrise or before sunset. It is scientifically proven, beyond a reasonable doubt, that during these times, one is free from exposure to UV and IR rays, that are harmful to the eyes. To determine the timings of sunrise or sunset, you can check the local newspaper, which also lists the UV Index as 0 during these times. Both times are good for practice – it depends on individual's convenience. Sun gazing also has the added advantage of getting vitamin A and D during the 1-hour safe period window. Vitamin A is necessary for the health of the eyes, the only vitamin that the eyes require. If you do sun gazing, this will provide better eyesight without glasses.

For those who cannot initially sun gaze during the safe periods, sunbathing is an effective method for receiving the sun's energy at a slower pace until one is able to sun gaze. The best times to take sunbaths is when the UV index is 2 or below. This usually occurs within the 2-hour window after sunrise or before sunset. Sun bathing during the day is to be avoided, except during the winter months, when the UV index usually remains at 2 all throughout the day. Check your local newspaper to see the published measures for UV Index to be sure. Also, do not use sunscreen. When the body gets heated up you perspire and sweat is a waste product and needs to go out of the body. When you are painted or coated with lotions and creams – they get degenerated and the chemicals enter your body.

0 - 3 Months:

On the first day, during the safe hours, look directly into the sun for a maximum of 10 seconds. On the second day look for 20 seconds, adding ten seconds every succeeding day. So by the end of 10 continuous days of sun gazing you will be looking at the sun for 100 seconds, i.e. 1 minute and

40 seconds. Stand on the bare earth with bare feet. The eyes can blink and/or flicker. Stillness or steadiness of the eyes is not required. Do not wear any lenses or glasses while sun gazing.

Why don't you watch the sun instead of TV? The intensity of UV/IR rays from the TV is much more than those of the rising or setting sun. If you can watch TV at close ranges for extended periods of time, you can easily watch the rising or setting sun safely. Have the belief that the sun-rays that you are getting into your eyes are of immense benefit and will not harm you. This will give you quicker and better results. Even without a belief component also you will get the results provided that you follow the practice. However, it will take a longer time. On the other hand, you need not restrict any of your normal daily routines. There are no restrictions. You can enjoy your food while applying this practice. Hunger will disappear eventually by itself.

You may consider gazing from the same place at the same time daily. Following circadian patterns has its advantages. If you pray, you can have any prayer of your choice. No particular one is suggested and it is not a requirement. As a precaution, have your eyes examined by a doctor. This is to err on the side of caution from a scientific standpoint. Also, you should have periodic check ups. Additionally, you can buy photo sun-cards to monitor UV and IR radiation. If your cheeks get heated up then stop the sun gazing. Use common sense.

When you reach three months you will have gazed at the sun 15 minutes at a stretch. If you can watch TV for 3 hours, surely you can see the sun for that long. What is happening as you go up to 15 minutes? The sun energy or the sunrays passing through the human eye are charging the hypothalamus tract, which is the pathway behind the retina, leading to the human brain. One of the software programs inherent in the brain will start running and we will begin to realize the changes since we will have no mental tension or worries. Besides, we will have the self-confidence to face life problems by means of developing a positive mindset instead of a negative one. Moreover, we will become fearless since our psychosis and ills of the mind will have disappeared. This is the first phase of the method and lasts around 3 months.

Humans have good and bad qualities, which are 2 sides of the same coin. In the absence of the sunlight we develop bad qualities. When sunlight enters the brain, good qualities come into appearance, replacing bad ones. Eventually, even spiritual ignorance goes away. After 3 months of sun gazing, you develop a sense of confidence and know the answers for yourself spiritually. There is a balance of the mind, where you are in a position to judge personal answers – the correct answers. You develop powers that are already inherent in you. Bad qualities disappear, anger, greed, jealousy leave you. You become a lovable creature. Everybody likes you. You will do no wrong. If you are positive or fearless, you will not harm anybody nor pain anybody. You will become a compassionate person. Any mental depression will also go away. Psychiatrists are observing that sadness is caused by lack of sunlight. With the practice of sun gazing you will not experience depressions in your entire lifetime. You will achieve a perfect balance of mind. Fear of death will go away.

3 - 6 Months:

Next, physical diseases will start to be cured. As you proceed in sun gazing and as your tensions decrease, the need for food intake will go down. When you reach 30 minutes duration of continuously looking at sun, you will slowly be liberated from physical disease, since by then, all the colors of the sun will have reached the brain through the eye. The brain regulates the flow of “color prana” appropriately to the respective organs. All the internal organs get ample supply of the required “color prana”. The vital organs are dependent on a certain kind of sun “color prana”: Kidney - red, heart - yellow, liver - green, etc. The colors reach the organs and address any deficiencies. This is the process of getting liberated from physical ailments over a six-month period. After 3-4 months

you can become cured of your physical ailments with autosuggestion, which is imagining and visualizing healing your ailments while gazing at the sun. Methods such as solariums, crystals, color bottles, natural stones, gems, all utilize the sun's energy, which is stored in these natural stones. You can keep natural color stones in drinking water to further hasten healing.

In solariums there is usually a platform at the height of 100 feet where each of the 7 glass cabinets is constructed for each of the colors (violet, indigo, blue, green, yellow, orange, red). This platform revolves around the sun the whole day and according to the nature of the diagnosed disease, the patient is placed in the appropriate color for healing. Similarly, drinking water bottles made from glass with different colors are kept in sun for 8 hours. The water gets solarized and the water develops medicinal values and is used to treat different diseases.

The eyes receive the entire spectrum of the sunlight, which is distributed to the different parts of the body by the brain on an as need basis. As a result, you are cured from all diseases (Surya Chikitsa). A 3rd intermediate medium is avoided. As you continue gazing at the sun, energy is no longer being used up for mental impairments or physical ailments; thus its storage level increases in your body. You are your own master within 6 months.

6 - 9 Months:

In 6 months time you will start to have the original form of food, which is our energy from the sun. Additionally in this way the toxic waste that you take into your body while you eat regular food can be avoided.

After 7.5 months of sun gazing (doing it for 35 minutes at a time) hunger starts going down palpably. The need for food intake decreases. No one needs to eat more than his or her hunger level. Hunger comes because of the energy requirements of the body, which is a must for its existence.

As you consume the original form of food, hunger goes down starting to disappear eventually. After 8 months you should see hunger almost gone. For a dull or weak student or one with no belief, this time period may be 9 months or 44 minutes. After that time, hunger disappears forever. All mechanisms associated with hunger like aroma, cravings, and hunger pangs also disappear. Moreover, energy levels are at a higher level. There is a judgement (having had this experience) that the brain is well activated with the sun energy.

After 9 Months:

After nine months or when you reach 44 minutes of continuous sun gazing, you should give up sun gazing for the sake of eye care. The body will get discharged when you stop practicing. So how to recharge once sun-gazing is discontinued? Now you have to start walking with bare feet on the bare earth for 45 minutes daily for a total of 6 days. Relaxed walking only. No need to walk briskly, jog or run. Any convenient time of the day is all right, however it is preferred to do that when the earth is warmer and the sunlight is falling on your body. When you walk bare foot, an important gland in the brain's center, called the pineal gland or the third eye, is activated. The big toe of the foot represents this gland. 25 years ago it was considered to be a useless gland. Now it has become an important gland for study and up to now, about 18,000 papers have been published about it. It has always been known as the seat of the soul. The Pineal gland has optic nerve endings. The remaining four toes represent glands too – pituitary, hypothalamus, thalamus and amygdala. The amygdala gland has been gaining importance in medical research for the last 2 years. It's a nucleus of the sun or cosmic energy and plays an important role in the photosynthesis via the sunlight reaching the brain through the eye. When you walk bare foot, your body weight stimulates all these

5 glands through your toes. This is strengthened by the earth heat/energy and the sun prana falling on the head or the crown chakra. All these create a magnetic field and the body/brain recharges with the energy of the sun entering in you. Relax. Walk 45 minutes for one year and food continues to be away from you. After one year of recharging, if you are satisfied with your progress you can give up barefoot walking. A few minutes of sun energy falling on you once in 3-4 days will be enough from then on.

But if you want the immune system to be strengthened, then keep on walking bare foot. Also, if you want memory power or intelligence to increase, continue the walking practice. As you increase the sun's heat on your feet, the brain will activate more and more, which will result in greater activity of the pineal gland. The pineal gland has certain psychic and navigational functions. Navigational means one can fly like the birds. You can develop different psychic skills. Different body parts and its organs get purified once you stop eating due to detoxification. All the glands have a lot of functions and can perform at optimal levels with the sun's energy. If you are fortunate to activate the brain optimally you surely will reach enlightenment. This method can be safely applied to control obesity. Almost all problems get solved.

Historically, a lot of people have remained without food. Accordingly in 1922, the Imperial Medical College in London decreed that solar rays were the ideal food for humans. However, no one has mentioned what their technique was – for e.g. Yogananda in his book 'Autobiography of a Yogi' interviewed many saints and mystics to find out the secret of their lack of eating food. The common reply was that the sun energy entered through a secret door and reached the medulla oblongata in the brain. They did not divulge their secret. This knowledge was lost to common folk at the time.

Laya yoga

Laya Yoga has assumed an intermediate position between Hatha Yoga and Raja Yoga. Laya Yoga aims at enlivening the Chakras to unfold the divine glory more easily and perfectly, by force. In Hatha- and in Laya Yoga the teacher has more to do than the disciple, because a great amount of harm could be done if the master is not vigilant, that the disciple does not force unduly. Laya Yoga is that in which chitta (mind) undergoes laya (transformation and absorption). There are many methods for achieving this, but the most effective is dhyana. Transcendental Meditation fullfils the purpose of Laya Yoga.

Kundalini yoga or Laya yoga as it is called, goes by the principle that as long as kundalini is sleeping, human evolution could never be possible, would never be complete. The evolution of life will never be complete. The life will be in bondage of coming and going and be in the grip of death. In the top of the head is the seat of Lord Shiva. Shiva is the God of death, which commands death. Shiva represents eternal life in absolute bliss-consciousness. The seat of Kundalini is at the end of the spine. Kundalini is the power (shakti) of Lord Shiva. It is just like the doctor and the doctory. The doctor could only work by virtue of the doctory. When the power (shakti) becomes awakened and active and gets to the Lord (Shiva) and merges into the Lord, then the Lord becomes full and is capable of action. That is that state of Cosmic Consciousness where the individual gains the Cosmic Existence while retaining his individuality. Eternal life is of absolute nature, but that absolute, eternal life is given individuality, by virtue of the whole brain function in an integrated manner. This is said to be the awakening of Kundalini. The life-force is awakened. It was asleep till now. When the life-force is said to be asleep then only one aspect of the brain functions – this is partial individuality.

When all parts of the brain become capable of action, then Cosmic Existence is found in the individual. The nervous system is the medium for the universal mind to be reflected. There are grosser aspects of the nerves and veins and cells in the brain and there are very fine aspects. Finer than the finest system of the material construction of the brain is the Kundalini power. Kundalini lies between the abstract universal consciousness and the concrete brain, which becomes the medium for the consciousness to be reflected. Development of this inherent power (Kundalini) develops the brain. The brain is less developed in less powerful creatures and more developed in more powerful creatures. So this development of the brain is said to be due to the development of that inherent power in man that lies in between the abstract and concrete status of man. It is the law of Nature, it is Mother Nature, which nourishes this seed force in every creature and makes it evolve generation after generation. Right from the vegetable and egg born kingdom, up to the human species, the evolution depends on the kindness of Mother Nature – Natural Law. When Kundalini becomes awakened and very active, and when being active it activates those subtle parts of the brain which are capable of giving rise to the experience of the Absolute, then the individual human brain is said to be established in Cosmic Consciousness. Kundalini is the almost abstract power, and when it becomes concrete, it is able to create a sensation and activity in those parts of the brain which have not been made active so far, through the experience of all the senses. And when the subtlest aspect of the nervous system is capable of experiencing, while even the grossest aspects of the nervous system are not actively functioning (just made ready to be active, but not physically active), that state of neither activity nor passivity is the state of Samadhi. That means, the ability of action, perception, and experience is there, but nothing is experienced from the outside. It is the state of the experience of experiencing, awareness of the awareness. This is called Self-awareness. Self-consciousness is where the brain is ready to be active but not yet active in any objective experience. It is just ready to be active and every cell and every part of the brain is just ready to be active.

There are various ways of awakening the Kundalini. Almost every part of Yoga arouses Kundalini, and Kundalini becomes awake and the full mind begins to function – full brain functioning.

Christian yoga

Following text is excerpt from Gnosis Magazine/Spring 1994 writen by Igor Kungurtsev M.D. and Olga Kuchakova M.D.,Ph.D.

Within Orthodox Christianity there is a mystical tradition called hesychasm, whose name comes from the Greek word hesychia, meaning "inner silence" – a tradition that is sometimes referred to as "Christian yoga".

Hesychasm originated with the famous Desert Fathers, who lived in Egypt in the first four centuries after Christ. Most of those who are known from their written works, such as St. Makarios the Great or Evagrios the Solitary, belong to the fourth and fifth centuries or later. Greek monks studied with these Egyptian hermits and for the next ten centuries Greece became the center of the hesychast tradition, producing such renowned adepts as St. Simeon the New Theologian and Gregory Palamas, who contributed to the "psychosomatic method" of the Prayer of the Heart.

In the eighteenth century, monks on the Holy Mountain of Athos in Greece published the Philokalia, the famous collection of texts used as guides for contemplation and written by spiritual masters of the fourth through fifteenth centuries. After the fall of the Byzantine Empire to the Turks in 1453, Russia became the center of the Orthodox world. Hesychast adepts in Russia adopted different lifestyles, becoming monks,

hermits in the woods and wandering pilgrims. Famous hesychast saints who dwelled in the woods included Sergei of Radonezh, who lived in the fourteenth century, and Seraphim of Sarov, who lived in the nineteenth. Monastic hesychasm also grew well on Russian soil.

Hesychasm includes three main practices: wakefulness or mindfulness, hesychia, and the Prayer of the Heart. As practitioners had the goal of purification from all negative emotions and thoughts (known as "demons"), they were supposed to be aware of their inner state in the midst of any activity. Once a negative thought or emotion is noticed, it is actively driven out rather than just being observed, as in Buddhist meditation. Consequently the goal of mindfulness in hesychasm is to detect rising negativity as soon as possible so as to expel it immediately from the mind. Wakefulness goes hand in hand with hesychia—inner stillness and peacefulness. As one adept wrote, "The lake of your soul must be absolutely serene; only then God can be reflected in it."

Mindfulness and stillness build a foundation for the Prayer of the Heart, which begins with continuous recitation of either the whole phrase "Lord Jesus Christ, have mercy on me" or often just the name of Jesus. There are special techniques and dynamics for different states of consciousness as practice progresses. It's necessary, for example, to shift the concentration from the head to the heart, steadily focusing on the center of the chest. It's also advisable to coordinate the prayer with the breath, for example, saying "Lord Jesus Christ" as you breathe in and "have mercy on me" as you breathe out. (Or say "Jesus" with the inhalation and "mercy" with the exhalation, or simply "Jesus" with the exhalation.) But these technical aspects are not enough; of crucial importance are the subtle emotions of love, devotion, gratitude, and joy that constitute the essence of prayer.

During the first stage, which is called "vocal prayer," the adept unceasingly calls aloud upon the name of Jesus. The second stage is called the "voiceless prayer of the mind." In this stage the practitioner is supposed to carry on this interior prayer at all times, during every task, while remaining constantly focused on the heart. In the third stage, called the "prayer of recollection," the internal prayer continues on its own, without conscious effort, even during sleep. In the fourth stage, called the "Prayer of the Heart," the self-activating prayer passes of its own accord from the head to the heart. This stage is characterized by continuous and increasing feelings of love, warmth, compassion, and silent joy.

The fifth and final stage is called the "prayer of illumination and union," where the adept is lost in light, rapture, and ecstasy. The descriptions of this stage bear a remarkable resemblance to those of samadhi in yoga. It's interesting to note, however, that while practitioners of kundalini yoga experience samadhi in the crown chakra, hesychasts enter the same state through the heart center. The heart opens and expands with intense love and bliss, and the person is flooded and impregnated with the "uncreated light" of the Holy Spirit.

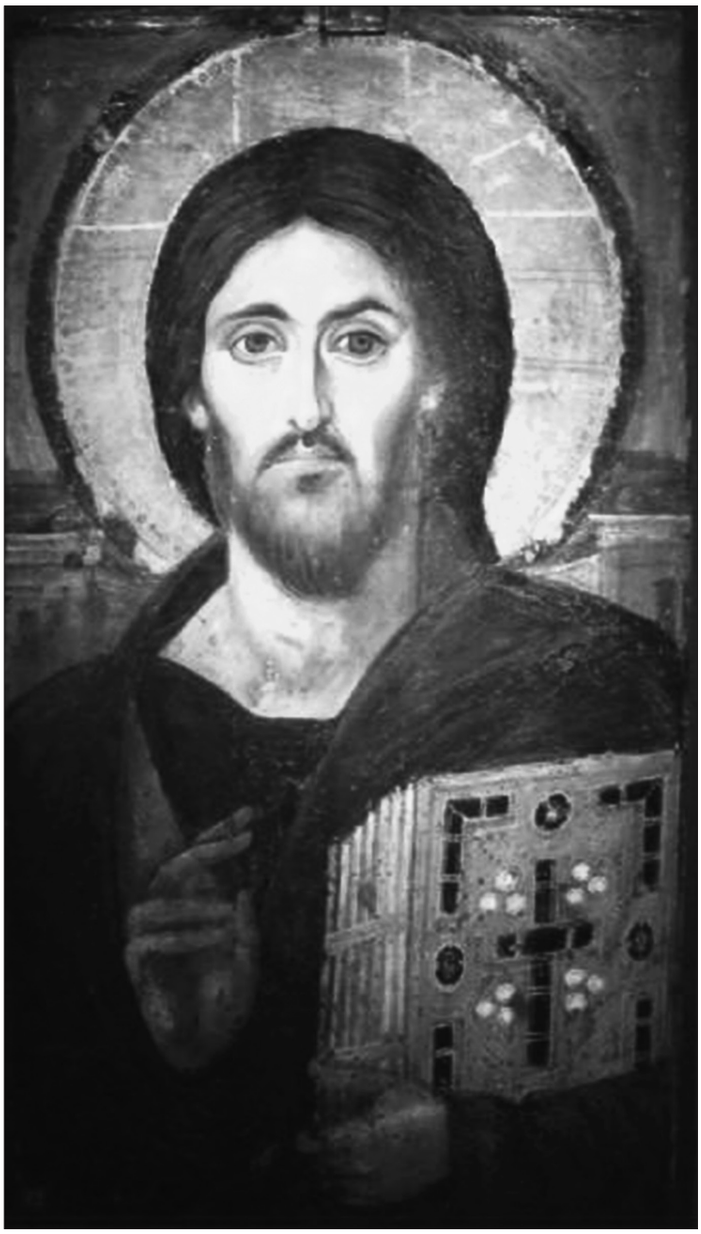
This uncreated light has been seen not only by practitioners but by those who visit them. Here is the testimony of Nicholas Motovilov, an educated nineteenth century gentleman who visited St. Seraphim of Sarov: "I looked at his face . . . Imagine in the center of the sun, in the dazzling brilliance of his midday rays, the face of the man who talks to you. You see the movement of his lips, you hear his voice, yet you do not even see yourself or his figure, but only a blinding light spreading several yards around." Motovilov also relates that he felt indescribable peace, sweetness, and joy in St. Seraphim's presence.

Besides the stages of progress in the Prayer of the Heart, it's possible to define more general developmental stages in hesychasm. The first stage begins with metanoia – the conscious decision to dedicate one's life to communion with God. This commitment implies initial and then periodic revision of one's life as well as a rejection of everything that is not necessary for this goal. In the next stage of purification (sometimes called apatheia), the practitioner, using the tool of self-awareness in "unseen warfare," gradually eradicates passions, negative emotions and thoughts, and worldly attachments. The sign of the

"purified" adept is stable hesychia – inner silence and peace in any circumstance.

The third stage is illumination, the experience of Divine Light, also described above as a final stage in the Prayer of the Heart. The hesychastic developmental model goes beyond that, however, and describes non-dual states of consciousness. The ultimate stage of union with God, called theosis (becoming God), is described only through negation, since it is totally incomprehensible to the human intellect. Saints have used such expressions as "glorious nothingness" or "luminous darkness" in an attempt to give a hint of such a state.

According to Vedic science basic structure of life is one (Samhita) in three (Rishi, Devata, Chhandas) and tree in one. Same is according to Christian Yoga: One (God – Samhita) and three (Rishi – Father, Devata – Holy Ghost, Chhandas – Soon, Jesus Christ). Old testament reflects teaching of Veda and New testament reflects teaching of Patanjali Yoga Sutras. Apokalipse describes the process of gaining enlightenment (second coming of Christ). Teaching and the goal of Vedic and Christian Yoga is identical.



Jesus Christ
Church of St. Catharine, Mount Sinai, Egypt

Tummo yoga

Tummo Yoga is a Tibetan term meaning „heat practice“ and refers to a type of meditation cultivated by some Tibetan monks. There are voluntary actions like blinking, moving our limbs and swallowing. Actions which we have no control over, e.g. the beating of our heart, the process of digestion and the rate our hair growth are guided by autonomic nervous system. One thing which we normally have no control over is our body temperature. However, in the practice of Tummo Yoga, monks learn to increase their temperature by as much as 12%, an ability unknown to science until just recently. Heat production enhancement is one of the basic mechanisms for “burning” lipids or fat in an organism.

In the 1980’s, a team of doctors led by Dr. Herbert Benson of the Harvard Medical School studied monks doing this meditation and were astonished to find that they were able to increase their body temperatures enough to be able to dry wet cloths draped over them. One monk they studied was able to slow his metabolism by 64 %, the lowest level ever documented in a human being. Benson was quoted as saying that studying advanced forms of meditation such as Tum-mo "can uncover capacities that will help us to better treat stress-related illnesses" but that more research into the technique was required. Benson has been researching Tum-Mo since 1979 when the Dalai Lama gave his blessing on a trip to Harvard University, reported the Harvard Gazette.
Reference: „Body Temperature Changes During the Practice of Tum-mo (Heat) Yoga,“ H. Benson and J. W. Lehmann, Nature 295, 1982.

While fascinating in itself and having some practical application, the main value of Tummo Yoga is that it shows the depth of understanding Tibetan monks have of the mind and their ability to control it. It is also a confirmation of the Buddha’s words: "*The mind precedes all things, they are led by the mind, they are made by the mind.*" *(Dhp.1)*. From the Buddhist perspective, it is not a mythological being called God that we should seek to know and understand, but our own minds.

Breathing exercises according to Tummo (yoga of Tibet) treat atherosclerosis and can be used as non-medicinal doping for athletes under conditions of low temperatures and altitude hypoxia. This conclusion resulted from science and research expedition to Himalayas. Scientists claim that Tummo can also boost immunity and help coping with some lung diseases. All studies showed that Tummo helped resisting cold and even getting warm without any clothes. Thermogenesis (heat production by an organism for maintaining constant body temperature) studies showed that tummo breathing exercises under temperature stress (hypothermia) led to a significant short-term increase in testosterone concentration in an organism (this effect helps athletes improve their results during competitions) with a simultaneous drop in cortisone (stress hormone) concentration. The blood of all experiment participants, including those, who used to suffer from hypertension, showed low levels of cholesterol and low-density lipoproteins (which are responsible for so-called “bad cholesterol”).



CONCLUSION

CONCLUSION

To conclude here are words from Maharishi Mahesh Yogi explaining the essence of the teaching of yoga.

"Enjoy your life and be happy. Being happy is of the utmost importance. Success in anything is through happiness. More support of nature comes from being happy. Under all circumstances be happy, even if you have to force it a bit, to change some long standing habits. Just think of any negativity that comes at you as a raindrop falling into the ocean of your bliss. You may not always have an ocean of bliss, but think that way anyway and it will help it to come. Be happy, healthy, and let all that love flow through your heart. We are not in the position to criticize anything, we are only in the position to adore everything. Under all circumstances, in all kinds of surroundings - animate or inanimate - it is necessary to have a loving, kind, and sympathetic heart. Our outward behavior should be based on that principle. Love everything, encourage everyone, take it as it comes, go ahead, run fast, evolve, enjoy. We create a quality of life in the atmosphere according to the quality of our hearts. We are not responding to the instant if we are judging any aspect of it. The ego looks for what to criticize. This always involves comparing with the past. But love looks upon the world peacefully and accepts. The ego searches for shortcomings and weaknesses. Love watches for any sign of strength. It sees how far one has come and not how far he has to go. How simple it is to love and exhausting it always finds fault, for everytime we see a fault we think something needs to be done about it. Love knows that nothing is ever needed but more love. It is what we do with our hearts that effects others most deeply. It is not the movement of our body or the words within our mind that transmits love. We love from heart to heart."

- Maharishi Mahesh Yogi



REVIEW

REVIEW

Vedic Yoga has been practiced for thousands of years. There are numerous interpretations, but Jadranko's approach is unique view of this ancient science.

Author, in close and understandable way, gives spectrum of reasons and advice that will enable everybody to find and preserve life energy and inner harmony.

The knowledge that Author unselfishly shares, helps expressing inner strengths, thoughts and ideas, wisely and in harmony with laws of nature.

This comprehensive book unites unfathomable and mysticism, creating a new approach to enhancing quality of life. The book should be rightfully called Encyclopedia for it is depth and unambiguous detail.

Dr.Liliana Goliani, DMD, PhD, D.Hom.Med
Founder of Antiaging Academy of Beverly Hills, Los Angeles, USA

Science of Vedic Yoga is an extraordinarily comprehensive, well-done compendium of Vedic philosophy, knowledge, and science. This book can be used as an encyclopedic reference of yogic information for beginners and a supportive framework for more advanced yogis. I commend Jadranko Miklec for the enormous amount of effort, time, and research he put into organizing this material for the West.

My frame of reference for my comments is as a westerner, who has studied and continues to practice almost all of the yogic traditions and paths over the last 40 years, and as a recognized kundalini master speaking objectively from a position unaffiliated with Transcendental Meditation.

Spiritual Master Gabriel Cousens, MD, author of Spiritual Nutrition:
Six Foundations for Spiritual Life and the Awakening of Kundalini and Conscious Eating



APPENDIX

GLOSSARY OF SANSKRIT TERMS

Ācaryā - teacher.

Ānanda - bliss.

Añjali - joined hands.

Amṛtam - immortality.

Amṛtaṃ - nectar, ambrosia.

Angula - form of measurement for locating marma points. One angula is the width of the person's middle finger measured across the proximal interphalangeal joint.

Apaurusheya Bhāshya - „Bhasyā" means commentary, „Apaurusheya" means uncreated, self-generated, eternal; no space-time can be alloted to it; no creator can be assigned to it. Apaurusheya Bhāshya means a commentary that is not written by anyoone. Apaurusheya Bhāshya of Rig Veda means that Rig Veda has been cognized as the most complete, absolute expression of pure knowledge and its infinite organizing power. The Vedic Literature exposes Veda in its entirety. In this sense, the Vedic Literature that presents the structuring dynamics of Veda itself is a commentary in its own right. Veda is its own commentary.

Āsanaṃ - seat, couch.

Aśva - horse.

Ātmā - the Self on the individual level.

Bandha - lock. Certain neuromuscular arrangements of the body.

Bindu - internally aroused light.

Brahm - the Self on the cosmic level.

Daana - charity.

Darshana - cognition, that which is seen by self-referral consciousness. The six Darshanas (Nyaya, Vaisheshik, Samkhya, Yoga, Karma Mimamsa, Vedanta) unfold the reality of cognition. Cognition is fundamentally the phenomenon of intelligence. Cognition is the path to awaken intelligence to the reality of what one cognizes. Levels of cognition take the intellect from the surface levels of sensory perception to deeper levels of intellectual cognition, until the intellect, transcending the boundaries of the senses, ultimately transcends its own intellectual limitations. What is left is the field of pure existence, pure intelligence – Veda realized on the level of its own intelligence. This is Brahma Vidya, the knowledge of totality.

Deva - God.

Devī - Goddess.

Dhanvantari - divine father of Ayurveda. The incarnation of Vishnu; the physician of the gods, said to have been produced at the churning of the ocean with a cup of nectar (Amrita) in his hand; represents the true healer in all beings.

Dharma - that which upholds the universe.

Ghṛtam (Ghee) - clarified butter. Recipe: Heat one pound of unsalted butter on a medium heat. After the butter melts, heat for about twelve minutes over a medium flame. As it boils, froth will rise to the surface. (Do not remove this foam for it contains medicinal properties). Turn the heat to low. The butter will turn a golden yellow color and will smell like popcorn. A sediment of white milk solids can be seen at the bottom of the pot. When the white milk solids turn brown, the ghee is ready. Do not stir during the process of preparation. Remove it from the heat. Pour it through a strainer that has been lined with cheese cloth. The Ghee may be stored without refrigeration.

Guṇa - quality, virtue.

Guru - teacher, heavy.

Icchā - wish, desire.

Icchā śakti - will power.

Jyoti - inner light, the light of sattva (purity).

Kleśā - afflictions of which there are five: avidyā (ignorance); asmitā (egoism); rāga (attraction); dveṣa (repulsion); and abhiniveśa (clinging to life or fear of death).

Maṇdala - circular form. The structure of the Veda is in the Maṇdala form, self-referral loop.

Māyā - that which is not. Maya is a concept, which is the lively awareness of two values: dynamism of Rishi, Devata, Chhandas, and silence of Samhita. Maya is understood to be the source of creation. Its seat is in the relationship of Samhita with Rishi, Devata, Chhandas. Maya is the nature of Brahm (totality).

„Mayādhyakshеṇ prakṛitiḥ sūyate sacharācharam." Under my presidentship (my) nature creates all creation. – Bhagavad Gita, 9.10

„Daivi hyeshā guṇamayī mama māyā duratyayā, Māmeva ye prapadyante māyāmetāṁ taranti te." Because I am unbounded, my Māyā is also unbounded. – Bhagavad-Gita, 7.14.

Mudrā - seal, a symbol, an attitude.

Nivartadhwam - return. The path of knowledge begins from the Self (Ātmā) and ends in the Self (Brahm). Self is the source and goal of knowledge.The path of evolution proceeds in two steps – forwards and backwards. From point to infinity and from infinity back to the point is the path of gaining complete knowledge.

Nadā - internally aroused sound.

Pragyaparadha – fundamental mistake of the intellect in which differences are not experienced in terms of their underlying unity and wholeness. The concept of pragyaparadha is mentioned in the Kaushitaki Upanishad: *„If, however he makes in this unity even the smallest gap, fear is born"*. The elimination of pragyaparadha is described in the Isa Upanishad: *„He who sees everything as the Self, and the Self in everything, he sees... So how could any suffering exist for one who knows this unity?"*, and Mundaka Upanishad: *„Having realized the Self, the wise find fulfilment. The path of evolution is complete and at peace, and free from unfulfilled desire they experience oneness with everything."*

Prajñāparādha - mistake of the intellect.

Purusha - Purusha is defined in Sankhya as the uninvolved witnessing quality of self-referral intel - ligence, at the basis of all creativity. There are two qualities within the self-referral level of inteligence. These two qualities are distinguished by two names – Purusha and Prakriti. The intelligence within every grain of creation has the silent quality of intelligence (Purusha), and the creative quality of intelligence (Prakriti), with reference to that particular grain of creation. Purusha and Purushottama are two levels of intelligence. Purushottama concerns itself with the holistic value of all the inumerable Purusha values in the whole universe. Purushottama is Brahm. Purushottama is that level of intelligence which witnesses the two aspects of its nature – silent Purusha and dynamic Prakriti at the same time.

Rahasya - secret.

Rām - *„Rām Brahm Paramārath Rupa" – Rāmāyana. Rām is Brahm – Totality, embodiment of Tran - scendental Reality.* Rām is all-pervading Dharma, the light of Natural Law that rules the universe. Rām is the light of life in the heart of everyone, in every grain of creation. Rām, the light of life, is the light of pure knowledge, the Veda. Rām, the omnipresent, the omniscient – pure intelligence, infinite Creative Intelligence rules the universe through hid own nature, the Veda. Rām is omnipresent.

Rasāyana chikitsā - Rejuvenation therapy which brings about renewal, regeneration, and resto ration of all bodily cells, tissues and organs; enhances immunity and stamina and gives longevity.

Ṛṣi - seer, sage.

Samādhi - even intellect.

Shruti - that which is heard by self-referral consciousness. Veda has been known as Shruti. Shruti is defined as „Shrut" means „heard" and „i" means „Devata". Shruti is the Devata in the form of sound, the administrator of the universe in the form of sound – that which is totally heard for its specific tone without sacrificing its general, non-specific, holistic, absolute basis. It is the sound that is heard by itself. It is energy and intelligence at the same time, because its existence is on the level of self-referral consciousness.

Siddhi - perfection, attainment, proof.

Soma – it is considered to be the primordial substance out of which the created world began. It therefore instills the qualities common to creation – wholeness, intelligence, well-being, and bliss. One mark of an enlightened man is that his own body produces soma, but there ia also a plant from which it can be extracted. Life of soma plant is tied to the moon. On the day of the new moon it has no leaves. One leaf sprouts each day after this, until by the arrival of the full moon there are fifteen leaves, one by one, until by the next new moon it is once again entirely bare. Leaf of soma plant looks like a leaf from the arrowroot family, however, pointed and curled up into a cylinder in its dried state. When that dried leaf of soma plant is put into hot milk, in a few minutes, dried cylinder enrolls, swells up, and turns bright green again, almost like a freshly picket leaf. When taken, this milk has great healing property.

Sukha - happiness.

Śāstram - scripture, text.

Veda-līlā - play of knowledge.

Yuga - time period. Infinite continuum of time is measured in terms of cycles of four Yugas. When one hundred per cent of Natural Law is lived, the period is called Sat-Yuga. When seventy-five per cent of Natural Law is lived, the period is called Treta-Yuga. When fifty per cent of Natural Law is lived, the period is called Dwapara-Yuga. When tewnty per cent of Natural Law is lived, the period is called Kali-Yuga.

Body parts :

śiraḥa	head	**hastaḥa**	hand
keeśaḥa	hair	**aṅgulii**	finger
veeṇii	plaited hair	**nakhaḥa**	nail
akṣii	eye	**vakṣaḥa**	chest
yavaa	eyelash	**payoodaraḥa**	breast
bhruuḥu	brow	**udaraḥa**	belly
karṇaḥa	ear	**naabhii**	navel
kapoolaḥa	cheek	**pṛṣṭhaḥa**	back
naasikaa	nose	**kaṭi**	waist
mukham	mouth	**uuruu**	thigh
ooṣtau	lips	**paadaḥa**	skin
galaḥa	throat	**rudhiraḥa**	blood
kaṇṭhaḥa	neck	**naraḥa**	vein
baahuu	arm	**roomaḥa**	body hair

Pronouns and demonstratives:

aham	I	**eeṣaḥa**	he
vayam	we	**eeṣaa**	she
tvam	you (sg)	**eetat**	it
yuuyam	you (pl)	**atra**	here
saḥa	he	**tatra**	there
saa	she	**kutra**	where

tat	it	**yathaa**	like this
kaḥa	who	**tathaa**	like that
kim	what	**katham**	how
ayam	he	**tadaa**	at that time
iyam	she	**kadaa**	when
idam	this	**kati**	how many

Nature:

bhuumiḥi	earth	**saudaaminii**	lightning
aakaaśaḥa	sky	**marut**	wind
suuryaḥa	sun	**varṣaḥa**	rain
candraḥa	moon	**jalam**	water
nakṣatram	star	**nadii**	river
samudraḥa	sea	**taṭaakam**	lake, tank
saagaraḥa	ocean	**saroovaraḥa**	lake
taraṅgaḥa	wave	**kuupaḥa**	well
taṭaḥa	shore	**pheenaḥa**	foam
divaa	day-time	**praataḥa**	morning
raatrii	night	**saayam**	evening
prakaaśaḥa	sunlight	**madhyaanhaḥa**	midday, afternoon
meeghaḥa	cloud	**diipaḥa**	light
antaḥa	inside	**tamaḥa**	darkness
bahiḥi	outside	**vanam**	forest
puratḥa	in front of	**giriḥi**	hill
paścaat	behind	**vaamaḥa**	left
khanijaḥa	ore	**dakṣiṇaḥa**	right
maargaḥa	way, path	**varṇaḥa**	colour
seetuḥu	bridge	**kṛṣṇaḥa**	black
vṛkṣam	tree	**śveetaḥa**	white
lataa	creeper	**raktaḥa**	red
patram	leaf	**piitaḥa**	yellow
kaaṇḍaḥa	stem	**niilaḥa**	blue
puṣpam	flower	**maasam**	month
diśaa	direction	**samvatsaraḥa**	year
puurvaḥa	East	**dinam**	day
dakṣiṇaḥa	South	**vaaram**	week
paścimaḥa	West	**suvarṇaḥa**	gold
uttaraḥa	North	**rajataḥa**	silver
upari	above	**taamram**	copper
adhaḥa	below	**loohaḥa**	iron

Ayurvedic herbs:

Ahiphena - Poppy seeds, *Papaver.; Papaveraceae*

Ajwan, Ajamoda - Wild Celery Seeds, *Apium graveolens; Umbelliferae*

Aluka - Wild Yam, *Dioscoreceae*

Amla, Amalaki, Dhatri - Emblic Myrobalan, *Embilica officinalis; Euphorbiaceae*

Amla vetasa - Rhubarb, *Rheum spp.; Polygonaceae*
Arjuna - Arjuna Myribalans, *Terminalia arjuna*
Ashwagandha - Winter Cherry, *Withania somnifera; Solanaceae*
Bala - Country Mallow, *Sida cordifolia; Malvaceae*
Bhringaraj, Kesharaj - Hassk, *Eclipta alba; Compositae,*
Bibhitaki - Beleric Myrobalan, Bedda Nut, *Terminalia belerica; Combretaceae*
Bola - Myrrh, *Commiphora myrrha; Burseraceae*
Brahmi - Thyme-leaved Gratiola, *Herpestis Monniera, Bacopa Monnieri*
Chandana - Sandalwood, *Santalum album; Santalaceae*
Choraka - Angelica, *Angelica spp.; Umbelliferae*
Ela - Cardamom, *Elettaria cardamomum; Zingiberaceae*
Dashmula - Ten Roots formula. Mixture of ten herbs in equal proportion: *Aegle marmelos, Premna mucronata, Ailanthus excelsa, Stereospermum suaveolens, Phaseolus trilobus, Teramnus labialis, Tick Trefoli, Uraria picta, Solanum indicum, Solanum xanthocarpum.*
Daruharida - Barberry, *Berberis spp.; Berberidaceae*
Dhanyaka - Coriander, *Coriandrum sativum; Umbelliferae*
Dwipautra - Sarsaparilla, *Smilax spp.; Liliaceae*
Gandana - Yarrow, *Achillea millefolium; Compositae*
Gokshura - Caltrops, *Tribulis terrestris; Zygophyllaceae*
Gotu Kola - *Hydrocotyle asiatica; Umbelliferae*
Guduchi - Heart-leaved Moonseed, *Tinospora cordifolia*
Guggulu - Indian Bedellium, Gugal, *Commiphora mukul; Burseaceae, Balsamodendron mukul*
Harida - Turmeric, Curcuma longa; Zingiberaceae
Haritaki - Chebulic Myrobalans, Indian Gallnut, *Terminalia chebula; Combretaceae*
Hapusha - Juniper berries, *Juniperus spp.; Coniferae*
Hingu - Asafoetida, *Ferula asafoetida; Umbelliferae*
Japa - Hibiscus flowers, *Hibiscus rosa-sinensis; Malvaceae*
Jati - Jasmine flowers, *Jasminum grandiflorum; Oleaceae*
Jatiphala - Nutmeg, *Myristica fragrans; Myristicaceae*
Karpura - Camphor, *Cinnamomum camphora; Lauraceae*
Kumari - Aloe, *Aloe spp.; Liliaceae*
Katphala - Bayberry, *Myrica spp.; Myricaceae*
Kirata, Katuki, Trayamana - Gentian, *Gentiana spp; Gentianaceae*
Lavanga - Cloves, *Caryophyllus aromaticus; Myrtaceae*
Mandukaparni - Gotu-Kola, Indian Pennywort, *Centella asiatica, Hydrocotyle asiatica*
Manjistha - Indian Madder/Bengal Madder, *Rubia cordifolia; Rubiaceae*
Marichi-phalam - Cayenne pepper, *Capsicum annuum; Solanaceae*
Meda, Mahmeda - Solomon's seal, *Polygonatum spp.; Liliaceae*
Methi - Fenugreek, *Trigonella foenumgraeceum; Leguminosae*
Musta - Nutgrass, *Cyperus rotundus; Cyperaceae*
Nagadamani - Mugwort, *Artemisia vulgaris; Compositae*

Nagakeshara - Saffron, *Crocus sativus; Iridaceae*
Nimba - Neem, *Azadirachta indica, Melia azadirachta; Meliaceae*
Padma, Kamala, Pushkara - Lotus, *Nelumbo nucifera; Nymphaeceae*
Padmaka - Wild Cherry bark, *Prunus spp.; Rosaceae*
Phudina - Mint, *Mentha spp.; Labiatae*
Pippali - Long Pepper, Dried Catkins, *Piper longum*
Punarnava - Spreading Hogweed, *Boerhavia diffusa*
Rajavriksha - Senna, *Cassia acutifolia; Leguminosae*
Rashona - Garlic, *Allium sativum; Liliaceae*
Sevanti - *Chrysanthemum, Chrysanthemum indicum; Compositae*
Shankapushpi - Aloeweed, *Evolvolus alsinoides, Convolvolus pluricalis*
Shatapatri - Rose flowers, *Rosa spp.; Rosaceae*
Shatavari - Indian Asparagus, Hundred Roots, *Asparagus racemosus; Liliaceae*
Shilajit - Mineral Pitch, *Asphaltum puniabiunum*
Snigdhajira - Psyllium, *Plantago psyllium; Plantaginaceae*
Sunthi, Nagara (dry), Ardraka (fresh) - Ginger, *Zingiber officinale; Zingiberaceae*
Somalata - Ephedra, *Ephedra vulgaris; Gnetaceae*
Tagara - Valerian, *Valeriana spp.; Valerianaceae*
Tamburu - Prickly ash, *Xanthoxylum spp.; Rutaceae*
Tila - Sesame Seeds, *Sesamum indicum; Pedaliaceae*
Triphala - Three Fruits formula. Mixture of three Ayurvedic fruits in equal proportion: *Amalaki (Em bilica officinale), Bibhitaki (Terminalia belerica) and Haritaki (Terminalia chebula).*
Tulasi - Holy Basil, *Ocimum sanctum*
Twak - Cinnamon, *Cinnamomum zeylanicum; Lauraceae*
Uma - Flaxseed; *Linum usitatissimum; Linaceae*
Vacha - Calamus root (Sweet Flag), *Acorus calamus; Araceae*
Vamsa rochana - Bamboo Manna, *Bambusa arundinaceae; Graminaceae*
Vana-methika - Red clover, *Trifolium pratense; Leguminosae*
Yashti Madhu - Licorice, *Glycyrrhiza glabra; Leguminosae*

Prefixes (Upasargas):

ati-	over, beyond, across	**dus**-, **dur**-	bad
adhi-	bove, over, on	**antar**-	within, between
anu-	after, behind, following	**ni**-	into, in
apa-	away, from, off	**nis**-, **nir**-	from, away, of, out, forth
api-	on, close on	**atra**-	here
abhi-	towards, to, against	**paraa**-	opposed to, away, forth
ava-	away, down, off	**pari**-	about, around
aa-	up to, back return	**pra**-	much, well, forth, forward, onward
ud-	upon	**upa**-	towards
prati-	in opposition to, against	**sam**-	together, with, full, well
vi-	reverse to, separate from	**su**-	well

LITERATURE

1. A.G. Mohan: *Yoga for Body, Breath and Mind*. Shambhala, 2002.
2. A.G. Mohan and Indra Mohan: *Yoga therapy.* Shambhala, 2004.
3. Gabriel Cousens, M.D.: *Conscious Eating.* North Atlantic Books, 2000.
4. Gabriel Cousens, M.D.: *Spiritual Nutrition*. North Atlantic Books, 2005.
5. Gabriel Cousens, M.D.: *Spiritual Nutrition for Yoga & Liberation*, DVD, 2009.
6. Dr.med.Ernst Schrott: *Ayurveda*. 2005, Wilhelm Goldmann, Verlag, München
7. Dr.med.Ernst Schrott, Dr.med.Wolfgang Schachinger: *Handbuch Ayurveda*. 2005 Karl F. Haugh Verlag in MVS Medizin-verlage Stuttgart GmbH & Co. KG.,
8. Jadranko Miklec: *Yama – moralna načela*. Zagreb, 2002
9. Jadranko Miklec: *Niyama – životna načela*. Zagreb, 2004
10. Jadranko Miklec: *Asana – yoga položaji Pranayama – yoga disanje*. Zagreb, 2005
11. Jadranko Miklec: *Yoga za kralježnicu i ljepotu tijela*. Zagreb, 2006
12. Jadranko Miklec: *Transcendentalna meditacija – povratak zdravlju*. Zagreb, 2007
13. Mel Robin: *A Physiological Handbook for Teachers of Yogasana.* Fenestra Books, 2002.
14. H. David Coulter: *Anatomy of Hatha Yoga. Body and Breath*. Inc., 2001.
15. Dr. David Frawley, Sandra Summerfield, M. S. Kozak: *Yoga for Your Type. An Ayurvedic Aproach to Your Asana Practice.* Lotus Press, 2001.
16. B.K.S. Iyengar: *Light on Yoga.* George Allen and Unwin, London, 1986.
17. B.K.S. Iyengar: *Light on Pranayama.* George Allen and Unwin, London, 1981.
18. B.K.S. Iyengar: *Yoga the Path to Holistic Health.* Dorling Kindersley Limited, 2001.
19. Shri K. Pattabhi Jois: *Yoga Mala.* North Point Press, 2000.
20. T.K.V. Desikachar: *Religiousness in Yoga*. University Press of America, 1980.
21. Gary Kraftsow: *Yoga for transformation.* Penguin Compass, 2002.
22. Gary Kraftsow: *Yoga for Wellness*. Penguin Putnam Inc., 1999.
23. Srivatsa Ramaswami: *The complete book of Vinyasa Yoga*. New York, 2005.
24. Pancham Sinh: *The Hatha Yoga Pradipika*. Munshiram Manoharlal, 1992.
25. Rai Bahadur Srisa Chandra Vasu: *The Shiva Samhita*. Publishers Pvt. Ltd., 1990.
26. Rai Bahadur Srisa Chandra Vasu: *The Gheranda Samhita*. Oriental Books Reprint Corpora - tion, 1980.
27. Maharishi Mahesh Yogi: *Bhagavad Gita.* Maharishi Vedic University.
28. Prof. Tony Nader, MD, PhD: *Human physiology, expresion of Veda and Vedic literature.* Ma - harishi Vedic University, Vlodrop, Netherland, 2000.
29. Swami Hariharananda Aranya: *Yoga Philosophy of Patanjali.* University of Calcuta, 1981.
30. M. Monier-Williams: *A Sanskrit-English Dictionary*. Motilal Banarsidas, Delhi, 1999.
31. Erwin Schrödinger: *What is life? Mind and mater*. Cambridge University Press, 1967.
32. Leslie Kaminoff: *Yoga Anatomy.* The breathe trust 2007.
33. Theodore Dimon,Jr.: *Anatomy of the moving body.* North Atlantic Books, 2008.

LIST OF METHODS TO MANAGE STRESS

I. Overview

Before using a "stress-reduction" method, consult a doctor for approval. Also, to gain the maximum results from the practice, it is advised that one find a qualified teacher who is an expert in the method and follow the teacher's instruction.

Each proponent of a meditation system or method to manage stress claims that it is the best. The choice of a system of meditation or method to manage stress should be based on scientific research that shows its effectiveness. Even though a number of the methods listed have little or no scientific research regarding their effectiveness, such as reflexology, folk dancing, or religious prayer, they are listed because they are used by many people to "fight stress." They are included here to inform medical practitioners of the various methods patients use for relief from tension and stress.

All the methods listed are not equally effective in reducing stress. Some methods may have minimal benefits outside of the "placebo effect," a beneficial effect not due to any property of the method or "placebo" itself. Research on exercise, for example, suggests exercise has a strong placebo effect. Many stress management methods may work primarily through the placebo effect. In the last 30 years, the placebo effect appears to have intensified.

Dr. Barsky, Director of Psychiatric Research at the Brigham and Women's Hospital, Boston, Massachusetts, USA, has published a study examining many antidepressant trials that took place between 1980 and 2005.1 He found that patients in 2005 responded to placebos more than patients had in the 1980s. In a report on NPR Morning Edition News, 18 March 2010, Barsky said, "The placebo response was about twice as powerful as it was in the 1980s. That's a pretty significant difference." The placebo effect is powerful and may be affected by the collective consciousness of society.

In considering why the placebo effect has changed, the answer may be found in the changing state of coherence in the collective consciousness of society. This, in turn, can be affected by the numbers of people in society experiencing transcendental consciousness (p. 495).2 When the conscious mind experiences thought on the subtlest level, the full mental potential is enlivened (p 32, 33).3 The increase in coherence of individual minds when transcendental consciousness is reached through meditation, for example, leads to an increase in coherence on a wider level in society.4

If patients experience pure consciousness or transcendence, the medical practitioner's advice may be more effective, and the patients may derive more from the methods listed. In a video tape lecture entitled Blossoming of Supreme Knowledge for the World to Enjoy for All Generations to Come, Maharishi Mahesh Yogi [November 30, 1971 (53 min)] stated how he started the commentary on the Bhagavad-Gita and how he revived the natural and effortless Transcendental Meditation technique. He said, in India one seeks a teacher for instruction and learns how to meditate for spiritual growth. A revival was necessary because people were in the habit of doing things with effort, including using effort while practicing meditation, thereby making the process tedious and unnatural. The simplicity, naturalness, and effectiveness of meditation were lost. Both concentration and effort lessen the positive effects of meditation. However, with the proper instruction, the mind effortlessly goes to the field of greatest happiness, transcendental bliss consciousness (see here,3 p. 32 and here,5 p. 118-9).

Maharishi Mahesh Yogi has pointed out that there could be innumerable systems of meditation. He has classified the methods in different ways, including as sensory, intellectual and emotional.

However, he emphasized that, *"Any system that does not transcend its own activity and come to the ultimate value of rest does not do justice to its goal of developing the full value of Creative Intelligence."*6 This is necessary because creative intelligence or pure consciousness is the basis of all aspects of creation, like the sap of the tree is the basis of all the aspects of the tree—roots, trunk, branches, leaves, flowers, and fruit. He points out that:

"If we want to grow, if we want to blossom in the full value of life, we must get to the absolute field of rest and then begin activity from there. Activity should start from absolute silence; then the whole field of activity can be stirred."

The conclusion of this reference states:

"Any system which does not transcend perception, any system that does not transcend intellectual activity, any system that does not transcend emotional activity does not reach to the root of life. It does not reach the source of Creative Intelligence from where all the innumerable expressions of Creative Intelligence can be enriched. Any such system is not sufficient to fully develop Creative Intelligence. Any system that does transcend its emotional, intellectual, or perceptual activity, we can say then that it will be this [Transcendental Meditation]."

Other major groups of meditation methods are those proposed by Lutz et al.7 as follows, a) focused attention, and b) open monitoring. More recently, a third category, c) automatic self-transcending , was proposed by Travis and Shear.

II. List of Methods to Manage or Eliminate Stress

A. Mental Techniques to Reduce Stress

1. Methods from ten traditions: a) Zen Buddhism; b) Transcendental Meditation; c) Taoism/Qigong; d) Yoga; e) Theravada Buddhism; f) Tibetan Buddhism; g) Integral Yoga; h) Kriya Yoga ("karma yoga" or the yoga of action); i) Sufism; and j) Christianity. Each of these traditions may include several methods of meditation. For example, Theravada uses methods other than Vipassana. The same holds for Zen Buddhism, which uses koans, Vipassana, walking meditation, "doubt sensation," and many other methods. Even Yoga is not a single method. Transcendental Meditation is a single method, as is Centering Prayer, the technique discussed in the Christianity Chapter.10

2. Categories of meditation techniques—Lutz et al.7 proposed two categories of meditation techniques (a, b) and Travis and Shear8 added the third classification of meditation techniques (c): a) focused attention (concentration techniques which keep attention focused on an object), and b) open monitoring ("mindfulness" techniques which keep attention involved in the monitoring process) and, c) automatic self-transcending, which includes techniques that transcend their own activity (such as Transcendental Meditation).

3. Techniques for experiencing transcendental consciousness or "Being" mentioned by Maharishi Mahesh Yogi3 (p. 194): a) Psychological—where only the mind is involved. This, in practice, is the system of Transcendental Meditation. b) Physiological—where metabolic processes are reduced by working on the body or breathing. This practice is achieved through yogic techniques for culturing the physical body through postures or breathing. c) Psychophysiological—where mind and breathing both are made to function in a manner that brings both mind and body to the level of that state of suspension on the level of Being.

4. Three general approaches to transcending are described by Maharishi Mahesh Yogi in another source: a) Sensory, involving one of the five senses, b) intellectual, involving the intellect, and c) emotional. Any techniques using these approaches will be more effective if their own activity is transcended.

5. Advanced Techniques of Transcendental Meditation are like "fertilizers," as Transcendental Meditation is considered a technique of "watering the root." Advanced Techniques accelerate the progress towards stabilizing pure consciousness. Information about Advanced Techniques may be obtained from any Transcendental Meditation Center or from this website: http://www.advanced.tm.org/

6. The Transcendental Meditation-Sidhi Program accelerates the growing ability to fulfill one's desires by functioning from the level of pure consciousness (pp. xxi-xxiii).3 Information about the Transcendental Meditation-Sidhi program may be obtained from a Transcendental Meditation Center or from this website: http://www.advanced.tm.org/

7. Residence Courses, with group meditations and group practice of the Transcendental Meditation-Sidhi program3 (p. xxxiv) or from this website http://www.advanced.tm.org/ , provide deep rest, purification of stress, and intellectual understanding of the growth of pure consciousness. [Note: During residence courses, yoga asanas (neuromuscular exercises) and breathing exercises (neurorespiratory exercises) are taught to and practiced by the course participants as part of the residence group programs.]

B. Physical Activities that Reduce Stress

8. Surya Namaskara Ayurvedic Exercise activates all the muscle groups of the body, massages the internal organs, stretches the skin and enlivens the marma points to improve the functioning of every cell, organ, and system of the body for better overall health. Breathing may sometimes be combined with each of the 12 poses of the Surya Namaskara exercises. If one searches the internet for "Surya Namaskara," one gets many interpretations, from the deeply religious to the simple physical exercise levels. The latter is intended here.

9. Neuromuscular Exercises (Yoga Asanas) keep the body flexible. If one searches the internet for "yoga poses," one gets many interpretations, from the deeply religious to the simple physical exercise levels. The latter is intended here. The Transcendental Meditation organization offers a special course on yoga asanas. A set of yoga asanas is taught during Transcendental Meditation Residence Courses.

10. Neurorespiratory Exercises (Pranayama) bring balance to the functioning of the whole physiology. Pranayama is taught at Transcendental Meditation Residence Courses. If one searches the internet for "pranayama," one gets many interpretations, from the deeply religious to the simple physical exercise levels. The latter is intended here. This website describes two kinds of breathing exercises http://www.kundaliniyoga.org/pranayam.html a) long deep breathing and b) alternate nostril breathing.

11. Jacobson Progressive Muscle Relaxation (PMR)11 (and found on websites) is a technique for reducing anxiety by alternately tensing and relaxing the muscles. PMR was developed in the early 1920s by American physician Edmund Jacobson. Jacobson argued that since muscular tension accompanies anxiety, one can reduce anxiety by learning how to relax muscular tension. PMR entails a physical and mental component. In other words it works by the psychophysiological principle. A

variation of the PMR method is Autogenic Training developed by psychiatrist Johannes H Schultz in Germany in 1932.

12. Other Exercise Programs include walking, aerobic dancing, folk dancing, jogging, swimming, bicycling, athletic games, etc. Many references are available.

13. Breathing in and thinking "I am" and exhaling and thinking "in peace" and other similar exercises result in relaxation and some stress release.

C. Various Forms of Prayer

14. The Hesyhastic prayer of the heart from St. Nicephorus in the The Philokalia13 (p. 32), and else where One breaths in and thinks "Lord Jesus Christ" and exhales and thinks "have mercy on me."

15. Traditional religious prayer—the deeper the prayer reaches in one's consciousness the more ef fective it becomes. By thinking from deeper levels of our mind, the power of the mind is in creased (p. 32, 33).3

D. Seeking Professional Help

16. Seeing a psychologist or talking to a good friend

17. Seeing a psychiatrist for clinically severe cases of stress

18. Emotional Freedom Techniques (EFT) are related to marma therapy, acupuncture points, and meridians, and are easily learned from an experienced teacher; for example, "Tap yourself to health." www.emofree.com/ .

19. Good sleep habits, for example, going to sleep before 10:00 PM and rising with the sun, are helpful for reducing stress, according to Ayurveda, an ancient science of health from the Vedic tradition. See, for example, (p. xxxi) and www.mapi.om .

20. The knowledge of Ayurvedic psychophysiological body types is useful for many stress reducing methods mentioned on this list, from the point of view of both the medical practitioner and the patient. Vata, Pitta, Kapha are the qualities that characterize different body types that have relevance for daily and seasonal cycles, and for diet, sleep pattern, and exercise. See3 (p. xxviii, p. xxxi), and www.mapi.com.

21. Regular routine, a proper balance between rest and activity, is essential for good health according to Ayurveda.

22. Pure food, water, air, and sunshine contribute to overall health and well-being. Ayurveda recommends organic products, fresh and locally grown.

E. Complementary and Alternative Medical Practices, and Other Approaches

23. Reflexology uses the meridians in the soles of the feet and the palms of the hands. When properly administered by an expert, reflexology brings relief from stress. http://en.wikipedia.org/wiki/Reflexology and http://www.reflexology-research.com/whatis.htm.

24. Marma Ayurvedic Therapy attends to the marma points, which are similar to the acupuncture points of Chinese medicine. Here is one website: http://www.vedanet.com/index.php?option=com_content&task=view&id=68&Itemid=34.

25. Vastu Shanti attends to the influence of one's residence, improving health and reducing stress. Vastu Shanti considers one's environment, the importance of eliminating pollution, congestion, noise, traffic, lack of green space, and lack of a place to exercise (p, xxxii).3 and on these websites: www.maharishisthapatyaveda.org and http://www.advanced.tm.org/

26. Graha Shanti attends to the influence of the planets, the far environment, on one's health and stress level.

27. Gemstones correlate with the effects of Graha Shanti (p. xxxii).3 and www.maharishiyagya.org

28. Yagyas "avert the danger before it arises." http://www.maharishi-india.org/programmes/p7/yagyas.html

29. Maharishi Vedic Vibration Technology (MVVT) or Primordial Sound Therapy15 16 uses Vedic sounds to improve health and reduce stress. It is a non-invasive, non-medical approach for enlivening the body's inner intelligence and bringing balance to the mind and body. See these websites: http://www.vedicvibration.com/ and http://www.advanced.tm.org/

30. Herbs or phytopharmaca have been used since ancient times throughout all cultures to reduce stress and cure disease. There are many books and websites on herbs. The Yoga of Herbs [Frawley, David and Lad, Vasant, 2001, Lotus Press, Twin Lakes, WI, USA] deals with Ayurvedic and Chinese herbs and their uses. See also www.mapi.com/maherbs for various herbs that are used in many areas of health. See also this: http://www.mapi.com/maharishi_ayurveda/products/herbal_supplements/index.htm

31. Panchakarma includes Ayurvedic procedures that purify and rejuvenate mind and body. Panchakarma means the "five therapies." Panchakarma is Ayurveda's primary purification and detoxification treatment. Ayurvedic panchakarma treatments help eliminate stress and its effects. See, for example, www.theraj.com.

32. Maharishi Light Therapy with Gems (MLTG) is a non-invasive technique during which light is shined through gems positioned above the various nerve ganglia of the body, or "chakras" in Sanskrit. MLTG brings relief from various health conditions. Here is an article for more information: http://www.globalgoodnews.com/health-news-a.html?art=124535286631856108

33. Light therapy is used for seasonal affective disorder, a common affliction especially in northern and cloudy climates. See phototherapy or light therapy at this site: http://en.wikipedia.org/wiki/Light_therapy .

34. Aromatotherapy is an aspect of Ayurveda that uses essential oils to reduce stress and improve health. Relaxation and pleasure are enhanced. (see this site for more information: http://www.mapi.com/maharishi_ayurveda/products/vedaroma/index.html

35. Chromatotherapy or color therapy uses light to affect the mind and body. The wall colors in a room, or the colors of the clothes worn, affect our health and mood. See this article: http://en.wikipedia.org/wiki/Chromotherapy

36. Massage (or anatripsis in ancient Greek) can reduce stress and improve health. Here is one article: http://en.wikipedia.org/wiki/Massage

37. Acupuncture is useful in reducing pain, anxiety, depression, and stress. Here is the one article: http://en.wikipedia.org/wiki/Acupuncture

38. The Mindfulness Stress-Reduction Course or MSRC has been designed to reduce stress. Here is one site: http://www.mbsrtraining.com/ and the one in Greece in the Athens Mindfulness Center, Maria Iliopoulou, postal zone 11544, telephones 30 210 6996892 or 306947991137and email, info@athensmindfulnesscentre.com

39. Osteopathy offers procedures to reduce stress. Here is one article http://en.wikipedia.org/wiki/Osteopathy

40. Homeopathy is used to reduce stress. Homeopathy has effects that are beyond the placebo effect. The greatly diluted solutions may contain the memory of the originally dissolved medicinal substances and thus produce the effects of the undiluted substance. Many articles are available on the Web.

41. Chiropractic procedures can reduce stress in some cases. Hippocrates has remarked that the spine going out of alignment can sometimes cause severe illness and stress. Many articles are available on the Web.

III. References

1. Rief W, Nestoriuc Y, von Lilienfeld-Toal A, Dogan I, Schreiber F, Hofmann SG, et al. Differences in adverse effect reporting in placebo groups in SSRI and tricyclic antidepressant trials: a systematic review and meta-analysis. Drug Saf 2009;32(11):1041-56.

2. Nader T. Human Physiology: Expression of Veda and Vedic Literature. Vlodrop, The Netherlands: Maharishi Vedic University Press, 1995/2000.

3. Maharishi Mahesh Yogi. The Science of Being and the Art of Living. New York, USA: Penguin, 1963/2001.

4. Walton KG, Cavanaugh KL, Pugh ND. Effect of group practice of the Transcendental Meditation program on biochemical indicators of stress in non-meditators: A prospective time series study. Journal of Social Behavior and Personality 2005;17(339-373).

5. Maharishi Mahesh Yogi. On the Bhagavad-Gita. A New Translation and Commentary, Chapters 1-6. New York/London: Penguin Books, 1969.

6. Maharishi Mahesh Yogi. The Science of Creative Intelligence: Knowledge and experience (Lessons 1-33). Los Angeles, California: Maharishi International University Press, 1972:Lesson 18.

7. Lutz A, Slagter HA, Dunne JD, Davidson RJ. Attention regulation and monitoring in meditation. Trends in Cognitive Sciences 2008;12(4):163–169.

8. Travis F, Shear J. Focused attention, open monitoring and automatic self-transcending: Categories to organize meditations from Vedic, Buddhist, and Chinese traditions. Consciousness and Cognition in press.

9. Shear J, editor. The Experience of Meditation: Experts Introduce the Major Traditions. St. Paul, Minnesota, USA: Paragon House, 2006.

10. Pennington B. Centering prayer, an ancient Christian way of prayer. In: Shear J, editor. The Experience of Meditation: Experts Introduce the Major Traditions. St. Paul, Minnesota, USA: Paragon House, 2006:245-257.

11. Jacobson E. Progressive Relaxation. Chicago, Illinois, USA: University of Chicago Press, 1938.

12. Luthe W, Schultz JH. Autogenic Therapy. New York: Grune and Stratton, Inc., 1969.

13. Kaldoubovsky EK, Palmer GEH. Early Fathers from the Philokalia. 5th ed: Faber and Faber, 1954, 1976.

14. Anonymous. The Way of a Pilgram and the Pilgram Continues His Way. New York, NY, USA: Harper Collins, 1991.

15. Nader TA, Smith DE, Dillbeck MC, Schanbacher V, Dillbeck SL, Gallois P, et al. A double blind randomized controlled trial of Maharishi Vedic vibration technology in subjects with arthritis. Front Biosci 2001;6:H7-H17.

16. Nidich SI, Schneider RH, Nidich RJ, Rainforth M, Salerno J, Scharf D, et al. Maharishi Vedic vibration technology on chronic disorders and associated quality of life. Front Biosci 2001;6:H1-6.

17. Robert E. Herron, PhD, and John B. Fagan, PhD (Sept/Oct 2002). Lipophil-mediated Reduction of toxicants in humans: An evaluation of an Ayurvedic detoxification procedure. ALTERNATIVE THERAPIES, VOL. 8, NO. 5, pages 40 to 51. [Reference for Ayurvedic panchakarma, method #31].

Copyrighted in 2010. by Demetri Kanellakos, Ph.D., E.E.

Last date modified May 27th, 2012.

RESEARCH IN SUBTLE MATTER EXPLAINS THE WORKING OF "ENERGY MEDICINE" AND OF A VARIETY OF PHYSICAL ANOMALIES

Researchers in the field of "energy medicine" have recognized for many years that human health and disease are influenced by factors that go beyond the material structure and function of the human body. However, no satisfactory causal explanation for such factors that transcend the level of the visible body has been given.

New research into "subtle matter" solves this contradiction and provides a causal explanation for "energy medicine", "integrated medicine" or other kinds of "complementary medicine". Special detectors using sensitive balances have indicated the existence of a form of non-visible matter. This scientifically so-far unknown type of matter exhibits real macroscopic mass, energy and information content. The significance of the following described properties of this subtle matter is far reaching because the measurement method used is on the one hand fully anchored in the existing methods of experimentation of physics, while the results obtained go on the other hand far beyond the borders of the contemporary scientific paradigm.

The quanta of this form of subtle matter exhibit macroscopic mass but have no microscopic point-like and time-like structure as known from the elementary particles of gross matter. Rather, they exhibit a macroscopically extended field-like and space-like structure ranging over decimeters. It turns out that subtle matter is bound to phase borders of normal matter by a "form-specific physical interaction" which can be found, for example, as microbiological membranes of cells, of cell organelles, of tissues or of organs in the human body as well as in animals or plants and even minerals and metals. Such subtle-matter fields of living organisms prove to be the source not only of biologically active information but also of individual consciousness and emotions. This gives "energy medicine"a scientific platform, which had been previously recognized phenomenologically, but was lacking a causal physical explanation. In addition, the detected quanta of subtle matter with positive and negative sign are excellent candidates to understand dark matter and dark energy. Respectively, these make up approximately 23 % and 73 % to the total mass of the universe, while the visible portion of gross matter contributes only around 4 %.

"Energy medicine" is only a single component of an overall puzzle of anomalies, a "network of anomalies" for which traditional physics has no adequate explanation. The following is an overview of some current physical anomalies and their effects. This includes "energy medicine", but ranges far beyond it. What these anomalies have in common is that they can all be explained by research in subtle matter.

Concerning "subtlety" (subtle kinds of matter and radiations) itself:

- Proof of existence of subtle matter and (+/-)-field-quanta as well as types of radiations;
- Evidence of types of interactions of subtle matter with ordinary matter;
- Approach for a theoretical description of subtle matter;
- Quanta of subtle matter as elementary carriers of consciousness, regardless of normal gross matter, where the nervous system and the gross body are merely "resonance instruments" and are controlled completely by the subtle-matter body-field of a living being.

Concerning physics, yielding explanations for physical anomalies:

- Submicroscopic relativistic, higher-dimensional space-time geometry with the ability for curvature of space-time in accordance with general theory of relativity;

- Subtle-matter extended elementary particle model (ET) with the quantitative derivation of Lorentz-transformations of special theory of relativity as well as the quantum mechanical, heavy or inertial and even homeopathic properties of ordinary matter from the ET-model;
- Plausible physical explanation of the so-called "quantum paradox" such as the wave-particle duality, EPR-entanglements, etc.
- Explanation of superluminal effects in quantum mechanics;
- Violation of reductionism by effects of subtle-matter fields;
- Violation of fundamental symmetries by field-effects of subtle matter;
- Explanation of "electrosmog" and of "biophotons".

Effects of macroscopic fields subtle matter, bound to systems of normal matter

- Explanation of the current uncertainty of the Newtonian gravitational constant G;
- Extension of Newton's law of gravity;
- Explanation of the "fifth force", or the mass loss at the Paris standard kilogram;
- Explanation of "energy medicine" as well as many "naturopathic treatments" or homeopathy. This establishes the foundation of a macroscopic quantum medicine as a special case of macroscopic biology and, in general of macroscopic quantum mechanics; See Figure 1.
- Explanation of the results of traditional Indian medicine (ayurveda, architecture and astrology);
- Explanation of human sensory perception in the waking state of consciousness;
- Explanation of parapsychology and the sensory perception in higher states of consciousness;
- Explanation of synchronicity and macroscopic entanglement;
- Quantitative explanation of solar and global anomalies, such as acceleration anomalies in NASA's solar (Pioneer probes 10 and 11 in the solar system) or global spacecraft (NEAR Shoemaker probe in the global fly-by-maneuver);
- Explanation of the existence and the effects of Sheldrake's global morphogenetic fields or the effects of Nelson's Global Consciousness Project;
- Anomalies during solar eclipses (Allais pendulum, morphology effects), etc.;
- Recognition of a universal subtle-matter "negentropy" as the basis of evolution;
- Physical identification and characterization of a previously unknown form of unlimited energy.

Effects of free and bound fields of subtle matter at the universal level

- Explanation and characterization of dark matter and dark energy in bench scale tests as quanta of subtle matter with positive and negative sign;
- Explanation of the gravitational structure-building and jet formation in planetary Nebulae, etc.

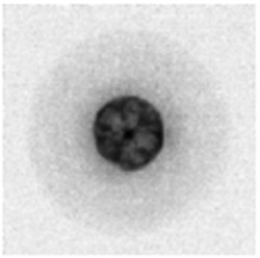
Consequences: From the onset of the scientific "enlightenment" in about 1700, which ultimately led to today's materialistic and atheistic understanding of the universe, effects of a real subtlety were regarded as non-existent. They were ignored, but they finally accumulated into a variety of physical anomalies that are unexplainable within the dominant paradigm. Newly developed measurement technologies now reveal these to be effects of all pervasive subtle-matter fields. A summary of this "network of anomalies" is given above and in Figure 1. This leads to the conclusion that for a more comprehensive understanding of nature, the present day's "enlightenment" should be supplemented by "subtle-matter extended enlightenment".

References:

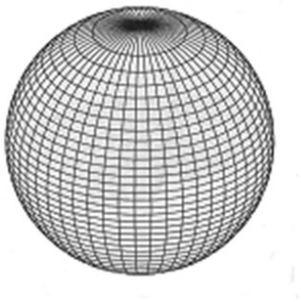
Volkamer, Detection of Dark-Matter-Radiation of Stars during Visible Sun Eclipses, Nuclear Physics B (Proc. Suppl.) 124, 117-127 (2003).

Volkamer, Gravitational Spacecraft Anomalies as well as the at Present Relatively large Uncertainty of Newton's Gravity Constant are Explained on the Basis of Force-Effects Due to a so-far Unknown Form of Space-like matter, Proceedings of UCLA's Dark Matter Conference in 2008 in LA.

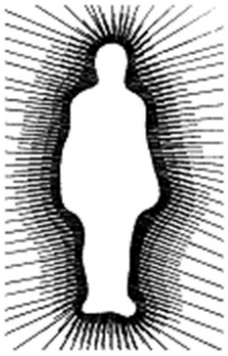
Volkamer, "Feinstoffliche Erweiterung unseres Weltbildes", Weissensee Verlag, Berlin 2009.



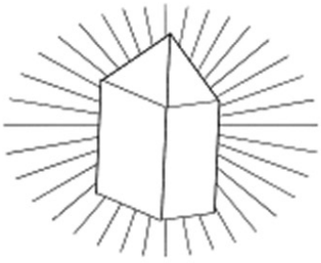
LEVELS 6 AND 7



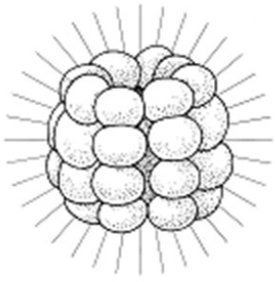
LEVEL 5



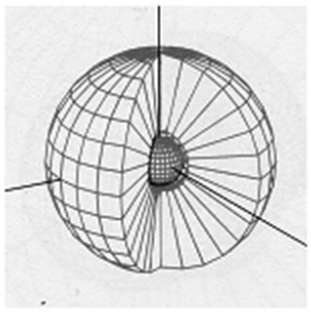
LEVEL 4



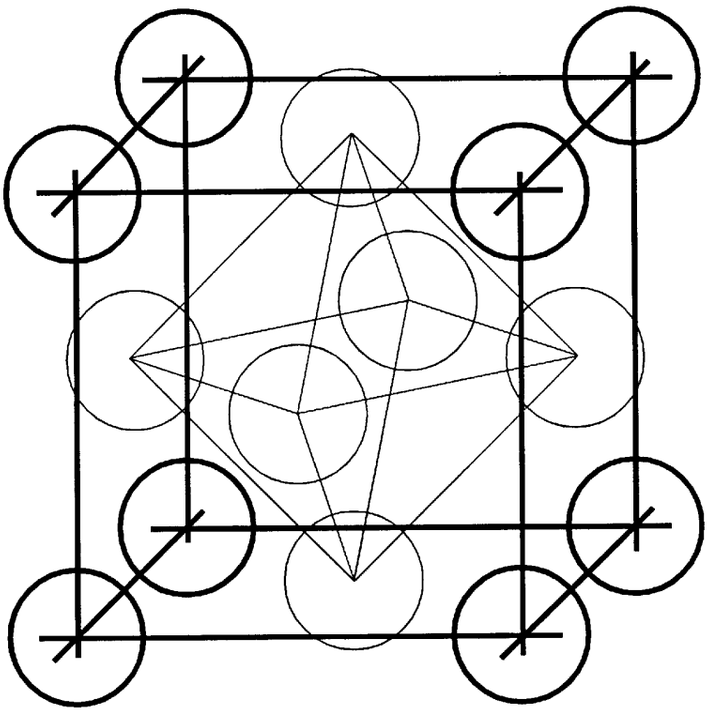
LEVEL 3



LEVEL 2



LEVEL 1A



LEVEL 1

Levels 6 and 7 - SME*) cosmology: For example, Dark Matter (formation of galaxies) and Dark Energy (accelerated expansion of the Universe); **SME*) astrophysics:** For example, formation of structurs and bipolar jets at young stars and at planetary nebulae: Field effects of a c**osmic quantization** of gravitationally bound fields of subtle matter.

Level 5 - SME*) geology: Solar, global or lunar subtle-matter fields, Hartmann-grid, Sheldrake's morphogenetic fields: Field effects of a **cosmic quantization** of subtle-matter fields at celestial bodies, also at Earth (architecture).

Level 4 - SME*) "humanities": For example, in humanities (creativity, information), psychology (consciousness), parapsychology (mystics, ancient traditions of wisdom, etc.), medicine (subtle- matter field-bodies, sensory perception, all in the frame of a **macroscopic quantum medicine**), politics (collective consciousness), technical (free energy generation, etc.): Field effects of a **macroscopic quantum mechanics.**

Level 3 - SME*) physics: For example, subtle-matter information in electromagnetic noise, research in gravity with an extended law of gravity or effects of "fifth's force", as effects of a **macroscopic quantum mechanics.**

Level 2 - SME*) biology: For example, macroscopically, metabolically and morphologically guiding "life-fields", negentropic understanding of evolutionary processes relativizing Darwinism in the frame of a **quantum biology**: Effects of a **macroscopic quantum mechanics** of subtle-matter fields.

Level 1a - SME*) physics: Extended model of elementary particles; atomic orbitals are real standing waves of fields of subtle matter; explanation of the "quantum paradox" or superluminal velocities in quantum mechanics as effects of the **microsc. QM**

Level 1 - SME*) physics: Relativistic space-time-geometry with locally imbedded particles which automatically behave according to STR, GTR as well as quantum mechanics (QM): **Microscopic QM** as special case of an extended **microscopic/macroscopic/cosmic quantum mechanics. SME*)** = subtle-matter extended

Figure 1: This figure shows the structure- und hierarchy-generating actions of quanta of subtle matter in the microscopic formation of space-time (level 1) or of matter (level 1a), but also in the formation of macroscopic subtle-matter fields which are superimposed to systems of normal matter (levels 2 until 7) at the gross level. The actions of these superimposed new macroscopic collective-/group-fields lead on the one hand to the emergence of new properties in the involved systems (similarly as the superposition of atomic to molecular orbitals leads to new properties) which on the other hand invalidate the physical principle of microscopic „reductionism", and establish an omnipresent macroscopic and cosmic quantum mechanics.

October 2010

Dr. Klaus Volkamer
Heidelberger Ring 21
D-67227 Frankenthal
Germany
dr.volkamer@yahoo.de
Tel.: +49/6233-63114, Fax -69688

ŚRĪ PĀTAÑJALA YOGASŪTRĀṆI

prathamaḥ samādhipādaḥ

1. atha yoga-anuśāsanam /1/
2. yogaś ćitta-vṛtti-nirodhaḥ /2/
3. tadā drašṭuḥ sva-rūpe 'vasthānam /3/
4. vṛtti-sārūpyam itaratra /4/
5. vṛttayaḥ pańćatayaḥ klišṭāklišṭāḥ /5/
6. pramāna-viparyaya-vikalpa-nidrā-smṛtayaḥ /6/
7. pratyakśa-anumāna-āgamāḥ pramānāni /7/
8. viparyayo mithyā-jñānam-atadrūpa-pratišṭham /8/
9. śabda-jñāna-anupātī vastu-śūnyo vikalpaḥ /9/
10. abhāva-pratyaya-ālambanā vṛttir nidrā /10/
11. anubhūta-viśaya-asampramošaḥ smṛtiḥ /11/
12. abhyāsa-vairāgyābhyāṃ tan-nirodhaḥ /12/
13. tatra sthitau yatno 'bhyāsaḥ /13/
14. sa tu dīrgha-kāla-nairantarya-satkāra-āsevito dṛḍha-bhūmiḥ /14/
15. dṛśṭa-anuśravika-viśaya-vitṛšṇasya vaśīkāra-saṃjñā vairāgyam /15/
16. tatparaṃ puruša-khyāter guṇa-vaitṛšnyam /16/
17. vitarka-vićāra-ānanda-asmitā-rūpa-anugamāt saṃprajñātaḥ /17/
18. virāma-pratyaya-ābhyāsa-pūrvaḥ saṃskāra-śeśo 'nyaḥ /18/
19. bhava-pratyayo videha-prakṛti-layānām /19/
20. śraddhā-vīrya-smṛti-samādhi-praðñā-pūrvaka itarešām /20/
21. tīvra-saṃvegānām āsannaḥ /21/
22. mṛdu-madhya-adhimātratvāt tato 'pi viśešaḥ /22/
23. īśvara-praṇidhānād vā /23/
24. kleśa-karma-vipākāśayair aparāmṛšṭaḥ puruśa-viśeša īśvaraḥ /24/
25. tatra nir-atiśayaṃ sarva-jña-bījam /25/
26. sa pūrvešām api guruḥ kālena-anavaććhedāt /26/
27. tasya vāćakaḥ praṇavaḥ /27/
28. taj-japas tad-artha-bhāvanam /28/
29. tataḥ pratyak-ćetanā-adhigamo 'py antarāya-abhāvaś ća /29/
30. vyādhi-styāna-saṃśaya-pramāda-ālasya-avirati-bhrānti-darśana-alabdha bhūmikatva-anavasthitatvāni ćitta-vikšepās te 'ntarāyāḥ /30/
31. duḥkha-daurmanasya-aṅgamejayatva-śvāsa-praśvāsā vikśepa-sahabhuvaḥ/31/
32. tat-pratišedha-artham ekatattva-abhyāsaḥ /32/
33. maitrī-karuṇā-mudita-upekśāṇāṃ sukha-duḥkha-puṇya-apuṇya-višayāṇāṃ bhāvanātaś-ćitta-prasādanam /33/
34. praććhardanavidhāraṇābhyāṃ vā prāṇasya /34/
35. višayavatī vā pravṛttirutpannā manasa sthiti nibandhinī /35/
36. viśokā vā jyotišmatī /36/
37. vītarāga-višayaṃ vā ćhittam /37/
38. svapna-nidrā-jñāna-ālambanaṃ vā /38/
39. yathā-abhimata-dhyānād vā /39/
40. parama-aṇuparama-mahattva-anto 'sya vaśīkāraḥ /40/
41. kśīna-vṛtter-abhiðātasya iva maṇer grahītṛ-grahaṇa-grāhyešu tatstha-tadañðanatā-samāpat tiḥ /41/
42. tatra śabdārtha-jñāna-vikalpaiḥ saṃkīrṇā savitarkā samāpattiḥ /42/
43. smṛti-pariśuddhau svarūpa-śūnyā iva arthamātra-nirbhāsā nirvitarkā /43/

44. etayā eva savićārā nirvićārā ća sūkśma-višayā vyākhyātā /44/
45. sūkśma-višayatvaṃ ća aliṅga-paryavasānam /45/
46. tā eva sabījaḥ samādhiḥ /46/
47. nirvićāravaiśāradye ‘dhyātmaprasādaḥ /47/
48. rtaṃbharā tatra prajñā /48/
49. śruta-anumāna-prajñābhyām anyavišayā viśeša-arthatvāt /49/
50. taj-jaḥ saṃskāro ‘nya-saṃskāra-pratibandhī /50
51. tasya api nirodhe sarva-nirodhān-nirbījaḥ samādhiḥ /51/

iti patañjale saṃkhyapravaćane yogasūtre prathamaḥ samādhipādaḥ samāptaḥ

dvitīyaḥ sādhanapādaḥ

1. tapaḥ-svādhyāya-iśvaraprаṇidhānāni kriyā-yogaḥ /1/
2. samādhi-bhāvanā-arthaḥ kleśa-tanū-karaṇa-arthaśća /2/
3. avidyā-asmitā-rāga-dveša-abhiniveśāḥ kleśāḥ /3/
4. avidyā-kśetram uttarešāṃ prasupta-tanu-viććhinna-udārāṇām /4/
5. anitya-aśući-duḥkha-anātmasu nitya-śući-sukha-ātma-khyātir avidyā /5/
6. dṛg-darśana-śaktyor-ekātmatā-iva asmitā /6/
7. sukha-anuśayī rāgaḥ /7/
8. duḥkha-anuśayī dvešaḥ /8/
9. sva-rasa-vāhī vidušo ‘pi tathā rūḍho ‘bhiniveśaḥ /9/
10. te prati-prasava-heyāḥ sūkśmāḥ /10/
11. dhyāna-heyās-tad-vṛttayaḥ /11/
12. kleśa-mūlaḥ karma-āśayo dṛšṭa-adṛšṭa-janma-vedanīyaḥ /12/
13. sati mūle tad-vipāko jāti-āyur-bhogāḥ /13/
14. te hlāda-paritāpa-phalāḥ punya-apunya-hetutvāt /14/
15. pariṇāma-tāpa-saṃskāra-duḥkhair-guṇa-vṛtti-virodhāć ća duḥkham eva sarvaṃ vivekinaḥ /15/
16. heyaṃ duḥkham anāgatam /16/
17. drašṭṛ-dṛśyayoḥ saṃyogo heya-hetuḥ /17/
18. prakāśa-kriyā-sthiti-śīlaṃ bhūta-indriya-ātmakaṃ bhoga-apavarga-arthaṃ dṛśyam /18/
19. viśeša-aviśeša-liṅgamātra-aliṅgāni guṇa-parvāṇi /19/
20. drašṭā dṛśi-mātraḥ śuddho ‘pi pratyaya-anupaśyaḥ /20/
21. tad-artha eva dṛśyasya ātmā /21/
22. kṛtārthaṃ prati našṭam apyanašṭaṃ tad-anya-sādhāraṇatvāt /22/
23. sva-svāmi-śaktyoḥ svarūpa-upalabdhi-hetuḥ saṃyogaḥ /23/
24. tasya heturavidyā /24/
25. tad-abhāvāt saṃyoga-abhāvo hānaṃ tad dṛśeḥ kaivalyam /25/
26. viveka-khyātir-aviplavā hāna-upāyaḥ /26/
27. tasya saptadhā prānta-bhūmiḥ-praðñā /27/
28. yoga-aṅga-anušṭhānād aśuddhi-kśaye jñāna-dīptir ā viveka-khyāteḥ /28/
29. yama-niyama-āsana-prāṇāyāma-pratyāhāra-dhāraṇā-dhyāna-samādhyo ‘šṭāv aṅgāni /29/
30. ahiṃsā-satya-asteya-brahmaćarya-aparigrahā yamāḥ /30/
31. jāti-deśa-kāla-samaya-anavaććhinnāḥ sārvabhaumā mahāvratam /31/
32. śauća-santoša-tapaḥ-svādhyāya-iśvaraprаṇidhānāni niyamāḥ /32/
33. vitarka-bādhane pratipakśa-bhāvanam /33/
34. vitarkā-hiṃsādayaḥ kṛta-kārita-anumoditā lobha-krodha-moha-pūrvakā mṛdu-madhya - adhimātrā duḥkha-ajñāna-ananta-phalā iti pratipakśa-bhāvanam /34/
35. ahiṃsā-pratišṭhāyāṃ tat-sannidhau vaira-tyāgaḥ /35/
36. satya-pratišṭhāyāṃ kriyā-phala-aśrayatvam /36/

37. asteyapratišṭhāyāṃ sarvaratnopasthānam /37/
38. brahmaćharya-pratišṭhāyāṃ vīrya-lābhaḥ /38/
39. aparigraha-sthairye janma-kathaṃtā-saṃbodhaḥ /39/
40. śaućāt sva-aṅga-jugupsā parair asaṃsargaḥ /40/
41. sattvaśuddhi-saumanasya-ekāgratā-indriyađaya-ātma-darśanayogyatvāni ća /41/
42. saṃtošād-anuttamaḥ sukhalābhaḥ /42/
43. kāya-indriya-siddhir aśuddhi-kśayāt tapasaḥ /43/
44. svādhyāyād išṭa-devatā-saṃprayogaḥ /44/
45. samādhi-siddhir-īśvara-pranidhānāt /45/
46. sthira-sukham āsanam /46/
47. prayatna-śaithilya-ānanta-samāpattibhyām /47/
48. tato dvandva-anabhighātaḥ /48/
49. tasmin sati śvāsa-praśvāsayor gati-viććhedaḥ prānāyāmaḥ /49/
50. bāhya-abhyantara-stambha-vṛttir deśa-kāla-saṃkhyābhiḥ paridṛšṭo dīrgha-sūkśmaḥ /50/
51. bāhya-abhyantara-višayākśepī ćaturthaḥ /51/
52. tataḥ kśīyate prakāśā-varanam /52/
53. dhāraṇāsu ća yogyatā manasaḥ /53/
54. sva-višaya-asaṃprayoge ćittasya svarūpa-anukāra iva indriyānāṃ pratyāhāraḥ /54/
55. tataḥ paramā vaśyatā-indriyāṇām /55/

iti patañjale saṃkhyapravaćane yogasūtre dvitīyaḥ sādhanapādaḥ samāpta

tṛtīyaḥ vibhūti-pādaḥ

1. deśa-bandhaś-ćittasya dhāraṇā /1/
2. tatra pratyaya-ekatānatā dhyānam /2/
3. tad eva artha-mātra-nirbhāsaṃ svarūpa-śūnyam iva samādhiḥ /3/
4. trayam ekatra saṃyamaḥ /4/
5. tađ-đayāt prađñā-ālokaḥ /5/
6. tasya bhūmišu viniyogaḥ /6/
7. trayam antar-aṅgaṃ pūrvebhyaḥ /7/
8. tadapi bahir-aṅgaṃ nirbījasya /8/
9. vyutthāna-nirodha-saṃskārayor abhibhava-prādur-bhāvau nirodha-kśaṇa-ćitta-anvayo nirodha-pariṇāmaḥ /9/
10. tasya praśānta-vāhitā saṃskārāt /10/
11. sarvārthatā-ekāgratayoḥ kśaya-udayau ćhittasya samādhi-pariṇāmaḥ /11/
12. tatra punaḥ śānta-uditau tulyapratyayau ćittasya-ekāgratā-pariṇāmaḥ /12/
13. etena bhūta-indriyešu dharma-lakśaṇa-avasthā-pariṇāmā vyākhyātāḥ /13/
14. śānta-udita-avyapadeśya-dharma-anupātī dharmī /14/
15. krama-anyatvaṃ parināma-anyatve hetuḥ /15/
16. pariṇāma-traya-saṃyamād-atīta-anāgata-jñānam /16/
17. śabda-artha-pratyayānām itara-itara-adhyāsāt saṃkaraḥ tat-pravibhāga-saṃyamāt sarva - bhūta-ruta-jñānam /17/
18. saṃskāra-sākśatkaraṇāt-pūrva-jāti-jñānam /18/
19. pratyayasya para-ćitta-jñānam /19/
20. na ća tat sa-ālambanaṃ tasyā-višayī-bhūtatvāt /20/
21. kāya-rūpa-saṃyamāt tad-grāhya-śaktistambhe ćakśuḥ-prakāśa-asaṃprayoge ‘ntardhānam /21/
22. sa-upakramaṃ nir-upakramaṃ ća karma tat-saṃyamād apara-anta-jñānam arišṭebhyo vā /22/
23. maitry-ādišu balāni /23/
24. balešu hasti-bala-ādīni /24/

25. pravṛtty-āloka-nyāsāt sūkśma-vyavahita-viprakṛšṭa-jñānam /25/
26. bhuvana-jñānaṃ sūrye saṃyamāt /26/
27. ćandre tārā-vyūha-jñānam /27/
28. dhruve tad-gati-jñānam /28/
29. nābhi-ćakre kāya-vyūha-jñānam /29/
30. kaṇṭha-kūpe kśut-pipāsā-nivṛttiḥ /30/
31. kūrma-nāḍyāṃ sthairyam /31/
32. mūrdha-jyotiši siddha-darśanam /32/
33. prātibhād vā sarvam /33/
34. hṛdaye ćitta-saṃvit /34/
35. sattva-purušayor-atyanta-asaṅkīrṇayoḥ pratyaya-aviśešo bhogaḥ para-arthatvāt svārtha - saṃyamāt puruša-jñānam /35/
36. tataḥ prātibha-śrāvana-vedanā-ādarśa-āsvāda-vārtā-jāyante /36/
37. te samādhāv upasargā vyutthāne siddhayaḥ /37/
38. bandha-kāraṇa-śaithilyāt-praćāra-saṃvedanāćća ćittasya paraśarīra-āveśaḥ /38/
39. udāna-jayāj-jala-paṅka-kaṇṭaka-ādišu-asaṅga utkrāntiś ća /39/
40. samāna-jayāt prajvalanam /40/
41. śrotra-ākāśayoḥ saṃbandha-saṃyamād-divyaṃ śrotram /41/
42. kāya-ākāśayoḥ saṃbandha-saṃyamāl-laghu-tūla-samāpatteś-ća-ākāśa-gamanam /42/
43. bahirakalpitā vṛttir-mahā-videhā tataḥ prakāśa-āvaraṇa-kśayaḥ /43/
44. sthūla-svarūpa-sūkśma-anvaya-arthavattva-saṃyamād bhūtajayaḥ /44/
45. tato ‘ṇima-ādi-prādurbhāvaḥ kāya-saṃpat-tad-dharma-anabhighātaś-ća /45/
46. rūpa-lāvaṇya-bala-vajra-saṃhananatvāni kāya-saṃpat /46/
47. grahaṇa-svarūpa-asmitā-anvaya-arthavattva-saṃyamād-indriya-jayaḥ /47/
48. tato mano-javitvaṃ vikaraṇa-bhāvaḥ pradhāna-jayaś-ća /48/
49. sattva-puruša-anyatā-khyāti-mātrasya sarva-bhāva-adhišṭhā-tṛtvaṃ sarvajñātṛtvaṃ ća /49/
50. tad-vairāgyād-api doša-bīja-kśaye kaivalyam /50/
51. sthāny-upanimantraṇe saṅga-smaya-akaraṇaṃ punar-anišṭa-prasaṅgāt /51/
52. kśaṇa-tat-kramayoḥ saṃyamād-avivekaḍaṃ jñānam /52/
53. jāti-lakśaṇa-deśair-anyatā-anavaććhedāt tulyayos-tataḥ prati-pattiḥ /53/
54. tārakaṃ sarva-višayaṃ sarvathāvišayam-akramaṃ ćeti vivekajaṃ jñānam /54/
55. sattva-purušayoḥ śuddhi-sāmye kaivalyam iti /55/

iti patañjale saṃkhya-pravaćane yoga-sūtre tṛtīyo vibhūti-pādaḥ samāpta ćaturthaḥ kaiva lya-pādaḥ .

ćaturtaḥ kaivalya-pādaḥ

1. janma-ošadḥi-mantra-tapaḥ-samādhijāḥ siddhayaḥ /1/
2. jāty-antara-pariṇāmaḥ prakṛty-āpūrāt /2/
3. nimittam aprayojakaṃ prakṛtīnāṃ varaṇa-bhedas-tu tataḥ kśetrikavat /3/
4. nirmāṇa-ćittāny-asmitā-mātrāt /4/
5. pravṛtti-bhede prayojakaṃ ćittam-ekam-anekešām /5/
6. tatra dhyānajam-anāśayam /6/
7. karma-aśukla-akṛšṇaṃ yoginaḥ-trividham-itarešām /7/
8. tatas-tad-vipāka-anuguṇānām eva-abhivyaktir-vāsanānām /8/
9. jāti-deśa-kāla-vyavahitānām-apy-ānantaryaṃ smṛti-saṃskārayoḥ-eka-rūpatvāt
10. tāsām-anāditvaṃ ća-āśišo nityatvāt /10/
11. hetu-phala-āśraya-ālambanaiḥ saṃgṛhītatvād-ešām-abhāve tad-abhāvaḥ /11/
12. atīta-anāgataṃ svarūpato ‘sty-adhva-bhedād dharmāṇām /12/

13. te vyakta-sūkśmā guṇa-ātmānaḥ /13/
14. pariṇāma-ekatvād vastu-tattvam /14/
15. vastu-sāmye ćitta-bhedāt-tayor-vibhaktaḥ panthāḥ /15/
16. na ća-ekaćitta-tantraṃ vastu tad-apramāṇakaṃ tadā kiṃ syāt /16/
17. tad-uparāga-apekśatvāć-ćittasya vastu jñāta-ajñātam /17/
18. sadā jñātāś-ćitta-vṛttayas-tat-prabhoḥ purušasya-apariṇāmitvāt /18/
19. na tat-sva-ābhāsaṃ dṛśyatvāt /19/
20. eka-samaye ća-ubhaya-anavadhāraṇam /20/
21. ćitta-antara-dṛśye buddh-ibuddher-atiprasaṅgaḥ smṛtisaṅkaraśća /21/
22. ćiter-apratisaṅkramāyās-tad-ākāra-āpattau sva-buddhi-saṃvedanam /22/
23. drašṭṛ-dṛśya-uparaktaṃ ćittaṃ sarva-artham /23/
24. tad-asaṅkhyeya-vāsanābhiś-ćittam-api para-arthaṃ saṃhatyakāritvāt /24/
25. viśeša-darśina ātmabhāva-bhāvanā-vinivṛttiḥ /25/
26. tadā viveka-nimnaṃ kaivalya-prāgbhāraṃ ćittam /26/
27. tać-ćhidrešu pratyaya-antarāṇi saṃskārebhyaḥ /27/
28. hānam-ešāṃ kleśavad-uktam /28/
29. prasaṅkhyāne 'py-akusīdasya sarvathā-viveka-khyāter-dharma-meghaḥ samādhiḥ /29/
30. tataḥ kleśa-karma-nivṛttiḥ /30/
31. tadā sarva-āvaraṇa-mala-apetasya jñānasya-ānantyāj-jñeyam-alpam /31/
32. tataḥ kṛta-arthānāṃ pariṇāma krama parisamāptir guṇānām /32/
33. kśaṇa-pratiyogī pariṇāma-aparānta-nirgrāhyaḥ kramaḥ /33/
34. puruša-artha-śūnyānāṃ guṇānāṃ pratiprasavaḥ kaivalyaṃ svarūpa-pratišṭhā vā ćiti-śak - tir-iti /34/

iti patañjale saṃkhyapravaćane yogasūtre ćaturthaḥ kaivalyapādaḥ samāpta

/iti pātañjala yogasūtra /

YOGA SUTRA OF MAHARISHI PATANJALI

FIRST CHAPTER - SAMĀDHI PĀDA - ON TRANSCENDING

1. Now, the teaching of yoga.
2. Yoga is transcending the activity of the mind.
3. Then the seer remains established in own essential nature (Self).
4. At other times (the seer) assumes the same form as the activity (of the mind).
5. Activities (of the mind) are five fold, producing suffering or freedom from suffering.
6. The five activities of the mind are pramana (valid knowledge), viparyaya (invalid knowledge), vikalpa (imagination), nidra (dreamless sleep), and smrti (memory).
7. Direct perception (pratyaksha), inference (anumana), and testimony (or, traditional records) (agamah), are means of gaining valid knowledge.
8. Viparyaya (Invalid knowledge) is a false understanding which does not correspond with the actuality of the object.
9. Vikalpa (Imagination) is an abstract concept (šabda jnana), having no material referent.
10. Nidra (Dreamless sleep) is that fluctuation of the mind which has the experience of nothingness (abhava) as its basis.
11. Smrti (Memory) is the correct mental recollection of an object that has been experienced.
12. Their cessation (of the fluctuations of the mind) results from regular practice (abhyasa) and detachment (vairagya).
13. Regular practice is the endeavor to aquire that stable state (sthiti).
14. Continually practiced, with care, without interruption and for a long time, that then becomes firmly grounded.
15. Detachment is that consciousness which makes one master and which belongs to him who is free from thirst for objects seen or heard of (in scripture).
16. That (freedom from attachment) is absolute (para) when there is non-attachment to the gunas, resulting from knowledge of purusha (purusha khyati).
17. Samadhi with specific knowledge (samprajnata samadhi) is accompanied by either gross mental activity or reasoning (vitarka), subtle mental activity or contemplation (vichara), bliss (ananda), or am-ness or sense of individuality (asmita).
18. The other (asamprajnata samadhi) is possessed of only the remains of mental impressions (samskara) and follows the regular practice of cessation of experience.
19. For the videhas (beings with no material body) and the prakritilayas (those absorbed in nature), the experiental basis of their state of existence (is asamprajnata samadhi).
20. For others, it is preceded by faith (šraddha), creative energy (virya), memory (smriti), the experiences of pure consciousness (samadhi), and discrimination (prajna).
21. (Samadhi) comes more quickly to those whose desire for enlightenment is intense.
22. Even in that case a distinction exists, due to mildness, moderateness, or greatness (in the highly intent).
23. Or (samadhi may also be attained) through devotion to (or, surrendering awareness to) the Lord (Iśvara-pranidhana).
24. Iśvara is a distinct (expression of) purusha which is unaffected by afflictions (kleša), actions (karma), the results of actions (vipaka), or by the stored impressions of past actions (ašaya).
25. In Him the seed of omniscience (has reached a limit which) cannot be exceeded.
26. He is the guru even of the ancients, because He transcends the limitations of time (kala).

27. He is expressed by pranava.
28. Repetition of it (japa) and comprehension of its meaning (artha bhavanam) (are to be under taken).
29. From that results the inward movement of the awarenesss (ćetana) and removal of obstacles.
30. Disease, dullness, doubt, carelessness, laziness, sensuality, delusion, failure to achieve a state (of Yoga), and instability (of a state) cause lack of coherence (or, distraction) in the mind – these are the obstacles (antaraya).
31. Suffering, despair, restlessness, and unrefined breathing accompany the incoherent states (vikshepah).
32. For their prevention – repeated experience of the one essence (eka tattva).
33. From enlivening friendliness (maitri), compassion (karuna), happiness (mudita), and indiffer ence (upeksha) towards the joyful, suffering, virtuous and non-virtuous, respectively, there arises tranquil clarity of the mind (ćitta prasadanam).
34. Or by the expulsion and retention of breath (this arises).
35. Or the arising of refined sensory activity (pravritti vishayavati) stabilizes the mind (mana sahsthiti).
36. Or by that which is serene (višoka) and effulgent (jyotishmati) (the mind is steadied).
37. Or by having as its object a mind which is free from desire (vitaraga).
38. Or with knowledge of deep sleep (nidra) and dreams (svapna) as its object.
39. Or by meditation (dhyana) on whatever is pleasing, (the mind becomes settled).
40. It (the mind of the yogi) has mastery from the infinitesimal (paramanu) to infinite greatness (parama mahattva).
41. When the fluctuations of the mind are minimized, then the mind, like a well-polished gem, appears to take on (or, is colored by) the features of the object of attention, whether it is the knower, the instrument of knowing, or the object of known. This is called samapatti (mental absorption).
42. That in which there is a mixture of name (šabda), form (artha), and idea (jnana) is called sav- itarka samapatti (samapatti with gross mental activity).
43. When completely purified of memory (of the conventional relationship of word and mea - naing) the mind appears as substance alone, as if devoid of its own nature (svarupa šunya, as if vacuum were its form"). This is called nirvitarka (without vitarka) samapatti.
44. By this also are explained savichara (with mental activity) samapatti and nirvichara (without vichara) samapatti, whose ranges are the subtle.
45. The subtlety of objects extends to the unmanifest (alinga) (in Vyasa bhashya he says alinga = mulaprakriti, or unmanifest prakriti).
46. These same four absorptions (savitarka, nirvitarka, savicara, nirvicara) are the objective stag- es of samadhi. These alone are samadhi with seed (sabija).
47. Upon full development (or, experience) of nirvichara (samadhi) there arises tranquil clarity of the Self (prasada adhyatma).
48. The knowledge (prajna) that is gained in this state is filled with truth (ritambhara).
49. Because it is directed to particular things, it has a range (of knowledge) which is different from that gained from inference (anumana) or from what is heard (šruta).
50. The impressions (samskara) born of this knowledge (ritambhara prajna) impede other im - pressions.
51. When, further, the latent impression of ritambhara prajna is transcended (or brought to a completely settled state), nirbija samadhi – pure transcendental consciousness with no ob- ject of experience – is gained because all activity is transcended.

SECOND CHAPTER – SADHANA PADA – ON PRACTICE

1. Tapas (austeriry), svadhyaya (study of the Vedas, Self), and Isvara-pranidhana (devotion to God) are yoga of action.
2. That /kriya-yoga/ serves to bring about samadhi and eliminate afflictions (klesha).
3. The afflictions (kleshas) are ignorance (avidya), egoism or sense of individuality (asmita), attachment (raga), aversion (dvesha) and clinging to life (abhinivesha).
4. Ignorance is the basis of the others, whether they are dormant, minimized, temporarily over come, or fully active.
5. Ignorance is regarding the non-eternal, the impure, suffering, and the non-self for the eternal, the pure, happiness and the Self respectively.
6. The apparent identity of /purusha/ the subjective power of the seer and /buddhi/ the power of the instrument of cognizing is egoism.
7. Attachment is the consequence of enjoyment.
8. Aversion is the consequence of suffering.
9. Clinging to life is a spontaneous feeling present in the same way even in the wise.
10. These (kleshas), when in their subtle state, are destroyed by transcending activity (prati-prasava).
11. Their fluctuations (vrtti) are removed (heya) by meditation (dhyana).
12. One's storehouse of past actions (karmashaya) is rooted in the afflictions and is expressed by the present birth or by a birth to come.
13. As long as its root exists, it (karmashaya) will fructify in the form of birth (jati), life-span (ayuh), and experience (bhoga).
14. They (birth, etc.) have pain or pleasure as their fruit because of having merit (punya) or demerit as their cause.
15. Due to suffering brought about by change, pain and latent impressions and due to the opposition inherent in the action of the gunas, all experience is suffering for one who has gained discrimination.
16. Avert the suffering which has not yet come.
17. Identification of the experiencer and the object of experience is the cause of that (suffering) which is to be averted.
18. The object of experience has the character of light (sattva), activity (rajas) and inertia (tamas); consisting of the elements and the senses, it serves the purpose of experience and libera - tion.
19. The stages of the gunas are the differentiated, the non-differentiated, the pure seed form and the unmanifest.
20. The seer is pure consciousness; although pure he cognizes the thoughts of the intellect.
21. The nature of the object of experience is for his (purusa) sake alone.
22. Although the object of experience ceases to exist for (the purusha – Self) which has realized the goal, it is not destroyed because it is common to others.
23. Identification is the cause of realization of the essential natures of the object and its master (purusha – the Self).
24. Ignorance is its cause.
25. The absence of identification (of purusha and its object) which results from the freedom from ignorance is release- that is the state of absolute unity of consciousness (the seer).
26. The undisturbed experience (knowledge) of discrimination is the means of gaining release.

27. Fully enlivened consciousness (prajna) in its ultimate stages is seven-fold for him (who is establishes in discrimination).
28. When impurity is eliminated through the practice of the limbs of yoga, the light of knowl edge extends to the cognition of discrimination (of purusha and the gunas).
29. The eight limbs of yoga are: ethics, rules of life, posture, lengthening of prana, withdrawal of the senses, steadiness of the mind, meditation, and transcendental consciousness.
30. The ethics consist of non-violence, truthfulness, non-covetousness, celibacy and non-acceptance of others possessions.
31. Not restricted by birth, place, time or convention they are great vow.
32. The rules of life are purity, contentment, austerity, study of the Self and devotion to God.
33. When obstructed by negative thoughts (contrary to the ethics and rules of life), one should think the opposite.
34. Negative thoughts, injuring others, etc., have as their fruit unlimited pain and ignorance, whether done, caused to be done or approved of, whether caused by greed, anger, or de - lusion, whether mild, moderate or extreme. (Thinking) thus, (there should be) enlivening of the opposite value.
35. When (one is) established in non-violence, (there arises) the abandonment of animosity in that presence.
36. When (one is) established in truthfulness, (there arises) the quality of being that basis upon which the fruit of action rests.
37. When (one is) established in non-covetousness, one obtains access to all treasures.
38. When (one is) established in celibacy, creative energy or vigor is obtained.
39. When (one is) established in non-acceptance of other possessions, (there arises) perfect understanding of the mechanics of evolution (or, rebirths).
40. As a result of purity, there arises aversion towards one's own body, and non-contact with (the bodies of) others.
41. Also (as a result of purity), comes purity of the finest level of intellect (sattva), cheerfulness of mind, one-pointedness, mastery over the senses, and fitness for Self-realization.
42. From contentment, incomparable happiness is gained.
43. From austerity, due to the destruction of impurities, (one gains) the perfection of the physical body and of the organs of sense and action.
44. From study of the Self comes communion with the desired deity.
45. By devotion to God, perfection in samadhi (is gained).
46. Posture is steady and comfortable.
47. This is gained through relaxation of effort and mental absorption in unboundedness.
48. As a result (one is) not afflicted by the pairs of opposites.
49. That, having been effected, (is followed by) pranayama, which is the suspension of the flow of inhalation and exhalation.
50. This activity is external, internal or stopped. Regulated according to place, time, and num - bering, it becomes long and subtle.
51. The fourth (pranayama) transcends the ranges of external and internal.
52. As a result of this, the covering over the light is destroyed.
53. And (one gains) fitness of the mind for steadiness of attention.
54. When the senses are withdrawn from their objects, and follow the essential nature of the mind, this is withdrawal of the senses.
55. From that, supreme mastery over the senses is gained.

THIRD CHAPTER – VIBHUTI PADA – ON SIDDHIS

1. Dharana is fixity of attention (citta) at any place.
2. Dhyana is continued flow of awareness there (in the area of attention).
3. Samadhi is awarenesss itself appearing as pure substance (or, object) – as if vacum is its form.
4. Samyama is simultaneity of the three (dharana, dhyana, and samadhi).
5. From mastery of samyama the light of fully enlivened consciousness arises.
6. Its (samyama's) applications available in every stage of its development (the light of fully enlivened consciousness).
7. The three (dharana, dhyana and samadhi) are more intimate (limbs) than those mentioned prior to them.
8. Even that (samyama) is external to the seedless state (which is devoid of any possibility of falling into boundaries).
9. The resultant Nirodha is the state of awarenesss which transcends the impression of rise and fall of experience of the gap between incoming and outgoing tendencies.
10. Its lively silent flow is through impression, repeated experience.
11. All comprehensiveness and one-pointedness, both values of awarenesss in simultaneous appearance and disappearance of impulses of awarenesss, results from samadhi.
12. From there, again, emerges one-pointedness of the mind characterized by balanced values of the settled and arisen states of awarenesss.
13. By this are explained the transformations of the state, the characteristic features and the sustaining intelligence in the elements and the sense organs (that is, the whole subjective and objective creation).
14. The basis of Dharmi (substrate) is correlated with silent (past), arisen (present), and inde scribable (future) characteristics.
15. Change of sequence is the cause of different transformations.
16. From samyama on the three transformations, knowledge of past and future is gained.
17. Due to mutual superimposition of name, form and idea there is confusion (in understaning). From samyama on their distinctions knowledge of the sounds of all creatures is gained.
18. From direct experience of latent impressions the knowledge of previous births is gained.
19. From direct experience of the tendency of a mental impulse (through samyama) knowledge of the mind of another is gained.
20. But that (knowledge) does not include the supporting object (of the mental impulse) be - cause it is not the object of experience (in this samyama).
21. From samyama on the form of the body, when its perceptibility is checked and there is no contact of its light with the eye, invisibility is gained.
22. The fruit of action may be realized quickly or slowly; from samyama on it or from omens knowledge of the time of death is gained.
23. (From samyama) on friendliness (compassion, happiness) their strength is gained.
24. (From samyama) on their respective strengths, the strengths of elephants and other things are gained.
25. By applying the light of higher sense-perception knowledge of the subtle, the hidden and the remote is gained.
26. From samyama on the sun knowledge of the universe is gained.
27. From samyama on the moon knowledge of the arrangement of the stars is gained.
28. (From samyama) on the pole-star knowledge of their (stars) movements is gained.
29. (From samyama) on the navel chakra, knowledge of the system of the body is gained.
30. (From samyama) on the hollow of the throat cessation of hunger and thirst is gained.

31. (From samyama) on the kurma nadi (bronchial tube) calmness is gained.
32. (From samyama) on the light of the head vision of the siddhas is gained.
33. Or from intuition everything can be known.
34. (From samyama) on the heart, knowledge of the mind is gained.
35. Experience consists of non-differentiation in the perception of (sattva) finest intellect and (purusha) Absolute Self which are completely different in nature, because (experience) exists for the sake of another (purusha). From samyama with purusha itself as the object, knowl - edge of purusha is gained.
36. From that, intuition and supernormal hearing, touch, sight, taste and smell arise.
37. These are subordinate in samadhi, but are perfections (siddhis) in a fluctuating state (of the mind).
38. Through loosening of the cause of bondage and knowledge of the movements (of the mind), the mind may enter another body.
39. From mastery of udana, movement untouched by water, mud, thorns etc. Is gained and upward movement (of the subtle body at the time of death).
40. From mastery over samana, effulgence is gained.
41. From samyama on the relationship between the power of hearing and akasha (space), super normal power of hearing is gained.
42. From samyama on the relationship of the body and akasha (space) and by mental absorp - tion in the lightness of cotton, movement through space is gained.
43. Mental activity outside (the body) which is not imaginary is called mahavideha (the great bodiless state). As a result of that the obstruction to the light (of the intellect) is destroyed.
44. From samyama on their (sthula) gross characteristics, (svarupa) essential forms, (sukshma) subtle essences, (anvaya) inherent qualities, and (arthavathva) evolutionary purposefulness, mastery over the elements is gained.
45. From that arise (the powers of) minuteness and so on, perfection of the body, and non-obstruction by the qualities of the elements (hardness of earth, fluidity of water, heat of fire, pressure of air, and the clearness of space).
46. Perfection of the body consists in beauty, lustre, strength and the hardness of diamond.
47. From samyama on their perception, essential form, amness, inherent qualities, and (evolutionary) purposefulness, mastery of the organs (of knowledge and action) is gained.
48. From that, movement (of the body) with the speed of the mind, perception and action independent of the physical organs, and mastery of prakriti are gained.
49. To him who has realized the separateness of (sattva) the finest intellect and (purusha) Absolute Self comes the ability to make use of all objects as he desires (omnipotence) and the ability to know everything (omniscience).
50. From non-attachment to that (realization of the separateness of sattva and purusha) as well when the seeds of imperfection are eliminated, Absolute Unity is gained.
51. When invited (to enjoyment) by the presiding impulses of creative intelligence, one should avoid attachment and vanity due to the possibility of occurrence of adverse effects.
52. From samyama on instants and their succession, knowledge arising from discrimination is gained.
53. When two objects are similar, not being distinguished by differences in species, characteristics or position, they can be distinctly realized by that (discriminative knowledge).
54. Knowledge born of discrimination enables one to cross (the ocean of existence). (It is intuitional), it has everything for its object in every respect and is without succession.
55. When evenness (equality) in purity is established between (sattva) finest intellect and (purusha) Self, Absolute Unity is gained.

FOURTH CHAPTER – KAIVALYA PADA – ON ABSOLUTE UNITY

1. The sidhis arise through birth, medicinal herbs, mantras, austerity or samadhi.
2. Change to another form of existence is through filling in by the natural causes.
3. The instrumental cause (action) does not impel the natural cause but remove the obstacles, as in the case of a farmer.
4. The minds, which are created, are produced from the ego.
5. With respect to their different activities, one mind is the director of many (created minds).
6. Of these (minds) only those produced through meditation are free from latent impressions (capable of producing desires).
7. The action of the yogi is neither white nor black, while the action of others is three-fold.
8. As a result of those (three aspects of action) latent impressions appropriate to their conse quences alone are manifested.
9. Because memory and impression have the same form, latent impressions even when sepa - rated by birth, time, and location are manifested simultaneously.
10. And those (impressions) are beginingless because of the eternal nature of desire to live.
11. Because latent impressions are held together by cause, result, container (mind), and sup - porting objects, in the absence of those, the impressions (vasanas) disappear.
12. Past and future do exist (in the present) in their essential form, there being difference only in the state of the characteristics at different times.
13. Those (characteristics) are manifest (in the present state) and subtle (in the past and future states) and composed of the gunas.
14. Because change is a single (process involving the three gunas), objects are real.
15. Through the object is one, these two (object and knowledge) have different paths, because minds are different.
16. Nor is the object dependent upon a single mind (for its existence), because if it were, would it exist when not cognized by that mind.
17. Depending on whether they influence it or not, objects are known or unknown to the mind.
18. The activities of the mind are always known, (only) because its master (purusha) is nonchan- ging.
19. That (mind) is not self-luminous because it is an object of experience.
20. And both (mind and object) cannot be cognized at same time.
21. If it (the mind) were to be seen by another mind, there would be an unending series of intel- lect viewing intellect, and confusion in memory.
22. When unmoving consciousness assumes the form of the intellect, The Self knows (or beco- mes aware of) the intellect.
23. Mind, being influenced by (both) seer and seen, is all comprehensive.
24. Though it is diversified with innumerable latent impressions, (the mind) exists for the sake of another (purusha, Self) because it acts as an assembly (of parts).
25. For one who has cognized the distinctioness of purusha, reflection on the nature of the Self ceases.
26. Then the mind inclines towards discrimination and is naturally drawn to Absolute Unity.
27. Other thoughts arise in the gaps of that (state of discrimination between sattva, the finest intellect and purusa, Self) due to latent impressions.
28. Elimination of those (latent impressions) is described as similar to (the elimination of) the afflictions.

29. For one who has nothing more to gain even in the highest objective knowledge (discrimination between sattva and purusha) as a result of complete discrimination, Dharma-megha samadhi is gained.
30. From that, afflictions and (the binding influence of) actions cease.
31. Then, because knowledge freed from all obstructing impurities is unbounded, the object of knowledge is small.
32. From the realization (of dharma-megha samadhi) the evolutionary sequence of change of the gunas, which have fulfilled their purpose, is complete.
33. Succession is the counterpart of moment, and is cognized as distinct on the completion of the evolutionary process of change.
34. The reabsorption of the gunas, which serve no further purpose for purusa, is Absolute Unity or the power of consciousness established in its own nature.

Here ends the Yoga Sutra of Patanjali

HATHA YOGA PRADIPIKA

Translated into English by Pancham Sinh - 1914

CHAPTER I

On Asanas

1. Salutation to Âdinâtha (Śiva) who expounded the knowledge of Haţha Yoga, which like a staircase leads the aspirant to the high pinnacled Râja Yoga.
2. Yogîn Swâtmârâma, after saluting first his Gurû Srinâtha explains Haţha Yoga for the attainment of Râja Yoga.
3. Owing to the darkness arising from the multiplicity of opinions people are unable to know the Râja Yoga. Compassionate Swâtmârâma composes the Haţha Yoga Pradipikâ like a torch to dispel it.
4. Matsyendra, Gorakşa, etc., knew Haţha Vidyâ, and by their favor Yogî Swâtmârâma also learnt it from them.
5. The following Siddhas (masters) are said to have existed in former times: Sri Âdinâtha (Śiva), Matsyendra, Nâtha, Śâbar, Anand, Bhairava, Chaurangi, Mîna nâtha, Gorakşanâtha, Virupâkşa, Bileśaya.
6. Manthâna, Bhairava, Siddhi Buddha, Kanthadi, Karantaka, Surânanda, Siddhipâda, Charapati.
7. Kânerî, Pûjyapâda, Nityanâtha, Nirañjana, Kapâli, Vindunâtha, Kâka Chandîśwara.
8. Allâma, Prabhudeva, Ghodâ, Cholî, Tintiṇi, Bhânukî, Nârdeva, Khanda Kâpîlika, etc.
9. These Mahâsiddhas (great masters), breaking the sceptre of death, are roaming in the uni verse.
10. Like a house protecting one from the heat of the sun, Haţha Yoga protects its practiser from the burning heat of the three Tâpas; and, similarly, it is the supporting tortoise, as it were, for those who are constantly devoted to the practice of Yoga.
11. A Yogi desirous of success should keep the knowledge of Haţha Yoga secret; for it becomes potent by concealing and impotent by exposing.
12. The Yogi should practice Haţha Yoga in a small room, situated in a solitary place, being 4 cubits square, and free from stones, fire, water, disturbances of all kinds, and in a country where justice is properly administered, where good people live, and food can be obtained easily and plentifully.
13. The room should have a small door, be free from holes, hollows, not too high nor too low, well plastered with cow-dung and free from dirt, filth and insects. On its outside there should be bowers, raised platform (chabootrâ), a well, and a compound. These characteristics of a room for Haţha Yogîs have been described by adepts in the practice of Haţha.
14. Having seated in such room and free from all anxieties, he should practice Yoga, as instructed by his guru.
15. Yoga is destroyed by the following six causes: - Over-eating, exertion, talkativeness, adhering to rules, i.e., cold bath in the morning, eating at night, or eating fruits only, company of men, and unsteadiness.
16. The following six bring speedy success: - Courage, daring, perseverance, discriminative knowledge, faith, aloofness from company.
17. The ten rules of conduct are: ahimsâ (non-injuring), truth, non-stealing, continence, forgiveness, endurance, compassion, meekness, sparing diet and cleanliness.

18. The ten niyamas mentioned by those proficient in the knowledge of yoga are: Tapa, patience belief in God, charity, adoration of God, hearing discourses on the principles of religion, shame, intellect, Tapa and Yajña.
19. Âsanas. Being the first accessory of Haţha Yoga, âsana is described first. It should be prac - ticed for gaining steady posture, health and lightness of body.
20. I am going to describe certain âsanas which have been adopted by Munîs like Vasişţha, etc., and Yogîs like Matsyendra, etc.
21. **Swastika-âsana** - Having kept both the hands under both the thighs, with the body straight, when one sits calmly in this posture, it is called Swastika.
22. **Gomukha-âsana** - Placing the right ankle to the left side and the left ankle on the right side, makes Gomukha-âsana, having the appearance of a cow.
23. **Vîrâsana** - One foot is to be placed on the thigh of the opposite side; and so also the other foot on the opposite thigh. This is called Vîrâsana.
24. **Kurmâsana** - Placing the right ankle on the left side of anus, and the left ankle on the right side of it, makes what the Yogîs call Kûrma-âsana.
25. **Kukkuţa asana** - Taking the posture of Padmâ-âsana and carrying the hands under the thighs, when the Yogi raises himself above the ground, with his palms resting on the ground, it be comes Kukkuţa-âsana.
26. **Uttâna Kûrma-âsana** - Having assumed Kukkuţa-âsana, when one grasps his neck by cross ing his hands behind his head, and lies in this posture with his back touching the ground, it becomes Uttâna Kûrma-âsana, from its appearance like that of a tortoise.
27. **Dhanura asana** - Having caught the toes of the feet with both the hands and carried them to the ears by drawing the body like a bow, it becomes Dhanura âsana.

28-29. **Matsya-âsana** - Having placed the right foot at the root of the left thigh, let the toe be grasped with the right hand passing over the back, and having placed the left foot on the right thigh at its root, let it be grasped with the left hand passing behind the back. This is the âsana, as explained by Sri Matsyanâtha. It increases appetite and is an instrument for de stroying the group of the most deadly diseases. Its practice awakens the Kuṇdalinî, stops the nectar shedding from the moon in people.

30. **Paśchima Tâna** - Having stretched the feet on the ground, like a stick, and having grasped the toes of the both the feet with both the hands, when one sits with his forehead resting on the thighs, it is called Paśchima Tâna.
31. **This Paśchima Tâna** carries the air from the front to the back part of the body (i.e., to the suşumna). It kindles gastric free, reduces obesity and cures all diseases of men.
32. **Mayûra-âsana** - Place the palms of the both hands on the ground, and place the navel on both the elbows and balancing thus, the body should be stretched backward like a stick. This is called Mayûra-âsana.
33. This âsana soon destroys all diseases, and removes abdominal disorders, and also those arising from irregularities of phlegm, bile and wind, digests unwholesome food taken in ex- cess, increases appetite and destroys the most deadly poison.
34. **Śava-âsana** - Lying down on the ground, like a corpse, is called Śava-âsana, it removes fa - tigue and gives rest to the mind.
35. Śiva taught 84 âsanas. Of these the first four being essential ones, I am going to explain them here.
36. These four are: - The Siddha, Padma, Sinha and Bhadra. Even of these, the Siddha-âsana, being very comfortable, one should always practice it.
37. **The Siddhâsana** - Press firmly the heel of the left foot against the perineum, and the right heel above the mail organ. With the chin pressing on the chest, one should sit calmly, hav - ing restrained the senses, and gaze steadily the space between the eyebrows. This is called Siddha Âsana, the opener of the door of salvation.

38. This Siddhâsana is performed also by placing the left heel on Medhra (above the mail or - gan), and then placing the right one on it.
40. Some call this Siddhâsana, some Vajrâsana. Others call it Mukta Âsana or Gupta Âsana. 39. Just as sparing food is among Yamas, and Ahimsâ among the Niyamas, so is Siddhâsana called by adepts the chief of all the âsanas.
41. Out of the 84 Âsanas Siddhâsana should always be practised, because it cleanses the impurities of 72 000 nâdîs.
42. By contemplating on oneself, by eating sparingly, and by practicing Siddhâsana for 12 years, the Yogi obtains success.
43. Other postures are of no use, when success has been achieved in Siddhâsana, and Prâṇa Vâyû becomes calm and restrained by Kevala Kumbhaka.
44. Success in one Siddhâsana alone becoming firmly established, one gets Unmanî at once, the three bonds (Bandhas) are accomplished of themselves.
45. There is no Âsana like the Siddhâsana and no Kumbhaka like the Kevala. There is no mudrâ like the Khechari and no laya like the Nâda (Anâhata Nâda).
46. **Padmâsana** - Place the right foot on the left thigh and the left foot on the right thigh, and grasp the toes with the hands crossed over the back. Press the chin against the chest and gaze on the tip of the nose. This is called the Padmâsana, the destroyer of the diseases of the Yamîs.
47. Place the feet on the thighs, with the soles upwards, and place the hands on the thighs, with the palms upwards.
48. Gaze on the tip of the nose, keeping the tongue pressed against the root of the teeth of the upper jaw, and the chin against the chest, and raise the air up slowly, i.e., pull the apâna-vâyû gently upwards.
49. This is called the Padmâsana, destroyer of all diseases. It is difficult of attainment by every body, but can be learnt by intelligent people in this world.
50. Having kept both the hands together in the lap, performing the Padmâsana firmly, keeping the chin fixed to the chest and contemplating on Him in the mind, by drawing the apâ na-vâyû up (performing Mûla Bandha) and pushing down the air after inhaling it, joining thus the prâṇa and apâna in the navel, one gets the highest intelligence by awakening the śakti (kuṇdalinî) thus.

    N.B.: When Apâna Vâyû is drawn gently up and after filling in the lungs with the air from outside, the prâṇa is forced down by and by so as to join both of them in the navel, they both enter then the Kuṇdalinî and, reaching the Brahma randhra (the great hole), they make the mind calm. Then the mind can contemplate on the nature of the âtmana and can enjoy the highest bliss.
51. The Yogî who, sitting with Padmâsana, can control breathing, there is no doubt, is free from bondage.
52. **The Simhâsana** - Press the heels on the both sides of the seam of Perineum, in such a way that the left heel touches the right side and the right heel touches the left side of it.
53. Place the hands on the thighs, with stretched fingers, and keeping the mouth open and the mind collected, gaze on the tip of the nose.
54. This is Simhâsana, held sacred by the best of Yogîs. This excellent Âsana effects the completion of the three Bandhas (The Mûlabandha, Kanţha or Jâlandhar Bandha and Uddiyâna Bandha).

55 and 56. **The Bhadrâsana** - Place the heels on the either side of the seam of the Perineum, keeping the left heel on the left side and the right one on the right side, hold the feet firmly joined to another with both the hands. This Bhadrâsana is destroyer of all the diseases.

57. The expert Yogîs call this Gorakśa âsana. By sitting with this âsana, the Yogî gets rid of fat - igue.

58. The Nâdis should be cleansed of their impurities by performing the mudrâs, etc., (which are the practices relating to the air) Âsanas, Kumbhakas and various curious mûdrâs.
59. By regular and close attention to Nâda (anâhata nâda) in Haţha Yoga, a Brahmachari, sparing in diet, unattached to objects of enjoyment, and devoted to Yoga, gains success, no doubt, within a year.
60. Abstemious feeding is that which ¾ of hunger is satisfied with food, well cooked with ghee and sweets, and eaten with the offering of it to Śiva.
61. Bitter, sour, saltish, hot, green vegetables, fermented, oily, mixed with till seed, rape seed, in toxicating liquors, fish, meat, curds, chhaasa pulses, plums, oil-cake, asafetida (hînga), garlic, onion, etc., should not be eaten.
62. Food heated again, dry, having too much salt, sour, minor grains and vegetables that cause burning sensation, should not be eaten. Fire, women, travelling, etc., should be avoided.
63. As said by Gorakşa, one should keep aloof from the society of the evil-minded, fire, women, travelling, early morning bath, fasting, and all kinds of bodily exertion.
64. Wheat, rice, barley, shâstik (a kind of rice), good corns, milk, ghee, sugar, butter, sugar candy, honey, dried ginger, Parwal (a vegetable) the five vegetables, moong, pure water, these are very beneficial to those who practice Yoga.
65. A Yogî should eat tonics (things giving strength), well sweetened, greasy (made with ghee), milk, butter, etc., which may increase humors of the body, according to his desire.
66. Whether young, old or too old, sick or lean, one who discards laziness, gets success if prac tices Yoga.
67. Success comes to him who is engaged in the practice. How can one get success without practice; by merely reading books on Yoga, one can never get success.
68. Success cannot be attained by adopting a particular dress (Veşa). It cannot be gained by telling tales. Practice alone is the means to success. This is true, there is no doubt.
69. Âsanas (postures), various Kumbhakas, and other divine means, all should be racticed in the practice of Haţha Yoga, till the fruit-Râja Yoga-is obtained.

End of chapter I
on the method of forming the Âsanas.

CHAPTER II

On Prâṇâyâma

1. Posture becoming established, a Yogî, master of himself, eating salutary and moderate food, should practice prâṇâyâma, as instructed by his guru.
2. Respiration being disturbed, the mind becomes disturbed. By restraining respiration, the Yogî gets steadiness of mind.
3. So long as the (breathing) air stays in the body, it is called life. Death consist in the passing out of the (breathing) air. It is, therefore, necessary to restrain the breath.
4. The breath does not pass trough the middle channel (suşumnâ), owing to the impurities of the nâdîs. How can then success be attained, and how can there be the unmanî avasthâ.
5. When the whole system of nâdîs which is full of impurities, is cleaned, then the Yogî becomes able to control the Prâṇa.
6. Therefore, Prâṇâyâma should be performed daily with sâtwika buddhi (intellect free from raja and tama or activity and sloth), in order to drive out the impurities of the suşumnâ.

7 and 8. **Method of performing Prâṇâyâma** - Sitting in the Padmâsana posture the Yogî should fill in the air through the left nostril (closing the right one); and keeping it confined according to one's ability, it should be expelled slowly through the sûrya (right nostril). Then, drawing in the air through the sûrya (right nostril) slowly, the belly should be filled, and after performing Kumbhaka as before, it should be expelled slowly through the chandra (left nostril).

9. Inhaling thus through the one, through which it was expelled, and having restrained it there till possible, it should be exhaled through the other, slowly and not forcibly.
10. If the air be inhaled through the left nostril, it should be expelled again through the oth - er, and filling it through the right nostril, confining it there, it should be expelled through the left nostril. By practicing in this way, through the right and the left nostrils alternately, the whole of the collection of the nâdîs of the yamîs (practisers) becomes clean, i.e., free from impurities, after 3 months and over.
11. Kumbhakas should be performed gradually 4 times during day and night, i.e., (morning, noon, evening and midnight), till the number of Kumbhakas for one time is 80 and for day and night together it is 320.
12. In the beginning there is perspiration, in the middle stage there is quivering, and in the last or the 3rd stage one obtains steadiness; and then the breath should be made steady or motionless.
13. The perspiration exuding from exertion of practice should be rubbed into the body (and not wiped), as by so doing the body becomes strong.
14. During the first stage of practice the food consisting of milk and ghee in wholesome. When the practice becomes established, no such restriction is necessary.
15. Just as lions, elephants and tigers are controlled by and by, so the breath is controlled by slow degrees, otherwise (i.e., by being hasty or using too much force) it kills the practiser himself.
16. When Prâṇâyâma, etc., are performed properly, they eradicate all diseases; but an improper practice generates diseases.
17. Hiccough, asthma, cough, pain in the head, the ears and the eyes; these and other various kinds of diseases are generated by the disturbance of the breath.
18. The air should be expelled with proper tact and should be filled in skillfully; and when it has been kept confined properly it brings success.

    N.B.- The above caution is necessary to warn the aspirants against committing any instruction; and, in their zeal to gain success or siddhis early, to begin the practice, either by using too much force in filling in, confining and expelling the air, or by omitting any instructions,

it may cause unnecessary pressure on their ears, eyes etc., and cause pain. Every word in the instructions is full of meaning and is necessarily used in the slokas, and should be followed very carefully and with due attention. Thus there will be nothing to fear whatsoever. We are inhaling and exhaling the air throughout our lives without any sort of danger, and Prâṇâyâ - ma being only a regular form of it, there should be no cause to fear.

19. When the nâdîs become free from impurities, and there appear the outward signs of success, such as lean body and glowing color, then one should feel certain of success.
20. By removing the impurities, the air can be restrained, according to one's wish and the appetite is increased, the divine sound is awakened, and the body becomes healthy.
21. If there be excess of fat or phlegm in the body, the six kinds of kriyâs (duties) should be per formed first. But others, not suffering from the excess of these, should not perform them.
22. The six kinds of duties are: Dhauti, Basti, Neti, Trâtaka, Nauti and Kapâla Bhâti. These are called the six actions.
23. These six kinds of actions which cleanse the body should be kept secret. They produce ex - traordinary attributes and are performed with earnestness by the best of Yogîs.
24. **The Dhauti** - A strip of cloth, about 3 inches wide and 15 cubits long, is pushed in (swal - lowed), when moist with warm water, through the passage shown by the guru, and is taken out again. This is called Dhauti Karma.

    N. B.- The strip should be moistened with a little warm water, and the end should be held with teeth. It is swallowed slowly, little by little; thus, first day 1 cubit, 2nd day 2 cubits, 3rd day 3 cubits, and so on. After swallowing it stomach should be given a good, round motion from left to right, and then it should be taken out slowly and gently.
25. There is no doubt, that cough, asthma, enlargement of the spleen, leprosy, and 20 kinds of diseases born of phlegm, disappear by the practice of Dhauti karma.
26. **The Basti** - Squatting in navel-deep water, and introducing a six inches long, smooth piece of ½ an inch diameter pipe, open at both ends, half inside the anus; it (anus) should be drawn up (contracted) and then expelled. This washing is called the Basti Karma.
27. By practicing Basti Karma, colic, enlarged spleen, and dropsy, arising from the disorders of Vâta (air), pitta (bile) and kapha (phlegm), are all cured.
28. By practicing Basti with water, the Dhâtûs, the Indriyas and the mind become calm. It gives glow and tone to the body and increases the appetite. All the disorders disappear.
29. **The Neti** - A cord made of threads and about six inches long, should be passed through the passage of the nose and the end taken out in the mouth. This is called by adepts the Neti Karma.
30. The Neti is the cleaner of the brain and giver of divine sight. It soon destroys all the diseases of the cervical and scapular regions.
31. **The Trâtaka** - Being calm, one hold gaze steadily at a small mark, till eyes are filled with tears. This is called Trâtaka by âchâryas.
32. Trâtaka destroys the eye diseases and removes sloth, etc. it should be kept secret very care fully, like a box of jewellery.
33. **The Nauli** - Sitting on toes with heels raised above the ground, and the palms resting on the ground, and in this bent posture the belly is moved forcibly from left to right just, as in vom- iting. This is called by adepts the Nauli Karma.
34. It removes dyspepsia, increases appetite and digestion, and is like the goddess of creation, and causes happiness. It dries up all the disorders. This Nauli is an excellent exercise in Haţha Yoga.
35. **The Kapâla Bhâti** - When inhalation and exhalation are performed very quickly, like a pair of bellows of a blacksmith, it dries up all the disorders from the excess of phlegm, and is known as Kapâla Bhâti.

36. When Prâṇâyâma is performed after getting rid of obesity born of the defects phlegm, by the performance of the six duties, it easily brings success.
37. Some âchâryâs (teachers) do not advocate any other practice, being of opinion that all the impurities are dried up by the practice of Prâṇâyâma.
38. **Gaja Karaṇi** - By carrying the Apâna Vâyu up to the throat, the food, etc., in the stomach are vomited. By degrees, the system of Nâdîs (Śankhinî) becomes known. This is called in Haţha as Gaja Karaṇi.
39. Brahmâ and other Devas were always engaged in the exercise of Prâṇâyâma, and, by means of it, god rid of the fear of death. Therefore, one should practice Prâṇâyâma regularly.
40. So long as the breath is restrained in the body, so long as the mind is undisturbed, and so long as the gaze is fixed between the eyebrows, there is no fear of Death.
41. When the system of Nâdis becomes clear of the impurities by properly controlling the prâṇa, the air, piercing the entrance of the Suśumṇâ, enters it easily.
42. Manomanî - Steadiness of mind comes when the air moves freely in the middle. That is the manonmanî condition, which is attained when the mind becomes calm.
43. To accomplish it, various Kumbhakas are performed by those who are expert in the methods; for, by the practice of different Kumbhakas, wonderful success is attained.
44. Different kinds of kumbhakas - Kumbhakas are of eight kinds, viz., Sûrya Bhedan, Ujjâyî, Sît-kârî, Sîtalî, Bhastrikâ, Bhrâmarî, Mûrchhâ, and Plâvinî.
45. At the end of Pûraka, Jâlandhara Bandha should be performed, and at the end of Kumbhaka, and at the beginning of Rechaka, Uddiyâna Bandha should be performed.

    N.B.-Pûraka is filling in of the air from outside. Kumbhaka is the keeping the air confined in side. Rechaka is expelling the confined air. The instructions for Pûraka, Kumbhaka and Re - chaka will be found at their proper place and should be carefully followed.
46. By drawing up from below (Mûla Bandha) and contracting the throat (Jâlandhara Bandha) and by pulling back the middle of the front portion of the body (i.e., belly), the Prâṇa goes to the Brahma Nâdî (Suşumnâ).
47. The middle hole, through the vertebral column, through which the spinal cord passes, is called the Suşumnâ Nâdî of the Yogîs. The two other sympathetic cords, one of each side of the spinal cord, are called the Idâ and the Pingalâ Nâdîs. These will be described later on. By pulling up the Apâna Vâyu and by forcing the Prâṇa Vâyu down the throat, the Yogî, liberated from old age, becomes young, as it were 16 years old.

    Note: - The seat of the Prâṇa is the heart; of the Apâna anus; of the Samâna the region about the navel; of the Udâna the throat; while the Vyâna moves throughout the body.
48. Sûrya Bhedana - Taking any comfortable posture and performing the âsana, the Yogî should draw in the air slowly, through the right nostril.
49. Then it should be confined within, so that it fills from the nails to the tips of the hair, and then let out through the left nostril slowly.
    Note - This is to be done alternately with both the nostrils, drawing in through the one, ex pelling through the other, and vice versa.
50. This excellent Sûrya Bhedana cleanses the forehead (frontal sinuses), destroys the disorders of Vâta, and removes the worms, and, therefore, it should be performed again and again.

    Note - I am going to describe the procedure of the practice of Yoga, in order that Yogîs may succeed. A wise man should leave his bed in the Uşâ Kâla (i.e., at the peep of dawn or 4 o'clock) in the morning. 1.

    Remembering his guru over his head, and his desired deity in his heart, after answering the calls of nature, and cleaning his mouth, he should apply Bhaşma (ashes). 2.
    In a clean spot, clean room and charming ground, he should spread a soft âsana (cloth for sitting on). Having seated on it and remembering in his mind his guru and his God. 3.

Having extolled the place and the time and taking up the vow thus: 'Today by the grace of God, I will perform Prânâyâmas with âsanas for gaining samâdhi (trance) and its fruits.' He should salute the infinite Deva, Lord of the Nâgas, to ensure success in the âsanas (postures). 4. Salutation of the Lord of the Nâgas, who is adorned with thousands of heads, set with brilliant jewels (maṇis), and who has sustained the whole universe, nourishes it, and is infinite. After this he should begin his exercise of âsanas and when fatigued, he should practice Śava âsana. Should there be no fatigue, he should not practice it. 5.

Before Kumbhaka, he should perform Viparîta Karṇî mudrâ, in order that he may be able to perform Jâlandhar bandha comfortably. 6.

Sipping a little water, he should begin the exercise of Prâṇâyâma, after saluting Yogindras, as described in the Kûrma Purâṇa, in the words of Śiva. 7.

Such as 'Saluting Yogindras and their disciples and gurû Vinâyaka, the Yogî should unite with me with composed mind.' 8.

While practicing, he should sit with Siddhâsana, and having performed bandha and Kumbhaka, should begin with 10 Prâṇâyâmas the first day, and go on increasing 5 daily. 9.

With composed mind 80 Kumbhakas should be performed at time; beginning first with the chandra (the left nostril) and then sûrya (the right nostril). 10.

This has been spoken of by wise men as Aṇuloma and Viloma. Having practised Sûrya Bhedan with Bandhas, the wise man should practice Ujjâyî and then Sîtkârî Śîtalî, and Bhastrikâ, he may practice others or not. 11-12.

He should practice mudrâs properly, as instructed by his gurû. Then sitting with Padmâsana, he should hear anâhata nâda attentively. 13.

He should resign the fruits of all his practice reverently to God, and, on rising on the completion of practice, a warm bath should be taken. 14.

The bath should bring all the daily duties briefly to an end. At noon also a little rest should be taken at the end of exercise, and then food should be taken. 15.

Yogîs should always take wholesome food and never anything unwholesome. After dinner he should eat Ilâchî or lavanga. 16.

Some like camphor, and betel leaf. To the Yogîs, practising Prâṇâyâma, betel leaf without powders, i.e., lime, nuts and kâtha, is beneficial. 17.

After taking food he should read books treating of salvation, or hear Purâṇas and repeat the name of God. 18.

In the evening the exercise should be begun after finishing sandyhâ, as before, beginning the practice 3 ghatikâ ore one hour before the sun sets. 19.

Evening sandhyâ should always be performed after practice, and Haţha Yoga should be practiced at midnight. 20.

Viparîta Karṇi is to be practised in the evening and at midnight, and not just after eating, as it does no good at this time. 21.

51. **Ujjâyî** - Having closed the opening of the Nâdî (Larynx), the air should be drawn in such way that it goes touching from the throat to the chest, and making noise while passing.
52. It should be restrained, as before, and then let out through Idâ (the left nostril). This removes śleşmâ (phlegm) in the throat and increases the appetite.
53. It destroys the defects of the nâdîs, dropsy and disorders of Dhâtu (humours). Ujjâyî should be performed in all conditions of life, even while walking or sitting.
54. **Sîtkârî** - Sîtkârî is performed by drawing in the air through the mouth, keeping the tongue between the lips. The air thus drawn in should not be expelled through the mouth. By practising in this way, one becomes next to the God of Love in beauty.
55. He is regarded adorable by the Yoginîs and becomes the destroyer of the cycle of creation. He is not afflicted with hunger, thirst, sleep or lassitude.
56. The Satwa of his body becomes free from all the disturbances. In truth, he becomes the lord of the Yogîs in this world.
57. Śîtalî as in the above (Sîtkâri), the tongue to be protruded a little out of the lips, when the air is drawn in. It is kept confined, as before, and then expelled slowly through the nostrils.
58. This Śîtalî Kumbhakâ cures colic, (enlarged) spleen, fever, disorders of bile, hunger, thirst, and counteracts poisons.
59. **The Bhastrikâ** - The Padma Âsana consist in crossing the feet and placing them on both the thighs, it is the destroyer of all sins.
60. Binding the Padma Âsana and keeping the body straight, closing the mouth carefully, let the air be expelled through the nose.
61. It should be filled up to the lotus of the heart, by drawing it in with force, making noise and touching the throat, the chest and the head.
62. It should be expelled again and filled again and again as before, just as a pair of bellows of the blacksmith is worked.
63. In the same way, the air of the body should be moved intelligently, filling in through Sûrya when fatigue is experienced.
64. The air should be drawn in through the right nostril by pressing the thumb against the left side of the nose, so as to close the left nostril; and when filled to the full, it should be closed with the fourth finger (the one next to the little finger) and kept confined.
65. Having confined it properly, it should be expelled through the Idâ (left nostril). This destroys Vâta, pitta and phlegm and increases the digestive power (the gastric fire).
66. It quickly awakens the Kuṇdalinî, purifies the system, gives pleasure, and is beneficial. It de - stroys phlegm and the impurities accumulated at the entrance of the Brahma Nâdî.
67. This Bhastrikâ should be performed plentifully, for it breaks the three knots: Brahma granthi (in the chest), Viṣṇu granthi (in the throat), and Rudra granthi (between the eyebrows) of the body.
68. **The Bhrâmari** - By filling the air with force, making noise like Bhringi (wasp), and expelling it slowly, making noise in the same way; this practice causes a sort of ecstasy in the minds of Yogîndras.
69. **The Mûrchhâ** - Closing the passages with Jâlandhar Bandha firmly at the end of Pûraka, and expelling the air slowly, is called Mûrchhâ, from its causing the mind to swoon and giving comfort.
70. **The Plâvinî** - When the belly is filled with air and the inside of the body is filled to its utmost with air, the body floats on the deepest water, like the leaf of a lotus.

71. Considering Pûraka (Filling), Rechaka (expelling) and Kumbhaka (confining), Prâṇâyâma is of three kinds, but considering it accompanied by Pûraka and Rechaka, and without these, it is of two kinds only, i.e., Sahita (with) and Kevala (alone).
72. Exercise in Sahita should be continued till success in Kevala is gained. This latter is simply confining the air with ease, without Rechaka and Pûraka.
73. In the practice of Kevala Prâṇâyâma when it can be performed successfully without Rechaka and Pûraka, then it is called Kevala Kumbhaka.
74. There is nothing in the three worlds which may be difficult to obtain for him who is able to keep the air confined according to pleasure, by means of Kevala Kumbhaka.
75. He obtains the position of Râja Yoga undoubtedly. Kuṇdalinî awakens by Kumbhaka, and by its awakening, Suşumnâ becomes free from impurities.
76. No success in Râja Yoga without Haţha Yoga, and no success in Haţha Yoga without Râja Yoga. One should, therefore, practice both of these well, till complete success is gained.
77. On the completion of Kumbhaka, the mind should be given rest. By practising in this way one is raised to the position of (succeeds in getting) Râja Yoga. Indications of success in the practice of Haţha Yoga When the body becomes lean, the face glows with delight,
78. Anâhatanâda manifests, and eyes are clear, body is healthy, bindu under control, and ap petite increases, then one should know that the Nâdîs are purified and success in Haţha Yoga is approaching.

End of Chapter II.

CHAPTER III

On Mudrâs

1. As the chief of the snakes is the support of the earth with all the mountains and forests on it, so all the Tantras (Yoga practices) rest on the Kuṇdalinî. (The Vertebral column).
2. When the sleeping Kuṇdalinî awakens by favor of a guru, then all the lotuses (in the six chakras or centers) and all the knots are pierced through.
3. Suşumnâ (Sûnya Padavî) becomes a main road for the passage of Prâṇa, and the mind then becomes free from all connections (with its objects of enjoyments) and Death is then evad - ed.
4. Suşumnâ, Sunya Padavî, Brahma Randhra, Mahâ Patha, Śmaśâna, Śambhavî, Madhya Mârga, are names of one and the same thing.
5. In order, therefore, to awaken this goddess, who is sleeping at the entrance of Brahma Dwâra (the great door), mudrâs should be practiced well.
6. The mudrâs - Mahâ Mudrâ, Mahâ Bandha, Mahâ Vedha, Khecharî, Uddiyâna Bandha, Mûla Bandha, Jâlandhara Bandha.
7. Viparîta Karaṇî, Vajroli, and Śakti Châlana. These are ten Mudrâs which annihilate old age and death.
8. They have been explained by Âdi Nâtha (Śiva) and give eight kinds of divine wealth. They are loved by all the Siddhas and are hard to attain even by the Marutas.

   Note: The eight Aiśwaryas are: Aṇimâ (becoming small, like an atom), Mahimâ (becoming great like âkâs, by drawing in atoms of Prakṛiti), Garimâ (light things, like cotton becoming very heavy like mountains). Prâpti (coming within easy reach of everything; as touching the moon with the little finger, while standing on the earth). Prâkâmya (non-resistance to the desires, as entering the earth like water). Îsatâ (mastery over matter and objects made of it). Vasitwa (controlling the animate and inanimate objects).
9. These Mudrâs should be kept secret by every means, as one keeps one's box of jewellery, and should, on no account be told to any one, just as husband and wife keep their dealings secret.
10. The mahâ mudra - Pressing the Yoni (perineum) with the heel of the left foot, and stretching forth the right foot, its toe should be grasped by the thumb and first finger.

11-12. By stopping the throat (by Jâlandhra Bandha) the air is drawn in from the outside and car - ried down. Just as a snake struck with a stick becomes straight like stick, in the same way, śakti (suśumnâ) becomes straight at once. Then the Kuṇdalinî, becoming as it were dead, and, leaving both the Idâ and the Pingalâ, enters the suśumnâ (the middle passage).

13. - It should be expelled then, slowly only and not violently. For this very reason, the best of the wise men call it the Mahâ Mudrâ. This Mahâ Mudrâ has been propounded by great masters.
14. Great evils and pains, like death, are destroyed by it, and for this reason wise men call it the Mathâ Mudrâ.
15. Having practised with the left nostril, it should be practised with the right one; and, when the number on both sides becomes equal, then the mudrâ should be discontinued.
16. There is nothing wholesome or injurious; for the practice of this mudrâ destroys the injurious effects of all the rasas (chemicals). Even the deadliest of poisons, if taken, acts like nectar.
17. Consumption, leprosy, prolapsis anii, colic, and the diseases due to indigestion, - all these irregularities are removed by the practice of this Mahâ Mudrâ.
18. This Mahâ Mudrâ has been described as the giver of great success (Siddhi) to men. It should be kept secret by every effort, and not revealed to any and everyone.
19. The Mahâ Bandha - Press the left heel to the perineum and place the right foot on the left thigh.

20. Fill in the air, keeping the chin firm against the chest, and, having pressed the air, the mind should be fixed on the middle of the eyebrows or in the auşumnâ (the spine).
21. Having kept it confined so long as possible, it should be expelled slowly. Having practised on the left side, it should be practised on the right side.
22. Some are of opinion that the closing of throat is not necessary here, for keeping the tongue pressed against the roots of the upper teeth makes a good bandha (stop).
23. This stops the upward motion of all the Nâdîs. Verily this Mahâ Bandha is the giver of great Siddhis.
24. This Mahâ Bandha is the most skilful means for cutting away the snares of death. It brings about the conjunction of the Trivenî (Idâ, Pingalâ and Śuşumnâ) and carries the mind to Kedâr (the space between the eyebrows, which is the seat of Śiva).
25. - As beauty and loveliness, do not avail a woman without husband, so the Mahâ Mudrâ and the Mahâ Bandha are useless without Mahâ Vedha.
26. The Mahâ Vedha - Sitting with Mahâ Bandha, the Yogî should fill in the air and keep his mind collected. The movements of the Vâyus (Prâṇa and Apâna) should be stopped by closing the throat).
27. Resting both the hands equally on the ground, he should raise himself a little and strike his buttocks against the ground gently. The air, leaving both the passages (Idâ and Pingalâ), s starts into the middle one.
28. The union of the Idâ and the Pingalâ is affected, in order to bring about immortality. When the air becomes as it were dead (by leaving its course through the Idâ and the Pingalâ) (i.e., when it has been kept confined), then it should be expelled.
29. The practice of this Mahâ Vedha, the giver of great Siddhis, destroys old age, grey hair, and shaking of the body, and therefore it is practised by the best masters.
30. These THREE are the great secrets. They are the destroyers of old age and death, increase the appetite, confer the accomplishments of Animâ, etc.
31. They should be practised in 8 ways, daily and hourly. They increase collection of good ac - tions and lessen the evil ones. People, instructed well, should begin their practice, little by little, first.
32. The Khechari - The Khechari Mudrâ is accomplished by thrusting the tongue into the gullet, by turning it over itself, and keeping the eyesight in the middle of the eyebrows.
33. To accomplish this, the tongue is lengthened by cutting the fraenum linguae, moving, and pulling it. When it can touch the space between the eyebrows, then Khechari can be accomplished.
34. Taking a sharp, smooth, and clean instrument, of the shape of a cactus leaf, the fraenum of the tongue should be cut a little (as much as a hair's thickness), at a time.
35. Then rock salt and yellow myrobalan (both powdered) should be rubbed in. On the 7th day, it should again be cut a hair's breadth.
36. On should go on doing thus, regularly for six months. At the end of six months, the fraeneum of the tongue will be completely cut.
37. Turning the tongue upwards, it is fixed on the three ways (oesophagus, windpipe and pal - ate). Thus it makes the Khechari Mudrâ, and is called Vyoma Chakra.
38. The Yogî who sits for a minute turning his tongue upwards, is saved from poisons, diseases, death, old age, etc.
39. He who knows the Khechari Mudrâ is not afflicted with disease, death, sloth, sleep, hunger, thirst, and swooning.
40. He who knows the Kechari Mudrâ, is not troubled by diseases, is not stained with karmas, and is not snared by time.
41. The Siddhas have devised this Kechari Mudrâ from the fact that the mind and the tongue reach âkâśa by its practice.
42. If the hole behind the palate be stopped with Khechari by turning the tongue upwards, then bindu cannot leave its place even if a woman were embraced.

43. If the Yogî drinks Somarasa (juice) by sitting with the tongue turned backwards and mind concentrated, there is no doubt he conquers death within 15 days.
44. If the Yogî, whose body is full of Somarasa (juice), were bitten by Takshaka (snake), its poison cannot permeate his body.
45. As fire is inseparably connected with the wood and light is connected with the wick and oil, so does the soul not leave the body full of nectar exuding from the Soma.

    Note: Soma (Chandra) is described later on located in the thousand-petalled lotus in the human brain, and is the same as is seen on Śivas' head in pictures, and from which a sort of juice exudes. It is the retaining of this exudation which makes one immortal.
46. Those who eat the flesh of the cow and drink the immortal liquor daily, are regarded by me men of noble family. Others are but a disgrace to their families.

    Note: Fortunate are the parents and blessed is the country and the family where a Yogî is born. Anything given to such a Yogî, becomes immortal. One, who discriminates between Paruşa and Prakṛiti, purges the sins of a million incarnations, by seeing, speaking and touching such men (i.e., Yogî). A Yogî far exceeds a thousand householders, a hundred vânaprast has, and a thousand Brahmacharîs. Who can know the reality of the Râja Yoga? A man who knows it resides in a very sacred country. By seeing and honoring him, generations of igno rant men get mokşa, what to speak of those who are actually engaged in it. He who knows internal and external yoga, deserves adoration from you and me, what if he adored by the rest of mankind! Those who engage in the great yoga, once, twice or thrice daily, are to be known as masters of great wealth (maheshwaras) or Lords.
47. The word means tongue; eating it is thrusting it in the gullet which destroys great sins.
48. Immortal liquor is the nectar exuding from the moon (Chandra situated on the left side of the space between the eyebrows). It is produced by the fire which is generated by thrusting the tongue.
49. If the tongue can touch with its end the whole from which falls the rasa (juice) which is saltish, bitter, sour, milky and similar to ghee and honey, one can drive away disease and destroy old age, can evade an attack of arms, become immortal in eight ways and can attract fairies.
50. He who drinks the clear stream of liquor of the moon (soma) falling from the brain to the sixteen-petalled lotus (in the heart), obtained by means of Prâṇa, by applying the tongue to the hole of the pendant in the palate, and by meditating on the great power (Kuṇdalinî), becomes free from disease and tender in body, like the stalk of a lotus, and the Yogî live a very long life.
51. On the top of the Merû (vertebral column), concealed in a hole, is the Somarasa (nectar of Chandra); the wise, whose intellect is not overpowered by Raja and Tama guṇas, but in whom Satwa guṇa is predominant, say there is the (universal spirit) âtma in it. It is the source of the down-going Idâ, Pingalâ and Suşumnâ Nâdîs, which are the Ganges, the Yamuna and the Sarasvati. From that Chandra is shed the essence of the body which causes death of men. It should, therefore, be stopped from shedding. This (Khechari Mudrâ) is a very good instrument for this purpose. There is no other means of achieving this end.
52. This hole is the generator of knowledge and is the source of the five streams (Idâ, Pingalâ etc.). In that colorless vacuum, Khecharî Mudrâ should be established.
53. There is only one seed germinating the whole universe from it; and there is only one Mudrâ, called Khecharî. There is only one deva (god) without any one's support, and there is one condition called Monomaṇi.
54. The Uddyâna Bandha - Uddiyâna is no called by the Yogîs, because its practice the Prâṇa (Vâyu) flies (flows) in the Suşumnâ.
55. Uddyâna is so called because the great bird, Prâṇa, tied to it, flies without being fatigued. It is explained below.

56. The belly above the navel is pressed backwards towards the spine. This Uddiyâna Bandha is like a lion for the elephant of death.
57. Uddyâna is always very easy, when learnt from a guru. The practiser of this, if old, becomes young again.
58. The portions above and below the navel, should be drawn backwards towards the spine. By practising this for six months one can undoubtedly conquer death.
59. Of all the Bandhas, Uddyâna is the best; for by binding it firmly liberation comes sponta neously.
60. The Mûla Bandha - Pressing Yoni (perineum) with the heel, contract up the anus. By drawing the Apâna thus, Mûla Bandha is made.
61. The Apâna naturally inclining downward is made to go up by force. This Mûla Bandha is spoken of by Yogîs as done by contracting the anus.
62. Pressing the heel well against the anus, draw up the air by force, again and again till it (air) goes up.
63. Prâṇa, Apâna, Nâda and Bindu uniting into one in this way, give success in Yoga, undoubt - edly.
64. By the purification of Prâṇa, and Apâna, urine and excrements decrease. Even an old man becomes young by constantly practising Mûla Bandha.
65. Going up, the Apâna enters the zone of fire, i.e., the stomach. The flame of fire struck by the air is thereby lengthened. 65.

    Note: In the centre of the body is the seat of fire, like heated gold. In human bein it is trian gular, in quadrupeds square, in birds circular. There is a long thin flame in the fire. It is gastric fire.

66. These, fire and Apâna, go to the naturally hot Prâṇa, which, becoming inflamed thereby, causes burning sensation in the body.
67. The Kuṇdalinî, which has been sleeping all this time, becomes well heated by this means and awakens well. It becomes straight like a serpent, struck dead with a stick.
68. It enters the Brahma Nâdî, just as a serpent enters its hole. Therefore, the Yogî should always practice this Mûla Brandha.
69. The Jâlandhara Bandha - Contract the throat and press the chin firmly against the chest. This is called Jâlandhara Bandha, which destroys old age and death.
70. It stops the opening (hole) of the group of the Nâdîs, through which the juice from the sky (from the Soma or Chandra in the brain) falls down. It is, therefore, called the Jâlandhara Bandha-the destroyer of a host of diseases of the throat.
71. In Jâlandhara Bandha, the indications of a perfect contraction of throat are, that the nectar does not fall into the fire (the Sûrya situated in the navel), and the air is not disturbed.
72. The two Nâdîs should be stopped firmly by contracting the throat. This is called the middle circuit or centre (Madhya Chakra), and it stops the 16 âdhâras (i.e., vital parts).

    Note: The sixteen vital parts mentioned by renowned Yogîs are the (1) thumb, (2) ankles, (3) knees, (4) thighs, (5) the prepuce, (6) organs of generation, (7) the navel, (8) the heart, (9) the neck, (199 the throat, (11) the palate, (12) the nose, (13) the middle of the eyebrows, (14) the forehead, (15) the head and (16) the Brahma randhra.

73. By drawing up the mûlasthâna (anus) Uddiyâna Bandha should be performed. The flow of the air should be directed to the Suşumnâ, by closing the Idâ and the Pingalâ.
74. The Prâṇa becomes calm and latent by this means, and thus there is no death, old age, dis ease, etc.
75. These three Bandhas are the best of all and have been practiced by the masters. Of all the means of success in the Haţha Yoga, they are known to the Yogîs as the chief ones.
76. The whole of the nectar, possessing divine qualities, which exudes from the Soma (Chandra) is devoured by the Sûrya; and, owing to this, the body become old.

77. To remedy this, the opening of the Sûrya is avoided by excellent means. It is to be learnt best by instructions from a guru; but not by even a million discussions.
78. The Viparîta Karaṇî - Above the navel and below the palate respectively, are the Sûrya and the Chandra. The exercise, called the Viparîta Karaṇî, is learnt from guru's instructions.
79. This exercise increases the appetite; therefore the one who practices it, should obtain a good supply of food. If the food be scanty, it will burn him at once.
80. Place the head on the ground and the feet up into the sky, for a second only the first day, and increase the time daily.
81. After six months, the wrinkles and grey hair are not seen. He, who practices it daily, even for two hours, conquers death.
82. The Vajarolî - Even if one who lives a wayward life, without observing any rules of Yoga, but performs Vajrolî, deserves success and is a Yogî.
83. Two things are necessary for this, and these are difficult to get for the ordinary people-(1) milk and (2) a woman behaving, as desired.
84. By practising to draw in the bindu, discharged during cohabitation, whether one be a man or a woman, one obtain success in the practice of Vajrolî.
85. By means of a pipe, one should blow air slowly into a passage in the male organ.
86. By practice, the discharged bindu is drawn out. One can draw back and preserve one's own discharged bindu.
87. The Yogî who can protect his bindu thus, overcomes death; because death comes by dis charging bindu, and life is prolonged by its preservation.
88. By preserving bindu, the body of the Yogî emits a pleasing smell. There is no fear of death, so long as the bindhu is well-established in the body.
89. The bindu of men is under the control of the mind, and life is dependent on the bindu. Hence, mind and bindu should be protected by all means.
90. The Sahajolî - Sahajolî and Amarolî are only the different kinds of Vajrolî. Ashes from burnt up cow dung should be mixed with water.
91. Being free from the exercise of Vajrolî, man and woman should both rub it on their bodies.
92. This is called Sahajolî, and should be relied on by Yogîs. It does good and gives mokṣa. This Yoga is achieved by courageous wise men, who are free from sloth, and cannot be ac complished by the slothful.
94. The Amarolî - In the doctrine of the sect of the Kâpâlikas, the Amarolî is the drinking of the mind stream; leaving the 1st, as it is mixture of too much bile and the last, which is useless.
95. He who drinks Amarî, snuffs it daily, and practice Vajrolî, is called practising Amarolî.
96. The bindu discharged in the practice of Vajrolî should be mixed with ashes, and the rubbing it on the best parts of the body gives divine sight.
97. The Śakti châlana - Kutilângî (crooked-bodied), Kuṇdalinî, Bhujangi (a she-serpent) Śakti, Iśhwari, Kuṇdalî, Arundhatî,-all these words are synonymous.
98. As door is opened with a key, so the Yogî opens the door of mukti by opening Kuṇdalinî by means of Haţha yoga.
99. The Parameśwarî (Kuṇdalinî) sleeps, covering the hole of the passage by which one can go to the seat of Brahma which is free from pains.
100. Kuṇdalî sakti sleeps on the bulb, for the purpose of giving mokṣa to Yogîs and bondage to the ignorant. He who knows it, knows Yoga.
101. Kuṇdalî is of a bent shape, and has been described to be like a serpent. He who has moved that Śakti is no doubt Mukta (released from bondage).
102. Youngster tapaswini (a she-ascetic), lying between the Ganges and the Yamunâ, (Idâ and Pingalâ) should be caught hold by force, to get the highest position.
103. Idâ is called goddes Ganges, Pingalâ goddes Yamunâ. In the middle of the Idâ and the Pin - galâ is the infant widow, Kuṇdalî.

104. This sleeping she-serpent should be awakened by catching hold of her tail. By the force of Haţha, the Śakti leaves her sleep, and starts upwards.
105. This she-serpent is situates in Mûlâdhâr. She should be caught and moved daily, morning and evening, for ½ a prahar (11/2 hours), by filling with air through Pingalâ by the Paridhana method.
106. The bulb is above the anus, a vitasti 812 angulas) long, and measures 4 angulas (3 inches) in extent and is soft and white, and appears as if a folded cloth.
107. Keeping the feet in Vajra-âsana (Padma-âsana), hold them firmly with the hands. The posi - tion of the bulb then will be near the ankle joint, where it should be pressed.
108. The Yogî, sitting with Vajra-âsana and having moved Kuṇdalî, should perform Bhastrikâ to awaken the Kuṇdalî soon.
109. Bhânu (Sûrya, near the navel) should be contracted (by contracting the navel) which will move the Kuṇdalî. There is no fear for him who does so, even if he has entered the mouth of death.
110. By moving this, for two muhûrtas, it is drawn up a little by entering the Suşumnâ (spinal column).
111. By this Kuṇdalinî leaves the entrance of the Suşumnâ at once, and the Prâṇa enters it of itself.
112. Therefore, this comfortably sleeping Arundhatî should always be moved; for by so doing the Yogî gets rid of diseases.
113. The Yogî, who has been able to move the Śakti deserves success. It is useless to say more, suffice it to say that he conquers death playfully.
114. The Yogî observing Brahmacharya (continence) and always eating sparingly, gets success within 40 days by practice with the Kuṇdalinî.
115. After the moving the Kuṇdalî, plenty of Bhastrâ should be performed. By such practice he has no fear from the god of death.
116. There is no other way, but the practice of the Kuṇdalî, for washing away the impurities of 72 000 Nâdîs.
117. This middle Nâdî becomes straight by steady practice of postures. Prâṇâyâma and Mudrâs of Yogîs.
118. Those whose sleep has decreased by practice and mind has become calm by samâdhi, get beneficial accomplishments by Sâmbhavî and other Mudrâs.
119. Without Râja Yoga, this earth, the night, and the Mudrâs, be they howsoever wonderful, do not appear beautiful.

Note - Râja Yoga=âsana, Earth=steadiness, calmness, Night=Kumbhaka; cessation of the activity of the Prâṇa, just as King's officials cease moving at night. Hence night means ab - sence of motion, i.e., Kumbhaka. All the practices relating to the air should be performed with concentrated mind. A wise man should not allow his mind to wander away.

121. These are the Mudrâs, as explained by Âdinâtha (Śiva). Every one of them is the giver of great accomplishments to the practiser.
122. He is really the guru and to be considered as Ĭśvara in human form who teaches the Mudrâs as handed down from guru to guru.
123. Engaging in practice, by putting faith in his words, one gets the Siddhis of Animâ, etc., as also evades death.

End of chapter III, on the Expositions of Mudrâs.

CHAPTER IV

On Samâdhi

1. Salutation to the Guru, the dispenser of happiness to all, appearing as Nada, Vindu and Kalâ. The one, who is devoted to him, obtains the highest bliss.
2. Now I will describe a regular method of attaining to Samadhi, which destroys death, is the means for obtaining happiness, and gives the Brahmananda.

3-4. Râja Yoga, Samâdhi, Unmanî, Manonmanî, Amaratwa, Laya, Tatwa, Śûnya, Aśûnya, Parama Pada, Amanaska, Adwaitama, Nirâlamba, Niranjana, Jiwana Mukti, Sahajâ, Turyâ, are all syn - onymous.

5. As salt being dissolved in water becomes one with it, so when Âtmâ and mind become one, it is called Samâdhi.
6. When the Prâṇa becomes lean (vigor less) and the mind becomes absorbed and then they become equal it is called the Samâdhi.
7. This equality and oneness of the self and the ultra self, when all Samkalpas cease to exist, is called Samâdhi.
8. Or, who can know the true greatness of the Râja Yoga. Knowledge, mukti, condition, and Siddhîs can be learnt by instructions from a gurû alone.
9. Indifference to worldly enjoyments is very difficult to obtain, and equally difficult is the knowledge of the Realities to obtain. It is very difficult to get the condition of Samâdhi, with out the favor of a true guru.
10. By means of various postures and different Kumbhakas, when the great power (Kuṇdalî) awakens, then the Prâṇa becomes absorbed in Sûnya (Samâdhi).
11. The Yogî whose śakti has awakened, and who has renounced all actions, attains to the con - dition of Samâdhi, without any effort.
12. When the Prâṇa flows in the Suşumnâ, and the mind has entered śûnya, then the Yogî is free from the effects of Karmas.
13. Immortal one (that is the Yogî who has attained to the condition of Samâdhi), I salute thee! Even death itself, into whose mouth the whole of this movable and immovable world has fallen, has been conquered by thee.
14. Amarolî, Vajrolî and Sahjolî are accomplished when the mind becomes calm and Prâṇa has entered the middle channel.
15. How can it be possible to get knowledge, so long as the Prâṇa is living and the mind has not died? No one else can get mokşa, except one who can make one's Prâṇa and mind latent.
16. Always living in a good locality and having known the secret of the Suşumnâ, which has a middle course, and making the Vâyu move in it, (the Yogî) should restrain the Vâyu in the Brahma randhra.
17. Time, in the form of night and day, is made by the sun and the moon. That the Suşumnâ, which has the Śambhavi Śakti in it, is the only important one, the rest are useless.
18. In this body there are 72,000 openings of Nadis; of these, the Susumna, which has the Sam- bhavi Sakti in it, is the only important one, the rest are useless.
19. The Vâyu should be made to enter the Suşumnâ without restraint by him who has practiced the control of breathing and has awakened the Kuṇdalî by the (gastric) fire.
20. The Prâṇa, flowing through the Suşumnâ brings about the condition of manomaṇî; other practices are simply futile for the Yogî.
21. By whom the breathing has been controlled, by him the activities of the mind also have been controlled; and, conversely, by whom the activities of the mind have been controlled, by him the breathing also has been controlled.

22. There are two causes of the activities of the mind: (1) Vâsanâ (desires) and 82) the respiration (the Praṇa). Of these, the destruction of the one is the destruction of both.
23. Breathing is lessened when the mind becomes absorbed, and the mind becomes absorbed when the Prâṇa begins is restrained.
24. Both the mind and the breath are united together, like milk and water; and both of them are equal in their activities. Mind begins its activities where there is the breath, and the Parâṇa begins its activities where there is the mind.
25. By the suspension of the one, therefore, comes the suspension of the other, and by the operations of the one are brought about the operations of the other. When they are present, the Indryas (the senses) remain engaged in their proper functions, and when they become latent then there is mokşa.
26. By nature, Mercury and mind are unsteady: there is nothing in the world which cannot be accomplished when these are made steady.
27. Pârvat! Mercury and breathing, when made steady, destroy diseases and the dead himself comes to life (by their means). By their (proper) control, moving in the air is attained.
28. The breathing is calmed when the mind becomes steady and calm, and hence the preservation of bindu. The preservation of this latter makes the satwa established in the body.
29. Mind is the master of the senses, and the breath is the master of the mind. The breath in its turn is subordinate to the laya (absorption), and that laya depends on the nâda.
30. This very laya is what is called mokşa, or, being sectarian, you may not call it mokşa; but when the mind becomes absorbed, a sort of ecstasy is experienced.
31. By the suspension of respiration and the annihilation of the enjoyments of the senses, when the mind becomes devoid of all the activities and remains changeless, then the Yogî attains to the Laya Stage.
32. When all the thoughts and activities are destroyed, then the Laya stage is produced, to de scribe which is beyond the power of speech, being known by self-experience alone.
33. They often speak of Laya, Laya; but what is meant by it? Laya is simply the forgetting of the objects of senses when the Vâsandâs (desires) do not rise into existence again.
34. **The Sâmbhavî Mudrâ** -The Vedas and the Śâstras are like ordinary public women. Śâmbhavi Mudrâ is the one, which is secluded like a respectable woman.
35. Aiming at Brahman inwardly, while keeping the sight directed to the external objects, with out blinking the eyes, is called the Sâmbhavî Mudrâ, hidden in the Vedas and the Sâstras.
36. When the Yogî remains inwardly attentive to the Brahman, keeping the mind and the Prâṇa absorbed, and the sight steady, as if seeing everything while in reality seeing nothing outs side, below, or above, verily then it is called Sâmbhavi Mudrâ, which is learnt by the favor of a guru. Whatever, wonderful, Sûnya or Asûnya is perceived, is to be regarded as the mani festation of that great Śambhû (Śiva).
37. The two states, the Śâmbhavi and the Khecharî, are different because of their seats (being the heart and the space between the eyebrows respectively); but both cause happiness, for the mind becomes absorbed in the Chita-sukha-Rupa-âtmana which is void.
38. **The Unmanî** - Fix the gaze on the light (seen on the tip of the nose) and raise the eyebrows a little, with the mind contemplating as before (in the Śambhavi Mudrâ, that is, inwardly thinking of Brahma, but apparently looking outside). This will create the Unmanî avasthâ at once.
39. **The Târaka** - Some are devoted to the Vedas, some to Nigama, while others are enwrapt in Logic, but none knows the value of this mudrâ, which enables one to cross the ocean of e xistence.
40. With steady calm mind and half closed eyes, fixed on the tip of the nose, stopping the Idâ and the Pingalâ without blinking, he who can see the light which is the all, the seed, the entire brilliant, great Tatwama, approaches Him, who is the great object. What is the use of more talk?

41. One should not meditate on the Linga (i.e., Âtman) in the day (i.e., while Sûrya or Pingalâ is working) or at night (when Idâ is working), but should always contemplate after restraining both.
42. **The Kecharî** - When the air has ceased to move in the right and the left nostrils, and has begun to flow in the middle path, then the Khecharî Mudrâ can be accomplished there. There is no doubt of this.
43. If the Prâṇa can be drawn into the Sûnya (Śuśumnâ), which is between the Idâ and the Pin - galâ, and made motionless there, then the Khecharî Mudrâ can truly become steady there.
44. That Mudrâ is called Khecharî which is performed in the supportless space between the Sûrya and the Chandra (the Idâ and the Pingalâ) and called the Vyoma Chakra.
45. The Khecharî which causes the stream to flow from the Chandra (Śoma) is beloved of Śiva. The incomparable divine Śuśumnâ should be closed by the tongue drawn back.
46. It can be closed from the front also (by stopping the movements of the Prâṇa), and then surely it becomes the Khecharî. By practice, this Khecharî leads to Unmanî.
47. The seat of Śiva is between the eyebrows, and the mind becomes absorbed there. This con- dition (in which the mind is thus absorbed) is known as Tûrya, and death has no access there.
48. The Khechari should be practiced till there is Yoga-nidrâ (Samâdhi). One who has induced Yoga-nidrâ, cannot fall a victim to death.
49. Freeing the mind from all thoughts and thinking of nothing, one should sit firmly like a pot in the space (surrounded and filled with the ether).
50. As the air, in and out of the body, remains unmoved, so the breath with mind becomes steady in its place (i.e., in Brahma randhra).
51. By thus practicing, night and day, the breathing is brought under control, and, as the prac - tice increase, the mind becomes calm and steady.
52. By rubbing the body over with Amrita (exuding from the moon), from head to foot, one gets Mahâkâyâ, i.e., great strength and energy.
53. **End of the Khecharî** - Placing the mind into the Kuṇdalinî, and getting the latter into the mind, by looking upon the Buddhi (intellect) with mind (reflexively), the Param Pad (Brahma) should be obtained.
54. Keep the âtmâ inside the Kha (Brahma) and place Brahma inside your âtmâ. Having made everything pervaded with Kha (Brahma), think of nothing else.
55. One should become void in and void out, and void like a pot in the space. Full in and full outside, like a jar in the ocean.
56. He should be neither of his inside nor of outside world; and, leaving all thoughts, he should think of nothing.
57. The whole of this world and all the schemes of the mind are but the creations of thought. Discarding these thoughts and taking leave of all conjectures, O Râma! Obtain peace.
58. As champor disappears in fire, and rock salt in water, so the mind united with the âtmâ loses its identity.
59. When the knowable. And the knowledge, ere both destroyed equally, then there is no sec ond way (i.e., Duality is destroyed).
60. All this movable and immovable world is mind. When the mind has attained to the unmanî avasthâ, there is no dwaita (from the absence of the working of the mind).
61. Mind disappears by removing the knowable, and, on its disappearance, âtmâ only remains behind.
62. The high-souled Âchâryas (Teachers) of yore gained experience in the various methods of Samâdhi themselves, and then they preached them to others.
63. Salutations of Thee, O Suşumnâ, to Thee O Kuṇdalinî, to Thee O Sudhâ, born of Chandra, to Thee O Manonmanî! To Thee O great power, energy and the intelligent spirit.

64. I will describe now the practice of anâhata nâda, as propounded by Gorakşa Nâtha, for the benefit of those who are unable to understand the principles of knowledge – a method, which is liked by the ignorant also.
64. Âdinâtha propounded 11/4 core methods of trance, and they are all extant. Of these, the hearing of the anâhata nâda is the only one, the chief, in my opinion.
66. Sitting with Mukta Âsana and with the Śâmbhavi Mudrâ, the Yogî should hear the sound inside his right ear, with collected mind.
67. The ears, the eyes, the nose, and the mouth should be closed and then the clear sound is heard in the passage of the Suşumnâ which has been cleansed of all the impurities.
68. In all the Yogas, there are four states: (1) ârambha or the preliminary, (2) Ghata, or the state of a jar, (3) Parichaya (known), (4) nişpatti (consumate).
69. **Ârambha Avasthâ** - When the Brahma granthi (in the heart) is pierced through by Prâṇayâ - ma, then a sort of happiness is experienced in the vacuum of the heart, and the anâhat sounds, like various tinkling sounds of ornaments, are heard in the body.
70. In the ârambha, a Yogî's body becomes divine, glowing, healthy, and emits a divine smell. The whole of his heart becomes void.
71. **The Ghata Avasthâ** - In the second stage, the airs are united into one and begin moving in the middle channel. The Yogî's posture becomes firm, and he becomes wise like a god.
72. By this means the Viṣṇu knot (in the throat) is pierced which is indicated by highest pleasure experienced, and then the Bherî sound (like the beating of a kettle drum) is evolved in the vacuum of the throat.
73. **The Parichaya Avasthâ** - In the third stage, the sound of a drum is known to arise in the Sûn- ya between the eyebrows, and then the Vâyu goes to the Mahâśûnya, which is the home of all the siddhîs.
74. Conquering, then, the pleasures of the mind, ecstasy is spontaneously produced which is devoid of evils, pains, old age, disease, hunger and sleep.
75. When the Rudra granthi is pierced and the air enters in the seat of the Lord (the space be tween the eyebrows), then the perfect sound, similar to the sound of a flute, is produced.
76. The union of the mind and the sound is called the Râja-Yoga. The (real) Yogî becomes the creator and destroyer of the universe, like God.
77. Perpetual Happiness is achieved by this; I do not care if the mukti be not attained. This hap- piness, resulting from absorption (in Brahma), is obtained by means of Râja-Yoga.
78. Those who are ignorant of the Râja-Yoga and practice only the Haţha-Yoga, will, in my opin- ion, waste their energy fruitlessly.
79. Contemplation on the space between the eyebrows is, in my opinion, best for accomplishing soon the Unmanî state. For people of small intellect, it is a very easy method for obtaining perfection in the Râja-Yoga. The Laya produced by nâda, at once gives experience (of spiri - tual powers).
80. The happiness which increases in the hearts of Yogîśwaras, who have gained success in Samâdhi by means of attention to the nâda, is beyond description, and is known to Śri Gurû Nâtha alone.
81. The sound which a muni hears by closing his ears with his fingers, should be heard attentive- ly, till the mind becomes steady in it.
82. By practicing with this nâda, all other external sounds are stopped. The Yogî becomes happy by overcoming all distractions within 15 days.
83. In the beginning, the sounds heard are of great variety and very loud; but, as the practice increases, they become more and more subtle.
84. In the first stage, the sounds are surging, thundering like the beating of kettle drums and jingling ones. In the intermediate stage, they are like those produced by conch, Mridanga, bells etc.

85. In the last stage, the sounds resemble those from tinklets, flute, Vîṇâ, bee, etc. these various kinds of sounds are heard as being produced in the body.
86. Though hearing loud sounds like those of thunder, kettle drums, etc, one should practice with the subtle sounds also.
87. Leaving the loudest, taking up the subtle one, and leaving the subtle one, taking up the loudest, thus practicing, the distracted mind does not wander elsewhere.
88. Wherever the mind attaches itself first, it becomes steady there; and then it becomes ab sorbed in it.
89. Just as a bee, drinking sweet juice, does not care for the smell of the flower; so the mind, absorbed in the nâda, does not desire the objects of enjoyment.
90. The mind, like an elephant habituated to wander in garden of enjoyments, is capable of be - ing controlled by the sharp goad of anâhata nâda.
91. The mind, captivated in the snare of nâda, gives up all its activity; and, like a bird with clipped wings, becomes calm at once.
92. Those desirous of the kingdom of Yoga should take up the practice of hearing the anâhata nâda, with mind collected and free from all cares.
93. Nâda is the snare for catching the mind; and, when is caught like a deer, it can be killed also like it.
94. Nâda is the bolt of the stable door for the horse (the minds of the Yogis). A Yogî should de termine to practice constantly in the hearing of the nâda sounds.
95. Mind gets the properties of calcined mercury. When deprived of its unsteadiness it is cal - cined with the sulphur of nâda, and then it roams like it in the supportless âkâśa or Brahma.
96. The mind is like a serpent, forgetting all its unsteadiness by hearing the nâda, it does not run away anywhere.
97. The fire, catching firewood, is extinguished along with it (after burning it up); and so the mind also, working with the nâda, becomes latent along with it.
98. The antahkaraṇa (mind), like a deer, becomes absorbed and motionless on hearing the sound of bells etc; and then it is very easy for an expert archer to kill it.
99. The knowable interpenetrates the anâhata sound which is heard, and the mind interpen - etrates the knowable. The mind becomes absorbed there, which is the seat of the all-pervad- ing, almighty Lord.
100. So long as the sounds continue, there is the idea of âkâśa. When they disappear, then it is called Para Brahma, Paramâtmana.
101. Whatever is heard in the form of nada, is the sakti (power). That which is formless, the final state of the Tatwas, is the Parameswara
102. All the methods of Haţha are meant for gaining success in the Râja-Yoga; for, the man, who is well-established in the Râja-Yoga, overcomes death.
103. Tatwa is the seed, Haţha the field; and Indifference (Vairâgya) the water. By the action of these three, the creeper Unmanî thrives very rapidly.
104. All the accumulations of sins are destroyed by practicing always the nâda; and the mind and the airs do certainly become latent in the colorless (Parmâtmana).
105. Such as one does not hear the noise of the conch and Dundubhi. Being in the Unmanî avasthâ, his body becomes like a piece of wood.
106. There is no doubt, such a Yogî becomes free from all states, from all cares, and remains like one dead.
107. He is not devoured by death, is not bound by his actions. The Yogî who is engaged in Samâdhi is overpowered by none.
108. The Yogî, engaged in Samâdhi, feels does not feel smell, taste, color, touch, sound, nor is conscious of his own self.
109. He whose mind is neither sleeping, waking, remembering, destitute of memory, disappear - ing nor appearing, is liberated.

110. He feels neither heat, cold, pain, pleasure, respect nor disrespect. Such a Yogi is absorbed in Samâdhi.
111. He who, though awake, appears like one sleeping, and is without inspiration and expiration, is certainly free.
112. The Yogî, engaged in Samâdhi, cannot be killed by any instrument, and is beyond the con - trolling power of beings. He is beyond the reach of incantations and charms.
113. As long as the Prâṇa does not enter and flow in the middle channel and the vindu does not become firm by the control of the movements of the Prâṇa; as long as the mind does not assume the form of Brahma without any effort in contemplation, so long all the talk of knowledge and wisdom is merely the nonsensical babbling of a mad man.

The end of Hatha Yoga Pradipika.

THE PROGRAME OF THE DŠR „SUNCE“

- Recreational yoga – exercises for more flexible and strong spine and locomotor system.
- Yoga exercises for strengthening neuromuscular integration and for the normalization of the functioning of metabolism, endocrine, immune and nervous systems.
- Specific yoga exercises aimed at improving the health of spine, and correction of spine dis orders.
- Yoga exercises for reducing weight and removing obesity.
- Yoga exercises for pregnancy, menopause and menstruation problems.
- Therapeutic yoga – individual approach of Yoga and Ayurveda for regaining individual health.
- Yoga breathing exercises – exercises of neuro-respiratory integration.
- Transcendental meditation for removing fatigue, tension, stress and for the development of the full potential of mind and body.
- Application of primordial sounds of the Veda, which are the base of the whole creation, for promoting proper functioning of body and mind.
- Kriyas, Panchakarma and Shatkarma for cleansing body impurities.
- Basic courses for the healthier living based on the ancient science of life Ayurveda, Gandhar vaveda, Sthapatyaveda and Jyotish.
- Science of creative intelligence course and courses of Maharishi's Vedic Science for full un - derstanding of the nature of life and achieving deeper experiences of the development of higher states of consciousness.
- Yoga nidra – relaxation technique.
- Yoga for sport.
- Aqua yoga.
- Yoga technique for enlivening self healing inner intelligence of body.
- Courses for yoga teachers.
- Weekend residential yoga courses for total recovering of mind and body from everyday stress and enhancing our life capabilities.
- Yoga for children.
- Yoga exercises to enhance immune system.
- Courses for healthy nutrition.

JADRANKO MIKLEC

e-mail: **science.of.vedic.yoga@gmail.com**
web: **www.vedic-yoga.org**
facebook: **http://facebook.com/jadranko.miklec**

EXPERIENCES OF PARTICIPANTS OF SCIENCE OF VEDIC YOGA COURSES

"After one week of Yoga with Jadranko Miklec I have understood what it means to bring mind, breath, and body together. This understanding is not only in my head, but also in my heart and body. I feel much more integrated within myself. Jadranko has the most profound knowledge of Yoga and he is living it. He is not only a Yoga-Teacher (as you may find many), he is a real master. He teaches the most complex and deepest knowledge in such a way, that it not only is understood intellectually, but plunges deep into the heart.

His simple, friendly and open - manners opens the heart of everybody (as I have experienced).

My TM-practise is profiting very much of this new integrated state which I gained in this Yoga week. I can sit much easier in meditation and esp. the flying-technique has improved as I have much more energy and a structured body. The understanding of the process of transcending has grown, and I appreciate TM even more than ever. Yoga, as taught by Jadranko, is a catalyzor for TM. I cannot thank Jadranko enough for sharing this gift with us."

Elke Stender, Darmstadt

"The Yoga seminar with Jadranko Miklec was a special experience for me. Jadranko does not only show the mastery over the Yoga Asanas as usual but also teaches a very unique approach about the integrative unity of body, breath and mind.

Free of the particular fitness and flexibility of one's body, everybody feels immediately the enlivening and regenerating effects. All exercises build up gently on the individual starting situation. Additionally to the practical exercises, Jadranko Miklec shows in the theoretical part of the seminar the connection of Yoga practice from the viewpoint of the classical texts of the Yoga Sutras of Patanjali and the practice of Transcendental Meditation according to Maharishi Mahesh Yogi.

Not only did I feel a new motivation, but I also got the deep insight, how precious the regular use of Yoga Asanas is for my personal physical and mental health and progress."

Lothar Heggmair, München

"Happy time passes quickly! An excellent course! Through the specific breathing during the practice of Yoga Asanas, my body, 61 years, became in less then a week as flexible as never before!
My general condition is much better. The practice of Yoga Asanas and Jadranko's precise, repeated instruction for every phase of the posture and movement is hardly improvable.
I am surprised and my heart is thankfully touched.

The evening lecture is as deep and holistic as his practice repertoire. Thank you very much!

PS: Good experiences in meditation."

Arno Schmitt, Kassel

"I can only advise everybody to take a Yoga course with Jadranko!
After only one week I can now do exercises I was not able to do before.
The constant repetitions and the awareness on the correct and right breathing have been an enormous help in learning. Jadranko responds to individual questions with purposeful exercises.
I also liked that it was given space and time to feel and enjoy the effects of the Yoga exercises during relaxation periods. Jadranko's holistic knowledge about the background of Yoga is very impressive and enriching."

Gabriele Holz, Kassel

"Within a weekend or some days I feel my body more flexible, stable and strengthened. Body and mind are refreshed, well-balanced and purified.
I enjoyed the excellent lectures on the basis of Maharishi's words about Yoga, states of consciousness, the possibility for our questions and Jadranko's wonderful answers.
So Jadranko leads us softly and gently towards evolution! What I heard and learned gives me a deeper meditation in daily live at home. And for my physical indications, I got helpful instructions."

Eva Kuntz, Saarbrücken

"From 7th to 14th of November 2008 I attended a Yoga course with Jadranko at the Maharishi Academy in Forbach. Before the course I had such strong back pain, that I was questioning myself if the train journey would not be too straining for me.
Now- after less than a month of regular Yoga practice-the back pain reduced to about 50%. Jadranko emphasizes the simultaneous growth of flexibility and stability. Both must be in balance. Jadranko brings in a new element in Yoga practice, that's significance I did not know before: the breathing.
The effect of Asanas, the growth of flexibility and stability gets exponentiated, if the breath is in harmony with the movement, says Jadranko that means to reach the maximum in a minimum of time.
Jadranko gives everyone an individual set of exercises-medical Yoga-that specifically fits to one's physical condition. Jadranko lives what he teaches. Therefore he appears to me authentic and convincing. He radiates bliss like I have only seen in a few persons. That is why the atmosphere at this course was wonderful and I understand why some course participants spend their holidays always on his Yoga courses."

Klaus Weber, Hannover

ABOUT THE AUTHOR

Jadranko Miklec is the author of five books and DVD on yoga. Title of first book is Yama, second - Niyama, third - Asana and Pranayama, fourth - Yoga for the spine and beauty of body, fifth – Transcendental Meditation, Return to health. Jadranko Miklec was the representative of Yoga in the Department of Ministry of Justice of Croatia for regulation of application of nonconventional medicine. He practices and teaches Yoga all over the World already for 30 years, he is master of Martial arts (karate). He was also president of Natural Law Party in Croatia and for 15 years National Leader and Maharishis representative for Croatia. For 30 years he is teacher of Transcendental Meditation and for 19 years teacher of Maharishi's Vedic Science. Knowledge and support to teach Yoga Jadranko gained from Maharishi Mahesh Yogi. Jadranko's knowledge about asanas and pranayama is based on teaching of, A.G. Mohan (disciple of Shri T. Krishnamacharya), Maharishi Swami Dev Murti, other Yogacharyas and his own insights which he gained trough the long practice and proper understanding of Yoga and Maharishi's Vedic Science. Jadranko has also experience with the application of Yoga and Ayurveda to sport and he was yoga trainer of one of the most popular tennis player in the world. For teaching yoga Jadranko is cooperating with Maharishi Vedic Academy in Germany, Deutsche Gesellschaft für Ayurveda, and Hochschulsport - Institut für Sportwissenschaft der Universität Tübingen in Germany. He is president of the Association for sport and recreation „SUNCE", Croatia. He is International Secretary General of the World Academy of Ayurved from India. From World Academy of Ayurveda, Jadranko received the noble prestigious award and title of Vanaushadhi Bhishagacharya (Herbal Scientist) and expert for Yoga and Ayurveda. He is also visiting teacher to the students of the Morarji Desai National Institut of Yoga in India. Jadranko Miklec is also member of the board of European Yoga Federation and World Movement for Yoga and Ayurveda and is recognized to train teachers in the Science of Vedic Yoga.

e-mail: **science.of.vedic.yoga@gmail.com**
web: **www.vedic-yoga.org**
facebook: **http://facebook.com/jadranko.miklec**

ASHTANGA YOGI DAVID WILLIAMS

"Jadranko Miklec is a good friend and a great yogi. He has been a yogi since childhood and his depth of experience and knowledge is profound. We have had wonderful times together, practicing yoga and discussing yoga in its various aspects. Jadranko's new book, Yoga for the Spine and Beauty of Body is excellent for yoga practitioners of all levels and I recommend it."

David Williams
Maui, Hawaii
Oct. 23, 2006



Jadranko Miklec & David Williams

DR. SURESH SWARNAPURI, BAMS, M.D., MBA

Dr. Suresh Swarnapuri worked as a lecturer in Indian Institute of Ayurveda Medicine and Research. Presently he is working as asst. professor and chief medical officer in Shri Shri College of Ayurveda Sciences and Research Hospiatal. He gives lectures to students on Salya Tantra, Salyaka Tantra, Rogana Nidana and Panchakarma. Also have personal Ayurvedic Health Care Center in the heart of city Bangalore, India. He was working as a consultant in Maharishi Foundation International – Holland. Visited and conducted seminars and courses on Ayurveda in many European countries. Presently he is working as a chief consultant in Tsunami-Spa center in Ukraine, advisor to Ireland Ayurvedic Spa and Ayurveda center „Ganesh", Zagreb.

„I am glad to see and study the essentials of Yoga in this precious book of ancient art. The efforts of Mr. Jadranko Miklec are very much appreciable. The content in this book for sure help human sufferings in the field of diseases, mind and spiritualism disbalances".

Dr. Suresh Swarnapuri
15.09.2006, Zagreb



Dr. Suresh Swarnapuri & Jadranko Miklec

Fakultät für
Sozial- und Verhaltenswissenschaften

Institut für
Sportwissenschaft

EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN



"I am very happy, that Jadranko Miklec is now publishing his 4th book on Yoga. Jadranko Miklec has been teaching a yoga workshop here at the Institut für Sportwissenschaft of the University of Tübingen from the 13th to the 15th of October 2006. In this weekend course he was giving so much insight into the complete system of Maharishi Patanjali, connecting his profound theoretical knowledge about yoga and applying it in every detail of his practical work with the students. Everybody gained a deep understanding for the philosophical background and immediate personal benefits for her/his own health. (One student felt a complete relief from her spine problems right after the workshop.)

Jadranko Miklec` work – laying special emphasis on breathing and effortlessness – is bringing fulfillment to people of every age. It shows a natural way to gain balance of mind and body, which is of immense value for our western way of busy life.

I wish that this book will guide many people to their own inner Self, to freedom of tensions and imbalances in body and soul, to fulfillment in life."

Inge Seefluth
University Teacher for yoga and dance
University of Tübingen
Oct, 27, 2006



"The human back reflects acutely and chronically the disharmonies of our lifestyle. Back problems are a major health problem in our culture. More and more medical practitioners are finding that yoga can benefit their patients.

During yoga seminar in May 2006 in Regensburg, Germany, yoga teacher Jadranko Miklec presented yoga exercises for the spine which were very beneficial for all course participants.

Therefore I recommend book of Jadranko Miklec "Yoga for spine and beauty of body" and encourage other health-care professionals to study Yoga and Ayurveda approaches to healing back pain."

Regenburg, 3.12.2006
Director German Ayurveda Academie
Dr.med.Ernst Schrott

AKADEMIE DER DEUTSCHEN GESELLSCHAFT FÜR AYURVEDA E.V.
STEYRERWEG. 11 93049 REGENSBURG
TEL 09431 7589408 FAX 09431 759885 AKADEMIE@AYURVEDA-GESELLSCHAFT.DE
LEITUNG DR. MED. ERNST SCHROTT DR. MED. WOLFGANG SCHACHINGER DR. MED. ULRICH BAUHOFER
WWW.AYURVEDAAKADEMIE.DE

MORARJI DESAI NATIONAL INSTITUTE OF YOGA

New Delhi, India

Complimentary Copy of four titles - Regd.

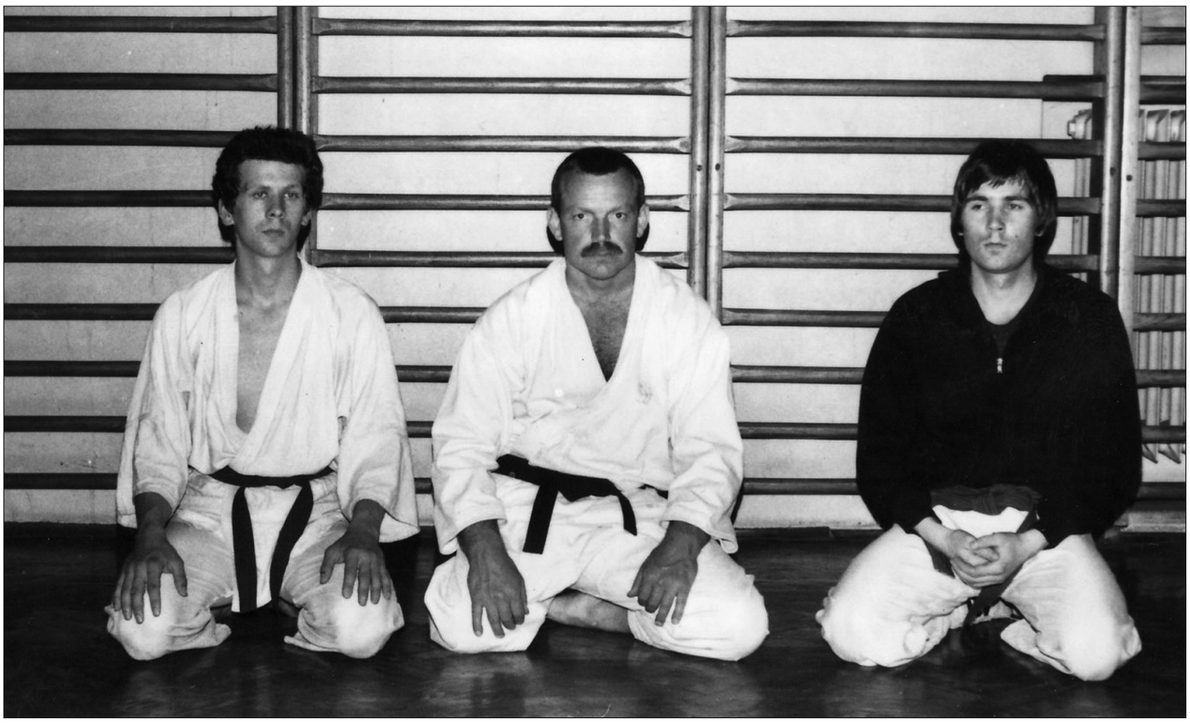
Sir,

We have received the books, as listed below, from you and have kept the same in the MDNIY Library's Foreign Language Section for the benefit of the scholars, staff, students, and for the interested patrons of our Library.

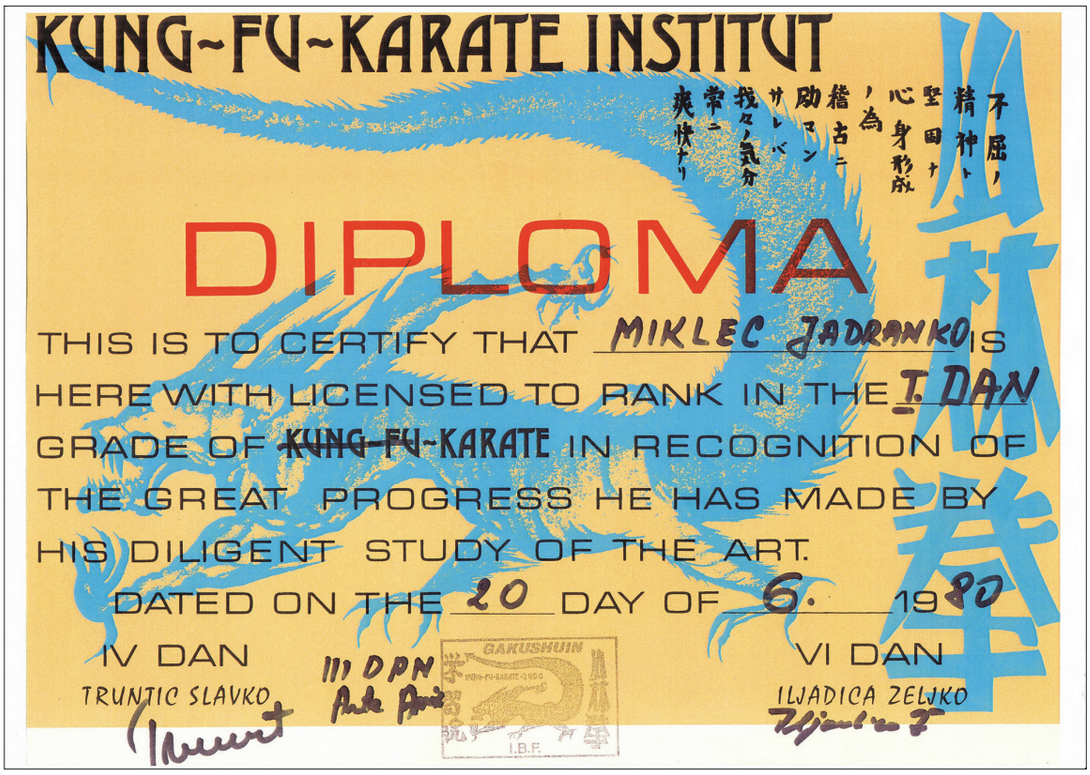
1. *Jadranko Miklec: Transcendental Meditation - Back to Health / 2009.*
2. *Jadranko Miklec: Yoga for Health and Beauty of Body and Spirit - Asana Yoga Postures / 2005.*
3. *Jadranko Miklec: Yoga for Health and Beauty of Body and Spirit - Yoga for Spine and Body Beauty / 2006.*
4. *Jadranko Miklec: Yoga for Health and Beauty Body - Niyama Life Principles / 2004.*

Thank you very much for the same.

Warm Regards
Himani Sharma
Cataloguer, MDNIY Library
68, Ashoka Road, New Delhi - 110 001
Ph: 011 23721472 (117-Extn.)
Telefax: 011 23711657
Website: www.yogamdniy.com



Jadranko Miklec (master of karate – black belt), 1980 Zagreb, Croatia


KUNG-FU-KARATE INSTITUT

不屈ノ精神ト堅固ナ心身形成ノ為
稽古ニ励マンサレバ我々ノ気分常ニ爽快ナリ

DIPLOMA

THIS IS TO CERTIFY THAT MIKLEC JADRANKO IS HERE WITH LICENSED TO RANK IN THE I. DAN GRADE OF ~~KUNG-FU-KARATE~~ IN RECOGNITION OF THE GREAT PROGRESS HE HAS MADE BY HIS DILIGENT STUDY OF THE ART.

DATED ON THE 20 DAY OF 6. 1980

IV DAN
TRUNTIC SLAVKO

III DAN

GAKUSHUIN
I.B.F.

VI DAN
ILJADICA ZELJKO



Jadranko Miklec with Maharishi Mahesh Yogi, Belgrade, Yugoslavia, 1984



Jadranko Miklec with Maharishi Mahesh Yogi, Belgrade, Yugoslavia, 1984





Jadranko Miklec with Dr. Balraj Maharishi, 1989 Vlašić, Bosnia and Hercegovina



Jadranko Miklec (president of Natural Law Party of Croatia) at International Convention of the Leaders of the Natural Law Parties, 1996., Brussels, Belgium



Jadranko Miklec with Joaquim Alberto Chissano,
President of the Republic of Mozambique,
1993., Maharishi University of Management, Vlodrop, Holland



Jadranko Miklec with President of Republic of Croatia Mr. Stipe Mesić, 2004., Zagreb



Jadranko Miklec with Dino Debeljuh (Croatian ambassador in India), Col. Dalmir Singh, Maa Dhyan, Diana Cetinić and Maharishi Swami Dev Murti, New Delhi 2008.



Jadranko Miklec with Maharishi Swami Dev Murti
Kaleshwar Math, Jamuna Nagar, Himalaya, 2008.



Jadranko Miklec teaching yoga in Kampor, India 2008.



Jadranko Miklec with A.G.Mohan and Indra Mohan
in Chennai, India, 2008..



Jadranko Miklec with Dr. J. R. Raju and Dr. Dorai Raja – president of
Malaysian Association of traditional Indian Medicine, 2008., Bad Ems, Germany



Jadranko Miklec with Solar yogi Hira Ratan Manek 2009., Zadar, Croatia



Jadranko Miklec with Dr. Mochana Raj – Director Siddha Medical Kollege Trivandrum,
Specialist for Siddha-Marma Therapy, 2010., Kerala, India



Jadranko Miklec teaching yoga to the students of Morarji Desai National Institute of Yoga 2010., India



Jadranko Miklec teaching yoga to the students of Morarji Desai National Institute of Yoga 2010., India



Jadranko Miklec teaching yoga to the students of Morarji Desai National Institute of Yoga 2010 .,India



Jadranko Miklec with Dr. Ramakrishna Kusmariya s/o Late Shree Kanhaiya Lal Kusmariya, presently the Minister, Farmers' Welfare and Agriculture Development, Government of Madhya Pradesh Bhopal, India 2010. - International Yoga Congress



Jadranko Miklec with Acharya Hukumchand Shankushal – President of the centre for Yoga, Ayurveda, and Nature Cure & Traditional Medicinal Systems, Bhopal, India. 2010.



Jadranko miklec receiving noble prestigious award and title of Vanaushadhi Bhishagacharya (Herbal Scientist) and title of international Secretary General of the World Academy of Ayurveda, India from Dr. Acharya Prabhakar Mishra, President of World Academy of Ayurveda, 2010 India.

H U P E D - HRVATSKO UDRUŽENJE ZA PRIRODNU, ENERGETSKU I DUHOVNU MEDICINU

C E R T I F I K A T

JADRANKO MIKLEC

JMBG: 2005957330133

MIKLECI 25, 10060 ZAGREB
REPUBLIKA HRVATSKA

C E R T I F I K A T br. 02152007

Na temelju STATUTA **Hrvatskog udruženja za prirodnu, energetsku i duhovnu medicinu - HUPED**, članak 8, st. 4 ("*Udruga s pravne strane omogućuje djelovanje terapeutima koji se bave određenom vrstom prirodne, energetske i/ili duhovne medicine ukoliko se pridržavaju određenih zakonskih propisa te Kodeksa etike i prakse Udruge, te im pruža sve potrebne informacije u vezi toga.*") registriranog 28. 02. 2000.g. pri Ministarstvu pravosuđa, uprave i lokalne samouprave, Zagreb pod registarskim brojem 00001647 i na temelju PRAVILNIKA O STRUČNOM USAVRŠAVANJU TERAPEUTA I DODJELI STRUČNIH PRIZNANJA te izvršenog naučnog istraživanja i laboratorijskih analiza prije i poslije terapija te uvida u pismena svjedočanstva iscjeljenih stručna **Komisija** i **Upravno vijeće** HUPED-a izdaju gospodinu **JADRANKU MIKLECU**,

CERTIFIKAT ZA TERAPEUTSKU DJELATNOST

koji se odnosi na iscjeliteljski i analitički rad metodom energetske medicine pod nazivom:

YOGA

Terapeuti – neliječnici koji se bave energetskom medicinom ne spadaju u domenu službene medicine već se u svome radu time koriste u svrhu preventive i općenito za poboljšanje kvalitete života.

Hrvatsko udruženje za prirodnu, energetsku i duhovnu medicinu – H U P E D kao davatelj CERTIFIKATA za gore navedene aktivnosti jamči da gospodin **Jadranko Miklec** kao naš redovni član svojim radom ne ulazi u djelatnost službene medicine već ju samo nadopunjuje. U terapeutskom radu se ne savjetuje prekid službene liječničke terapije niti je se nekome propisuje. Zbog svega navedenog **ne krši** se postojeći **članak 244**, **Kaznenog Zakona koji govori o nadrilječništvu**.

CERTIFIKAT je važeći uz člansku iskaznicu HUPED-a u periodu od **01.06.2007.g.** do **01.06.2009.g**. Produžuje na temelju HUPED-ovog **Pravilnika o stručnom usavršavanju terapeuta i dodjeli stručnih priznanja**.

Zagreb, 01. 06. 2007.g.

Hrvatsko udruženje za prirodnu,
energetsku i duhovnu medicinu
H U P E D
Zelengaj 5, Z A G R E B

ODGOVORNA OSOBA

Korunić Vedran, predsjednik
Upravnog vijeća **H U P E D**-a

Zelengaj 5, 10000 Zagreb , tel: 01/48 38 271 , fax: 01/48 76 879

www.huped.hr, e-mail: huped@huped.hr, žiro račun: 2360000-1101456617, MB 01488295

SVASTHA YOGA AND AYURVEDA

This is to certify that

.....Tadranko Miklec.....

has successfully completed *Step 2: Yoga Therapy* of

the course *The Science and Art of Yoga* held in

Chennai from 19 to 30 November, 2007.

A.G. Mohan
Course Director
Svastha Yoga and Ayurveda
Chennai, India

Svastha Yoga/Ayurveda

SVASTHA YOGA AND AYURVEDA

This is to certify that

.....Tadranko Miklec.....

has successfully completed the training program

Principles of Yoga Therapy:

Developing your Personal Wellness Plan

held at Island Iž, Croatia

from 27 September to 18 October, 2008.

A.G. Mohan
Course Director

Svastha Yoga/Ayurveda

WORLD M.Y.A.

World Movement for Yoga & Ayurveda

Institution no profit born to protect and spread the high discipline of Yoga and ancient medicine of Ayurveda

www worldyogayurveda.net

conferred the

CERTIFICATE

to the

Ing.JadrankoMiklec

DRUŠTVO ZA ŠPORTSKU REKREACIJU "SUNCE"

Seat in Mikleci 25; 10040 ZAGREB; CROATIA

As the one Person and Institution in Croatia involed in Yoga officially recognized by the World Movement for Yoga & Ayurveda

World M.Y.A. Registered Office: via Fleming, 19 Milano Italy
Head Office: via Beccaria, 3 Gropello Cairoli (Pv) Italy
N.REG 177445 Uff. Entrate C.F. 97472900154

आयुर्वेद विश्व परिषद्
WORLD ACADEMY OF AYURVEDA

(Regd. Under Societies ACt-1860)
Founded at Kurukshetra in the presence of
Dr. Rajendra Prasad, Ex-President of India,
on Jan. 12, 1957

प्रधान कार्यालय : सी-121, कीर्तिनगर, नई दिल्ली-110015
C-121, Kirti Nagar, New Delhi-110015 (India)
Phone : 25100929 eks-& 09818066603

डा. आचार्य प्रभाकर मिश्र
परमाध्यक्ष

दिनांक 27-10-2014

Dr. Jadranko Miklec,
President of DSR " SUNCE",
Mikleci,25,10040 Zagreb, Croatia.

Sub : Your nomination as International Secretary General, World Academy of Ayurved.

Dear Dr. Miklec,

In view of your devotional and committed services for Ayurved and Yoga Sciences, I am glad to inform you that Supreme Advisory Council,WAA has recommended that you be nominated as International Secretary General, World Academy of Ayurved. Hopefully, you will accept the nomination and we are confident that you will work for the promotion of Ayurved and Yoga globally.

With warm regards,

Sincerely yours,

(Dr.Acharya Prabhakar Mishra)
Founder and International President



आयुर्वेद विश्व परिषद् ★World Academy of Ayurved★ Vishva Parishad ★ President ★ New Delhi

ॐ

आयुर्वेद विश्वपरिषद्

WORLD ACADEMY OF AYURVED

(Regd. under Societies Act - 1860)

अथ भूतदयां प्रति

प्रमाण पत्र

नाम : DR. Jadranko Miklec योग्यता : Telecomm. Engineer

पता : Miklec 25/10040 Zagreb, Croatia जन्मतिथि (आयु) : 20.05.1957 को

आयुर्वेद विश्वपरिषद् द्वारा : International Secretary General

क्षेत्र (सम्भाग-जनपद-प्रान्त-देश) : CROATIA का

अध्यक्ष, ~~उपाध्यक्ष, सचिव, सदस्य~~ मनोनीत करती है।

आयुर्वेद विश्व परिषद् Vishva Parishad ★ World Academy of Ayurved ★ President New Delhi

दिनांक : 27.X.2010.

(आचार्य प्रभाकर मिश्र)
युगाचार्य
(परमाध्यक्ष)

सी-121 कीर्तिनगर, नई दिल्ली-110015 (भारत)

(शाखाएँ - यू.एस.ए., हालैण्ड, आस्ट्रेलिया, नेपाल आदि)

हिताहितं सुखं दुःखं आयुस्तस्य हिताहितम्।
मानञ्च तच्च यत्रोक्तं, आयुर्वेदः स उच्यते।।

आयुर्वेद विश्व परिषद्

WORLD ACADEMY OF AYURVED

आयुर्वेद विभूति सम्मान

वनौषधिभिषगाचार्य



आयुर्वेद विश्व जीवन विज्ञान है। जिसमें वनौषधियाँ, स्वस्थ को स्वस्थ बनाए रखने की विद्या, युक्ताहार-विहार, चिकित्सा, जीवन दर्शन, भैषज्य कल्पना, दीर्घायुष्य विधान, शरीर और शारीर क्रिया विज्ञान योग के तत्व, प्रकृति विज्ञान, अध्यात्म साधना सभी कुछ उपलब्ध है। आप उपरोक्त विधाओं में से अनेक विधाओं के वैज्ञानिक, व्याख्याता, विद्वान् हैं तथा आयुर्वेद के सर्वांगीण विकास के पक्षधर हैं। आपने अपने अनुसन्धानों तथा जन स्वास्थ्य सेवा से जनता एवं जगत् को लाभ पहुँचाया है। आपने नीरोग, स्वस्थ्य विश्व की संरचना की दिशा में अपनी भागीदारी प्रमाणित की है।

अतः आयुर्वेद विश्व परिषद् आपकी उल्लेखनीय सेवाओं के लिए

Supreme Council of

WORLD ACADEMY OF AYURVED

HEREBY CONFER ON
THE NOBLE PRESTIGIOUS AWARD AND TITLE OF

VANAUSHADHI BHISHAGACHARYA (Herbal Scientist)

.....MIKLECi25, 10040, ZAGREB, CROATIA..... निवासी
सम्मानीय...DR. JADRANKO MIKLEC.....को
सम्मानपत्र स्वरूप पदवी अलंकरण प्रदान करती है।

Yudhvir K. Bhoon
अध्यक्ष चयन समिति
दिनांक...27. X. 2010...

आयुर्वेद विश्व परिषद् World Academy of Ayurved Hony. Director General Research and Training आयुषोवेदः New Delhi

डा. आचार्य प्रभाकर मिश्र
(पूर्व कुलपति)
अध्यक्ष

प्रधान कार्यालय- सी-121, कीर्तिनगर, नई दिल्ली (भारत) -110 015