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*Notes on Yoga Therapy – Compiled and Edited by Dr Ananda Balayogi Bhavanani*
YOGA THERAPY:  
A COMPLETE SYSTEM OF  
PREVENTIVE, CURATIVE AND PROMOTIVE HEALTH  
By Dr Georg Feuerstein, Ph.D

(Excerpted from The Yoga Perspective on Pain, Mental Health, and Euthanasia. Yoga Studies. Newsletter of YREC/IAYT.Jan-Apr 2002)

Traditionally, Yoga was not intended for the imbalanced or sick individual but for the normal person interested in, and capable of, pursuing what Abraham Maslow called B-values. Yoga is not physical or psychological therapy—even though it contains a therapeutic element—but a tradition of psycho-spiritual growth leading to inner peace and freedom. Today, however, in Western countries, Yoga is almost universally pursued as a discipline for fitness and health and has proven to be highly effective as such.

While Yoga's comprehensive methodology includes many techniques that serve the popular goals of enhancing or restoring fitness and health, its real potency lies in the domain of psychospiritual maturation, notably at the higher levels of self-transcendence and self-transformation through profound meditation. As a psychospiritual discipline, which also involves a therapeutic component, Yoga can offer an unusually comprehensive and practical perspective on this acute problem in medical care. The yogic perspective is inclusive of the moral and spiritual aspects of human life but also of the practical issues of pain, suffering, illness, and death.

To begin with, Yoga philosophy acknowledges the stark reality that life itself is terminal (anitya). Whatever our state of health may be, we all are destined to die within a rather limited frame of time: eighty, a hundred, or perhaps, at some point in the future, two hundred years. For most of us, life will always be too short.

Yoga acknowledges another undeniable fact: that life is filled with suffering (duhkha)—an insight with which other spiritual traditions fully concur. See, for instance, the Biblical wisdom of John 16:33: "In this life you will have trouble." Even if we were to never experience sickness or bodily injury, we would still be exposed to all kinds of experiences that would cause us distress (i.e., suffering), notably interpersonal difficulties, sickness and injury of family members and friends, and not least loss of a loved one.

The question is whether there is ever a moment when suffering becomes so overwhelming that we are justified in taking our own or someone else's life in order to end suffering. First of all, we need to appreciate that Yoga makes a distinction between pain (pîthâ) and suffering (duhkha). The former is a physical reaction, the latter a psychological response. Yogins have clearly demonstrated that they can experience pain without adding to it the subjective element of suffering. A good example is Sri Ramana Maharishi (1879-1950), an enlightened master who awoke at the age of sixteen. Toward the end of his life as a sage, Ramana suffered from rheumatism in his legs, back, and shoulders and then also was diagnosed with a sarcoma near his left elbow. First he refused to be operated on, preferring to allow Nature to take its course. At the urgent pleading of his disciples, however, he finally succumbed to several operations, which all proved useless, and, if anything, merely exacerbated his physical pain. All the while, however, Ramana remained in a state of great calmness, which was palpable to the numerous visitors who day after day came to his hermitage to sit in his presence. When asked about his pain, he observed: "They take this body for Bhagavan and attribute suffering to him. What a pity!" To another devotee he said: "Where is pain if there is no mind?"

Ramana died with utmost dignity in front of numerous devotees. Just before he passed away, a group started to chant, and Ramana opened his eyes. "He gave a brief smile of indescribable tenderness," wrote Osborne. "From the outer edges of his eyes tears of bliss rolled down. One more deep breath, and no more. There

* Notes for Yoga Therapy –Compiled and Edited by Dr Ananda Balayogi Bhavanani *
was no struggle, no spasm, no other sign of death: only that the next breath did not come.”

Yoga adepts, who are not yet enlightened but have mastered the art of concentration, have also demonstrated extraordinary control over the mind and nervous system, including the sensation of pain. The control of pain is absolutely necessary in the performance of the various practices of tapas, or austerity. One such practice is the Tibetan Buddhist technique of tumo, which requires the yogin to sit naked in ice and snow for several hours and dry a wet blanket with his own body heat. For the ordinary person, this feat, which has been captured on film, would soon turn into a very painful and presumably lethal experience.

For an adept of the stature of Ramana Maharishi, who in his enlightenment transcended both pain and pleasure, there is no need to specifically control the nervous system and the sensation of pain. This sage allowed every experience to arise, without seeking to prevent or interfere with it. The body undoubtedly experienced pain, but Ramana was not suffering. He was blissfully present as pure Consciousness. This is one of the characteristics of sahaja-samâdhi, or “natural ecstasy,” a state of utter spontaneity in which, to an outside observer, immanence and transcendence occur simultaneously. For the enlightened being, however, no such dualism exists.

Short of enlightenment, we inevitably react to the sensation of pain by seeking to withdraw from its objective cause: We quickly pull back our hand from a hot stove and rush to apply ice, aloe, or some analgesic ointment to the damaged skin to reduce the burning sensations. But if we are observant, we will find that we also pull back inwardly as if we were trying to shut out the pain.

In the case of AIDS, cancer, and similar diseases, this mental withdrawal becomes more pronounced as the symptoms increase with the progression of the disease. Increasing doses of painkillers are necessary to control the pain, but these can have unwanted side effects, including a disabling drowsiness. Terminal patients thus find themselves torn between wanting to be fully present as aware human beings and yet finding the pain too intolerable.

Yoga offers several techniques for reducing pain, including deep relaxation, conscious breathing, visualization, and meditation. Hypnosis also has long been used successfully in dealing with pain. In 1995, a National Institutes of Health (NIH) panel endorsed hypnosis as an effective method for alleviating the chronic pain associated with cancer, irritable bowel syndrome, inflammatory conditions of the mouth, and tension headaches. While Yoga is not identical with hypnosis, some of the mental and neurophysiological factors utilized in Yoga and hypnosis are similar or the same.

Also, instruction in the basic principles of Yoga philosophy, notably the idea of a witnessing consciousness that survives death, can prove supportive in a thanatological program. In particular, it can provide the patient with a suitably broad context for understanding life, sickness, and death and thereby help dispel much unnecessary fear. This is not a matter of indoctrinating the patient, but of giving him or her a last-minute opportunity to ponder the Big Questions (Who am I? Whence do I come? Whither do I go? What must I do?). As psychiatrist Viktor Frankl put it:

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ill Yoga adepts to fast to death, but these adepts are assumed to have an advanced ability for concentration and meditation, allowing them to exit the body consciously—that is, in full control of the inner process of dying. For all others, suicide of any kind is generally considered to be inauspicious, as it creates a mental trauma that is not deleted by the shedding of the physical body. Yoga, after all, operates with the notion that the individual survives the death of the material frame and continues in an after-death state until there is rebirth.

For those who are not able to induce their own deep meditation state in the final hour, there is the possibility of guided meditation or co-meditation, which has been practiced with good results for the dying patient. In this respect, the work of Richard Boerstler can be recommended.

All of Yoga can be regarded as a dress rehearsal for the moment of death. Through the steady cultivation of spiritual attitudes and mental concentration, the yogin and Yogini endeavors to prepare for this all-important transition. Central to all Yoga is the conviction that we become what our mind tends to dwell on, and what our mind, through long habituation, is likely to dwell on in the final phase of physical dissolution is the same things that have preoccupied us in life. Only when we have the presence and power to deeply contemplate the source of our existence itself—whatever name we may give to this source—will our exit from life and subsequent post-mortem state prove to be a spiritual opening free from dread.

To be able to approach dying with such awareness and dignity, we must first live consciously and with dignity. While it is clearly beneficial to set foot on the yogic path early in life, it is never too late to begin. If some of Yoga’s wisdom and psychotechnology could be made available to those who are suffering pain and distress, especially the terminally ill, they would find deeper meaning and renewed hope, as well as relief via Yoga’s time-tested psychophysical techniques.
IMPORTANT CONCEPTS OF YOGA THERAPY
By Yogacharya Dr Ananda Balayogi Bhavanani,
(Excerpted from “A Primer of Yoga Theory”)

SOME DEFINITIONS OF YOGA RELATED TO YOGA THERAPY
• Science and art of mastering the mind—Swami Gitananda Giri
• A state of mastery over the senses and mind (Kathopanishad)
• Equanimity of mind (Samatvam Yogaha uchyate) - Yogeshwar Krishna in Bhagavad Gita
• A skillful and subtle process to calm down the mind (Yoga Vashistha)
• Dis-association from the union with pain (Dukka samYoga viYogam Yoga sangnitam) - Yogeshwar Krishna in Bhagavad Gita
• “Yoga is said to be the oneness of breath, mind, and senses, and the abandonment of all states of existence.”—Maitri Upanishad
• “Yoga is said to be the unity of exhalation and inhalation and of blood and semen, as well as the union of sun and moon and of the individual psyche with the transcendental Self.” — Yoga Shikha Upanishad.
• Mother of all science—Swami Gitananda Giri
• The path of moderation—Swami Gitananda Giri
• Four (five) fold awareness. —Swami Gitananda Giri
  o Awareness of body
  o Awareness of emotions
  o Awareness of mind
  o Awareness of awareness itself
  o Awareness of how unaware we are!

CARDINAL PRINCIPLES OF YOGA THERAPY
• Relax the body
• Slow down the breath
• Calm the mind

THE YOGIC STRUCTURAL SYSTEMS
The Sapta Dhatus (Seven substances that make up the human body)
1. Rasa (Chyle),
2. Rakta (Blood),
3. Maamsa (Flesh),
4. Medas (Fat),
5. Asthi (Bone),
6. Majjaa (Marrow),
7. Sukra (Semen)

The Tri Doshas (The Three Humors)
1. Vata   -   Wind
2. Pitta   -   Bile
3. Kapha or Kleshma - Phlegm

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Pujya Swamiji Gitananda Giri Guru Maharaj has described the Nava Dhushyas or nine factors that are the physical structural systems of the human body. He has also described the Dwadasha Kramas or the twelve systems of man that also takes into account the non physical aspects of the human functioning.

The Nava Dhushyas (Nine Physical Structural Systems) are:

- **Asthi** - Bone Tissue
- **Maamsa** - Muscle Tissue
- **Nadis** - Channels of Nerve Energy
- **Rasa-Rakta** - Circulation and Blood Components
- **Indriyas** - Vital Organs
- **Granthis** - Endocrine Glands
- **Meda** - Adipose Tissue
- **Majjaa** - Bone Marrow
- **Soma** - Hormones including the higher Ojas, Tejas and Sukra

The Dwadasha Kramas include in addition to the Nau Dhushyas, the non-physical components of:

- **Prana** - the cosmic catalyst associated with emotions. This includes the sub units of Prana Vayus (nerve currents), Prana Nadis (channels of Pranic flow), Prana Vahaka (nerve impulses), and Prana Vahana (nerve fluids), Prana Vana (psychic vortexes associated with the Chakras), Prana Granthis (nodes of Prana) and Prana Bindus (foci of higher mental energy).

- **Manas** - subconscious, conscious and superconscious mind including the Buddhi (intellect), Bindu (foci of consciousness), Loka (planes of consciousness), Mandala (etheric mental and energy patterns and fields)

- **Chakra** - etheric energy nature associated with the nerves and glands of the physical body. It is also related to the psyche and Ahamkara. It also includes the psychic nature associated with the higher self or Atman

**Pancha Koshas (The Five Sheaths)**

- **Annamaya Kosha** - Physical Sheath
- **Pranamaya Kosha** - Energy Sheath
- **Manomaya Kosha** - Mind Sheath
- **Vignanamaya Kosha** - Sheath of Intellect
- **Anandamaya Kosha** - Sheath of Eternal Bliss

**Correlation of the Pancha Koshas with the three Sharira**

- **Sthula Sharira** - Annamaya Kosha
- **Sukshma Sharira** - Pranamaya, Manomaya and Vignanamaya Koshas
- **Karana Sharira** - Anandamaya Kosha

**SOME PHYSIOLOGICAL BENEFITS OF YOGA**

- Stable autonomic nervous system equilibrium, with a tendency toward parasympathetic nervous system dominance rather than the usual stress-induced sympathetic nervous system dominance
- Pulse rate decreases
- Respiratory rate decreases
- Blood pressure decreases
- Galvanic Skin Response (GSR) increases
• EEG - alpha waves increase. theta, delta, and beta waves also increase during various stages of meditation
• EMG activity decreases
• Cardiovascular efficiency increases
• Respiratory efficiency increases, Respiratory amplitude and smoothness increase, tidal volume increases, vital capacity increases, breath-holding time increases
• Gastrointestinal function normalizes
• Endocrine function normalizes
• Excretory functions improve
• Musculoskeletal flexibility and joint range of motion increase
• Posture improves
• Strength and resiliency increase
• Endurance increases
• Energy level increases
• Weight normalizes
• Sleep improves
• Immunity increases
• Pain decreases

SOME PSYCHOLOGICAL BENEFITS OF YOGA
• Somatic and kinesthetic awareness increase
• Mood improves and subjective well-being increases
• Self-acceptance and self-actualization increase
• Social adjustment increases
• Anxiety and depression decrease
• Hostility decreases
• Psychomotor functions improve:
  o Grip strength increases
  o Dexterity and fine skills improve
  o Eye-hand coordination improves
  o Choice reaction time improves
  o Steadiness improves
  o Depth perception improves
  o Balance improves
  o Integrated functioning of body parts improves
• Cognitive function improves:
  o Attention improves
  o Concentration improves
  o Memory improves
  o Learning efficiency improves
  o Symbol coding improves
  o Depth perception improves
  o Flicker fusion frequency improves
SOME BIOCHEMICAL EFFECTS OF YOGA

The biochemical profile improves, indicating an anti-stress and antioxidant effect, important in the prevention of degenerative diseases.

- Glucose decreases
- Sodium decreases
- Total cholesterol decreases
- Triglycerides decrease
- HDL cholesterol increases
- LDL cholesterol decreases
- VLDL cholesterol decreases
- Cholinesterase increases
- Catecholamines decrease
- ATPase increases
- Hematocrit increases
- Hemoglobin increases
- Lymphocyte count increases
- Total white blood cell count decreases
- Thyroxin increases
- Vitamin C increases
- Total serum protein increases

SOME COMPONENT ASPECTS OF AN INTEGRATED APPROACH TO YOGA THERAPY

When working with Yoga therapy it is vital that we take into consideration all of the following aspects that will be part of the integrated approach to the problem. These aspects are: Diet, Environment, Lifestyle, Bodywork, Breath work and the Thought Process.

The need of the modern age is to have an integrated approach towards therapy and to utilize Yoga therapy with coordination and collaboration with other systems of medicine such as Allopathy, Ayurveda, Siddha and Naturopathy. Physiotherapy and Chiropractic practices may be used with the Yoga if needed. Advice on diet and life style is very important.

CLASSIFICATION OF DISEASES ACCORDING TO THE YOGA VASHISHTA

The Nirvana Prakarana of the Laghu Yoga Vashishta describes the origin and destruction of mental and bodily diseases. Sage Vashishta teaches Lord Rama that there are two major classifications of disease. Those that are caused by the mind are primary (Adhija, the psychosomatic, stress disorders) while those that afflict the body directly are secondary (Anadhija, infectious disease, accidents etc). The primary disease has two sub divisions. These are the Samanya (ordinary physical diseases) and the Sara (the essential disorder of rebirth). Samanya diseases are the ones that affect man physically and may be destroyed by the correction of the mind-body disharmony. However only Atma Jnana can destroy the Sara or essential disorder of rebirth.

WHAT IMBALANCES CAN THE PRACTICE OF ASANAS HELP TO CORRECT?

Asanas can help correct the structural imbalances and restore balance. They are also useful in improving muscle strength and endurance, increasing movement and flexibility of joints, skeletal alignment and neuro-muscular coordination.
SOME THERAPEUTIC INTERVENTIONS AT DIFFERENT LEVELS WITH RESPECT TO THE PANCHA KOSHAS

- Annamaya Kosha interventions: Jattis (Shitileekarana Vyayama), Kriyas (structured movements), Asanas and dietary modifications and control.
- Pranamaya Kosha interventions: Shat Karmas, Pranayamas, Pranansusandhana, breath awareness, breath-movement coordination and the energizing and balancing of the Pranic energy. Jnana Yoga techniques such as Anuloma Viloma etc.
- Manomaya Kosha interventions: Trataka, Concentration (Dharana), mediation (Dhyana) and Japa. Jnana Yoga practices such as Yoga Nidraa etc.
- Vignanamaya Kosha interventions: Analysis (Swadhyaya), lectures and spiritually uplifting exchange (Satsangha) and experience (Anubhava)
- Anandamaya Kosha interventions: Learning to implement the principles of Karma Yoga (Yoga is skilled action without expectation) and following the principle of action in relaxation to bring about joy in all the activities. A realization that we live in a blissful universe and that all life is joy is to be brought about in this intervention through use of Bhakti Yoga, Karma Yoga and elements as such as Bhajans, counseling and Satsanghas.

SOME OF THE THERAPEUTIC MODALITIES OF YOGA THERAPY

1. Physical therapies: Asanas, Kriyas, Mudras and Bandhas gently stretch and strengthen muscles, improve mobility, flexibility, respiration, circulation, digestion and elimination, and promote a general sense of health and well being.
2. Emotional therapies: Swadyaya, Pranayama, Pratyahara, Dharana, Dhyana and Bhajans can calm and centre the mind, helping to relieve stress and mental fatigue and bring about emotional balance.
3. Development of proper psychological attitudes: By encouraging us to step back and look objectively at our habitual patterns of behaviour and thoughts, Yoga can help us to cope better with situations that put our bodies and minds under strain. Development of the following qualities are also emphasized in order to become mentally balanced humane beings: Vairagya (detached, dispassionate attitude), Chitta Prasadann (acceptance of the Divine Will), Maitri (friendliness towards the happy), Karuna (compassion for the suffering), Mudita (cheerfulness towards the virtuous) and Upekshanam (indifference and avoidance of the evil) etc.
4. Mental therapies: Relaxation and visualization practices, Trataka, Pranayama, Pratyahara, Dharana as well as Dhyana. Relaxation is a central element in Yoga therapy as relaxation is the body’s way of recharging its cells and helps to ease physical, emotional and mental tensions.
5. Spiritual therapies: Swadyaya, Satsangha, Bhajans sessions and Yogic counseling are important aspects of Yogic therapy that are often neglected in favour of the physical therapies alone.
6. Preventive therapies: Yoga has numerous preventive benefits especially when it is started early in childhood. It helps in the prevention of accidents by increasing awareness as well as agility. Improved immunity helps I preventing infectious and contagious diseases. The added benefit of starting early is that the person knows the technique so that they can do it if needed at a later stage in life. Yoga also offers rehabilitative therapies for most musculoskeletal conditions as well as in recovery for debilitating illnesses. The practice of Yoga also goes a long way towards prevention of disability and improving quality of life in numerous chronic conditions.
7. Pain relief therapies: Yoga is a useful addition to the pain relief therapies as it increases pain tolerance and provides an improved quality of life. It can be safely said that Yoga helps us endure conditions that it may not be able to cure.
SOME OF THE LIMITATIONS OF YOGA THERAPY

Though Yoga and Yoga therapy are very useful in bringing about a state of total health it is not a miracle cure for all problems. It needs a lot of discrimination on the part of both the therapist as well as the patient. It may not be useful in emergency conditions and there is a strong need to consult a qualified medical doctor where in doubt. Each patient is different and so the therapy has to be molded to suit the individual needs rather than relying on a specific therapy plan for patients suffering the same medical condition. A very true problem is that there is a different approach of the different schools of Yoga to the same condition. It is better to follow any one system that one is conversant with, rather then trying to mix systems in a “Yogic Cocktail”. One must also be vigilant as there is a strong presence of numerous quacks pretending to be Yoga therapists and this leads to a bad name for Yoga therapy as well as Yoga in general. Premier institutions and governing bodies must take necessary action to weed out these unscrupulous operators that are in Yoga only for the money.

SOME DISORDERS AND DISEASES AMIABLE TO YOGA THERAPY

- Psychosomatic and stress disorders
  - Bronchial asthma
  - Diabetes mellitus
  - Hypertension
  - Irritable bowel syndrome
  - Gastrointestinal ulcer diseases
  - Atherosclerosis
  - Seizure disorder (epilepsy)
  - Headache
- Physical disorders
  - Heart disease
  - Lung disease
  - Mental retardation
- Psychiatric disorders
  - Anxiety disorders,
  - Obsessive-compulsive disorder
  - Depression
  - Substance abuse
- Musculo-skeletal disorders
  - Lumbago
  - Spondylosis
  - Sciatica
  - Carpel tunnel syndrome
- Metabolic disorders
  - Thyroid and other endocrine disorders
  - Obesity
  - Metabolic syndrome
- Infective and communicable diseases
WHAT ASPECTS OF YOGA THERAPY CAN HELP CORRECT FUNCTIONAL AND PSYCHOLOGICAL IMBALANCES?

Yogic diet, Pranayama as well as mind control techniques are especially useful in correcting functional and psychological imbalances.

HOW CAN YOGA HELP CONTROL AND PREVENT INFECTIVE AND COMMUNICABLE DISEASES?

Yoga can help control and prevent infective and communicable diseases through improving the individual immunity and resistance, improved hygiene through the practice of Yamas and Niyamas as well as the cleansing practices and the disciplined cultivation of good habits and avoidance of wrong habits that lead to impaired immunity.

YOGIC TWELVE POINT SYSTEM OF DIAGNOSIS AND HEALTH EVALUATION

According to Yogamaharishi Dr Swami Gitananda Giri, Yoga Chikitsa requires a twelve-point approach in which different aspects of the human nature are taken into consideration in making the final diagnosis.

1. Trigunas - Manifestations of the Three Basic Qualities
2. Tri Doshas - Manifestations of the Three Humors
3. Tri Vasanas - Psychological Background
4. Prana - Manifestations of the Prana Vayus
5. Abhyasa - Personal Discipline
6. Jiva karma - Life Style
7. Chetana - Quality of Thoughts
8. Vacha - Quality of Speech
9. Aahara - Diet and Food Habits
10. Viparita Buddhi - Presence of Destructive or Bad Habits
11. Jiva Vrittis - Body Rates of the Individual
12. Sankalpa - Ideals of the Individual

FOUR FOLD CONCEPT OF RELAXATION IN GITANANDA YOGA

The Gitananda Yoga system views the need for relaxation and its solution in four ways:

1. Letting Down: This letting down is to deal with one’s barriers to the needed advice and help, to let down one’s prejudices and preconceived ideas and notions about people, things and ideas, to let down all of the false notions and materialistic idolatry that we have built up in modern living and in particular, to let down from the “God of Tension” which is virtually deified in “civilized” society. To break away from the superstitions of our social and religious beliefs is not easy to do. These beliefs may be needed to support a healthy psyche. Therefore, it is necessary that you find out the truth, stripped of all false belief, about your own nature and the nature of the Supreme. Leave off all fears and anxieties and gain a positive attitude towards yourself and others. Cultivate the desire for right action when action is called for.

2. Giving Up: One has to want to give up the stresses and strains that beset them. This does not mean surrender or a defeat, as popularly suggested by the English term “to give up”. This giving up is to throw off any weakness that tends to build up to tension, and to give off or let off those foolish
tensions that at times turn us into a smoking volcano. Giving up here is a positive, evolutionary process.

3. Giving In: To give in, in the Yoga concept of relaxation, is to “given in” to the dictates of the Inner Mind, the Higher Consciousness. Again, this is a positive process and is not the giving in of surrender. There is no negation or abdication of positive actions or ideas. One has to take up an Inner Life study to understand what it really means in words to give in to the Inner Self. In the beginning, it is an intellectual process, highly exciting and satisfying, but it must move beyond the intellectual, ecstatic state to even a more positive, a more transcendental state.

4. Giving Over: The giving over of the control of the Higher Mind to the Higher Self is the highest and last stage of Four-Fold Relaxation. This is where the highest attainments of the relaxation are achieved, where one can merge into beautiful super-conscious higher states of which you are aware, but no words can describe. Giving over represents the peak of fulfillment.

DIFFERENT STRESS MANAGEMENT PROGRAMMES DEVELOPED BY sVYASA, BANGALORE

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<th>Instant Relaxation Technique (Stretch and relax in Shavasana)</th>
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<td>QRT</td>
<td>Quick Relaxation Technique</td>
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<td>(Observation of abdominal muscle movement, Synchronization</td>
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<td>with breathing and finally breathing with feeling)</td>
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<td>DRT</td>
<td>Deep Relaxation Technique</td>
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<td>(Part by part relaxation with Akara, Ukara and Makara chanting)</td>
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<td>SMET</td>
<td>Self-Management of Excessive Tension</td>
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<td>(Alternate stimulation and relaxation combination)</td>
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THERAPEUTICAL BENEFITS OF HATHA YOGA
ACCORDING TO YOGI SWATMARAMA

ASANAS

Paschima Tana
Stimulates the gastric fire
Reduces Obesity
Cures all diseases

Mayurasana
Cures disorders of Phlegm, bile and wind
Increases Appetite
Improves Digestion

Bhadrasana
Removes fatigue

PRANAYAMAS

“Proper practice eradicates all diseases but improper practice generates disease”

Surya Bhedana
Purifies the sinuses
Vata disorders
Removes worms

Ujjayi
Disorders of phlegm
Disorders of the Dhatus (humors)

Sitkari
No hunger, thirst, sleep or lassitude

Sheetali
Colic
Spleenomegaly
Fever
Bile disorders
Hunger and thirst alleviated
Poisons are neutralized

Bhastrika
Cures disorders of Phlegm, bile and gas
Increases the gastric fire
MUDRAS

Maha Mudra    Poisons are neutralized
               Leprosy
               Prolapse
               Colic
               Indigestion

Viparita Karani Increases appetite
                     Retains youth fullness

KRIYAS

Dhouti    Cures Kaphic disorders
          Cough
          Asthma
          Spleenomegaly
          Leprosy

Basti    Colic
          Spleenomegaly
          Vata, Pita and Kaphic disorders
          Tones the body
          Increases appetite

Neti    Disease of Cervical and Scapular regions
        Cleans head region

Trataka Cures eye disorders
         Removes sloth

Nauli    Dyspepsia
         Improves appetite and digestion

Kapalabhati Cures Phlegm disorders
INTEGRATED APPROACH TO YOGA THERAPY
Dr HR Nagendra and Dr R Nagarathna, sVYASA, Bangalore

When we try to objectively analyze which Yoga technique helps what disease and prepare a list of practices for different conditions it is all a great mess. While we find that patients had improved very well with Yoga, it was dynamic Asanas in one centre, slow pace of Asanas in another, only Pranayama in yet another or only meditation in another. To add to this confusion one guru would use a posture or breathing to cure a condition whereas another guru would prohibit the same posture or breathing for the same condition. For example, if Sarvangasana was never to be practiced for hypertensive patients as per one centre, the same would be the recommended asana in another centre.

A little deeper thinking gives us the clue to decipher this riddle. All these patients using any of the practices had actually practiced ‘Yoga’ – the state of inner tranquility, mastery and freedom from fears and anxieties. And this was the common factor that helped all of them towards complete recovery. Now it became simple for us to understand Swami Vivekananda’s statement that the goal of healing is to unfold the potential divinity by one or more or all of the four aspects of Yoga, namely Kama, Bhakti, Jnana or Raja Yoga. Thus Yoga therapy is not organ specific but it is a science that works holistically to strengthen the inner being.

The concept of 5 layered existence of all of us as postulated and described in great detail in Taittriya Upanishad as Pancha Kosha was found to be the most holistic concept of human existence which is in no way contradicting the modern systematic approach to the understanding of human body. It is more generalized, holistic and hence can obtain in it the physical body [Annamaya Kosha] and the next three layers Pranamaya, Manomaya, and Vijnanamaya Koshas, which are called the subtle bodies in Vedanta and spiritual lore. The fifth Kosha the Anandamaya Kosha is the causal body from where all other layers take birth. Thus we got a holistic and concrete perspective of human existence as the foundation for Yoga therapy.

Disease, in modern medical perspective is considered as dysfunction of organs and systems, which may be due to congenital, defects, external atmosphere agents like allergens, toxins, pollutants or infectious germs. Modern science does in recent times recognize that the other major cause for diseases could be the factor of internal imbalances like mental restlessness, emotional upsurges or intellectual conflicts that lead to stress reactions.

The concepts of disease according to Yoga are found in the treatise called Yoga Vashistha. According to this text, the modern diseases such as asthma, diabetes, hypertension and anxiety are called “Adhija Vyadhi” (stress born diseases) originating in Manomaya Kosha-the astral layer of our existence. They arise from our actions that are governed by our emotions [strong likes and dislikes] rather than what is right or what is wrong. Often in this phase, we respond to our emotions – the pull of senses knowing fully well that we are going against what is right. This is called Prajnaparadha in Ayurveda-a mistake at the level of inner consciousness. It is this ‘going against what is right – the cosmic law ‘that causes an imbalance, a dis-ease at the Manomaya Kosha called Adhi.

The Adhi at the astral layer if not remedied will bring imbalances at the level of Pranamaya Kosha that shows up as breathing jerks, imbalances and speed. This in turn creates stress reactions causing autonomic and endocrine imbalances leading to diseases in the body called Vyadhi. Such diseases are called Adhija Vyadhi i.e. Vyadhis created of Adhis. The other category of diseases such as infections and injuries come under Anadhija Vyadhis, which essentially are physical in nature and can be tackled by the modern medical system effectively. Since the Adhija Vyadhis are multi dimensional, we need to tackle them not merely with physical symptomatic treatment measures. The whole human has to be treated. And only then can there be lasting remedy to our problems of the modern era. The answer lies in the Integrated Approach of Yoga Therapy that provides techniques for correcting the problem at both the gross (physical) and subtle levels. Yoga practices help in bringing about balance at the level of all the five Koshas so that

* Notes for Yoga Therapy –Compiled and Edited by Dr Ananda Balayogi Bhavanani *
complete health can be restored. The practices at Annamaya Kosha include Yogasanas, Shitileekarana Vyayama [Jattis or loosening practices], Yoga diet and Yoga Kriyas, at Pranamaya Kosha – breathing practices, breathing Kriyas and Pranayama. At the Manomaya Kosha, the practices are meditation, devotional sessions and happy assembly, where-as lectures, counseling and Satsangha correct the notions about one’s life ambitions and goals that form the basic conceptual root for the life style of the individual. Karma Yoga and tuning to nature are the practices that help one to get established in Anandamaya Kosha bringing bliss in our lives.

The ideal way to plan your daily Yoga practices is, 45 minutes of physical practices followed by Shavasana in the morning, Pranayama and meditation for 45 minutes in the evening. Daily practice is mandatory. Physical practices have to be performed only in empty stomach or 4 hours after a major meal or 2 hours after a small meal. Do not practice complicated Yogasanas when you are very tired or during menstruation. Simple Yogasanas, Meditation and Naadaanusaandhana can be practiced even during menstruation in women.
YOGA CHIKITSA – YOGA THERAPY
ORIGIN, SCOPE AND PRACTICAL APPLICATION
By Yogamaharishi Dr. Swami Gitananda Giri Guru Maharaj
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Yoga Chikitsa is virtually as old as Yoga itself, indeed, the “return of mind that feels separated from the Universe in which it exists” represents the first Yoga therapy. Yoga Chikitsa could be termed “man’s first attempt at unitive understanding of mind-emotions-physical distress and is the oldest wholistic concept and therapy in the world. Western therapists are now approaching Unitive Understanding (Yoga) and wholistic therapies (Yoga Chikitsa) with “Yoga like practices.” Many of these Western practices are being absorbed into Indian therapies because our own Indian Therapists are not aware of the scope of Yoga Chikitsa and quickly take up these modern and often less practical but more costly therapies. Yoga is the loser when this happens, as all Western therapies are directed to the Western hedonistic concepts and vulgar materialistic ends or goals, rather than the spiritual concepts to be achieved through Yoga.

In this presentation I am trying to open up a wider view of Yoga and its application as a therapy by introducing some fifty-two sections of Yoga treatment that are acceptable within the overall concept of the Yoga Darshana, By expanding some of the sub-headings, I could have elaborated on the fifty-two major sections presented so that a total of 108 major and minor applications of Yoga Therapy and treatment are considered. Many of the present divisions or sections contain one or more distinct therapies but for sake of brevity, only 52 sections are considered. Many interested in Yoga Chikitsa will belabor or disagree with many of the general sections I have described. Others will state that there is no classical authority for Yoga Chikitsa, while still others will elaborate how difficult it is to use such an ancient science in practical application as a modern therapy. Indeed, it is difficult for three reasons: firstly, there is little information available to the seeking Yoga therapist on Yoga Chikitsa itself. Secondly, many therapists wishing to use Yoga Chikitsa are not personally involved in Yoga, and therefore, miss the real scope for Yoga Chikitsa in dealing with the problems of modern man. Finally, the patient of Yoga Chikitsa is a distinct problem. He wants to be healthy instantly…have an instant cure. That has been promised to him by popular, aggressive and all too misleading pharmaceutical advertisements, and the bias of modern physicians East and West to anything as “offbeat” as Yoga Chikitsa. Yet, there is no other hope for real cure of the diseases of man except with the wholistic method employed in Yoga Chikitsa.

Modern medical science enumerates some nearly 4,000 diseases and disorders of the body and mind in modern medicine and psychology. Yoga views this vast proliferation of diseases as a natural outcome of the stress and strain created by desire fostered by modern propaganda and the abuse of the body condoned on all sides even by religion, science and philosophy. Add to this the synthetic “junk food” diet of modern society and you have the possibility of endless disorders developing…even the extinction of man by his own ignorance and misdeeds. Yoga, a wholistic, unified concept of Oneness, is termed in Sanskrit “Adwaitam” or non-dual in nature. It suggests happiness, harmony and ease. Dis-ease is created when duality or “Dwaitam” arises in the human mind. This false concept of duality has produced all of the conflicts of human mind and the vast list of human disorders afflicting man. Duality-disease-is the primary cause of man's downfall. Adwaita Vedanta, Yoga, and other wholistic concepts return man to his pristine, whole nature. Anything other than a Yoga concept leads only to human disorders. All diseases, maladies, tensions, are manifestations of divisions of what should be man's complete nature, the Atman or Self. This Self is “Ease”. A loss of “Ease” creates “Dis-ease”. Duality is the first insanity, the first disease, the unreasonable thought that “I am different from the whole…. I am unique. I am me.” The ego is a manifestation of disease. Only a distorted ego could feel alone, suffer from “the lonely disease”, in a Universe, a Cosmos totally filled with the Self. It is of some interest to note that one of the oldest words for man in an Indian language is...
"Insana". Man is "insane". A return to sanity, "going sane," is the subject of real Yoga Sadhana and Yoga Abyasa. Yoga Chikitsa is one of the methods to help insane man back to the path of sanity. A healthy man or woman is known by the term-Yogi.

Because man has failed to maintain a unified view of himself in respect to Ultimate Reality, a harmonious blend of his personality in relationship to his hidden universality, he is anything but a Yogi. He can be described as a Rogi suffering from Roga, disease; a Bhogi, a seeker of Bhoga, hedonistic pleasure, and if he survives this role as either or both he can be considered little more than an "old Phogi" in his latter years. Good health, the absence of disease, involves a universal philosophy of life, an appropriate Unified Style of Living, and where necessary, proper, wholistic treatment for disorders which may arise as the result of past Karma. Indeed, it may be necessary to understand the role that one's personal Karma plays in the onset of human disorders and the ultimate alleviation or cure of these disorders.

Modern science has failed to meet the demands of the needy of the world, whatever that need may be. Indeed, there is every evidence that man is much more ill than at any time in the past and this is especially true with chronic disorders, which have plagued us with crippling, refractory conditions that seem to defy the wisdom of science and modern discoveries. Perhaps it is time to look to the East, especially India, who already has proved to the world to be the mother of religions and philosophies and re-discovers the use of our Vedic Sciences of Ayurveda and Yoga Chikitsa. Ayurveda once employed Yoga-like technique as a part of its method of treatment. Yoga Chikitsa has drawn heavily from the science of Ayurveda. Ayuryoga, a coined term, would indicate a re-blending of the two, into Ayur Chikitsa of Yoga Chikitsa. In recent times, Ayurveda has been recognized by the World Health Organization as a practical medical system and Yoga Chikitsa has recently been accepted by the Government of India, Ministry of Health, as an indigenous Medical System. Together these two ancient Indian Sciences could alter the course of human suffering and more so, human evolution. While man suffers in mind and body, he distorts the Universe in which he lives through his view. Happy, healthy man would create a heaven here on earth. Fragmentary knowledge of this vast system of medicine exists throughout various parts of India and many Yoga Experts already employ some form of Yoga Chikitsa in their Yoga centres. It will be necessary to gather existing information and knowledge together, or under a number of classifications for analysis and evaluation and certain diagnostic and treatment methods adopted. Treatment of physical, emotional and mental disorders should be kept within Yogic parameters. It is not wise to employ non-Yogic concepts or methods in Yoga Chikitsa. Existing centres, which include some well-established Ashrams, should be prevailed upon to sponsor Yoga Therapy courses of a degree and non-degree category. During the period of training, the Yoga Therapist or Yoga Physician should undergo strict Yoga discipline for greater understanding of basic Yoga concepts and precepts. Courses in Yoga Chikitsa should be broad-based and admit all categories of therapists regardless of caste, colour, or financial condition. The main criteria should be that the candidate has a deep desire for spiritual unfoldment along the path of Yoga and to serve suffering humanity through the science of Yoga Chikitsa.

Diploma graduates should be employed by Ashrams, Yoga Centres and Centres that could make use of a Yoga Therapy specialist. Ample funds should be made available to institutions training therapists on a professional basis. Yoga Chikitsa centres should be independent of and free from a-Yogic influences, a-Yogic environment, and any a-Yogic manipulations from any source religious, political, or personal. Yoga Chikitsa training should be encouraged in India’s widely advertised “barefoot doctor” medical system. Thereby, any of the objections made by concerned scientific groups would be overcome by the employment of Yoga Chikitsa on a National basis and to ensure that we bring about a vast change on the Indian scene. The slogan "Health for All by the Year 2,000” was an empty slogan, a mockery of possibility, an intellectual absurdity became Yoga Chikitsa not part to play in the scheme of things. The need for an indigenous, wholistic therapy in India alone would justify that Yoga Chikitsa be developed and taught in special institutions, Ashrams and Yoga Centres. That wholistic therapy is now popular in Western countries and
particularly, North America is an extra impetus for those interested in Yoga Chikitsa to make valuable contacts with the West. The Government of India should be interested in allotting funds for Yoga centres already in existence for study and training in Yoga Chikitsa, but there need be no delay while awaiting Government sponsorship and assistance.

There are a number of Ashrams and Yoga Institutions in India now employing some form of Yoga Chikitsa and others investigating Yoga phenomena on a scientific basis for application as therapy. Most of the scientific research in India today is on the use of Hatha Yoga Asanas, Pranayama, and some form of meditation for the alleviation of distress conditions. Scientific appraisal has shown the wonderful possibilities of the practical application of many Yoga techniques as Yoga Therapy. Excellent facilities exist for study, therapy training, research in Yoga Chikitsa, and practical application of techniques at Yoga Chikitsa Clinics helping many patients back to health and happiness through the practical application of Yoga training and Yoga therapy. Ananda Ashram, the headquarters of Yoga Jivana Satsangha (International) has been conducting Yoga training courses and courses in Yoga Therapy since 1968 onwards. Most of the therapies that follow are taught in our Six-Month International Yoga Sadhana Course at Ananda Ashram, ICYER, Puducherry.

1. YOGA ANATOMY
While Western medical anatomy deals with the concept of only one physical body, Yoga Chikitsa involves a study and consideration, if only conceptual, of the Pancha Kosha, Five Bodies of Man. Yoga Chikitsa must be deeply concerned with the study and knowledge of the psychic Chakras, Prana Nadis and Bindus, as well as an application of Yoga Chikitsa that takes in the consideration of many concepts not found in Western terminology. The study of Yoga Anatomy would borrow heavily from terms and concepts used in Ayurveda, Siddha Vaidya, Samkhya and Yoga.

2. YOGA PHYSIOLOGY
In Yoga Chikitsa, a wider knowledge of the physiology or function of the Five Bodies would be a necessary study and application of the workings of the various Koshas in harmony or symbiosis. Knowledge of the Trigunic nature, Vasanas, and Doshas, would be a necessity and most important, the effect of the various Pranas and the shutdown of body organs when one or more of the major or minor Pranas are not functioning. Yoga anatomy and physiology should be a compulsory study for anyone practising Yoga Chikitsa professionally.

3. YOGA PHILOSOPHY
Yoga has a wholistic, universal concept of life and a very positive outlook on the spiritual evolution of man. Many consider Yoga Darshana to be more than a philosophy, rather an insight into the true nature of man and his relationship with the Universe. This relationship is important as the basic concept for Yoga Chikitsa. Real healing is likely to take place on a permanent basis only if the patient has a Yogic view.

4. YOGA PSYCHOLOGY
Where Yoga philosophy leaves off, its practical application begins...this practical application can be termed "Yoga psychology". A psychological view of the use of Yoga Therapy is valuable to aid the student or patient to understand difficult practices or those which are difficult to understand in the beginning of therapy. Yoga psychology or Jnana Yoga can be equated with Vedanta for those taking up the psychological view of Yoga Chikitsa alone. It should be accepted that the Yoga concept of psychology or Vedanta be used in Yoga Chikitsa, and Western psychology and its terms should be scrupulously avoided. Western concepts do not in any way agree with the aim, goal or achievement according to Yoga psychology.

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5. YOGA ASANAS: ISOMETRIC STATIC POSTURES
All classical Asanas of Hatha Yoga have some therapeutic value even when used alone, and even practised as a prevention of body disorders. Some of the Hatha Asanas can be slightly altered so that they can be used as remedial Asanas for the alleviation of some common physical disorders. Special consideration should be given to that group of practices best demonstrating Yoga Chikitsa ideals and goals that fall under the category of "Hathaats", "Hathenas", and "Hastikams". It is possible that some Asana-like positions could be specially developed by Yoga Chikitsa experts to broaden the field of treatment through body postures.

6. YOGA KRIYAS: ISOTONIC MOVEMENTS
Yoga describes a Kriya as an activity where body movement, circulation of blood, circulation of nerve energy, or higher forms of energy conceived in Yoga Chikitsa, is manifestly demonstrated to take place. In this concept the term Kriya is associated only with activity done in classical Yoga Asana positions. The cleansing Kriyas belong under their own separate category and heading.

7. YOGA MUDRAS
In Hatha Yoga, a Mudra is a special body position forcing activity of the involuntary muscular system to create reflexogenic feedback to associated glands, particularly the endocrine glandular system. The study of Mudras is as extensive as the study of any section or phase of Yoga itself, yet, with most Yoga teachers and therapists, is a subject rarely introduced to students or patients, but possibly the key to the most spectacular form of treatment available in Yoga Chikitsa.

8. PRANAYAMA
There are at least 130 Pranayamas found in ancient and modern writings. Many of these breath-controls represent Yoga Chikitsa at its best, while some classical Pranayamas can be altered slightly to be used as a form of remedial breath correction routine. Breath-related disorders particularly respond to basic Pranayama training. The use of Kumbhakas and Bandhas should be restricted to the training of Yoga students. Rarely are these two aspects of Pranayama of any great value in Prana Chikitsa, but do represent practices associated with piercing through the Trigranthis, psychic knots, which could be considered a part of higher Yoga Therapy under certain circumstances.

9. ADHI PRANAYAMA
Some Pranayamas of a higher nature can be used to induce deep relaxation and meditation. There is clinical evidence that healing takes place during “breath awareness relaxation”, and the resultant stress reduction suggests some Pranayamas have a special role to play in the correction of certain emotional / mental / psychic problems. Such Pranayamas should be taught only by a Yoga Therapy expert.

10. VYAYAMA: YOGA STYLE EXERCISE
Yoga Asanas, Kriyas and Mudras should in no way be considered in the same category as exercise or gymnastics. But, there is a group of legitimate body movements in the system called Vyayama where certain "thrusts, swings and sways" called Jattas and Jattis could form a group of excellent remedial exercises, and particularly where the patient is already familiar with such body-style movements. Many modern Yoga teachers are exponents of Vyayama, rather than Asana Yoga.

11. REMEDIAL DIETARY REGIMES
Yoga advocates a pure vegetarian diet made up of raw fruits, vegetables, and nuts, along with cooked grains, seeds, pods, pulses, roots and leafy vegetables.

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Some Yogis use milk, butter, ghee, cheese, and yogurt. Eggs, animal flesh, fowl and fish are not recommended in Yoga Aahara. Large quantities of roughage must be maintained in a healthy Yoga diet, avoiding refined grains and sterile sugar. Mitaaahaara is a restricted diet and usually used for cleansing purposes, affording the body an opportunity to recuperate from over-eating or allergic reaction to foods ingested. Many digestive complaints can be eliminated by Mitaaahaara alone. Yoga Chikitsa owes a great debt to modern research into the value of food stuffs and the application of knowledge of modern nutrition to a modern Yoga diet. In many cases on the Indian scene, there is not enough nutrients in the generally poor diet, so some knowledge of those foods found commonly in nature that value. Malnutrition can be overcome by a “meager diet” and the judicial use of Asanas, Kriyas, Mudras and Pranayama which have been shown to increase the absorption of food nutrients into the human system.

12. ANAAHAARA - FASTING
Scientifically – controlled Anaahaara, fasting from food, is a highly recommended way to give a physiological rest to the body. In Yoga Chikitsa, fasting can from a valuable core of practices to bring about radical cures of refractory conditions. Anaahaara is considered a physical Tapas along with Mauna or keeping silence. A thorough knowledge of how to prepare for a fast, conducting the fast, and breaking the fast must be known for this excellent Chikitsa. Anaahaara is usually done on water alone augmented by many sessions of Pranayama daily. Some “pseudo-fasts” call for the use of fruit, or vegetable juices alone during the fast, such as the “Grape Cure” for cancer.

13. MAUNA - SILENCE
Mauna can be termed “fasting from speech” and is as potent as fasting from food as a curative technique. It is sometimes recommended to be used along with physiological fasting and can be undertaken as a “serenity therapy” while still involved with public contacts or practised when withdrawing from society for a full nature-cure-rest.

14. RELAXATION THERAPY
Yoga has its own “Nishpanda” Kriyas to deal with tension, stress and anxiety, particularly, of a physical and neurological nature. Hatha Yoga Asanas like Shava Asana, the Corpse. Posture, and Hatha Kriyas, like Kaya Kriya, and Mudras like Maha Bhedana Mudra, are specially created to deal with physical tension. Many Hatha Yoga Relaxation techniques are relatively unknown, even to popular Yoga teachers, and this field need to be explored for the good of students and patients alike.

15. JNANA YOGA THERAPY
Jnana Yoga Therapy has recently developed into one of the major schools of emotional, mental tension-relieving, psychological therapies. Concepts from Raja Yoga are also included under Jnana Yoga Therapy. In counseling, the acceptance of Yama, moral restraints, and Niyamas, ethical observances, is the basis of the ideal needed to overcome anxiety and stress. Along with some specially developed “Kriyas”, a new anxiety stress therapy is available to Yoga Chikitsakas.

16. YOGA THERAPEUTICS
There are some 104 Mala Shoddhana Karmas, Deha Karmas, Kramas, and Kriyas in the Yoga Therapeutic System, which also includes the traditional Shat Karmas, the Six Cleansers of Hatha Yoga. These therapeutics are mostly concerned with congestion and the elimination of toxins. Some of the practices are: douches, poultices, packs, water cleansers, and massage therapy. Shanka Prakshalana, a complete cleaning of the alimentary canal including one aspect of liver drainage, and the Laghu Prakshali, gravity enema, must be included in this group of
techniques. A thorough knowledge of Yoga Therapeutics must be part of the training of a Yoga Chikitsak. These practices represent the most natural form of treatment in the Yoga Chikitsa System.

17. WATER BATHS AND DOUCHES
There is a whole section of Yoga Chikitsa where water baths cm oil baths or baths using herbal extracts or packs is in vogue. Water, oil, and herbal preparations are also used in douches, poultices, and body packs. Classical texts describe some twenty-four Snaas or baths with various healing effects and some 108 Netis or Douches to clean the nine body openings and some 54 Lepas or Upanahas, packs and poultices. Many of these therapies are drawn from Ayurveda, Siddha Vaidya, and from Kerala Ayurveda.

18. SOLAR, LUNAR AND AIR BATHS
Yoga Chikitsa advises the use of many types of Snaas including natural baths: judicial use of sun bath, lunar ray bath, and exposure to the air. Glands particularly respond to this form of treatment. Modern Yoga therapists have also taken to the use of Ultra Violet lamps, heat lamps, cosmic ray and other artificial ray treatment, where sun, moon, and fresh moving air are not available. Sea bath treatment could also fall within this category.

19. MASSAGE AND FRICTION TREATMENT
Anga Mardanam, Yoga Massage, falls into a number of categories which include dry massage, the use of various oils and herbal preparations, even oil and herbal baths, both before and after massage. There is a special “Yoga massage” where the Nadis, Bindu and Chakras, are dealt with in the treatment. The forms of massage include friction, percussion, pressure, pinch and squeeze techniques.

20. SPINAL MANIPULATION
Yoga Chikitsa is the origin of Danda-Hasta Vyaapaara, a type of Eastern Chiropractics which includes the manipulation of the spinal column and other skeletal groups as well as muscle and sinew treatment. The extended, whole body postural manipulation is termed Hastha Vyaapaara, although the feet may be used in the treatment, and therefore termed Pada Vyaapaara. Bone Setting is a separated technique in Yoga Chikitsa.

21. POSTURAL MANIPULATION
Deha Vyaapaara is the system is Yoga Chikitsa equivalent to Western Osteopathy. This system is also sometimes called Hastha Bhyam or Hastha Vyaapaara. It includes the setting of bones and joints, muscular extension and flexion, spinal traction, which includes methods of dealing with neck and lower back disorders, limb traction, and replacing prolapsed internal organs.

22. BODY REBUILDING
This science includes Kayakarshanam or an entire body rebuilding programme by external and internal treatment in conjunction with remedial Asanas, Kriyas and Mudras and Mala Shoddhana Karmas.

23. YOGA HYGIENE
Yoga has a special system of hygiene, Aarogyavidya, to deal with the teeth (Danta); skin (Twach); hair (Kesha); and nails (Nakha). There is a special hygiene for the eyes, ears, nose and throat that may also be included under this general heading.
24. YOGA HEALTH REGIME
Yoga, as well as Yoga Chikitsa, recommends Aarogya Pathyam, a particular “life style,” the by-product being “sane living”. There are specific rules for Yoga health and happiness.

25. YOGA SANITATION AND TOILETRY
There is a specific training to be imparted about Aarogyakaram, the Yoga concept of hygiene and toilet training. The use of various herbal solutions in sanitation, like the use of evergreen needles and charcoal for sterilizing as well as the use of Sambrani, dhoop or incense and other disinfectants.

26. YOGA DIAGNOSTICS - ROGALAKSHANAM
There are a number of ways by which stress and disease in the body can be diagnosed. These include:
1. Pulse reading
2. Dermography, reading of the changes in the skin
3. Iridology, the reading of the iris of the eye
4. Observation of symptoms relative to Kapha, Pitta, and Vata
5. Analysis of
   a. Lakshana (traits),
   b. Vasana (pre-disposition)
   c. Dosha (humours)
   d. Klesha (obstructions) and
   e. Ritti (manner)

27. YOGA PREVENTION
This section of Pratiroygam or Nirodhakam would include the proper use of
1. Healthy balanced diet
2. Proper sleep
3. Rest and relaxation;
4. Healthy recreation
5. Constructive hobbies
6. This section could also deal with education to prevent impairment of the senses such as misuse of the eyes, ears, nose and throat
7. Training to retain good memory
8. May also include technique in maintaining glandular health and the resultant sexual potency.

28. YOGA REJUVENATION
Kaya Kalpa is the Hindu system of cellular rejuvenation and Yoga Chikitsa employs a special combination of Asanas, Kriyas and Mudras, fasting, and urine therapy to achieve this end.

29. AUTO-URINE THERAPY
Amaroli Chikitsa or Shiva Amrit Chikitsa is the use of one’s own urine for internal or external treatment. The use of urine packs on external wounds and cancerous sores has been shown to produce spectacular cures.

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30. YOGA SEX THERAPY
Yoga has a unique approach to sexual control through Brahmacacharya Mudras and the control of fertility cycles and Yoga family planning by the adjustment of Ojas and Tejas (hormones and enzymes) through the use of the Shat Mudras, which are sometimes called Oli Mudras.

31. FERTILITY CONTROL
Phaladatwa and Saphalatwa are two phases of human fertility control that could be considered as a part of Yoga Chikitsa. It has been scientifically shown that the use of the Oli Mudras can control female ovulation and the production of sperm in the male.

Oli Mudras or Shat Mudras are: Vajroli Part I and Part II; Sahajoli Part I and II; and Amaroli, Part I and Part II. These Mudras should not be confused with Vajra Karmas from the cleansing system of Hatha Yoga sometimes known by the same names.

32. YOGA FAMILY PLANNING
It would be an ideal situation if the world could be introduced to the Yoga concept of Family Planning. Truly spiritualized families would be the result. Yoga Family Planning involves keeping to special observances according to Cosmic Rhythms, body cycles (bio-rhythms) and spiritual festivals. A number of India’s leading Yoga teachers and their Ashrams teach some system of Yoga Family Planning. This is a field in which much research could be done for the benefit of Mother India and the world.

33. HERBS, MINERALS AND STONE THERAPY
Yoga has borrowed heavily from Ayurveda and South Indian Siddha Vaidya and even Unnani, the Muslim system of medical alchemy. In the preparation and use of herbs (Aushadhi), metals (Dhatu or Loha); stones, both precious and semi-precious (Ratna, Shila and Shilajit). Basmas or fired powdered compounds and stones. Sometimes this same material is used as Dhoop (incense) for insufflations through the nostrils. Seeds (Bijas); fruit stones (Ashthi) and green or dried pods (Bijakosha) are used both in medicine, and like and Rudraksha and Tulsi seeds are strung on Malas and worn around the neck.

34. ACUPRESSURE
The Yoga System of Bindu Manvaahanam or Manvanharanam is the oldest system of Acupressure in the world and has been much borrowed by Chinese and Japanese modern system. The Yoga system is far superior in every way to modern systems.

35. ACUPUNCTURE
The Chinese, Japanese and Koreans have borrowed heavily from the Indian system of Bindu Prerana or Pratodan Bindu or Acupuncture. In the classical Vedic and Ayurvedic system, only four points of the body were invaded by sharpened instruments or specially prepared needles.

36. YOGA HEALING
There are a number of systems within Yoga Chikitsa which lead to either physical healing, Pinda Upashama, or psychic healing, Andha Upashama. Yoga healing is also known as Yoga Kushalam and includes water healing (Jalam); magnetic or Pranic healing (Prana); Mantric healing (Mantra) and psychic healing (Adhyatmikam.) So called "spiritual healing" would involve the use of Prana, Mantra and Adhyatmika techniques. A separate section of Chikitsa is used for exorcism, the relief of psychic possession.
37. RELIEF OF PSYCHIC POSSESSION

Psychic possession is an admitted phenomenon in Hindu culture. An entire science involving Mantra, Yantra, and Tantra has been evolved to deal with Bhutapasaaranam or mental disturbances associated with this phenomenon. Native medicine of India has evolved a number of techniques known as Duri Kriyas which may be scientifically employed in Yoga Chikitsa. Care must be seen that ignorant superstitions do not enter into this otherwise valuable science.

38. MANTRA YOGA

The Yoga of Sound Vibration is the use of archaic Sanskrit Runes and Dhoons in some sections of Yoga healing: to ward of psychic phenomenon, for exorcism, or for purely speeding up the vibration of cells to the healing vibration level.

39. YANTRIC BIO-RHYTHMS

Yantra is the study of an archaic Vedic-based science and its application of Rita Yuga (Cosmic Rhythms), Dharma Yuga (Solar Bio-Rhythms) and Karma (Personal Reactive Bio-Rhythms). There is a section in Yantra which helps to understand the construction of consciousness and this section may be taken as a separate study in Yoga Psychological Therapy.

40. YAGNA AND YATRA THERAPY

The Vedic concept is that Yagna and Homa Puja and other forms of ceremony have a curative value and that Yatra or holy pilgrimage has a beneficial effect. Many people conduct religious ceremonies and go on a pilgrimage for a return of health or other boons.

41. YOGA COUNSELING

The Yoga system of psychological counseling, Upadesham, is literally on a Guru / Chela basis. There are three ways in which counseling is done:

1. Direct counseling where instructions are given on a personal level. This system is used both in Jnana Yoga and Raja Yoga where the teacher points out certain defects in the Karma and the way by which this can individually be rectified.
2. Indirect counseling, such as that afforded by Satsangha, the company of the wise and where a person hears certain stories with a moral and ethical base and is able to apply this to his own circumstances.
3. The study of the Shastras or the scriptures which would include UPANISHADS, BHAGAVAD GITA etc. These offer ways by which one can alter one's psychological circumstances by right thinking and right living.

42. BHAKTI YOGA

There is a distinct role to be played in health and well being by the use of devotional faith, worship and meditation which would include religious study, Bhajana and Kirthana singing and the use of an Istha Mantra or a personal Mantra given by the Guru.

43. ASTROLOGICAL MEDICINE

There is a distinct system of astrological diagnosis and treatment termed Astro-Medicine Nakshtra Vidya, deduced from the time and place of one's birth and calculating the movement of celestial bodies and changing times and seasons. This can be a separate study within Vedic medicine, but it is a valuable tool in Yoga Chikitsa. Some Gurus use palmistry, phrenology, numerology, and other psychic sciences for medical diagnosis and treatment.
44. YOGA DARSHANA CHIKITSA
A study of the Vedas, Vedanta, Tantra, Jnana, and Raja Yoga suggests that certain conclusions which are diagnostic can evolve out of these Insights. There are definite, distinct treatments associated with various schools of Hindu thought, especially Jnana Yoga—the Yoga of Wisdom, Raja Yoga—the Royal Yoga of mind-over-body control, and adaptable therapies from Veda, Vedanta, and the Tantric system. These systems are much preferred to treat sensitive, orthodox Hindus and it can be easily seen that Raja Yoga concepts and therapy is readily accepted by youth of all countries suffering from emotional and psychological problems. Both Jnana Yoga and Raja Yoga Therapy is based on Yama-morality and Niyama-ethics, as well as the broader application of Ashtanga Yoga. These techniques are preferred to crude, ego-centric system of Western psycho-analysis and psycho-therapy.

45. YOGA THERAPY
It is possible to “pick and choose” from the 52 broader headings that fall under Yoga Chikitsa, producing a systematic, workable therapy for many physical, emotional, and mental conditions. Any form of Yoga Chikitsa should at least embody the Hatha Yoga system of Asanas, Kriyas and Mudras, Mala Shoddhana Karmas, and Jnana Yoga and Raja Yoga counseling. Any deficiency in this limited system can be counteracted by the inclusion of any other Yoga or Yoga-like techniques.

46. MAUNA AND ANTHARA MAUNA
Mauna is taking to silence, not speaking, a Yoga Tapas, while Anthara Mauna is a meditative-like technique allowing one to enter into a state of deep profound “inner silence”. Both are termed “serenity therapies” and are of independent value to modern man suffering from disturbed senses and chaotic mind. It is possible to make these two into separate and distinct therapies where required.

47. EENT THERAPY
The Yoga Kriyas and Mala Shoddhana Karmas offer a special therapy for the cure of eye, ear, nose and throat conditions. Special eye drills are used in a separate therapy with scientifically proved results. Yoga Therapy could be modified to deal with almost any condition afflicting man, but it should be noted that “prevention is better than cure”. In the field of EENT Kriyas prevention should be advocated before congestive conditions result. The Yoga Therapy system of eye exercises may be considered a separate system of therapy. It is the most comprehensive approach ever devised for the correction of problems of sight and perhaps the best known in the West of all forms of Yoga Chikitsa.

48. YOGA EYE THERAPY
It is estimated that 90 per cent of all eye problems are psychological in origin or from simple misuse of the eyes. The eyes respond very well to the Yoga system of eye therapy which involves decongestion of the eyes and eye sockets, a retraining of the muscles associated with the eyes, and remedial eye drills. Yoga Eye Therapy is one system where it can be easily shown how psychological tension affects the eyes and its use could be one of the greatest contributions of Yoga Chikitsa in modern times.

49. YOGA GLANDULAR THERAPY
Yoga offers the only complete system of endocrine glandular therapy, Adhimasam Chikitsa, on a non-drug basis in the world today. Also called Granthi Chikitsa, Yoga Glandular Therapy offers some answers that modern Western Science is searching for in its pursuit of the studies of endocrinology and endocrine therapy. The human glandular system is distinctly affected by Mudras in particular. Glandular

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Therapy may also hold the secret of the cure of distressing conditions like leukemia and other forms of cancer.

50. BONE SETTING
Yoga Chikitsa and the Hindu system of medicine offer a most spectacular method by which the skeletal structure can be set and reset and even fractured bones knit together in healing, taking a very short time for the healing to take place. Known as Trudithashisamadha Kriya, this system is in vogue amongst many South Indian Hatha Yoga specialists as well as "Barefoot Doctors" of folk medicine.

51. ANXIETY AND STRESS THERAPY
Yoga Abhya Sadhana Chikitsa has a particular application for the reduction of anxiety and stress. This system employs various techniques from a number of Schools of Yoga like: Asanas, Kriyas, Mudras, Pranayama, Relaxation Techniques, evolved within Jnana Yoga Therapy and Raja Yoga Therapy. Two distinct system have evolved. The first one deals with tension-relaxation or Spanda-Nishpandha Kriyas that belong to the physical therapy of Yoga Chikitsa, while a second aspect termed Chintaa Chikitsa deals with psychological anxiety and stress. The psychological therapy field is also known as Manastaapa Chikitsa and employs Jnana Yoga and Raja Yoga therapy as well as the broader use of Dharana (concentration) and Dhyana (meditation). Some therapists employ Pratyahara (sense withdrawal) as a special technique. Other therapists even advocate "pseudo arousal" of Kundalini Shakti as a therapy. At least one therapist argues that Samadhi Therapy is a possibility. It is generally accepted that Kundalini Shakti should not be aroused except by those in total Yogic health, and that Samadhi or Cosmic Consciousness demands all other systems to be in perfect harmony. Terms like Kundalini Therapy and Samadhi Therapy should be discouraged on the basis of Yoga spiritual concepts alone. There are other legitimate techniques which can be used to obtain therapeutic results without the misuse of Adhyatma Yoga.

52. GENERAL YOGA REMEDIAL THERAPY
Yoga Chikitsa as a modern therapy should embody many or all of the fifty-two sections detailed although it is possible that a therapist may specialize in one or more limited types of therapy at the expense of the others. A Yoga Therapist may employ techniques from other systems of Alternative Medicine only when required. But, if the term Yoga Chikitsa is used, it demands that Yoga be the major consideration. Yoga is the most complete system of Naturopathy anywhere in the world today. This ancient system is so modern that it qualifies as the only really "wholistic medicine" and therapy in vogue in the modern world. Yoga concepts must be taught to students and those being treated must be introduced to the practice of Hatha Yoga Asanas, Kriyas, Mudras, and Pranayama. Yoga Therapy without the support of Yoga practices would be a contradiction of Yoga.

A SPECIAL NOTE
As Yoga Therapy is a complete system within itself it need not draw from any other source. Yoga Chikitsa requires little or no equipment, paraphernalia or gadgets, whereas the popular Alternative Medical System require very expensive equipment and lead to costly charges for students and patients alike. Yoga Therapy can be evolved on a broad-based system with little expense or outlay on the part of the therapies which are popularly included in Alternative Medical Systems are being included as Yoga Therapy by some therapists. In some cases these practices could be used to advantage, but with others, they actually detract from Yoga Chikitsa and their use should be otherwise discouraged. Yoga will always be the loser in the mind of the patient when modern, popular, attractive therapies are offered as an alternative to Yoga Chikitsa.

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Ayurveda, Siddha Vaidya, and other Hindu medical concepts are usually quite compatible with Yoga Chikitsa. Some Alternative Systems that may be included with caution are: Naturopathy, Napropathy, Homeopathy, Unnani Therapy (Use of Vitamins, Minerals, Protein Tablets etc). Sporting Exercises, Body Building (Bullworker, Weight Lifting), Eurythemics, Aerobic Dancing, Hypnosis (It should be noted that Yoga is de-hypnosis), and may other alternative medical therapies.

**SUMMARY**

Yoga Chikitsa is a remedial medical science as old as the concept of Yoga itself. There is only one disease duality. Its cure is a return to Universal Oneness. However abstract this Dwaita-adwaita concept may be, it must be the basis of Yoga Therapy as well as Yoga itself. Yoga Chikitsa should not be separated from the mainstream of Yoga proper or it will suffer the fate of most divided sciences. Yoga Chikitsa without Yoga is an absurd anomaly.

Yoga Therapists must be deeply involved in a Yogic way of life themselves and be a very fine example of morality and ethics as taught in Ashtanga Yoga or Raja Yoga. As Yoga Chikitsa is considered a modern alternative medical system, it must truly offer an alternative life style to that of modern hedonistic medicine. If Yoga Chikitsa is used only within the materialistic medical systems of today, it will fail. At a recent world Conference of Alternative Medical Systems, it was most obvious that the participants involved were not following an alternative life style but were involved in most materialistic fashion with their "fad" and their personal conduct was certainly no indication that the therapist had adopted an Alternative Life Style, Rather, the misuse of drugs, alcohol, tobacco and sexual vices were no ample display. If Yoga therapy is introduced into such a scene, it will suffer a fate that will lower the prestige of Yoga and the aims in general of Yogic Life.

The first and most important Yoga in Yoga Chikitsa must be the Union of the therapist and his own Yoga Sadhana with the greater concept of Yoga as Universal Oneness. This is likely to produce the most important quality of a Yoga Therapist, that is, his ability to heal. Yoga Chikitsa is not just a group of techniques to be taught to and employed by anyone. The basic requirement of a Yoga Chikitsak is that some quality of healing is already present in his life and being. The final stage of Yoga Chikitsa is the Union of therapist and patient. This will require a Yogic view to be aware of the fact that healing comes from within the patient and is only educated by the therapy and the therapist. Truly, Yoga Chikitsa could become the must sought after system of healing in modern times.

Much time will have to be spent with each patient or subject and the patient must receive basic Yoga concepts and Yoga training from the therapist in what should be a teacher-pupil relationship, rather than a healer-patient relationship. The Yoga Therapist must encourage his patient to take to a Yogic-life-style so that the healing gained is permanent and not transitory one. At least 52 separate sections of treatment are outlined in this presentation. Perhaps even more headings or sections could be devised.
YOGA AND POSITIVE HEALTH
(Courtesy Kaivalyadhama, Lonavla, Maharashtra)

Yoga can be defined as Samadhi as well as Samgathi. When defined as Samadhi, it means the Integration of Personality and as 'Samgathi' it means 'Harmony'. Harmony in this sense refers to the 'Joy of Positive Health'. Joy of positive course depends upon the supreme harmony between all bodily and mental functions.

The musical instrument veena gives exquisite heavenly music only when its strings are attuned adequately and played upon harmoniously. So too, real health (the positive health) consists in a balanced dynamic adjustment of forces that are opposing each other inside and outside the human body.

There is a hidden harmony or attunement between the things or forces that are at variance. This existence of the hidden harmony is usually not recognized or strengthened in ordinary life. Yoga tries to find harmony in things that are at variance and helps to cultivate harmonious relationship and attunement to the highest level possible at every stage of human existence.

Positive health does not mean a mere freedom from disease. In addition, a jubilant and energetic way of living and feeling that is the peak state of well being at all levels – physical, mental, emotional, social and spiritual.

One of the aims of Yoga is to encourage positive hygiene and health. Its eye is on the development of the inner natural powers of the body and mind. In doing so, Yoga gives special attention to various eliminative processes and reconditions of the inherent powers of adaptation and adjustment of body and mind. Thus, the development of positive powers of adaptation and adjustment inherent in the internal environment of man helps him enjoy the positive health and not just the freedom from diseases.

Yoga lays greater stress on this aspect of positive health. This is known by the technical term 'Nadi Shuddhi' in Yoga, which means purification of all channels of communication. Eradication of 'Malas' (any factor that disturbs the balanced working of the body and mind) or 'Mala-Shuddhi' refers to the same process.

According to Swami Kuvalayananda, Yoga helps cultivation of positive health through three integral steps:

1. Cultivation of correct psychological attitudes;
2. Reconditioning of the neuro-muscular and neuro-glandular system – in fact, the whole body – to enable it to withstand greater stresses and strains, and
3. Laying great emphasis on appropriate diet conducive to such a peak state of health, and encouraging the natural processes of elimination through various processes of Nadi-Shuddhi or Mala – Shuddhi.

These constitute the three general measures of positive health according to Yoga.

Positive health and feeling of well being both have their levels and degrees thought these couldn’t be defined today in exact term. Kriya-Yoga is meant to raise this level of health and feeling of well being to the highest degree possible. Training in Kriya Yoga makes a person to undergo a way of life and re-organizes his psychosomatic personality. This is to develop within him a capacity to withstand a considerably wide range of environmental variations. In Kriya Yoga, due consideration in given to the environmental influence, both external and internal, on the physical as well as mental processes. The attempt here is to cultivate a strong immunity. Such a fortification of body and mind is considered highly essential to bring about a balanced behaviour and stable personality.

The word Kriya Yoga signifies a preparatory stage as a whole, which envisages a complete reconditioning of both, body and mind so as.

1. To immensely widen the range of their adaptability, and
2. To raise the threshold of their re-activity.
The internal systems of man have to be trained to cope with the new situations and circumstances. Man has to be so trained as to be able to cultivate his own powers of adaptation and adjustment. Training the organs once again, directly or indirectly and re-establishing a proper coordination and harmony between the various parts can bring about efficiency of organs and cooperation between them.

**ROLE OF PURIFICATORY PROCESS IN YOGA**

A healthy mind and healthy body are considered as essential pre-requisites to the higher practices of Yoga. To ensure the health of the body and mind, Yoga has laid down certain positive hygienic methods, both of mental as well as physical hygiene. These constitute what is known as Kriya Yoga. Every Yoga aspirant must have attained true health of body and mind first before he starts the higher practices of Yoga proper. Unless he does this, he is warned, he is likely to meet with great many pitfalls in his training and may even become a physical or mental wreck. Many cases have been reported owing the rash undertaking of the higher practices of Yoga without preparing their body and mind for the advanced practices of Yoga.

The word Kriya has almost similar meaning and significant as Karma, with special technical meaning according to Yoga. It means the purificatory and re-conditioning process in Yoga. Karma Yoga in Gita seems to signify the same. Here the word Karma is action can contribute to a purification of mind. In Ayurveda too, the word karma is used in this same technical sense; it means ‘Shodhana Karma or cleaning process as can be seen from the Ayurvedic Pancha-Karma-Chikitsa.

In Yoga too, Kriya and Karma are used specifically for its various cleansing processes, that is, special lavages with water, air etc., Kriya Yoga as such signifies a preparatory stages as laid in Yoga for a reconditioning of mind and body.

All the practices of Yoga aim at purification. And Asana in one of Yogic practices forming the basis for almost all other Yogic practices and plays an important role in every kind of Yoga-Sadhana.

The Tantric text Rudrayamala tells that ‘Asana contributes towards the purification of the human body’. Another Yoga text gives the benefit of certain Asanas as ‘Nadi Shuddhi’ i.e., the purification of Nadis in the body. Padmasana is prescribed for the practice of Pranayama, specially the ‘Purificatory Pranayama’. Further, Patanjali has prescribed Ashtanga Yoga for the purpose of systematic elimination of impurities, i.e., Asuddhi – Kshaya.

Hatha Yoga prescribes certain special lavages etc. with water, air etc., however, some Hatha Yogins are against the practice of such procedures. For they insist that the practice of Pranayama in itself will bring about purification of the Nadis in the body.

The purificatory procedures, Asanas, Pranayamas etc. form the preliminary aspect of Yoga to bring about a harmonious working of body and mind. However, Dhyana or meditation is the most important technique of Yoga in the whole curriculum. Dhyana when practiced properly can prove to be a great tranquilizer.

The concept of homeostasis introduced by Walter B. Cannon has come to be applied to psychological stability as well as physiological steadiness. It is the maintenance of steady or balanced states in the organism by co-ordinate physiological processes. Yoga helps to restore the homeostasis and helps one to cope successfully the stress of modern life. Adoption of Yoga can help man to overcome the abnormal tension of the hectic life of the present-day world. Yoga systematically eliminates the disease causing elements, fortifies the mechanism of immunity to fight and overcome disease, the reconditioning of the psycho-physiological mechanism affords positive health, abundance of energy and engender a jubilant and energetic sense of well-being and harmonious relationships at various levels of individual's life.
Modern man faces stress everywhere and caught in its claws in a vicious spiral knows not how to extricate himself. His life has become a 'rat-race' and his body, emotions and mind are all jangled by the physiological and psychological responses of his 'self' to the stress he faces in his life at every stage of existence. None are spared the whirlpool-like pull of this web. From tiny tots facing innumerable 'tests', in school, corporate businessmen struggling to balance their accounts at work, farmers toiling for their daily bread, soldiers guarding the frontiers, news-reporters breaking themselves in order to make their 'dead-line's - none is spared this whirlpool of stress and no one knows how to escape.

The words tension, pressure and stress are virtually synonymous terms that are used to describe the huge expenditure of nerve energy that modern conditions or situations of life demand from all of us. This can easily be seen when a busy doctor, lawyer, businessman or politician has to meet a large number of persons, face differing problems and find out immediate solutions. The human body is made to operate without a break, with the result that our nervous system is perpetually under high tension and our muscular system becomes habitually tense. All of this then ultimately leads to mental, emotional and physical fatigue. One of the most common statements heard nowadays is "I am too tired to even think!"

Stress is the natural ability that the human system has developed over millennia in order to withstand strain. The ability to withstand stress differs from one individual to another. Every individual has a threshold of stress up to which, they can bear stress and cope with the demands of their external environment. Type of personality, individual temperament and emotional stability determine this stress threshold. When external stress exceeds the threshold of the individual, then they succumb to over stress. In such a scenario, the body and mind of that person try to reduce, avoid or withdraw from that stress-creating situation. However, if the excessive stress persists and/or increases, the body and mind suffer. This in turn leads to physical maladies and mental pathologies. Insomnia, asthma, coronary troubles, hypertensions, cancer, sexual inadequacies, diabetes, mental breakdown, neurotic behaviour are only a few of the numerous disorders that result from excessive stress.

Caught in this situation, people try to seek release from such over stress by resorting to handy remedies such as sleeping pills, alcohol, smoking, absenteeism, and emotional withdrawal. None of these are answers to the problem and to the contrary start to create more stress and problems for such a person.

Recent research has supported the importance of the role of stress or rather 'distress' in premature aging and the etiology of disease. It is postulated that frequent stressful experiences lead to the failure of the homeostatic, self-regulating mechanisms of the organism leading to disease, premature aging and early or sudden death. Stress has also been shown to weaken the immune system and make us more vulnerable to infection and other such health related problems.

We must realise that it is our attitude to things that happen to us and even towards stress itself that causes a major part of the problem. Relaxation and exercise can form part of stress management but rarely are they the whole answer as they do not deal with what causes us to become tense in the first place. We need to find out where the problem lies—whether in our attitude or behaviour or a combination of both and then develop the skills to overcome it. For example if you always give in to others you will end up feeling like a doormat. If you practice relaxation you may end up as a relaxed doormat rather than a tense one but everybody will continue to walk over you. And now as you are not showing signs of stress or tension, they will walk over you with an easier conscience. Thus we must learn to analyze what is causing the stress and develop the necessary skills.
to combat it. Great motivation, commitment and practice are required to do this to the level necessary.

Yoga is a spiritual science for the integrated and holistic development of our physical, mental as well as moral-spiritual aspects. The philosophy of Yoga is practical and definitely applicable in our day-to-day living. Yoga has been documented to produce desirable physiological changes and recent advances in the field of research have shown that it also has sound scientific basis. The Yogic concept of health and disease enables us to understand that the cause of physical disorders stems from the seed in the mind and beyond. Adi is the cause and Vyadhi only the effect in the Yogic scheme of things. By paying careful attention to personal history, one can nearly always trace the origins of psychosomatic disease back to patterns of emotional pressures.

From the Yogic viewpoint of disease it can be seen that psychosomatic diseases appear to progress through four distinct phases:

1. **Psychic Phase:** This phase is marked by mild but persistent psychological and behavioral symptoms of stress, such as irritability, disturbed sleep and other minor symptoms.

2. **Psychosomatic Phase:** If the stress continues there is an increase in symptoms, along with the beginnings of generalized physiological symptoms such as occasional hypertension and tremors.

3. **Somatic Phase:** This phase is marked by increased function of the organs, particularly the target, or involved organ. At this stage one begins to identify the beginnings of a disease state.

4. **Organic Phase:** This phase is marked by the full involvement of a so-called disease state, with physiological changes such as an ulcerated stomach or chronic hypertension, becoming manifest in their totality.

Often, however, the early stages of the disease process are overlooked and the final stage is seen as an entity unto itself, having little relationship to one’s living habits and patterns. This is because modern medicine only looks at the human being as being the physical being and neglects the effects of the Pancha Kosha and Tri Sharira on health and disease.

There are many examples of psychosomatic diseases, which are directly related to stress. They include common colds, ulcers, headaches, back pains, chest pains, spastic colons, constipation and diarrhea. The list is almost endless. We don’t know why one organ system is affected by stress and not another. Certainly, genetic factors, diet and conditioned learning are all involved, but the key lies in one’s mental structures. In other words, what is increasingly clear is that stress is at the root of all psychosomatic disease regardless of the organ system involved.

The art and science of Yoga has infinite possibilities for providing answers to most problems of modern man. However modern man misunderstands this science of Yoga and wants it to be his miracle pill. A pill that he takes only once, and wants all his problems to vanish into thin air! Yoga is a wholistic science and must be learnt and practiced with such a view in mind. The dedicated practice of Yoga as a way of life is no doubt a panacea for problems related to stress and stress-induced disorders.

**WHAT IS STRESS?**

Stress may be defined as the "RESPONSE PATTERN OF AN ORGANISM TO PREPARE ITSELF FOR FIGHT OR FLIGHT".

The fight or flight response relieves the effects of stress and thus is a normal phenomenon termed 'eustress'. However, modern man has no means to 'fight or flight' the real or imagined stress and ends up in "distress" which then leads to psycho-somatic disorders of various kinds.

To quote an example from Pujya Swamiji Gitananda Giri

"If you were face to face with a saber-toothed tiger in prehistoric times you either fought it, fled the scene, or ended up in its tummy! This led to the relief of the stress. Now days we have the same 'stress response' but are not facing only..."
'saber-toothed' tigers and have no where to run, no means to fight and thus no mechanism to relieve the stress.

This leads to 'distress' which is imbalance of the system and thus anti the Yogic principle of 'Samatvam' (equal mindedness in all situations) and 'Stitha Prajna' (the person who has developed Samatvam).

In the words of the eminent Indian scientist Dr. W. Selvamurthy,

“STRESS IS AN ALTERED STATE OF BODY AND MIND FROM NORMAL HOMEOSTATIC CONDITIONS THAT IS CAUSED DUE TO EXTRINSIC OR INTRINSIC FACTORS”

This disturbance is due to unusual burden on the organism leading to a state of tension and pressure which threatens to damage and impair the functioning capacity of the organism. He also stressed the point that all stress is not bad. Stress has both a positive as well as the negative dimension. The positive dimension of stress brings out creativity and the best in us by goal setting and improved performance via the optimal arousal of body and mind. On the other hand, the negative dimension of stress through exaggerated arousal of the body and mind leads to, decreased performance and ill health. It is like a parabola curve, which initially leads to betterment of performance but later when more and more stress occurs, performance suffers drastically. (see fig.)

SOURCES OF STRESS:

We are affected by stress from all directions. It may be from the work place, the home, family members or from within the person themselves. The sources of stress can be classified as those due to the external environment and those due to the internal environment of the person themselves.

EXTERNAL ENVIRONMENT

1. Physical environment
   a. Climatic changes
   b. Natural disasters
   C. Man-made disasters
2. Family environment
   a. Stress at home: cruel husband, nagging wives, ill-behaved children
3. Work environment
   a. Stressful job situations such as defense personnel, anesthesiologists.
   b. Exploitation
   c. Laziness and underachievement.
4. Societal environment

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a. Fast life & over-activity.
   a. Negative social behaviour & wrong actions
   b. Disharmony in the society
5. Conflict between intellect & emotions
   a. Lack of harmony between thought, word and deed
6. Sudden / severe / cumulative changes

**INTERNAL ENVIRONMENT**

1. Life events
   a. Death of a close friend or family member
   b. Birth of a new family member
   c. Wedding
   d. Divorce
   e. Misunderstanding in the family
2. Loss of an expected promotion
3. Biological factors
   a. Capacity of the system to withstand and combat stress
   b. Stress threshold of the person
   c. Type of personality
4. Psychological factors
   a. Unbalanced outer development. No parallel inner development.
   b. Overindulgence & immorality
   c. Negative emotions such as anger, hate, jealousy, ego, grief, self-doubt
   d. Over-ambition, inflated goals & greed
   e. Too much desire, excessive attachment
5. Physiological states
   a. Pregnancy
   b. Post partum
   c. Puberty
6. Pathological states
   a. Disorders and diseases that decrease the ability to combat stress
7. Pharmacological factors
   a. Some drugs decrease the ability to combat stress
8. Becoming a millionaire overnight

**STRESS RESPONSE:**

Prof Hans Selye’s model of stress reaction in the body, known as the General Adaptation Syndrome (GAS) has three phases:

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1) Alarm Reaction,
2) Resistance,
3) Exhaustion.

- **ALARM REACTION:** This is the immediate effect of stress on the body. In this the person responds to the perceived or real stress with either 'fight or flight'. Stress hormones such as adrenaline, nor adrenaline, cortisol, glucagon and aldosterone secreted and various physiological changes occur in the body to prepare us to respond to the stress.

- **RESISTANCE:** In this phase the body seems to return to normal but if the stress persists, the resources of the body get depleted. Externally the problem is not visible and we end up thinking that all is well with our system.

- **EXHAUSTION:** Chronic stress places a constant load on these Neuro-endocrine adaptive mechanisms leading to distortion in the homeostatic mechanism, thus weakening the response of the organism to environmental challenges which in turn leads to ill health and disease. The disorders that we associate with stress start to manifest in this phase.

**MANIFESTATION OF STRESS IN THE PANCHA KOSHA**

**NARA: PSYCHIC DISASSOCIATION**

Yoga conceives man as a multi-bodied, multi-dimensional mind, a universal being, rather than simply body, mind and spirit. The limiting concepts of man as Eka Kosha, one body, has led to all of the limitations of Western science whether that science be medical or philosophical.

Perhaps the saddest thing that has happened to man in his belief in the new religion called "science" is that he has failed to recognize the psychic aspects of man. It is true that antiquated religions put more emphasis on "saving the soul" of man than upon his material evolution. With the rise of science and its antagonism towards organized religion, it has been natural that a science put more emphasis on the material aspect of life. Because of this, unfortunate people needing medical treatment often suffer from the side effects of drugs used in the treatment of their disorders and a whole new range of medical disorders has been produced by indiscriminate use of drugs, and
medical treatment. Until medical science recognizes the spiritual side of man and the needs in these spheres, the treatment of disease will only create new disorders. These new disorders will be horrors in comparison with those conditions known in the past, with no known or foreseeable treatment for these maladies. Science must recognize clearly that “man cannot live by bread alone” nor can he be treated by drugs alone.

Man has at least five bodies, Pancha Kosha. The physical body is called Annamaya Kosha, the body or sheath (Kosha) compounded (Maya) of cells (Anna). Pranayama Kosha is the body or sheath made out of Prana, the vital forces of nature harmonized into the physical body by the life pumping action of the breath (Prana). This body or sheath is also known as the life-force body, the emotional body or the vital body. Manomaya Kosha is made up of the lower memory mind of Chitta and the conscious mind, Manas. Vignanamaya Kosha is the body permeated by the super-conscious mind of the Buddhi and the Ahamkara, the self-ideating principle of the higher mind. Anandamaya Kosha is the body of bliss, Anandam, and is the cosmic body or the cosmic egg.

When the cosmic egg, Anandamaya Kosha, is perfectly centered by the lower bodies, then Samatvam, or equilibrium is said to exist. For the physical body, it represents homeostasis, or organic equilibrium. It represents Samabhava, mental equipoise, for the mind with all senses balanced and under control of the Buddhi, the higher spiritual intellect.

When the Annamaya Kosha is mal-aligned with the other four bodies, physical disassociation or disease appears. The body loses its normal tendency for a uniform and beneficial physiological stability within and between its various parts. Psychic disorders may also be present but of a minor nature, such as being late for appointments or engagements, or constantly bumping into or “accidentally” hitting others. Watch a crowded street and see those with “NARA” attempting to waltz “around” unsuspecting victims. If you have ever met a person with “NARA” yourself, you know the tremendous embarrassment caused to both when you know that you must collide . . . and “do”. This will also answer so many questions about accidents that just seem to happen and cannot be avoided. A bicycle will swerve and hit the pedestrian. The cyclist claims there was “nothing he could do”. A car swerves out of traffic and a terrible accident takes place. Ships collide at sea, and aircraft run into each other thousands of feet in the air.

One notes the predisposition of certain people to accidents, so much so that they are called “accident-prone”. Others seem to have such a “bad run of luck” and ill fortune that they extract our pity. Some are chronically ill or emotional hypochondriacs. Minor accidents may escape the notice of all but a careful observer.

Some people are continually ill or emotional hypochondriacs. Minor accidents may escape the notice of all but a careful observer. Some people are continually banging their heads on kitchen cupboards, shelves or car doors. Still others slam their fingers in doors and drawers of all types. Many bang their fingers when doing minor carpentry work.

The “stumble-foot” is well known for “falling-up” as well as “falling down” stairs, or tripping while simply walking along the road or sidewalk.
If physical aberrations alone were the only manifestation of Nara, we might be able to deal with the situation in a purely physical way. Emotional and mental aberrations are even more widespread. Some signs of emotional Nara are constant disappointments in people and events, when events do not come up to our expectations or we are not able to fully participate because we are tired, run-down, or whatever the Nara. An Angel with Nara would be unhappy in heaven. “Nara” people are habitually late, missing the good things of life. I know of a groom who missed his wedding, and the girl he still loves today married another man because she wanted the security of punctuality. I know of dozens of people who have missed jobs they are well qualified for by not applying on time. One case of heightened Nara was of a man who was chronically out of work because he was over-qualified for most jobs. After years of waiting his chance, a letter of appointment came in the mail. When he reported for duty, he discovered that he was late for the job as the letter had been held up in the mail. Even our postal service can have Nara.

What is the source of these strange conditions? A mal-alignment of the Pancha Kosha, the five bodies of man, is the answer. When you walk through a doorway, the psychic body aligns with the size of the opening. Your physical body should core the psychic body. If it is out of line to either side you will strike the door jam. If the physical body is either higher or lower than the psychic body, the head or feet will be constantly injured. Similar psychological and psychic events of a negative nature will be present in the life of the person suffering from this mal-alignment. The condition is called “Nara”. Other symptoms of Nara are a chronic upset stomach, constant headache, constipation, or the radical opposite, a watery discharge from the bowel. The correction of this condition is easily brought about by the mastery of simple Pranayamas like Vibhagha Pranayama and Mahat Yoga Pranayama or more complicated Kriyas like the Anuloma-Viloma, Polarity Breath.

Can you imagine the spiritual state of most of us if Nara is a common state of man and woman . . . and it is! If the physical body is inharmonious with the higher bodies, accident and physical illness are present. If the vital body is out of line, all sorts of emotional and psychic distortions are to be seen. Mental states occur when the lower mind body is out of line with its lower counterparts. If all three lower bodies and the cosmic sheath, then untold tragedies occur. We may be far out of line in our spiritual drives. No doubt Nara has accounted for the proliferation of religions as well as weird cults. If the life of a Yogi is like “an arrow sent straight to its goal” then a state of total well being must be accomplished. Otherwise, our efforts will go astray.

Yoga is the practice we will call the “arrow” of the mind. The “bow” is the effort we put out. Balance is our aim. Yoga is our goal.

In Yoga Chikitsa (Yoga therapy) it is stressed that there is a basic Adhi-Vyadhi or psychosomatic basic for physical and psychological afflictions, but it is also readily admitted that there is a somato-psychic range of disorders caused by flesh eating, tobacco, drugs and alcohol.

Any of the four lower bodies may be out of harmony with the highest of the Pancha Kosha, the Anandamaya Kosha. The cosmic body is never out of line with its cosmic counterpart. The Anandamaya Kosha is like a Bindu within the Maha Bindu, a point within the cosmic point.

The physical body and the vital body may be harmonized, but be out of line with the higher bodies of the mind. When this happens, neurotic and psychotic tendencies develop. The lower mind may be in harmony with the lower bodies, but out of line with higher bodies. A hatred of higher spiritual things and mental disorders associated with persecution of one-self and others will develop.
Only perfect alignment that is Yoga represents well being whether the higher forces of the seven streams of consciousness, flow unhindered into the planes of human consciousness.

**Stress or rather "distress" manifests not only in our physical body but also in the other Koshas (sheaths or bodies of man) in various ways.**

**ANAMAYA KOSHA**
- Neuro - endocrine imbalances. e.g. Diabetes Mellitus, Peptic Ulcer, Irritable bowel syndrome, Essential Hypertension, Coronary Artery Disease, Obstructive lung diseases (Asthma)and tension headaches.

**PRANAMAYA KOSHA**
- Emotional disturbances. e.g. road rage, mood fluctuations
- Breathing difficulties. e.g. Bronchial Asthma, COPD
- Energy imbalances. e.g. Lethargy and the feeling of being "down in the dumps."

**MANOMAYA KOSHA**
- Mental problems and various psychiatric disorders e.g depression, schizophrenia, hysteria, bulimia, mania, anxiety neuroses.
- Decreased quality of life
- Increased amount of worries

**RESULTANT EFFECTS OF CHRONIC STRESS**

*Notes for Yoga Therapy –Compiled and Edited by Dr Ananda Balayogi Bhavanani*
ROLE OF YOGA IN PREVENTING AND MANAGING STRESS

Yoga is a wholistic science of life, which deals with physical, mental, emotional and spiritual health. Various aspects of Yoga help in the prevention and management of stress.

1. YOGIC CONCEPTS:
Various Yogic concepts have guided man towards shaping his life and the interpersonal relationships in his social life.

a. **Vasudeiva Kudumbakam** - The whole world is one family. This is an excellent concept which helps one to understand that division on the basis of class, creed, religion and geographical distribution are all 'man made' obstructions towards oneness. One can then look upon all as his own and can bond with everyone irrespective of any barrier.

b. **Pancha Kosha** - The concept of our five sheaths or bodies helps us to understand how all our actions, emotions and even thoughts can influence our surroundings and that "No man is an island". The concept of "Nara" or psychic disassociation helps us to be aware of why things happen to us and others in our daily life.

c. **Chaturvirdha Purusharthas** - The four legitimate goals of life tell us how we can set legitimate goals in this life and work towards attaining them in the right way, following our *dharma* to attain *Artha* (material prosperity), *Kama* (emotional prosperity) and finally the attainment to the real goal of our life, *Moksha* (spiritual prosperity).

d. **Chatur Ashramas** - This concept of the four different stages in life, helps us to know how, what and when to perform the various activities in our life. *Brahmacharya* is the period from birth till 27 years and is the period for study, conserving the creative impulse and channeling it towards elevating spiritual pursuits. *Grahasta* is the period of responsibility, spanning the period from 27 - 54 years in which we learn to care about others in the family and the social network, fulfilling our *dharma* towards both the young and the old. *Vanaprastha* or retirement is the period after 54 years when one's life can be played over again and again in the mind with a sense of fulfilment and satisfaction having not to worry about anything at all. *Sanyasa* is the period of life when after performing our duties to the best of our ability for 81 years and after having attained perfection in life we renounce everything for the divine.

e. **Pancha Klesha**: Avidya (ignorance), Asmita (ego), Raaga (attraction), Dwesha (repulsion) and Abinivesha (urge to live at any cost) are the five *Kleshas* or mental afflictions with which we are born into this human life. Through Yoga we can understand how these control our life and see their effects on our behaviour. These 'Kleshas' hinder our personal and social life and must be destroyed through the practice of *Patanjali’s Kriya Yoga*, which consists of Tapas, Swadyaya and Ishwar Pranidhana (Atman Prasadhanam).

f. **Nishkama Karma**: Selfless action and the performance of our duty without any motive, are qualities extolled by the *Bhagavad Gita* which is one of the main Yogic texts. Performing one's duty for the sake of the duty itself and not with any other motive helps us to develop detachment (Vairagya) which is a quality vital for a good life.

g. **Karmasu Koushalam**: 'Skill in action' is Yoga says Yogeshwar Krishna in the *Bhagavad Gita*. 'To do our best and leave the rest' is how Puja Swamiji Gitananda Giri Guru Maharaj used to describe the best way of life. Even if we don't practice the other aspects of Yoga, we can be 'living' Yoga, by performing all our duties skill fully and to the best of our ability. A great artist, doctor, worker, singer or sportsman can be a Yogi by performing doing their duty to perfection and without care for the rewards of the action, even if they do not practice any *asana*, *Pranayama* etc.

h. **Samatvam**: 'Yoga is equanimity ' says the *Bhagavad Gita*. Development of a complete personality who is neither affected by praise nor blame through
development of Vairagya (detachment) leads to the state of "Stitha Prajna" or "Sama Bhava". This is a state of mind which is equally predisposed to all that happens, be it good or bad. Such a human is a boon to society and a pleasure to live and work with.

i. **Vairagya:** The concept of Vairagya (detachment) when understood and cultivated makes us dispassionate to the Dwandha (the pairs of opposites) such as praise-blame, hot-cold or pleasant-unpleasant.

j. **Yoga as a “way of life”:** The regular practice of Yoga as a 'way of Life' helps to reduce the levels of physical, mental and emotional stress. This Yogic 'way of life' lays emphasis on right thought, right action, right reaction and right attitude.

2. **HATHA YOGA AND JNANA YOGA**

Yogic Asanas, Pranayamas and Jnana Yoga Kriyas, work on the various Koshas of our body and clear up all the subconscious 'quirks' in our brain from the billions of years of evolution from animal to the human state. An understanding of these 'quirks' helps us to understand our reaction to various situations and helps to prevent our 'stress response' to them. 'Stress Relievers' from Hatha Yoga and Jnana Yoga are of immense benefit in relieving the pent up emotions and the reaction to the stressful situation.

3. **YAMA AND NIYAMA**

The Pancha Yama and Pancha Niyama provide a strong moral and ethical foundation for our personal and social life. They guide our attitudes with regard to the right and wrong in our life and in relation to our self, our family unit and the entire social system. These changes in our attitude and behaviour will go a long way in helping to prevent the very causes of stress in our life.

**Pancha Yama:**

- **Ahimsa** - Non - Violence
- **Satya** - Truthfulness
- **Asteya** - Non-Stealing
- **Brahmacharya** - Proper Channeling of the Creative Impulse
- **Aparigraha** - Non – Coveted-Ness

These are the "DO NOT'S" in a Yoga Sadhaka’s life. Do not kill, do not be untruthful, do not steal, do not waste your god given creativity and do not covet that which does not belong to you. These guide us to say a big "NO" to our lower self and the lower impulses of violence etc. When we apply these to our life we can definitely have better personal and social relationships as social beings.

**Pancha Niyama**

- **Soucha** - cleanliness
- **Santhosha** - contentment
- **Tapas** - discipline
- **Swadyaya** - study of one’s-self
- **Ishwar Pranidhana (Atman Prasadhanam)** - reverential gratitude towards the Divine Self

The Pancha Niyamas guide us with "DO'S" - do be clean, do be contented, do be disciplined, do self - study (introspection) and do be thankful to the divine for all of his blessings. They help us to say a big "YES" to our higher self and the higher impulses of violence etc. When we apply these to our life we can definitely have better personal and social relationships as social beings.

Even when we are unable to live the Yama and Niyama completely, even the attempt by us to do so will bear fruit and make each one of us a better person.
and help us to be of value to those around us and a valuable person to live with in our family and society. These are values which need to be introduced to the youth in order to make them aware and conscious of these wonderful concepts of daily living which are qualities to be imbibed with joy and not learnt with fear or compulsion. The parents can by example show their children the importance of these qualities and when the children see the good examples of their parents living these principles they will surely follow suit sooner than later.

4. IMPORTANCE OF THE RIGHT ATTITUDE

"To have the will to change that which can be changed, the strength to accept that which can not he changed, and the wisdom to know the difference" is the attitude which needs to the cultivated. An attitude of letting go the worries, the problems and a greater understanding of our mental process helps to create a harmony in our body, mind whose disharmony is the main cause of ‘Aadi – Vyadhi’ or the psychosomatic disorders.

5. PRANAYAMA

The practice of Pranayama helps to regulate our emotions and stabilize the mind, which is said to be as restless as a ‘drunken monkey bitten by a scorpion’. Animals that breathe slowly are seen to be of less excitable nature than those who breathe rapidly and a similar observation holds true for humans. Even when we get angry, we can experience that our breathing becomes rapid and it is slower when we are cool and relaxed. Thus the slow, rhythmic and controlled breathing in Pranayamas leads to the emotional control seen in many Yoga Sadhakas.

6. PRATYAHARA

Pratyahara Kriyas help to distance our self from the sensory objects, attraction to whom is said to be the initial step in the causation of stress in man. Here, we withdraw our self from the senses and then are not affected by them. We realize how false the senses are in reality, and then do not get either attracted to them nor feel any revulsion towards them.

7. DHARANA AND DHYANA

Dharana and Dhyana, help to focus our mind on the right ideals and pursue our goals in a spirit of "Nishkama karma" (selfless action) and "Karmasu Koushalam" (skillful actions). Development of clarity of thought appears when we are a ‘Stitha Prajna’ (person of mental balance) and have ‘Sama Bhava’ (equal reaction to the opposites). Proper sleep patterns and a subjective feeling of wellness are produced by Yoga and this in turn leads to better human relationships, proper attitudes, increased production at work and the greater good for the individual, family, nation and ultimately for the whole of humanity.

8. BHAKTI YOGA

Bhakti Yoga, enables us to realise the greatness of the Divine and understand our puniness as compared to the power of the Divine or nature. We realize that we are but ‘puppets on a string’ following his commands on the stage of the world and then perform our activities with the intention of them being an offering to the divine and gratefully receive HIS blessings.

9. NADA YOGA AND MANTRA YOGA

Music and the chanting of Mantras with devotion helps to elevate the mind into a higher plane where the individual transcends their problems and can look at things in the right perspective. A detached view of our life can help us to see our self in the true reality. The divine manifests in various ways and the loss of our individual ego enable us to see the divine Self that is there within us and also within all beings.
The achievements of modern medicine are spectacular to say the least. From organ transplants at the macro-level to genetic engineering at the micro-level, there can be no doubt whatsoever, that the edifice of modern medicine in its totality is one of the stupendous achievements of the collective scientific temper of mankind, perhaps best exemplified by putting a man on the moon.

Yet, as patients at the receiving end, we know all too well that this system of healing is far from perfect and that there are large hiatuses in addressing many common ailments: Arthritis, ischemic heart disease and cancer, to mention but a few. While there is every possibility that ongoing research may well provide solutions for such problems in the future, what does one do in the interim period?

We are aware that many of the existing problems of modern medicine stem from a largely reductionist philosophy which has been relentlessly driving it in the past. A single defect at a molecular level cannot be overcome by a single external solution, however intellectually seductive such an idea may be.

Nor is it always sensible to seek external solutions, in lieu of solutions lying within the inner world of the human being. The truth that the human body is a powerhouse of healing is only now being recognised within the perspective of modern science and means are being explored to tap these hidden resources.

Nor indeed can one rely solely on chemical or physical solutions to tackle the soma while disregarding the psyche. There is a growing realisation within the bastion of orthodox medical research of the indivisibility of the three dimensions of the syncytium of life, physical - emotional - spiritual, set in the fourth dimension of time.

The merit of these viewpoints has been gathering weight and momentum slowly within the modern medical establishment and its research wing. This internal process of intellectual refinement can be seen externally in the progressive "greening" of modern medicine and surgery and the increasing dialogue between it and other systems of healing.

These dialogues tend to be amicable or abrasive, useful or unproductive depending not merely on the intellectual basis of the systems of healing in question, but largely on the intellectual and emotional flexibility, humility and honesty of those engaged in the dialogue.

The perception of many systems of healing as disparate or antagonistic is sadly an artifact of the intellectual arrogance of the respective practitioners. If these baser instincts and emotions are set aside, one automatically realises that a system of healing is greater than the practitioner of that system and that each system has a framework that is worthy of respect if not reverence.

Where there is reverence, there is a zeal to find resonance in thought and action. The rule here is simple: accept the individual and his current modality of treatment as an inseparable whole. And offer only that which will help and heal this whole, composite entity. The corollary to this is that if one cannot afford such a solution it is essential to admit one's inability honestly at the earliest opportunity.

Commercial concerns tend to often blunt ethics in such circumstances and all too often there is a temptation to use base tactics to wean the patient to one's preferred system of healing. Needless to say, it is a moral imperative to refer the patient to another practitioner of superior merit or to another "complementary" system of healing.

Having found a resonance of thought in a "complementary" system of healing, how does one translate mere thinking to a practice? The fundamental rule that governs all such composite solutions is that "one size" cannot fit all. Here lies the difficulty, for individualisation in approach cannot exist unless there is complete and true empathy between the "healer" and the patient.
To elaborate: a Yoga teacher is no doctor. He does not understand in medical terms what a "Spondylolisthesis" is or what "Bronchial Asthma" is. But he is sensitive and cognizant of the impact of these diagnostic labels on his student, both in body and mind: "low back pain" or "breathlessness", "irritability" from chronic and unrelieved pain or "depression" from an inability to play games!

In this process of understanding and cooperation therefore one may say categorically that the human factor is paramount in creating syncretism and hence an eventual synergy in the combined solutions. It is of interest that one such consistently synergistic therapeutic modality has been the combination of modern medicine with Yoga.

This is particularly intriguing because Yoga is not a mere system of physical healing, but a way to mental clarity and a path to the higher self. What is the secret of this unexpectedly amicable and cordial relationship between Yoga and modern medicine?

While it is patently obvious that there is no identify of thought and deed between these two systems, there is yet an inexplicable congruence when the systems impact on an individual patient transcending the human factor of the doctor on the one hand and the Yoga teacher on the other.

Where is the common ground for these apparently diverse systems of knowledge? How do they find a resonance of thought and action? How are these solutions being applied to a specific illness or combination of illnesses in an uniquely individual patient in practice? What are the pitfalls? What are the unexpected bonuses of such an approach? And what of the human equations which lie behind such approaches?

The first, and apparently the most difficult question in fact is the only one that can be answered with ease: the common ground enjoyed by all systems of healing however diverse, is their intense compassion for and desire to help and heal the sick.

Like raindrops finding their way ultimately to the same ocean, through many geographically distinct and distant rivers, all systems of healing are united in their common goal.

These issues are addressed and an attempt made to answer some of the questions raised above in the following dialogue between the eminent Yoga teacher T.K.V. Desikachar and myself.

T.K.V. Desikachar: Some doctors like you send your patients to us, though we have not been trained in the field of health and sickness. The patients too come to us and report back to you. So, I am sure you are not washing your hands off your patients! How is it that you are so confident about us, who are not technically competent in your field?

Dr. Uma Krishnaswamy: Despite the fact that modern medicine has made such enormous strides as far as management of illness is concerned, there are certain areas where we are unable to proceed beyond a particular point. Consequently we as practitioners of medicine and as impartial scientists honestly acknowledge that there are limitations to our system of healing.

We acknowledge the fact that we can go thus far and no further. On account of this, we tend to be always on the look out to see how else we can help the patient. This may be in conjunction with what we have done or what we hope to do with the patient or it may take the patient completely away from our hands. Either way it does not matter, as long as the patient benefits. Among the various alternative systems of healing, I feel comfortable with Yoga, because it is a system of healing which concentrates on physical movement very deeply.

Of course one is not blind to the fact that this concentration on the body is towards a spiritual end - but, that is a different dimension altogether. As Yoga teachers you know more about the physicalities of the body and its requirements for health than most other systems of healing. For example, you know which particular *asana* or posture can relax a muscle or which can help joint mobility.
From my point of view, these are all very well defined and very precise areas of anatomy and physiology that you understand instinctively, by habit, by practice, by study or by tradition! You may not view anatomy or physiology the way we do. But I see that you are working on human anatomy and physiology, albeit in a different manner. This gives me confidence that Yoga has the potential to help some of my patients.

TKVD: But the patients that you send to us do not merely have physical problems. They may have other dimensions to their illness. Why do you think Yoga can help such individuals?

UKS: The canvas keeps on enlarging. On the one hand we may actually be able to see the physical deficit and send the patient to you for help. On the other hand we have those patients where there are no physical problems to see. They may have emotional problems or stress related problems that are now so common. I find that Yoga is not just compartmentalised to Asanas or gymnastics of the body, but goes beyond all this to the cultivation of mental clarity. The techniques that you use to obtain that mental clarity are very useful in that they concomitantly reduce stress. Yoga produces a tremendous impact as far as stress related illnesses are concerned - whether it is a tension headache, or angina precipitated by the "Monday morning" businessman's stress! I see in my clinical practice that when an individual takes up Yoga, his stress management becomes that much better. This is the other dimension of help that I seek from Yoga for my patients.

TKVD: I get the impression that you prefer Yoga over other systems of healing. Is this true?

UKS: It would be incorrect to say that I prefer Yoga, over other systems. I think I am equally receptive to all systems of healing. There are some illnesses where I may prefer to send the patient to an Ayurvedic physician. There are some illnesses where I think the patient may benefit from the Unani or Siddha traditions or even a combination of systems! But it seems as if Yoga offers answers for many of the problems that I commonly face in my clinical work.

TKVD: Many years ago my father said that Yoga is a simple system that does not require any equipment. One only requires some floor space! It is an inexpensive system of healing. Why is it then that the people who seek help from Yoga or practise Yoga are usually financially and intellectually of a higher strata than the majority of the Indians?

UKS: I think there are two very interesting socio cultural aspects to account for this state of affairs. Yoga is viewed as an esoteric and abstruse system of philosophy by contemporary society. So it is only the western-educated intelligentsia of modern society that read the Yoga Sutras of Patanjali. On the other hand, the traditional or orthodox scholars by and large do not appreciate the physicality of Yoga. They are concerned (and rightly so) that Yoga will be translated into a fashionable and shallow physical culture by the non-traditionalists, as in many Western countries. That Yoga uses the body as a mere means to a lofty spiritual end gets forgotten in such situations.

Moreover, there is a narrow sectarian sense of rivalry between the various schools of philosophy. Why study or uphold the merits of Yoga darsana while there is a compelling sense of duty to foster one's own traditional school of philosophy? Why fritter away one's lifetime on anything less than the study of Vedanta darsana?

Such attitudes continue to condition society to a very large extent. Until revolutionary teachers such as your father, Sri T. Krishnamacharya, came onto the scene and pointed out that Yoga is a practical science that can help an individual in distress, many were unaware of the healing dimensions of Yoga.

When this truth was endorsed by the spiritual luminaries of our day, such as the Paramacharya of Kanchipuram and J. Krishnamurti, it served as a catalyst to the process of public awakening. But this awakening unfortunately is only amongst the urban intelligentsia.

In the rural areas, traditional scholars are familiar with the Yoga Sutras, but if you ask them whether they practise Asanas, they will pooh-pooh it. The uneducated people in the rural areas on the other hand often have not even heard of Yoga, or
they may perceive it as a gymnastic exercise that allows one to stand on one's head! Thus there is a dichotomy in our society, of thought and of practice.

There are so many systems of healing in our country. You are very fond of pointing out that though they are different, the basis for all systems of healing is the desire to help the sick by the use of whatever technique is available to one. For instance, you will not condemn Ayurveda or Siddha because you know that the Ayurvedic or Siddha physician wants to help the patient, just as you do.

**TKVD:** Even at the philosophical level, the concern has always been to find a solution to cure the suffering of an individual. If you look at Sankhya darsana or Yoga darsana, there is a basic tenet that human suffering must be reduced.

I feel that if something helps someone, then it is right for that person. But because it works for one individual, it does not mean that it will work for everyone. This is why we have to be very careful. Anything that helps must be accepted. The consideration is the person and not the system. The whole objective should be to remove the suffering of the person and nothing else. I sometimes send people to astrologers - if it helps, then why not?

**UKS:** Mani, mantram, ausadham (lucky gems, spells and medicine) - anything can help! From a very traditional standpoint of Yoga, how is health viewed?

**TKVD:** Instead of health, I shall talk about sickness. The first chapter of the Yoga Sutra of Patanjali says that there are obstacles in the path of both spiritual and personal quest. The most important obstacle is vyadhi or illness. Vyadhi is an imbalance of the human system.

Sickness produces emotional disturbance, loss of confidence and loss of energy through a lack of prana or vital energy to function with. There are also certain manifestations at the physical level such as pain. The saint Nathamuni says that irrespective of whether you are a king or a monk, you cannot pursue your goal if you are sick. In order to reduce these obstacles, many suggestions are proposed by Patanjali.

**UKS:** Certain systems insist on an extremely rigid diet pattern, which is not feasible in today's world. Even if a person is well intentioned and wants to stick to the diet, he or she may not be able to, because of the pressures of daily life. How does Yoga view diet?

**TKVD:** The discipline of food is defined as mita hita aharam, That is, one should partake moderately of wholesome food. If I introduce something harmful into the body, then the system will not function well. We must ensure that our food does not add to the problems already present in the system.

Jihva chapalyam (fickleness of the palate) is one of the most powerful chapalyams of flicklinesses. I insist on a dietary regime only if it is absolutely essential. For example, if a foreigner comes to India, I ask him to be careful about drinking water.

A lady from Italy was not able to eat due to emotional trauma. In this case I tempted her appetite with chicken soup, because, she was used to it! Food must nourish the person. Hence I would say that diet restriction should be minimum. Once there is dietary discipline, there is very little that we have to do!

**UKS:** Very true! Would the same rule apply to any lifestyle changes also?

**TKVD:** I saw a lady from Austria who smoked to cope with emotional stress. She worried that I would ask her to stop smoking. I told her that I would not stop her from smoking. If my insistence of lifestyle change becomes an obstacle for the person to pursue Yoga, then it will not work. It is like getting the camel into the tent. The first thing is to get the animal in! The lady in question stopped smoking on her own when she started meditation. I have seen people with the drug or drinking habit stop on their own after they practice Yoga for a while. This is what Yoga does for them.

**UKS:** I had noticed that when some people undertake a discipline such as Yoga, they start looking at themselves critically. In other words, they want to set right what is wrong by self help. Why does this happen? Is it because they focus on their body and are more aware of it and its needs?
TKVD: Yoga initiates svadhyaya or self study or observation. There are people who are not even aware of the fact that they cannot raise their arms above their head. When we asked them to do so, they found that they could not do it. This triggers a situation where they begin to look at themselves, and sometimes they become too critical about themselves. The teacher has to be very careful. If the teacher is too strict, the student becomes a fanatic or a hypochondriac. This is another sickness!

UKS: What you are advocating therefore is moderation in all things. As the divine author of the Bhagavad Gita puts it: "To him whose food and recreation are moderate, whose exertion in actions is moderate, whose sleep and waking are moderate, to him accrues Yoga, which is destructive of pain."

TIRUMOOLAR ON HEALTH & DISEASE
(THIRUMANDIRAM)

655: Diseases Appear When Dhananjaya does not function
Boils, itches and leprosy, Anemia, and like diseases that swellings show Paralysis, hunchback, arthritis and diseases of eye that bulging show all appear When Dhananjaya in disorder functions.

656: Importance of Kurma Vayu for Eye
When Dhananjaya malfunctions the eye gets diseases like cataract and glaucoma But Kurma is goodly to the eye; If Kurma permeates not the eye, it receives light none.

725: Why I Preserve Body
Time was when I despised the body; But then I saw the God within And the body, I realised, is the Lord’s temple And so I began preserving it With care infinite.

726: Purification of Internal Organs of Body
Churn the intestines in Shuddhi practice, your bowels become clean; then control the breath in the heart’s region and make it pervade the Nadis entire; they who can do this will gain a body that no fire can burn.

727: Effect of Practising Yoga at Dawn, Noon and Dusk
As body wax-like suppleness attains, practicing yoga in dusk the phlegm leaves; at noon leaves the wind that is treacherous; at dawn practised, the bile leaves; thus all poison from body expelled and you shall know no greying, nor wrinkling.

728: Yoga Leads to Imperishable Body
Three the coils of serpent Kundalini Ten the Vayus that agitate the body; Twelve finger-length the Prana breath; When the two bags of spiration Are tight controlled, and you sit in meditation unwavering The body perishes not ever.

791: Breath Rhythm for Glowing Health
If on Fridays, Mondays and Wednesdays Breathing dominates in nostril left, the body will no harm know and it will in health glow; Thus did Lord Nandi tell us, In manner delectable.

1933: How Food Builds Body, Blood and Mind
The food you partake in divisions three go to the body, the mind and the excreta; the parts that to the body and the mind go Verily become the blood, first.
THIRUVALLUVAR ON THE ART OF HEALING
(TIRUKKURAL)

CHAPTER 95 -- MEDICINE

KURAL 941
Disease is but deficiency or excess of three life forces, defined by writers of scientific texts as air, fire and water.

KURAL 942
The body requires no medicine if you eat only after the food you have already eaten is digested.

KURAL 943
Once digestion is complete, eat with moderation; that is the way to prolong the life of the body.

KURAL 944
Assured the last meal has digested and sensing a keen appetite, savor only foods that are fully agreeable.

KURAL 945
Life remains unharmed when one eats with restraint, refraining from foods that have proven disagreeable.

KURAL 946
The pleasures of health abide in the man who eats moderately. The pains of disease dwell with him who eats excessively.

KURAL 947
The thoughtless glutton who gorges himself beyond the limits of his digestive fires will be consumed by limitless ills.

KURAL 948
Diagnose the illness, trace its cause, seek the appropriate remedy and apply it skillfully.

KURAL 949
An accomplished doctor prescribes a remedy after considering the patient's nature, the disease's nature and the time of year.

KURAL 950
Medicine consists of a patient, a physician, a prescription and a nurse--each of these having four parts.
THERAPEUTIC POTENTIAL OF PRANAYAMA

By Yoga Vibhushan, Yoga Bishmacharya, Yogacharya

Dr. ANANDA BALAYOGI BHAVANANI
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What is Pranayama?
- The fourth Anga of Patanjali’s Ashtanga Yoga
- Regulation of inhalation and exhalation
- Science of controlled, conscious expansion (Ayama) of Prana, the vital life force
- Practice Yama-Niyama and try to master Asana before Pranayama
- A link between the body-emotions and mind

An Integral Component of Yoga Therapy
- Acts at Pranamaya Kosha level
- Mono therapy / Combination

Pranayama as a therapy

Advantages
- Can be done by most patients
- Not too taxing
- Can be taught in shorter time
- Can be used with other practices
- Can be integrated into the daily life
- Doesn’t require any special equipment
- Space not a constraint
- Cost effective

Drawbacks
- Needs:
  - Comprehension
  - Regularity
  - Discipline
  - Dedication
  - Determination
- Lack of qualified teachers
- Not a magic pill

Mental benefits of Pranayama (Patanjala Yoga Sutra)
- Tatah kshiyate prakashah aavaranam
  - Thereby the covering of light disappears.
- Dharanasu cha yogyataa manasah
  Fitness of the mind is developed for higher practices

*Notes for Yoga Therapy –Compiled and Edited by Dr Ananda Balayogi Bhavanani*
Physical benefits of Pranayama (Hatha Pradipika)

- Disturbed breath leads to a disturbed mind, hence, cultivate a steady and quiet breath in order to control the mind and prolong the life.
- Quietness of the nerves and concentration depend solely on the steady, smooth and rhythmic sound of the inhalation and exhalation
- Slender and lustrous body, increased gastric fire and excellent health
- Surya Bhedana purifies sinuses, cures Vata disorders and removes worms
- Ujjayi cures disorders of phlegm and Dhatu
- Sitkari: no hunger, thirst, sleep or lassitude
- Sheetali relieves colic, splenomegaly, fever & bile disorders. Hunger and thirst are alleviated & poisons neutralized
- Bhastrika cures phlegm, bile and gas disorders & helps increase gastric fire
- He also warns us that, though Pranayama can cure all diseases, it may cause a multitude of problems if performed wrongly

Slow & Rhythmic Pranayamas

- Hypertension
- Diabetes mellitus
- Bronchial Asthma
- Musculo Skeletal disorders
- Anxiety neurosis
- Insomnia
- Irritable bowel syndrome
- Coronary Artery disease
- Epilepsy

Fast Pranayamas (Kapalabhati, Bhastrika) - activation

- Bronchial asthma
- Hypothyroidism
- Depression
- Lethargy
- Chronic fatigue syndrome
- Obesity

Chandra Pranayama / Chandra Bhedana

- Hypertension
- Diabetes mellitus
- Coronary artery disease
- Anxiety
- Insomnia
- Epilepsy
- Hyperthyroidism

Surya Pranayama / Surya Bhedana

- Depression
- Asthma

* Notes for Yoga Therapy –Compiled and Edited by Dr Ananda Balayogi Bhavanani *
• Excessive sleepiness
• Hypothyroidism
• Obesity
• Syncope

**Cleansing breaths**
• Anu Nasika – E N T disorders
• Mukh Bhastrika
  - Learning disorders
  - Attention disorders
  - Mental retardation
  - Diabetes mellitus
• Kukkriya Pranayama
  - Abdominal disorders
  - Throat disorders

**Cooling Pranayama (Sheetali, Sitkari, Sadanta)**
• Hot flushes of menopause
• Thyrotoxicosis
• Ulcer disorders
• Appetite disorders
• Pitta conditions
• Heat exhaustion

**Nada Pranayamas (Brahmari / Pranava)**
• Eye disorders
• ENT disorders
• Stress disorders
• Chronic headache
• Neck disorders
• Anxiety disorders
• Depression

**Vibhagha Pranayama- Sectional breathing**
• Adam Pranayama- abdominal and lower limb disorders
• Madhyam Pranayama- Chest and upper limb disorders
• Adhyam Pranayama- head and neck disorders
• Mahat Yoga Pranayama- whole body

**Vibrational breath therapy**
• Savitri Pranayama
• Pranava Pranayama
• Chakra Awareness
Pranayama while walking – cardio respiratory exercise

- Savitri Pranayama
- Nadi Shuddhi
- Sukha Pranayama

Pranayama and breath awareness with movement

- Bhujangini Mudra
- Nasarga Mukha Bhastrika with Jathis
- Vyagraha Pranayama
- Pawan Mukta Kriya

SOME COMMON PRANAYAMAS

- Vibhagha Pranayama
  - Adham, Madhyam, Adhyam and Mahat Yoga Pranayama
- Pranava Pranayama
- Savitri Pranayama
- Chandra Pranayama
- Chandra Bhedana Pranayama
- Sheetali Pranayama
- Sitkari Pranayama
- Sadanta Pranayama
- Kapalabhati
- Bhastrika Pranayama
  - Nasarga / Nasarga Mukha / Mukh Bhastrika
- Surya Pranayama
- Surya Bhedana Pranayama
- Ujjayi Pranayama
- Nadi Shuddhi

Conclusion

- Pranayama has immense therapeutic potential
- Right diet - right attitude are important
- Of vital importance in Yoga Sadhana
- The best and only way to really control the mind is by regular, dedicated and determined practice of Pranayama with awareness, consciousness and purity of thought, word and deed
- Pranayama practise can only be possible if the field has been prepared by sincere practice of Yama, Niyama and Asana that are necessary preludes to Pranayama Sadhana
YOGA & MEDICINE
By Dr. Steven Brena (1972)

The chapter titles are as follows:

Part One:
Some Biological Functions in Humans: The Yoga Point of View
1. The integral man: A view of our nervous system
2. The mind-power: Consciousness and super consciousness
3. Energy and foods: A view of our nutrition
4. Energy and muscular activity: The Asanas
5. Energy and oxygen consumption: A view of our respiration

Part Two:
Some Common Human Problems: From the Perspective of Yoga Philosophy
7. Diseases and Yoga: A look at our disharmonies
8. What pain is: A look at human suffering
9. Yoga concepts applied to contemporary medicine: Some promising attempts
10. Drugs, hypnosis and Yoga

Chapter one concludes with a diagram with the following caption:
On the physical level, human functioning can be compared to a computer, with three different kinds of "inputs" and "outputs." One set connects man with the outer environment (the somatic man); a second set of "input-output" connects man with his inner environment (the cells and the tissues of his body--the vegetative man); a third set provides the hormonal functioning. The vegetative and the hormonal systems sustain the vital and sexual functions, interacting upon conscious and unconscious information received by all networks, through intricate and numerous feedback mechanisms. The three systems are connected through one common channel: the cerebrospinal axis.

After a long, general introduction, the titles of the subsections of chapter two, which pertain to Yoga, are: subjective light, moral elevation, intellectual illumination, sense of immortality, loss of the sense of sin, feeling of awakening, the transfiguration, post experience behavior.

In the Diseases and Yoga chapter, Dr. Brena classifies disorders into the following categories:

1. Inflammatory diseases,
2. Degenerative diseases,
3. Metabolic diseases,
4. Endocrine diseases,
5. Positive diseases
   ("can include all the diseases from inflammation, where there is a reaction of positive defense of the organism to eliminate the inflammatory agent and overcome the disease"), and
6. Negative diseases

* Notes for Yoga Therapy –Compiled and Edited by Dr Ananda Balayogi Bhavanani *
("diseases with a negative polarity are all the forms of degeneration of the tissues, some metabolic diseases, as well as many hormone diseases, characterized by a defect of function or by an immoderate hyperactivity). A disharmonious mind-power may explain both the prevalence of the negative energy in the body and the poor ability of the patient to attain recovery consciously. In the mature Yogi, a negative disease is less likely, since in him yama and niyama have already worked the necessary purifications of the body and of the mind. In any case, once the control of the vital energy is acquired, it is possible to magnetize the Chakra, on which the function of the sick organ depends, and send a wave of vitalizing positive energy to it."

He concludes the chapter entitled "Yoga Concepts Applied to Contemporary Medicine" as follows:

"I submit that Yoga is probably the most effective way to deal with various psychosomatic disabilities along the same, time-honored, lines of treatment that contemporary medicine has just rediscovered and tested. The Asanas are probably the best tool to disrupt any learned patterns of wrong muscular efforts. Pranayama and Pratyahara are extremely efficient techniques to divert the individual's attention from the objects of the outer environment, to increase every person's energy potentials and 'interiorize' them, to achieve control of one's inner functioning. Moreover, in restoring human unity, the Yoga discipline is always increasing awareness and understanding of ourselves, adjusting our emotions, expanding our intellect, and enabling us not only to function better in any given situation, but to perform as spiritual beings with universal values."
Yoga is one of India’s oldest and most comprehensive soteriological traditions, which has developed a vast arsenal of physical and mental techniques geared to gain control over the nervous system in order to achieve, at will, conscious and supraconscious states of transcendence. In order to appreciate the unique contribution of Yoga to our understanding of the human condition, this age-old tradition is best viewed from the kind of broad perspective of the human potential that characterizes transpersonal psychology and psychosomatic medicine. Yoga therapy is of modern coinage and represents a first effort to integrate traditional yogic concepts and techniques with Western medical and psychological knowledge. Whereas traditional Yoga is primarily concerned with personal transcendence on the part of a "normal" or healthy individual, Yoga therapy aims at the holistic treatment of various kinds of psychological or somatic dysfunctions ranging from back problems to emotional distress. Both approaches, however, share an understanding of the human being as an integrated body-mind system, which can function optimally only when there is a state of dynamic balance.

Yoga Past and Present

The beginnings of Yoga can be seen in India’s oldest sacred corpus, the Rig-Veda, which was compiled prior to 2000 B.C.E. In this hymnody, composed in archaic Sanskrit, inspired sages expressed their deepest thoughts and intuitions about human life. Yoga achieved its classical form under Patanjali, the compiler of the Yoga-Sûtra, who is assigned to the period from 200 B.C.E. to 200 C.E. He outlined the eight "limbs" of the yogic path: (1) moral discipline (yama), (2) self-restraint (niyama), posture (āsana), breath control (prânâyâma), sensory inhibition (pratyâhâra), concentration (dhâranâ), meditation (dhyâna), and ecstasy (samâdhi). These are intended to lead the practitioner (called yogin if male and yoginî if female) to total transcendence, or liberation. Yogic teachings are also present in Buddhism and Jainism, though in the West the term Yoga is most commonly associated with Hinduism.

In contrast to Patanjali’s Classical Yoga, the many schools of Post-Classical Yoga are nondualistic. That is, they pursue their soteriological program on the basis of the recognition that "All is One." Thus their via negativa leans toward a more life-positive orientation, which is founded in the understanding that if everything is an interconnected and interdependent Whole, there is no need for escape or denial of body, mind, and world.

This orientation achieved its peak in Hatha-Yoga ("Forceful Yoga"). This type of Yoga specializes in exploring the body’s potential for the transformative processes of yogic consciousness technology. Understandably, it is this orientation that holds the greatest appeal for contemporary Western students, especially those concerned with the integration of body and mind.

Hatha-Yoga has always had a close relationship with India’s native naturopathic system called Āyur-Veda ("Life Science"), which is profoundly holistic and for this reason has become fashionable in the West in recent years. A similar osmosis has occurred between Hatha-Yoga and the Siddha naturopathic system of South India, which, however, is as yet little known in Western countries.

The psychosomatic approach of Hatha-Yoga includes many physical purification techniques and a large number of postures that exercise the body in various ways. The last-mentioned feature has been mainly responsible for the great popularity of Hatha-Yoga outside India. Today an estimated six million Americans are practicing postures and other Hatha-Yoga techniques on a more or less regular basis to help restore or maintain their fitness and/or health.

In the West, there are several significant contemporary approaches to Hatha-Yoga, which are based on traditional teachings to varying degrees and also utilize the therapeutic potential of Yoga. The most traditional orientation, which goes by the name of ViniYoga, is found in the school of T. Krishnamacharya (1888-1989).
and his son T. K. V. Desikachar. It has produced a number of Western Viniyoga teachers, including Gary Kraftsow in Hawaii, who recently authored a significant book on Yoga therapy.

Another well-known system, which has produced over a thousand teachers around the world, is that of B. K. S. Iyengar, a son-in-law and student of T. Krishnamacharya. More than any other teacher, Iyengar has developed Hatha-Yoga for therapeutic purposes and in this context has pioneered the use of props such as wood blocks, benches, bolsters, and straps.

A third widely used approach containing therapeutic elements is Kripalu Yoga, as developed by Yogi Amrit Desai and the Kripalu Center for Yoga and Health in Massachusetts.

A modified form of Kripalu Yoga is taught at Phoenix Rising Therapy under Michael Lee, M.A., also in Massachusetts.

In California, Joseph LePage, Ph.D., is using Yoga therapy specifically for stress reduction under the aegis of Integrative Yoga Therapy.

More recently, Dean Ornish, M.D., a student of Swami Satiderananda of the Integral Yoga Society, has included Yoga therapy for stress management in his program for patients suffering from various types of heart disease. Patients are expected to commit to one hour of Yoga a day for the period of one year, in addition to adhering to a low-fat vegetarian diet, regular exercise, and utilizing group support. Currently the Ornish Program is used at eight hospitals and since its inception in 1985 has involved hundreds of patients.

Medical and Psychological Research on Yoga

In the course of its several thousand years of existence, Yoga has accumulated a huge store of experiential data, some of which is contained in the extensive native literature written in Sanskrit and various vernacular languages. Much of the information, however, is still passed on from teacher to disciple by word of mouth, and therefore to learn the subtleties of yogic technology one is obliged to undergo a traditional pupilage even today.

Ever since classical Greece, Westerners have been intrigued by the extraordinary physical and mental abilities of Yoga practitioners. There are numerous anecdotes about Yogins being able to stop their pulse and heart beat, to experience no pain when cut or burned, to suffer no injury when ingesting lethal doses of poison, to be buried underground for several days in an airtight box, and not least to remain transfixed in concentration for hours and even days.

Some of these feats have been tested and fully or partially verified in medical laboratories. One of the better known contemporary yogins capable of extraordinary somatic and psychological responses was the late Swami Rama (1925-1996), founder of the Himalayan International Institute in Pennsylvania. In 1970 he was tested at the Menninger Foundation in Topeka, Kansas, and among other yogic skills demonstrated extensive control over his brain waves. While few Yoga practitioners actually attain this level of mastery, in principle everyone is held to be capable of it. Swami Rama’s expertise and humanitarianism attracted many physicians and psychologists, which, in 1989, led to the creation of one of India’s best equipped hospitals with 500 beds and a plan for 2,000 more. This hospital, which is meant to be expanded into a medical city, uses Yoga therapy as a complement to conventional medicine.

The earliest medical studies of Yoga were conducted at the Yoga Institute in Santacruz, Bombay. The Institute was founded in 1918 by Shri Yogendra as a research and educational organization and today is directed by his son Jayadeva Yogendra, Ph.D., who is also the editor of the quarterly magazine Yoga and Total Health, now in its forty-second year of publication. Another well-known Indian Yoga research institution is Kaivalyadhama in Lonavla, which was founded in 1924 by Swami Kuvalayamandna, who also launched Yoga-Mimamsa journal.

Over the years, numerous medical studies have been carried out that typically bear out the modest-to-moderate claims made by Yoga authorities. These range from Yoga’s beneficial effect on physical flexibility, muscle tone, and stamina to poor eyesight, obesity, indigestion, back pain, hypertension, various respiratory conditions, and more.
diseases, sinusitis, arthritis, diabetes (I and II), as well as anxiety, nervousness, attention deficit, and memory loss.

In the 1970s, the immense popularity of Transcendental Meditation (TM) introduced to the West by Maharishi Mahesh Yogi led to many studies of this and other forms of meditation. Again, the benefits of regular meditation for physical and mental health have clearly been demonstrated in experiments. The Yoga Research and Education Center in California is currently creating a data base of medical and scientific studies on Yoga, which, when completed, will be made accessible to Yoga teachers and investigators. Some aspects of Yoga—notably meditation—have been fairly thoroughly (and repeatedly) investigated, while others are in need of systematic study. In particular, illness-specific and longitudinal studies are needed to explore the effects of regular Yoga practice on a person's psychosomatic well-being.

Discussion

As an emerging field, Yoga therapy is still in the process of defining itself both relative to the medical and psychological profession and the Indic Yoga tradition. Throughout its long history, Yoga's proven vitality has always been integrally connected with the traditional initiatory structure and oral transmission of yogic teachings. In the West, a new approach to Yoga is evolving, which tends to downplay these two traditional elements but which has introduced a battery of new concepts and practices stemming from medicine and psychology. While this direction is necessary and inevitable, it also exposes Yoga to reductionism, which must be avoided. Specifically, to the extent that Yoga therapy understands itself as little more than physical therapy or breath therapy it will have failed in preserving the holistic paradigm of original Yoga. The challenge confronting Yoga therapists is to remain true to the holistic (psychosomatic and spiritual) content of traditional Yoga while simultaneously serving clients who are suffering from physical and emotional dysfunctions and who may not be prepared to hear that their problems have a spiritual component. To express it differently, Yoga therapists will have to become highly skillful in navigating the potentially hazardous waters between therapy and religion—a challenge they share, for instance, with some psychotherapists.

Yoga has been part of the American cultural kaleidoscope for the past hundred years and is undoubtedly here to stay. Yoga teacher training in the United States is becoming ever more professionalized through the efforts of organizations like the International Association of Yoga Therapists in Mill Valley, California, and International Yoga Studies in Phoenix, Arizona. Training specific to Yoga therapy is also increasingly subjected to higher professional standards, which will serve both Yoga therapists and their clients. The first fruits of these various efforts can be seen in the recent interest by health insurance companies in admitting Yoga and Yoga therapy into their programs. The future for Yoga and Yoga therapy looks bright.
Yoga is the evolutionary process of integration (yuj = union). In the Bhagavad Gita, Lord Krishna says "Samatvam Yoga uchyate" (Yoga is equanimity). The Yogic concept of Loma Viloma (balancing the dwandwas / opposites) encompasses the wide variety of processes in our body, emotions and mind and thus brings about this equanimity of the mind. Yoga and Tantra emphasize the balance between the two halves of the body in terms of Loma and Viloma. The right side of the body is considered to be of masculine nature, endowed with warm, golden, positive, pranic energy and represented by the pingala nadi (energy channel on the right of the sushumna). The left side of the body is considered feminine and endowed with cool, silvery, negative, apanic energy and represented by the ida nadi (energy channel on the left of the sushumna). The sushumna nadi is the energy channel that runs down the middle of the central canal of the spinal cord. (Note: All these energy channels are in the pranamaya kosha though they have correlating structures in the physical body). The Yogi attempts to understand, harness and bring about a balance between the energies of the two halves of the body. The best practical example of this concept is found in the study of the nasal cycle.

The nasal cycle is an ultradian rhythm of nasal congestion and decongestion with a quasi-periodicity of 60 to 240 minutes. Keyser made the first formal description and the use of the term nasal cycle in 1895. However the concept of the nasal cycle and an understanding of its role in our life had existed for long before that in Indian thought. The Vedic science of understanding the function of the nasal cycle was known as Swarodaya Vigjnan (swara = sonorous sound produced by the airflow through the nostrils in the nasal cycle, udaya = functioning state, and vigjnan = knowledge). The Shivaswarodaya, an ancient treatise in Sanskrit literature advises the Yogi to undertake quieter, passive activities (soumya karya) when the left nostril flow is dominant (ida / chandra swara), to engage in challenging and exertional activities (roudra karya) when right nostril is dominant (pingala / surya swara) and to relax or meditate when the bilateral nasal flow is operational (sushumna swara) as it was considered to be unsuitable for performance of worldly activities. Ida swara (left nostril dominance) was described as feminine, Shakti and moon-like (chandra) while the pingala swara (right nostril dominance) was described as masculine, Shiva and sun-like (surya). Similarly the traditional Indian description of Ardhanarishwara consists of Shakti (the female element) being depicted on the left and Shiva (the male element) on the right side of the body. Such a notion of left-right, female-male duality was common in oriental traditional medicine as also in western alchemy. The nasal cycle has been demonstrated not only in man but also in rat, rabbit and domestic pig.

TRADITIONAL VIEWS ON SWARA YOGA

A. Rhythmicity of the swara

Textbooks of swara Yoga (Charandas, 1954; Kannan, 1967; Gautam, 1975) describe a definite pattern of breathing in a healthy person on each day of the month at sunrise. It is said that on days 1,2,3,7,8,9,13,14,15 of the bright fortnight (the two weeks after full moon), the breath is to flow predominantly in the left nostril at sunrise and on days 4,5,6,10,11,12 it is to flow in the right nostril at sunrise. Similarly, on days 1,2,3,7,8,9,13,14,15 of the dark fortnight (the two weeks after the new moon), the breath is to flow predominantly in the right nostril at sunrise and on days 4,5,6,10,11,12 it is to flow in the left nostril at sunrise. In modern man it is difficult to have these natural patterns due to the haphazard life styles but in preliminary studies conducted on students attending six months Yoga Training atICYER, Yogamaharishi Dr. Swami Gitananda Giri had reported a definite relationship between the lunar phase and the swara pattern.
B. Activities prescribed in various swaras

1. Activities prescribed in lunar Swara
   Initiation of new projects, intake of hot liquids, studies and learning, traveling, dancing, singing, weddings and other auspicious ceremonies are prescribed to be performed when in the lunar (left nostril dominant) swara.

2. Activities prescribed in solar swara
   Strenuous activities such as sporting activities, creative writing, commencing of battle, intake of food, sleep and extension of business are prescribed activities to be performed when in the solar (right nostril dominant) swara.

3. Activities prescribed in sushumna swara
   During the time that both nostrils are functioning equally, it is prohibited to perform any worldly activities and the activities advised are Yogabhyasa, meditation, puja and other such spiritual and relaxing activities.

4. Interesting observations on swara Yoga
   Some interesting observations that are made in relation to swara Yoga are:
   - Major meals should be partaken in the solar swara.
   - Bathing should be performed in the solar swara and there is danger of catching cold if done in the lunar swara.
   - Articles of hot potency should be taken in the lunar swara as also liquids.
   - Articles of cold potency should be taken in solar swara.
   - One should go to sleep in the solar swara.
   - If male partner has solar swara and female partner has lunar swara during coitus, then the child conceived will be male. The converse would beget a female child (This interesting observation would be worth being studied scientifically).
   - If a person has headache, cold, hypertension, acidity or asthmatic attack, the change of his swara pattern artificially to the opposite swara may benefit and give relief within an hour. (Again this is worth being studied scientifically, as it would be of use in immediate symptomatic benefit for patients found true.)
   - Indulgence in coitus during flow of same swara of both partners will not result in pregnancy. (Worth scientific investigation as it would be a very effective family planning method is found to be true.)

MECHANISM OF NASAL CYCLE

Various mechanisms were postulated for the occurrence of the nasal cycle and a great amount of research work has been done in this field. The teleological explanation indicates that as one nostril was active in its air-conditioning function, the other nostril rested. It has been seen that the use of Yoga Danda (T-shaped wooden implement used by the Yogis to regulate differential breathing patterns), pressure of a crutch in the axilla, pressure on the thorax while sitting and also the act of lying down on the side all affect the pattern of nasal dominance. All these maneuvers cause decreased airflow in the ipsilateral (same side) nostril and increased airflow in the contra lateral (opposite side) nostril. The pattern takes a minute to start to change, equalizes in both nostrils by about the 4th minute and reaches the peak in 17 minutes with application of a crutch and 11 minutes by lateral recumbence. Congestion of the mucosa of one nostril leads to the contra lateral nostril becoming dominant and vice versa. The nasal cycle is dependent upon the tonic activity of the limbic autonomic nervous system, the levels of circulating catecolamines and other neuro-hormones. Vinod Deshmukh showed that nasal congestion correlates with low sympathetic-high parasympathetic activity whereas decongestion is directly related to high sympathetic-low parasympathetic activity mode. Virendra Singh showed that compression of the
hemi thorax from any surface lateral, anterior, posterior or superior could lead to congestion of the ipsilateral nostril with simultaneous decongestion of the opposite nostril. Keuning has demonstrated that anaesthetizing the nose or the larynx does not influence the nasal cycle but that the nasal cycle is absent after cervical sympathetic denervation and laryngectomy. Mitti Mohan and Eccles showed that airflow in the patent and congested nostrils caused reflex congestion of the patent nostril. Eccles also proposed that the hypothalamus was the centre for the sympathetic effects on the nasal mucosa and the nasal cycle.

EFFECTS OF NASAL CYCLE AND FORCED UNINOSTRIL BREATHING

Wernitz and others reported selective hemispheric stimulation by unilateral forced breathing. They showed that forced breathing through one nostril produces a relative increase in the EEG amplitude in the contra lateral hemisphere. Block et al demonstrated that unilateral breathing affects males ipsilaterally on both spatial and verbal tasks. Their spatial performance is better during right nostril breathing and verbal performance is better during left nostril breathing. In females it affects performance contra laterally but only in spatial tasks and their spatial performance is better during left nostril breathing. However in a study on 108 school children, K.V Naveen and others found that Yogic breathing through a particular nostril increases spatial rather than verbal scores without lateralized effects.

Mitti Mohan tested the nostril dominance with reference to the bilateral volar GSR (galvanic skin resistance) that is an indicator of sympathetic activity. He found that sympathetic activity was lower in i da swara, (left nostril breathing) followed by pingala swara (right nostril breathing) and was the maximum in the sushumna swara (bilateral nostril breathing).

Backon has shown that right nostril breathing significantly increases blood glucose levels, whereas left nostril breathing lowers it. Shirley Telles et al have shown that right nostril breathing can significantly increase the metabolism measured by the increased baseline oxygen consumption with one month of practice several times a day. They have also shown that breathing through the left nostril exclusively, repeated 4 times a day produced a significant increase in the baseline GSR suggestive of reduced sympathetic activity to the Palmer sweat glands.

L.Rai et al found that induced left nostril breathing produced decreased systolic, diastolic and mean blood pressures. They suggested that the left nostril breathing could be used as a prophylactic means to combat rises in blood pressure associated with everyday stress and strain of life. They also found that induced right nostril breathing caused correction of blood pressure to normal levels, increase heart rate, increase skin conductance and increased body temperature.

CONCLUSION

The science of swara that is of recent interest to scientists all over the world, had been analysed extensively by Indian Yogis of lore. Though they lacked the physical equipment available to modern science, these Yogis through their dedicated practice (abhyasa), inner vision (antar drishti) and self-analysis (swadyaya) had made an extensive number of observations on this concept. Recent scientific studies have helped us to have a better, methodical understanding of these concepts. They have thrown light on the potential health benefits of forced uninostril breathing in various medical conditions. Further research is required to prove the efficacy of these techniques in clinical conditions such as hypertension, low blood pressure, autonomic dysfunction and diabetes. The interesting observation that changing the nasal dominance pattern to the opposite side may relieve conditions such as acute asthma, acidity and headache, requires further studies before such techniques can be advocated for clinical trials and patient care.

The theory that conception doesn’t occur when both partners are in same swara if found true, will be a welcome addition to the contraceptive armory especially in situations where other methods such as oral contraception are contraindicated. In conclusion, it can be said that the swara Yoga concept is a highly interesting field for further research and it may have wonderful scope in the field of patient care and in improving our understanding of how to live in harmony with nature.
DIVINATION OF DISEASES AND THEIR AVERSION.
(Shivasvarodaya-Ram Kumar Rai)

When the Svaras in the nostrils do not adhere to their fixed timings and days then the body develops diseases. In case a disease had developed due to erroneous functioning of the Svaras, then a correction of that functioning can cure that disease. In this connection some possible diseases and methods of their aversion or cure are as follows:

Fever – When feverishness is felt then one should stop the Svara, which is flowing at the moment, and keep it stopped till full recovery. Lying on the same side of which the Svara is flowing will stop that Svara. Soft cotton can also be placed in the nostril, which is required to be stopped.

Headache – When headache is felt, one should lie down straight on his back and stretch both his hands sideways along the body (assume Shavasana). In this posture he should then request someone to tightly tie separate strings around the elbows (joint of the fore and upper arms) of both hands. This would soon relieve the Headache, after which the strings should be untied.

In case it is migraine or one-sided Headache then the hand only of that side whose head is aching, should be tied in the aforesaid manner. It is not necessary to tie both hands in this condition. If however, the same ache again recurs the next day and the same Svara is also flowing which was flowing on the first day, then in addition to tying the elbow of the respective hand the Svara of that side should also be stopped.

Indigestion – Persons suffering from Indigestion should develop the habit of taking their food during the reign of Right Svara. This will gradually relieve the existing indigestion and develop a healthy appetite and digestion. Lying down on the left side for about 15 to 20 minutes after meals also facilitates the process.

There is another way also for getting rid of chronic Indigestion. One should sit daily for 10 to 15 minutes in Padmasana and concentrate his sight on his navel. This would cure the disease even within a week.

Other Pains – If there is a pain in the chest, back, waist or stomach then one should immediately stop the Svara that is flowing at the moment. This will give relief from pain.

Asthma – When there is attack of Asthma and suffocation begins then one should immediately stop the Svara flowing at the moment. As a measure of permanent cure he should then try to keep the flowing Svara changing from one to another for a month. The greater is the effort in alternating the flow of the Svaras; the better would be the cure from the malady.
LIFESTYLE MODIFICATION IN HEALTH AND DISEASE

By Prof Dr. MADANMOHAN, MD, FIAY, PGDY
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INTRODUCTION
- Good health – a priceless possession
- Ill health & disease – a curse
- Holistic health i) body ii) mind iii) soul
- Improve your health / heal yourself physically, emotionally and spiritually
- Unhealthy lifestyle is a major underlying factor for i) disease ii) disability iii) death.
- Adopt a healthy lifestyle for
  - Health promotion
  - Prevention & cure of disease

LIFESTYLE IS:
- The way we live our day-to-day lives with the object of acquiring & maintaining healthy body & mind
- The way we think, emote & behave, act & interact, rest & relax, eat & drink
- Daily discipline, a dynamic process

CHOICES / ACTIONS TO BE TAKEN TO IMPROVE:
- Physical health & physiological Functions
- Mental health & sense of well being
- Life span
- Quality of life

CHOICE IS YOURS. RESOLVE NOW:
- If healthy – to stay fit
- If unwell – to restore health

ADVANTAGES OF LIFESTYLE MODIFICATION
- Natural, effective & safe
- Complementary to “modern” medicine
- Inexpensive

LIFESTYLE DISORDERS: THE INDIAN SCENARIO
Addicted to:
- i) Physical inactivity
- ii) Junk food
- iii) Television
  ..... Indiscipline

* Notes for Yoga Therapy –Compiled and Edited by Dr Ananda Balayogi Bhavanani *
HENCE LIFESTYLE DISORDERS ARE COMMON:
- DM, HT, CAD, Ca, backache, low energy level
- High death rates among 30-50 yr group.
- Lifestyle modification should be the first step for
  - primary prevention
  - secondary prevention

COMPONENTS OF LIFESTYLE MODIFICATION
- Healthy food & drink
- Regular physical exercise
- Rest & relaxation
- Healthy emotional relationships
- Preventive measures
- Management of stress
- Periodical check-up
- Self-examination
- External & internal cleanliness & purity

HEALTHY FOOD AND DRINK
- Food is the most neglected medicine
- Nutritious, well balanced
- Low in: Fat, salt, sugar, hot spices
- High in: Fiber, antioxidants
- Adequate quantity of clean water
- Emphasis on: Vegetarian, fresh vegetables & fruits, whole grains & pulses, sprouts, low-fat dairy produce
- Avoid:
  - Unhealthy / junk food
  - Chronic over dosage of vitamins & minerals
  - High-risk diet: Obesity, constipation, HT, CAD, DM, cancers, premature aging
  - Even a single meal rich in fat & cholesterol release of TXA₂ coronary spasm & tendency to clot

REGULAR PHYSICAL EXERCISE
- Physical activity / inactivity: Important role in health / disease
- Benefits of exercise:
  - Decreases flab
  - Increases energy level
  - Prevents & cures many diseases
  - Exercise 30 min daily / 15 min BD,
  - 4-5 d / week, moderate intensity
  - For depression, stress & anxiety: Outdoor activity that you enjoy
  - For osteoporosis: Resistance / high impact training
ADVANTAGES OF YOGA

- **Holistic**
- Preventive, promotive, curative
- Science, philosophy, art
- Body, mind, soul
- Desirable +ve "side effects"
- Harmless
- Simultaneous improvement in health & other diseases
- Relief from stress

REST & RELAXATION

- Sleep well
- Siesta
- Hobbies
- Massage
- Nature
- Meditation

HEALTHY EMOTIONAL RELATIONSHIPS

- Promote positive thoughts, emotions & behavior
- Get rid of negativity
- Warm smile, caring touch, show concern
- Selfless service
- Group support

PREVENTIVE MEASURES

Avoid:

- Self / irrational medication
- Tobacco products
- Alcohol
- Sedentary lifestyle
- Reckless lifestyle: Immoderate partying, Risky behavior

PERIODIC CHECK-UP

- Consult your family physician regularly
- Monitor: Wt, BP, blood sugar, blood cholesterol & triglycerides, ECG, PEFR
- Especially if family h/o HT, CAD, DM

SELF-EXAMINATION

- Skin, teeth, mouth, throat, breasts, testes
Every scientific discipline has its specific protocols, procedures, and methodologies that are considered essential in order to arrive at valid knowledge. These approaches are based on well-established presumptions about reality and about knowledge that, within each field, are rarely made explicit and even more rarely questioned. It is hard to challenge these fundamental premises because so much of the discipline is built on them. Almost everything the discipline has achieved is contingent on their inviolability. And yet, if we want to consider introducing traditional Indian psychology within modern academic psychology we must examine the presumptions underlying both systems with great care. If we fail to appreciate the enormous differences between the two systems and the intricate manner in which they are related to each other, we are likely to miss out on the very essence of what Indian psychology could contribute to the world and especially to psychology as an academic science.

It is true that both academic psychology and Indian psychology are extremely complex fields of human activity. They cover long periods of time and consist of many disparate sub-streams and widely differing schools of thought. Within Western psychology, for example, the differences between psychoanalysis, cognitive behaviourism, and the various humanist schools seem to outweigh by far their commonalities. Within the Indian tradition also, there are significant differences between the psychological systems inherent in Vedanta, Samkhya, and Buddhism, to name just a few. So it is clear that one must be wary of undue generalizations. But still, there are some definite and highly significant differences between the centres of gravity of both systems. It is even possible, and this is perhaps more interesting, to discover an overriding historical development that encompasses both systems and that could give a hint as to where the future may be leading us.

THE FOUNDATIONS OF ACADEMIC AND INDIAN PSYCHOLOGY

For a good part of the twentieth century, academic psychology was fully under the sway of behaviourism, and it based itself on an exclusively materialist worldview: consciousness, and all that depends on it, was virtually banned from psychological inquiry. The most extreme forms of behaviourism have luckily been discarded and at present consciousness is a respected and high profile subject of scientific discourse. Thoughts, beliefs, and feelings are again a legitimate focus for psychological research. But the behaviourist influence is not gone. Academic psychology is still commonly defined as the science of behaviour and, if not in theory, at least in practice, it still regards human beings primarily as separate, physical entities, living in a physical world. Social influences, for example, are acknowledged, but it is taken for granted that such influences are transmitted by physical gestures and expressions. If use is made of self-reports, there is a tendency to take the reports, not the experience, as the raw data. Individual experiences are distrusted and one relies instead on standardized reports of groups of individuals that need to differ ‘significantly’ from those of other groups. In short, traditional academic psychology relies primarily on a physicalist view of reality. For many of those working in the field, all this may seem too obvious to be worth mentioning, but actually, it is not that obvious at all. The original assignment of psychology, its svadharma one could say, is to be the science of the soul, the science of our inner being, the science of consciousness. To develop such an inner science is certainly not easy, but to coolly redefine psychology as the science of behaviour is a kind of coup d’etat for which there is no good excuse. As I hope to show, Indian psychology has followed a more fruitful path by concentrating its efforts on the development of solid and extremely well worked-out procedures to improve the quality and reliability of subjective knowledge. It has been helped in this endeavour by the fact that it could build on a for this purpose much more suitable basic philosophy.
During the long history of the Indian civilization there have been, no doubt, materialist or agnostic schools, but the vast majority of Indian thinkers takes consciousness, rather than matter as the basis of reality. Across the spectrum of the various schools, the nature of the ultimate reality is described as Sachchidananda, an indissoluble unity of absolute existence, consciousness, and joy. It is out of this absolute consciousness, existence, and joy that the physical world comes into manifestation as just one type of world among many others. Sri Aurobindo describes this as a process of exclusive concentration, comparable to that of a man fully engrossed in his work: he forgets the surrounding; he forgets who he is; for all outer appearances, he becomes the work in which he is involved. Through a similar process, the Absolute One condenses itself into the multitude of lesser forms of consciousness that we know, for example, as the mentality of humankind or the apparent unconsciousness of matter.

[1] A central aspect of the Indian system is thus that it recognizes as consciousness not only the human mind, which is the only form of consciousness that traditional science recognizes, but an extensive hierarchy of different types of consciousness ranging right from the super-consciousness of Brahman to the apparent unconsciousness of matter. In this vast scheme, the ordinary human mind is seen as not more than an intermediary term.

It is possible to build logically coherent philosophies on both physical and spiritual premises and the most exclusive forms of these two opposite viewpoints show an interesting symmetry. If the material viewpoint is carried to its extreme, consciousness is seen as not more than a causally ineffective epiphenomenon of material processes. If one looks at the world from exactly the opposite side, from the standpoint of the exclusively spiritual mayavadin schools of Indian thought, the physical manifestation appears as an illusion imposed on the pure consciousness of the Absolute.

But the symmetry is not complete. There is a considerable, qualitative difference between those theories that start from matter and those that start from consciousness. The materialist and reductionist schemes have, no doubt, proven to be powerful within their range, but they tend to have an impoverishing effect when used beyond it. As Sri Aurobindo says, the significance of the lotus, is not found in the mud, but in its heavenly archetype above.

[2] Materialistic explanations tend to trivialise, distort or even completely miss out on inner values, beauty, love, freedom, -- in other words on all those more subtle aspects of reality that for most people make up the real meaning and value of life. The more integral spiritual frameworks, on the other hand, uplift and enrich whatever they touch, because they see behind the surface phenomenon, the higher reality on which it is based. If one looks from a physicalist standpoint at a sculpture, let’s say one of those marvellous, Chola-period statues one finds in Gangakondacholapuram, it is just a piece of granite sculpted by means of purely physical processes into the likeness of an idealized male or female figure. It is a valid description, no doubt, but only to a point. If there had been only physical forces at play, the granite would have remained an in descript rock on a hillside. It was the vision of the sculptor, who saw Shiva hidden inside the rock, which made the artist chip off all that didn’t belong to him. There is something in us that vibrates to the same hidden reality that the sculptor saw, and it is this "secret ingredient" which makes us recognize the Chola sculptures as the outstanding pieces of art they are. Materialist reductionism is a puritan view; it clears out superstition, but in the end it sterilizes and leaves one in a bare, severely diminished remnant of reality. The exclusively spiritual views of the mayavadin schools have a similar impoverishing effect through their denial of the physical reality. But there is a third option. The most ancient Vedanta, as espoused in the Vedas, or more recently by Sri Aurobindo, is a vast and comprehensive scheme that encompasses both materialism and spirituality. It doesn't deny the reality or value of matter, nor any of the discoveries of physics, it has no difficulty with the experiences on which the theistic religions are based, nor with the white purity of the most impersonal forms of Buddhism. It encompasses them all in what is easily the widest framework devised by humankind so far. The entire scientific enterprise fits in fact into just one small niche of the Vedic worldview. What is science after all? It is a highly perfected physical mind observing physical nature.
But in the Vedic scheme, the physical mind is just one of many different levels from which the observing consciousness can look out at the world, and physical nature is just one of the many different levels on which Nature can manifest. On all these myriad levels of involvement and emancipation, it is the one single Consciousness- Existence that splits itself, for the sake of the play, into Self, purusha, and Nature, prakriti. According to this view, in matter conscious existence is fully engrossed in its own movements. On the human level it is kind of half awake, so that we can play with "ideas in our mind" and make mental models of physical reality that make enough sense to work. But, and here we touch on the very heart of the human problem, at this intermediate level, our budding individuation and pseudo freedom are achieved at the cost of a deep alienation: we are uprooted from the subconscious unity of physical nature without realizing as yet the conscious unity of the higher ranges of consciousness above us. It is only in these higher ranges that conscious unity begins to be recovered, till at the peaks our individual conscious-existence can merge with what has been called, the consciousness the Divine has of itself. The basic philosophical system underlying Indian thought is thus a much wider and more comprehensive worldview than the scientific one. While it is perfectly possible to study Western science and its findings from within the framework of Indian thought, one cannot study Indian psychology from within the standard scientific framework without loosing out on its very essence.

INDIAN PSYCHOLOGY AND QUESTIONS OF METHOD

How is all this high philosophy relevant to down-to-earth psychology? There are two reasons to be concerned about basic issues of philosophy; the first relates to method, the second to content. Regarding method one may observe that ontology and epistemology are closely related. It is one’s basic ontology that determines the final touchstone in one’s epistemology and vice versa. In other words, what we take for the ultimate reality is inextricably linked to what we accept as proof. The common assumption that scientific proof rests in sensorial perception and that validity and reliability are determined by physical referents and instruments implies that we are dealing with physical objects. These criteria are thus fine for physics, but not for psychology, because they reduce human beings to physical bodies, and presume without ground that consciousness, if such a thing can be conceded, is dependent on the physical functioning of the brain. History shows that if one begins by presuming that only physical things can be reliably known, one will tend to focus exclusively on physical factors and after some time one runs the risk of thinking that the physical aspect of reality is all there actually is. This is at least what has happened in Europe.

Copernicus launched his explanatory system as not more than a simplification of astrological [3]calculations. Two centuries later, La Place's famous remark to Napoleon that he did not need God to explain the movements of the planets, is still an honest statement of his mathematical model. But when Daniel C. Dennett claims that, "we are just a bunch of neurons" what had started as a clean, methodological simplification, has ended as a drastic ontological reduction, which would have greatly surprised those who started the scientific revolution in Europe. As we have seen, the Indian tradition presumes that consciousness is the primary reality, and that we are first and foremost a conscious Self, one with Brahman. If we accept this, then the ultimate proof in psychology must rest in subjective experience itself, and external, physical measurements can no longer be used as a yardstick. After all, in this philosophical framework the material manifestation is just one way in which our mind sees the in itself ineffable (anantaguna) reality. This means that we have to look for an entirely different solution to the problem of reliability. The Indian tradition has approached the problem by focussing on the quality, purity, and concentration of the antahkarana, the inner instrument of knowledge used by the person who has the experience. Just as Western science has developed techniques to make objective measurement more reliable, the Indian tradition has developed a plethora of methods to enhance the quality and reliability of inner observation. The specific form these methods have taken shows a baffling variety, but their essence is quite straightforward and methodologically sound. To put it very simply, it rests on a particular combination of concentration and detachment, leading to an attentive, one would almost say, "objective" [4],

* Notes for Yoga Therapy –Compiled and Edited by Dr Ananda Balayogi Bhavanani *
inner silence. I’m convinced that, when we pursue this line of enquiry in the right spirit, we will find this approach at least as powerful, effective, and reliable for the study of inner, psychological processes, as the standard scientific methods have been for the study of physics, chemistry, and biology.

There are other, equally crucial aspects in which the introduction of the Indian ontology would require a profound change in the epistemology and methodology of psychology. They have to do with the nature of knowledge and the way knowledge is acquired. This is a complex issue, and all I can do here is to mention a few of the main issues. A first point is that the modern scientific concept of knowledge is not the same as the ancient Indian idea of knowledge. Scientific knowledge is something external, it is something you have; Vedic knowledge is transformative, it changes who you are. Speaking of the role of knowledge in Yoga, Sri Aurobindo writes:

... the knowledge we have to arrive at is not truth of the intellect; it is not right belief, right opinions, right information about oneself and things; -- that is only the surface mind’s idea of knowledge. To arrive at some mental conception about God and ourselves and the world is an object good for the intellect but not large enough for the Spirit; it will not make us the conscious sons of Infinity. Ancient Indian thought meant by knowledge a consciousness which possesses the highest Truth in a direct perception and in self-experience; to become, to be the Highest that we know is the sign that we really have the knowledge.

[5]This is an example of what Sri Aurobindo calls, "knowledge by identity". In our surface consciousness, we know by this type of knowledge only ourselves. It is not mediated through our sense organs, but it comes into existence directly, simply by being ourselves. In our ordinary consciousness, we know in this direct manner only the bare fact of our own existence, all other detail we construct by the more indirect means of our sensorial mind, intelligence, memory etc. But according to the Indian tradition, and anyone who cares to take the trouble can verify this for himself, we can deepen this inner type of knowledge till we know ourselves as our eternal soul, our higher Self which is one with the Self of the world. If we explore this further, we find that this direct knowledge by identity need not remain limited to our own individual being; it can be extended to other selves and even to things, which we then can know as if from inside. We then realise that ordinary sensorial knowledge is only one amongst many other types of knowledge, and that it is not always the most reliable.

Knowledge by identity plays a role in all forms of knowledge, but it shows itself most clearly in intuition and revelation. This is no doubt a difficult field to explore systematically, but it is clear that if we could make such types of knowledge more commonly operational, it would be a fascinating development. Sri Aurobindo predicts that in the long run, discoveries in this direction will dwarf those of the physical sciences.

A second point is, that scientific knowledge is entirely explicit. It is exhaustive, in the sense that there is nothing more to it than what is explicitly given on the surface. Vedic knowledge, on the other hand, often deals with realities that resist exhaustive description; it just points at an ineffable reality that can be experienced, even realised in one's own being, but that cannot be exhaustively described. In the older Indian texts one can often see how a Rishi uses an image or only a name, to evoke in the listener the direct experience of the underlying reality.

An interesting example is the end of the Kena Upanishad where just the mentioning of the Eternal as the protector of a blade of grass against the assaults by Agni and Vayu is enough to silence the questioning mind and make Indra realise the futility of his ego, and the omnipotence of Brahman, the all-pervading divine consciousness.

A third point is the use of the mind. In modern times, science constructs knowledge with the help of mental reasoning out of basic data provided by the senses. The later Indian systems of thought do basically the same, with as only difference that they allow a wider range of inputs, like the text of a scripture, the word of the Guru, suprasensual experience, etc. But the Vedas and the Upanishads have not been composed like that. The Rishis are clear that they do not construct their knowledge but receive it directly through revelation,
inspiration, intuition, and intuitive discrimination (drishti, sruti, smriti, and ketu). According to Sri Aurobindo it is quite possible to recover these methods of direct knowledge, and then use the reasoning mind, not to arrive at knowledge, as we do now, but only to express a knowledge that has already been attained by these more direct, and in the end more reliable means.

He sees this as the way of the future. After a long period in which mind developed and intuition got increasingly lost, we may now have reached a stage where we can take up again the more direct method of intuition to arrive at knowledge and use the newly developed rational mind only for its expression.

We have already seen that it is not possible to make a meaningful study of Indian psychology from within the boundaries of academic psychology as it is presently understood. Its present theoretical framework is too small and cannot deal with the very essence of what Indian psychology is about. But even from the few short observations on the epistemology of Indian psychology that we have made so far, it may be clear that studying Indian psychology on its own terms will not be easy. It will require a profound and far-reaching change from present practice in almost every respect: in methods of teaching, in methods of research, in the definition of results. But the most interesting of these changes is certainly that it requires psychologists to be yogis. In itself this is nothing new, music teachers need to be musicians, physicists need to be mathematicians. But it will involve a difficult – but for those who try highly rewarding -- period of transition.

REINTRODUCING INFINITY INTO PSYCHOLOGY

The enrichment the Indian ontology offers is not limited to a richer epistemology. It equally affects the contents of every aspect of psychology. The most central is, of course, what it has to say about the nature of our essential being. Starting from a materialist viewpoint we can in principle not get any further than our ego, which is no more than a temporary construct required to establish our individuality and coordinate our actions. Starting from a consciousness perspective one also encounters the ego, and one can see it perhaps even more clearly, but one can also discern that there is something else hiding behind and above it. In experience we can rise above our ego and identify with the Atman, our real Self, immutable, eternal, standing above. We can also go deep within, and find behind the heart our antaratman, our chaitya purusha, what Sri Aurobindo calls our psychic being. It is this inmost soul that, as a representative of the Self above, is the true centre of our psychological being. It is this that is supposed to incarnate in the human body to collect from life to life experience and gradually build an increasingly deep, spiritualised personality around itself. The deepest, most valuable experiences people have of love, faith, gratitude, awe, beauty, all relate to this psychic centre. In a materialist framework, experiences related to these inner parts of ourselves can only be regarded as freak phenomena that resist explanation. But, when seen in the cadre of the gradual development of a soulpersonality, the gradual transformation of all the parts of our being under the influence of our inmost self, they fall beautifully in place and get their due value.

Indian psychology introduces likewise in every aspect of psychology an element of infinity. Emotions and feelings for example get a whole new depth and beauty when seen as different expressions and distortions of an underlying Ananda. Motivation completely changes its character if one realizes that the aim of existence is not just promulgating one’s genes or having a good time for the longest period possible, but the finding of one’s soul and the bringing of one’s entire being and all one’s actions under its influence. Even pain and difficulties can then be recognized and accepted as uncomfortable, but effective steps in this long-term project. In developmental psychology, the enormous differences between children right from birth and the different ways they go through the stages of development acquire a whole new depth and meaning when seen against the backdrop of a vast, ongoing, individual and collective evolution of consciousness.

The element of infinity that Indian psychology introduces in psychology brings with it a greater beauty, a deeper meaning, a deeper connectedness. Things difficult to research and badly missing in modern times, but very much needed to keep our individual and collective life together.
THE BIG PICTURE

The introduction of Indian psychology into the psychology curriculum is not an isolated event. It has its political overtones. Rather than shy away from these, I would like to make an attempt to place them in a broad historical perspective. At the present time, we see two broad cultural streams converging towards a new synthesis, which potentially could go far beyond what either of them has developed in the past.

In West-Asia and Europe the confluence of Judaic, Greek, Roman and Arabic influences has led over the last two thousand years to the development of the two great monotheistic religions, with their strenuous attempts to arrive not only at a single truth, but also at a single and exclusive form to express that truth. It spawned civilizations with a strong element of uniformity, maintained by a powerful, centralized religion, grounded more in doctrinal faith than in direct personal experience. Partly in response to this -- during what, interestingly, is called the European Enlightenment -- the human urge for independent, individual enquiry separated itself from religion, and we see the birth of a science that is progressive, rational, and decentralized. But, as the result of a kind of power-sharing arrangement in its early days, Western science focuses almost exclusively on the material, objective aspect of reality. The approach of science and its technical and economical applications proves to be extremely effective in dealing with physical nature, and as science gradually takes over more and more aspects of public life, Western society becomes increasingly rational, democratic, and materialist.

In India we see in the remote past the deep and vast spirituality of the Vedas and early Upanishads. In this early period, mental reasoning in the modern sense does not seem to play a significant role and knowledge is based on a well-trained intuitive insight, confirmed in experience. Where individual experiences differ, they are not pitted against each other as in later times, but acknowledged as complementary aspects of one continuous reality. But with the coming up of the rational and divisive mind, more and more value is given to logical analysis and the linguistic exegesis of established texts. As a result we see conflicting schools of thought built on experiences that themselves are complementary rather than exclusive: Buddhism, the six Darshanas, Shankara, -- each school asserts its separate viewpoints and refutes those of the others. Simultaneously the social fabric splits up into myriads of separate strands, casts, clans, sects, philosophical schools, that each stick tenaciously to their separate forms and ideologies. But still, in the midst of all this, both Indian religion and science stay close to experiential spirituality. The scientific spirit of enquiry links itself not to an external technology focused on the manipulation of the outer physical manifestation, but to Yoga, an inner technology focused on changing one's internal, psychological reality. As a result the society stays rooted in spirituality and in a sometimes manifest, sometimes more tenuous awareness of the Oneness that underlies the variety on the surface. Indian philosophy and the multitude of decentralized religions remain subservient to direct personal experience. An irreverent folk tradition honors the wise illiterate woman above the learned pandit. This trend finds its culmination in Ramakrishna, who, lacking any kind of formal education and almost totally ignorant of Sanskrit, is still widely acclaimed as the greatest sage of the 19th century. The towering quality of his realization marks according to Sri Aurobindo the transition from a period dominated by the rational, divisive and externalizing mind, to a new period, once more grounded in direct, intuitive experience. In this new period the now highly developed mind will only be a passive instrument to express the inherently harmonious Truth found deep within ourselves.

In the synthesis of these two broad streams of civilization, India has her own unique contribution to make. The core of this contribution must be her deep spiritual knowledge, and more specifically, her ability to let this spirituality penetrate all aspects of life. Among the sciences it must thus be specifically in psychology that India has to make her greatest contribution, and here we mean obviously not behaviorist psychology, but psychology in its original sense, psychology as the science of the soul, the science of consciousness. For no other culture has such a treasure house of practical psychological and spiritual knowledge as its heritage.
India is still in the process of recovering from 800 years of foreign rule [6], and one can see the introduction of Indian psychology in the framework of this national resurgence, but if one does so exclusively, one misses out on the larger historical events that are taking place at the moment. There can be no doubt that the West is still dominant politically, economically and intellectually, but underneath, there is a strong counter stream of cultural and spiritual influence from India to the West. Eugene Taylor, who wrote an excellent book [7] on the history of spirituality in the USA, argues on the basis of existing trends that Indian psychology is bound to have an increasing influence on the world culture, especially as a new epistemology.

CONCLUSION

It would be a great tragedy if in India Indian Psychology would be introduced as something that is only of interest to India, or worse, as something that belongs to the past. Indian psychology definitely belongs to the future and is of utmost relevance for the whole of humanity. It is needed, not as a minor, ethnic addition in the already overfull marketplace of trivial information, but as a vital link between spirituality and science. There is all reason to believe that it will fulfil this role and that in due time it will become the central discipline that will help humanity to know itself, to know one another, and to know the Divine. Knowledge of the Self and of the Divine is not something that belongs exclusively to religion, or that should be left to the new age counterculture. It is the most valuable element of human experience and the reality in which we live. If psychology is, as I think it is, the science of consciousness, then it should not shirk this assignment but take it up with all its rigor and enthusiasm. The Indian tradition has provided all the methodological tools that are required.

The core of Indian psychology is its spiritual understanding, the rigorous methods that it has developed to make self-observation reliable, powerful, and capable of covering the entire range of consciousness open to our being. Its real value will show itself when this spiritual knowledge is used not only for individual liberation, as it has done in the past, but also for a comprehensive, collective transformation of life, which is the promise of the future. This is the long-term project, for which we are now preparing the first steps.
BASIC CONCEPTS OF
AYURVEDIC PHYSIOLOGY

THE TRIDOSHAS
Ayurveda is an ancient science of medicine in India. It literally means, `The
science of life. It is the world’s oldest health care system. It is one of ancient
India’s greatest gift to the world. It is a science of health based on universal
principles and profound insights into the connection between the body and mind
and the laws of nature that structures all activities in life, it is heartening to see
that this ancient Indian wisdom is again regaining its importance and becoming
increasingly popular all over the world.

According to Ayurveda there are three substances or biological humors in the
human body that governs all life processes of growth and decay. In Ayurveda
these biological humors are known as Doshas. Dosha means that which darkens,
spoils, causes things to decay or a fault. When out of balance, the Doshas are
causative forces in the disease process. Doshas are invisible. They govern the
physical processes in the body without being quite physical themselves. They lie in
the gap between energy and matter and are the connecting link between them. It
is at this level that thought turns into matter. They are three in number. The
Doshas are Vata, Pitta and Kapha.

The composition of the Doshas
The Doshas are composed from five great elements. These five great elements are
Space, Air, Fire, Water and Earth. These elements are not exactly what is known
to us as space, air, fire, water and earth. These are subtle forces whose
combination gives rise to what is known to us. A more detailed understanding of
these five elements will be given later. By mixing different pairs of the five
elements, one arrives at the three Doshas (Fig-4)

Vata --- is composed of space and air
Pitta --- is composed of fire and water
Kapha --- is composed of earth and water.

The functions of the Doshas
Vata
This is the energy responsible for all movement in the physical body. Although it is
the air principle it is not the air of the external environment but subtle energy that
governs biological movement. It controls breathing, movement of muscles,
movement of food through the digestive tract, and nerve impulses to and from the
brain. Its etymological meaning is, ‘that which moves things’. It also governs our
sensory and mental balance and orientation and promotes mental adaptability and
comprehension.

Pitta
This means, `that which digest things`. It is the principle of fire, the energy of
metabolism. It is responsible for all chemical and metabolic transformations in the
body. It regulates digestion, absorption, assimilation and body temperature. It
also governs our mental digestion, our capacity to perceive reality and understand
things as they are.

Kapha
This means, `that which holds things together`. It provides substance and gives
support and provides the structural principle of our bodily tissues. It promotes
anabolism, the creation and growth of new cells and also cell repair. It lubricates our joints, moisturizes the skin, helps to heal wounds and maintains immunity. Kapha provides strength, vigor and stability. It also provides our emotional support in life and governs such traits as love, compassion, patience and forgiveness.

**Seat of the Doshas**

- **Vata** - colon
- **Pitta** - small intestine
- **Kapha** - chest

**Doshas and the Gunas**

Students of Ayurveda frequently ask whether there is a relationship between the three doshas and the three gunas. There is no direct correspondence. The gunas are the subtlest principles in all forms of energies. Every form of energy physical or mental will have the gunas in a particular ratio. The doshas are grosser energies that makes up the physical body. So each dosha will have all the three gunas in some proportion. Vata is approximately 75% rajas, 20%sattwa and 5% tamas. Pitta is 50% or a bit more sattwa, 45% rajas and 5% tamas. Kapha is 75% tamas 15% sattwa and very little rajas. This is just an approximation not a fixed rule. The proportions can vary. Also it can be understood in this way. Sattwa is present in vata as clarity, creativity and lightness; in pitta as knowledge, understanding; in kapha as love, compassion and forgiveness. Rajas is present is vata as hyperactivity, nervousness, fear, anxiety and ungroundedness; in pitta as aggressiveness, competitiveness, power and prestige; in kapha as attachment, greed and possessiveness. Tamas is present in vata as confusion, indecisiveness, sadness and grief; in pitta as anger, hatred, envy and jealousy; in kapha as depression and deep confusion.

**The Doshas and their qualities**

**VATA**

The vata individuals have light, flexible bodies. They have light muscles and little fat. They tend to be slim or underweight. They may be too tall or too short. They sometimes appear under developed with flat chests and less strength and stamina. Their bodies need sweet, sour and salty tastes. Constipation is the most common ailment. Vatas walk quickly, eat quickly and always in a rush. Vatas are drawn to a lot of sexual activity but excess sex is one cause of aggravated vata. Vatas have clarity of mind, mental flexibility and creativity, good imagination and come up with new ideas.

**PITTA**

The pitta body type is medium height and build. They seldom loose or gain much weight. They are stronger physically than vata. They often experience early graying or loss of hair, tending to be bald. Moles and freckles are common in pitta skin. Normal body temperature is slightly higher and hands and feet are usually sweaty. They perspire quite a lot. Pittas have strong appetite and good digestion.

**KAPHA**

They are blessed with a strong, healthy well developed body. They have strong muscles and heavy bones. They gain weight easily and cannot take it off easily. They have slow digestion. Their skin is soft, smooth and lustrous. Kaphas have sweet tooth and love candies, cookies and chocolate. Vigorous exercise is good for them but they prefer to sit, eat and do nothing. They are slow in everything, slow to eat, decide or act. They have a sweet loving disposition, caring and forgiving.
DHATUS

This is usually translated as ‘body tissue’. The real meaning of dhatus are those substances and structures which are retained by the body and always rejuvenated or replenished. They are natural part of the body’s constitution and give the body its physical strength, structural integrity and function. There are seven dhatus which compose the retainable structures and substances of the body.

- Rasa: The nutrient fluid or plasma that forms the basis for blood
- Rakta: Blood that governs oxygenation of all tissues and organs.
- Mamsa: Muscle tissue that protects the vital organs, performs movement of joints.
- Meda (fat): Maintains the lubrication of the tissues and serves as insulating material to protect body heat.
- Asthi: Bones and cartilage that gives support to the body’s structure.
- Majja: Bone marrow that fills up the bony spaces and nerve tissues carries motor and sensory impulses and facilitates communication among body cells and organs.
- Shukra: The reproductive tissue of sperm and ovum.

The Dhatus are listed in the above manner because they develop in the body in a fixed sequential manner one from the other. Each succeeding dhatu is a metabolic refinement of the previous dhatu and gets nourished by it. Rasa is the first dhatu to be formed and is the metabolic end product of the digestive processes. The metabolic processes that work on rasa dhatu then produce rakta. The next dhatu to develop is mamsa which gives rise to meda. From meda comes asthi and from asthi arises majja. Shukra is the last dhatu to be created and is the most refined.

Mala

The malas are those substances which the body eliminates in the process of creating and maintaining the dhatus. They are feces, urine, sweat, mucus, tears, saliva, menses and carbon dioxide. The action of the doshas separates the waste material from the dhatus at each stage of metabolism and then discharges them from the body.

Ama

When the doshas are aggravated because of poor diet, unhealthy lifestyle, negative emotions they first affect agni the body’s biological fire that governs digestion and assimilation. When agni becomes weakened or disturbed food is not properly digested. The undigested, unabsorbed food particles accumulate in the gastro-intestinal tract and turn into a toxic, sticky substance called ama. This ama clogs the intestines, overflows through other bodily channels such as blood vessels and cause diseases. The presence of ama can be felt as fatigue or a feeling of heaviness. It may induce constipation, indigestion, gas, bad breath, stiffness in the body or mental confusion.

Seasons

Ayurveda classifies seasons according to their predominant dosha. The windy, cool, dry weather of autumn is largely vata; followed by dark, heavy, damp, cloudy kapha qualities of winter. Early spring is kapha but as late spring arrives the increased, warmth, light and brightness express pitta qualities which manifests fully in summer.
YOGA EXERCISES FOR THE THREE DOSHAS

Kaphas:
With their stronger, heavier physiques can and should do the most strenuous exercises. They are the most reluctant exercisers, preferring to do little or nothing. They must exercise strongly otherwise they will put on weight and feel emotionally heavy and dull. Jogging, cycling, tennis aerobics are great for kaphas. The important seat of Kapha is the chest. Yoga exercises that stretch the pulmonary cavity and increase circulation in the chest are good. Beneficial postures are sun salutation 12 cycles done quickly, viparita karani mudra, shoulder stand, plow, locust, bridge, peacock, camel, fish, cobra, bow and circle postures. Bhastrika pranayama is good for Kaphas.

Pittas:
They should exercise a moderate amount. Pitta has its seat in the solar plexus and the intestines. All exercises that stretch the chest and the abdomen are good. Fish, camel, locust, bow, circle and surya namaskara done slowly. Avoid headstand, shoulder stand and plow and all inverted postures. Shitali pranayama is good for Pittas.

Vatas:
They require the gentlest exercises. Vata people are fast moving and they are attracted to active sports but quieter exercises are better for them. Sun salutation 12 cycles, done very slowly. All exercises that stretch the pelvic area is good. All forward bends, back bends, spinal twists, plow, camel, locust, cat stretch, leg lifts. Ujjayi or Nadi Shodhana pranayama is good for Vatas.

PHYSICAL CONSTITUTION (PRAKRITI)
A knowledge of our body-mind constitution is the key to find balance, healing and perfect health. Our constitution is formed from the doshas. At the time of conception each person's combination of vata, pitta and kapha is determined by the combination present in the parents. The unique combination at conception is called 'Prakriti'. This prakriti do not change during a person's life time. At the time of birth our constitution is made up of these doshas in a particular ratio. That ratio is more or less a fixed mold in which our constitution is shaped. That mold is fixed and does not change through out life. This mold differs from person to person and gives each personality his own inherent characteristics. Nature's purpose is to create variety, these different molds provides the variety. Each variety has its own beauty and charm and serve a good purpose in nature’s plans. Although the mold remains fixed, the doshas that constitutes it are always in a state of flux, i.e. constantly changing. Sometimes they get aggravated and sometimes depleted. Our thoughts, emotions and activities constantly affect the doshas. Finding the right balance in life means to keep the doshas as close to the mold as possible neither allowing them to be aggravated nor depleted, and making the best use of the inherent qualities of the doshas.

People generally think that balancing the doshas means, having equal amounts of vata, pitta and kapha. This is wrong. One cannot change the ratio of the doshas with which one is born. That ratio is our prakriti our nature. We cannot push our doshas into a ratio that is better than the one we are born with. By trying to do so we only distance ourselves from our nature. This ratio is the ideal balance for the three doshas during the whole of one’s life. Everything that we do, see, feel, taste or smell affects the doshas and changes the ratio. After the change the doshas must fall back to the normal ideal balance. If this returning to the balance point is not achieved for a prolonged period then a state called vikriti is created. This means we have deviated from our nature or prakriti. This deviation will sooner o
later manifest as a disease. Knowledge of our body-mind constitution or prakriti will help us to ensure that this deviation is kept to its minimum.

PANCHAKARMA

Panchakarma is derived from two Sanskrit words ‘Pancha’ means five and ‘Krma’ means actions. These actions are specialized techniques for purification and rejuvenation of the body. According to Ayurveda the body normally uses three routes to eliminate ama, i.e. toxic substances and waste products --- the mouth / nose, anus / urethra and pores of the skin. The three doshas act as the vehicle to carry ama either upward, downward or out through the periphery. Panchakarma’s curative and rejuvenative power lies in its ability to utilize and stimulate the natural movement of the doshas to eliminate ama. Panchakarma takes advantage of the naturally occurring cycles of the doshas migration and utilizes the active phases of each dosha to draw dosha specific ama out of the dhatus and eliminate it from the body. It is here that Panchakarma differs from every other form of treatment including all other modes of detoxification and purification. The uniqueness of Panchakarma is that it takes into consideration the psychophysiology of the patient. It is an excellent ‘shodhana chikitsa’ or purification therapy. It is designed to draw ama out of the dhatus, return it to the digestive tract and from there expel it from the body.

Before a patient is administered the Panchakarma treatment his body is prepared by important preliminary practices such as Snehana (internal oleation or internal snehana followed by external oleation in the form of oil massage), Swedana (After massaging oil all over the body the individual is then given a steam bath which further loosens the toxins and increase their movement towards the GI tract) and Shirodhara (dripping warm oil in a steady stream on the forehead to quieten the mind and the senses that then allows the body’s natural healing mechanism to release stress from the nervous system).

1. VAMANA

This is the process of therapeutic vomiting, for the purpose of expelling excess kapha and kaphic ama from the kapha zone or upper part of the body. Special herbs such as yashti madhu (licorice) and madan phal (Randia Dymotorum) stimulate the action of Agni (fire) and Vayu (air) elements. They are hot, strong and penetrating. Their action permeates the fine channels in the kapha zone and stirs up and liquefies the ama. Just as fire always move upward, the heating action of these herbs create an upward motion which lifts ama out of the kapha’s seat in the stomach. It is administered for the kapha-related disorders. These include all lung problems, bronchial asthma, allergies, chronic colds, rhinitis, diabetes mellitus (Prameha), arteriosclerosis, arthritis and skin diseases like eczema, psoriasis and leukoderma. It is also beneficial for some viral disorders like herpes zoster.

2. NASYA

It is the process of therapeutic cleansing of the tissues and organs of the head and neck. It introduces medicated oils and powders into the nose. It removes ama from the nose, larynx, pharynx, mouth, sinuses, eyes and ears. Ayurveda describes the nose as the doorway to the brain. It cleanses and opens the channels of the head, which improve oxygenation, and flow of pure prana that has a highly beneficial influence on brain functioning. It is used to alleviate dry nasal passages, sinus congestion, common cold, chronic sinusitis and allergies. It relieves headaches, migraine, and epilepsy and has a positive effect on degenerative diseases of the brain and mental retardation. Traditionally nasya uses two different substances, medicated powders and medicated oils for the following three purposes:

- To promote secretions that dislodge and carry toxins out of the body, these are called shodhana nasya.
- To create palliative or soothing effect called shamana nasya.
3. VIRECHANA

It is the process of therapeutic purging that cleanses the colon, small intestine, kidneys and associated pitta-dominant organs e.g. liver, spleen and gall bladder. It works in a downward direction to eliminate pitta related ama and excess pitta in the form of acidic secretions. Virechana is a natural, herb induced purging process, which automatically ceases once the ama is cleaned. Virechana is a controlled process that gathers ama from many locations in the body, concentrates it in the small intestine and then discharges it. It is good for the treatment of pitta related disorders like hyperacidity, colitis, hemorrhoids, chronic headaches, diabetes, allergies, skin disorders like acne, dermatis, psoriasis, eczema, leprosy and leucoderma. People with dominant pitta, who have a tendency towards frequent bowel movements with loose stools, receive mild laxatives. Kaphic patients with slow bowels and heavy, sticky stools are given a stronger laxative. Those with vata dominant conditions have a tendency towards dry, hard stools and constipation are usually treated with castor oil.

4. BASTI

Basti therapy is the most powerful of the five main procedures of panchakarma. Basti is the introduction of medicated liquids into the colon through the rectum. While it directly affects the colon it is not a localized or symptomatic treatment. The colon is seldom addressed for its own sake. It is utilized for its vital link with all the other organs and tissues. Basti therefore has a wide ranging influence in the body, affecting the doshas and the dhatus. The colon like the roots of a tree performs the job of providing nourishment to all other organs and tissues of the body. The colon is the main organ of absorption of nutrients after digestion and the main receptacle for waste elimination. It is also the main seat of vata dosha.

The word basti is frequently translated into the English language as enema. Basti however differs completely from enemas or colonics in its intent, administration and effect. Enemas treat localized symptoms of constipation by promoting evacuation. They clean feces that have collected in the rectum and sigmoid colon. Colonics clear accumulated fecal matter from the entire colon through repeated flushing with water.

However when basti is administered in conjunction with panchakarma’s pre-procedure, it cleans far more than just the colon. It helps purify toxins from all over the body. Vata, with its excitable nature and drying tendency must be nourished and pacified. Basti introduces medicated, oily substances into the colon to be retained and absorbed by the belly. It treats the entire length of the colon from the ileocecal valve to the anus and eliminates not only fecal matter but also ama and toxins from all the dhatus. In addition it restores healthy function to the colon and through the colon nurtures and rebuilds the tissues and organs.

Basti therapy is the most effective treatment for disorders arising from abnormal vata. This includes chronic constipation, low back pain, sciatica, rheumatism, gout, arthritis and various neuromuscular disorders like paraplegia, hemiplegia, poliomyelitis, alzheimer’s disease, parkinson’s disease and dystrophy and atrophy of the nerves and muscles. It benefits epilepsy, mental retardation and sensory malfunction. Vata governs and has its secondary seat in the bones. Therefore, basti helps in the disorders of the bone tissue such as osteoporosis.

5. RAKTAMOKSHANA

It is the process of therapeutically withdrawing blood from certain parts of the body to provide a rapid and sometimes dramatic reduction of symptoms in certain acute disorders. It is used to remove pitta-related ama from the blood.

* Notes for Yoga Therapy–Compiled and Edited by Dr Ananda Balayogi Bhavanani *
THE DOSHAS AS CONSTITUTIONAL FACTORS

The Doshas create three different primary types of individual constitutions or mind-body types. No type is necessarily better or worse than the others. Each has its benefits as well as its weaknesses. Kapha types possess the strongest build but can lack in motivation and adaptation to use it properly. Vata types have the weakest build but the greatest capacity for change and adaptation to protect it. Pitta types have moderate physical strength but greater mental and emotional force.

Below is included a simple test to determine the Doshas in your own nature. No person is of one type only, so expect some combination of traits. The predominant trait will determine your type.

### AYURVEDIC CONSTITUTION CHART

<table>
<thead>
<tr>
<th></th>
<th>VATA (AIR)</th>
<th>PITTA (FIRE)</th>
<th>KAPHA (WATER)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Height:</strong></td>
<td>tall or very short</td>
<td>medium</td>
<td>usually short but can be tall &amp; large</td>
</tr>
<tr>
<td><strong>Frame:</strong></td>
<td>thin, bony good muscles</td>
<td>moderate, developed</td>
<td>large, well formed</td>
</tr>
<tr>
<td><strong>Weight:</strong></td>
<td>low, hard to hold weight</td>
<td>moderate</td>
<td>heavy, hard to lose weight</td>
</tr>
<tr>
<td><strong>Skin Lustre:</strong></td>
<td>dull or dusky</td>
<td>ruddy, lustrous</td>
<td>white or pale</td>
</tr>
<tr>
<td><strong>Eyes:</strong></td>
<td>small, nervous</td>
<td>piercing, easily inflamed</td>
<td>large, white</td>
</tr>
<tr>
<td><strong>Hair:</strong></td>
<td>dry, thin</td>
<td>thin, only</td>
<td>thick, only, wavy, lustrous</td>
</tr>
<tr>
<td><strong>Teeth:</strong></td>
<td>crooked, poorly formed</td>
<td>moderate, bleeding gums</td>
<td>large, well formed</td>
</tr>
<tr>
<td><strong>Nails:</strong></td>
<td>rough, brittle</td>
<td>soft, pink</td>
<td>soft, white</td>
</tr>
<tr>
<td><strong>Joints:</strong></td>
<td>stiff, crack easily</td>
<td>loose</td>
<td>firm, large</td>
</tr>
<tr>
<td><strong>Circulation:</strong></td>
<td>poor, variable</td>
<td>good</td>
<td>moderate</td>
</tr>
<tr>
<td><strong>Appetite:</strong></td>
<td>variable, nervous</td>
<td>high excessive</td>
<td>moderate but constant</td>
</tr>
<tr>
<td><strong>Thirst:</strong></td>
<td>low, scanty</td>
<td>high</td>
<td>moderate</td>
</tr>
<tr>
<td><strong>Sweating:</strong></td>
<td>scanty</td>
<td>profuse but not enduring</td>
<td>low to start but profuse</td>
</tr>
<tr>
<td><strong>Stool:</strong></td>
<td>hard or dry</td>
<td>soft, loose</td>
<td>normal</td>
</tr>
<tr>
<td><strong>Urination:</strong></td>
<td>scanty</td>
<td>profuse, yellow</td>
<td>moderate, clear</td>
</tr>
<tr>
<td><strong>Sensitivities:</strong></td>
<td>cold, dryness, Wind</td>
<td>heat, sunlight fire</td>
<td>cold, damp</td>
</tr>
<tr>
<td><strong>Immune Function:</strong></td>
<td>low, variable</td>
<td>moderate</td>
<td>sensitive to heat</td>
</tr>
<tr>
<td><strong>Disease Tendency:</strong></td>
<td>pain, inflammation</td>
<td>fever, oedema</td>
<td>congestion</td>
</tr>
<tr>
<td><strong>Disease Type:</strong></td>
<td>nervous</td>
<td>blood, liver</td>
<td>mucous, lungs</td>
</tr>
<tr>
<td><strong>Activity:</strong></td>
<td>high, restless</td>
<td>moderate</td>
<td>low, moves slowly</td>
</tr>
<tr>
<td><strong>Endurance:</strong></td>
<td>poor, easily exhausted</td>
<td>moderate but focused</td>
<td>high</td>
</tr>
<tr>
<td><strong>Sleep:</strong></td>
<td>poor, disturbed</td>
<td>variable</td>
<td>excess</td>
</tr>
<tr>
<td><strong>Dreams:</strong></td>
<td>frequent, colourful</td>
<td>moderate, romantic</td>
<td>infrequent, disturbed</td>
</tr>
<tr>
<td><strong>Memory:</strong></td>
<td>quick but absent-minded</td>
<td>sharp, clear</td>
<td>slow but steady</td>
</tr>
<tr>
<td><strong>Speech:</strong></td>
<td>fast, frequent</td>
<td>sharp, cutting</td>
<td>slow, melodious</td>
</tr>
<tr>
<td><strong>Temperament:</strong></td>
<td>nervous, changeable</td>
<td>motivated</td>
<td>content, conservative</td>
</tr>
<tr>
<td><strong>Positive Emotions:</strong></td>
<td>adaptability</td>
<td>courage</td>
<td>love</td>
</tr>
<tr>
<td><strong>Negative Emotions:</strong></td>
<td>fear</td>
<td>anger</td>
<td>attachment</td>
</tr>
<tr>
<td><strong>Faith:</strong></td>
<td>variable, erratic</td>
<td>strong, determined</td>
<td>steady, slow to change</td>
</tr>
</tbody>
</table>

**TOTAL**

<table>
<thead>
<tr>
<th>VATA</th>
<th>PITTA</th>
<th>KAPHA</th>
</tr>
</thead>
</table>

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MENTAL CONSTITUTION ACCORDING TO THE THREE GUNAS

Ayurveda and Yoga use the three Gunas for determining individual mental or spiritual nature. Generally one Guna predominates in our nature. However, we all have spiritual or Sattvic moments, Rajasic or disturbed periods, and Tamasic or dull times which may be shorter or longer depending upon our nature. We also have Sattvic, Rajasic or Tamasic phases of life which may last for months or even years.

The Gunas show our mental and spiritual state through which we can measure our propensity for psychological problems. The following test is a good index of these qualities and how they work within our life and character. The answers on the left indicate Sattva, in the middle Rajas, and on the right Tamas. Please fill out this form carefully and honestly. After answering the questionnaire for yourself, you should have someone who knows you well, like your husband, wife or close friend, fill it out for you also. Note the difference between how you view yourself and how others see you.

For most of us, our answers will generally fall in the middle or Rajasic area, which is the main spiritual state in our active and outgoing culture today. We will have various psychological problems but can usually deal with them. A Sattvic nature shows a spiritual disposition with few psychological issues. A highly Sattvic nature is rare at any time and shows a saint or a sage. A Tamasic person has a danger of severe psychological problems but would be unlikely to fill out such a chart or even read such a book. The areas in ourselves that we can improve from Tamas to rajas or from rajas to Sattva will aid in our peace of mind and spiritual growth. We should do all we can to make such changes.

<table>
<thead>
<tr>
<th>Diet:</th>
<th>Vegetarian</th>
<th>Some Meat</th>
<th>Heavy Meat Diet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drugs, Alcohol &amp; Stimulants</td>
<td>Never</td>
<td>Occasionally</td>
<td>Frequently</td>
</tr>
<tr>
<td>Sensory Impressions</td>
<td>Calm, Pure</td>
<td>Mixed</td>
<td>Disturbed</td>
</tr>
<tr>
<td>Need for Sleep</td>
<td>Little</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>Sexual Activity</td>
<td>Low</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td>Control of Senses</td>
<td>Good</td>
<td>Moderate</td>
<td>Weak</td>
</tr>
<tr>
<td>Speech</td>
<td>Calm and Peaceful</td>
<td>Agitated</td>
<td>Dull</td>
</tr>
<tr>
<td>Cleanliness</td>
<td>High</td>
<td>Moderate</td>
<td>Low</td>
</tr>
<tr>
<td>Work</td>
<td>Selfless</td>
<td>For Personal Goals</td>
<td>Lazy</td>
</tr>
<tr>
<td>Anger</td>
<td>Rarely</td>
<td>Sometimes</td>
<td>Frequently</td>
</tr>
<tr>
<td>Fear</td>
<td>Rarely</td>
<td>Sometimes</td>
<td>Frequently</td>
</tr>
<tr>
<td>Desire</td>
<td>Little</td>
<td>Some</td>
<td>Much</td>
</tr>
<tr>
<td>Pride</td>
<td>Modest</td>
<td>Some Ego</td>
<td>Vain</td>
</tr>
<tr>
<td>Depression</td>
<td>Never</td>
<td>Sometimes</td>
<td>Frequently</td>
</tr>
<tr>
<td>Love</td>
<td>Universal</td>
<td>Personal</td>
<td>Lacking in Love</td>
</tr>
<tr>
<td>Violent Behavior</td>
<td>Never</td>
<td>Sometimes</td>
<td>Frequently</td>
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<tr>
<td>Attachment to Money</td>
<td>Little</td>
<td>Some</td>
<td>A lot</td>
</tr>
<tr>
<td>Contentment</td>
<td>Usually</td>
<td>Partly</td>
<td>Never</td>
</tr>
<tr>
<td>Forgiveness</td>
<td>Forgives easily</td>
<td>With effort</td>
<td>Long term grudges</td>
</tr>
<tr>
<td>Concentration</td>
<td>Good</td>
<td>Moderate</td>
<td>Poor</td>
</tr>
<tr>
<td>Memory</td>
<td>Good</td>
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<td>Always</td>
<td>Most of the Time</td>
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<tr>
<td>Honesty</td>
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<tr>
<td>Peace of Mind</td>
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<tr>
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<td>Daily</td>
<td>Occasionally</td>
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<tr>
<td>Mantra, Prayer</td>
<td>Daily</td>
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<tr>
<td>Meditation</td>
<td>Daily</td>
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<td>Service</td>
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<td>Some</td>
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TOTAL

**MENTAL CONSTITUTION CHART**

*Notes for Yoga Therapy –Compiled and Edited by Dr Ananda Balayogi Bhavanani*
According to Ayurveda, different people require very different Yoga practices. As a Yoga teacher and doctor practicing Ayurvedic medicine, I’ve experienced firsthand how Ayurveda—in addition to the dietary and lifestyle advice that it is best known for—can shed light on the practice of Yoga. Take the case of the 31-year-old woman who came to me complaining of nervousness and chronic neck pain. She had been practicing Yoga for six years and still could not understand why she was still experiencing these difficulties. Our work with Ayurveda helped this woman understand how the Asanas she had been practicing had aggravated the subtle energies of her body. She also learned new Asanas that were more in harmony with her unique energetic balance. With this new knowledge, she was able to modify her practice and eliminate her neck pain and nervousness, bringing greater well-being to her body and mind.

Sister Symptoms

Yoga and Ayurveda are two paths intertwined in such a close relationship that it is hard to imagine traveling down one of these paths without knowledge of the other. Ayurveda, which means "knowledge of life," is the ancient art and science of keeping the body and mind balanced and healthy. Yoga is the ancient art and science of preparing the body and mind for the eventual liberation and enlightenment of the soul.

Like Hatha Yoga, Ayurveda teaches how to keep the physical body healthy, and how this health relates to our spiritual journey. Both Yoga and Ayurveda spring from the ancient Sanskrit texts called the Vedas. According to Vedic scholar David Frawley, "Yoga is the practical side of the Vedic teachings, while Ayurveda is the healing side." In practice, both paths overlap.

In fact, Ayurveda and Yoga are so closely related that some people argue that Patanjali, the first codifier of Yoga, and Caraka, the first codifier of Ayurveda, may have in fact been one and the same person. Philosophically, both Yoga and Ayurveda are rooted in Samkhya, one of six schools of classical Indian thought. The foundation of this philosophy can be described as follows:

1. There exists a fundamental state of pure being that is beyond intellectual understanding and which all life consciously strives for. This is the state of enlightenment or self-liberation.
2. Suffering is a part of our lives because of our attachment to our ego or self-identity (Ahamkara).
3. The path toward ending suffering is the path of dissolving or transcending the ego. In doing so, all fear, anger, and attachment are eradicated.
4. To achieve this goal, we must live a purely ethical life. (Ethical guidelines are listed as the Yamas and Niyamas in the Yoga Sutra of Patanjali.)
5. Any disturbance within the mind or body interferes with this path. Ayurveda is the science of keeping the biological forces in balance so that the mind and body may be healthy.

Fundamentals of Ayurveda

According to Ayurveda, the universal life force manifests as three different energies, or doshas, known as Vata, pitta, and kapha. We are all made up of a unique combination of these three forces. This unique combination, determined at the moment of conception, is our constitution, or prakruti. The three doshas constantly fluctuate according to our environment, which includes our diet, the seasons, the climate, our age, and many more factors. The current state of these three doshas most commonly defines our imbalance, or vikruti. Since we all have a unique constitution and unique imbalances, each person's path toward health
will be unique. In addition, what will keep each of us healthy is also unique. Understanding our prakruti and vikruti offers each of us the potential to make correct choices.

The three doshas are generally described in terms of the five elements: earth, air, fire, water, and ether (the subtle energy that connects all things). Vata is said to be made up of air and ether. Likened to the wind, it is said to be light, drying, cooling, and capable of movement. Pitta is said to be made up of fire and water. Considered to be mostly fire, it is hot, light, and neither too dry nor too moist; it does not move on its own, but it can be easily moved by the wind (Vata). Kapha is said to be made up of water and earth, which combine like mud. Kapha is heavy, moist, cool, and stable.

The three doshas fluctuate constantly. As they move out of balance, they affect particular areas of our bodies in characteristic ways. When Vata is out of balance—typically in excess—we are prone to diseases of the large intestines, like constipation and gas, along with diseases of the nervous system, immune system, and joints. When pitta is in excess, we are prone to diseases of the small intestines, like diarrhea, along with diseases of the liver, spleen, thyroid, blood, skin, and eyes. When kapha is in excess, we are prone to diseases of the stomach and lungs, most notably mucous conditions, along with diseases of water metabolism, such as swelling.

When working with the doshas, remember these basic principles: Like increases like, and opposites balance each other. In other words, foods, weather, and situations that have similar characteristics as the doshas will increase them; those that have opposite characteristics will decrease them. Knowing this, you can adjust your Yoga practice, diet, and other environmental factors to affect these forces in ways that create greater balance and harmony. (For example, Vata types—who are dry, light, and airy—should avoid foods with similar qualities, like popcorn, and consume foods with opposite qualities, like warm milk).

The Three Gunas

Another fundamental Ayurvedic principle is the idea of the three Gunas, or qualities of nature. The three Gunas—sattva, rajas, and tamas—are used to describe emotional and spiritual characteristics.

That which is sattvic is light, clear, and stable. Sattva is the state of being, which comes from purity of mind, and leads to an awareness of our connectedness to God, a state in which we manifest our most virtuous qualities.

That which is rajasic is active, agitated, or turbulent. Rajas arises when we are distracted from our truest essence, and manifests emotions such as fear, worry, anger, jealousy, attachment, and depression.

That which is tamasic is heavy, dull, dark, and inert. Tamasic actions include violent or vindictive behavior, along with self-destructive behaviors such as addiction, depression, and suicide.

All movement or activity is by nature rajasic (agitating) and heating to the body. Yet some movements are more agitating and others less so. Generally speaking, the slower the movement, the less rajasic and the less agitating to the body and mind. The faster the movement, the more rajasic and the more heating it will be. Any movement practiced with great awareness becomes more sattvic. Movements done with distraction or less attentiveness are more rajasic. Thus, one way to enhance our experience of Yoga is to practice slowly and with awareness.

No movement can be purely sattvic. The inherent nature of movement is rajasic, as rajas is the principal of energy, and movement requires energy. Hence our sattvic qualities are most nurtured in meditation and in the stillness of holding a pose, where we can find pure awareness.

The rajasic nature of movement does not necessarily make it bad for us. Rajas serves the useful purpose of stimulating our bodies and minds. We could not function in our world without a part of us being rajasic.
What Sort of Yoga is Right for You?

When determining the kind of Yoga practice that is right for you, the most important factor is your vikruti, or imbalance. Your vikruti is, in fact, the single most important determinant of your entire regime. Once you have corrected your imbalance, you can stay in good health by choosing a Yoga practice that balances your constitution, or prakruti. (It's sometimes hard for the layperson to distinguish between characteristics that are inborn, or constitutional, and those that result from an imbalance. For best results, consult a trained Ayurvedic physician.)

People of Vata constitution or imbalance are most supported by a Yoga practice that is calming, quieting, and yet warming. People of pitta nature or imbalance are most supported by a Yoga practice that is calming, quieting, and cooling. And people of kapha nature or imbalance are most supported by a Yoga practice that is stimulating and warming. Each individual has different needs. To practice in a way that does not support you is to invite greater imbalance.

ASANAS FOR VATA

The Asanas, which are most suitable for balancing vata, are those that are calming and grounding by nature. They will counter the tendency for those with a vata imbalance to be "spacey," agitated, or nervous. These Asanas will help allay fear, worry, and anxiety and also improve vata physical imbalances such as constipation, lower back pain, and joint pains. The lower abdomen, pelvis, and large intestine are the main residence of vata in the body, so many of these Asanas compress the lower abdomen or cause the lower abdomen to become taut. In addition, Asanas that strengthen the lower back help alleviate vata.

In general, most Yoga Asanas are good for balancing vata, since most Asanas are calming to the mind. There are, however, some that are particularly good and some that should certainly be avoided.

Uttanasana (Standing Forward Bend) is an exceptional asana for vatas. Stand with your feet about shoulder-width apart. The arms may be raised over the head as you reach to the sky, or you may wish to bend the elbows, clasping the opposing arms just above the elbow and letting your forearms rest on or just above the crown of your head. Keeping your back straight, slowly bend forward from the hips as you exhale. Bend as far forward as you comfortably can. Your hands may remain crossed, touch the floor in front of your feet, or, if you are very flexible, be clasped just behind your heels. For the less flexible, the hands may be placed on blocks which rest on the floor. Let gravity assist the lengthening of your spine. All standing Asanas tend to be grounding if awareness is placed on the feet, honoring the connection between your body and the Earth. Note that this asana can put quite a strain on an injured lower back, so care should be used. If the lower back is simply tight, a condition related to aggravated vata, this is an excellent asana. The seated version of this asana, Paschimottanasana (Seated Forward Bend), will have similar value and may be easier if your back is sore.

Balasana (Child's Pose) is another excellent asana for compressing the pelvis and the vata region. Sit upright with your knees flexed and placed underneath your buttocks. Keeping your arms to your side, bend forward from the hips until your head is resting on the floor in front of you. If you do not have the flexibility to place your head on the ground, place a folded blanket or a pillow on the floor in front of you for your head to rest upon. Compression Asanas are excellent for constipation and for chronic gas.

Supta Virasana (Reclining Hero Pose) is another good asana for vata. Kneel with your knees together and your buttocks resting on your heels. Move the legs out to the side of the pelvis so that the buttocks slide down in between both legs. Place the hands on the soles of the feet and lean back onto the elbows. This may be enough extension for many people. If you are flexible enough, gradually lower your back down to the floor. Your hands may lie by your side or be stretched above the head to lengthen the spine. While this stretch does not compress the pelvis, it creates a mild extension of the lower abdominal muscles and lower back. This action increases the pressure in the pelvis, again alleviating vata. According to Ayurvedic doctor Vasant Lad, this asana is particularly useful as a part of treatment for vata-type asthma conditions.

* Notes for Yoga Therapy –Compiled and Edited by Dr Ananda Balayogi Bhavanani *
Dhanurasana (Bow Pose) also extends the lower back and places pressure on the pelvis. Lie on your stomach with your arms at your sides. Lift the head, shoulders, and chest off of the mat and bend both knees. Reach back and take hold of the ankles. Let your legs draw your chest farther into the air so that your body weight rests on the pelvic region. This is essential for the maximum relief of vata.

Virasana (Hero Pose), Siddhasana (Easy Pose), and Padmasana (Lotus Pose) are very calming poses which sedate vata’s agitated nature. These meditative poses are excellent for calming the nervous system, which aids in the healing of anxiety, nervousness, sciatica, and muscle spasm. The most calming pose of all is, of course, the supine Savasana (Corpse Pose).

People of vata nature should avoid Asanas that are overly stimulating to the nervous system, such as repetitive Sun Salutations, and those that place excessive pressure on sensitive joints in the body. The cervicothoracic junction—the bony region where the neck meets the shoulders—is one of these areas. Here, large vertebrae stick out like “sore thumbs.” People of vata nature and imbalance tend to have weaker bones, less fatty padding, looser ligaments, and more susceptibility to pain. For these reasons, Salamba Sarvangasana (Shoulderstand) and Halasana (Plow Pose) should be avoided or modified by placing a blanket under the shoulders for extra padding. This also decreases the extreme flexion the neck is placed in. Even so, people of vata nature or imbalance should not hold these poses for very long, or they will risk injury.

ASANAS FOR PITTA

The best Asanas for pitta are those that are calming and not overly heating. People of pitta nature or imbalance tend to be more assertive and intense. Calming poses help sedate their intensity and ease the emotions of anger and resentment that they are prone to. By alleviating pitta, these Asanas are good as part of the treatment for conditions such as ulcers and hyperacidity, liver disease, and acne. Asanas that help balance pitta are those that place pressure on the naval and solar plexus region, in the small intestine where pitta resides. These Asanas directly affect the liver and spleen and help regulate the strength of the digestive fire.

Ustrasana (Camel Pose) is very beneficial for pittas. Kneel with the buttocks lifted as though you were standing on your knees. Place your palms on your buttocks. Move your thighs and pelvis forward as you extend the lower back, bringing your hands to your heels. Gently extend your neck. Remember to breathe. This asana opens up the abdomen, solar plexus, and chest, allowing for freer movement of energy through these regions.

Bhujangasana (Cobra Pose) and Dhanurasana (Bow Pose) are also excellent solar plexus extension poses for pitta. These Asanas can play a role in the treatment of ulcers and hepatitis. To perform Cobra Pose, lie face down with your feet together and ankles extended. Bend the elbows and place your hands flat on the floor by your lower ribs. (Less flexible people may choose to place the palms on the floor at shoulder level.) Upon inhalation, extend the elbows and raise the head, chest, and abdomen off the floor while keeping the pelvic bones on the floor. The head may be held in a neutral position or in extension.

Headstand should be avoided for people of pitta imbalance or constitution. Headstands heat the body, and much of this heat accumulates in the head and the eyes. The eyes are controlled mainly by pitta. For this reason, Headstands can help cause or worsen diseases of the eyes. If a person of pitta constitution with no serious imbalance chooses to do Headstands, then the Headstand should be held for a very short period.

ASANAS FOR KAPHA

To balance the heavy, slow, cold, and sedated nature of kapha, practice Asanas that are more stimulating and heating. Asanas best suited to individuals of kapha nature or imbalances are those that open up the chest. The stomach and chest are the areas where kapha accumulates. In the chest, kapha takes on the form of...
mucous. These Asanas are excellent for the prevention and treatment of congestive conditions like bronchitis and pneumonia as well as constrictive conditions such as asthma and emphysema.

**Ushtrasana (Camel Pose)** and **Setu Bandha (Bridge Pose)** are useful Asanas for kapha. To perform Setu Bandha, lie flat on your back with your arms to your sides, with palms facing down toward the floor. Using your elbows and forearms, raise your pelvis off the mat as you keep your shoulders and feet grounded. Try to stay on the tops of your shoulders and increase the height of the pelvis by extending evenly through both legs.

As a gentle alternative to this posture, lie on your back in extension over a bolster and a pillow. Both of these variations do an excellent job of opening the chest, allowing for greater circulation of energy through this region. These Asanas also affect the flow of energy through the heart chakra, aiding the development of compassion and unconditional love.

For those of kapha nature and imbalance, the calming and sedating effect of most Asanas needs to be balanced by other Asanas that are more stimulating and heating. People of kapha nature are the best suited to handle strengthening poses, as their joints and muscles tend to be strong and stable. Increasing flexibility is extremely important for those of kapha nature, as kaphas tend to become overly stiff or rigid.

**Suryanamaskar (Sun Salutation)** is a very good aerobic exercise for kapha and helps in the treatment of obesity and depression, two common kapha conditions. The Sun Salutation is the ideal asana for kapha, as it is very active, creates heat, and opens the chest.

People of all constitutions can benefit from Sun Salutations during the time of day that is dominated by kapha energy (6:00 to 10:00 a.m and p.m.), as long as there is not a serious imbalance in pitta or vata. People of kapha nature should do many repetitions and perform them with great speed. While in general people of vata nature should avoid this asana, performing it very slowly and with great awareness will decrease its vata-aggravating tendencies. Pitta types should do limited repetitions, as this series is very heating.

Few Asanas are harmful to kapha, as kaphas benefit from all forms of stretching and movement. Two weak areas of the body for kapha individuals, however, are the lungs and the kidneys. Asanas that place excessive pressure on the lower abdomen, such as **Dhanurasana (Bow Pose)**, can aggravate the kidneys if held for too long.

**Other Factors**

In some ways the prescription I have just given is overly simplistic. In developing a healthy Yoga practice, you must take into consideration not only your constitution and imbalance but also your age, the season, and the time of day you are practicing.

At different times of our lives, different doshas play a greater role. This is a part of the natural fluctuation of these forces. From birth through puberty, our bodies and minds are more affected by kapha. From puberty until around our retirement years, the influence of pitta increases. The later years, post retirement, are most dominated by vata.

During each of these periods, we must pay attention to the effect our age has on us and modify our practice appropriately. When we are very young, our bodies can better tolerate the more aerobic styles of Yoga. As we age, we need to practice more calming Asanas.

The seasons also affect a healthy practice. The season of cold dampness increases kapha. The season of warm weather increases pitta. The season of cool dryness increases vata; as does the windy season. (In different parts of the country these take place at different times, so placing the names of traditional seasons upon them can be misleading.) During the kapha season, a practice that is more stimulating and warming is better. In the pitta season, a practice that is cooling is best. In the vata season, a calming practice supports greater health.
Finally, the time of day we practice will affect the balance of the doshas. Kapha naturally increases between 6:00 and 10:00 a.m. and p.m., when we are moving slowly. Pitta naturally increases between 10:00 and 2:00 a.m. and p.m., when the digestive fire is at its height and, in the daytime, the sun is at its peak. Vata naturally increases between 2:00 and 6:00 a.m. and p.m., during the transition between night and day.

Most people practice Yoga in the early morning, when the world is calm. Before 6:00, during the time of vata, a very quiet and gentle practice is recommended. After 6:00, during the time of kapha, a more stimulating practice is appropriate. Remember, though, that when designing a Yoga practice for yourself, your overall vikruti, or imbalance, is more important than the influence of the season, your age, or the time of day. These should be seen as the factors that modify your practice but not the factors that create it. When you are in near perfect balance, you can create a program based almost entirely on your constitution, the seasons, and the time of day.

In Ayurveda, balancing the effects of the doshas is only half of the formula for creating health and well being. The other half is developing a more sattvic lifestyle and learning to express our sattvic nature: that aspect of ourselves that, through an awareness of our connectedness to Spirit, allows us to express our highest or most virtuous qualities.

Yoga, practiced in harmony with each person's unique nature, is part of the Ayurvedic path toward balancing the doshas and enhancing sattva. Through this path each of us can reach our full potential.

### NOTES ON A FEW IMPORTANT MEDICAL CONDITIONS THAT MAY BENEFIT FROM YOGA BASED THERAPY

#### HYPERTENSION /HIGH BLOOD PRESSURE

High blood pressure (hypertension) is often called the silent killer because you can have it for years without knowing it. High blood pressure or hypertension means high pressure (tension) in the arteries. The arteries are the vessels that carry blood from the pumping heart to all of the tissues and organs of the body.

Blood pressure is typically recorded as the systolic pressure (as the heart beats) over the diastolic pressure (as the heart relaxes between beats). A consistent blood pressure reading of 140/90 mm Hg or higher is considered high blood pressure, another term for hypertension.

**WHAT ARE THE CAUSES OF HYPERTENSION?**

It's not always possible to determine why blood pressure reaches higher levels in some people. Causes may include narrowing of the arteries or due to the heart beating faster or more forcefully than it should. High blood pressure might also be caused by another factor such as:

- Tablets: birth control pills, cold remedies, decongestants, pain relievers.
- Kidney diseases.
- Adrenal diseases.
- Thyroid diseases.
- Abnormal blood vessels.
- Pre-eclampsia, a significant increase in blood pressure during the last 3 months of pregnancy.
• Use of illegal drugs such as cocaine and amphetamines.

RISK FACTORS:
The major risk factors are:
• Age—Blood pressure increases as age increases.
• Race—High blood pressure is more common in blacks than in whites.
• Sex—In young adulthood and early middle age, men have high blood pressure more often than women.
• Genetics—High blood pressure tends to run in families.

WHAT ARE THE SYMPTOMS OF HYPERTENSION?
Most people with high blood pressure have no signs or symptoms. Headaches, dizziness, or nosebleeds are common warning signs of high blood pressure. Other conditions that can lead to uncontrolled high blood pressure cause the following symptoms: Excessive perspiration, Muscle cramps, Weakness, Frequent urination, Rapid or irregular heartbeat (palpitations).

HOW CAN WE DIAGNOSE HYPERTENSION?
The blood pressure usually is measured with a small, portable instrument called a blood pressure instrument (sphygmomanometer) (Sphygmo in Greek means pulse, and a manometer measures pressure.). The blood pressure instrument basically consists of an air pump, a pressure gauge, and a rubber cuff. The instrument registers the blood pressure in units called millimeters of mercury (mm Hg). The cuff is placed around the upper arm and inflated to a pressure that blocks the flow of blood in the main artery (brachial artery) that travels through the arm. Then, the pressure of the cuff on the arm and artery is gradually released. As the pressure decreases, the health practitioner listens with a stethoscope over the artery at the front of the elbow. The pressure at which the practitioner first hears a pulsation over the artery is the systolic pressure. As the cuff pressure decreases further, the pressure at which the pulsation finally stops is the diastolic pressure.

HOW CAN HYPERTENSION BE TREATED?
Goal of treatment is to maintain blood pressure below 140/90 and lower for people with other conditions, such as diabetes and kidney disease.
Adopting healthy lifestyle habits is an effective first step in both preventing and controlling high blood pressure.
The major types of medication first chosen to control high blood pressure include:
• Diuretics: These medications act on kidneys to help the body eliminate sodium and water, reducing blood volume.
• Beta-blockers: These medications block the effects of certain adrenaline-related chemicals, causing your heart to beat more slowly and less forcefully.
• Angiotensin-converting enzyme (ACE) inhibitors: These medications help relax blood vessels by blocking the formation of a naturally occurring chemical that narrows blood vessels.
• Calcium antagonists: Calcium antagonists also known as calcium channel blockers. These medications help relax the muscles of blood vessels.

PREVENTION
• Healthy diet: Research has shown that following a healthy eating plan can both reduce the risk of developing high blood pressure and lower an already elevated blood pressure. Study shows that hypertension was reduced by an
eating plan that emphasizes fruits, vegetables, and low-fat dairy foods. The diet should include whole grains, poultry, fish, and nuts and has reduced amounts of fats, red meats, sweets, and sugared beverages.

- Reduce Salt and Sodium in Your Diet: A key to healthy eating is choosing foods containing less salt and sodium. The current recommendation is to consume less than 2.4 grams. This equals to 6 grams or about 1 teaspoon of table salt a day.
- Reduce your weight: Being overweight increases blood pressure and is also a risk factor for heart disease.
- Exercise: Being physically active is one of the most important steps you can take to prevent or control high blood pressure. It also helps reduce your risk of heart disease.
- Quit Smoking: Smoking injures blood vessel walls and speeds up the process of hardening of the arteries.
- Limit alcohol and caffeine: Even if you're healthy, alcohol and caffeine can raise your blood pressure to an unhealthy level. Reducing your consumption of alcohol can reduce your blood pressure.
- Control stress: The effects of stress are usually only temporary. But if you experience stress regularly, it can produce increases in blood pressure that can over time damage your arteries, heart, brain, kidneys and eyes.

COMPLICATIONS OF HYPERTENSION:

Stroke: Hypertension is the most important risk factor for stroke. Very high pressure can cause a break in a weakened blood vessel, which then bleeds in the brain. This can cause a stroke. If a blood clot blocks one of the narrowed arteries, it can also cause a stroke.

Impaired Vision: High blood pressure can eventually cause blood vessels in the eye to burst or bleed. Vision may become blurred or otherwise impaired and can result in blindness.

Arteries: As people get older, arteries in the body "harden," especially those in the heart, brain, and kidneys. This, in turn, causes the heart and kidneys to work harder.

Kidney Damage: The kidneys act as filters to rid the body of wastes. Over time, high blood pressure can narrow and thicken the blood vessels of the kidneys. The kidneys filter less fluid, and waste builds up in the blood. The kidneys may fail altogether.

Heart Attack: High blood pressure is a major risk factor for heart attack. The arteries bring oxygen-carrying blood to the heart muscle. If the heart cannot get enough oxygen, chest pain, also known as "angina," can occur. If the flow of blood is blocked, a heart attack results.

Congestive Heart Failure: High blood pressure is the number one risk factor for congestive heart failure (CHF). CHF is a serious condition in which the heart is unable to pump enough blood to supply the body's needs.

ANEMIA

Anemia refers to a deficiency of red blood cells (RBCs) and/or hemoglobin. This results in a reduced ability of blood to transfer oxygen to the tissues, causing hypoxia; since all human cells depend on oxygen for survival, varying degrees of anemia can have a wide range of clinical consequences. Hemoglobin (the oxygen-carrying protein in the red blood cells) has to be present to ensure adequate oxygenation of all body tissues and organs. Anemia is the most common disorder of the blood.
The three main causes of anemia include

- excessive blood loss (acutely such as a hemorrhage or chronically through low-volume loss),
- excessive blood cell destruction (hemolysis) or
- deficient red blood cell production (ineffective hematopoiesis).

These are seen in conditions such as:

- Increased physiological demand for more red blood cells, eg: increased physical activity.
- In children, during spurts of growth.
- In women during menstruation, pregnancy, parturition and lactation.
- Inadequate dietary intake due to poor economic reasons or dietary foods.
- Decreased absorption due to disorders in the digestive system.
- Peptic ulcer, piles, hiatus hernia, carcinoma of stomach, carcinoma colon, chronic ingestion of a certain type of pain relievers, hookworm infestation.

There are several kinds of anemia, produced by a variety of underlying causes. Anemia can be classified in a variety of ways, based on the morphology of RBCs, underlying etiologic mechanisms, and discernible clinical spectra, to mention a few.

**In menstruating women, dietary iron deficiency is a common cause of deficient red blood cell production.**

**SIGNS AND SYMPTOMS**

Anemia goes undetected in many people, and symptoms can be vague. Most commonly, people with anemia report a feeling of weakness or fatigue. People with more severe anemia sometimes report shortness of breath. Very severe anemia prompts the body to compensate by markedly increasing cardiac output, leading to palpitations and sweatiness; this process can lead to heart failure in elderly people.

Pallor (pale skin and mucosal linings) is only notable in cases of severe anemia, and is therefore not a reliable sign.

Following severe and prolonged iron deficiency, patients sometimes develop difficulty in swallowing, especially solids, in extreme cases also liquids - owing to thin membranous web in the lower part of the throat.

**HOW CAN WE DIAGNOSE ANEMIA?**

- Hemoglobin level is decreased
- Increased or decreased size of the red blood cells
- Red blood cell count may be normal or decreased.
- Peripheral blood smear shows pale small cells.
- Blood iron is reduced or decreased.
- Total iron binding capacity of blood shows an increase.

For males, the hemoglobin level that is suggestive of anemia is usually less than 13.0 g/dl, and for females, it is less than 12.0 g/dl.

A reticulocyte count may be ordered either as part of the initial workup or during follow-up tests. This is a nearly direct measure of the bone marrow's capacity to produce new red blood cells, and is thus the most used method of evaluating the problem of production. This can be especially important in cases where both loss and a production problem may co-exist. Many physicians use the reticulocyte production index – a calculation of the ratio between the level of anemia and the
extent to which the reticulocyte count has risen in response. Even in cases where an obvious source of loss exists, this helps evaluate whether the bone marrow will be able to compensate for the loss, and at what rate.

When the cause is not obvious, clinicians use other tests to further distinguish the cause for anemia.

IRON DEFICIENCY ANEMIA

Iron deficiency anemia is the most common type of anemia overall. IDA is caused when the dietary intake or absorption of iron is insufficient. Iron is an essential part of hemoglobin, and low iron levels result in decreased incorporation of hemoglobin into red blood cells. The principal cause of iron deficiency anemia in premenopausal women is blood lost during menses. Studies have shown that iron deficiency without anemia causes poor school performance and lower IQ in teenage girls. In older patients, iron deficiency anemia is often due to bleeding lesions of the gastrointestinal tract; fecal occult blood testing, upper endoscopy and lower endoscopy are often performed to identify bleeding lesions, which can be malignant. Iron deficiency is the most prevalent deficiency state on a worldwide basis. Iron deficiency affects women from different cultures and ethnicities. In countries where meat consumption is not common, iron deficiency anemia is more prevalent. Iron deficiency is sometimes the cause of abnormal fissuring of the angular (corner) sections of the lips (angular cheilitis).

HOW CAN ANEMIA BE TREATED?

There are many different treatments for anemia, including increasing dietary intake of readily available iron and iron supplementation; the treatment is determined by the type of anemia that is diagnosed. If an increase in dietary intake is prescribed, then additionally increasing one's intake of Vitamin C may aid in the body's ability to absorb iron. In severe cases of anemia, a blood transfusion may be necessary.

- Correction of disorder causing Anemia.
- Correction of iron deficiency - to restore hemoglobin level.
- To replenish iron stores.
- Oral iron administration is advised.
- Total iron binding capacity of blood shows an increase.

POSSIBLE COMPLICATIONS

Anemia diminishes the capability of individuals who are affected to perform physical labor. This is a result of one's muscles being forced to depend on anaerobic metabolism. The lack of iron associated with anemia can cause many complications, including hypoxemia, brittle or rigid fingernails, cold intolerance, impaired immune function, and possible behavioral disturbances in children.

Hypoxemia resulting from anemia can worsen the cardio-pulmonary status of patients with pre-existing chronic pulmonary disease. Brittle or rigid fingernails may be a result of abnormal thinness of nails due to insufficient iron supply. Cold intolerance occurs in one in five patients with iron deficiency anemia, and becomes visible through numbness and tingling. Impaired immune functioning leading to increased likelihood of sickness is another possible complication.

Finally, chronic anemia may result in behavioral disturbances in children as a direct result of impaired neurological development in infants, and reduced scholastic performance in children of school age. Behavioral disturbances may even surface as an attention deficit disorder.

ANEMIA DURING PREGNANCY

* Notes for Yoga Therapy –Compiled and Edited by Dr Ananda Balayogi Bhavanani * 87
Anemia often affects females of childbearing age. Because of the subtlety of the symptoms, women are often unaware that they have this disorder, as they attribute the symptoms to the stresses of their daily lives. Possible problems for the fetus include increased risk of growth retardation, prematurity, intrauterine death, rupture of the amnion and infection. During pregnancy, women should be especially aware of the symptoms of anemia, as an adult female loses an average of two milligrams of iron daily. Therefore, she must intake a similar quantity of iron in order to make up for this loss. Additionally, a woman loses approximately 500 milligrams of iron with each pregnancy, compared to a loss of 4-100 milligrams of iron with each period. Possible consequences for the mother include cardiovascular symptoms, reduced physical and mental performance, reduced immune function, tiredness, reduced peripartal blood reserves and increased need for blood transfusion in the postpartum period.

WHAT ARE THE DIFFERENT WAYS TO SUPPLEMENT IRON?

Eating food which is rich in iron and taking iron tablets supplement the lack of iron in the body. Also, iron can be given intramuscularly. Iron dextran given intramuscularly reaches peak concentration in 24-48 hours.

Consumption of food rich in iron is essential to prevention of iron deficiency anemia; however, the average adult has approximately nine years worth of B12 stored in the liver, and it would take four to five years of an iron-deficient diet to create iron-deficiency anemia from diet alone. Iron-rich foods include red meat; green, leafy vegetables; dried beans; dried apricots, prunes, raisins, and other dried fruits; almonds; seaweeds; parsley; whole grains; and yams. In extreme cases of anemia, researchers recommend consumption of beef liver, lean meat, oysters, lamb or chicken, or iron drops/tablets may be introduced. Certain foods have been found to interfere with iron absorption in the gastrointestinal tract, and these foods should be avoided. They include tea, coffee, wheat bran, rhubarb, chocolate, soft drinks, red wine, ice cream, and candy bars (Bauer, 2). With the exception of milk and eggs, animal sources of iron provide iron with better bioavailability than vegetable sources (Scrimshaw).

RHEUMATOID ARTHRITIS

Rheumatoid arthritis is a chronic inflammatory disease that causes pain, swelling, stiffness and loss of function in the joints. It has several special features that make it different from other kinds of arthritis. Being is a systemic disease; hence it tends to affect other organs in the body as well.

WHAT ARE THE CAUSES OF RHEUMATOID ARTHRITIS?

- The exact cause of Rheumatoid Arthritis is unknown.
- Rheumatoid arthritis is considered to be a self-immune response to an unknown antigen and the antibody formed against rheumatoid arthritis is (rheumatoid factor), which is Immunoglobulin M (IgM).
- The rheumatoid factor (IgM) is found in the blood and synovial fluid present in joints of 80% of people with rheumatoid arthritis.

WHO ARE PRONE TO RHEUMATOID ARTHRITIS?

- Age - Rheumatoid Arthritis can affect anyone including children (known as Juvenile Rheumatoid Arthritis), however it usually occurs between 30 and 50 years of age.
- Sex - Women are affected more than men in the ratio of 3:1, and it goes into remission when they are pregnant, and symptoms increase after a baby is born.
• Tissue Type - Tissue type is another underlying factor, in which people with (HLA) Human Leukocyte Antigen DR4 are 7 times more likely to develop rheumatoid arthritis than others. The marker is found in white blood cells and plays a role in helping the body distinguish between its own cells & foreign invaders. 
Hereditary - Relatives of people with rheumatoid arthritis are more prone to develop the disease than others.
• Infections - People affected with infectious diseases like Diphtheria, Measles etc. have an increased risk of developing the disease.

RHEUMATOID ARTHRITIS PROGRESSES IN 3 STAGES:
• 1st Stage - Swelling of the synovial lining, causing, pain, warmth stiffness, redness and swelling around the joint.
• 2nd Stage - Rapid division and growth of cells, or pannus, which causes the synovium to thicken.
• 3rd Stage - The inflamed cells release enzymes that might damage, bone & cartilage, often causing the involved joint to lose its shape and alignment, causing more pain and loss of movement.

WHAT ARE THE SYMPTOMS OF RHEUMATOID ARTHRITIS?
Rheumatoid arthritis can start in any joint, but it most commonly begins in the smaller joints of the fingers, hands & wrists. Joint involvement is usually symmetrical meaning that if a joint hurts on the left hand the same joint will hurt on the right hand.

The symptoms of rheumatoid arthritis can be classified into two categories:
• Symptoms related to the joints.
• Symptoms related to other regions of the body.

SYMPTOMS RELATED TO THE JOINTS
• Pain - Pain is present both at rest and during movement. The intensity of pain is felt more during movement than at rest. The pain is dull natured.
• Tenderness - Tenderness is present over the affected joints and can be caused by a gentle pressure on the affected area by means of touch or pressure of clothes that will elicit pain.
• Swelling - Swelling is present surrounding the joint structure. During early stages, the swelling is in fluid nature but as the disease advances it becomes thick and the joint appears enlarged. Thickening of the fluid of the joint causes joint stiffness, especially, when waking up from bed in the morning, also called morning stiffness, the longer the morning stiffness lasts the more active the disease.
• Warmth over the joints - The skin over the affected joint is warm during the inflammation period of the joint.
• Loss of movement - Movement is limited initially because of pain but becomes permanent due to erosion of joint surfaces.
• Muscle wasting - The muscle around the inflamed joint gets wasted because of the disease process and lack of movement of the muscle.
• Deformity - During the inflammation, the joint adapts a position of comfort. As the disease advances and irreversible joint changes occur, the deformity becomes permanent.
  o Buttonhole deformity - The finger resembles the shape of a Buttonhole where the joint of the finger present farther from the nail bed is bent and the finger joint nearer to the nail bed is extended.
o Swan-neck deformity - The finger of the affected hand resembles the shape of neck of swan, where the joint present far from nail bed is extended and the finger joint nearer to the nail bed is bent.

SYMPTOMS INVOLVING OTHER AREAS OF THE BODY

- General body - General weakness, tiredness, exhaustion, weight loss and sometimes low grade fever.
- Skin - Skin becomes thin, glossy and shiny.
- Nodules - These can be present anywhere but commonly present over elbows. Nodules are round, firm and thick structures, which does not affect the joint movement.
- Vasculitis - Vasculitis is an inflammation of blood vessel but it is fatal if Large Blood vessels are involved.
- Heart - The pericardium layer made up of connective tissue covering the outer region of the heart gets inflamed and leads to heart problems.
- Lungs - Lung complications arise due to marked increase of lung fibrous tissue.
- Eyes - There will be inflammation and wasting of (Lacrimal duct) a tear secreting structure. Dry eyes and mouth, red eye are also associated symptoms.
- Spleen - The spleen gets enlarged.

COMPLICATIONS OF RHEUMATOID ARTHRITIS

- Septic arthritis - Two or more joints are affected with septic features. This is potentially fatal.
- Osteoporosis - There will be reduction in density of bone and the bone becomes fragile.

PILES / HEMORRHOIDS

Piles are abnormally enlarged and dilated blood vessels (mainly veins) around the rectal passage or anus. Piles are also known as "hemorrhoids". Hemorrhoids occur in both men and women most often between the ages of 20 and 50.

WHAT ARE THE CAUSES OF PILES?

- It can be hereditary with congenital weakness of the vein walls.
- In men, due to erect posture there is high pressure in rectal veins.
- Straining by constipation and over purgation.
- Dysentery may aggravate latent hemorrhoids.
- Haemorrhoids are also common among pregnant women. The pressure of the foetus in the abdomen, as well as hormonal changes, cause the haemorrhoidal vessels to enlarge.

WHAT ARE THE SYMPTOMS OF PILES?

- Hemorrhoids cause itching, burning, swelling or pain.
- Itching may be present due to swelling and irritation produced by the hemorrhoids.
- Bleeding from the anus is more common with internal than external hemorrhoids. It can occur before, during, or after defecation.
Protrusion of the hemorrhoids from the anus occurs frequently. This usually occurs after defecation, prolonged standing, or unusual physical exertion.

If bleeding is profuse patient may have anemia.

**HOW CAN PILES BE TREATED?**

- The best treatment of hemorrhoids is prevention.
- A diet high in fiber and bulk can prevent constipation.
- Cleaning the peri-anal area with mild, unscented soap and water - available as wipes or pads - after each bowel movement can reduce swelling and itching.
- There are numerous creams and suppositories which can help relieve the irritation and pain symptoms of relatively minor hemorrhoids, (eg. hydrocortisone).
- If the pain is not too severe, conservative management consisting of stool softeners, topical pain relieving creams and Sitz baths (sitting in a tub or bathtub of warm water) may suffice.
- Hemorrhoids that bleed can be treated by various methods, including rubber band ligation, injection sclerotherapy, infrared coagulation or surgical hemorrhoidectomy.

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**EPILEPSY/ FITS/ SEIZURES**

The term Epilepsy originates from a Greek word epilepsia meaning falling sickness. True to the meaning, the patient falls after a change in the electrical discharge by the brain cells. Epilepsy is a brain disorder causing repeated seizures or fits in the patient. This can happen to anybody without age difference. The seizures that occur in young children are called Febrile convulsions.

**WHAT ARE THE CAUSES OF EPILEPSY?**

There are different causes for seizures or fits. These vary from person to person. In some people hormone changes during pregnancy or menstruation can cause an epileptic attack. Pregnancy, lack of sleep, skipping doses of medicines, use of drugs, medications or alcohol, or illness can trigger seizures in a person with a previously well-controlled seizure disorder. Sensory stimuli such as lights, sounds and touch also can trigger a convulsion. In many cases, no trigger is found for the seizures. The amount of stimulation required to cause a seizure is called the seizure threshold. Many people with epilepsy are considered to have a low seizure threshold.

**FACTORS ATTRIBUTED TO THE CAUSE OF EPILEPSY**

- Abnormalities or injuries, tumor, inflammation or infections of brain called meningitis and encephalitis.
- Family history of epilepsy or seizures
- Congenital defects and prenatal (near the time of birth) injuries.
- Complications of Diabetes mellitus
- Kidney failure
- Nutritional deficiencies
- Use or withdrawal of alcohol or drugs
- Disorders affecting the blood vessels
- Degenerative disorders (senile dementia Alzheimer type, or similar organic brain syndromes).
WHAT ARE THE SYMPTOMS OF EPILEPSY?
Nonspecific symptoms or signs may occur along with the seizures. They include:
1. Headache.
2. Changes in mood or energy level.
3. Dizziness and fainting.
5. An aura is experienced by few patients just before a generalized seizure.

DIFFERENT TYPES OF EPILEPSY AND THEIR SYMPTOMS.
PETIT MAL SEIZURES: This type of epilepsy occurs mostly during childhood. It has very few or no body movement. During the episode just blinks his eye and subsequently looses awareness about his surroundings.
GRAND MAL SEIZURES (GENERALIZED TONIC-CLONIC SEIZURES): Violent muscle contractions affecting the whole body with loss of consciousness and frothing from the mouth are the main symptoms. The breathing stops temporarily. Tongue or cheek biting is another danger in this type of seizure.
SINGLE FOCAL SEIZURES: In this type of epilepsy, muscle contractions of a specific body part and abnormal sensations occur. Feeling of nausea, sweating, skin flushing and dilation of pupils can also occur.
PARTIAL COMPLEX SEIZURES: Sweating, skin flushing, change in personality or emotions are some of the symptoms associated with it.

FEBRILE CONVULSIONS
- Seizures or fits in young children are called Febrile Convulsions.
- Usually this occurs after the child has a high temperature following a fever.
- This does not cause brain damage or lead to epileptic attack when they grow up.
- This stops by the time the child completes 6 years. Don't panic when your child has Febrile Convulsion. Seek immediate medical help.

HOW CAN WE DIAGNOSE EPILEPSY?
The diagnosis of epilepsy or seizure disorders involves a history of recurrent seizures of any type. A physical examination, including a detailed neuromuscular examination, may be normal or may show focal neurologic deficits (localized abnormalities of brain functions).
An electroencephalograph (EEG), a reading of the electrical activity in the brain, usually confirms the presence of various types of seizures. It may, in some cases, indicate the location of the lesion causing the seizure. Tests to determine the cause may include a head CT or a MRI scan. A physical examination may be used to rule out other temporary and reversible causes of seizures such as a fever, various temporary chemical imbalances, toxemia of pregnancy, withdrawal from alcohol or drugs.

HOW CAN EPILEPSY BE TREATED?
The treatment of Epilepsy includes the underlying cause. Avoiding the factors triggering an attack is also important. The selection of anti-epileptic medicines depends on the type of seizure, the potential side effects and the dosage, which...
can be administered. Usually, drugs such as carbamazepine, phenytoin, valproic acid are used according to the type of convulsions.

IF YOU SUFFER FROM EPILEPSY

- Don’t forget to take your medicines regularly.
- Have periodical medical checkups.
- Keep an identity card with you while traveling.
- Before taking any new treatment, tell your doctor about your epilepsy.

WHAT TO DO AFTER AN ATTACK OF EPILEPSY?

- If a seizure occurs, give suitable emergency first aid immediately. Protect the person from injury. Do not attempt to force a hard object like a spoon between the teeth, because you can cause more damage than what you are trying to prevent! Clear the area of furniture or other objects that may cause injury from falls during the seizure.
- Do not attempt to restrain or hold the person down during the seizure.
- Protect from inhalation of vomit or mucus by turning the person onto the side and if possible keep the head down.
- Turn the person on to his side while he or she sleeps after the seizure is over.
- If the person having seizures turns blue or stops breathing, turn him or her to the side to keep the airway or mouth open and prevent the tongue from obstructing the airway.
- Obtain professional medical assistance immediately.
- If there is any injury due to the fall after a fit, appropriate treatment should be given.

DO’S AND DONT’S FOR THE ONLOOKER

1. Don’t try to stop the fit.
2. Don’t move the patient.
3. Don’t force anything into the mouth during a seizure.
4. Do allow enough air circulation.
5. Turn the patient to his/her side to prevent swallowing the vomit.
6. Note the movements and changes to report to the doctor.
7. Call the doctor if the convulsion lasts longer.

KEEP A POSITIVE OUTLOOK

1. Change the attitude that you are an epileptic and can’t lead a normal life. You are a normal person who can drive and work.
2. Take your medicines regularly.
3. Avoid stress and have good sleep daily.

FREQUENTLY ASKED QUESTIONS ABOUT EPILEPSY

If someone has a seizure, does that mean he or she suffers from epilepsy? A seizure is a change in behavioral state due to abnormal electrical activity in the brain. Given the right set of circumstances (e.g. - blow to the head, intoxication, high fever) anyone can experience a seizure. The occurrence of a seizure in the presence of some factors leading to physiological disturbance does not mean that it will ever happen after the factor has been resolved. When seizures recur without
any obvious cause, then a person may be considered to have epilepsy. This has to be further confirmed with an EEG or a CT Scan.

WHAT IS THE DIFFERENCE BETWEEN SEIZURES AND EPILEPSY?
Seizures are a symptom of epilepsy. Epilepsy is the underlying tendency of the brain to produce sudden bursts of electrical energy that disrupt other brain functions. Having a single seizure does not necessarily mean a person has epilepsy. High fever, severe head injury, lack of oxygen and a number of other factors can affect the brain enough to cause a single seizure. Epilepsy, on the other hand, is an underlying condition (or permanent brain damage) that affects the delicate systems which govern how electrical energy behaves in the brain, making it susceptible to recurring seizures.

IS EPILEPSY CONTAGIOUS?
No, epilepsy is never contagious.

WHAT SHOULD BE DONE IF THERE HAS BEEN ONLY A SINGLE SEIZURE?
When a person has never had a seizure before, the first seizure should be informed to a doctor for careful diagnosis to recommend treatment with seizure preventing drugs, or to wait and see whether it recurs. Age, family history, and possible causes of the seizure are among the factors that are considered.

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**BACK PAIN**

Back pain is ranked second to headaches as the most frequent location of pain. The most common site for pain is the lower back because it bears the most weight and stress from the body.

It is estimated that up to four out of five people (80%) will experience back pain lasting more than a day at some time during their life. Young people are more likely to have brief acute episodes of back pain while chronic pain is more characteristic of older people. There is little difference in the occurrence in men and women. Pregnancy and child care increase women's vulnerability to back problems. Studies in the USA indicate that between 40% and 60% of pregnant women get back pain.

**CAUSES OF BACK PAIN**

A number of factors contribute to lower back pain, including poor muscle tone, excess weight — especially around the middle — and improper or heavy lifting. Poor posture and sitting or standing in one position for a long time puts extra stress on your back.

Muscle strains: Strained muscles, tendons or ligaments or inflamed joints may cause pain along your spine.

Osteoarthritis: This degenerative joint condition affects nearly everyone past the age of 60 or overloading, injury and aging can slowly deteriorate cartilage, the protective tissue that covers the surface of the joints of your vertebrae.

Osteoporosis: One in three women older than 50 is affected by painful vertebral compression fractures due to osteoporosis, a condition that causes a gradual weakening of bones.

**SYMPTOMS OF BACK PAIN**

Pain that interferes with sleep. Weakness or numbness in one or both legs or groin area- can mean nerve compression by the back.
Problems with bladder or bowel control can also occur due to compression. Typically there is a continuous ache in the back that is not relieved by change of position, it is worse in the morning.

The individual is unable to perform normal daily chores or housework. Bending to pick up something from the floor can be a painful task.

HOW CAN WE DIAGNOSE BACK PAIN?

- Physical examination: Your doctor examines your back to determine where the pain is, what degree of movement you have without pain and whether you have muscle spasms. X-ray- These images show the alignment of your bones, whether you have degenerative joint disease and whether you have a tumor.

Bone scan: You’ll receive an injection of a radioactive substance called as tracer into a vein. Using a special camera, your doctor may be able to detect bone tumors or compression fractures caused by osteoporosis. (MRI) or computed tomography (CT) scan. These scans can generate images that may reveal herniated disks of the spine or problems with bones, muscles, cartilage, ligaments, tendons and blood vessels.

HOW CAN BACK PAIN BE TREATED?

- Medicines-Prescription drugs such as non-steroidal anti-inflammatory drugs (NSAID) and muscle relaxants may relieve mild-to-moderate back pain.

- Physical therapy: This may include applications of heat or cold, or gentle massage performed by a physical therapist. Once the pain subsides, your therapist can design an exercise program to improve your flexibility, strengthen your back and abdominal muscles and improve your posture.

- Electrical stimulation: Transcutaneous electrical nerve stimulation (TENS) may help stop pain by blocking nerve signals from reaching your brain. A physical therapist places electrodes on your skin near the area of your pain. TENS may relieve pain in your leg due to inflammation or compression of nerves in your back.

- Chiropractic: This treatment involves manipulation and massage of your spine and back muscles to relieve mild-to-moderate pain.

- Acupuncture: An acupuncturist inserts hair-thin needles under your skin. The needles usually stay in for 15 to 30 minutes. The insertion causes little or no pain. Expect to have several sessions. Research suggests pain relief may come from the release of endorphins, your body’s natural painkillers.

DO’S AND DON’TS

Exercise. Regular aerobic activities that don’t strain or jolt your back can increase strength and endurance in the muscles of lower back, allowing your muscles to function better. These aerobic exercises may include walking, swimming or biking. When standing, maintain a neutral pelvic position.

If you must stand for long periods of time, alternate placing your feet on a low footstool to take some of the load off your lower back. When sitting, choose a seat with good lower back support or place a pillow or rolled towel in the small of your back to maintain its normal curve. Keep your knees and hips level. When lifting, let your legs do the work. Move straight up and down. Keep your back straight and bend only at the knees. Hold the load close to your body. Avoid lifting and twisting simultaneously.

WHAT ARE THE COMMON CAUSES OF BACK PAIN?

The most common causes of back pain are those due to muscular pain, disc pain, or arthritis. Most muscular pain is due to deconditioning and/or acute strain.
HOW DO DISC INJURIES CAUSE BACK PAIN?
Disc injuries stimulate nerve fibers on the disc sending a signal of pain to the brain. It leaks chemicals which are irritating to the nerves and can cause pain.

WHAT TYPE OF EXERCISES CAN HELP MY BACK PAIN?
Strengthening the abdominal and trunk muscles, and the core of your body, is one of the first steps towards improving your upright posture and alleviating back pain.

DOES BEING OVERWEIGHT MAKE IT HARDER TO GET RELIEF FROM MY BACK PAIN?
Being overweight places greater stress on the spinal column, and it increases the risk of having back pain.

OBESITY
Obesity may be defined as a condition in which there is an excessive amount of body fat. This is one of the most commonest diseases found all over the world.

CAUSES OF OBESITY
Age: This is most prevalent in middle age and can occur at any stage of life.
Socio-economic: In developing countries it is more prevalent in the wealthy society, whereas in fully developed countries it is more common in lower-socioeconomic groups.
Hereditry: Obesity tends to run in families. A clearer role of genetics helps in prevention of obesity on those who are most vulnerable. Eighty percent of the offspring of two obese parents become obese.
Endocrine factors: Abnormal influence or imbalance can be one of the causes of obesity. Obesity in women commonly begins at puberty, during pregnancy or at menopause.
Drugs: The use of steroids, oral contraceptives and insulin is commonly followed by weight gain.

WHAT ARE THE SYMPTOMS OF OBESITY?
- Patient’s appearance is sufficient to arrive at a diagnosis in most cases.
  Obesity is determined based on an individual’s body mass index (calculated with reference to the person’s height and weight).
- Large body frame.
- Difficulty in doing daily activities.
- Lethargy
- Breathlessness

HOW CAN WE DIAGNOSE OBESITY?
Degree of overweight or obesity should be assessed by measuring height and weight of the individual and thereby calculating body mass index (BMI).

HOW CAN OBESITY BE TREATED?
1. Eat a low calorie or carbohydrate diet.
2. Small frequent meals.
3. A high fiber and a low fat diet.
4. Regular exercise improves the fitness of obese people and their feeling of well-being.

ADVANTAGES OF EXERCISE:
1. Most obese people are capable of moderate aerobic exercise such as walking, swimming, gardening, dancing, provided it does not exceed their cardiovascular capacity.
2. Because of their heavy weight obese people expand more food energy than lean people doing exercise of this type.
3. Regular daily exercise will help in reducing than exercising once in a while.
There are various appetite suppressing drugs but should be taken only on recommendation by the doctor. Surgery also may be an option but usually as a last resort, only recommended in case of morbid or gross obesity.

MECHANICAL DISABILITIES ASSOCIATED WITH OBESITY
- Flat feet
- Osteoarthritis of knees, hips, lumbar spine.
- Abdominal hernia.
- Varicose veins.
- Exertional healthlessness.
- Respiratory infection.
- Accidents

A lot of drugs which we use, may give rise to obesity. To mention a few; antidepressants, antoepileptics, steroids and antihypertensives.

DOES OBESITY CAUSE COMPLICATIONS?
Yes. Obese patients are at a risk of developing Diabetes mellitus, Cardiovascular diseases and Hypertension in the long term.

DOES A LOW CALORIE DIET HELP IN LOSING WEIGHT?
Yes. Weight reduction can be achieved by reducing food intake and by regular exercise. A low calorie diet should constitute a low carbohydrate, high fiber, moderate protein and a low fat diet.

**PEPTIC ULCER**
A peptic ulcer is a sore on the lining of the stomach or duodenum. These are the parts of the gut where acid bathes the surface. One cause of peptic ulcer is bacterial infection by Helicobacter pylori, but some ulcers are also caused by long-term use of non steroidal anti-inflammatory agents (NSAIDs), like aspirin and ibuprofen. In a few cases, cancerous tumors in the stomach or pancreas can also cause ulcers.

Helicobacter pylori is a Gram negative bacteria that lives in the mucus layer of the stomach and is an important factor in the aetiology of active chronic gastritis, duodenal ulcer, or gastric ulcer. H. pylori weaken the protective mucous coating of the stomach and duodenum, Due to the infection it allows acid to get through the sensitive lining beneath. Both the acid and the bacteria irritate the lining and cause a sore, or ulcer.

H. pylori, is believed to be transmitted orally by means of fecal matter through the ingestion of contaminated food or water. In addition, it is possible that H. pylori could be transmitted from the stomach to the mouth through gastro-esophageal
reflux (in which a small amount of the stomach's contents is involuntarily forced up the esophagus) or belching, common symptoms of gastritis.

WHAT ARE THE SYMPTOMS OF AN ULCER?
The most common symptom is abdominal discomfort. The discomfort is usually a painful gnawing ache (burning stomach pain), which occurs several days a week, it may occur 2 to 3 hours after a meal and mostly occurs in the night when the stomach is empty. Other symptoms include weight loss, heart burn, poor appetite, burping, bloating (a feeling of fullness in stomach), nausea (stomach upset), vomiting.

Emergency symptoms of an ulcer, which requires immediate medical attention are occurrence of sharp, sudden, persistent stomach pain, bloody or black stools, and bloody vomit. These symptoms may be due to ulcer burrowing inside the stomach or duodenal wall bleeding occurring due the acid or ulcer breaking into a blood vessel and obstruction of the path of food by the ulcer.

DISEASES ASSOCIATED WITH HELICOBACTER PYLORI
Duodenal ulcer: H. pylori is the major cause of duodenal ulcer. Duodenal peptic ulcers occur in the first part of the intestine, one or two inches past the end of the stomach. Symptoms include indigestion and upper abdominal pain with occasional bleeding. Duodenal ulcers can be treated with antacids or drugs such as Tagamet, Zantac, or Pepcid.

Gastric (Stomach) Ulcers: Stomach ulcers have two causes. The most common cause is H. pylori infection of the stomach. Stomach ulcers behave similar to duodenal ulcers, however stomach ulcers are more complicated than duodenal ulcers. The effectiveness of antibiotic treatment for stomach ulcers appears to be similar to that seen in duodenal ulcers (cure rate 70-90% if H. pylori are eradicated). About 30% of stomach ulcer are not caused by H. pylori but are due to the corrosive effect of aspirin type medications, which are taken for conditions like arthritis.

Stomach Cancer: Stomach cancers (gastric adenocarcinomas) are often associated with H. pylori (70-90%). The presence of H. pylori confers an approximately six fold risk of gastric cancer, accounting for about half of all gastric cancers.

Non-ulcer Dyspepsia: Dyspepsia is a pain or an uncomfortable feeling in the upper middle part of stomach in patients with H. pylori infection. Dyspepsia is a pain or an uncomfortable feeling in the upper middle part of the stomach. People of all age groups can get dyspepsia. About 1 of every 4 persons gets dyspepsia at some time. Symptoms of dyspepsia are burning stomach pain, fullness of stomach, Heartburn, stomach upset and vomiting. The causes of dyspepsia may be stomach ulcer or acid reflux disease

HOW IS H. PYLORI -RELATED ULCER DIAGNOSED?
Endoscopy and stomach biopsy: Endoscopy is done by a Gastroenterologist, to see whether the symptoms present are caused by an ulcer; he examines the inside of the esophagus (food pipe), stomach and duodenum. While in the stomach, it is usual to take up to ten small biopsy samples from the lining of the duodenum, stomach, and esophagus. Tissue tests are performed using the biopsy samples that are removed during the endoscopy.

HOW IS H. PYLORI PEPTIC ULCERS TREATED?
H. pylori infections are usually treated by a combination of drugs, those that kill the bacteria and drugs which, reduces stomach acid thereby protecting the stomach lining. Antibiotics like Metronidazole, Tetracycline, Clarithromycin and amoxicillin are drugs commonly used to kill the bacteria. Two types of acid-suppressing drugs are used against H. pylori they are - H2 blockers and proton pump inhibitors. Histamine, which stimulates acid secretion, is blocked by H2 blockers. Some commonly used H2 blockers are: Cimetidine, ranitidine, famotidine and nizatidine, these drugs also help reduce ulcer pain. Proton pump inhibitors like, Omeprazole, lanzoprazole, rabeprazole, esomeprazole, pantoprazole are used.
to suppress acid production by halting the mechanism that pumps the acid into the stomach. The mild side effects of treatment are nausea, vomiting, diarrhea, dark stools, metallic taste in the mouth, dizziness, headache, and fungal infections.

What can you do to prevent H. pylori infection?
The source of H. pylori is not yet known. However, it is always wise for persons to wash hands thoroughly, to eat food that has been properly prepared, and to drink water from a safe, clean source. These healthy practices may help prevent a H. pylori infection.

WHAT ARE EMERGENCY SYMPTOMS OF H. PYLORI INFECTION?
Emergency Symptoms due to H. pylori infection may occur due to damage in the stomach or duodenal wall, or bleeding which occurs due to damage in blood vessels, obstruction of the stomach path may also lead to emergency symptoms. The emergency symptoms are Sharp, sudden, persistent stomach pain, bloody or black stools or bloody vomit.

PREGNANCY

Pregnancy is the state of union between a sperm and an ovum in the uterus, the formation of a fetus that is nurtured in the mother’s womb. Pregnancy covers the entire time frame of 40 weeks; from the minute the fetus is conceived to the moment of the birth.

Being pregnant is a totally different feeling for the would-be mothers, whether they are first time pregnant or having a second, third, and fourth child. The changes are apparent not only in the body physically, but in the emotional well being as well. The hormones that cause the physiological changes in the body are also responsible for emotional changes that happen to a pregnant woman.

WHAT ARE THE SYMPTOMS OF PREGNANCY?
Pregnancy means some very important changes are happening in your body. The whole phase of pregnancy that lasts for approximately nine months is divided into three phases of three months each, based on the commonality of the symptomatic changes in the body.

With the moment of conception the body starts preparing itself to nurture the fetus and deliver it to the world as a healthy baby at the end of 40 weeks of prenatal care. However not all babies are born after a pregnancy of forty weeks. The time of delivery is dependent on a lot of factors like the health of the pregnant woman, the health of the fetus etc. In general, a pregnancy is said to last 40 weeks.

BODY CHANGES IN THE FIRST TRIMESTER
Some very common pregnancy symptoms in the initial stages are given here.

Missed period: This is probably one of the first signs that make women aware of their pregnancy. This is the time the uterus uses all the resources it has for creating an environment for the fetus to grow inside it. Women miss their period for the entire tenure of their pregnancy.

Nausea and vomiting: This is called as morning sickness, as most women have the feeling of nausea and vomiting in the mornings only. However, some may even have this feeling in the evening as well. These symptoms generally reduce at the end of the first three months of pregnancy.

Frequency of urination: This is the time when women feel the need to use the bathroom more. The growing fetus causes the uterus to expand and put pressure on the bladder.
Constipation: Expanding uterus also makes women feel constipated

Dizziness: sitting or standing in a same posture for a long time can make a pregnant woman dizzy, and may even cause her to faint for short periods. This happens, as the blood is pumped more to the growing uterus. These spells subside after the first three months of pregnancy.

Varicose veins: Varicose veins are raised veins that can be seen on the surface of the skin. They are generally found on the legs, but women can get cases of varicose veins in the pregnancy on other areas of the body also.

Leg cramps: Calcium metabolism is strongest during pregnancy and this often gives rise to leg cramps.

Nosebleeds, nasal stuffiness, bleeding gums: These are part of the hormonal changes that happen in the women's body during this time and affect the ear, mouth and nose.

**BODY CHANGES IN THE SECOND TRIMESTER**

This is often the time most pregnant ladies report to be the most comfortable period for the body. This is the time when the disturbing feelings of nausea and dizziness have ended to provide some amount of relief. Some common changes the body undergoes in this phase are the following:

Stretching of skin: As the tissues and muscles stretches to accommodate a growing uterus, the surrounding skin also stretches causing at times reddish or pinkish lines on the skin called stretch marks. These are a kind of scars that occur during the second part of the pregnancy. Not all women get stretch marks, though. Often these marks fade away with time, after delivery. At other times they may be of a little permanent nature. Even in those cases, they can be treated to disappear. Darker skinned women may notice patches of skin turning a shade darker. This is also a temporary condition called melasma or chloasma. These too are caused by hormonal changes and will disappear at the end of the pregnancy.

Sensation of Itching: the pregnancy causes many hormonal disturbances that in turn cause the sensations of itchiness in the pregnant lady. They are temporary disturbances that disappear on delivery of the baby.

Feeling out of breath: This feeling often happens due to the growing uterus pressing up the lungs that does not get enough space to expand. Taking deep breaths may help the lady overcome these moments of breathlessness.

Common aches: Some common aches felt are backaches, aches in the uterine region, or pain in the joints. Body aches like backaches and joint pains are due to the carrying off the increasing weight that may cause wrong postures or positions. At times the fetus might push against the lower back to cause pain to the pregnant lady. The aches in the uterine region may be due to the stretching of the uterus. Minor pains are quite common. If the pain persists, its time to visit the gynecologist.

**BODY CHANGES IN THE THIRD TRIMESTER**

In this phase of pregnancy, the body is preparing itself to give birth to a new individual, a baby. So most of the physiological changes happen as a result of that process. Some symptoms of first and second trimester may continue in this phase as well. Some common symptoms particular to this phase of pregnancy are given as following:

Heartburn: Women in their third trimester of pregnancy of complain of acidity and heartburn. This happens as a result of the growing uterus pushing on the stomach and other organs. Often eating a diet low on fatty foods, taking enough fluids cause the relief from the problem.

Swelling of feet, face: Swelling of feet or face is also quite common. Sitting with feet resting on any elevated platform may help the pregnant lady. If swelling is along with rapid weight gain, consultation with the doctor is essential.
Tender Breasts: As the pregnancy comes to its term, the body also starts adjusting for the birth and afterwards. Changes occur in the breasts also and that's why they feel tender, as they are getting ready to feed the baby on its arrival.

PREGNANCY AND DIET / DIET DURING PREGNANCY

Pregnancy is the most beautiful phase in a woman’s life. It brings about emotional and physiological changes as well as poses extra demands on the body. In this phase the body needs extra nutrition for the developing fetus, pregnant woman herself and the lactation period to follow. These nutritional demands have to be met for a healthy child and mother.

The diet during, even before, pregnancy has to be rich in calories, proteins, vitamins & minerals and balanced. The needs vary in the three trimesters. Generally the gestation period in homosapiens (human) is approximately 40 weeks measured from the mother’s last menstrual cycle.

Energy – the energy needs of the body increase manifold and are increased by 300 kcals per day. Trimester wise an additional calorie intake is recommended as below:-

1st trimester (1 to 12 weeks) – 10 kcals/day  
2nd trimester (13 to 27 weeks) – 90 kcals/day  
3rd trimester (27 to 40 weeks) – 200 kcals /day.

These calories are needed to cater to the growing demands of the fetus and the mother as well as to accumulate fat stores which act as reserves during lactation and when otherwise needed. Considerable weight gain about 10-14 kgs during pregnancy is desirable.

Proteins – An additional 15 gms/day of protein has to be supplied in the diet. Complete and good quality proteins in the form of milk, meat, egg and cheese along with legumes, pulses, nuts and whole grains will help.

Fats - The fetal organs already have stores of fat and so additional fat is not required. Nevertheless, essential fatty acids (EFA) should be supplied during pregnancy.

Minerals – Calcium, phosphorus, iron, zinc, sodium and iodine should be taken during pregnancy. The deficiency of these minerals leads to complications during pregnancy and has adverse effects on the fetus-infant.

Vitamins – these nutrients have special roles to play in the physiological state of the mother and fetus.

Vitamin A improves vision and maintains the integrity of cells.  
Vitamin D is essential for maternal calcium absorption and calcium metabolism of infant. Vitamin E helps in preventing abortions. Vitamin K helps in preventing neonatal haemorrhages.

Vitamin B6 or Folic acid is very important to prevent macrocytic anemia and promote normal fetal growth, as it prevents serious birth defects.

Fibres – A common problem during pregnancy is constipation. Therefore the diet should contain plenty of fibres in the form of whole fruits and vegetables, whole grain cereals, vegetable soups and whole pulses.

Water – a very important nutrient it keeps the body hydrated, prevents constipation, hemorrhoids, edema and flushes out any toxins that might be produced.

DIET OUTLINE - POINTS TO PONDER

Drink at least 8 – 10 glasses of water daily.

Include milk shakes, juices, soups and fluids in your diet

Consume at least 5-6 servings of vegetables daily primarily green leafy vegetables.
Eat a variety of 4 -5 fruits daily. Lay special emphasis on citrus fruits, papaya, strawberries, melons and berries.

Milk, cheese, tofu, sesame and all sorts of dairy products to provide the body with calcium, phosphorous and vitamins.

Iron rich foods like lean red meat, fish, poultry, dry fruits, whole grain products, green leafy vegetables, dates and iron fortified cereals should be included in the diet liberally.

Folic acid rich foods like berries, leafy greens, asparagus, broccoli, beans, orange juice, fortified cereals, nuts and whole grains.

Plenty of fibres have to be included in the diet from whole grain flours, vegetables, fruits, wheat bran and legumes.

Eat small meals at regular intervals rather than large meals after long periods of time.

Avoid foods that are greasy, fried or highly spiced.

Good quality proteins like egg, meat, milk, soyabean and fish should be consumed.

Iron and folic acid supplements should be taken on the advice of the doctor.

Alcohol and caffeinated beverages should not be consumed.

Smoking is hazardous to the growing fetus and should not be done.

Drugs should only be taken on the prescription of the doctor.

Proper rest should be taken.

Emotional upheavals should be avoided.

Care has to be taken against dehydration and stress of any kind.

Hunger pangs should not be ignored and as much food as desired should be consumed.

Last but not the least, this phase should be enjoyed and proper care of the mother and child should be taken.

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**DIABETES MELLITUS**

All of us know someone suffering from diabetes. This sums up the prevalence of diabetes. It is, apart from being one of the most prevalent diseases in the world, also a disease that opens up a Pandora's box of many complications. No wonder it is a dreaded disease and people who are diabetic end up getting other medical problems as well. Diabetes is a group of diseases with one thing in common - a problem with insulin. The problem could be that your body doesn't make any insulin, doesn't make enough insulin or doesn't use insulin properly.

The pancreas, which is an organ present in the abdominal cavity of the body, secretes this hormone insulin. This hormone is the key to the way your body processes food because it helps maintain the proper level of a sugar (glucose) in your blood. Glucose is your body's fuel. Cells use glucose to produce energy to grow and function. Glucose is escorted by insulin through your bloodstream and insulin helps in unlocking cells to allow glucose to enter.

In diabetes, lack of insulin or the resistance of your cells to insulin prevents the right amount of glucose from entering your cells. The unused glucose builds up in your blood, a condition called hyperglycemia.

The disease occurs in two types:

**TYPE 1 DIABETES:**

This is the type of diabetes that generally affects young people and requires treatment with insulin.
TYPE 2 DIABETES:
This type of diabetes generally develops after age 40. Diabetes can develop gradually, often without symptoms, over many years. It may reveal itself too late to prevent damage. In fact, you may first learn you have diabetes when you develop one of its common complications - heart disease, kidney disease or vision problems. Today, better methods of diabetes control, new medications and easier ways to take insulin enable most people who develop type 1 or 2 diabetes to live a long and healthy life.

CAUSES OF DIABETES:
The various types of diabetes are different disorders with different causes:

TYPE 1 DIABETES
This type of diabetes is an autoimmune disease. Your immune system turns on itself and destroys the insulin-producing cells in your pancreas. Although type 1 diabetes usually develops in childhood or teen years, it can appear later.

TYPE 2 DIABETES
In this type, your pancreas makes some insulin, but not enough. Your cells also can become resistant to insulin's effects, keeping insulin from escorting enough glucose into your body's cells. Type 2 diabetes generally develops after age 40. However, doctors are seeing a rise in childhood type 2 diabetes that parallels the rise in obesity among youth. A form of type 2 diabetes, gestational diabetes, develops during 2 percent to 5 percent of pregnancies. In gestational diabetes, your body doesn't effectively use the insulin you produce. The cause may be metabolic changes that occur due to the effects of hormones in pregnancy. Gestational diabetes usually disappears after pregnancy, but more than half of women who experience it eventually develop a permanent type 2 diabetes.

SYMPTOMS OF DIABETES
The symptoms are due to persistent high levels of sugar in the circulating blood. These symptoms are

- Frequent urination - When blood sugar is too high, kidneys can't absorb the excess glucose. The glucose leaks into urine, pulling water with it.
- Extreme thirst - The process of dehydration makes you thirsty.
- Blurry vision - High blood sugar may cause new blood vessels to form and may damage old blood vessels on the retina at the back of your eye.
- Weight loss - To make up for the lost fuel, your body burns fat reserves, and you may lose weight.
- Fatigue - When your cells don't get enough glucose, their primary fuel source, fatigue results.
- Hunger - Burning of fat reserves also may make you hungry.

Hyperglycemia - High a level of glucose in the blood; a sign that diabetes is out of control. Many things can cause hyperglycemia. It occurs when the body does not have enough insulin or cannot use the insulin it does have to turn glucose into energy. Signs of hyperglycemia are great thirst, a dry mouth, and a need to urinate often. For people with insulin-dependent diabetes, hyperglycemia may lead to diabetic ketoacidosis.

Hyperosmolar Coma -A coma (loss of consciousness) related to high levels of glucose (sugar) in the blood and requiring emergency treatment. A person with this condition is usually older and weak from loss of body fluids and weight. The person may or may not have a previous history of diabetes. Ketones (acids) are not present in the urine.

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HOW CAN WE DIAGNOSE DIABETES?

If you have a family history of diabetes and also suffer from some of the risk factors mentioned above, then it is always advisable to screen yourself regularly to detect diabetes and avoid the serious complications. As the saying goes “Prevention is better than cure”. So it is always advisable to screen yourself for diabetes if you stand the risk of suffering from it. If you’re at risk of diabetes or have symptoms, you should take the test at a younger age and more frequently.

A fasting plasma glucose test is a simple, reliable test for diagnosing diabetes. After fasting overnight (or for 8 hours), a sample of your blood is drawn to measure the glucose level. Most people have a level between 70 and 100 milligrams of glucose per deciliter of blood (mg/dL).

A level of 126 mg/dL or higher on two tests confirms a diagnosis of diabetes. Your doctor may diagnose diabetes if you have a single very high fasting blood glucose level or a higher glucose level along with diabetes symptoms.

HOW CAN DIABETES BE TREATED?

Controlling blood sugar is the single most important thing you can do to prevent long-term complications of diabetes.

If you have type 1 diabetes, you must take insulin. Before its discovery in 1921, people with type 1 diabetes usually died within a year or two. Today, most people use synthetic insulin, which is chemically identical to human insulin.

If you have type 2 diabetes, you may be able to control your blood sugar with weight control, diet and exercise. Or, you may need to combine these approaches with medication.

Medications to treat type 2 diabetes include:

- Sulfonylurea drugs. These medications lower blood sugar levels by stimulating your pancreas to produce and release more insulin. Sulfonylurea drugs that doctors commonly prescribe include glipizide and glyburide.
- Metformin: This drug decreases the release of glucose stored in your liver.
- Acarbose: This medication helps decrease the after-meal spike in your blood sugar level by slowing the digestion and absorption of carbohydrates in your intestine.
- Insulin sensitizers: These new oral drugs improve your body’s response to insulin, making your body more sensitive to the insulin that’s already available. These medications can help reduce or eliminate the need for insulin injections in some people.

If you have type 2 diabetes, you may need to start taking insulin if fasting blood glucose levels stay above goals set by your doctor. How much insulin you need depends on your age, weight, exercise level, type of diabetes and how difficult your blood sugar is to control.

MORE VALUABLE INFORMATION ABOUT DIABETES...

Unlike other diseases, diabetes cannot be cured as such. This can be controlled and the person affected with diabetes can afford to have a normal life if he or she manages to keep the blood sugar levels within permissible levels. Many factors - diet, alcohol, activity, stress, illness, medications and changes in hormone levels - can affect your blood sugar. But you can monitor your level with frequent blood glucose self-testing. These tests are available over-the-counter at pharmacies. You prick the tip of your finger and touch a drop of your blood to a strip of paper. You compare the color on the strip of paper to a chart to determine your blood sugar level. Knowing the level of sugar in your blood helps you learn what makes your blood sugar levels rise and fall, so you can adjust your treatment.

Changes in your routine can cause swings in your blood sugar level. Here are suggestions for how to handle factors that affect your level:
Balance your diet and medications: If you take diabetes medications, be consistent on a day-to-day basis in the timing and amount of food you eat. By controlling when you eat and how much, you control the times your blood sugar is higher, such as after meals, and how high or low your blood sugar level goes. Whenever you go off schedule, you risk upsetting the balance between your diet and your medication. Too little food in comparison to your medication may result in very low blood sugar and a hypoglycemic reaction. Too much food, and your blood sugar will be too high.

Test yourself after exercising: Exercise usually lowers your blood sugar level for several hours. But exercise can also increase your blood sugar if your insulin level is too low. Until you know how your body responds to exercise, test your blood glucose just after exercising and then again several hours later.

Monitor the effects of stress and illness: Psychological stress or the physical stress of a cold, influenza (flu) or a bacterial illness can cause your body to produce hormones that prevent insulin from working properly. Major trauma or other medical problems, such as a heart attack, also can increase blood sugar levels dramatically. During times of stress and illness, it's important to monitor blood glucose frequently. You should also have a vaccination against pneumococcal pneumonia and a yearly flu shot.

Avoid alcohol: Alcohol prevents the release of glucose from your liver and can increase the risk of your blood sugar falling too low. If you drink alcoholic beverages, do so only in moderation, and eat food before you have a drink.

HOW DOES INSULIN HELP TREAT DIABETES?

Insulin lowers blood sugar by allowing it to leave the blood stream and enter the cells. People with type I diabetes cannot make their own insulin in the body and must take insulin injections to meet the regular requirement. They can survive without insulin injections, but many may take insulin injections to control blood glucose levels more effectively. Insulin is taken as an injection. Patients who need insulin is taught to give his/her injections themselves.

In type II diabetes, the patient's body makes insulin, but is not able to use it effectively. They use medicines to control blood sugar in the form of pills, usually once or twice a day. These medicines work by preventing the body from sending sugar into the bloodstream when the naturally produced insulin is not working properly, releasing more Insulin into the bloodstream, and helping the body's own insulin move glucose from the bloodstream into the cells. Some people need insulin in addition to oral medicines. Some people no longer need medicines if they lose weight because their own insulin output is sufficient after reducing weight, fat, and sugar.

Insulin is taken as an injection. It is not available in tablet form.

WHAT TO EAT WHEN YOUR BLOOD SUGAR LEVEL IS NOT NORMAL?

Diet planning for diabetes includes choosing healthy foods, eating the right amount of food at the right time. Meal plans differ depending on the type of diabetes.

In insulin-dependent diabetes (Type I), following a fixed time daily to eat and the amounts and kind of food eaten is very important to allow food and insulin to work together to regulate blood glucose levels. If meals and insulin are out of balance, extreme variations in blood glucose can occur.

In Non insulin-dependent diabetes (Type II), weight control is the most important principle in addition to a well-balanced diet. The doctor and dietician will help you to chalk out a diet plan to follow.

WHY DIABETICS SHOULD GIVE MORE CARE TO THEIR FEET?

People with diabetes are prone to foot problems because of complications caused by damage to large and small blood vessels and nerves, and decreased ability to
fight infection. To prevent injury to the feet, diabetics should regularly checkup their feet.

CERVICAL SPONDYLOSIS / OSTEOARTHRITIS / DEGENERATIVE NECK DISEASE

The area, which are commonly affected by Cervical Spondylosis are from the fourth to seventh vertebral bones. The discs present in between the two vertebrae loses height due to ageing or degeneration or sometimes due to injury.

In cervical Spondylosis the ligament of the joints become thick and shortened. The disc space becomes narrow and gradually compresses the nerve. In advanced cases of Cervical Spondylosis, spinal cord is affected and may also lead to paralysis of the arm.

WHAT IS CERVICAL SPONDYLOSIS / OSTEOARTHRITIS / DEGENERATIVE NECK DISEASE?

Cervical Spondylosis is a degenerative disease affecting the joints of the cervical vertebrae (Bones of the back of neck) with deposition of minerals in the discs (cushions), which is present in between the vertebral bones.

The spinal cord is protected by a column of bones called vertebrae which are stacked vertically on one another. There are seven cervical vertebrae and eight nerves arise from the vertebrae.

Each vertebral bone is attached to the next vertebral bone by means of Intervertebral joints. There are spaces between each bone that are occupied by a structure called Intervertebral disc (cushion).

The Vertebral discs are made up of tough outer tissue with inner elastic tissue. Each disc acts as cushion to the vertebral bones and protects the nerves and blood vessel that pass between the two vertebrae. The discs also gives flexibility to the spinal cord for free movement.

WHO ARE COMMONLY PRONE TO CERVICAL SPONDYLOSIS?

- It is common in middle-aged people.
- Women are affected more than men.
- Degeneration occurs at different people at different rates. Pain is not common in all who undergo the ageing process, it occurs in the presence of any one of the precipitating factor as enlistd in the causes below.

WHAT ARE THE CAUSES OF CERVICAL SPONDYLOSIS?

- Injury: cervical spondylosis can be caused by previous injury, repeated fractures or dislocations of the joints of neck. These cause abnormal tear of joints, ligaments and the structures surrounding the joints.
- Bad posture: Incorrect posture adapted by habit or due to poor skeletal set up in the neck predisposes abnormal tear of the neck joints. The bad posture that can cause cervical spondylosis are when
  - The head is held forwards from normal position.
  - The shoulders are held up and forward.
  - The chest is bent and rounded
  - The pelvic area is tilted backwards;
  - The hips, knees and ankles are bent
- Occupational strain: The physical discomfort, which arises through an occupation is occupational stress. The physical strain, intensity of work and duration of working hours all constitutes the occupational strain
• Life style: The various styles of activity adapted in daily life can cause strain or tear of the structures of the neck and lead to cervical spondylosis. An example is awkward positions adapted while sleeping.

• Body type: Body type predisposing to cervical spondylosis are thick necks with hump at the back and long backs. These body types are more prone to cause strain or tear of the neck tissues.

SYMPTOMS OF DEGENERATIVE NECK DISEASE

• Pain (Neck pain and Shoulder pain)
• Headache
• Muscle tightness: The muscles covering the regions like back of neck shoulder, side of neck will be stiff and painful.
• Referred pain: There may be no pain felt over the neck but referred pain maybe present in arm, elbow, thumb and fingers
• Limitation of movement: The neck movements are limited. Extending the neck up is difficult and restricted due to pain and stiffness but flexing the neck down is possible.
• Loss of bladder and bowel control: In extremely severe cases, if the spinal cord is affected, there will be loss of balance and also loss of bladder and bowel control.
• Muscle weakness: The muscles responsible for maintaining the neck in erect position can become weak
• Sensory loss: The bones of the neck applies pressure over the nerves passing through them and can causes loss of sensation in the arm or fingers
• General tiredness and anxiety - can be present.

WHAT IS TREATMENT DEGENERATIVE NECK DISEASE?

1. Medical
2. Physiotherapy
3. Relaxation
4. Lifestyle Modifications
5. Ergonomics
6. Surgical

Medical Treatment: Usually Analgesics and muscle relaxants are advised. In more severe cases the orthopedic doctor may suggest cortisone injections near the joints of the vertebral bodies to ease the swelling of the nerves and relieve pain.

Surgical Treatment: If the medical treatment and physiotherapy fails, and the condition is severe, where the nerves are affected, surgery may be required. Decompression of the nerve is done to relieve the nerve which is compressed by the bones and the disc.

Physiotherapy: The goal of physiotherapy treatment is to relieve pain, and enhance movements of the neck.

Shortwave diathermy - A disc or heating pad is placed over the back of the neck. The warmth obtained from the shortwave diathermy current relaxes the muscle and the pain is relieved.

Cervical Traction - Traction is a mechanical device, which supports the head and chin. It is used to relieve the nerve compression by a bone.

Posture correction - Simple postural exercises can be taught to correct the faulty position of the neck.
Motivation is given to maintain the erect posture:

Collars - Two types of collars can be prescribed:

1. Soft Collar - Soft collar is used during night times to prevent awkward position of the neck during sleep.
2. Firm Collar - Firm collar steadies the neck and relieve pain, especially during traveling or work. It is removed when the pain subsides.

Relaxation: Relaxation is essential part of treatment. Tension in neck and shoulder muscle, pain, anxiety are all relieved by relaxation. Relaxation can be done in two ways:

1. Physical Relaxation.
2. Mental Relaxation.

Physical Relaxation: The whole body is relaxed by free suitable and comfortable positions, so that the muscles are freed from tension and the pain is relieved. For eg., position of relaxation - when you are lying flat on your back.

1. One pillow under the head
2. One cushion for the shoulder and
3. One under knees.

The pillow should be firm and thin

This position will allow relaxation for your body while lying down.

Relaxation while sitting

1. The head, neck and shoulder are supported by high backed chair, with a small pillow at lower back.
2. Feet supported on stool or low bench
3. Arm, resting on arm of chair or pillow

Mental Relaxation: Positive thinking and using imagination is the way of relaxing mentally. This type makes one feel better and breaks the pain cycle. Muscle tension, anxiety, loss of sleep and pain are all relieved by mental relaxation exercises like Yoga.

Lifestyle Modifications: Some modifications in life style will help in over coming problems of cervical spondylosis. For example:-

1. Avoid any strain of neck and shoulder like reading and writing for long hours.
2. Avoid the use of very soft cushion bed and avoid using a very high pillow.

Ergonomics: Ergonomics concentrates on the architectural design of furniture like desk, chairs, tables etc. The design of the furniture should be such that it should support the body structure without causing any undue strain to the muscles of the back and neck.

DO’S AND DONT’S

- If you are prone to cervical Spondylosis, Avoid bad roads, if traveling by two or four wheelers
- Do not sit for prolonged period of time in stressful postures
- Do use firm collars while traveling
- Do not lift heavy weights on head or back
- Do not turn from your body but turn your body moving your feet first
- Do turn to one side while getting up from lying down
- Do the exercises prescribed regularly
• Do use firm mattress, thin pillow or butterfly shaped pillow
• Do not lie flat on your stomach.

OCCUPATIONS THAT MAY INDUCE CERVICAL SPONDYLOSIS
Generally, every one is prone to physical stress and strain. The use of poorly designed desks and chairs can cause abnormal stress over the structures of neck. Occupations that are easily prone includes
• Typist
• Computer operators
• Drivers of vehicles
• Coal miners
• Occupations involving carrying and lifting heavy weights on their heads

HOW DOES A PERSON’S LIFE STYLE CAUSE CERVICAL SPONDYLOSIS?
Activities like reading, writing for prolonged period demands a continuous muscle and ligaments tension and can result in neck strain. Some of the activities that causes gradual strain of the structures of the neck leading to neck pain and stiffness includes -.
1. Habit of holding the telephone on one shoulder and leaning at it for long time
2. Sitting or standing still for long period
3. Driving continuously for long hours
4. Sleeping in awkward position and with many pillows below the neck and shoulder
5. To avoid neck strain that can lead to problems one is advised to take small breaks and to do muscle strengthening exercise.

A HOME BASED SIMPLE POSTURE EXERCISE
• Stand in front of the mirror with your back touching the walls
• Try to push the wall with your back and neck
• This will correct your posture.

ATTENTION DEFICIT HYPERACTIVITY DISORDER (ADHD)
Attention Deficit Hyperactivity Disorder (ADHD) is a condition that affects nearly 3 to 5 percent of children in pre-school and early school years. Although the disorder was first chronicled by Dr. Heinrich Hoffman in 1845, it was Sir George F in 1902 who brought attention to the disorder by presenting a series of papers on impulsive children with behavioral problems, that are cause by genetic dysfunction and not related to child rearing practices. Since then, numerous researches had been carried on the subject that had acknowledged ADHD as a separate behavioral disorder.

Children with ADHD are known to be impulsive, inattentive and hyperactive. Often these symptoms are present in most preschool and early school going children at some level. But whether the child is suffering from ADHD, it needs to be assessed by a qualified person.

Studies had been done to find out the cause for ADHD, and the most recent studies have tended to point to genetics and neurobiological causes that lead to ADHD in children. Research have pointed out that use of cigarettes and alcohol during pregnancy may increase the risk of ADHD in children. ADHD may also be

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genetically influenced and thus may carry from one generation to next.

WHAT IS ADHD?

Some common symptoms of ADHD can thus be child's inability to sit still, causing disruption in school routine, one that acts before thinking, or is passive, or sluggish in any group activity, and shows poor concentration. Different behavior may be noticed at different settings or time. As all these symptoms are seen in preschooler and early school going children, it may be difficult to diagnose the child with Attention Deficit Hyperactivity Disorder and thus may need to be shown to a clinical practitioner to realize the difference, as ADHD is difficult to diagnose.

The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR) in its most recent version had identified three types of behavioral problems associated with ADHD.

1. PREDOMINANTLY HYPERACTIVE-IMPULSIVE TYPE: (may not be inattentive)

Some behavioral symptoms exhibited by children in this condition are the following.

- Being restless or fidgety
- Always squirming in their seats
- Always in motion, running, climbing, even in places where they have to sit still
- Answering even before the questions can be completed
- Finds it difficult to wait in queues or take turns

2. PREDOMINANTLY INATTENTIVE TYPE: (may not be hyperactive or impulsive)

they may show a different set of behavior patterns altogether.

- Become easily distracted by any passing sight or sound
- Inattentive to details
- Makes lots of careless mistakes
- Do not follow instructions much
- Forgetful of belongings like pencils etc
- Skips from one incomplete task to another

3. COMBINED TYPE: (who are inattentive, hyperactive and impulsive) They show mostly all of the symptoms discussed above at some point of time.

HOW TO DIAGNOSE ADHD

To diagnose ADHD it is important to ascertain that the behavior exhibited by the child is inappropriate for his age. There are proper diagnostic guidelines available that had decided the specific symptoms that lead to ADHD.

- The behavior must appear early in life, before age of 7.
- The behavior pattern must be consistently occurring for at least six months.
- The behavior must hamper the child's educational and social development consistently for some time, may be a year or two.

Because all children do not behave in the same manner in the same situation, it is important for the parents to know from an expert about what behavior is age appropriate for the child. Only then it is possible to diagnose ADHD as behavior inappropriate for the child of that age. Parents will need to take their child to pediatrician, psychologist or psychiatrist to diagnose whether their child's suffering from ADHD or is just immature and extra playful.
Among the pediatricians, psychologists or psychiatrists, neurologists and social workers, some can prescribe medicine, others may use behavioral therapies to help the child. It is important for the parents to know their child's problem and decide on the specialist most suited to meet the unique needs of the child.

SOME COMMON BEHAVIORAL PROBLEMS ASSOCIATED WITH ADHD
Children afflicted with ADHD at times have also been diagnosed with some behavioral problems.

- **Learning disability** - 20 to 30% of children with ADHD seems to have some sort of learning disability. They may have difficulty in understanding the language or expressing it, a reading disorder called Dyslexia, often seem to accompany the ADHD in a child.

- **Tourette Syndrome** - This is a neurological disorder where the child may show some nervous tics like blinking of eyes, facial twitches etc. or repetitive mannerisms like clearing their throats, snort, sniff etc.

- **Oppositional Defiant Disorder** - This is expressed in terms of non-compliance, stubbornness, and defiance to parental authority and temper tantrums.

- **Conduct Disorder** - The child shows anti-social behaviors like lying, stealing, fighting with other children in such a type of disorder.

- **Anxiety and Depression** - The child faces these feelings as he finds himself unable to cope in the real life situations.

- **Bipolar Disorder** - This disorder is characterized by successive feelings of elation and depression. Although difficult to diagnose in children with ADHD, this disorder is often manifested in dysfunction of moods in such children.

TREATMENT OF ADHD
Treatment of ADHD has two components: medication and behavior therapy. A study by National Institute of Mental Health (NIMH), US, has found out that long term combination treatment of both these components have helped the children with ADHD the maximum, than any of the treatments alone. In the areas of parent-child relationship, social skills, school performance etc the result was very positive. Another benefit of such a treatment combination was that children could be treated with very low doses of medicine.

Medications - For ages medics have been using medication to control children with ADHD. Broadly these medications may fall into a class of drugs called stimulants.

Behavioral treatments - some interventions are commonly used by trained therapists to help the child with ADHD. Some of these interventions are:

- **Psychotherapy** - It is the process in which the therapist helps the parent and the child give vent to their feelings and come to grip with their emotions and thus heal them.

- **Behavioral therapy** - This process is meant to help the child in directly changing his behavior to a more socially acceptable form without going into the causes of such disruptive behavior.

- **Social skills training** - In this procedure the child is taught the social expertise required to live harmoniously with the people who make the child's social set.

MY CHILD HAS BEEN HAVING SYMPTOMS OF ADHD. WHAT SHOULD I DO NOW?
If you feel that there is a chance that your child may have ADHD, take him to a specialist like pediatrician or psychiatrist or psychologist immediately to diagnose his problem. If the child is diagnosed with ADHD, as a parent you will be required to read up about the disorder and start on his treatment immediately in consultation with his doctor/counselor.
WHAT SHOULD BE THE TREATMENT OF ADHD- MEDICATION OR THERAPY?

Medications don't cure ADHD; they only help controlling the symptoms of the disorder. The child affected with ADHD needs to be treated as per the unique requirement of the child, by a combination of medication and behavioral interventions that will need to be decided in consultation with a professional who's an expert on childhood ADHD.

CAN MY CHILD CONTINUE GOING TO SCHOOL EVEN AFTER BEING DIAGNOSED WITH ADHD?

Yes. Your child can continue his normal school activities. However, it is important to discuss your child's problem and his treatment with his teacher, so that the teacher can also support the child adequately in the classroom activities.

IS ADHD GOING TO AFFECT MY CHILD THROUGHOUT HIS LIFE?

ADHD symptoms may be controlled to a large extent by the treatment. Although 80% of the children who had taken medication for ADHD may have to continue as a teenager, only about 50% of them may require medication in adult life.

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**BRONCHIAL ASTHMA**

Asthma is a disease of the respiratory system in which the airways constrict, become inflamed, and are lined with excessive amounts of mucus, often in response to one or more "triggers," such as exposure to an environmental stimulant (or allergen), cold air, exercise, or emotional stress. In children, the most common triggers are viral illnesses such as those that cause the common cold.

This airway narrowing causes symptoms such as wheezing, shortness of breath, chest tightness, and coughing, which respond to bronchodilators. Between episodes, most patients feel fine.

The disorder is a chronic or recurring inflammatory condition in which the airways develop increased responsiveness to various stimuli, characterized by bronchial hyper-responsiveness, inflammation, increased mucus production, and intermittent airway obstruction. The symptoms of asthma, which can range from mild to life threatening, can usually be controlled with a combination of drugs and environmental changes.

**SIGNS AND SYMPTOMS**

In some individuals asthma is characterized by chronic respiratory impairment. In others it is an intermittent illness marked by episodic symptoms that may result from a number of triggering events, including upper respiratory infection, airborne allergens, and exercise.

An acute exacerbation of asthma is referred to as an asthma attack. The clinical hallmarks of an attack are shortness of breath (dyspnea) and wheezing or stridor. Although the latter is "often regarded as the sine qua non of asthma," some victims present primarily with coughing, and in the late stages of an attack, air motion may be so impaired that no wheezing may be heard. When present the cough may sometimes produce clear sputum. The onset may be sudden, with a sense of constriction in the chest, breathing becomes difficult, and wheezing occurs (primarily upon expiration, but can be in both respiratory phases).

Signs of an asthmatic episode or asthma attack are stridor, wheezing, rapid breathing (tachypnea), prolonged expiration, a rapid heart rate (tachycardia), rhonchous lung sounds (audible through a stethoscope), and over-inflation of the chest. During a serious asthma attack, the accessory muscles of respiration (sternocleidomastoid and scalene muscles of the neck) may be used, shown as in-drawing of tissues between the ribs and above the sternum and clavicles, and the
presence of a paradoxical pulse (a pulse that is weaker during inhalation and stronger during exhalation).

During very severe attacks, an asthma sufferer can turn blue from lack of oxygen, and can experience chest pain or even loss of consciousness. Severe asthma attacks may lead to respiratory arrest and death. Despite the severity of symptoms during an asthmatic episode, between attacks an asthmatic may show few signs of the disease.

PATHOPHYSIOLOGY
1. Bronchoconstriction:
   During an asthma episode, inflamed airways react to environmental triggers such as smoke, dust, or pollen. The airways narrow and produce excess mucus, making it difficult to breathe. In essence, asthma is the result of an immune response in the bronchial airways. The airways of asthmatics are "hypersensitive" to certain triggers and in response to exposure to these triggers, the bronchi (large airways) contract into spasm (an "asthma attack"). Inflammation soon follows, leading to a further narrowing of the airways and excessive mucus production, which leads to coughing and other breathing difficulties.

2. Bronchial inflammation:
   When an asthmatic inhales the allergen, antibodies "recognize" it and activate a humoral response. Inflammation results: chemicals are produced that cause the airways to constrict and release more mucus, and the cell-mediated arm of the immune system is activated. The inflammatory response is responsible for the clinical manifestations of an asthma attack.

WHAT ARE THE TRIGGERS?
Cold or flu (viral infection), Cigarette smoke, car fumes, paint fumes, Exercise (especially on a cold dry day), Pollen, Furry feathery animals/ pets/ toys, House dust mite (beds, carpets, soft toys)

WHAT HAPPENS TO THE AIRWAYS?
When a child comes into contact with an asthma trigger, the muscles around the walls of the airways tighten so that the airway becomes narrower. The lining of the airway swells and produces sticky mucus. As the airways narrow, it becomes difficult for air to move in and out and the child finds it difficult to breath. This may be accompanied by a wheezing or whistling noise.

CAN IT BECOME SERIOUS?
Doctors often use the words mild, moderate and severe to describe asthma. Below are some guidelines explaining what they mean.
Mild: cough or a wheeze is present, but the child plays happily and feeds well. Sleep is undisturbed by symptoms
Moderate: the child wakes at night, cant run around and play without wheeze or cough
Severe: the child is too restless to sleep, unwilling to play at all, too breathless to talk or feed if severe (lips going blue)

WHAT ARE THE TREATMENTS AVAILABLE?
Preventer inhaler: helps protect airways. They make asthma symptoms less likely
Reliever inhaler: helps to relieve breathing difficulties when they happen
Steroid tablets: short course of these tablets for 1-5 days is sometimes needed to treat or prevent an attack in addition to preventers and relievers. But please see your doctor for managing your child’s asthma.
CAN IT RUN IN FAMILIES?
The tendency to develop allergies including allergic asthma often runs in the family. There are, however, a number of other things that can cause children to develop asthma.

WHEN YOU GET AN ASTHMA ATTACK?
- Take 2 puffs or more of your reliever inhaler straight away using a spacer (your doctor will advice you regarding the exact dose and technique)
- Keep calm and try to relax as much as your breathing will let you.
- Sit down, don’t lie down.
- Support oneself by resting one’s hands on the knees.
- Try to slow your breathing down as this will make you less exhausted
- Wait 5-10 minutes
- If reliever has no effect, call doctor or ambulance.

HOW TO KEEP ASTHMA UNDER CONTROL?
Avoid triggers: House dust mite, furry toys/ pets, pollen, smoke
Keep active : Exercise is the best way to keep one’s body in tip top condition. However exercise is also a common asthma trigger. But that does not mean that you should stop. The exercise tolerance improves with time.
Avoid smoke/ smoking.

YOGA FOR MENOPAUSE
Menopause is a part of every woman’s life. It is the stage when the menstrual period permanently stops. This stage usually occurs between the age of 40 and 60 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 stopped 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 and urinary problems, changes in appearance, mood changes, sleep disturbances, palpitations and backaches. Not all women experience these symptoms, some are not even aware of any other changes in their body. Estrogen and progesterone level plays the biggest part in Menopause. In this stage, the ovaries make less estrogen and progesterone. Estrogen is the female hormone that plays a major role in shaping your 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 the discomfort in some Women.

Menopause is divided into two stages: the Premenopause and Postmenopause. Premenopause is the time when you begin to experience the signs and symptoms though you are still ovulating. Your experience uneven rising and falling of your hormone level that often cause you to feel hot flashes and variations in your periods. Postmenopausal stage is when you are about 12 months past your last period and your ovaries no longer produce estrogen and progesterone, nor release eggs.

Menopause does not really require medical treatment since it is a natural biological process. The Menopause treatments actually focus on relieving the symptoms of Menopause and in preventing any chronic condition 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 which helps in alleviating symptoms such as hot flashes and vaginal dryness. HRT may also combine progestin with estrogen. Women who had hysterectomy only take Estrogen Replacement Therapy (ERT), which is HRT using estrogen alone. HRT, however, has some serious side effects and increases your risk to 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.

YOGA’S UNIQUE BENEFITS DURING THE MENOPAUSAL YEARS

Yoga reduces the effects of menopause’s hormonal changes by balancing the endocrine system. It smooths out the hormonal and glandular changes that take place during this stage of life. The regular practice of all the categories of poses -- standing, sitting, lying down, backbends, forward bends, twists, and inverted (upside down) poses -- stimulates and activates all the glands, organs, tissues and cells of the body. Yoga’s inverted poses are particularly important during menopause as they have a powerful effect on the neuroendocrine system, allowing fresh, oxygenated blood to flow to the glands in the head and neck.

A woman’s body is quite capable of adjusting to the hormonal changes that occur when the ovaries slow down. If all our other glands are functioning well, they will, in most cases, continue to produce all the hormones a woman needs for the rest of her life.

It’s important to bear in mind that all menopausal symptoms are related and using Yoga to ease the unpleasant effect of one symptom generally leads to better health in the rest of the body. Every Yoga pose has a multitude of effects on all the systems of the body.

No aspect of Yoga is more important for women crossing the menopausal bridge then to take time to practice Yoga’s restorative poses – passive poses where the body is completely supported by Yoga props. Props help you stay in poses for a longer time and conserve your energy, allowing the nervous system to relax. Restorative Yoga poses are recommended for replenishing your adrenal reserves. This is especially important during times like menopause when women often find themselves in a vicious cycle of feeling "too tired to exercise," (often due to adrenal exhaustion) and then feeling even more tired because they are not exercising.

HEALTH HAZARDS OF SMOKING

Smoking is associated with significant morbidity and mortality. Smoking still remains one of the leading cause of preventable death. Smoking has the dubious distinction of affecting all the systems from head to foot.

High Blood Pressure: Nicotine in the cigarette causes constriction of blood vessels which increases blood pressure resulting in hypertension. Smoking causes an acute increase plasma ACTH, cortisol, aldosterone, and catecholamine levels which can in turn lead to indirect elevation of blood pressure. Each time a cigarette is smoked there is an acute rise in blood pressure. Further more studies have shown that smoking interferes with the metabolism of multiple anti-hypertensive medications.

Heart Diseases : Smoking is one of the major risk factor in the development of cardiovascular disease by the action on the blood vessels; by increasing the work load of the heart; by decreasing exercise tolerance.

Coronary artery disease (CAD), cerebrovascular disease, abdominal aortic aneurysm and Peripheral vascular disease are some of the diseases caused by smoking. Cigarette smoking increases the duration of ischemia in patients with Coronary heart diseases and also the number of times a patient gets ischemic attacks. Smoking decreases HDL (good) cholesterol.
Chronic Obstructive Pulmonary Diseases: Cigarette smoke also contains substances that directly damage the lung tissue thereby reducing their capacity to absorb oxygen. Substances released by the immune system in response to cigarette smoke also destroy the lung cells. Smoking irritates the bronchial tree in the lungs, which in turn results in the production of more mucus causing the typical smokers' cough. Bronchitis and emphysema are some of the common consequences of cigarette smoking.

Peripheral vascular diseases: Smoking by its action on blood vessels causes vasoconstriction and is the also the risk factor for the development of large vessel peripheral vascular disease and inflammation of a vein. This is mediated through smoking induced atherosclerosis and vasoconstriction. These conditions are exacerbated by diseases such as diabetes.

Stroke: Smoking causes deposition of fatty deposits in the blood vessels which is called atherosclerosis. Slowing of blood flow also occurs which in turn can lead to thrombus formation. This can result in stroke. The risk of stroke due to cigarette smoking is dose related i.e. the more number of cigarettes one smokes, greater is the risk of stroke.

Chronic Hoarseness and Laryngeal Polyps: Chronic smokers often develop a persistent hoarse voice and sometimes a soft, benign growth in the voice cords called vocal cord polyps which might need surgical removal.

Impotence: Smoking increases the risk of erectile dysfunction because blood flow into the penis is blocked by atherosclerosis. Smoking causes abnormal sperm shape, impaired sperm motility damage, reduced number of sperms and reduced volume of ejaculate.

Premature Wrinkling of Skin: Tobacco use causes thickening and fragmentation of the elastic fibers of skin and decreases the formation of collagen that maintains a healthy and supple skin. Oxygen supply and the water content of skin is also reduced by reducing circulation.

Gum, Dental and Mouth Disease: Tobacco use may be one of the most significant risk factors in the development and progression of periodontal disease which results in poor mouth hygiene and bad breath.

Upper Respiratory Infections: Smoking irritates the lining of the nose and causes increased nasal secretions and swelling.

Smoking and Ulcer: Studies have shown that smoking increases acid secretion, and decreases mucosal blood flow resulting in acid peptic ulcer and also delays the healing of gastric and duodenal ulcers.

Smoking and Pregnancy: Smoking causes delivery complications,

1. Increases risk of pre-term delivery
2. Giving birth to low-birth weight baby
3. Slows fetal growth

Smoking also increases risk of serious health problems to the newborn such as:

1. Cerebral palsy
2. Mental retardation
3. Learning disabilities

More harmful effects of smoking: Several studies have also shown that smoking leads to less stamina

1. Interferes with the functions of thyroid
2. Causes bone loss leading to bone fractures
3. Accelerates the development of the macular degeneration
4. Increases the chances of developing multiple sclerosis
5. Predisposes to cervical dysplasia
IMPORTANT CONCEPTS OF YOGA RELATED TO YOGA THERAPY

What are the benefits of the following Yoga practices?

- **Vajrasana**: Loosens joints and muscles of the legs as well as increases blood circulation to lower abdomen. Helps to relieve Sciatica, Varicose Veins and disorders of the Gastro Intestinal Tract. Excellent pose for the practice of Pranayama and meditation as it ensures a straight back sitting position and increases the chest expansion tremendously.

- **Dhouti Kriya**: This is useful for relieving gas trouble, gastric acidity and Bronchial Asthma. Excellent for those suffering from Kaphic disorders.

- **Neti Kriya**: Purifies structures of the head and neck. Helps to control hypersensitivity as in patients of Allergic Rhinitis. Vision becomes subtler.

- **Viparita Karani**: Useful in patients of abdominal disorders, Thyroid disorders and Diabetes Mellitus. Helps drainage of blood in Piles and Varicose Veins. Helps to reduce genital prolapse.

- **Paschimottanasana**: Slims and trims the body in general while stretching all muscles of the entire back. It activates the process of digestion and function of abdominal organs. Useful to control Dyspepsia, Constipation, Sciatica, Diabetes and Piles. Patients suffering from high blood pressure should avoid this pose.

- **Ushtrasana**: Increases flexibility of the spine. Helps to relieve backache, breathing problems, Sciatica, Gastric problems and flatulence. Helps to develop confidence. Corrects drooping shoulders and hunched backs.

- **Bhujangasana**: Tones the entire spine and expands the chest. Increases flexibility of the spine and helps in backaches. Helps to control breathing disorders and gastric problems. Improves digestion and bowel action. Useful in cases of neck pain. Helps to develop self-confidence.

- **Sarvangasana**: Useful in persons suffering from abdominal disorders and Diabetes Mellitus. Helps to improve thyroid function as well as increase blood supply to the brain. Helps drainage of blood in piles and Varicose Veins. Useful in reduction of prolapsed abdominal and pelvic organs. Useful to develop good concentration and memory.

- **Matsyasana**: It is a complementary pose to Sarvangasana and Shirasasana. Good for patients of breathing and thyroid problems. Pelvic joint are made more elastic and supple. Helps to focus the breathing in the middle chest.

- **Shavasana**: Provides relaxation for the body, mind and spirit. Helps to reduce blood pressure in patients of Hypertension. Useful in psychosomatic disorders such as tension headaches, insomnia, asthma etc. Remove fatigue, quiets the agitated mind, soothes the nerves and is an excellent antidote for stress and strain. Helps one to develop “Nishpanda Bhava” or a relaxed attitude.

- **Brahmari Pranayama**: Great bliss arises in the mind of the Sadhaka. Helps in reliving headaches and other head and neck disorders such as cervical spondilitis. Helps to develop mental relaxation and memory power.

- **Aswini Mudra**: Useful for pregnant women and patients of urinary and fecal incontinence. It also can be used in persons suffering from piles and prolapse.

- **Trikonasana**: Tones up the leg muscles, removes stiffness from the legs and hips, relieves backaches and neck sprains, Strengthens the ankles and develops the chest. Develops confidence and will power.

- **Eka Padasana**: Conveys harmony, balance and power. Helps to contract and tone the abdominal organs. Gives agility to the body and mind. Recommended for runners, as it gives vigor and agility.
Padottanasana: Increased blood flow to the trunk and the head. Increases digestive powers. Makes the legs flexible. Help to reduce excess body weight. It is a good preparation for Shirasasana.

Meru Asana (Adho Mukha Swanasana): Removes fatigue and brings back lost energy. Relieves pain and stiffness in the heels. Strengthens the ankles. Arthritis of the shoulder joints is relieved. It is a good preparation for Shirasasana.

Padmasana: Prevents occurrence of knee pains. It makes the mind attentive and alert. Blood circulates to lumbar and abdominal region. Abdominal organs are toned. It is a pose that signifies physical control of the sense and action organs (Indriyas) and so can be termed a physical Pratyahara.

Mayurasana: Tones the abdominal region. Gives pressure to abdominal region. Cures ailments of the stomach and spleen. Beneficial to patients of Diabetes. Strengthens the forearms, wrists and elbows

Navasana: Effective for disorders of the intestines, liver, gall bladder and spleen. The practitioner gains strength in muscles of the back. Brings life and vigor to the entire back and enables one to move comfortably.

Koormasana: Tones the spine, activates the abdominal organs and keeps one energetic and healthy. Soothes nerves of the brain and prepares one for Pratyahara. Helps to control Diabetes, and relieve flatulence and constipation.

Hanumanasana: Tones the leg muscles. Massages abdominal organs. Opens the pelvis and prepares the female body for childbirth. Develops devotional attitude of Bhakti, as Lord Hanuman is known as the greatest Bhakta.

Ardha Matsendrasanasana: Provides a good twist to the entire spine. Lower abdominal organs are benefited. Prevents prostate enlargement if practiced regularly. Helps to open up the shoulders. Useful in Diabetes, flatulence, dyspepsia and other abdominal disorders.

Chakrasana: Tones the spine by stretching fully keeps the body alert and supple. Gives vitality, energy and a feeling of lightness. Strengthens the arms and wrists. Useful in gynecological, hormonal and respiratory disorders.

Rajakapotasana: Lumbar region is stretched. Neck and shoulder muscles are strengthened. Thyroid, Parathyroid, Adrenals and the Gonads receive rich supply of blood. Recommended for disorders of the Urinary system.

What are the Shat Karmas or Shat Kriyas?
Cleansing techniques to purify the body systems

What are the cleansing actions of the Shat Kriyas?

- Trataka - Cleanses the eyes and improves the eyesight
- Neti - Cleans the upper nasal tract from throat to the nostrils
- Kapalabhati - Cleans lower respiratory tract and activates the brain cells. Cleans the cobwebs of the thinking process.
- Dhouti - Cleans upper gastro intestinal tract (GIT) up to stomach
• Nauli  -  Tones up the abdominal muscles and viscera  
• Basti  -  Cleans the lower GIT especially the rectum  

General benefits of performing Shat Kriyas?  
• Clean and refresh the inner tracts namely the optical path, respiratory tract and gastro intestinal tract.  
• Inner awareness is developed  
• Desensitizes the hypersensitive reactions such as in nasal allergies  
• Build stamina and forbearance capacity  

List some practices of loosening exercise (Jattis or Shitileekarana Vyayama) that are done from standing position?  
• Jogging: Front jogging, Horse ride jogging, Side jogging  
• Front and back bending of the waist  
• Side bending of the waist  
• Shaking the hands  
• Rotation of wrists and shoulders  

General benefits of performing Shitileekarana Vyayama?  
• Gets rid of Tamas and Inertia  
• Builds stamina  
• Flexibility and strength to the spine  
• Trains the muscles  
• Improved coordination  
• Warming up prior to Yogasanas  
• Positive health is developed  

What are the Pancha Deha Doshas (Five Blemishes of the Body)?  
• Kama  -  Sexual Desire  
• Krodha  -  Anger  
• Nihsvasa  -  Sighing  
• Bhaya  -  Fear  
• Nidra  -  Sleep  

What are the primary instincts common to both animal and human nature?  
• Hunger  
• Procreative instinct  
• Fear  
• Sleep  

* Notes for Yoga Therapy – Compiled and Edited by Dr Ananda Balayogi Bhavanani *
LIFESTYLE MODIFICATIONS FOR PREVENTION AND TREATMENT OF HYPERTENSION

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Introduction

Modifications of lifestyle are often critically important to adequately control existing hypertension. The elevated blood pressure (BP) of patients who are gaining weight, performing little physical activity, smoking and drinking alcohol in excess may be impossible to control despite progressively increasing doses of multiple medications. Modification of lifestyle are even more important to a much larger population of patients, those who are genetically predisposed to develop hypertension if exposed to adverse environmental factors. As a consequence of the rapid growth of these environmental factors -- including obesity, physical inactivity, stress, excessive alcohol consumption, and too much dietary sodium plus too little dietary potassium -- the incidence of hypertension continues to increase. Obviously, everyone would benefit from the prevention of hypertension, a far more effective way to reduce the personal and societal burdens of cardiovascular disease (CVD) than the treatment of the established disease.

Prevention

The ability to prevent hypertension has never been well documented and may never be conclusively demonstrated. What has been documented is the ability to decrease the usually progressive rise from high-normal BPs, i.e., diastolic levels from 80-89 mm Hg, to overt hypertension, i.e., diastolic levels >90 mm Hg, in relatively small groups of subjects by the use of various lifestyle modifications. To achieve meaningful prevention, both a population-based approach and an intensive targeted strategy focused on those who were at high risk for hypertension, either from heredity or from adverse environmental factors, are needed. Researchers concluded that six approaches have been shown to be effective in the prevention of hypertension. These are:

1) performance of moderate physical activity
2) maintenance of normal body weight
3) limitation of alcohol consumption
4) reduction of dietary sodium intake
5) maintenance of adequate dietary potassium intake and
6) consumption of a diet rich in fruits, vegetables, and low-fat dairy products and reduced in saturated and total fat.

Treatment

Lifestyle modifications are indicated for virtually all hypertensives. Adverse lifestyle habits that raise BP are virtually ubiquitous in those with hypertension and may play a major role in the development of the disease.

In practice, multiple modifications of lifestyle can lower BP more effectively than single approaches. Their use was highly correlated with the control of hypertension among a large cross-section of the US population in the third National Health and Nutrition Examination (NHANES III) population.

Observational and trial data support the importance of multiple simultaneous modifications of lifestyle to approach the greatest benefit on lowering BP and reducing overall cardiovascular risk status. The impressive effects of programs such as the Dietary Approaches to Stop Hypertension (DASH) diet could reflect the role of multiple factors.
Although success in modifying lifestyle may be as difficult to achieve as keeping patients on long-term antihypertensive drug therapy, even a small persistent reduction in BP can have a major protective effect on CVD.

AVOIDANCE OF TOBACCO

Effects of Smoking on BP
Smokers and users of smokeless tobacco generally have been found to have higher daytime ambulatory BP than nonsmokers; however, if clinic BP is measured when smokers are not smoking, they may have lower BP than nonsmokers, likely because they weigh less.

Tolerance does not develop to the pressor effect of nicotine and sympathetic outflow increases with each cigarette. Insulin resistance is greater in smokers, as is visceral obesity. All of these and many other adverse effects of smoking contribute to an increase in CVDs, including stroke, and has a major impact upon progression of renal dysfunction.

Interventions to Stop Smoking
Repeated demands by physicians to their patients to stop smoking are helpful. Nicotine replacement therapies are effective and have minimal pressor effects, probably because they provide a lesser and slower rise in plasma nicotine.

REDUCTION OF EXCESS WEIGHT
Scope of the Problem
Obesity is growing at a rapid rate in all developed and developing societies. The consequences of even small amounts of increased weight are impressive. Women over 18 years of age with an initial body mass index of 24 developed diabetes five times more and hypertension twice more than in women with a body mass index \(<=21\).

Most of this increased weight is deposited in the upper body, comprising a major component of the metabolic syndrome (Table I) that is now present in almost half of men and women over 60 years of age in the United States. Upper-body obesity is a risk factor for hypertension independent of body mass index. In most societies, obesity is increasing most rapidly among children, largely as a consequence of physical inactivity. Therefore, it is critical to improve the increasingly "toxic" environment that is responsible for the epidemic of childhood obesity (Table II).

Obstructive sleep apnea, often present in obese hypertensives, is much more common than now recognized and can lead to sustained hypertension. Relief of sleep apnea can lower BP.

Benefits of Weight Reduction
In virtually every study of weight reduction, systemic BP is reduced, even if the degree of weight loss is small. In general, the greater the weight loss, the greater the reduction in BP. With the marked weight loss accomplished by gastric surgery, the prevalence of hypertension is markedly reduced.

PHYSICAL ACTIVITY
People who regularly perform physical activity have less CVD and the protection is as great with walking as with more vigorous exercise. The higher the level of exercise capacity, the lower the cardiovascular mortality with an association that is as strong as that seen with other cardiovascular risk factors. Regular aerobic physical activity has even been found to improve sexual function in obese men with erectile dysfunction.

The BP falls during aerobic exercise and remains lower for the remainder of the day. The overall antihypertensive effect is greater with a longer duration of exercise, but not with more intensive aerobic exercise. A similar reduction in BP has been seen with progressive resistance exercises.
DIETARY SODIUM REDUCTION

Although sodium sensitivity varies between individuals, a moderate reduction in dietary sodium intake will help prevent and treat hypertension. The average decrease in BP with acute increases in sodium excretion is greater in hypertensives than in normotensives and in the elderly than in the younger individuals. Such greater degrees of sodium sensitivity are associated with reduced long-term survival.

A significant fall in BP has almost always been noted in trials of dietary sodium reduction. The addition of a lower sodium intake to the DASH diet provided an additional reduction in BP.

In view of the difficulty in maintaining dietary sodium intake by individuals in today's high-salt environment, reduction in the amount of salt added to processed foods -- the source of 75% of sodium intake -- is the logical way to achieve the benefits of moderate dietary sodium reduction. This can be done with ease by reading the label that lists the amount of sodium. Avoiding processed foods with more than 400 mg sodium per portion is a helpful way for patients to achieve the goal.

INCREASES IN POTASSIUM INTAKE

In 33 randomized controlled trials of potassium supplementation, a significant antihypertensive effect has been seen, greater in blacks and in the presence of higher dietary sodium intake. Increased dietary consumption of potassium has been associated with a lower risk of stroke. The extra potassium in diets with more fresh fruits and vegetables may contribute to the reduction of BP as seen in the DASH and other controlled trials.

MODERATION OF ALCOHOL CONSUMPTION

Acutely, large quantities of alcohol lower both BP and arterial stiffness, but chronic excessive drinking of more than three portions per day raises BP. On a chronic basis, as seen in a 6-year follow-up of 8334 normotensives aged 45-64 years at baseline, lower-to-moderate levels of alcohol consumption were associated with a higher incidence of hypertension in black men but not in the other groups, whereas more hypertension was seen in all groups consuming >210 g ethanol per week (equivalent to 18 portions). Similarly, over an 8-year follow-up of 70,891 women aged 25-42 years of age, the risk of developing hypertension was reduced by 14% in those who drank one-quarter to one-half portion per day and was increased by 31% in those who drank more than two drinks per day. In those who drink more than six portions per day, a reduction down to less than two per day is accompanied by a fall in BP. In multiple populations, moderate consumption of any type of alcohol-containing beverage has been associated with lesser risks for heart attack, heart failure, ischemic stroke, diabetes, and dementia. The greater protection reported with wine, red wine in particular, compared with other types of alcohol may reflect healthier lifestyle habits in those who drink wine.

OTHER MINERALS

Calcium: A meta-analysis of nine dietary and 33 nondietary supplementation trials showed an overall, statistically significant reduction of BP by 1.44/0.84 mm Hg.

Magnesium: A meta-analysis of 20 randomized controlled trials (RCTs) of magnesium supplementation, averaging 15.4 mmol/d, found a statistically insignificant 0.6/0.8 mm Hg fall in BP, however, there was an apparent dose-related effect.

OTHER DIETARY CONSTITUENTS

Caffeine: In 24 hypertensive subjects, consumption of 5 cups of coffee per day, containing 300 mg of caffeine, was associated with an average 4.8/3.0 mm Hg increase in 24-hour ambulatory BP. Similar amounts of green or black tea produced immediate rises in BP but minimal effects after 60 min.
Fiber: A meta-analysis of 12 RCTs published before 1995 found an average reduction in BP of 1.2/1.8 mm Hg with dietary fiber supplements averaging 14 g/d.

Fish Oil: A meta-analysis of 36 RCTs of fish oil supplements, averaging 3.7 g/d, found an overall, statistically significant fall in BP of 2.1/1.6 mm Hg. Antioxidant vitamins: Higher serum levels of vitamins A, C, E, and carotene were associated with increased odds of having hypertension in the NHANES III population. Supplements of vitamin C have sometimes lowered BP and sometimes have had no effects; however, multiple trials with vitamin E supplements have found neither antihypertensive efficacy nor protection against cardiovascular events.

REDUCTION IN STRESS
Most studies of various cognitive-behavioral therapies have shown transient, but not sustained lowering of BP; however, more impressive effects were found in 45 hypertensives who received 10 hours of individualized stress management: after 6 months, ambulatory BP levels were reduced by 6.1/4.3 mm Hg. Many of the symptoms associated with hypertension are related to anxiety-induced hyperventilation that may also acutely raise BP. Recognition and control of such hyperventilation can relieve these symptoms. Moreover, slow breathing guided by a device has been found to lower BP.

Conclusion
In conclusion, the major lifestyle modifications needed to treat hypertension have been defined in the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) and the World Health Organization-International Society Hypertension (WHO/ISH) guidelines (Table III). Despite the need to rely on lifestyle modifications in hopes of preventing hypertension and in managing the disease once developed, the limited success of achieving significant lifestyle changes in clinical practice must be recognized. For example, a controlled 2-year trial, despite multiple counseling sessions, accomplished only very small changes in lifestyle, accompanied by only a small fall in BP. Therefore, though lifestyle changes should be pursued, patients must not be denied the proven benefits of antihypertensive drug therapy.

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Lose weight, if possible
Limit alcohol intake
Increase aerobic physical activity
Reduce sodium intake to no more than 100 mmoL/d
Maintain adequate dietary calcium, potassium, and magnesium
Stop smoking and reduce intake of dietary saturated fat and cholesterol

Source: J Clin Hypertens © 2004 Le Jacq Communications, Inc

YOGA THERAPY FOR DIABETES

1. **Exercise**: It is important to use up the excess blood sugar by regular exercise. Walk whenever possible and skipping or swimming are good adjuvants to Yoga therapy.

2. **Diet**:
   - Regular small meals with complex carbohydrates.
   - Avoid refined foodstuffs and junk foods.
   - Take lots of green vegetable salads, bitter gourd and Neem.
   - Maintain good hydration.

3. **Suryanamaskar**: Performance of three or six rounds of the Suryanamaskar helps to utilize the excess glucose and also to help speed up metabolism and weight loss.

4. **Asanas**:
   - **Twisting poses**:
     - **Standing**: Trikona Asana, Ardha Kati Chakrasana
     - **Sitting**: Vakrasana, Ardha Matsyendra Asana, Bharatwaja Asana, Shashanga Asana
     - **Reclining**: Jatara Parivartan Asana
   - **Abdominal pressure poses**:
     - **Sitting**: Utkat Asana, Janu Sirasa Asana, Paschimottana Asana, Nava Asana, Yoga Mudra Asana, Stambam Asana and Mayura Asana.
     - **Reclining**: Pavana Mukta Asana, Dhanura Asana, Bhujanga Asana, Shalaba Asana, Nouka Asana
   - **Topsy turvy**: Sarvanga Asana, Janu Sirasa In Sarvanga Asana, Karna Pida Asana and Hala Asana

5. **Pranayamas**:
   - Vibhagha and Pranava Pranayamas with special emphasis on Adam Pranayama and AAA sound.
   - Bhastrika Pranayama to help utilize the blood glucose better
   - Savitri Pranayama, Chandra Anuloma Pranayama, Nadi Shuddhi Pranayama for stress reduction

6. **Kriyas**: Kunjal, Nauli, Kapalabhati, Agnisara, Shanka Prakshalana

7. **Mudras and Bandhas**:
   - Viparita Karani and Maha Mudra.
   - Uddiyana, Moola and Jalandhara Bandhas.

*Notes for Yoga Therapy –Compiled and Edited by Dr Ananda Balayogi Bhavanani*
8. **Relaxation**: Shava Asana, Makara Asana and Kaya Kriya.
9. **Dharana**: Mandala Dharana on all Chakras with emphasis on Manipura Chakra and the sound of RAM (RUNG)

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**YOGA THERAPY FOR HYPERTENSION**

1. **Diet**:
   - Regular meals with green vegetable salads, fresh fruit juices and sprouts
   - Less salt and more potassium and calcium
   - Fruits are a good source of potassium
   - Garlic and onion help reduce the blood pressure
   - Maintain good hydration
   - Loss of weight will also help reduce the blood pressure

2. **Asanas**: Modified versions of the following Asanas as per the physical condition and other associated health problems of the patient.
   - **Standing**: Padottana Asana, Hastha Pada Asana, Padangushta Asana
   - **Prone**: Bhujanga Asana, Ardha Shalaba Asana, Nouka Asana,
   - **Sitting**: Shashaha Asana, Yoga Mudra Asana
   - **Supine**: Matsya Asana, Pavana Mukta Asana and Pada Uttana Asana
   - **Topsy Turvy**: Viparita Karani and Sarvanga Asana

3. **Pranayamas**:
   - Vibhagha Pranayama and Pranava Pranayama with emphasis on Madhyam Pranayama.
   - Savitri Pranayama, Ujjayi, Chandra Bhedana, Chandra Anuloma, Nadi Shuddhi, Bhramari, Sheetali, Sitkari.

4. **Kriyas**: Kapalabhati
5. **Mudras**: Shanmuki Mudra, Aswini Mudra, Brahma Mudra
6. **Relaxation**:
   - Shavasana, Mini Shavasana, Makara Asana,
   - Marmanasthanam Kriya, Kaya Kriya, Dridha Kriya, Tala Kriya
   - Anuloma Viloma Kriya and Yoga Nidra.

10. **Dharana**: Mandala Dharana on all Chakras with emphasis on Anahata Chakra and the sound of YAM (YUNG).

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**YOGA THERAPY FOR PRE SYNCOPE / SYNCOPE**

1. **General advise**:
   a. Lie down as soon as the fainting starts to occur
   b. Elevate the legs and compress the calf muscles
   c. Avoid dangerous activities (swimming, driving, heights etc) and especially avoid being alone in such situations

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2. **Diet advice:**
   a. Drink lots of fluids (juices, water) - 2 to 3 liters per day
   b. Eat lots of green vegetable salads and fruits

3. **Kriyas:**
   - Agnisara
   - Nauli
   - Kapalabhati

4. **Asanas:**
   - To help increase venous return to the heart:
     - Utkatasana, Pavana Mukta Asana, Pada Uttana Asana, Sarvanga Asana, Viparita Karani, Shirshasana (if possible)

5. **Pranayamas:**
   - Vibhagha-especially Adhyam Pranayama with Adi Mudra
   - Pranava-especially Adhyam Pranayama with Adi Mudra
   - Brahmari with Shanmuki Mudra
   - Surya Anuloma
   - Surya Bhedana

6. **Bandhas:**
   - Moola Bandha, Uddiyana Bandha, Jalandhara Bandha

7. **Mudras:**
   - Shanmuki Mudra, Aswini Mudra, Brahma Mudra

8. **Relaxation:**
   - Shavasana
   - Marmanasthanam Kriya, Kaya Kriya, Dridha Kriya, Tala Kriya

9. **Dharana:**
   - Mandala Dharana on all Chakras with emphasis on Ajna Chakra with the sound of AAM (ANG), Anahatha Chakra with the sound of YAM (YUNG) and Manipura Chakra with the sound of RAM (RUNG).

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**YOGA THERAPY FOR BRONCHIAL ASTHMA**

1. **Exercise:** Do not over tire yourself as it may exacerbate the attack. Regular graded exercise is good to help develop exercise tolerance. Brisk walking is also effective. Try to breathe in the **Savitri** (2:1-2:1) ratio as you walk.

2. **Diet:**
   - Maintain good hydration
   - Be aware and avoid foodstuffs that bring on an allergy
   - Take lots of green vegetable salads
   - Carrots, papaya, mango and green leafy vegetables have the precursor of Vit A and this vitamin is vital for the health of the epithelial lining of the respiratory tract
   - Citrus fruits, such as lemons and oranges have Vit C that is very useful for the health of the respiratory tract. Warm lemon or orange...
juice with honey is very useful to build up the resistance of the respiratory tract. Amla is a rich source of Vit C

- Sprouts help in regeneration of the body and as the respiratory lining is constantly under attack they help in the epithelial regeneration

3. **Suryanamaskar**: Performance of three or six rounds of the suryanamaskar helps to stimulate a healthy breathing pattern and leads to better breath-movement coordination. The chest muscles are exercised and lung function is improved.

4. **Asanas**:
   - **Asanas to open up the chest**:
     - **Standing**: Trikona Asana, Ardha Kati Chakra Asana, Ardha Chakra Asana
     - **Sitting**: Ushthra Asana and its variations, Shashaha Asana and its variations, Ardha Matsyendra Asana,
     - **On all fours**: Chatus Pada Asana and Vyagaha Pranayama, Chiri Kriya, Sharabha Asana
     - **Reclining**: Matsya Asana and its variations, Chakra Asana, Sethu Bandha Asana, Bhujanga Asana and Dhanur Asana
   - **Asanas to help lung drainage**:
     - Bala Asana and Sashanga Asana
   - **Asanas to help exhalation**: Maha Mudra Asana I and II

5. **Pranayamas**:
   - Vibhagha, Pranava, Bhastrika, Savitri Pranayama, Nadi Shuddhi, Surya and Chandra Anuloma Pranayamas

6. **Kriyas**: Kunjal, Kapalabhati, Agnisara and Neti
7. **Relaxation**: Shava Asana, Makara Asana and Kaya Kriya.
8. **Dharana**: Mandala Dharana on all Chakras with emphasis on Anahatha Chakra with the sound of YAM (YUNG) and Manipura Chakra with the sound of RAM (RUNG).

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**YOGA THERAPY FOR OBESITY**

1. **Exercise**: It is important to use up the excess fat stores by regular exercise. Walk whenever possible and skipping or swimming are good adjuvants to Yoga therapy.

2. **Diet**:
   - Eat like a king at breakfast, a prince at lunch and a beggar at dinner is a good adage to follow
   - Drink two glasses of water 15 minutes before the meals to help avoid overeating.
   - Learn to say **NO** to second and third helpings.
   - Chose complex carbohydrates that take longer to digest and lots of dietary fiber.
   - Avoid refined foodstuffs and junk foods.
   - Take lots of green vegetable salads, bitter gourd and neem.
• Maintain good hydration.
• Perform Vajrasana for 5 minutes after every meal to help digestion

3. **Sleep**: Have adequate and restful sleep and avoid naps in the afternoon that are longer than 45 minutes. Sleep on the left side with right side dominant.

4. **Suryanamaskar**: Performance of three or six rounds of the suryanamaskar helps to utilize the excess fat and also to help speed up metabolism and weight loss.

5. **Asanas**:
   - **Twisting poses**:
     - **Standing**: Trikona Asana, Ardha Kati Chakrasana
     - **Sitting**: Vakrasana, Ardha Matsyendra Asana, Bharatwaja Asana
     - **Reclining**: Jatara Parivartan Asana
   - **Abdominal pressure poses**:
     - **Sitting**: Utkat Asana, Janu Sirasa Asana, Paschimottanasana, Nava Asana, Yoga Mudra Asana, Stambhan Asana and Mayura Asana.
     - **Reclining**: Pavana Mukta Asana, Dhanur Asana, Bhujanga Asana, Shalaba Asana, Nauka Asana
   - **Topsy turvy**: Sarvanga Asana, Viparita Karani, Janu Sirasa In Sarvanga Asana, Karma Pida Asana and Hala Asana

6. **Pranayamas**:
   - Sheetali and Sitkari help reduce appetite and food craving
   - Vibhagha and Pranava Pranayamas as well as Bhastrika Pranayama
   - Perform 27 rounds of Surya Anuloma three or four times a day

7. **Kriyas**: Kunjal, Nauli, Kapalabhati, Agnisara, Shankha Prakshalana

8. **Relaxation**: Shava Asana, Makara Asana and Kaya Kriya.

9. **Dharana**: Mandala Dharana on all Chakras with emphasis on Manipura Chakra and the sound of RAM (RUNG) as well as Vishuddha Chakra and the sound of HAM (HUNG)

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**YOGA THERAPY FOR BACKACHE**

1. **Avoid lifting weights**:
   - If you must lift anything off the ground, make sure that you bend the knees when bending down to lift it and then straighten the knees as you come up.
   - Take someone’s help if the object is too heavy.
   - Don’t overestimate your power!

2. **Rest**:
   - Don’t tire yourself
   - Take adequate rest
   - When lying down it is best to lie on the side. Avoid sleeping on the face.
• Use a thin and hard pillow to support the head and neck

3. **Dietary habits:**
   • Take lots of Fruits, Green vegetable salads and sprouts.
   • Maintain good hydration as it will help the inter vertebral discs to retain their health.
   • Avoid refined foodstuffs and junk foods.
   • Milk is an important source of Calcium.
   • Green leafy vegetables are important.
   • Vitamin C in citrus fruits will help the healing process.
   • Honey in warm water or herbal teas are good for cleansing the bowels and this will help relieve many backaches that are due to constipation.

4. **Self Traction:**
   Turn the head from side to side as if the head is a bottle cap and is being taken off the bottle. Let the head move away from the body pulling the upper part of the spine upwards. Then move the heels, one by one as if walking away from the body downwards. Hold this self-traction on the entire spine for 30 seconds. Then release and relax for a minute. Repeat at least three times in the morning before getting out of bed and at night before going to bed.

5. **Asanas:**
   • **Back stretching poses:**
     i. **Standing:** Tala Asana, Ardha Kati Chakrasana
     ii. **Sitting:** Danda Asana, Sashanga Asana
     iii. **Reclining:** Jatara Parivartan Asana, Dridha Asana I and II
   • **Back strengthening poses:**
     i. **Standing:** Ardha Chakrasana
     ii. **Sitting:** Chatus Pada Asana and Pratipa Hala Asana
     iii. **Reclining:** Bhujanga Asana, Nouka Asana, Shalaba Asana, Bala Asana
   • **Twisting poses:** (Avoid in patients having slipped or prolapsed disc)
     i. **Standing:** Trikonasana and Parshava Kona Asana
     ii. **Sitting:** Vakra Asana and Bharadwaja Asana
     iii. **Reclining:** Jatara Parivartan Asana
   • **Later on:** Pawana Mukta Asana and Meru Asana

6. **Pranayamas:**
   • Vyagraga Pranayama with awareness of the movements at the back with the breath
   • Vibhagha and Pranava Pranayamas with special emphasis on Adam Pranayama and AAA sound for lower back.
   • Savitri Pranayama, Nadi Shuddhi and Brahmari Pranayama help in reducing the stress levels.

7. **Kriyas:** Chatus Pada Kriya and Sethu Kriya
8. **Bandhas:** Uddiyana Bandha and Moola Bandha
9. **Mudras:** Brahma Mudra, Aswini Mudra and Bhujangini Mudra
10. **Relaxation:** Shavasana, Tala Kriya, Dridha Kriya and Kaya Kriya.
11. **Dharana and Dhyana:** Mandala Dharana on all Chakras with emphasis on Mooladhara, Swadhisthana and their respective Bhija sounds.

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1. **Exercise:** Do not over tire yourself as it may increase the breathing difficulty. Regular graded exercise is good to help develop exercise tolerance. Brisk walking is also effective. Try to breathe in the *Savitri* (2:1-2:1) ratio as you walk.

2. **Diet:**
   - Maintain good hydration
   - Be aware and avoid foodstuffs that bring on an allergy
   - Take lots of green vegetable salads
   - Carrots, papaya, mango and green leafy vegetables have the precursor of Vit A and this vitamin is vital for the health of the epithelial lining of the respiratory tract
   - Citrus fruits, such as lemons and oranges have Vit C that is very useful for the health of the respiratory tract. Warm lemon or orange juice with honey is very useful to build up the resistance of the respiratory tract. Amla is a rich source of Vit C
   - Sprouts help in regeneration of the body and as the respiratory lining is constantly under attack they help in the epithelial regeneration

3. **Suryanamaskar:** Performance of three or six rounds of the suryanamaskar helps to stimulate a healthy breathing pattern and leads to better breath-movement coordination. The chest muscles are exercised and lung function is improved.

4. **Asanas:**
   - **Asanas to open up the chest:**
     - **Standing:** Trikona Asana, Ardha Kati Chakra Asana, Ardha Chakra Asana
     - **Sitting:** Ushthra Asana and its variations, Shashaha Asana and its variations, Ardha Matsyendra Asana,
     - **On all fours:** Chatus Pada Asana and Vyagraha Pranayama, Chiri Kriya, Sharabha Asana
     - **Reclining:** Matsya Asana and its variations, Chakra Asana, Sethu Bandha Asana, Bhujanga Asana and Dhanur Asana
   - **Asanas to help lung drainage:**
     - Bala Asana and Sashanga Asana
   - **Asanas to help exhalation:** Maha Mudra Asana I and II

5. **Pranayamas:**
   - Vibhagha, Pranava, Bhastrika, Savitri Pranayama, Nadi Shuddhi, Surya and Chandra Anuloma Pranayamas

6. **Kriyas:** Kunjal, Kapalabhati, Agnisara and Neti

7. **Relaxation:** Shava Asana, Makara Asana and Kaya Kriya.
YOGA PRACTICES FOR WOMEN

YOGA PRACTICES FOR ALL AGE GROUPS

Basic Jathis (hip twist, shaking legs hands, butterfly action)
Aruna Surya Namaskar
Hastha Pada Asana
Trikonasana
Padottanasana
Vajrasana
Purna Vajrasana
Paripurna Vajrasana
Veera Vajrasana
Utkatasana
Baddhakona Asana and Kriya
Poorna Baddhakona Asana
Supta Baddhakona
Chatus Pada Asana and Kriya
Vyagroha Pranayama
Aswini Mudra
Bandha Trayam
Vibhaga Pranayama
Pranava Pranayama
Brahmari Pranayama
Savitri Pranayama in Shavasana
Tala Kriya
Kaya Kriya

YOGA PRACTICES FOR YOUNG GIRLS

Trikona Asana
Vriksha Asana
Padottana Asana
Upavista Kona Asana
Ardha matsyendrasana
Paschimottana Asana
Chakra Asana
Kurma Asana
Dhanur Asana
Eka Pada Sirasana
Dwi Pada Sirasana
Hanumanasana
Ushtrasana
Halasana
Matsyasana

*Notes for Yoga Therapy – Compiled and Edited by Dr Ananda Balayogi Bhavanani*
Nataraja Asana  
Ananda Tandava Asana

**YOGA PRACTICES DURING PUBERTY AND ADOLESCENCE**

Tala Asana and Kriya  
Agnisara  
Dhanurasana  
Mukha bhashrika– Dharmika Asana – Supta vajrasana  
Pawan Mukta Kriya  
Poorna Baddha Kona and Supta Badha Kona Asana  
Sarvanga Asana  
Hala Asana  
Karna Pida Asana  
Kukkriya Pranayama

Generally all Yoga practices can be done. But during the menses Sarvangasana, Shirshasana and other topsy-turvy poses as well as poses that pressure the uterus and abdomen should be avoided.

**YOGA PRACTICES DURING PREGNANCY**

**1ST TRIMESTER**

Ardha Kati Chakra  
Trikona  
Nikunja or Bala Asana  
Chatushpada Asana, Kriya  
Vyagraha Pranayama  
Eka and Dwi Pada Uttana Asana  
Halasana  
Sarvangasana  
Baddhakona Asana and Kriya  
Aswini Mudra  
Moola Bandha

**2ND TRIMESTER**

Supta Baddhakona Asana  
Mehru Asana  
Navasana  
Nikunja Asana  
Baddhakona Asana and kriya  
Aswini Mudra  
Moola Bandha  
Jathara Parivrittana Asana  
Savithri Pranayama

* Notes for Yoga Therapy – Compiled and Edited by Dr Ananda Balayogi Bhavanani *
3RD TRIMESTER
Chatus Pada Asana and Kriya
Vyagraha Pranayama
Moola Bandha and Aswini Mudra in Baddhakona Asana
Chatus Pada Asana and Kriya
Vyagraha Pranayama
Kukkriya Pranayama
Brahmari Pranayama

POSTNATAL
Baddhakona Asana and Kriya
Chatus Pada Asana and Kriya
Vyagraha Pranayama
Shavasana with Savitri Pranayama
Aswini Mudra
Moola Bandha
Uddiyana Bandha
Eka Pada Uttana Asana
Dwi Pada Uttana Asana
Navasana
Pavanamukta Kriya
Vakra Asana
Surya Pranayama

YOGA PRACTICES FOR ALLEVIATION OF MENOPAUSAL PROBLEMS
Trikonasana
Mehru Asana
Bala Asana
Bhujanga Asana
Bhujangini Mudra
Eka Pada Uttana Asana
Dwi Pada Uttana Asana
Navasana
Viparita Karani
Kaya Kriya
Sheethali
Sitkali
Sadanta
Chandra Pranayama
Chandra Bhedana
SIMPLIFIED STRESS REDUCTION PROGRAMME

PRAYER

TALA KRIYA

SURYA NAMASKAR

MUKH BHASTRIKA

PRANAVA PRANAYAMA

DANDA KRIYA

CHANDRA PRANAYAMA

KAYA KRIYA

SHAVASANA WITH

SAVITRI PRANAYAMA

SHAVASANA WITH

MARMANASTHANAM KRIYA