



MEDICAL APPLICATION OF YOGA

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Chapter -1

Meaning and Concept of Yoga

The term Yoga has been defined widely by various profounder. However, the most common, concept is that Yoga means the experience of oneness or unity in our inner being. This unity comes after dissolving the duality of mind and matter at the surface of reality. Yoga, infact, is a system of physical and psychical control. The two most widely practiced Yoga in the west are: Physiological Yoga; called Hatha Yoga and the Yoga of mental excellence – Raja Yoga. These are also termed as Yoga of vitality and the Yoga of meditation respectively. Yoga is an ancient art based on a harmonizing system of development for the body, mind and spirit. It is practical and not a religion. The continued practice of Yoga will lead one to a sense of peace and well being and also a feeling of being in harmony with one's environment.

The word 'Yoga' comes from the Sanskrit root "YUJ" which means, "to join" or "to yoke", is one of the six systems of Indian philosophy.

History of Yoga

The history of Yoga can be divided into the following four broad categories:-

- 1. Vedic Yoga**
- 2. Preclassical Yoga**
- 3. Classical Yoga**
- 4. Post classical Yoga**

These categories are like static snapshots of something that is actually in continuous motion- the "march of history".

1. Vedic Yoga

The Yogic teachings found in the above mentioned Rig-Veda and the other three ancient hymnodies are known as Vedic Yoga. The Sanskrit word veda means "knowledge" while the

Sanskrit term Rig means “Praise”. Thus the sacred Rigveda is the collection of hymns that are in praise of a higher power.

The other three Vedic hymnodies are the Yajur-Veda (“knowledge of sacrifice”), Sama-Veda (“knowledge of chants”) and Atharvana-Veda (“knowledge of Atharvan” or fire priest). The first collection contains the sacrificial formulas used by the vedic priests. The second text contains the chants accompanying the sacrifices. The third hymnody is filled with magical incantations for all occasions but also includes a number of very powerful Philosophical hymns. It is connected with Atharvan, a famous Fire Priest who is remembered as having been a master of magic rituals. These hymnodies can be compared to the various books of the old testament.

2. Preclassical Yoga

This category covers an extensive period of approximately 2000 years until the second century. Preclassical Yoga comes in various forms and guises. The earliest manifestations were still closely associated with the vedic sacrificial culture, as develop in

the Brahmanas and Aranyakas. The Brahmanas are sanskrit texts explaining the vedic hymns and the rituals behind them. The Aranyakas are ritual texts, specific to those who choose to live in seclusion in a forest hermitage.

Preclassical Yoga also comprises many schools whose teachings can be found in India's two great epics, the Ramayana and the Mahabharata (in which the Bhagavad – Gita is embedded and which is seven times the size of the Iliad and odyssey combined). These various Preclassical schools developed all kinds of techniques for achieving deep meditation through which Yogis and Yogini's can transcend the body and mind and discover their true nature.

3. Classical Yoga

This label applies to the eightfold Yoga also known as Astanga – Yoga or Raja Yoga, taught by Patanjali in his Yoga-sutra. This Sanskrit text consisted of 198 sutras or aphorisms, which have been commented or over and over again through the centuries.

The great saint Patanjali believed that each individual is a composite of matter (Prakriti) and spirit (Purusha). He understood the process of Yoga to bring about their separation, thereby restoring the spirit in its absolute purity.

4. Post Classical Yoga

This is again a very comprehensive category which refers to all those many types and schools of Yoga that have sprung up in the period after Patanjali's Yoga sutra and that are independent of this decisive work. In contrast to classical Yoga, post classical Yoga affirms the ultimate unity of everything. This is the core teaching of Vedanta, the Philosophical system based on the teachings of the Upanishads.

Concept of Yoga

Yoga is an ancient discipline. It is recognised as one of the most important and valuable gifts of our culture. The modern era with the development of science and technology provides man more comforts for his basic necessities, but with these comforts man faces lot of problems, which cannot be solved only by the

above facilities. Today, the world is looking for solutions to solve the menacing problems of unhappiness, restlessness, emotional, imbalance, hyper activity, tension, stress etc. Now, the time has come to think of a change in attitude and take a new dimension to solve the problems. There is the importance of Yoga and spiritual love. Yoga is the gift of our rishi culture, is a science and art of pure life style. Yoga offers man a conscious process to solve his problems. Yoga helps the man to evoke the hidden potentialities of man in a systematic and scientific way by which man becomes a fuller individual.

All his faculties – physical, mental, intellectual and emotional – developed in a harmonious and integrated fashion to meet the all-round challenge at the modern technological era; with its hectic speed. The speciality of the Yogic process is that the faculties get sharpened in tune with the spiritual progress of man.

Aims and objectives of Yoga

Yoga improves posture, increases the intake of oxygen and enhances the functioning of the respiratory, digestive, endocrine

and reproductive and excretory systems. Its effects on the emotions are equally beneficial by calming the mind, tuning us to the environment and diminishing insomnia caused by mental restlessness. Yoga is highly recommended for people in competitive, stressful working environments, for those who suffer from headaches, back and shoulder aches, allergies and asthma. Yoga also cures behavioral disorder, nervous breakdown and manic depression. The regular practice of Yoga helps us to accept whatever physical or mental conditions we might be suffering from, by increasing our immediate sense of well-being, concentration and calmness. Much healing can be done, but it takes practice and consistency. We all have the capacity to self-destruct, particularly if things go wrong. The Yogic mentality is that life is a tremendous gift and we have to take responsibility for it. Yoga gives you the capacity to face up to life's challenges. Similarly, when you respect your body, you tend to do things that will enhance its vitality. Part of Yoga practice is deep breathing, which helps to make the body more alkaline. The acid-alkaline ratio is crucial to good health. It should be 80 percent alkaline 20 percent

acids. Over acidity can be harmful for bones and tissues, leading to fatigue, dulled mentality, headaches, depression and arthritis. Refined carbohydrates, animal proteins, coffee and alcohol, as well as stress and pollution are all acid forming.

Yoga works on a Psychological level too. In a Yoga position, one should concentrate on a total awareness of our energy and how it flows. One should learn how body and mind works together. Almost all exercises can be beneficial depending on the intent and body condition. Practicing Yoga ultimately leads towards long-term health and well being.

Physical Benefits of Yoga

Yoga increases

Flexibility

Physical fitness

General health

Other benefits

Lubricate the Joints, ligaments and tendon.

Maintain correct posture

Strengthen the weak part of the body

Control the body weight

Cultivate the art of relaxation

Physiological benefits of Yoga

Yoga increases

Functional ability of all

System of body

Cardiovascular efficiency

Respiratory efficiency

Breath holding time

Vital capacity

Intake of oxygen

Vision and hearing ability

Neuro-muscles coordination

Galvanic skin response

Pain tolerance

Energy level

Immunity power

EEG – alpha waves

Yoga decreases

Pulse rate

Respiratory rate

Blood Pressure

Reaction time

EMH activity

Biochemical benefits of Yoga

Yoga increases

Yoga decreases

HPL Cholesterol

Glucose

Hemoglobin

Sodium

Total Cholesterol

Thyroxin

LDL Cholesterol

Total serum protein

VLDL Cholesterol

Vitamin C

Triglycerides

Psychological benefits of Yoga

Yoga increases

Yoga decrease/Eliminates

Self control

Anxiety

Self actualization

Aggression

Wellness

Emotion

Kinesthetic awareness

Depression

Depth perception

Attention

Concentration

Memory power

Learning efficiency

Cognitive function

Psychological stability

Social skill

Stream of Yoga

According to the scriptures yoga is mainly classified in various systems or branches. They are:-

Janana Yoga	Union by knowledge
Bhakti Yoga	Union by love and devotion
Karma Yoga	Union by action and service
Raja Yoga	Union by mental mastery- the path of will
Hatha Yoga	Union by bodily mastery (principles of breath)
Mantra Yoga	Union by voice and sound
Yantra Yoga	Vision and form
Laya and Kundalini Yoga	Union by arousal of latent psychic
Tantric Yoga	A general form for the physiological discipline. Also union by harnessing sexual energy.

Chapter – 2

Theory of body constitution and health

According to the Yogic tradition and concepts there are five compartments of human body. These five compartments on “Kosha” are:

- | | | |
|----------------------|---|----------------|
| 1. Annamaya Kosha | - | Physical body |
| 2. Pranamaya Kosha | - | Pranic body |
| 3. Manomaya Kosha | - | Mind body |
| 4. Vijnanamaya Kosha | - | Intellect body |
| 5. Anandamaya Kosha | - | Bliss body |

1. Annamaya Kosha

This is the grossest health, constituting the physical form of the body, with biological functions. This component is made of solid matters or pancha bhutas. (Earth, water, fire, air and space).

2. Pranamaya Kosha

This is the invisible component of the body predominated with prana i.e. The life force. Under this Kosha the vital energy

(Prana) flows through invisible channels. A balanced flow of prana to each cell (the small live unit of the body) keeps them healthy and live. A healthy cell ensures a total health of a person.

3. Manomaya Kosha

This component is still more subtle than the Prana. This is referred as mind. This Kosha is the dwelling place of thoughts, emotions, desire, likes and dislikes etc. Any disturbance in this Kosha results into a pathological state called stress. A chronic worry, tension, anxiety disturbs the harmony of this component. A continued disturbed state of Manomaya Kosha percolates into Pranamaya Kosha, which consequently settles in any part of the Annamaya Kosha. This is the course of pathological events which manifests as psychosomatic disorders.

4. Vijnanamaya Kosha

This body component is the site of knowledge and wisdom. This is the discriminating faculty of the mind. This governs the functional quality of Manomaya Kosha. It is also referred as “Conscience”, which is highly evolved in human being

differentiating man from animals. This compartment is extremely firm and rigid, with no flexibility, constitutionally or functionally. This is the god-gifted unique feature, which is closely resembling with that of God. An outstanding health of this faculty superimposes human personality to God. This is after referred under Yoga-definitions as union of Atma to Parmatma. This union is not physical, but qualitative and functional. During the practice of Yoga in transverse this is the final goal to achieve an outstanding feature commonly not encountered in an average person. This includes all those performances as noted for godly personalities. Such as to migrate bodily instantaneously to any part of the universe, to recarnate a dead body to live one, to enjoy immortality, to fulfill any desire what so ever etc. and etc. This state is rarely achieved since this demand an extra-dedicated and tough processes of Yoga practice.

5. Anandamaya Kosha

This is the finest component of the human body, which is though after achieved when a person attains the holy features or he is truly contented and happy. A concerted effort of a person through the guidelines of Yoga- practice helps to achieve this state. A true Yogi dwells in this state of deep silence, and no further desires what so ever.

Yogic management provides various techniques to revive back the normalcy or balance of each Kosha, these techniques are grossly outlined as under:

- | | | |
|----------------------|---|--|
| 1. Annamaya Kosha | - | Asanas, kriyas, diet
Relaxation exercises |
| 2. Pranamaya Kosha | - | Pranayama practices |
| 3. Manomaya Kosha | - | Meditation and devotional
sessions |
| 4. Vijnanamaya Kosha | - | National correction through
counselling |
| 5. Anandamaya Kosha | - | Practice of joy and harmony |

under all circumstances. To
work in relaxation without
ambition of result
(i.e. Karma Yoga).

Employing all these techniques it is possible to bring total health, harmony and peace to the suffering humanity on this planet.

Vital sheath

The first three bodies that comprise our subtle body (Sukshma sharira) is Pranamaya Kosh (Vital sheath); called as etheric or astral body, it dwells in bhuvan loka (astral world). Because this vital sheath appears as an exact replicate of the food sheath, it is known as “etheric double”.

Vital sheath is comprised of five vital airs namely (Prana, apana, vyana, samana and udana) and five abstract working sense (Karma indriyas), the powers related to our organs of action: Vak (Speech), Pani (grasping) Pada (moving), Upastha (procreation) and Paya (excretion).

Pranamaya Kosh (vital sheath) promotes life into your body, animal it, and gives it expression. Your food sheath engages in all activities as if alive, but without the vital sheath, your food sheath will become a corpse.

Prana (up breathing) is its head. Vyana (back – breathing) is its right arm. Apana (down – breathing) is its left arm. Apana (down – breathing) is its left arm. The Earth is the seat (the support). The devas breathe after breath (prana), so do men and cattle. Breath is the life of beings, therefore it is called Sarvayusha (all enlivening).

Interestingly, the vital sheath, not the food sheath, experiences hunger, thirst, heat and cold. Your body heat, which is maintained by udana (out – breathing), remains as long as your vital sheath is present. At death, udana leaves and the body grows cold.

Although the food and vital sheaths are always connected They may get partially separated during sleep, or by anesthesia, hypnosis, out-of-body experiences, near death experiences, certain meditative states, unconscious traces or psychic medium ship.

The vital sheath can travel in bhuvah loka (astral world) and leave the rest of the body behind. It is called astral travel.

Three humors (Vata, pitta, kapha)

All physical functions of the body are governed by the three humors Vata, Pitta, Kapha. (You must remember the names because it is not possible to translate them). We have mentioned that the whole of the universe is constituted of the five fundamental elements. This is at the material level. When the jiva enters the body made of five elements, the body starts living, and the five elements acquire the form of three vital forces (vata, pitta, kapha) in the body for the performance of all the body's physical and mental functions. Now let us see how the three humors are related to the five elements. Ether and air make vata, pitta is derived from fire, water and earth constitute kapha.

The characteristics of these humors are similar to the elements from which they are derived. You can observe these elements in the cosmos. In your body, these elements represent cosmic reality. The vastness of the cosmos is limited within space

and time in the human body. Let us see how this is functional sense.

Ether and air are all-pervasive, light, dry, mobile, subtle, cold and rough. Vata has similar characteristics. The functions of the body that involve movement and which are all pervasive, are performed by vata, body movements blood circulation, respiration, excretion, speech, sensation, touch, hearing, feelings like fear, anxiety, grief, enthusiasm, etc. natural urges, formation of the fetus, sexual urges and retention are all vata functions.

Pitta is hot, sharp, sour and pungent. It is similar to fire. It is responsible for digestion, hunger, thirst, vision, hearing regulation, softness, luster, cheerfulness, intelligence and sexual vigor.

Water and earth give rise to kapha, which is cold, immobile, heavy, sweet, dull and solid. Kapha constitutes the solid structure of the body, firmness and heaviness, sexual potency, forbearance and restraint.

When there is a state of balance and harmony the five elements of the cosmos are life-supporting whereas their imbalance causes destruction and catastrophe. Similarly, for a state of well-

being it is essential to maintain the equilibrium of these three humors. Just as the life – giving air, in the form of fast wind and tempest, can uproot trees and destroy houses. An excess of vata gives rise to a number of specific disorders in the body, In normal conditions, the Sun helps plants grow, but a long excessively hot summer brings drought, burns crops, and causes destruction. Fire gives us warmth, cooks our meals, but in a state of imbalance, fire can destroy life and property within minutes. Balanced pitta in the body gives timely hunger and thirst, appropriate body heat etc. Whereas, excessive pitta becomes the cause of another set of ailment in the body. The life – giving water of a river destroys crops, houses and lives when there is a flood. An earthquake can be terribly devastating. Similarly, excessive kapha in the body leads to a third category of disorders.

The cosmos is a dynamic whole which is constantly changing. Nothing is static. There is night after day and day after night. Seasons follow each other, and each season brings us a variety of different fruits and vegetables. Similarly, our nature, behavior and habits differ according to seasons and age. Even

during one season, we face variations in weather that affect our physiological functions (like blood pressure, digestion etc.) and our emotional state (cheerfulness, depression, anger etc.)

An individual is born with a certain constitution which is determined by the domination of one humor or the other. We will try to explain in a very simple manner, what the basic constitution is. All of us observe the differences in the basic behavioral patterns and the physiological reactions in the people. Some of us work faster than the others, some feel better in summer and others feel better in winter. For others, spring may be the worst time of the year, because it brings discomfort from various ailments. According to Ayurveda, all of us relate differently to weather conditions, nutrients, life circumstances like – grief, happiness, stress etc. due to variations in our fundamental nature or prakrati. For the details of humors and the basic constitution, the reader may consult one book on Ayurveda. For maintaining good health an equilibrium must be maintained. Everything we eat, drink, experience, our age, the climate, the weather, our life style, the type of work we do, and all other aspects of our existence

constantly alter our humoral composition. The fundamental aim of Ayurveda is to teach us various ways to keep the balance. The balance saves us from inborn disorders, as well as making us strong enough to face external attacks. The equilibrium of the humors is also connected with mental balance and both are essential for complete harmony.

The mind has three different qualities (rajas, tamas and sattva). Their balance is also essential for the balance of humors. In other words, there is an interrelationship between the six dimensions of one's body at both physical and mental levels. Thinking, working, making decisions and everything associated with action and movement belong to the rajas quality of the mind. For example, a work day is pre dominating rajas. All that hinders action, ends motion and hinders mental progress are of the tamas quality of the mind. Sleeping, sitting aimlessly without doing anything, or harboring feelings like jealousy, greed etc. are tamas activities of the mind. Doing good deeds selflessly and without expectation bringing the mind to stillness with Yogic and

meditative practices, and other deeds in this direction, belong to sattva activities.

Excessive rajas leads to vata imbalance. Sleep in predominantly tamas. But people who lead hectic lives, talk too much and too loud, or watch too much television, have sleep that is restless and their minds do not rest, even during sleep. Thus, the equilibrium in activity and non-activity is not maintained. On the contrary, people who have nothing much to do, who sleep equilibrium in activity and non-activity is not maintained. On the contrary, people who have nothing much to do who sleep or day dream excessively or who have nothing much to do, who sleep or daydream excessively or who waste energy in harboring negative feelings are predominant in tamas, leading to an imbalance of kapha. The third dimension of the mind sattva, is very important, and it should be integrated in rajas and tamas to bring a balance of mental activities for one's well-being.

The Three Energies of the body

Since all what exists is made of five elements, it also includes human body. The same cosmic principles apply on it. But the body has soul in it, which is the cause of consciousness and makes, it a vital organism. For the performance of vital functions, the five elements form three principle energies referred to as humors in English (dosa in Sanskrit), and these are vata from ether and air, pitta from fire and kapha from water and earth. These energies perform various mental and physical functions of the body and the nature of those functions depend upon the nature of the elements they originate from.

Vatta is responsible for entire body movement, blood circulation, respiration, excretion speech, sensations, touch hearing, feeling like fear, anxiety, grief, enthusiasm etc. natural urges, formation of foetus, sexual act and retention. Pitta is responsible for vision, hunger, thirst, heat regulation, softness and lustre, cheerfulness, intellect and sexual vigour.

Kapha constitutes all the solid structure of the body and is responsible for binding, firmness, heaviness, sexual potency, strength, forbearance and restraint.

Each person differs from another because of a slight difference in his or her fundamental constitution called prakrti. This difference is due to the variation in the proportion of the three main energies. This variation is in terms of dominance of a particular humor or the combination of two humors. This is what makes us different from one another and machines, as the system of modern medicine tends to make us. The prakrti not only describes the variations in physiological features of individuals but also their personality types.

For good health and long life, these three vital forces or humors should be in a state of equilibrium within their individual organization as well as with respect to each other. However, if there is disturbance in one humor and it deviates from its quality, quantity or place or the three humors are not in proportion to each other, it leads to vikrti or a state of vitiation. Thus giving rise to various ailments when the state of vitiation is left unattended for a

long time, it may give rise to serious disorders. Time, place, situation, nutrition, emotion etc constantly influence humors or the vital forces and learning about the influence of those factors on our particular constitution. We can learn to maintain their equilibrium.

These three vital forces are also related to our thought process and therefore it is foremost to keep equilibrium in the three qualities of the mind. The rajas quality of mind includes thinking, planning and taking decisions. The tamas quality is that, which hinders motion and expansion of mind (greed, anger, jealousy, laziness and so on). The Satva quality of mind includes equilibrium, goodness, truth, compassion, stillness and peace. Balance of Sattva, rajas and tamas influences the equilibrium of the humors as well as causes mental ailments. Thus, for maintaining good health and longevity, a six dimensional equilibrium is essential as these three dimensions at two levels mutually influence each other. The imbalance of these three qualities of mind also influences the equilibrium of humors and vice versa.

Dhatus

Ayurvedic literature describes seven tissues (dhatus) of the body as products of food transformation:-

(i) Plasma (rasa)

Carries nutrients of digested food to nourish tissues, organs and systems of the body.

(ii) Blood (rakta)

Carries oxygen and nutrients to the tissues and waste products away from them. Blood poured into a test tube and treated with salt, separates into three distinct layers. At the top is plasma, a clear, golden liquid. In the middle is a solid band of white cells. At the bottom is a thick band of red cells.

(iii) Muscle (mamsa)

Covers vital organs, moves joints, helps in maintaining bodily strength, plays a role in metabolic process.

(iv) Fat (meda)

Lubricates the tissues.

(v) Bone (asthi)

Supports body structure.

(vi) Marrow (maja)

In the bone hollows produces blood cells and platelets which repair blood vessels.

(vii) Reproductive Tissue (shukra)

The final physical manifestation of food transformation.

The eighth manifestation of food transformation is a fine essence (ajas) at the juncture between consciousness and matter which is enlivening and regenerative. Its influence strengthens the body's immune system and imparts the radiance of vital health. It energizes the mind, contributes to powers of concentration and intellectual discernment, manifests as spiritual magnetism and empowers resolve to experience rapid spiritual unfoldment and liberation of consciousness.

Malas

Malas are the various waste products of the **dhatu**s produced during the normal metabolical process. The three

primary malas being **Purish** (faeces), **Mutra** (urine) and **Sweda** (sweat). Indian ancient literature clearly states that only a balanced condition of **doshas**, **dhatu**s and **malas** is **arogya** (good health or disease free condition) and their imbalance is the cause of ill health or disease.

(i) Purisa (faeces)

Purisa is the waste left back after nutrients of digested food have been absorbed in the small intestine. While water and salt absorbed in the large intestine, the residue now converted into solid faeces, leaves the body. The consistency of the faeces depending both on gastrointestinal mobility and nature of diet.

(ii) Mutra (Urine)

The **tridoshas** must be removed during the course of biological processes within the human body. The first stage of urine formation begins in the large intestine where fluids are absorbed into the system. The entire urinary system (kidneys, uterus, bladder and urethra) takes part in the formation and elimination of urine, regulating the fluid balance in our body and

also maintaining blood pressure. Any imbalance of increased or decreased urine, may result in disorders as kidney stones urinary infections, cystitis, abdominal pain and bladder disorders.

(iii) Sweda (sweat)

Sweda is the third primary **mala**, and it occurs as a waste product during the synthesis of **meda dhatu** (fatty tissue). Eliminated through skin pores, it controls body temperature and helps to regulate the electrolytic balance. The channels responsible for bringing the sweat to skin surface are known as **sweda vaha srotas**. It is essential that normal formation and flow of sweat takes place. Otherwise it may lead to skin infections, itching/burning sensation over the body, loss of fluid balance and reduced body temperature.

Relation of elements in the human body and health

Fire – Blood

Water – Urine

Earth – Faeces

Air – Saliva

Ether – Sexual fluids.

Each element has a specific requirement in the body and any imbalance in the amount of any element causes illness. To balance the requisite of the particular element, medicine containing it is given to patient to cure illness. According to elements minerals are classified as:-

Earth – Gold, Rock salt, Common salt galena, Coral reef, Magnetic iron, Gypsum.

Water – Lead, Conch, Potassium nitrate, Ammonium sulphate, White arsenic, Eggshell, Crab shell, Snail shell, Mother of pearl.

Fire – Copper, Arsenic sulphide, Mercurous chloride, Borax, Bones, Bronze, Sulphur, Camphor, Red sulphide of mercury.

Air – Iron, Ferrous sulphate, Borax, Copper sulphate, Red sulphate of mercury.

Ether – Zinc Sulphate, Magnetized iron fillings, Mercury.

Panch Mahabhutas

Ancient scriptures say that everything in life comprises of five basic components – The Panchmahabhutas. These are Agni (Fire), Vayu (Air), Jal (water), Prithvi (Earth) and Akash (Space). These five elements are present everywhere and keep the world and life going. It should however be noted that the ratio in which all five elements are present varies from one thing to another. The elements are same but combination varies. In some cases five elements may be dominant, which in some water element may be more. For example in a single cell, earth element predominates giving shape to the cell. Water is present in cytoplasm, fire regulates metabolism and air controls various dissolved gases.

Taking the case of our own human body, akash relates to space within the body (mouth, nostril, abdomen); vayu denotes movement (muscular); agni controls functioning of enzymes (metabolism), jal is all body fluids (cytoplasm, blood, hormones), prithvi is in all solid structures of body (bones, teeth, flesh, hair).

The Panchmahabhutas support life form and their imbalance causes disease. These five elements are the foundation of all diagnosis and treatment. Siddha medicine gets base from the fact that Matter and Energy cannot be separated.

Siddha medicine works on the principle that macro cosmos (universe) and micro cosmos (man) are one. Universe is made up of a macro level, man is made of same elements at micro level. All five elements of panch mahabhutas, co-exist with each other and none is separate from another. Each element apart from its visible quality also possesses qualities of other remaining elements in a subdued form. Five senses of man corresponds to Five elements.

Hearing – ether or Akash

Smell – air or Vayu

Vision – fire or Agni

Taste – water or Jal

Touch – earth or Prithvi

The five elements are thus integrally related to different parts of the body and bodily functions. The correlations may be summarized as follow:

Earth – Skin, hair, flesh, tissues, bones

Water – Saliva, all secretions of the body, blood

Fire – Body heat, sleep, hunger, thirst, beauty, emotion, passion

Air – Breathing, expansion and mobility

Ether – Nervous and genetic processes, interspaces of the stomach,

Heart.

Element colour ratio organ senses

Earth – Golden to light green $1\frac{1}{2}$ skin touch

Water – White $1\frac{1}{4}$ tongue taste

Fire – Red 1 Eye sight

Air – Black $\frac{3}{4}$ Nose smell

Ether – Light blue $\frac{1}{2}$ ear sound

Element Correlation in the human body

Earth – Legs

Water – Abdomen

Fire – Chest

Air – Neck

Ether – Head

Origin of disease: a scientific outlook

The nature is endowed with mysteries. Living organisms on this planet are the prudent examples of nature's unique creation. The striking features associated with bio-organisms both animals and plants, include the unique phenomena of life as well as death. Morphological integrity as well as the physiological functions of the organisms are maintained well through out the life span. Soon after death, the bioactivity is ceased. Moreover, disintegration and putrefaction of the organism sets-in by unraveling the mysteries of these processes. It is possible to prevent body-putrefaction and promote an ideal health. However, for this, an insight of live processes is needed at the fundamental level.

The human body is constituted of sixty trillions of extremely small live-units called cells. Each cell, though is autonomous for maintaining its own functional and structural integrity, still it works in co-ordination with other cell-types of the body. The fundamental principle of nature is, that anything which moves produces some waste products. Similar is the case with

human cells. Inside each cell operate lot of chemical reactions. Products generated from such reactions govern the over all structural integrity and functional property of the cell.

However, during those vital chemical reactions a large amount of such products are also formed which are either toxic or unusable for the live-process. Such materials are termed as morbid matters. Normally such matters are regularly discharged out by the cell, and they accumulate in the space between other adjoining cells. From such inter-cellular space the morbid matters are flushed out through a continuous flow of lymphatic fluid. This fluid is dense, opalescent and yellowish, which is collected into lymphatic ducts and discharged into the venous blood vessels.

Through blood the gaseous wastes are discharged through lungs during respiration. The liquid waste is disposed-off as urine through kidney and seer eat through forces of skin. The solid waste produced in the digestive tract is passed out during defecations stool. Insufficient disposal of morbid matter is the major cause of disease. However, there are other factors as well, such as nutrition and immunity.

Nutrition has a direct correlation with health. It is noteworthy that the human body is nothing but a highly sophisticated mass of macromolecules or biochemicals. Most of chemical reactions inside the cell generate the structural mass of the human body. Moreover, another set of chemical reactions of the cell maintain the physiological activities of the body. These chemical products are formed from the food products that we eat. For normal health we require a certain types of chemicals in our diet, such as; protein, carbohydrate, fat, vitamins and minerals. A well composed combination of these components is termed as balanced diet. Any deficiency, qualitative or quantitative results into structural deformity or functional abnormality, which is clinical terminology is called as disease.

Still another factor responsible for the onset of disease constitutes toxic components of the food that we eat, the environment where we live or the toxic bacteria around us. To deal with these agents the body has got a well evolved immune system. This comprises immune cells and associated chemicals to defend the body against these factors. Any discrepancy in the immune

system leads to deranged immune competence and subsequent result is disease. AIDS is one such example of immune deficiency, which is invariably fatal.

Hence, under the clinical management of disease through naturopathy comprises three major operations:-

1. Effective removal of morbid matters from the body.
2. Recommendation for a balanced diet.
3. Reconstitution of immune competence by counseling a healthy life style physically mentally, sexually as well as spiritually.

Role of Vital force in health and disease

In the healthy condition of man, the spiritual vital force (autocracy), the dynamics that animates the material body (organism), rules with unbounded sway, and retains all the parts of the organism in admirable harmonious, vital operation, as regards both sensations functions, so that our indwelling, reason-gifted mind can freely employ this living, healthy instrument for the higher purposes of our existence.

The material organism, without the vital force, is capable of no sensation, no function, no self preservation; it derives all sensation and performs all the functions of life solely by means of the immaterial being (the vital principle) which animates the material organism in health and in disease.

When a person falls ill, it is only this spiritual, self-acting (automatic vital force, everywhere present in his organism, that is primarily deranged by the dynamic influence upon it of a abnormal agent inimical to life; it is only the vital principle, deranged to such an abnormal state, that can furnish the organism with its disagreeable sensations, and incline it to the irregular processes which we call disease. For a power invisible in itself, and only cognizable by its effects on the organism, its morbid derangement only makes itself known by the manifestation of disease in the sensations and functions of those parts of the organism exposed to the senses of the observer and physician, that is, by morbid symptoms, and in no other way can make itself known.

When a patient has been cured of his disease by a true physician, in such a manner that no trace of the disease, no morbid

symptom, remains, and all the signs of health have permanently returned. How can anyone, without offering an insult to common sense, affirm in such an individual the whole bodily disease still remains in the interior? And yet the chief of the old school, Hufeland, asserts this in the following words: "Homeopathy can remove the symptoms, but the disease remains." This he maintains partly from mortification at the progress made by homoeopathy to the benefit of mankind. Partly because he still holds thoroughly material notions respecting disease, which he is still unable to regard as a state of being of the organism. Wherein it is dynamically altered by morbidly deranged vital force, as an altered state of health. But he views the disease as a something material, which, after the cure is completed, may still remain lurking in some corner in the interior of the body in order. Some day during the most vigorous health, to burst forth at its pleasure with its material presence! So dreadful is still the blindness of old pathology! No wonder.

Chapter-3

Role of Yoga in healthy living

During the pronged process of evolution of universe the human body is a creation of nature. A healthy human being in a span of 24 hours produces 450 cubic tone of energy. He can speak 4800 words; he can utilize 750 muscles, relaxes 7 million nerve cells, respire 23040 times and heart beats 103689 times. Blood circulates through blood vessels to a distance of 1.68 billion kilometers. These vital processes are possible to continue in normal pattern only when there is a proper co-ordination and balance between the process of respiration, digestion, nutrition and excretion.

The major biological systems function in a typical manner only on the basis of the functioning of the above process. With this one achieves an elevated status both physically and mentally. He achieves the status of healthy living. A healthy daily routine lays the foundation of a healthy life style. A person with healthy life style, compared to others develops much better physically,

mentally, socially and spiritually. In Yoga science, for healthy living, there is significance of Yama, Niyam, Asana, Pranayam, Pratyahar, Dharana, Dhyan & Samadhi.

Following are the typical characters of healthy living:-

1. Ailments free life.
2. Desired preventive measure towards the physical, mental and emotional factors.
3. Perception with realities.
4. Co-operative attitude and co-operative behaviour.
5. Adjustment with the changed circumstances.
6. Sensibility.
7. Awareness of realities.
8. Desired social and spiritual, character.
9. Balanced emotional control and reconstitution.
10. Lack of jealousy, complexity and hatred.
11. Unified personality.
12. A proper co-ordination over the psychic stage, psychosomatic stage and organic stage towards the available healthy living.

Standards of healthy living

Healthy living is governed by several factors. Healthy living on one side affects physical and mental health, and on other side is influenced by living environment personal factors, family relation and the consumable food ingredients. Normally following are the major factors:

1. Physical and mental disorders.
2. Over all food and nutrition.
3. Exercise.
4. Regulated respiration process.
5. Normal digestion and excretion.
6. Stress- free routine.
7. Contentment.
8. Level of moral and traditional values.
9. Physical and mental paucity.
10. Positive thinking.
11. Daily routine in compliance with nature.
12. Control of lust and submission to God.

13. Physical and mental total relaxation.

Barriers of healthy living

In the ancient time man used to live in the midst of nature. As a result he was the master of health, personality, excellence, contentment and pleasure. On the other hand as on today advancement of science and technology has brought forth a heap of option for physical comfort. Nevertheless, there is void with respect to physical and mental health. In this background there is a least possibility of healthy living. Following are the barriers for healthy living:-

1. Uncontrolled food habit.
2. Liquor consumption and smoking.
3. Cardiac disorders.
4. Hypertension.
5. Diabetes.
6. Obesity.
7. Stress.
8. Insomnia.

9. Tension.
10. Arthritis and other joint disorders.
11. Constipation.
12. Distress and disappointment.
13. Frustration.

Yoga and healthy living

Yoga is a subject of science of high order, which carries in it the mystery of conservation of health and transformation of life. A complete expression of life is possible only through Yoga. Yogasana, pranayam and meditation develop faith in a person, chiefly because it is half a therapy. It is a common saying that confidence is half the cure. The concept of Ashtanga Yoga proposed by Maharshi Patanjali with different aspects have enormous contribution towards healthy living as out lined here.

Yama

Under this include different aspects such as Ahimsa, Satya, Asteya, Brahmacharya and Aparigraha. Through this first step of Ashtanga Yoga one turns more ideal in his day to day life. With

this he discharges his duties towards his physical and social commitment in a more orderly manner.

Niyama

The major components under this include Shauch, Santosh, Tapa, Swadhyaya, Ishwarpranidhan. Practice of this aspect of Yoga turns a person, more disciplined and orderly. With this one can overcome the deformities of personal senses. In fact, the reformation of personal actions is the basic foundation of healthy living.

Asanas

Asanas having achieved the perfection over the guideline of Yama and Niyam, only then one must commit for the practice of Yoga Asanas. Without this the Yoga practice is ineffective. For various Yogasanas body is flexed for an specific posture regularly at a given time for a given purpose. This exerts special effect on different body joints, muscles, heart, digestive system, endocrine glands, lungs & nervous system. This revives the normal functioning of respective organs and body systems. At present time

Yogasana in special significance has direct relation to healthy living.

Pranayama

Pranayama is a highly sophisticated procedure of Yoga, where by one achieves a total control over the vital force which governs the proper functioning of body's life process. Pranayam helps to tone-up the most vital activities of the body. Such as respiratory system, cardio-vascular system. In addition it strengthens the body immunity which is extremely important for maintaining the quality of life and healthy living.

Pratyahar

The real purpose of this Yoga practice is to drive the body's consciousness inwardly and focus at a pleasant thought or a point of auspicious feeling. In a daily life the practice of such Yogic terms help to achieve a high order of quality life.

Dharna

For the purpose of achieving the spiritual excellence, this type of Yogic exercise, called Dharna carries special significance.

It is mainly for the reason that Dharna it self means to focus on a solitary point through flow of thought. Continuity of this state is termed as Dhyana, which is the final objective of Yoga practice for healthy living.

Meditation

Meditation acts as a powerful tonic. It is a mental and nervine tonic as well. The holy vibrations penetrate all the cells of the body and cure the diseases of the body. Those who meditate save doctor's bills. The powerful, soothing waves that arise during meditation exercise a benign influence on the mind, nerves, organs and the cells of body. The divine energy freely flows like Tailadhara (flows of oil from one vessel to another) from the feet of the Lord to the different systems of the Sadhakas. Considerable changes take place in the mind, brain and the nervous system by the practice of meditation. New nerve-currents, new vibrations, new avenues, new grooves, new cells, new channels are formed. The whole mind and the nervous system are remodeled. You will develop a new heart, a new view mind, new sensations, new

feeling, new mode of thinking and acting as a new view of the universe (as God in manifestation). The fire of meditation annihilates all foulness due to vice. Then suddenly comes knowledge of divine wisdom, which directly leads to final emancipation.

Real peace and Ananda (bliss) manifest only when Sankalpas get extinguished. When you fix the mind on the supreme energy even for five minutes, Sattva Guna is infused into the mind. Vasanas (Impression) are thinned out and the force of sankalpa becomes less and less. You will feel peace and bliss during the five minutes. You can compare this Ananda from meditation with the transitory sensual pleasures. You will find that this Ananda from meditation is a million times superior to sensual pleasure. Meditate and feel this Ananda. Then you will know its real value. You will get the full Ananda of the divine glory only when you merge deep into silent meditation. When you are on the borderland of divinity of God, when you are at the threshold of God, when you are in the outer skirts, you will not get the maximum peace and bliss.

Samadhi:-

Samadhi is provided to super normal healthy person.

Chapter-4

Concept of Yogic diet

“The Yogic concept of food takes into consideration the total dimension of human existence. Apart from the atoms and molecules with which our gross physical body is made of, we all possess Prana, Mind, Intellect, Emotions and the spiritual dimension featured by freedom. Yoga is that process by which we bring an integration of the entire personality of all levels. The Stamina of the body is developed, the Prana should be brought to a balance, the mind calmed down. The emotion stabilized and the intellect under total control. A ‘Balanced diet’ therefore according to Yoga is that diet which restores balance at all levels. Such diets could add in a holistic way of living.

Classification of Foods

Yoga classifies food into three categories similar to the classification of human beings into predominantly:-

1. Tamasic food

2. Rajasic food

3. Satvic food

1. Tamasic food

It is stale more or less spoiled food, containing foul odor, artificial additives and which is not at all useful to nourish either body or mind. They make the body dull, lazy and drowsy and reduce our immune power, filling the mind with dark emotion such as anger and greed. Tamasic food items include alcohol, tobacco, onions, garlic and fermented food such as vinegar.

One yama is equal to 3 hours. Food that gets cold is stale. In these days of canned food, preserved fruits, stored vegetables and refrigeration facilities almost a substantial majority of us have come to love stale food. Food cooked overnight or that has been kept for days together comes under this category. We can include all the drinks which people love to drink in tamasic People category. Impure and filthy food, is not fit for human consumption.

Those foods which are 'dead', partially spoiled, which have lost their essence which have been processed a great deal, which have been preserved in some way or which lack the vitality of food that is alive, are the ones liked by the Tamasic.

The innate personality structure of the Tamasics is reflected in their liking for such foods. Hence, all such foods are classified as Tamasic food. The busy schedule and attractive advertisements makes even a satvic man resort to tamasic food like preserved canned food and his taste also slowly changes and he becomes Tamasic.

Energy and vitality are almost absent in such foods and hence he becomes sluggish and diseases of degeneration and accumulation of excessive matter are likely to occur (obesity, arthritis hardening of the arteries etc.) When food is spoiled, its chemical structure breaks down and because of the acidity some nutrients are destroyed. Rather than being useful, they may break down into products which cannot be used by the body, but must be excreted. In the mean time, they are under circulation and act as

irritants to the nervous system as well as to the other cells, tissues and organs. Eating tamasic food makes one less alert.

Fermentation is a process of decomposition especially when it is poorly controlled and over done. Alcoholic drinks of poorer quality and meat which is not fresh are tamasic. Most meat marketed is not freshly slaughtered and in some cases must be cured to destroy the toxic components or to improve the taste. Unless this process is carried out carefully with a total knowledge of what is happening, the result is likely to be tamasic. Wild animal and fish freshly killed and properly done were not considered as detrimental. The effect of such fresh, wholesome meat were said to be Rajasic.

2. Rajasic Food

It is very hot natured, spicy sour pungent, dry and excessively salty. Such food items are real enemy of mind body equilibrium. They function as body stimulants and excite the passions, making the mind restless and uncontrollable. Food which is cooked a great deal to increase its taste appeal, that which

stimulates and activates the nervous system, speeds up metabolism e.g. Coffee, tea, tobacco, green chilies and pepper are considered Rajasic but dried red chilies tend to be more tamasic. High quality wines are Rajasic.

Rajasic food stimulates speed, sensual pleasure and physical activity. Rajasic food is of good vitality and fresh. It is meant for Rajas, the kings. Such a diet no doubt creates in an individual, brilliant energies and keeps all vigorous men restlessly striving to fulfill their uncontrolled passions and desires. Hence, in their final reactions they lead the eater towards a life productive of pain, grief and disease.

3. Satvic food

It is the purest diet and is most suitable for Yoga practitioner. It purifies the mind enabling it to function at its maximum potential. The satvic food consists of fresh fragrant and tasty items. It includes cereals, fresh fruits, vegetables, milk and milk products, nuts and honey. Those foods which increase the life, strength and happiness are termed satvic.

In contrast to tamasic and rajasic foods, satvic foods, which are fresh, whole natural of good quality yet mild, neither over nor under cooked, gives calm alertness and at the same time a state of quiet energy. They not only provide nourishment for the body but they do not adversely affect the overall energy state. They do not pull energy from the body, they do not weigh it down. They do not make it heavier, neither do they irritate nor push it beyond its capacity. They provide a precise balance of nourishment and create no undue waste such foods are called as Satvic.

Fresh fruits, wholesome grains and the fresh milk of the cow are satvic food. Raw milk just drawn from the cow is considered ideal. If however, it has been set for some time, then it is brought to a boil before it is taken. Milk of buffalo is considered more Rajasic since it is heavier and more fattening. Any milk which becomes sour or spoiled, of course tends to acquire a Tamasic property. Such people will have natural inclination to take food which will augment joy and inner cheerfulness. In short, such creative men, by their own choice enjoy only food that is clean and

wholesome with no charge for them, when consumed to putrefy within.

All the different types of food eaten by man in the world have been classified and brought under four types on the basis of their physical properties. They are savory, greasy, firm and cordial types of food.

Diet can influence the mind and change the personality. But a strong mind can digest the most Tamasic food and still live very healthily. We must change our food habits towards a sattvik diet. With a proper attitude of the mind attached to it, a Yoga sadhana can gain immensely in his journey towards mental control. The right attitude is to have a proper diet as a means to the end – the mind control and not diet schedule as an end by itself often, one can get stuck with too much of emphasis on diet almost to the detriment of the goal itself.

The six tastes of food are derived from the five elements influences: ether, air, fire, water and earth (refer to the chart in chapter 1 which shows the relationships of element influences to taste characteristics). The tastes derived from the specific element

influences will increase those influences in the mind and body; the other tastes will decrease them. To strengthen the doshas, choose foods with the tastes which influence them. To reduce dosha effects, choose the other tastes:-

1. Sweet

Derived from water and earth element influences. It increases kapha dosha and reduces vata and pitta. Examples of foods with sweet taste are grains and other complex carbohydrates, milk, butter and concentrated sugars. Sweet taste is best obtained from complex carbohydrates and complex sweeteners (in moderation) so that their post-digestive effects are the result of digestion. Concentrated sugars shock the body.

When sweet taste is in the mouth the brain immediately signals for a release of insulin into the blood stream to regulate sugar before food is digested. Concentrated sweet taste is not recommended (especially not refined sugar or sugar substitutes found in many soft drinks and other commercially prepared foods). The sweet taste of ordinary foods nourishes and builds the body.

Many of the foods recommended for rejuvenation purposes are sweet when well-masticated and have a sweet post-digestive effect.

2. Sour

It is derived from fire and earth elements. It increases pitta and kapha and decreases vata. Some foods with sour taste are citrus and some other fruits, hard cheeses, and yogurt needed in small quantities.

3. Salty

It is derived from fire and water element influences. It increases pitta and kapha and decreases vata. It helps in maintaining mineral balance and retaining water. It can usually be derived from foods.

4. Pungent

It is derived from air and fire element influences. It increases vata and pitta and reduces kapha. It is in hot peppers, ginger, cumin and some other spices. It is needed for metabolism, stimulates appetite and diaphragm.

5. Bitter

It is derived from ether and air element influences. It increases vata and decreases pitta and kapha. It is found in spinach and some other green leafy vegetables, egg-plant and turmeric. It is helpful in detoxification of the body. Hence it is used in some medical preparations when body cleansing is needed.

6. Astringent

It is derived from ether and earth element influences. It increases vata and decreases pitta and kapha. Found in beans, lentils and in some fruits. It is helpful in maintaining tissue firmness.

Foods also provide the following subtle qualities:-

1. Heavy

Increases kapha, decreases vata and pitta. Some sources are cheese, yogurt and wheat products.

2. Light

Increases vata and pitta, decreases kapha. Some sources are barley, apples, spinach and corn.

3. Oily

Increases kapha, decreases vata and pitta. Some sources are fatty foods, oils and most dairy products.

4. Dry

Increases vata and pitta, decreases kapha. Some sources are barely, corn, beans and potatoes.

5. Hot

Increases pitta, decreases vata and kapha. Obtained from hot foods and drinks.

6. Cold

Increases vata and kapha, decreases pitta. Obtained from cold foods and drinks.

Fasting Therapy

Defination

Therapeutic fasting or fasting for health means a purifying and rejuvenating process by which the toxic waste matters of the

body are eliminated and regeneration of diseased tissues take place.

History

The history of fasting is as old as the origin of human beings. Evidence shows that the Egyptians were the pioneers of scientific fasting. The Egyptians considered fasting essential for the preservation of health and prolonged life. The mystical and occult school regards fasting as essential for the preservation of health and an important step towards spiritual infoldment. Hippocrates recognized fasting as a very effective therapeutic measure for almost all sorts of morbid states. Even the Jews, Greeks, Romans practiced the art of fasting.

In this regard Homor referred to Ascutaptes, the son of the sun god who was intimately related with fasting. Many ancient evidences showed the value of therapeutic fasting on the health and well being of mankind for curing diseases. The methods of fasting were practiced through the middle ages and in 18th and 19th century

by eminent Europeans like Kneippe, Schroth, Kunhe, Bitz, Rickli, Lahman, Perrnitz, Dust and others.

The Americans also made good contributions for the development of fasting in natural form with the help of just like – Tilden Grahman, Lindlahar, Macfadden, Kellogg and others. Indian history reveals that before Plato, Aristotle and Hippocrates were born, the Indian Yogis and Sages were the earlier exponents of fasting therapy. They practiced therapeutic fasting for purification of the body, mind and soul. Lastly Mahatma Gandhi practiced natural fasting methodically about which he wrote in his autobiography called “My experiments with truth”.

Principles and Philosophy

Fasting for therapeutic purpose means complete abstinence from all kind of food except water and air, which are regarded as indispensable foods. So fasting is regarded as beneficial and constructive. The Philosophy says the return of natural hunger after fasting is the ideal goal after elimination of all toxic and unwanted products from body, with regeneration of the diseased tissues. So

fasting is a purifying and rejuvenating process, where the digestive and physiological functions of the body is devoted to eliminate all the poisons and waste matter accumulated in the system. Fasting regards itself as a natural way of cleansing and regeneration of the body and mind. It gives individual better control of his appetite, more knowledge of and confidence in ones physical and mental energies and powers.

Occasional fasting therapeutically does not create foolish fears artificial and hunger reactions. Fasting for illness or any emergency conditions, temporary unavailability of food indicates that nutrition is not essential to life and abstaining from food at times as fasting in illness is not a weakening process because occasional periods of fasting are normal and necessary to physical efficiency. Many diseases are caused from an accumulation of an excess of morbid materials in the body due to general habits of overeating, consumption of badly balanced diet, failure in elimination. So as a result the vital energies and the functioning of life becomes impaired.

To conserve the vital energy of the body so that natural hunger can return, fasting therapeutically is only getting rid of bacterial decomposition from the digestive tract too. Fasting should be done not only when one is ill, but should be practiced scientifically for the prevention of diseases. It is beneficial to complete fasting by preliminary cleaning of the bowels by enema or colonic leuge. This combined effect helps in the elimination of the wastes and to clean the cells and tissues of the body down to their actual vital essentials and to prepare them to rebuild with new materials when the eating of food is resumed.

There is no hard and fast rule to determine the length of a fast and each case depends upon the individual needs and general condition of the patient. The primary features of fasting being foul breath, coated tongue bad taste in the mouth, hunger ceases on the third or fourth day, abnormal appetite for food and drinks ceases, rapid loss of weight in obese persons etc. Ultimately these things increase the physical strength and mental alertness of an individual which leads to revitalization and an unobstructed flow of vital energy in the body for return to normal health. There are various

types of fasts lasting from a short fast to long ones (varying from one to ten days) which enables the body to eliminate it to get rid of the evils automatically and to repair themselves.

The features on which the fast should be broken are:

1. Return of hunger.
2. Foul breath disappear.
3. The tongue usually becomes clean.
4. The bad taste in the mouth passes away.
5. There is a general feeling of well being with improvement of skin texture, brightness of eyes and improvement in the vision.

Scope and precautions of fasting

Fasting therapeutically is very beneficial from the point of Naturopathy and Yoga therapy. Because it guides the health of an individual in accordance with nature. Fasting therapeutically eliminates the unwanted toxin materials accumulated due to cover of metabolism, digestion, overeating etc. This helps to get rid of

the unwanted materials accumulated in the cell tissues along with the elimination of micro pathogens like bacteria, virus etc.

Thus the curative effect of the disease is achieved, by eliminating the unwanted materials from the system. Therapeutic fasting always plays a vital role in prevention of diseases. If an individual thinks that there are any abnormalities in the normal physiological function and metabolism in the body, then he can immediately restore therapeutic fast. So as a prophylaxis measure the disease can be prevented. Fasting, if done rationally and judiciously in accordance with nature helps to revitalize and rejuvenate the body, that obviously increases the immunity or the disease resisting property of body. In this way it helps to promote the health for various purposes as it is a natural way of purification of the body, digestive tract and the other cells and tissues of the body. Lastly, scientific fasting indirectly helps to diagnose a case so that immediate therapeutic measures can be advocated without delay.

The art of therapeutic fasting has a few precautions too. If fasting is not done according to certain norms then it will lead to

the destructive process of starvation which is very harmful. In course of time if this starvation is prolonged, it deprives the body from all nutrition leading to the death of an individual. Fasting will ultimately lead to a destruction process of starvation which is actually a process of slow suicide. Hence fasting should be done according to its laws and rules to get the best therapeutic effects. Similarly long fasts if not withdrawn correctly causes real damage to the tissues and organs, leads to starvation which is very dangerous and can result in death.

Chapter-5

Physiological effect of Yoga on different body systems

The human body is a complex creation of nature. It is made up of many complex systems working together in harmony. If any of the systems faults, the entire machinery starts to suffer in order to maintain proper functioning of all systems. It is important to do proper maintenance of the body so that it remains healthy throughout life.

The best way to maintain good health and longevity of the body is to practice Yogasanas. Yoga is a holistic therapy which aims at achieving overall physical, mental and spiritual well being. Yogasanas have an equal balancing effect on all organs simultaneously without making an effort to think about different part and internal organs of the body. Yogasana have a combined effect on all the systems simultaneously.

1. Digestive System

Regular practice of Yogasanas activates the contractibility and physiological activity of stomach. Secretion of gastric juices and hormones is increased. This helps to normalize the digestive processes. Through various studies it has been observed that by Yogasanas the peristaltic activity of intestines is increased. Moreover the absorbing capacity of villi of small intestine is promoted by asanas.

As a result of which adequate amount of nutrients are absorbed and desired supply of nutrition is made available to respective part of the body. Yogasanas help to regulate these body processes which thereby control gastric disorders, such as constipation, indigestion and acidity. Chiefly Yogasanas, cause positive effects on digestive system including udar shakti Vikasak Kriya are – Padmasana, Vajrasana, Ardhayamatyasendrasana, Gomukhasana, Dhanurasana etc.

2. Respiratory

A regular practice of deep Pranayama and Shavasana help to regulate inspiration and expiration, which, in turn provides adequate amount of oxygen in the body. Oxygen gets attached to blood and circulates in the entire body. A regular practice of Pranayama helps to prevent the infestation of bacterial infection in the lungs, more specifically in the apical region of lungs, specially the saprolytic bacteria prevented which subsequently cause T.B. Apart from this, the practice of finer techniques of Pranayama, helps to relieve pulmonary disorders, such as Pulmonary T.B., Bronchitis, Pneumonia etc.

3. Endocrine system

It has been revealed through extensive researches that various meditative asanas, specially, padmasana, helps to regulate endocrine secretion of serotonin and dopamine. In such persons in whom there is more secretion of adrenaline and cortisone, meditative asanas such as padmasana helps to control such secretions. This helps to control serious disorders, such as high B.P., stress and anxiety. Thus every asana regulate one or the other

endocrine gland and thus offers physical and mental health and alleviate disorders.

Hyperactivity of parasympathetic nervous system results in to aggressiveness and criminal behaviors in a person. On the other side hyperactivity of sympathetic nervous system leads to inferiority complex and down with undue terror. With the result of Yogasanas the activity of both these nervous systems are well regulated and balanced which leads to progressive growth and development of the person.

4. Muscular system

A regular practice of Yogic asanas and Yogic processes tones up muscles and offers flexibility. It normalizes the physiological activities of muscles. Moreover, at minute levels it reconstitutes any damage to muscles. Yogasanas accelerate the oxygen supply to blood and thus promote the normal catabolism of glycogen to release desired level of energy. This helps to regulate the lactic acid level in blood and energy based different metabolic processes continue in a normal manner.

5. Circulatory system

Regular practice of Yogasanas promotes purification and circulation of blood in different systems of the body. An accelerated blood flow during Yoga practice help to deplete various harmful deposits such as cholesterol in the blood vessels. Thus Yogasanas help to prevent various disorders related to circulatory system.

Difference between Yogasanas and exercise

Yogasanas

Yoga is the science of right living and as such is intended to be incorporated in daily life. It works on all aspects of the person – the physical, vital, mental, emotional, psychic and spiritual. Asana is a physical posture. Asana should be comfortable posture giving relaxation and practice with complete awareness.

Exercise

Exercise is defined as “Physical” activity that is planned, structured and repetitive and its objective is the improvement or maintenance of “Physical fitness”.

There are certain differences between Yogasans and physical exercise which are discussed below:-

Yogasana	Physical exercise
1. Aim to achieve sense of well-being	Aim to receive awards and trophies.
2. Static in nature.	Dynamic in nature.
3. Movements are slow, steady and smooth.	Involve very fast movement.
4. Oppose violent muscle movements.	Emphasizes violent movements of the muscles.
5. Essentially individualistic.	Involve group practice.
6. Space requirement is very loss.	Large playfield is required.
7. Requirement of equipments are extremely limited.	Depend more and more on modern equipments.
8. Cultivate spiritual advancement.	Spirituality is not encouraged much.

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| 9. Yama and Niyama aims of attitudinal changes. | Such attitudinal training is not insisted. |
| 10. Meditation and concentration are very important . | Concentration alone is very important. |
| 11. Asanas are preparatory for higher Yogic practices like meditation. | Physical exercise may be preparatory for sports competition. |
| 12. Psycho-physiological in nature. | Emphasis muscular training and psychological factors receive attention at later stage. |
| 13. Parasympathetic nervous system is stimulated. | Sympathetic nervous system is stimulated. |
| 14. Energy expenditure is minimum. | Consume lot of energy. |
| 15. Do not cause fatigue and injury. | Leads to fatigue and injury. |
| 16. Less spirit of competition. | More spirit of competition. |
| 17. Possible to practice through out life without limitations. | At old age, possible to practice with limitations only. |
| 18. Yoga research is in infancy | Research is fairly advanced. |

Stage.

Locomotors system

Yogasanas

1. Pounding action is not used in Yoga.
2. More emphasize is given for the improvement of vital organs rather than muscular development.
3. Keep muscles elastic.
4. Muscles fatigue is reduced through proper breathing and relaxation.
5. Joints and ligaments remain soft and supple.
6. Range of movement is greater in Yoga.
7. Contribute to the flexibility

Physical exercise

- Pounding action is used.
- Emphasize the improvement of both vital organs and muscular developments.
- Leads to stiff muscles.
- Violent movements exceed the muscle and circulation limits, causing fatigue.
- Joints and ligaments become stiff.
- Range of movements is moderately increased.
- Emphasize much for the

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| and strength of the spine. | strength than flexibility of the spine. |
| 8. Bone remain sturdy in old Age due to the calculated aligned load in asana. | Bone become stronger and stronger. |
| 9. There is no wear and tear even with chronic usage. | Wear and tear is common. |
| 10. Adaptive changes like hypertrophy, excess glycogen storage, rise in muscle enzymes etc. do not occur in yoga | Adaptive changes like hypertrophy, excess glycogen storage, rise in muscle enzymes etc. occur. |
| 11. Release more tension in the body and mind. | Release comparatively less tension in the body and mind. |
| 12. Bring feeling of freshness . | Leads to bodily discomfort. |

Cells

Due to practice of Yogasanas, blood flows to the cells due to which, toxins are released. Due to massage of internal organs

and increased blood flow, oxygen intake in cells is increased which causes release of energy, thus decreasing toxicity within cells and tissues caused due to accumulation of CO₂ and other free radicals.

Mind

During Yogic practice the mind and body work in coordination with each other. The mind has a control over the cells and becomes aware of any prevailing ailments or malfunctioning of any body parts.

Shape

The Yogic movements are synchronized in such a manner that all parts are brought into motion and the entire body acquire a fit and healthy, attractive shape.

Joints

During asanas, the joints are mobilized and while moving they are lubricated.

Skin

During asanas, the entire body is stretched which activates the nerve endings in skin, also the blood vessels are activated and due to enhanced blood flow, the skin acquire a glow.

The five Senses

Regular Yogic practice enhances the power of the sense organs that is eye, ear, nose, tongue, skin with increased power. The sense organs help in better perception of stimuli of internal and external environment and enhance responses.

Nervous System

Yogasanas	Physical exercise
1. Non-stressful optimum method of exercise.	Stress is possible.
2. There is reduction of sympathetic tone and over drive.	Reduction of sympathetic tone not occur.
3. The consistency of the nerves is soft and supple, preserving healthy electrical transmission.	Nervous are stimulated more.

- | | |
|---|------------------------------|
| 4. Achieves voluntary control of the autonomous system. | Achieve involuntary control. |
| 5. Yoga refreshes. | Physical exercise exhaust. |

The Nervous system

The entire body is dispersed with a fine network of nerves which is responsible for reception of stimulus and response towards them. At various internals the nerves are joined forming a plexus. These plexus are point of energy centers which join to sympathetic and parasympathetic nervous systems. Asanas charge off the various nerve centers which allow proper conduction of nerve impulses.

Circulation

- | Yogasana | Physical exercise |
|---|--|
| 1. Blood circulation is without strain. | Blood circulation is with strain. |
| 2. The velocity of the flow can be changed voluntarily. | The velocity of the flow can be changed voluntarily to a certain extent. |

- | | |
|---|--|
| 3. Arteries and Veins remain soft and elastic. | Arteries and Veins become hard. |
| 4. There is no adaptive changes in blood vessels. | Adaptive changes takes place in blood vessels. |

Circulation

During asanas, the blood vessels are stretched and the flow of blood is increased through them. The increased blood flow to various organs facilitates proper functioning.

Cardio-vascular system

Due to massaging of internal organs during asanas, blood is pumped up by the heart which activates all organs and also enhances movement of nutrients in and out of cells through the fluid present in interstitial space.

Heart

Yogasananas

1. Cardiac nerves are rested.
2. Heart rate is not irritated.

Physical exercise

- Cardiac nerves are stimulated.
- Heart rate is irritated.

- | | |
|--|--|
| 3. Asana can massage the heart. | Physical exercise stimulate the heart. |
| 4. Blood pressure is regulated. | Blood pressure rises to the maximum level. |
| 5. There is no adaptive changes in heart. | Adaptive change occur in heart. |
| 6. Many cardiac ailments can be treated by Yoga. | Cardiac treatment value is less. |

Lungs

Yogasanas

Physical exercise

- | | |
|---|--|
| 1. There is not breathlessness. | There is breathlessness. |
| 2. Asana having massaging action. | Physical exercise not having massaging action. |
| 3. Every part of the lungs are involved and attended. | Major portion of the lungs are involved. |
| 4. Ensure optimum performance of airways. | Performance of airways are comparatively lesser. |
| 5. There is no greater intake of | Ventilation and perfusion are |

oxygen causing more storage maintained most of the time.
and excellent blood flow
hence ventilation and perfusion
are maintained always.

- | | |
|---|---|
| 6. Elasticity of the cells is maintained. | Elasticity of the cells is not maintained. |
| 7. Lungs become strong, less affected by climate altitude and infections. | Effect of physical exercise on lungs is comparatively less. |

Respiratory system

During various positions of asanas breathing is sometimes increased, lowered, controlled etc, allowing one to breathe in different capacities. Due to stretching, the capacity of lungs is enhanced. The elasticity of lungs, intercostal muscles are increased which help in improvement of the performance of the system. The breathing exercises allow more intake of oxygen which enables burning of excess calories easily. The diaphragm, muscles, cartilage are toned.

Gastro – Intestinal track

Yogasanas

1. Massage is predominant on abdominal organs.
2. Rinsing, flushing, soaking squeezing drying of the cells the various mechanisms take place.
3. Simultaneously work on abdominal organs and endocrine glands.

Physical exercise

- Massage is not predominant on abdominal organs.
- These mechanisms are comparatively less.
- It is almost same.

The Digestive system

The entire digestive system is benefited from asanas. The muscles of the digestive track are massaged and toned. The movement enhances blood supply to the various internal organs. The movements during asanas individually benefit organs like pancreas, liver, gall bladder etc. Toxic waste in blood is dominated.

Renal

Yogasanas

1. There is no fluid and electrolyte disturbances.
2. There is no load on excretory organs.
3. Kidney function is regulated due to direct organ massage and alternation in renal flow.
4. Muscular functions of bladder are well maintained.

Physical exercise

- Some physical exercise cause fluid and electrolyte disturbances.
- There is load on excretory organs.
- Intensive physical exercise do not regulate kidney function.
- The maintenance of muscles function of bladder is comparatively less.

Endocrine

Yogasanas

1. There is no depletion of hormones.
2. Inverted asanas have a special

Physical exercise

- There is depletion of hormones.
- Physical exercise have

effect on pituitary, thyroid
and parathyroid.

comparatively less effect on
pituitary, thyroid and
parathyroid.

3. Forward bending asana change the adrenals and the mind. All the physical exercise are not influencing adrenals.

The Glands

Yoga is the only form of exercise which benefits various endocrine and digestive glands individually by means of various asanas. This increases the function of glands manifold.

Chapter-6

Effects and therapeutic value of pranayama

The word pranayama can be divided into prana and ayama. It is difficult to describe prana. All forms of energy are prana. Prana is usually translated as breath, which moves in the thoracic region and absorbs vital energy. Yet this is only one of its manifestations in the body.

Effects on respiratory system

The concept of pranayama is often mistaken for deep breathing. In the later situation, movement of breath is fast and forceful. There is no time for the cells to soak in the inhaled oxygen. In pranayama, the movements are so slow that there is adequate time for every alveoli to soak in oxygen.

1. The respiratory system is geared to aerate the internal atmosphere.

2. The venous return is much better due to phases of changes in breathing. The pulmonary vascular bed relaxes to accommodate more inflow of oxygen and blood. Better diffusion of gases occur.
3. Elasticity of the lungs and the entire respiratory track is maintained to a ripe old age.
4. The hemoglobin/oxygen saturation is enhanced during kumbhaka, as there is enough time for saturation.
5. The vital capacity, inspiratory volumes are increased. The dead space is reduced. The residual volume is decreased as more complete exhalation is performed.
6. The alveoli are exercised, which promote excellent excretion of toxins and gases.
7. The healthy movement of diaphragm massages the abdominal organs improving their blood supply and aiding the venous drainage to the thoracic cavity.

Effect of cardio-vascular system

1. Due to constant change in the chamber size, the cardiac muscle wall is properly exercised. This is without strain complete filling and emptying of the chambers is ensured.
2. The autonomic control of the heart is rested and heart rate is reduced. This helps in more efficient cardiac functioning as the metabolic demands of the entire body are also reduced.
3. Elasticity of the arch of aorta is maintained, thus preserving and improving coronary blood flow.
4. As more and more of the capillaries are opened up, microcirculation is enhanced. Hence, an enhanced supply of nutrients to cells occurs, increasing their longevity. All this happens without increase in pulse rate or blood pressure.
5. The most important effect is washing away free radicals, which can damage the heart.

Effect on digestive system

1. The flow of breath in sitali pranayama stimulates the taste buds. In other types, the salivary glands get rest.
2. The proper return of lymph and venous blood improves the digestive, absorptive and eliminating functions of the abdominal organs.
3. The liver and gall bladder are massaged, improving their function.
4. Constipation is relieved. The stomach is massaged. The intestines are contracted and reflex expansion promotes excellent blood flow and venous return.
5. Due to reduction in sympathetic tone, acid secretion diminishes, relieving stress-related peptic disorders.

Effects on nervous system

1. The constant awareness of the mind on the breath and its rhythm quietens the entire body. The mind becomes tranquil.

2. Neuro-physiological activity is stabilized and the excitability of the sympathetic nervous system is reduced. Hence relaxation ensures.
3. The organs of perception are pacified and lightened.
4. Pranayamic practices stabilize the membrane potential of nerves.
5. Pranayama works particularly well on the various autonomic plexuses and Chakras.
6. As the nerves are soothed, cerebral circulation improves.
7. Both the sympathetic and parasympathetic systems are balanced.

Therapeutic benefits of pranayama

1. Anuloma viloma (alternate breathing)

This is one of the most important Pranayamas for establishing the equilibrium of the positive and negative currents bringing life to the body. It calms and purifies the nerves, helps to stabilize the mind and increases the mental abilities. It helps in curing certain serious type of headache.

2. Ujjayi: (energy-renewing pranayama)

Digestive and pulmonary complications (e.g., indigestion, coughing, etc.) may be avoided by the practice of this exercise. When performed daily, this Ujjayi has both preventive and curative influence by increasing the vitality. It strengthens both the circulatory and the nervous system. Low blood pressure is raised to a normal level, the endocrine glands (especially the thyroid) are greatly stimulated. When practiced under supervision, the exercise is ideal for those suffering from high blood pressure and coronary disorders.

3. Kapalbhata (breathing that revitalizes the body)

This exercise enables us to eliminate a large quantity of the toxins contained in the body, by filling the blood with oxygen and purifying the tissues and nerves. This Pranayama clears the nasal cavities and lungs. It is a remedy against deficiencies in the lymphatic system, and mucous in the nose and lungs. The exercise bring relief from asthma and tones up the body. It fortifies the salivary glands and expels bacteria that have penetrated into the

nose. The solar plexus is recharged with vital energy, the circulation and digestive system function more efficiently. This exercise also helps in developing the power of concentration.

4. Bhastrika (bellows)

This Pranayama spreads warmth all over the body and has a purifying effect. It regenerates the liver, spleen, pancreas and fortifies the abdominal muscles. The digestion improves and one experiences a general feeling of well-being.

5. Surya bhedana (breathing that revitalizes the nervous system)

This Pranayama brings the body temperature into equilibrium and controls the functions of the catabolism. The powers of digestion are increased and the nervous system is fortified. The sinuses are also cleared.

6. Sitali (breathing that refreshes)

This Pranayama refreshes and tones up the body activating the liver and bile, with beneficial effects on the circulation and body temperature.

Chapter-7

Scientific aspect of meditation

Dhyana or the state of meditation is obtained when the mind is trained to concentrate on an outer or inner object, long enough for all distractions to be eliminated, and when the stream of thought flows in a single direction without interruption towards a definite subject.

During meditation, the body is silently resting so that thought is absorbed into Prana (vital force). As in dreamless sleep, so here too, the only sign of life is breathing. The hypothalamus recharges its energy during meditation, as it does during sleep. We may deduce from this that whereas sleep is a compensating form of rest, meditation is a conscious one, and hence contains important therapeutic characteristics.

Meditation helps us to free ourselves from emotional conflict, inner discord and psychological passion. It completely purifies the mind and frees it from unconscious instructions. Meditation enables the inner light to manifest itself. This is

responsible for the awakening of self-awareness; hence one may penetrate to the very center of life's highest values.

The subject of meditation may be the supreme-self, pure existence or universal value. The commonest traditional method consists of concentrating one's attention on an object of personal value or a universal symbol.

For example, a Hindu will choose one of the divinities that he is familiar with: Shiva, Vishnu, Krishan, Kali or some other divine incarnation. He may also choose the sacred syllable "Om" considered a symbol of the absolute in the Hindu religion.

For a Buddhist, subjects of meditation may be statues of Buddha, the lotus or the wheel (mandala). A Christian will choose the image of Christ on the cross. The star of David in Judaism or the crescent of the first quarter of the new moon for Islam, also serve subjects for meditation.

To sum up, we may say that each person, according to his faith, will choose an elevated thought or spiritual symbol upon which he prefers to meditate. The aim here is not to enter in detail into all the various techniques of mediation, but simply to give an

outline of the practices in use at present, to help those who aspire to the spiritual path.

Meditation depends on three main physiological factors:-

1. A comfortable and firm posture must be adopted, otherwise meditation is impossible. To adopt a firm posture means to hold oneself in such a way that one is conscious of the body. The slightest discomfort in such a posture will prove a constant distraction to the mind; one should therefore choose the position that allows one to remain still for a long time without feeling discomfort.
2. The spine and head should be kept very straight, but without being strained. All the ancient texts on Yoga insist on the necessity of keeping the spine straight during meditation to avoid pressure on the abdominal organs. This leads to a stopping position that brings on constipation and lays the way for many other disorders. There is another reason for holding oneself straight; the nerves in the coccyx and sacrum receive more copious blood-supply, which helps to revitalize them.

3. During meditation postures, the expenditure of muscular energy decreases, the movement of the heart and lungs is slowed down. At this moment, the production of carbonic gas is at its lowest, breathing becomes very light, almost abdominal, so that one can scarcely feel it. Under such conditions, the mind is almost completely protected from the distractions caused by physical movement, and can therefore be directed inwardly in complete tranquility.

Among the countless nadis, the three most important are situated along the spinal column: the Ida on the left side, the Pingala on the right, and the Sushumna in the middle. According to the Yogis, the Ida and Pingala are the main channels along which the afferent and efferent currents flow. One carries sensations to the brain, and the other flows from the brain to the body. The Sushumna is a hollow channel along which the Kundalini flows upwards. The Vedas call it the channel of enlightened vigilance or Brahamanadi.

During meditation, the Yogis direct their attention to certain subtle centers called chakras. These are responsible for the equal distribution of energy to the body.

Meditation is the most effective method to cope with the stress and strain of modern life. It doesn't need either costly medicines or elaborate paraphernalia. Meticulous experiments have been planned and excited by different scientists on Yogis during meditations. Change in the various functions of the body have been recorded and include data on oxygen consumption, carbon dioxide output, basal metabolic rate of respirations, pulse rate, ECG and EEG changes and changes in galvanic skin resistances (G.S.R).

The medical studies show that when Yogi, during meditation, was observed, he was able to reduce his oxygen consumption considerable below his basic oxygen requirements. Carbon dioxide output was also reduced. All these observations suggested that Yogic meditation leads to

a hypo-metabolic mental relaxation, produced in the person as a result of meditation.

Brain- waves

Wallace reported that EEG findings in 15 normal college students whose practice of transcendental meditation had ranged from six months to 3 years. Each subject sat quietly with eyes open from 5 minutes and then, with eyes closed for 15 minutes.

Before meditation, the eyes closed, all subjects showed alpha activity. During meditation, the regularity and amplitude of the alpha waves increased in all subjects. In four of the subjects, the alpha waves changed to a slower alpha wave frequency and in some cases stopped for 2 to 5 minutes periods and low voltage theta waves predominated. In almost all subjects, alpha wave blockage appeared after sound or light stimuli, After meditation regular alpha activity continued when eyes closed, and irregular alpha activity developed when eyes were open.

To sum up in conclusion it can be said that the data obtained from experimental studies that were found in Yogic

meditations. Zen meditation revealed that the pulse and respiration rate not decreased, oxygen utilization and CO₂ output were decreased while synchronization of electro-cortical rhythms recorded a definite increase in the GSR.

The reference to these medical research and study was made to drive home the point that meditation- Whether Zen, transcendental or simple not only enhanced our spiritual level but it also brought us a distinct improvement in our physical level. So meditation is not a passive exercise meant only for those who are old and retired. It is very much needed by our youth also for enhancing their physical capabilities as well.

Experiments on Yogic meditation

Meticulous experiments have been planned and executed by different scientists on Yogis during meditation. Change in the various functions of the body have been recorded and compared with subjects not doing any meditation. Observations recorded include data on oxygen consumption, carbon dioxide output, basal metabolic rate of respiration, pulse rate, electro cardio-graphic

(E.C.G) and electro-encephalo graphic (E.E.G) changes and changes in galvanic skin resistance (G.C.R).

An experimental study on the effects of Yogic meditation on different functions of the body was reported in 1961 from the Physiology department of the All-India Institute of Medical Sciences, New Delhi. The three neurophysiologists of the Institute, Drs. Anand, Chhina and Baldev Singh planned the experiment and made the observations. An air-tight metallic-cum-glass box 6' x 4' x 4', having a window for entry fitted with air-tight holes for the passage of electrical wires, was made for the Yogi to stay in. The Yogi stayed in this box on two occasions for 8 and 10 hours respectively. 3

The temperature inside the box was kept adjusted at $27^{\circ}\text{C} \pm 0.5^{\circ}\text{C}$. These studies were carried out on him after he had taken a light meal on the previous night and had nothing to eat in the morning. He was provided with a mattress, two bottles, one for drinking water and the other for voiding urine. A press button for buzzer was also fixed inside.

Samples of air from the box were taken at the start of the experiment. They were withdrawn every half hour and analysed. The total values for oxygen and carbon dioxide in the box at anytime were used to determine the rate of oxygen consumption and carbon dioxide output during the previous half hour. Basal metabolic rate was calculated. Simultaneously, E.E.G., E.C.G. and respiratory movements of the Yogi were recorded.

The normal individuals were also studied in identical manner to serve as controls; one stayed in the box for four hours and the other for seven hours.

This study showed that the Yogi was able to voluntarily reduce his oxygen consumption considerably below his basic oxygen requirements. Carbon dioxide output was also reduced. While one control showed increase of oxygen consumption above the basal requirements, the others showed no change. The heart rate of the Yogi was 85 per minute as he entered the box. The respiration rate during this period did not show any significant rise.

In the normal control subjects, the respiration rate during this period did not show any significant rise. In the normal control

subjects, the respiration rate gradually increased and the heart rate also showed some increase with the drop of oxygen and rise of carbon dioxide. E.E.G. showed predominantly low voltage fast activity associated generally with initial stages of sleep. The typical delta rhythm associated with deep sleep was not obtained. This study showed that the Yogi could reduce his oxygen intake and carbon dioxide output to levels significantly lower than his requirements even under basal conditions.

In 1972, Drs. Kothari, Bordia and Gupta, from Udaipur Medical College, reported a study on a Yogi during his eight-day confinement in a sealed underground pit. Initial physical examination and some biochemical investigations were done. The Yogi looking around 70 years old, sparsely built, was confined in an underground pit 1.5 metres cube and was connected with wires to an E.C.G. machine kept at a distance of two metres from the pit. The E.C.G. was monitored continuously and recorded at least at 4-hourly intervals. The pit which contained the Yogi was closed by first placing wooden planks across it and then covering them with loose earth piled to a height of half a metre above ground level

and extended one-third of a metre beyond the edge of the pit on all slides. Finally a layer of bricks was placed on the top and plastered with cement and mortar.

The pit was finally opened on the eighth day early in the morning. As per instructions given by the Yogi beforehand, he was lifted out into the adjoining laboratory, vigorously massaged with oil and given a hot bath. A through clinical examination was done and all other investigations were repeated. .

Results of some of the investigations done on him immediately before entering the pit and just after coming out of it were as follows. Figures within the brackets indicate findings after he came out of the pit. Weight 55kg. (50.5Kg), blood pressure 164/92 (140/88); pulse rate 106 per minute (98 per minute); respiration rate 20 per minute (16 per minute); oral temperature 37.2°C (34.8°C); blood sugar 88 mg% (73.3 mg%); blood urea 30mg% (66mg%); blood proteins 5.8 gms% (5.5 gm%); blood calcium 9.8 mg% (9.2mg%); blood cholesterol 220mg% (300mg%); E.S.R. Wintrobe 15mm. (18mm.) ; hemoglobin 12.5

gm% (12.0 gm%); packed cell volume 24% (29%); total leukocyte count 4600/cmm (9200/cmm).

As regards E.C.G., soon after the pit was sealed, a rapid pulse was observed. This became more marked and the heart rate increased to 250 per minute. This persisted till the second evening when at 5.15 pm (after 29 hours of internment), a straight line at once replaced the E.C.G. tracing. On the morning the Yogi was to be externed, the E.C.G. activity returned half an hour before the pit was scheduled to be opened: pulse rate of 142 per minute was recorded, with no other abnormality. Nearly two hours after the Yogi had been taken out of the pit, the E.C.G. showed a normal tracing with heart rate of 98 per minute.

When the pit was opened on the morning of the eighth day, the Yogi was in stuporous condition and felt very cold. On being taken out, he developed severe shivering and this persisted for nearly two hours.

Physical and biochemical investigations, before and after the internment of the Yogi, revealed that his metabolic activity had

not been cut down appreciable. These investigations followed the same pattern as are expected in total starvation.

Heart beat

Yogis in India have long been reputed to voluntarily stopping the heart beat. One of the first investigators to look into these claims in an objective manner was a French cardiologist, Therese Brosse, who came to India in 1935, equipped with a portable electrocardiograph so that she could monitor the activity of the heart. Brosse concluded from her observations that one of her subjects actually was able to stop ones heart. In 1957, two physiologists working in America, Dr. Bagchi of the University of Michigan Medical School, and Dr. Wegner of the University of California, Los Angeles, conducted a more extensive investigation in collaboration with Dr. Anand of the All India Institute of Medical Sciences in New Delhi.

None of the Yogis they studied with more elaborate equipment than Dr. Brosse had used, showed a capacity for stopping the heart. Wegner, Bagchi and Anand did find, however

that some of the Yogis could slow both heart beat and respiration rate. In 1961, Dr. Anand and Dr. China reported their findings on three Yogis who claimed to voluntarily stop beating of their hearts. During the act, their pulse was examined and heart sounds were also recorded. Screening and X-ray were also taken. It was observed during the manouver of stopping the heart that all the Yogis took a few deep breaths and then held the breath either in deep inspiration or expiration. This lasted 10 to 20 seconds. On auscultation during these acts, the heart sounds could not be heard and the radial pulse could not be felt. These findings were confirmed by paying back the tape-recording of heart sounds. Blood pressure could not be recorded as there was no pulse. On the other hand, E.C.G. recordings showed that none of the individuals could attain stoppage of the heart as E.C.G. tracing recorded regularly and showed no significant abnormality.

X-ray and screening revealed that while the heart beat continuously, it had become narrow in transverse diameter. The Yogis reported a feeling of giddiness and fainting after prolonged attempts to influence the circulation in this matter. These

experiments showed that none of the Yogis had any actual control over the activities of the heart. They could influence the intensity of their heart beats by raising the intra-thoracic pressure.

By taking deep inspirations or expirations and by closure of glottis and contraction of the chest and abdominal muscles, the thin-walled veins in the thorax were obstructed, thereby greatly reducing the venous return to the heart. This led subsequently to decrease in cardiac output, so much so that the arterial pulse and heart beat became imperceptible.

Thus we find that while Yogis can voluntarily diminish the rate of heart beat, they cannot stop it from beating and the E.C.G. impulse formation cannot be interfered with.

Respiration

Dr. Bagchi and Dr. Wegner in 1957 found that during meditation, the rate of respirations tended to decline relative to the levels set during control period. In 1961, Wegner and Bagchi again reported the rate of respiration to be slower during meditation than during reclining relaxation. In 1961, Dr. Anand and his colleagues

found dramatic decrease in oxygen consumption during meditation in an air-tight box.

Energy expenditure

In order to investigate whether a person spends less energy while he is meditating than while he is just sitting. A practitioner of Yoga 32 years old, who on several occasions had gone into a deep meditative state, was studied. The subject reported in the laboratory in the morning, and rested in the lying down position and again after he had been in a sitting position for some time. Then he was asked to start meditation.

Metabolic rate was noted at frequent intervals of about 15 minutes, and just prior to discontinuing meditation. He was thus tested on three days successively in the morning. The period of meditation was approximately 45 minutes. It was found that the mean sitting metabolic rate of 37.1 cal/m/hr was reduced to the mean metabolic rate of 29.67 cal/m/hr during meditation, a difference of 7.43 cal/m/hr. This shows that sitting in meditation

lessened the basal metabolic rate and amount of heat liberated in the body.

Brain waves

Electrical recordings from the surface of the brain or from the outer surface of the head demonstrate electrical activity in the brain. Both the intensity and patterns of this activity are determined to a great extent by the overall excitation of the brain. The undulations in the recorded electrical potentials are called the brain waves and the entire record is called the electroencephalogram (E.E.G.). The intensities of the brain waves on the surface of the scalp range from zero to 300 microvolts and their frequencies range from once every few seconds to 50 or more per second. The character of the waves is highly dependent on the degree of activity of the cerebral cortex, and the waves change markedly in different emotional and mental states of the person. Much of the time, the brain waves change markedly in different emotional and mental states of the person. Much of the time, the brain waves are irregular and no general pattern can be discerned in the E.C.G.

However, at other times, distinct patterns appear. In normal persons, such patterns are classified into alpha, beta, theta and delta waves.

The normal adult, physically relaxed with eyes closed, produces a rhythmical brain wave with a frequency of 8 to 13 cycles per second. This brain wave disappears when the eyes are open, but can occur even then if the person is in a state of extreme relaxation. Since these waves were the first to be discovered they are labeled as alpha waves. Beta waves occur at frequencies of more than 14 cycles per second and sometimes as high as 50 cycles per second.

Theta waves have frequencies between 4 to 7 per second. Delta waves include all the waves of the E.E.G. below $3\frac{1}{2}$ cycles per second and sometimes as low as 1 cycle per every 2 to 3 seconds of a person. Beta waves are during intense mental activity, theta waves are more commonly in infants, and delta waves are during stupor, sleep or surgical anesthesia. The importance of recording E.E.G. during meditation lies in the fact that the

particular brain wave indicate a particular mental state of the person.

Kasamatsu, a Japanese neuropsychiatrist and his co-researchers in 1957, compared the E.E.G.'s taken during meditation of an experienced Yogi and a control subject whose resting E.E.G. was similar to that of a Yogi. After eight minutes, the Yogi demonstrated a substantial increase in alpha activity; while the pattern of the resting control remained unchanged. There was no blacking of the meditator's alpha rhythm on the sudden presentation of auditory stimuli. Dr. Anand and his colleagues in 1961, described electro encephalo graphic (E.E.G.) studies on Yogis. Four Yogis practicing Samadhi had their E.E.G. recordings taken before as well as during meditation. Two of them were exposed to external stimuli in the form of strong light, loud banging noise, touching with a hot glass tube and exposure to the vibrations of a tuning fork. The effect of these on the E.E.G. activity was studied both before as well as during meditation. All the Yogis showed prominent alpha activity in their normal resting

records. During the stage of Samadhi all of them had persistent alpha activity with marked increase in amplitude.

In both the Yogis who were exposed to external stimulation, all the stimuli blocked the alpha rhythm and changed it to a low voltage fast activity when the Yogis were not meditating. This blocking reaction did not show any adaptation to repetition of the same stimuli. On the other hand, none of these stimuli produced any blockage of alpha rhythm when the Yogis were in meditation.

As part of the same study, two Yogis who had developed increased pain threshold to cold water were also investigated. They were able to keep their hand in water at 4°C for 45 and 55 minutes respectively without experiencing any discomfort. Their E.E.G. records were obtained before and during the period when they kept their hand in cold water. Their E.E.G. records showed persistent alpha activity both before and during the period in which the hand was immersed in cold water.

Thus it can be said that Yogic meditation gives rise to the appearance of alpha brain waves, which, when the Yogi is meditating, are not blocked by external stimuli.

Skin resistance and relaxation

Galvanic skin resistance (G.S.R.) is an incompletely understood but fairly accurate measure of the state of a person under stress or in relaxation. G.S.R. is measured by placing electrodes on the skin surface and measuring the resistance to a mild electric current. The G.S.R. has long been known to decrease with anxiety or stress and increase during relaxation and has formed the basis of the 'lie detector'. During deep sleep, relaxation of the body promotes an average but slow increase in skin resistance of about 150 per cent. The measurement of G.S.R. during meditation forms a good index of the mental state of the person.

In 1957, Drs. Bagchi and Wegner found galvanic skin resistance to be increased during meditation with a mean increase of 56 percent compared with the control periods. When they

compared the responses of four Yoga students during meditation in Padmasana with their normal responses, galvanic skin resistance was found to be greater during meditation.

To sum up, the data obtained from experimental studies on Yogic meditation show a decrease in oxygen consumption, a decrease in carbon dioxide elimination, a decrease in basal metabolic rate, diminished heart rate and respiration, production of alpha rhythm in E.E.G. and increased galvanic skin resistance. All these observations suggest that Yogic meditation leads to a hypometabolic mental relaxation produced in the person as a result of meditation.

Chapter-8

Yogic purification system

Before the young aspirant can do the asanas and pranayamas effectively, it is enjoined on them to go through six cleansing exercises. They are called 'Dhauti', 'Basti', 'Neti', 'Tratak', Nauli and 'Kapal Bhati'.

Dhauti kriya

The Dhauti exercises can be practiced with the help of:

- a) Air sucking in air through narrowed lips as is done in whistling holding them in the chest for a few second and then forcing them out through the lips.
- b) Swallowing a few tumblers of water (about 5 liters) and induction of vomiting by tickling the back of throat. The swallowed water can also be siphoned out through a clean, soft rubber tube about 3 feet long and half an inch in diameter and is swallowed gradually in a standing semi

bent posture. In ancient times, the Yogins used sticks of cane, turmeric or banana

- c) Cloth A piece of soft cloth about 4 cm wide and 22.5 cm long is boiled in water and after a little cooling is gradually swallowed. Sometimes wetting the cloth with a little milk has been advocated. By gradual practice it should be possible to leave only about 8 cm of the cloth sticking outside the mouth. The cloth has to be drawn out slowly and continuously.

Claims have been made regarding the efficacy of these 'Dhauti' rites in curing and preventing illnesses. But from medical point of view, these are not only unnecessary but in some cases positively dangerous. The nose stomach and intestines are lined by a very delicate covering (mucous membrane) that is richly supplied with lubricating matter, and hence require no external lubrication or cleaning. This lining membrane has opening of various glands that are involved in the chemical digestive processes. The cleaning practices described above can adversely affect these

sensitive organs and in the event of an injury can even cause hemorrhage or ulcer formation.

Basti kriya

Two types of cleaning of the lower abdomen (Bastisthan) are recommended.

(1) Sthala-Basti

A thin 8 cm long tube (with a pointed end) is greased with oil and inserted inside the anus with half of its length projecting outside. The projected end is dipped inside a bowl of water while the performer assumes a particular pose- Utkatasana. By a process of inspiration (drawing in of air through nose--- ‘Aswini maudra’) by water is sucked into the tube while the anus undergoes contraction. This is followed by expiration (expulsion of air through nose) and simultaneous expulsion of water through the anus.

About half to one liter of water is usually drawn in. If the above mentioned respiratory exercise proves difficult or unfruitful, then another abdominal exercise- Nauli kriya has been recommended. If the water drawn in is not expelled completely

then a few 'Mayurasana' exercises would initiate the defaecatory process.

(2) Jala-Basti

The trunk has to be submerged inside the water (upto the level of the navel) in a particular posture—Utakatasana, and a similar process of drawing in and throwing out of water should be practiced by Aswini mudra or Nauli kriya. If the water sucked in is not expelled out completely, then one should come out of the water tank and do a few asanas known 'Paschimottonasanas to initiate the defaecatory process.

It has been claimed that whereas in the previous types of Dhauti kriya 'The portion from the neck upto the naval' gets cleaned, the Basti kriyas cleanse the lower part of abdomen upto the anus. The inspiration for this exercise came to the early authors from the observation of some types of cranes who flock near water tanks-these cranes with long beaks periodically get themselves syringed (with water) through their breaks and regain their joyful activities.

A latler – innovation from these Basti-kriyas has been the introduction of douche or enemas-that were also fairly common practice in Western system of medicines many decades ago. The Yoga experts of course decry the regular use of douche or enemas because they are passive efforts and warns that their recurrent use may lead to weakness of the nerves that are concerned with defecation.

This preoccupation with proper evacuation or cleansing of the bowels has not only dominated the Yoga culture, but also the indigenous systems of medicine (the ayurvedic medicine). In fact, even in allopathic medicine, this bowel function and its cleansing has held the clinicians attention for at least a century. A host of diseases were thought to arise out of constipation and every type of cures were forecast through the use of various douche and enemas.

Physiologically, facts however, believe such misgivings and the curative value of douche and enemas have been reduced to an insignificant level. The large bowel has very little function in its last eighteen inches. It is essentially like a rubber bag that allows a particular level of pressure to rise in its lumen and stretch the

walls. The nerve centers at the lower part of the back (Lumbosacral plexus) get activated and a reflex movement of the intestinal walls (peristalsis) ensures and thereby facilitates the movement of the semi digested or undigested food matter (wastes) along the alimentary canal. But the popular/ancient concept of semi-digested food matter stagnating for days inside the intestines and the toxins arising out of that putrefied matter circulating in the blood has surely been magnified unreasonably. As stated earlier, the lowest part of large bowel is involved only in absorption of water and some minerals back into the system and primarily function as a reservoir of waste products. In a person of average eating habits and average bowel movements, no such poisonous toxins have been traced circulating in the blood.

It is therefore recommended that incomplete evacuation of bowels should be tackled by proper judicious diet (with sufficient residue), a proper relaxed state of mind and activation of muscles including abdominal muscles. Any artificial stimulation of anal or rectal muscles through an object or through pressure of water to artificially activate the intestinal movements (especially the lower

part of large bowel) and thereby the defecatory reflex, is rather unnecessary in most cases and foster unhealthy bowel consciousness. These should not be used as a regular practice just as purgatives are often overused and in the process, the nerves and muscles concerned with defecation get exhausted beyond recuperation.

Neti kriya

The target organs of these cleansing rites are the nose, nasopharynx and the glands around that area.

This is usually done by two methods:

- a) The mouth and nose is submerged in water contained in a wide mouthed bowl. Then by closing the mouth air is sucked through the nose which draws the water into the nostrils and the water is swallowed. About one fourth to half a liter of water is recommended for this suction through the nose and water may also be rinsed out of the mouth. Another, convenient method is to draw water from

the nozzle of feeding cup directly into the upturned nostril while the head remains tilted to one side.

- b) A waxed piece of thick twined thread (about 12 cm long) is dipped in luke warm water and slowly introduced inside one nostril while keeping the other nostril closed. After it has been pushed to some section of the mouth and pharynx, then that end of the thread is brought out through the mouth with the help of a finger. Holding these two ends- one outside the nostril and the other outside the mouth, the thread is moved to and fro for about half to one minute.

The same procedure is followed next through the other nostril. This cleaning is held important because if the passages remain unclear then the breathing exercises. (Pranayamas) can not be done satisfactorily. Secondly, according to some Yogic texts, the back of the nose is supposed to be the meeting place of three types of nerves 'Ida', 'Pingala', and 'Sushumna' which are vitally concerned with the kundalini Yoga and hence any

congestion in this area is supposed to affect Yoga exercises adversely.

These recommendations rest on an inadequate knowledge of the authors regarding the anatomical and physiological structures of the organs in this area. Any violent cleansing, is bound to disturb and desensitize nasal hair follicles which act as a protective screen for outside dust and microbes and on their sensitivity rests the sneezing reflex which is nature's reflex mechanism to expel an offending agent. Secondly, the glands and blood vessels that moisten the walls are very much on surface and they are likely to be damaged by such violent rubbing, pulling activities. Use of warm water through the nose is not as harmful, though the utility of this practice seems rather limited.

Tratak kriya

This is basically a group of exercise that helps to improve the visual functions and is also an adjunct to mental concentration.

For any Yoga, the conscious control of distractibility of the mind is a must. Various types of exercise have been described to improve the attention span and power of concentration. This exercise is recommended twice a day. At right the practice begins in front of a lighted candle or oil lamp which is kept in a similar position at about a distance of one and a half of two meters.

Nauli kriya

This indeed is an excellent exercise of the abdominal muscles and offers a good massaging movement to the intestines and pelvic organs (and perhaps to some extent to the stomach). Passive massage of the intestines has been a common practice in indigenous medical systems. Surely that is not recommendable and serious intestinal obstructions and twisting of coils of intestine have been reported and urinary bladder walls have also been hurt on occasions by such strong passive massages. But in this voluntary, conscious exercise, no such complications are likely to follow provided of course one does not tax ones respiration unduly. Even when one does not agree with the extravagant claims

of cure of various diseases by this exercise, it is understandable that mild abdominal massage would help proper intestinal movements (peristalsis).

Kapal Bhati kriya:-

This exercise enables us to eliminate a large quantity of the toxins contained in the body, by filling the blood with oxygen and purifying the tissues and nerves. This Pranayama clears the nasal cavities and lungs. It is a remedy against deficiencies in the lymphatic system, and mucus in the nose and lungs. The exercise bring relief from asthma and tones up the body. It fortifies the salivary glands and expels bacteria that have penetrated into the nose. The solar plexus is recharged with vital energy, the circulation and digestive system function more efficiently. The exercise also helps to develop the powers of concentration.

Chapter-9

Therapeutic advantages of main Yogasanas

Padmasana

This posture develops physical and mental stability, calms the nerves, relieves the stiffness of knees and joints, and guards against rheumatism. The abdominal region receives a copious supply of the blood from the point where the abdominal aorta divides. The effect of this is to invigorate the coccyx region and the nerves of the sacrum. The entire body is kept in complete equilibrium.

The following meditation postures, such as Sidhasana, Svastika and Samasana all have the same therapeutic effects.

Siddhasana

This posture develops physical and mental stability, calms the nerves, cures stiffness in the knees and joints and prevents rheumatism. The perivic region is abundantly supplied with blood

from the point where the abdominal aorta divides, toning up the coccyx region and sacrum nerves. The entire body is kept in perfect equilibrium.

Supta-vajrasana

This is an excellent exercise for the ankles, knees and thighs it is recommended for those who lack vital energy, because this asana makes the blood flow into the trunk of the body, stimulating and regenerating the solar plexus. The exercise tones up the subcutaneous nerves, and is recommended to those whose glands are sluggish or who suffer from constipation.

Ardha-Matsyendrasana

Swami Kevalayananda writes in his book, “we should exercise the spinal column in all possible directions if we wish to keep it in perfect health.”

There are six ways of bending the spinal column: forwards, backwards, to both sides, and twisting to the left and right. Sarvangasana, Halasana, Paschimottanasana and Yoga mudra strengthen the spinal column by bending it forwards. Matsyasana,

Bhujangasana, Salabhasana and Dhanurasana make it more flexible by bending it backwards.

Ardha-Matsyendrasana transmits to the spinal column to sideways twists, one to the left and other to the right. It is, therefore, a very useful asana. It has great curative value and corrects spinal deformities. It has beneficial effect on the gall-bladder, spleen kidneys and bowels.

Halasana

This asana is extremely beneficial to the spinal column. The whole region receives an abundant supply of blood which revitalizes the nerves and muscles of the back. Exhaustion any fatigue quickly disappear. The position also has a regenerating effect on the glandular system, and clears up menstrual disorders. When practiced regularly, the exercise prevents fat forming on the stomach, hips and waist.

Precautions

Those who have a stiff spinal column should practice this asana with great care, without ever straining, and avoiding all

brusque movements. If practiced regularly and persistently, this exercise will make even the stiffest spine flexible. Viparitarani is a good preparation for Halasana.

Paschimottanasana

When practiced in moderation (three minutes a day maximum, otherwise the effect is reversed), Paschimottanasana is a good remedy for constipation. All the posterior back muscles are strengthened, thus preventing the formation of fat around the stomach. This asana has a particularly salutary effect on the spinal column. Blood rushes to the gonads, prostate gland, uterus and bladder, to improve their state of health. The posture regenerates the kidneys and digestive organs. It can check and even cure diabetes.

Precautions

In learning forward, the knees must remain flat to allow the muscles on the legs and sacrolumbar region to be fully stretched. All brusque movements are to be avoided and one should not strain or force even if at the beginning one finds it difficult to lean

forward, a little patience and perseverance will help to get rid of all stiffness.

Padahastana

This exercise tones up the organs in the abdomen, and ensures the proper functioning of the liver and spleen. It is excellent for those suffering from digestive troubles.

Like the Paschimottanasana, this asana has a beneficial effect on the spinal column allowing the muscles in the back and legs to be stretched to their fullest extent.

Precaution

Sudden movements of the spinal column should be avoided.

Bhujangasana

During the practice of Bhujangasana, the muscles of the back come into play, exerting pressure on the vertebrae from the neck down to the lower part of the spinal column, and provoking a copious supply of blood to this region, thus toning it up.

This asana may correct discs that have slipped slightly. It soothes backaches, renders the spinal column more flexible and keeps it in good health. The exercise also has a beneficial effect on the kidneys (adrenal glands), and stimulates digestion.

Precautions

Those who have a stiff spinal column should start slowly and carefully, sudden movements are to be avoided.

Salabhasana

This is an excellent exercise for the muscles in the back, arms and abdomen. It fortifies the latter and has beneficial effect on the digestive organs, curing the most stubborn constipation. This asana brings a large supply of blood to the kidneys, thus cleaning and regenerating them.

Precaution

Care must be taken not to tire the lungs by prolonging the posture or raising the legs brusquely.

Dhanurasana

This asana loosens up the spinal column and strengthens the nervous centers. It also recharges the solar plexus with vital energy and tones up the abdominal organs. The exercise stimulates the endocrine gland and is excellent for women suffering from irregular or faulty menstruation. It also prevents fat forming around the stomach and hips.

Precaution

This exercise requires a certain amount of effort. Be careful of the joints, and above all, take it very easy.

Mayurasana

This posture requires great determination and concentration. It is an excellent way of bringing the body into equilibrium and fortifying the hands, wrists and forearms.

Practice of this asana will exert pressure inside the abdomen, thus toning up the organs and muscles in this area of the body. The increased supply makes them healthier and cures constipation.

Precautions

This is a very difficult Asana and should therefore be practiced with great care. It requires very flexible hands and wrists, so watch out for the joints.

Sarvangasana

It is a known fact that our state of health depends, to a large extent, on the proper functioning of the thyroid gland. In this posture, the thyroid receives an abundant supply of fresh blood, owing to the regenerating effect of Sarvangasana on the thyroid, the organism is kept in perfect health. Regular practice of the asana will make the symptoms of premature aging, produced by thyroid disorders completely disappear. One regains youthfulness, wrinkles soften, and the body stays supple to a very great age.

This posture is also a blessing to those with ovary problems and ensures the good functioning of the sexual glands, both male and female. The shoulder-stand clears congestion in the legs, and has salutary effect on veins and hemorrhoids.

Owing to its regenerative effect on the nervous system Sarvangasana and indeed Sirshasana can cure insomnia and depression. The only difference between Sarvangasana and Sirshasana is in the position of the head. Hence the first has more effect on the thyroid. While the second influences the brain. As both of these asanas require the body to be in a vertical position, the therapeutic effects of Sarvangasana are also produced by Sirshasana, since the position is similar.

Matsyasana

This exercise enlarges the thoracic cage and allows deeper breathing. It renders the neck supple and removes all aches and stiffness. The neck muscles are fully stretched, thus provoking an abundant flow of blood to this region of the body, and regenerating the thyroid and tonsils. This asana also fortifies the muscles in the back and has a beneficial effect on the spinal column.

Precaution

If the lotus position is too difficult, this asana may be performed sitting cross-legged.

Savasana

Often a tensed body and irregular breathing are the cause of bad health. Rhythmic breathing in Savasana is, therefore, extremely salutary for the entire body, provided if it is taught properly by an instructor. By resting in this way, one avoids all mental stress. The heart and nervous system are calmed, and the circulation becomes regular.

After a few minutes relaxation in Savasana, the whole organism is recharged with Prana, i.e., renewed energy and regenerative force. A quarter of an hour's rest of this kind eliminates the toxins that have accumulated in the blood.

Experiments performed at the Yoga Research Institute, Lonavla, have proved that it is possible, by Yogic relaxation, to cure high blood pressure, insomnia, nervous disorders and certain types of nervous depression.

Chapter-10

Yogic prescription for common diseases

Disease (1) Anaemia

Introduction

Anaemia as we already know means deficiency of red blood cells, due to the rapid loss of slow production of RBC's.

Anaemia is a condition in which hemoglobin concentration, or the number of red blood cells is below the defined level. The job of hemoglobin is low, the blood fails to supply the body's tissues with sufficient amounts of oxygen. Your lungs and heart will then have to work harder to get oxygen into the blood. Proper food, correct treatment and the practice of Asanas and Pranayama have proved very valuable for the production of hemoglobin and necessary elements in the blood in the pure form.

Types and causes

Some types of Anaemia and their physiological causes are summarized below:-

(a) Hemorrhagic or blood loss Anaemia

The body replaces Plasma within 1 – 3 days after a hemorrhage, but this leave a low concentration of red blood cells. In chronic blood loss, a person frequently cannot absorb enough iron from the intestines to form Hb as rapidly as it is lost red cells as then produced with too little hemoglobin inside them giving rise to microcytic hypochromic Anaemia.

(b) Aplastic Anaemia

Bone marrow aplasia, means ‘lack of functioning of bone marrow’. This can occur due to excessive X-ray or radiation treatment, certain industrial chemicals, sensitive drugs, nuclear exposure etc.

(c) Iron deficiency Anaemia

This is due to inadequate dietary intake of iron, poor intestinal absorption of iron, abnormal loss of iron from the body. For example menstruation or hemorrhage or heavy iron requirements such as pregnancy or lactation. The TBCs in this condition are smaller than normal and have an increased zone of

central Pallor. This is indicative of a hypochromic (less hemoglobin in each RBC), microcytic (smaller size of each RBC) Anaemia. There is also increased anisocytosis (variation in size) and poikilocytosis.

(d) Hemolytic Anaemia

It can occur due to various reasons and situations. The general tendency is that fragile cells rupture when they pass through the spleen. In hereditary spherocytosis, red cells are spherical and small. They cannot be compressed on passing through spleen and are easily ruptured.

Yogic treatment

(i) Pranayama

Ujjayi (energy-renewing Pranayama), Nadi-Sodhana (alternate breathing).

(ii) Asanas

Paschimottanasana (stretching the back and legs), Ardhamatsyendrasana (simplified version of the Yogi Matsyendra

posture), Sarvangasana (shoulder-stand), Sirshasana (head-stand), Savasana (complete relaxation posture).

(iii) Diet

Change over to foods rich in Iron and Vitamin B Juice of wheat sprouts (grass), uncooked Juices or soups of leafy vegetables. Fresh fruits, germinated corn, beans and pulses etc.

(iv) Meditation

30 minutes per day.

Disease (2) Insomnia

Insomnia is a very difficult and painful disease. Sometime it leads to even madness. There are many causes to this disease.

Causes

Following are the causes which leads to this disease. Being poisonous of the blood due to constipation, excess of blood in the brain, to take more food, or doing much mental work before sleeping, doing no physical labour or little physical labour, being sick, sleeping in a new place, improper light arrangement, improper ventilation in the room, sleeping on dirty bedding or cot,

or bed full of bed – bugs, using of intoxicants like tea or coffee, sleeping by covering the mouth, mental or nervous excitement, noisy atmosphere, reading exciting and romantic literature at the time of sleeping etc.

Yogic treatment

(i) Aasanas

Shavasana, Surya namaskar, Dhanurasana,
Pawanmuktasana,

(ii) Pranayama

Anuloma – viloma

(iii) Meditation

30 minutes daily.

(iv) Yoga Nidra

Daily.

Disease (3) Arthritis

Introduction

The term 'Arthritic' has been used for the diseases of the joints. Arthritis is a group of different diseases related with bone joints (articulations). It includes inflammatory and degenerative condition, which affects joints. Clinically arthritis is with pain and stiffness in the adjoining areas of the joint including muscles. The most common of them are Rheumatoid arthritis. Osteoarthritis and Gouty arthritis.

(1) Rheumatoid Arthritis

Rheumatoid arthritis is a chronic systemic inflammatory disease of unknown cause. In this disease the body attacks tissues and particularly cartilage and linings of joints. It is characterized by inflammation of the joint, swelling pain and loss of function. Usually this form occurs bilaterally. If left knee is affected, the right knee may also be affected, although usually not to the same degree.

(a) Causes

The exact cause is unknown and the possibilities are genetic predisposition autoimmune disorders, infection and stress.

The autoimmune supposition recognizes the theory that the antibodies of our body are directed against the tissues of the body itself. The female to male ratio is 4:1.

(b) Symptoms

The onset may be sudden or gradual. Progressive swelling of the joint brings the patient to the doctor. There is pain, limitation of movement and tenderness in the joint. The ligaments are often damaged and sub-luxation (malpositioning) of the joint may occur. The patient suffers early morning stiffness, pain, inability to move the affected joint freely, swollen joints, and a feeling of warmth in the joint. The disease process may be of a mild nature or, in particular cases, relentless and progressive.

The basic symptom of rheumatoid arthritis is inflammation of the synovial membrane followed by a sequence of change. The membrane followed by a sequence of change. The membrane thickens and synovial fluid accumulates. The resulting pressure causes pain and tenderness. The membrane then produces an abnormal granulation tissue called 'Pannus' which adheres to the

surface of the articular cartilage. The pannus formation sometimes erodes the cartilage completely. When the cartilage is destroyed, fibrous tissue joins the exposed bone ends. The tissue ossifies and fuses the joint so that it is immovable. This is the ultimate crippling effect of rheumatoid arthritis.

(2) Osteoarthritis

Osteoarthritis is a degenerative disorder where the joint surface lose their spatial relationship with each other and the articular surfaces of the bones rub against each other. Inflammation occurs and synovial fluid is secreted. Reduction of movement, pain stiffness occur. Gradually due to repeated inflammation, the joint becomes fused and mobility is impossible. In this stage joints are dead and no feeling of pain. Osteoarthritis is the most common form of joint disease, sparing no age, race or geographic areas, millions and millions of the people, all over the world suffer from the effects of this condition.

(a) Causes

Osteoarthritis is a natural degenerative one that occurs with the ageing process of the body or a metabolically active disorder. Any kind of trauma, injury or infection causes premature osteoarthritis changes in the joints. Sports and other events, which induce a lot of wear in the joints and cartilage tear, waste the muscles prematurely. Obesity is an important predisposing factor. The age at which osteoarthritis usually occurs is 55 to 65 years.

These days, because of unhealthy lifestyles, people from age 30 onwards are affected. Osteoarthritis of the hip joint can be caused by damage to the head of the femur due to drugs (steroid being notorious for causing this condition) and damage to the blood supply of the head of the femur (Perthe's disease). Frozen shoulder or periarthritis is common in the shoulder joints. Particularly in diabetes where the tissues of the shoulder become stickier than normal persons who use one limb more than the other suffers premature wear and tear. If the person sleeps with the body weight on one shoulder every night, that side will suffer periarthritis due to jamming of the ball of the shoulder into the socket and constriction of muscles.

(b) Symptoms

Symptoms of the disease increase with age. It is characterized by degeneration of cartilage and by the hypertrophy of bone at the joint margins. Inflammation is usually minimal. The cartilage slowly degenerates and small bumps or spurs or new osseous tissues are deposited on them. These spurs decrease the space of the joint cavity and restrict joint movement. The synovial membrane is rarely destroyed and other tissues are unaffected. In the knee joints, the patient suffers pain, aggravated by movement and relieved by rest. The knee joints suffer loss of flexion and extension. It becomes shaky and the muscles appear wasted. The knee might appear swollen (with a reddish skin on the affected area) due to the constant friction with effusion of synovial fluid. The synovial lining might be thickened in chronic cases.

(3) Gouty Arthritis

Gouty Arthritis is a metabolic disorder characterized by elevation in the blood level of uric acid and deposition of uric acid crystals in the joints.

During the process of nucleic acid metabolism a waste product uric acid is being produced. The person suffering from 'gout' either produces excessive amount of uric acid or is unable to excrete the normal amount of uric acid. This results in the elevation of blood uric acid level. In due course of time the excess amount of uric acid combines with sodium and forms sodium urate crystals, which are being deposited with the kidneys and cartilages.

(a) Causes

The cause of this disease may be:-

- i. Decreased excretion of uric acid.
- ii. Increased production of uric acid or
- iii. Both

The renal excretion of uric acid decreased may be due to:-

- i. Chronic renal disease
- ii. Lead poisoning
- iii. Hypertension
- iv. Thyroid hypo function

- v. A variety of drugs including salicylates like aspirin, anti-inflammatory drugs like phenylbutazone and anti-tuberculosis drugs.
- vi. Increased levels of acids during exercise starvation, alcohol consumption.

In 'gouty Arthritis' sodium urate crystals are deposited in the soft tissues of the joints. The crystals irritate the cartilages causing inflammation.

(b) Symptoms

The joint of the big toe is most commonly affected. This happens suddenly with severe pain and inflammation and redness of the overlying skin. The patient is woken up from sleep by pain. The attack is often very painful and subsides spontaneously. The other types of affliction are in order to frequency, in steps ankles, heels, knees, wrists, fingers and elbows.

Yogic treatment

(i) Pranayama

Rhythmic breathing, Nadi-Sodhana (alternate breathing).

(ii) Asanas

Trikonasana (Triangle posture), Padmasana (The lotus position), Salabhasana (The Locust posture), Dhanurasana (The Bow Posture), Vakrasana (Spinal Twist), Viparitarani (The Inverted Posture), Savasana (Complete Relaxation Posture).

(iii) Diet

Avoid sour and masala food. Eat light vegetable foods. Take alkaline content fruits like sweet lemon and orange, pineapple etc.

(iv) Meditation

Silent meditation for 20 minutes.

Diseases (4) Bronchitis

Bronchitis refers to an inflammation of the mucous, membrane lining the bronchi and bronchial tube within the chest. It is a breathing disorder affecting the expiratory function. In most cases, some infection also occurs in the nose and throat. It is a disease endemic to cold, damp climates, but may occur anywhere

Bronchitis may be acute or chronic. In chronic cases, the disease is of long duration.

Symptoms

In most cases of Bronchitis the larynx, trachea and bronchial tubes are acutely inflamed. The tissues are swollen due to irritation. Large quantities of mucous are secreted and poured into the windpipe to protect the inflamed mucous membranes. There is fever and difficulty in breathing. Other symptoms are hoarseness, pain in chest and loss of appetite. Breathing trouble continues till the inflammation subsides and mucous is removed.

Causes

The chief cause of Bronchitis is wrong feeding habits. The habitual use of refined foods such as white sugar, refined cereals and fine flour products results in accumulation of morbid in the system and collection of foreign matter in bronchial tube. Another cause is smoking. Bronchial tubes get irritated due to the excessive smoking and lowers their resistance making them vulnerable to the germs breathed from atmosphere.

Other causes include living in stuffy atmosphere, using drugs to suppress other diseases and hereditary factors.

Yogic treatment

(i) Asana

Bhujangasana, Ushtrasana, Padahasthasana, Baddha padmasana, Halasana and Matsyasana.

(ii) Pranayama

Ujjayi, Kapalbhata, Nadi shodhana.

(iii) Shatkrama

Neti.

(iv) Meditation

Ajapa japa.

Disease (5) Asthama

Introduction

Asthama is primarily a disease of the respiratory system, where there is a wheezing cough and a sense of suffocation, since the patient has difficulties in inhaling rather than exhaling the air.

The attack of Asthama may last for a few minutes to few hours or even days where in the patient is exhausted. It is common to all ages, children and adolescence of both sexes, irrespective of socio-economic background.

Bronchial Asthama

The main trouble in this disease is breathlessness and is caused by the disorder in respiratory system. There is constriction of the bronchioles, which disturbs the normal ratio of inspiration and expiration because of congestion of the blood vessels of the bronchial lining expiration become difficult. This disease affects the young, old and even children.

Causes

1. Asthama may be here ditary, where the patient is allergic to pollen grain, food products, dust, animal hair, drugs, pollution, industrial smoke and diesel fumes, milk and dairy products.
2. Suppression of negative emotions like jealousy, anger, resentment, hatred are often the precipitating causes.

3. So also loneliness emotional hypersensitivity, fears of rejection, super ego consciousness are the other causes.

4. Due to short breath, carbon dioxide is not expelled completely from the body where as even constipation and indigestion produce toxins and they accumulate in the body. There are also the reasons for developing asthma in a person.

Symptoms

1. Mucous gets accumulated in the chest bronchi are constricted and therefore the respiration is obstructed later giving rise to dyspnoea or breathing trouble.

2. Some people also develop spasm in their chest.

3. There is also a sudden onset of cold symptoms like nasal congestion, nasal irritation sneezing and swollen nasal mucus membrane.

4. Person gasps for air.

5. Distress and anxiety increases due to laborious breathing.

6. Eosinophil count in blood increases.

7. Mucus secretion becomes thick and sticky.

8. Inhaling is also shallow and short.
9. Bluish colour of mucus membranes indicates less oxygen supply.
10. The chest becomes hyper-expanded and the lungs hyper-inflated, so the person has to exhale with efforts, which also becomes short.
11. The asthmatic is unable to relax since he gets exhausted and develops the flexion attitude of the body in a defense.

Yogic treatment

(i) Pranayama

Breathing, Nadi-Sodhana (alternate breathing, without retention of the breath).

(ii) Asanas

Vakrasana (Spinal Twist), Paschimottanasana (Stretching the back and legs), Viparitarani (The Inverted Posture), Savasana (Complete Relaxation Posture).

(iii) Diet

Avoid milk & milk product, not vegetarian food, eat fruits and vegetable in season and cooked retches them raw vegetable.

(iv) Meditation

Silent meditation for 15-30 minutes.

Disease (6) Constipation

Constipation is one of the curses of modern civilization. Amongst uncivilized races and in the wild animal kingdom constipation is unknown. The causes of constipation, simply stated, is disobedience to the natural laws of life. More precisely basically when stool is blocked in the large intestine and rots there. This condition is known as constipation. it is mainly due to:-

1. A constipation causing diet – refined, fried and concentrated food and a diet lacking in rough – age fibre.
2. Insufficient walking/exercise.
3. Inadequate sleep and relaxation.
4. Fear, worry, anxiety, haste, tension, anger and jealousy.
5. Drinking less water.

6. Consciously trying to control the urge to pass stools due to one reason or the other.

Yogic treatment

(i) Pranayama

Bhastrika (bellows).

(ii) Asanas

Uddiyana (Rising of the diaphragm), Trikonasana (Triangle Posture), Vakrasana (Spinal Twist), Paschimottanasana (Stretching the back and legs), Sarvangasana (Shoulder-stand), Supta-Vajrasana (The Supine Pelvic Posture).

(iii) Diet

Include food with fibres and roughage in daily diet. Plenty of raw vegetable, fruits, whole-wheat chapatias etc. should be taken.

Disease (7) Diabetes Mellitus

Introduction

Diabetes is a metabolic disease in which the primary problem is the defective utilization of sugar by the body. Dietary sugars and starch are broken down to glucose by the process of digestion and this glucose is the major fuel for the various processes, organs and cells of the body. Glucose metabolism is under the control of the hormone insulin, which is secreted by the Pancreas, a large gland behind the stomach. When this gland becomes stressed or exhausted the hormone insulin becomes deficient in quantity or sensitivity. As a result, the blood sugar level becomes high and uncontrolled.

Types of Diabetes Mellitus

There are two broad types of diabetes mellitus:-

Type I – Insulin dependent Diabetes Mellitus (IDDM) or juvenile onset

In this type of diabetes the hormone insulin is completely or almost completely absent from the islets of langerhans and plasma and insulin, treatment is essential. It is called insulin dependent diabetes because of compulsory periodic insulin

administration, to control the rise of blood – glucose level. It can occur at any age, though it most commonly occurs during younger age.

Type II – (Non – insulin dependent Diabetes Mellitus (NIDDM) or maturity onset)

This type of diabetes is much more common than juvenile onset and most often occurs in people who are over 40 and overweight since it occurs in the later stage in life. It is termed as maturity onset diabetes. In this condition of diabetes the hormone insulin is often present in plasma at near – normal or even above level and additional insulin is not required to sustain life and to maintain normal blood glucose level.

Patient with this type of diabetes produces little or excessive insulin in their Pancreas, it either is not enough for proper function or is not being produced quickly enough to influence glucose levels in the blood effectively. This happens probably due to defects in the molecular machinery that mediates the action of insulin on its target cells. That is why this diabetes is

target cells. That is why this diabetes is called non – insulin dependent diabetes mellitus.

Causes

Yogic science recognizes two interrelated causes of diabetes. Firstly long term devitalization and sluggishness of the digestive process due to dietary abuse, overeating, obesity and lack of exercise. High intake of a sugar and carbohydrate rich diet is especially implicated.

If a person takes a large amount of sugar, sweets or chocolates etc, then his Pancreas is ready to respond by pouring out a large amount of insulin to rapidly manage the rocketing blood sugar level without incident.

However, if such a sugar-rich diet is eaten everyday, the Pancreas is being called upon constantly to secrete enormous amounts of insulin, and it begins to tired and become depleted. Insulin production in response to sugar stimulation becomes increasingly inadequate. As a result, the blood remains saturated with sugar for a long periods of time. It is then only a matter of

time before diabetes is diagnosed. This usually occurs when the patient attends the doctor for investigation of one of the symptoms of high blood sugar e.g. an excessive thirst or urination, a resistant skin or urinary infection or failing eyesight.

The causative factor is that diabetes is stress related. The stresses and frustrations of modern sedentary man largely manifest on the mental and emotional planes unlike our ancestors who had to wage a physical battle for survival. Nevertheless, the adrenal glands are in a constant state of activation, spilling the “Stress hormone” adrenaline into the blood stream. This is a potent stimulus to the body to mobilize glucose into the blood. In this way a constant heavy burden of worries and anxieties imposes a constant demand for insulin secretion, which can ultimately precipitate diabetes especially in conjunction with a sugar.

Symptoms

The patient usually complains of passing a larger than normal volume of urine, with increasing frequency everyday. The osmotic effect of increased levels of blood glucose causes more

thirst and hunger. These classic symptoms, however are not the normal presentation.

Sometimes the patient suffers a frozen shoulder and this can be a manifestation of diabetes. Lethargy, weight loss and easy susceptibility to infections, particularly of the skin, excessive hunger, craving for sweets and sweating are some of the other symptoms. Normally, the fasting level of blood glucose is less than 90 mg/dl and the post prandial (2 hours) level is less than 120 mg/dl. If the post-prandial sugar level is between 150 and 200mg, the condition is labeled as an impaired tolerance and if above 200, it is frank diabetes.

Yogic treatment

(i) Pranayama

Rhythmic breathing, Nadi-Sodhana (alternate breathing with retention of the breath).

(ii) Asanas

Uddiyana (Rising of the diaphragm), Paschimottanasana (Stretching the back and legs), Ardhamatsyendrasana (Simplified

version of the Yogi Matsyendra Posture), Sarvangasana (Shoulder-stand), Savasana (Complete Relaxation Posture).

(iii) Diet

Avoid starchy food, eat more fibers and protein content food. Restrictions should be followed.

Disease (8) Exhaustion

Exhaustion is a feeling of weariness, tiredness or lack of energy. It is also called as tiredness, weariness, lethargy. Exhaustion is different from drowsiness. In general, drowsiness is feeling need to sleep, while exhaustion is a lack of energy and motivation. Drowsiness and apathy can be the symptoms that go along with exhaustion. Exhaustion is a normal and important response to physical exertion, emotional stress, boredom or lack of sleep. However, it can be a non – specific sign of more serious psychological or physical disorder. When Exhaustion is not relieved by sleep, good nutrition, it should be consulted by a doctor. Exhaustion is a symptom and not a disease.

Yogic treatment

(i) Pranayama

Rhythmic breathing, Nadi-Sodhana (alternate breathing).

(ii) Asana

Halasana (The Plough Posture), Vakrasana (Spinal Twist), Paschimottanasana (Stretching the back and legs), Sarvangasana (Shoulder-stand), Matsyasana (The fish Posture), Sirshasana (Head-stand), Savasana (Complete Relaxation Posture).

Disease (9) Piles

Most ano – rectal problems arise from faulty eating habited. Individual not taking enough fibrous food are prone to constipation and therefore, more prone to various ano – rectal problems. No responding to the natural process of defecation, irregular bowel movements, lack of fluid intake also lead to this problem; besides causing local infections around the anus. Swelling around the anus or formation of a mass in the rectum resulting in piles in common.

If the piles are swollen or protruding, hot and cold contrast pad on the rectum/anus should be applied. Keep the anus clean by carefully wiping with clamp tissue. Bad rest helps to reduce both

swelling and pain. Avoid straining when passing stools. Eating plenty of fresh fruits, vegetables, whole grain cereals. Sprouts (which provide roughage) help to get rid of piles. Drink adequate liquids. Avoid tea, coffee, alcohol and spices.

Causes/Symptoms

Piles is very common ailment. The term ‘hemorrhoids’ is also used to denote piles. It is not confined to older individuals only, but is prevalent amongst all age groups. Even in young children. The symptoms are appearance of blood in the stools, a lump near the anus and an accompanying pain. Men suffer from this ailment more than women.

However, every case of bleeding in the stools not necessarily be a case of piles. Piles are labeled internal or external depending upon whether they erupt in the mucous membrane part of the anal canal which is insensitive to pain or the skin – covered part of the anal canal, respectively.

Yoga therapy firmly believes that the root causes of piles is constipation which arises from various reasons, besides bad dietary habits.

Yogic treatment

(i) Pranayama

Rhythmic breathing, that revitalizes the nervous system.

(ii) Asanas

Uddiyana (Rising of the diaphragm), Viparitamkarni (The Inverted Posture), Savasana (Shoulder-stand), Matsyasana (The fish Posture), Sirshasana (Head-stand), Savasana (Complete Relaxation Posture).

(iii) Diet

Only light easily digestible food with plenty of fibrous materials should be taken.

Diseases (10) Headaches

Headache is a common symptom of various disorders and is not a disease by itself. Headache often goes unchecked and

without treatment as it is regarded by the patient as an inherent part of the body pattern. The patient takes it for granted that though there may be relief there can never be a cure for headache which is a fallacy. A headache could result from an organic disease or from a referred pain of focal infection. It could also occur when there is no organic disease. Causes could be high if there is no organic disease. Causes could be – high or low blood pressure, trauma, over-eating or fasting lack of sleep, poor ventilation, tension, worry etc.

Yogic treatment

(i) Pranayama

Rhythmic breathing, Nadi-Sodhana (alternate breathing).

(ii) Asanas

Viparitamkarni (The inverted Posture), Savasana (Complete Relaxation Posture).

(iii) Diet

Easily digestible food.

Disease (11) Migraine

Migraine is a common form of headache and is a symptom of deep lying disturbance. The patient experiences an intense throbbing pain, often only on one side of the head, which increases with movement of the head. It may be associated with movement of the head. It may be associated with nausea and vomiting, disturbances in vision, hearing speech and sensation. It is more common in woman. Emotional stress, lack of sleep, exposure to intense cold or hot, food items like cheese, chocolate and coffee, intake of oral contraceptive pills etc. may predispose to an attack.

It is now known that it happens due to a disturbance in the blood flow of the arteries in the head, though why this occurs is still a question for medical practitioners. According to Naturopathy, digestive disturbance play a major role. Improper digestion and accumulation of wastes result in toxins entering the blood stream. These may reach the arteries of the brain, thus causing alternative in the blood flow.

Yogic treatment

(i) Pranayama

Rhythmic breathing, Nadi-Sodhana (alternate breathing).

(ii) Asanas

Viparitamkarni (The inverted Posture), Savasana (Complete Relaxation Posture).

(iii) Diet

Easily digestible food.

Disease (12) Stress

Dr. Hans Seyle described stress as a “state manifested by a specific syndrome which consists of all non – specifically induced changes within a biological system”.

Reactions to stress are manifold. Overwork, or no work can develop stress, too much or too little money, apprehensions about the future, too much competition etc. are some of the causes that can lead to stress.

Symptoms

A large number of physical changes occur at the time of stress induced arousal. The brain becomes highly active, pupils of eye dilate, digestion is slowed down, muscles are tensed, the heart

begins to pump blood faster, blood pressure gets increased, breathing also increases, adrenaline hormone is released in the system along with glucose from liver, thereby increasing sweating. All changes occur in a split of second under the influence of nervous system.

Stress in its early stages cause poor sleep, bad temper, continual grumbling, long hours of work with less achievement, domestic conflict with family members, repeated sickness, feeling of frustration and increase in alcoholic intake.

Yogic treatment

(i) Aasanas

Shashankasana, Trikonasana, Dhanurasana,
Matsyendrasana.

(ii) Pranayama

Anuloma – viloma, Shitali pranayama, Bhramri pranayama,
Shitkari.

(iii) Meditation

Silent meditation for 30 – 40 minutes daily.

Disease (13) Coronary Heart Diseases

Introduction

Coronary heart disease is the commonest cause of the cardiovascular disability and death. This pathological state includes “Atherosclerotic coronary artery disease” and “Ischemic heart disease”.

The heart functions as the pumping station for the supply of blood to the whole body, whereas “Coronary arteries” which come out of the aorta supply of the blood and feed the heart muscles themselves. The main coronary arteries lie on the surface of the heart and small arteries penetrate into the cardiac muscle mass. The ‘Left coronary artery’ supplies mainly the anterior part of the left ventricle, where as the “right coronary artery” supplies most of the left ventricle. The resting coronary blood flows in the human being averages approximately 225ml per minute, which is about 4 to 5 percentage of the total cardiac output. During extra work period the heart increases its cardiac output as much as four to five folds, and it pumps the blood against a higher than normal arterial

pressure. The coronary blood flow also increases four to five folds to supply the extra nutrients needed by the heart.

Coronary Heart Disease is a condition in which the heart muscle receives an inadequate amount of blood because of an interruption of its blood supply. Depending on the degree of interruption, symptoms can range from a mild chest pain to a full – scale heart attack. Generally, the symptoms manifest themselves when there is about a 75 percent narrowing of coronary artery lumen. The underlying causes of this disease are many and varied. Two of the principal ones are “arthrosclerosis” and “Coronary artery spasm”.

Causes

(a) Atherosclerosis

Arthrosclerosis (sometimes called hardening of the arteries) is a situation characterized by a thickening of the arterial wall with:-

- i. Large number of smooth-muscle cells

- ii. Deposits of cholesterol and other substances in the portion of the vessel wall closest to the lumen.

The mechanism that initiates this thickening is not clear, but it is known that cigarette smoking, high Plasma cholesterol concentration, hypertension diabetes and several other factor increases the incidence and the severity of the atherosclerotic process. The extra muscle cells and various deposit in the wall bulge into the lumen of the vessel and increase resistance to flow. This is usually progressive often leading ultimately to complete occlusion. A cute coronary occlusion may occur because of

- i. Sudden formation of blood clot on the roughened vessel surface.
- ii. The breaking off of a fragment of blood clot or fat that then lodges down stream, completely blocking smaller vessel or
- iii. A profound spasm of the vessels smooth muscle.

(b) Coronary Artery Spasm (CAS)

CAS is a condition in which the smooth muscle of a coronary artery undergoes a sudden contraction, resulting in vaso – constriction. It typically occurs in individuals with atherosclerosis and may result in chest pain during rest, chest pain during exertion, heart attacks and sudden death. Although the causes of coronary artery spasm are not well known, smoking stress and alcoholism are said to be the triggering agents.

(c) Symptoms

The most common symptom is angina, where the patient suffers recurrent chest pain on effort, which normally does not produce pain, such as walking on level ground or climbing a flight of stairs. This is due to poor circulation of blood and oxygen to the heart muscle.

Unstable angina is the condition where the patient suffers chest pain, which is different to stabilize with drugs. In unstable angina the pain occurs at rest, which means that the blood flow to the heart is grossly reduced. Emergency bypass surgery may be required.

Yet another manifestation of underlying is chemia is lassitude, occasional chest pain often overlooked as being due to wind, giddiness or the presence of hypertension.

Yogic treatment

(i) Pranayama

Rhythmic breathing, Nadi-Sodhana (alternate without retention of the breath).

(ii) Asanas

Uddiyana (Raising of the diaphragm), Bhujangasana (The Cobra Position), Salabhasana (The Locust Posture), Dhanurasana (The Bow Posture), Trikonasana (Triangle Posture), Pachimottanasana (Stretching the back and legs), Sarvangasana (Shoulder-stand), Savasana (Complete Relaxation Posture).

(iii) Diet

Include food with flares and roughage in daily diet. Plenty of raw vegetable, fruits, whole-wheat chapaties etc. should be taken.

Disease (14) Jaundice

Jaundice is actually not a disease, but a symptom and sign of underlying disease – viral hepatitis (infectious or serum), gall stones, cirrhosis of the liver, alcoholic hepatitis, cancer of the bile duct, tumors of the pancreas and even drug reactions.

Infective hepatitis or viral hepatitis is the commonest cause of jaundice. Contaminated water/food is a source of infection, spreading the virus that is responsible for the problem. The patient has fever, nausea, vomiting, loss of appetite, discomfort in the upper abdomen, yellowish discoloration of the eyes, tongue and skin. The liver is enlarged. Inadequate treatment leads to chronic liver disease.

Yogic treatment

(i) Pranayama

Rhythmic breathing, Nadi- Sodhana (Alternate breathing).

(ii) Asanas

Uddiyana (Raising of the diaphragm), Baddhakonasana (Yoga – mudra, feet jointed), Mayurasana (The Peacock Posture),

Pachimottanasana (Stretching the back and legs), Viparitakarani (The Inverted Posture), Savasana (Complete Relaxation Posture).

(iii) Diet

Take liquid diet for a period and gradually change over to your usual diet, eliminate fatty food and alcohol from daily diet.

Disease (15) Hypertension

Introduction

Hypertension or high blood pressure is the most common disease affecting the heart and blood vessels. There is an agreement at large that a blood pressure of 120/80 is normal in a healthy adult. High blood pressure is defined as diastolic pressure between 85 and 90. Mild high blood pressure is diastolic pressure between 91 and 104 and moderate high blood pressure is diastolic pressure between 105 and 115. Severe high blood pressure is diastolic pressure of 116 or higher. Isolated systolic hypertension pressure greater than 160 in those whose diastolic pressure is less than 90.

Causes

Hypertension could be caused by an increase in cardiac output or in total peripheral resistance or both. In reality however, the major abnormality in most cases of well established hypertension is increased total peripheral resistance caused by abnormally reduced arteriolar lumen. For more than 95 percent of the persons with hypertension, the cause of hypertension is known and in that condition it is called essential hypertension or primary hypertension. The remaining percentage is secondary hypertension, which has an identifiable underlying cause such as kidney diseases, adrenal hyper secretion etc.

Psychological

Psychological, physiological and environmental factors are only three of the many factors that lead to high blood pressure. A common misconception is that ageing causes hypertension. It doesn't always, though the universal average for the onset of hypertension is the late thirties. Overweight people and those who are tense and excitable are especially susceptible to hypertension, emotional conflicts are also a cause.

The cells of the kidneys secrete the hormone rennin which is influenced by sympathetic stress, the stress faced by the body and the mind.

Symptoms

The normal blood pressure under resting conditions should be 120/80mm of mercury. Both the systolic and diastolic pressure can be affected. Both have to be made normal with treatment. The level at which the systolic pressure should be treated is 140mm and the diastolic 90mm. Pressure of 135 to 138mm systolic and 85 to 88mm diastolic are labeled as high normal.

Systolic pressure is the measurement made when the heart is contracting and the rest of the body gets its blood supply. The heart muscle itself is fed with blood only when the heart relaxes. For when it is contracting the muscle pushes out blood from the ventricles and in the process presses on the coronary arteries, reducing its own blood supply. If the diastolic pressure remains above 80mm coronary artery filling will be jeopardized so that a hypertensive patient can suffer a myocardial infarct.

High blood pressure is a serious condition and requires prompt attention because it is an underlying factor that brings about other cardiovascular and renal disorders like stroke, heart disease kidney trouble and hardening of the arteries. The pressure can remain stable or fluctuate. The latter is a dangerous situation and is known as labile blood pressure. Any sudden rise in pressure can produce a stroke. High blood pressure works insidiously. It affects the heart and blood vessels and then indirectly other organs. When blood vessels get constricted the heart must work harder and a time comes when its own coronary arteries can no longer nourish the heart then heart disease develops. Similarly, hypertension affects the brain and kidneys, resulting in stroke and uraemia, both fatal conditions.

Yogic treatment

(i) Asanas

Garudasana, Ardhmatsyendrasana, Bhujangasana,
Usthrasana, Savasana.

(ii) Pranayama

Sectional breathing, Nadi Shudhi Pranayama, Bhramari, Kapalbhathi, Sheetali, Sheetkari.

(iii) Meditation

30 – 45 minutes per day.

Disease (16) Depression

Introduction

Depression is a condition of general emotional dejections and withdrawal greater sadness more prolonged than that warranted by any objective reason. Depression is a quiet disorder that lurks deep in individuals. It is a disorder that can originate from any negative event in a person's situation.

Depression affects the way we feel about ourselves and affects the body thoughts and our mood. Major depression will interface with the normal abilities of life, as in work sleeping and ordinary activities. This is a crippling struggle which can happen perhaps one time or may flare up more often in one's lifespan.

Causes

(i) Emotional

On going feelings of hopelessness with sadness and anxiety in association with despondency when nothing seems to matter. Feeling of unreasonable guilt and without redeeming value and there seems to be no answers. A dull, tired, empty, sad and numb feeling with the little or no pleasure from ordinary enjoyable activities and people.

(ii) Behavioural

Irritability, excessive complaining about small annoyances or minor problems, impaired memory, inability to concentrate difficulty in making decisions, loss of sexual desires, inability to get going in the morning, slowed down reaction time, crying or screaming, excessive guilt feelings.

(iii) Physical

Physical causes of depression are loss of appetite, weight loss, constipation, insomnia or restless sleep, impotence headache, dizziness, indigestion and abnormal heart rate, specific combinations of symptoms vary from one person to the next. All

suffers tend to have the following in common reduced energy level, withdrawal from interactions with others, gloomy and dark affect, self – criticism and a sense of helplessness.

Like anxiety, depression is a common and expected reaction to events that temporarily seem over whelming or negative in other ways, short runabouts are little to be concerned about sometimes depression has chemical origins other times it is a temporary results of a traumatic loss, such as the death of spouse. Other times depression results from accumulated fatigue and in still other instances, it can accompany a profound sense of disharmony with work and marriage.

Symptoms

Symptoms of depression can range from quietness around others, lack of appetite or the act of not eating in front of others, violent tendencies, loneliness even with others around and cruel acts to one's own being or others around.

Some varieties of depression have tendency to run in families. This is often true in bipolar illness. Stress can be involved

in the origin. Low self – esteem as well as those who are continually pessimistic or devastated by stress is inclined to depression. In addition, physical changes in the body can spark mental problems as in strokes, heart attack and cancer as well as many other illnesses. Any change in life routines, such as death and relationships as well as financial loss can trigger an episode of depression.

Yogic treatment

(i) Asanas

Surya namaskar, Ardha kati chakrasana, Dhanurasana, Trikonasana, Ushtrasana, Padma hasthasana, Savasana.

(ii) Kriyas

Kapalbhati.

(iii) Pranayama

Yogic breathing, Bhastrika, Ujjayi.

Disease (17) Low Blood pressure

If the systolic blood pressure comes down below 120, it indicates low blood pressure. If it comes down below 100 it is a dangerous condition and should be treated immediately.

Causes

Low blood pressure is caused by bad functioning of liver, bad digestion, deficiency of iron in blood or by too much sexual indulgence.

Symptoms

Some of the symptoms of low blood pressure are headache, dizziness, feeling tired, low pulse rate, frightfulness, mental tension etc.

Yogic treatment

(i) Pranayama

Rhythmic breathing, Bhastrika (Bellows).

(ii) Asanas

Siddhasana (Posture of the Adept), Halasana (The Plough Posture), Pachimottanasana (Stretching the back and legs),

Sarvangasans (Shoulder-stand), Sirshasana (Head-stand), Savasana (Complete Relaxation Posture).

Disease (18) Obesity or overweight

Introduction

Obesity is one of the most common disorders in medical practice and among the most frustrating and difficult to manage. Little progress has been made in its treatment in the last 25 years. Yet major changes have been understood about its causes and its implications for health.

Obesity is defined as an excess of adipose tissue. The exact criterion for how much is too much is controversial. When greater quantities of energy (in the form of food) enter the body than are expended, the body weight increases. Excess energy input occurs only during the development phase of obesity, and once a person has become obese all that is required of him to remain obese is that his energy input equals his energy output must be greater than the input. Indeed, studies of obese persons, once they have become

obese, show that their intake of food is almost exactly the same as that of person with normal weight.

Rate of feeding is normally regulated in population to the nutrient stores in the body. When the stores begin to approach an optimal level in a normal person, feeding is automatically reduced to prevent over storage. However in many obese persons this is not true, for feeding does not slacken until body weight is far above normal therefore, in effect, obesity is often caused by an abnormality of the feeding regulatory mechanism. This can result from either psychogenic factors that affects the regulation or actual abnormalities of the hypothalamus itself.

Causes

Psychogenic obesity

Studies of obese patients show that a large proportion of obesity results from psychogenic factors. Perhaps the most common psychogenic factor contributing to obesity is the prevalent idea that healthy eating habits requires three meals a day and that each meal must be filling. Most children are forced into this habit

by over solicitous parents, and the children continue to practice it throughout life.

Genetic factors in obesity

The genes can direct the degree of feeding in several different ways, including

(i) a genetic abnormality of the feeding in centre that sets the level of nutrient storage appetite or cause the person to eat as a ‘release’ mechanism.

Genetics – Leptin

It is widely accepted that leptin – a naturally occurring hormone that controls the appetite – may be one of the causes of obesity. When full, fat cells, release the hormone leptin, it curbs appetite. If leptin production is hindered, the fat cells are unable to signal that they are full and weight gain occurs. Research into leptin is only just beginning Although the leptin – obesity link appears to have been disproved by some initial studies.

Genes – Hormones

A small minority of cases of obesity can be explained by glandular or hormonal problems. One such problem is clinical hypothyroidism where there is not enough thyroid hormone to control normal rates of metabolism. In Cushing's syndrome also where the production of the corticosteroid hormones is abnormal.

Sex hormones can also affect obesity. In women, the balance of female sex hormones determines body fat levels during adolescence, pregnancy and the menopause changes in energy intake, desire for food and specific cravings occur at various stages of the menstrual cycle. Some women appear to be more susceptible than others to normal changes and many overweight women cite pregnancy as the time when their problem started.

Illness and low drugs

Some illness can lead to obesity or a tendency to gain weight. These include hypothyroidism, Cushing's syndrome, depression and certain neurological problems that can lead to overeating. Also drugs such as steroids and some depressants may cause weight gain.

Yogic treatment

(i) Pranayama

Bhastrika (Bellows), Ujjayi (energy- renewing Pranayama),
Kapala bhati (breathing that revitalizes the body).

(ii) Asanas

Uddiyana (Raising of the diaphragm), Pachimottanasana
(Stretching the back and legs), Trikonasana (Triangle Posture),
Vakrasana (Spinal Twist), Sarvangasana (Shoulder-stand),
Sirshasana (Head-stand), Dhanurasana (The Bow Posture).

(iii) Diet

Restriction on diet are unavoidable if reduction in weight is
desired. Reduce drastically the intake of foods containing high
proportion of carbohydrate foods and raw vegetables should form a
major part of daily diet.

Disease (19) Sinusitis

Sinusitis is an inflammation of the Para Nasal Sinuses
(P.N.S.). The PNS are small air cavities in the boxes around the

nose, which communicate with the nose, infection of the nose, mouth, teeth, throat, tonsils can infect water, low general health, exposure to cold fatigue and tooth extraction. Inhalation of irritants like pungent vapours – dust may also play a role.

There is irritation of the mucous membrane increasing its secretion and causing swelling. This tends to block the aperture (opening) of the sinuses, thus reducing drainage. Thus, there is pain over the areas of the sinuses, cheeks, forehead temples. There may be fever, yellowish green discharge from the nose. If not treated properly, it may become a chronic condition.

This complication of sinusitis are infection of the eyes, of the middle ear, meningitis brain or lung abscess, bronchitis, pharyngitis, laryngitis etc.

Yogic treatment

(i) Pranayama

Nadi-Sodhana (alternate breathing), Surya Bhedana, Bhastrika.

(ii) Asanas

Viparitakarani (The Inverted Posture), Savasana (Complete Relaxation Posture), Pawan muktasana.

(iii) Shat karma

Jalneti.

(iv) Diet

A light, non – mucous forming vegetarian diet should be followed.

Disease (20) Tuberculosis

Tuberculosis (TB) is a disease caused by bacteria called Mycobacterium tuberculosis. The bacteria usually attack the lungs. But, TB bacteria can attack any part of the body such as the kidney, spine and brain. If not treated properly, TB disease can be fatal.

TB is spread through the air from one person to another. The bacteria are put into the air when a person with active TB disease of the lungs or throat coughs or sneezes. People nearby may breathe in these bacteria and become infected. However, not everyone infected with TB bacteria becomes sick.

People who are not sick have what is called latent TB infection. People who have latent TB infection do not feel sick, do not have any symptoms, and cannot spread TB to others. But, some people with latent TB infection go on to get TB disease.

People with active TB disease can be treated and cured if they seek medical help. Even better people with latent TB infection can take medicine so that they will not develop active TB disease.

Spread

TB is spread through the air from one person to another. The bacteria are put into the air when a person with active TB disease of the lungs or throat coughs or sneezes. People nearby may breathe in these bacteria and become infected.

When a person breathes in TB bacteria, the bacteria can settle in the lungs and begin to grow. From there, they can move through the blood to other parts of the body, such as the kidney, spine and brain.

TB in the lungs or throat can be infectious. This means that the bacteria can spread to other people. TB in other parts of the body, such as the kidney or spine, is usually not infectious.

People with active TB disease are most likely to spread it to people they spend time with every day. This includes family members, friends and coworkers.

Infection

In most people who breathe in TB bacteria and become infected, the body is able to fight the bacteria to stop them from growing. The bacteria become inactive, but they remain alive in the body and can become active later. This is called latent TB infection. People with latent TB infection:-

- Have no symptoms
- don't feel sick
- can't spread TB to others
- usually have a positive skin test reaction
- can develop active TB disease if they do not receive treatment for latent TB infection.

Many people who have latent TB infection never develop active TB disease. In these people, the TB bacteria remain inactive for a lifetime without causing disease. But in other people, especially people who have weak immune systems, the bacteria become active and cause TB disease.

Active TB disease

TB bacteria become active if the immune system can't stop them from growing. The active bacteria begin to multiply in the body and cause active TB disease. The bacteria attack the body and destroy tissue. If this occurs in the lungs, the bacteria can actually create a hole in the lung. Some people develop active TB disease soon after becoming infected, before their immune system can fight the TB bacteria. Other people may get sick later, when their immune system becomes weak for another reason.

Babies and young children often have weak immune systems. People infected with HIV, the virus that causes AIDS, have very weak immune systems. Other people can have weak

immune systems, too, especially people with any of these conditions:-

- substance abuse
- diabetes mellitus
- silicosis
- cancer of the head or neck
- leukemia or Hodgkin's disease
- severe kidney disease
- certain medical treatments (such as corticosteroid treatment or organ transplants)
- specialized treatment for rheumatoid arthritis or Crohn's disease.

Symptoms of TB depend on where in the body the TB bacteria are growing. TB bacteria usually grow in the lungs. TB in the lungs may cause symptoms such as

- a bad cough that lasts 3 weeks or longer
- pain in the chest

- coughing up blood or sputum (phlegm from deep inside the lungs)

Other symptoms of active disease are

- weakness or fatigue
- weight loss
- no appetite
- chills
- fever
- sweating at night

Yogic treatment

(i) Pranayama

Rhythmic breathing, Nadi-Sodhana (alternate breathing).

(ii) Asanas

Viparitarani (The Inverted Posture), Sarvangasana (Shoulder-stand), Sirshasana (Head-stand), Savasana (Complete Relaxation Posture).

(iii) Diet

Take rich protein diet.

(iv) Meditation

Silent meditation for 15-30 minutes.

Disease (21) Anxiety

Introduction

Anxiety is a distress or uneasiness of mind caused by apprehension of danger or misfortune. It is a state of anticipation of something unpleasant about to happen accompanied by a feeling of inner tension and somatic manifestations such as tense muscles, sweating etc

Anxiety is the body's response to fear. It plays a valuable role in self preservation. The fear of consequences often prevents us from taking unnecessary risks. Anxiety as a disorder results from the fear response becoming out of proportion to the actual risk. Anxiety disorders involve excessive levels of negative emotions, such as fear worry, nervousness and tension and the anxious feelings occur involuntarily despite the best attempts to avoid them.

Anxiety is often seen as a triggering of the fight – or – fight reaction, causing excess adrenaline to be produced by the adrenal glands which in turn produce other hormones (catecholamine) that affect various parts of the body such as heart beat and respiration. Anxiety in moderate amount is a normal part of living. In sports optimal performance is achieved when pre-contest anxiety is in the middle range, neither too high nor too low. The same is true of occupational or academic performance.

Types of Anxiety disorder

Anxiety disorders are diagnosed when subjectively experienced feelings of anxiety are clearly present. Anxiety disorder includes mainly the following disorders:-

1. Generalized Anxiety disorder
2. Obsessive compulsive disorder
3. Post – traumatic Stress disorder
4. Agoraphobia

Causes

An anxiety disorder can be brought on by a major life trauma such as being a witness to or a victim of a crime, physical or sexual abuse, a major illness or life threatening experience. Sometimes financial difficulties, grief from a death in one's family or a divorce can trigger anxiety symptoms. These types of "life stressors" are inevitable in life. But for many people they are the root cause of their anxiety disorders.

In addition to external stressors there are internal forces at work that sabotage our sense of peace and well being. The number one culprit here is negative self image. When a person is highly self critical and does not allow him/her to be simply "a human being than a being human" it can spell trouble in terms of emotional health.

Symptoms

Unrealistic or excessive anxiety and worries are (apprehensive expectations) about too or more life circumstances.

Motor Tension

Trembling, twitching or feeling shaky, muscle tension,
aches or soreness.

Restlessness

Easily fatigued

Autonomic Hyperactivity

Shortness of breath or smothering

Sensations

Palpitations or tachycardia

Sweating or cold, clammy hands

Dry Mouth

Dizziness or light headedness

Nausea or other abdominal distress

Flushes or chills

Frequent urination

Trouble swallowing or lump in throat

Vigilance and Scanning

Feeling “keyed up” or on edge

Exaggerated startle response

Difficult concentrating or mind going blank due to anxiety

Trouble falling asleep or staying asleep

Irritability

Yogic treatment

(i) Pranayama

Kapalabhati (breathing that revives the body), Nadi-Sodhana (alternate breathing), Kumbhaka (retention of the breath).

(ii) Asanas

Suptavajrasana (The Supine Pelvic Posture), Ardha-Matsyendrasana (Simplified version of the Yogi Matsyendra Posture), Trikonasana (Triangle Posture), Dhanurasana (The Bow Posture), Sarvangasana (Shoulder-stand), Savasana (Complete Relaxation Posture).

(iii) Meditation

Japa, Ajapa silent meditation for 15-30 minutes.

Disease (22) Nervousness

Nervousness is described as a mental state similar to anxiety, but with more obvious external symptom e.g. nail biting, fidgeting etc. Nervousness and anxiety are same and causes of anxiety need to be examined for nervousness symptoms. Nervousness has very little to do with the physical nervous system.

Yogic treatment

(i) Pranayama

Rhythmic breathing, Nadi-sodhana (alternate breathing).

(ii) Asanas

Yoga-Mudra (The Symbol of Yoga), Vakrasana (Spinal Twist), Salabhasana (The Lucust Posture), Halasana (The Plough Posture), Mayurasana (The Peacock Posture), Viparitamarni (The Inverted Posture), Savasana (Complete Relaxation Posture).

(iii) Meditation

Silent meditation for 15-30 minutes.

Disease (23) Frustration

The condition that result when an impulse or an action is imparted by an external or internal force.

Yogic treatment

(i) Pranayama

Rhythmic breathing, Nadi-Sodhana (alternate breathing), breathing that purifies.

(ii) Asanas

Baddha Konasana (Yoga-Mudra, feet jointed), Halasana (The Plough Posture), Vakrasana (Spinal Twist), Sarvangasana, Savasana (Complete Relaxation Posture).

Note

Above is a short list of various Pranayama, Meditation and Asana exercises corresponding to different disorders and illnesses, both functional and organic. It is absolutely essential to ensure the guidance of a properly trained and experienced expert, able to adapt these exercises, based on long experience of Yoga, to the needs of the individual.

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