NATUROPATHY ON A PLATE

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About the Author

The author Dr. Trupti S. Shah (Naturopath consultant and Yoga Instructor), from Mumbai, Maharashtra, India. The author had been providing healing through naturopathy and yoga. Urge to help and heal people led to Alternate Medicine. The author have been practicing yoga and Naturopathy for years. The author was always eager to know about natural remedies to heal the disease rather than to emphasis on drugs. Medicines were not the cup of tea. After some difficulties,The author found positive result with Yoga and naturopathy. The author had acquired a doctorate in healing science with Yog and Naturopathy and is a QCI (Quality Council of India) by AYUSH Ministry of India, Certified yoga instructor. Continuous practicing as Yoga Instructor and Naturopath Consultant. Started to heal peoples with Yoga and Naturopathy. Journey of the knowledge still continuous with gathering more information by reading the books related healing. Trying to helpful to people and society, is a contribution during the journey of life. As healing is a journey. Attended 'Swasth Zindagi' free medical camp, (the Guinness World Record holder) World's Largest One Day Free General Medical camp. Contributing to International Yoga Divas by Ministry of AYUSH, Govt. of India and many more efforts to give back to the community. The independent testimony of numerous healed patients being milestones in the journey. The purpose Being of Helping and not receiving. The author pledged donate all the earning for education of children, 5 years and more than 100 students later, my driving force doesn't seem to diminish. As The author of the view, "**education can strengthen the world.**"

Chapter 1 - Naturopathy

Nature Cure is a constructive method of treatment, which aims at removing the basic cause of disease, through rational use of elements freely available in nature. It is a treatment of illness by using diet, herbs, exercise without using standard drugs or surgery. Emphasizes the use of natural agents as air, water, herbs and physical means as tissues manipulation. It is a form of alternative medicine, employing a wide array of “natural” modalities, including diet and lifestyle counseling. The ideology and method of naturopathy are based on self-healing rather than medicine.

The term “naturopathy” was derived from ‘nature’ in Latin, which means ‘root of birth’ and ‘pathos’ means ‘root of suffering’ to suggest natural healing. Modern naturopathy grew out of the natural cure movement of Europe. In Scotland, Thomas Allinson, started advocating his ‘hygienic medicine’ in 1880, promoting a natural diet and exercise with avoidance of tobacco and overwork. Naturopathy is based on a belief in the body’s ability to heal itself through a special vital energy. It was practiced in ancient Egypt, Greece, Rome, India. It appearance was much further advanced in olden days in natural healing system than other countries of the world. There are references in India’s ancient sacred books about the extensive use of nature’s excellent healing agent as air, earth, water and sunlight. The great bath of the Indus Valley civilization as discovered at “Mohenjodaro” in old Sind testifies the use of water for curative purpose in ancient India.

The modern method of nature cure originated in Germany in 1822, when Vincent Prriessnitz, the first hydropathic establishment there with his great success in water cure. The idea of drug less healing spread throughout the civilized world and many medical practitioners from America and other countries became his enthusiastic students and disciples.

Nature cure is based on the realization that man is born healthy and strong, he cans stay as such by living in accordance with the law of nature. Even if born with some inherited affliction, the individual can eliminate it by putting to the best use the natural agent of healing. Fresh air sunshine, a proper diet, exercise, scientific relaxation, constructive thinking and right

mental attitude along with prayer and meditation. All plays their part in keeping a ‘sound mind in sound body’.

Naturopathy is an art science of healthy living and drug less system of healing based on well founded philosophy. It has its own concept of health and disease. It is an old science, we can find a number of reference in our Vedas and other ancient texts. The morbid matter theory, concept of vital force and other concept upon which naturopathy is based are already available in old texts, which indicated that these modalities were widely practiced in ancient India.

The revival of naturopathy started in India by translation of Germany’s “Louis Kuhne’s” book ‘new science of healing’. Shri D. Venkat Chelati Sharma translated this book in telugu language in about 1894. He wrote several articles in favor of naturopathy in his newspaper “harijan” and also did its several experiments on himself, his family members and on the members of his ashram. Gandhiji used to stay at the nature cure clinic of Dr. Dinshaw Mehta, situated in Pune during 1934 to 1944. In his memory the Govt. Of India established ‘National Institute of Naturopathy’ in 1986 at the place Gandhiji included naturopathy in his constructive program. Due to influence of Gandhiji several national leaders joined this health movement including Morarji Desai, Ex. Governor Shri. Shriman Narayaniji, V. V. Giri, Acharya Vinoba Bhave.

Definition :

Naturopathy medicines are a distinct system of primary health care, an art, a science, philosophy and practice of diagnosis, treatment and prevention of illness. These principles are based upon the objective observation of the nature of health and disease. Methods used are consistent with these principles and are chose upon the basis of patient individuality. According to British Naturopathic Association, “naturopathy is a system of treatment, which recognized the existence of the vital curative human system to remove the cause of disease i.e. toxins by expelling the unwanted and unused matters from human body for curing disease.

The whole philosophy and practice of nature cure is built on basic principles. These are based on conclusion reached from over a century of

effective Naturopathic treatment of disease in Germany, America and Great Britain.

The healing power of nature :

The inherent self organizing and healing process of living system, which establishes, maintain and restore health. Naturopathy medicine recognizes these healing process to be ordered and intelligent. Disease are due to the same cause, namely, accumulation of waste material and bodily refuse in the system. These waste materials in the healthy individuals are remove from the system through the organs of elimination. But in the diseased person, they are steadily piling up in the body through years of faulty habits of living, such as wrong feeding, improper care of bad habits, as worry, over-work and excess of all kind. All natural treatment are directed towards to throw off toxic accumulation.

Identify and treat the cause :

Illness does not occur without cause. Causes may originate in may areas. Symptoms can be expression of the body's attempt to defend itself. Naturopathy treats the disease rather than a person. All acute disease such as fever, cold, digestive disturbance, inflammation, skin eruption are nothing more than self initiated efforts on the part of the body to throw off the accumulated waste material and all chronic disease as heart trouble, diabetes, asthma are the result of continued suppression of acute disease.

Power to cure :

The body contains an elaborate healing crisis, which has the power to bring about a return to normal condition of health provided right method are employed to enable it to do so. The power to cure disease lies within the body itself and not min the hands of the doctor. Toxic drugs, which may suppress or relieve some ailments. Usually have some harmful side effects. Drugs hinder the self healing efforts of the body and makes recovery more difficult. When drugs are used the patient has to recover twice – once from the illness and once from the drugs. Thus the power to restore health does not lie in drugs, but in nature. Nature cure system lays greater emphasis on preventive method, maintain health.

Chapter 2 - Methods of nature cure

Nature cure method removes accumulation of morbid matter and poison, without injuring the viral organs of the body and stimulate the organs of elimination and purification to better functioning. It follows simple rule, ‘ do not eat, when a body is sick’. Loss of appetite is nature’s indication that no burden should be place on the digestive organs. Food as raw vegetables, cereal, sprouts, fruits will give a better result, during disease. Exercise, Yog promotes inner health.

*Massage :

Massage is an action of rubbing or pressing someone’s body in a way that helps muscles to relax or reduces pain in muscles and joints. It affects the blood circulation, the flow of blood and lymph reduces muscular tension, affects the nervous system through stimulation or sedation and enhances tissue healing. It can reduce anxiety, improve pulmonary function in young asthma patient, reduces psycho-emotional distress in person suffering from chronic inflammatory bowel disease, increases weight and improve development in premature infant. It may enhance immune system functioning. It may helpful in anxiety, allergies, stress, arthritis, asthma, bronchitis, carpel tunnel syndrome, other repetitive motion injuries, chronic and temporary pain, circulatory problem depression, digestive disorder, tension headache insomnia, myofacial pain, sport injuries.

Reference to massage are found in Chinese medical texts more than 4000 years old. It is the scientific manipulation of the soft tissues of the body for the purpose of normalizing these tissues and consist of a group of manual techniques, that include applying fixed or movable pressure. It is applied primarily with hand fore-arms or elbows are used. These techniques affect the muscular, skeletal, circulatory, lymphatic, nervous and other system of body. It aimed a increasing health and well-being. The word is derived from the Greek word ‘messier’ means ‘to knead’. As far back as 400 BC, ‘the great Hippocrates’ the father of medicine, employed massage and manipulation in healing his patients. Since then it is used as a mode of treatment for many ailments and it is restored many a sufferer to health and vigor.

There are various fundamental modes of manipulation in massage and these are Effleurage (stroking), Friction (rubbing), Petrissage (kneading), tapotment (percussion), Vibration (shaking or trembling).

Effleurage (stroking) :

This involves sliding with the hands using long even strokes over the surface of the body. Is performed in many ways, namely stroking with palms of two hands, the palm of one hand, the knuckles, the ball of thumb and the finger tips. It increases blood circulation and soothes the nervous system. It also warms and relaxes. It is very helpful in atrophied condition of the skin.

Friction (rubbing) :

The movement, which are circular in nature are performed with the help of the thumb and tips of fingers or the palm of the hands towards the joints or around the joints. It limber up joints, tendons and muscles and facilitates the removal of deposited by breaking them. It helps in reducing swelling after nerve inflammation.

Petrissage (kneading) :

This us the process of kneading, pressing and rolling of the tissues and is performed with one or both the hands, with two thumbs or with thumbs and fingers. One should apply heavy pressure for deep kneading and light pressure for superficial kneading. It is a treatment of the muscles. It increase nutrition, strengthens of muscles, relieves intestinal congestion and helps elimination of poison. It boosts lung activity and cellular respiration, elimination fatigue poison and tone up nerve ending.

Tapotment (percussion) :

This involves hacking, tapping, clapping and beating and is achieved by striking the body rapidly. Short and quick blows are generally given from the wrist. Tapotment helps in atrophied condition of the muscles. It increases blood supply, soothes nerves and strengthen muscles.

Vibration (shaking or trembling) :

This is achieved by rapidly shaking the pressing movement by use of the hands or fingers on the body. Vibrating hand should move constantly. This is beneficial in neuritis and neuralgia, after the inflammatory stage is over. It stimulated circulation, glandular activity and nervous plexuses. It helps in bowel movement.

This can be done by trained persons only. The vibratory massage can administered by electrically operated machines cotton seed oil is most commonly used for massaging. Butter or clarified Ghee is used for feeling out cheeks and the neck and also for breast enlargement. If the patient is adverse to oil, talcum powder may be used. Oil should not be used by persons with excessive body hair. General body massage mat be done for 40 to 45 minutes and local body massage for 10 to 15 minutes. The oil should be washed of completely after massage.

*Hydrotherapy :

Hydrotherapy is a part of the alternative medicine in particular of Naturopathy. Involves the use of water for pain relief and treatment. The term encompasses a broad range of approaches and therapeutic methods that take advantage of the physical properties of water. Such as temperature and pressure for therapeutic purpose to stimulate blood circulation and treat the symptoms of certain disease. Almost all activities in the human body requires water. 75% of our body is made up of water. Water has creative power and thus used as a naturopathic agent. According the Kneipp, “ water confined in the blood, withdraws the diseased water from the system. It restores the purified blood to its proper state of circulation. Water gear up the weakened constitution and renders it fit for exertion.

The debris of the stomach is removed through vomiting with water. Enema washes a clears the debris of colon or large intestine. Blood is purifying by kidneys through urine. Skin is cleansed by bath. Cleanliness of the orifices of the body is maintained, reduces fever or heat through cold compresses. Water used in correct way, internally and externally helps in maintaining health.

The main method of water treatment, which can be employed in the healing of various disease in a do it your self manner are described here,

- Temperature Bath :

very cold	32 to 45
cold	42 to 60
cool	60 to 72
tepid	80 to 90
natural	92 to 95
warm	90 to 100
hot	100 to 105
very hot	105 and above

Water should never be used above3 120. Yet the skin can tolerate a vapor treatment of 140 and dry air as light as 300. Using very hot water then duration must be short. Generally cool of cold baths can be of thirty seconds to three minutes, depending upon the health of the person. Tepid bath can be of five to seven minutes, can prescribed in fever and inflammatory condition. Can mainly taken two or three times a week. Tepid bath eliminates excessive heat of the body and helps the skin to eliminate waste. Natural bath can be taken for one to two hours maximum and 15 to 30 minutes minimum. Can be prescribed in rheumatism, convalescence, spasmodic affection of bowls, high blood pressure, weakness, poor blood circulation. It is kind of warm bath, which helps in removing impurities, normalizing circulation, softening the skin and also refreshing. Hot bath can be of 8 to 10 minutes minimum and 20 minutes maximum. Can be prescribed in kidney disease, cattrah infection, due to intoxication, neuritis, rheumatism, skin eruption caused due to accumulation of waste material in the body. It should not be taken after eating or after heavy exercise. It helps to eliminate the water of the body through eliminating organs of the body. Provides relaxation in case of pain and concentrated tissue and muscles. Not recommended for patient of weak heart, poor circulation, high BP., extreme thinness.

- Enema :

Enema or anal douche is practically given in every nature cure centre, is the best naturopathic treatment to remove the retained hard faeces matter block in large intestine and thus causing auto intoxication. It involves the infection of fluids into the rectum. In nature cure treatment

only lukewarm water is used for cleaning the bowl. The intestinal constipation creates a number of unwanted symptoms and is the main root cause of all disease. It should be remove by way of enema. Headache, neuralgic pain in legs, neuritis, twit aching of eyes, irritability disturbance of the nervous system, excessive sleep and many more disease. Enema is generally given on an empty stomach either in the morning or noon or evening. It should be taken when fruit diet or diet of juice or a milk diet is taken. Enema should not be given during fast. The patient is made to lie on his left side extending his left leg and bending the right leg slightly. The enema nozzle, lubricated with oil or Vaseline, is inserted in rectum. The enema can containing the lukewarm water is then slowly raised and water is allowed to enter into the rectum. Generally one or two liters of water is injected. The patient may either lie down on his back or walk a little while retaining the water. After 5 to 10 minutes, the water can be ejected along with the accumulated morbid matter.

A warm water enema helps to clean the rectum of accumulated faeces matter. This is the safest system of clean the bowel and it improves the peristaltic movement of the bowels and thereby relieves constipation. A cold water enema is helpful in inflammatory condition of colon especially in cases of dysentery, diarrhea, ulcerative colitis, hemorrhoids (piles). Hot water enema is beneficial in relieving irritation due to inflammation the rectum and painful piles. Is also beneficial for women in lucorrhea.

- Steam Bath :

Steam bath is one of the most important time tested water treatment. Which induce perspiration in a most natural way. Perspiration relieves internal congestion equalizes circulation, tone-up the nervous system, boosts digestion and nutrition. The person clad in minimum cloths is made to sit on a stool inside a specially designed cabinet. Before entering into the cabinet, the person should drink one or two glasses of water and protect the head with wet towel. The duration of the steam bath is generally 10 to 20 minutes or until profuse perspiration take place. A cold shower should be taken immediately after bath. Steam bath are beneficial in rheumatism, catarrh, neuritis, auto-intoxication, kidney disease, skin infection, obesity. Very weak patients, pregnant women, cardiac patient and those suffering from high BP should avoid steam bath. If the patient

feels giddy or uneasy during the bath, he/she should immediately taken out and given a glass of water and face washed with cold water. Steam bath should be taken after two hours of meal. A glass of hot water with lemon and honey drink taken before the bath will help in quick perspiration, Local steam is beneficial in painful joints, aching back, stuffy nose, inflammation etc. For this water is boiled on the stove in a nasal to which a rubber tube is attached, to this rubber tune a triangular cap with holes is attached. Thus by holding such tube, local steam can administrated on the affected part.

- Sitz/ hips Bath :

Sitz bath or Hip bath is one of the most useful form of hydrotherapy. This bath is given in a special type of tub, where in body up to umbilical region and half thighs are immersed in water and feet are kept out of the tub. If the special tub is not available, a common tub may be used. Hi bath is given in cold, hot, neutral or alternate temperature. In hemorrhoids, uterine and bladder disease, colitis, painful condition of abdomen, minor complaints of kidney, gynec problem hip bath is found very helpful. Can be taken two or three times a week. It should be taken on an empty stomach. Food can be taken after half an hour of the bath.

- Spinal bath :

This bath provides soothing effect to the spinal column. It is given in a specially designed tub with its back raised to provide proper support to the head. The bath can be taken at cold, hot, neutral temperature. The water level in the tub should be an inch and a half to two inches and patient should lie in it for 3 to 10 minute.

- Full tub/immersion bath:

This bath is given in a tub in which whole body is sunk except the head. Cam be of hot water or slightly warm water. Here the head is kept cool by pouring cold water over it to avoid unconsciousness. It is followed by shower bath. It is beneficial for overweight person, arthritis, aches in the body, dyspeptic, asthma etc.

- Compress :

It means to put warm watered clothes on the effected parts of the body. Here a piece of cloth is dipped in hot water, wrung out and kept on the applied part. A piece o cloth dipped in cold water, wrung out and kept on the applied part. In this way thrice done for about 15 minutes. Hot compresses are beneficial in pain, soreness, swelling, inflammation, arthritis, muscular pain etc. and cold compresses are beneficial in fever, pain, hemorrhoids, sore throat, tonsils and cardiac insufficiency.

Some precautions are necessary, while taking these baths. Full bath should be avoided within three hours after a meal and one hour before it. Hip bath and foot bath may be taken two hours after a meal. Clean and pure water must be used, water once used should not be used again. While bathing temperature and duration should be strictly observed for good result. Women should avoid any of the bath during menstruation and pregnancy. Some of the baths give in hydrotherapy are Sponge bath, Shower bath, Salt bath, Water bath, Sulfur bath, Girdle bath, Sheet or Drip bath, Wet bath, Mud bath, and stomach wash.

*Mud bath :

Our body is made up of five essential elements-earth, water, air, fire, and ether. Mud, clay (or earth), has the ability to heal the body from the inside and correct any imbalance. It contains a lot of vital minerals which fight the bad toxins in the body. Since it has so many health benefits, it can also treat a lot many chronic health problems and cure away ailments as well. Natural is the best way to go! It holds the power to solve so many problems from the root without carrying the side-effects which medications often leave behind. Earth is rich in so many minerals and nutrients which can heal our body holistically and helps to lead a better lifestyle.

Mud therapy is one such wonderful cure which can use to solve so many ailments. Mud has a powerful effect to absorb and dilute bad toxins from the body which might be making you sick. Applying a layer of mud around the stomach also works to improve the digestion in the body, detox naturally and at the same time pace up the body's metabolism. Applying mud packs around the abdomen area can fight the excess heat and cool

down the body from the inside. It also provides quicker relief during heat strokes when you can get bogged by a bad headache.

According to Ayurveda, the mud clears away the toxins and controls the bad effects of Pita in the body. At the same time, it detoxifies the skin of any impurities, leaving you with softer, fresher skin. Mud is cooling in nature, this therapy is often prescribed by naturopaths and alternative healers to deal with nervous problems like stress, sleep disorders, anxiety as well as sciatica and post-traumatic disorders. It absorbs the bad toxins from the surface and clears away blocked or tensed pathways around the brain. It has been believed that walking barefoot in mud or simply applying a cooling layer around the eyes rejuvenates it and promotes good eye health. It relieves stress and can also help get rid of infections and allergies.

Mud is an important element of nature with many important minerals that have positive impact on our health. Mud is capable of absorbing number of toxins from body that benefits the body in prevention of many diseases. A mud pack is advantageous in cold compress as it retains the coolness longer.

Mud packs - It involves frequent application of mud packs to improve complexion, treat skin acne & spots effectively.

Mud Bath - It involves application of natural salts and mineral rich mud over entire body (except head) to treat skin diseases like Psoriasis, Urticaria, leucoderma, Leprosy and other skin allergic conditions.

Mud therapy, conventionally is prescribed to the patients alongside with other eliminative therapies. Mud pack and mud bath are best and popular forms of mud therapy. Various references pertaining to therapeutic uses of mud are available in traditional texts like Vedas and Sushruta Kalpa, etc. saying antiquity of using mud in the treatment of various disease conditions. Gandhiji was found to be a firm believer of Naturopathy. The mud poultice applied to the head, relives headache in most cases. Headache may be due to several causes, but whatever the cause, as a general rule, an application of mud poultice relieves it for the time being. Mud poultices cure ordinary boils. In high fever, an application of mud poultice on the head and abdomen is very useful. Mud therapy is a very simple, cost effective and efficacious treatment modality of Naturopathy.

The mud used for this should be clean and taken from 122 to 153 cm depth from the surface of the ground. It should be free from contamination of stone pieces and chemical manures, etc. Before using, mud should be dried in sun rays, powdered and sieved to separate stones, grass particles and other impurities. If there is any doubt as to its cleanliness, it should be well heated and thus sterilized. Simple and effective treatments of Mud therapy are included in the techniques of healthy living. Mud therapy is used for giving coolness to body. Mud dilutes and absorbs the toxic substances of body and ultimately eliminates them from body. Mud packs and mud baths are two main and popular forms of mud therapy. In different disease conditions like constipation, headache due to tension, high blood pressure and skin diseases, etc. mud is used successfully. In the condition of headache and high blood pressure mud pack is applied on forehead too. Another good mode of mud therapy is the barefoot walking in the dewy grass or walking on wet pavements or slabs. The wet grass or pavements make a good conductor for the transmission of earth magnetism into the body of the patients. The barefoot walking should be followed by drying the feet thoroughly and the patient should then take a brisk walk in dry shoes and stockings. Mud has a unique property to absorb heat and toxins from the body.

Mud pack on abdomen Mud is soaked in a big vessel of clay at night. In the morning by kneading and is prepared like dough. It should not be too wet to flow. The mud is kept on the clean cotton cloth and is spread on it with the help of a wooden stick. The size of the pack is approx. 22.86 × 15.24 × 1.27 cm. However, it is changed according to the shape and size of the patient as well as the region of application. Thereafter, the mud pack is placed over pelvis below umbilical region of the abdomen in such a way that entire mud pack is in contact of skin. It is the covered with a dry cloth or with a woolen cloth in winters. The pack may be removed after 20 minutes and that part is cleaned with a wet cloth followed by a gentle rubbing with palms to warm it up. Mud pack for other parts of body like forehead etc. are also prepared and used in the same way. Mud pack relieves indigestion, decreases intestinal heat and stimulates peristalsis. In congestive headache, it is applied on forehead and relieves the headache immediately. It is recommended when a prolonged cold application is required. It is applied over the eyes in cases of conjunctivitis, hemorrhages

in the eyeball, itching, allergy, errors of refraction like short sight and long sight and especially useful in glaucoma where it helps to reduce eye ball tension.

Mud pack on face Fine paste of soaked mud is applied on the face for 20 minutes after which face is washed gently with cold water. It helps in improving the skin complexion and removes pimples as well. It also opens skin pores which in turn facilitate the elimination process. Mud application on face helps in elimination of dark circles around the eyes too. Mud bath is one of the most popular treatments given in the Naturopathy Hospitals. In mud bath, a fine paste of mud is applied to the entire body of the patient. The duration of mud bath is 45 to 60 minutes. It improves the skin condition by increasing the circulation and energizing the skin tissues. The mud bath is followed by a cleansing warm spray and rub, and finished with a quick tonic cold spray. Mud bath revitalizes and rejuvenates the skin and can be used in routine as well as during the skin disease conditions.

*Shirodhara :

The name comes from the words *shiro* (head) and *dhara* (flow). The liquids used in shirodhara depend on what is being treated, but can include oil, milk, buttermilk, coconut water, or even plain water.
Shirodhara has been used to treat a variety of conditions including eye diseases, sinusitis, graying of hair, neurological disorders, memory loss, insomnia, hearing impairment,vertigo and certain types of skin diseases like psoriasis. It is also used non-medicinally at spas for its relaxing properties. Studies report that Shirodhara is a safe option to improve sleep quality among people who have sleep problems. Shirodhara is also effective in treating mental conditions such as anxiety, and mental stress. The calming effect produced by Shirodhara is similar to that obtained with meditation. There are specialized forms of shirodhara called ksheeradhara, thakradhara, taildhara and jaladhara. Shirodhara may begin with a full body massage. Shirodhara also involves a head massage. Shirodhara is thought to work by relaxing the hypothalamus in the brain. It can also normalize the functions of hormones that regulate sleep and emotions.

Warm oil (or other liquid) pours in a continuous stream over the forehead or ‘*ajna marma*‘, an area where nerves are highly concentrated.

The pressure of the oil onto the forehead creates a vibration. The oil saturates the forehead and scalp and penetrates into the nervous system. The gentle pressure and soothing warmth of the oil allow the body, mind and nervous system to experience a deep state of rest, similar to meditation. There are numerous benefits to applying oil to the head, body, feet and scalp.

Consider the human body as an inverted tree. The roots are at the top and the branches point downwards. The head of the human body will be the root of this tree. The central portion of the body, the thorax, and abdomen, will be the trunk of this tree. The limbs, both upper and lower, will be the branches of this tree. Just as the roots of a tree nurture and control all the activities and well being of the tree, the head is the operational center of the entire body. It controls the function of the brain and spinal cord. It has many *marma* or vital points and is the house of the master endocrine gland, the pituitary. *Shirodhara* is suitable for any dosha or constitution however there are some contraindications.

Shirodhara should not be given to women in their third trimester of pregnancy. It is very difficult to lay on the back for 40-60 minutes at a time without feeling discomfort. Pregnancy is contraindicated in *dhara* where warm oil is poured all over the body.

Other contraindications include brain tumor, recent neck injury, abrasions or cuts on the head, fever or chills, acute illness, nausea, vomiting, severe weakness, exhaustion, dizziness, fainting or spontaneous sweating. *Shirodhara* should not be given to those with a rash or sunburn on the forehead or scalp. If one have an aversion to oil then it is also not recommended.

The gentle pressure of the oil falling onto the forehead may also play a role in inducing rest. In the procedure of *shirodhara,* particular pressure and the vibration is created over the forehead. The vibration is amplified by the hollow sinus present in the frontal bone. The vibration is then transmitted inwards through the fluid medium of cerebrospinal fluid (CSF). This vibration along with little temperature may activate the functions of thalamus and the basal fore brain which then brings the amount of serotonin and catecholamine to the normal stage inducing the sleep. It is explained in modern textbooks of physiology that pressure has an effect on impulse conduction through tactile and thermoreceptors. If

prolonged pressure is applied to a nerve, impulse conduction is interrupted and part of the body may go to rest. In *Dhara* therapy, prolonged and continuous pressure due to pouring of the medicated liquid may cause tranquility of mind and induce natural sleep.

Shirodhara can be done for a period of 45 to 60 minutes depending on the nature and severity of the dosha imbalance or depending on the individual's constitution or *Prakruti*. *Shirodhara* is usually done for a period of 7 to 14 days or as recommended by the practitioner. The relief of complaints is taken as a parameter for the number of days of treatment to be done in one stretch. *Shirodhara* can also be done for 7, 14, 21 or 28 days or longer in chronic and stubborn cases. A small-time gap is provided between two treatments and often is not continued beyond three weeks' time. *Shirodhara* is usually done in the early hours of the morning, preferably between 6 am and 10 am. In high Pitta conditions, it can also be done in the afternoon.

*Nasya :

Nasya treatment refers to a therapy that includes instillation of herbal oils, juices or powders through the nasal route. It works specifically on disorders of ear, nose and throat. It is especially desirable for diseases of parts above the base of the neck; nasal passage being the gateway of the head. The medicament administered through the nostrils pervade into the nervous (Brain) and venous system (Blood circulation) present in and around the nostrils. Then they evacuate the morbidity present or distributed in nearby area. Thus it relieves the blockage of the channels and the diseases are cured effectively. Medicated oils / juices / powders stimulate the vital centers of brain to overcome specific diseases. Nasya treatment does not cause any serious side effects when performed by an experienced therapist. However, it is recommended to not undergo Nasya After heavy meals or shirodhara. Get rid of ENT problems

Nasyam cleanses, purifies and strengthens the nasal passages, allowing you to breathe fully and easily again. Due to its many benefits Nasyam is a recommended remedy for congestion, allergies, sinusitis, headaches, migraine, cervical spondylosis, hair fall, premature graying of

hair, rhinitis and other nasal infections. Medicated oils or powders stimulate the some vital centers of brain that reduce pain perception.

During any disease process, unbalanced *doṣas* get lodged in the weak parts of the channels of circulation and produce symptoms of the disease. If the channels of circulation are unobstructed and healthy, even the aggravated *doṣas* cannot accumulate anywhere and lead to disease. To treat the disease. *Nasya* (intranasal drug administration) is one of the therapeutic procedures part of *therapy* which acts both at local and systemic levels.

It includes administration of medicated drugs or oils through nostrils. It stimulates the vital centers of brain that regulate emotions.
With regular treatment, Nasyam can improve skin complexion. It can also improve hair texture and prevent graying of hair.
As mentioned in Ayurveda nose is the opening to reach the brain, any medicine instilled in nasal cavity acts directly on brain.
Nasyam treatment can be used in disorders that develop with increasing age such as pain, paralysis, stress etc.
Use of Immunity boosting herbs for Nasyam can be beneficial in people who show low Immunity.
Medications administered through nasal cavity act on the specific area of brain that are involved in regulating vision.
Medication administered through nasal cavity act on the specific area of brain to improve mood and emotions.
It develops and strengthens the shoulders, chest, skin, and neck.
The sensory organs become much stronger after Nasya therapy of 3-4 weeks.

*Diet :

The concept of diet is little different in modern medicine. In Naturopathy food is classified as acidic or alkaline, live or dead food, eliminative, soothing, constructive, vegetarian or non-vegetarian, liquid, fruit, and mono fruit diet, etc. Naturopathy gives more emphasis on raw food rather than cooked food. Food is regarded as medicine at many systems of medicine but this is more obvious and apparent in Naturopathy. Naturopathy promotes and encourages the natural food, i.e., the food

which is provided by nature and is consumed essentially in the natural form. According to it, to remain healthy 80 % of the food items should be alkaline, i.e., uncooked and only 20 % food items should be acidic, i.e., cooked. In Yoga, the food is classified as Sattvik, Rajasik and Tamasik. Right food is so much important to health as per the belief of Naturopathy that it is often regarded as a medicine.

Naturopathy insists that our food must be as natural as possible. There is not only an insistence upon a complete natural diet, but naturopathy equally insists that food should be produced under natural conditions and consumed in natural form without being altered by man. Natural food if properly selected, rationally combined, and judiciously consumed may have a remedial value to cure disease by supplying the alkaline elements in organic form. These organic mineral elements in food preserve the tissues from disorganization and from putrefaction. These vitalizing minerals, salts and vitamins are vital to health through warding off the diseases and premature aging. Naturopathic preference is for food with their natural properties to help health and resistance to external influences and diseases. Accordingly, the food having excess fat, fast food and junk food, etc., are discouraged and fresh seasonal fruits, fresh green leafy vegetables and sprouts are encouraged as healthy food items in Naturopathy. Diet is now being recognized as one important single factor responsible for health and also the disease. According to Sir Robert Mc Carrison, ‘the right kind of food is the most important single factor in the promotion of health; and the wrong kind of food is the most important single factor in the promotion of disease’.

Hippocrates in the 5th century BC wrote, ‘**I maintain that research on the subject of diet is of all objects of medicine most worthy of our closet attention. It will contribute much, both in re-establishing health, and preserving those who are at present in normal health, by providing them with a sound constitution’.**

Naturopathy believes ‘that disease is a disturbance of the function or the structure of any organ or part of the body; chronic diseases are associated with an accumulation of foreign matter, waste products, dead cells, poisonous elements and dangerous toxins’. These poisonous products are the result of lowered vitality, imperfect elimination, and faulty digestion brought about by the sluggish functioning of every organ. Such

conditions of the body are due to denatured, demineralised, and devitalized foods which have interfered with the natural metabolism of the system.

Various classifications are found in regard to food items in various systems of medicine. Concept of diet in modern medicine food items are classified in terms of carbohydrates, fat, protein, vitamins, minerals and water. Carbohydrates are the main source of energy. Fats or lipids are the concentrated form of energy in the food. Proteins are structural constituents to cell membranes. Vitamins and minerals are accessory nutrients, and water is an ideal vehicle for transporting dissolved nutrients and waste from the body. To remain healthy, this is important to have a balance of all these essential components in the diet.

Concept of diet in Ayurveda diet is given extreme importance. According to Ayurveda, the diet should be simple, easily digestible, and small in quantity. A person with weak digestive capacity should take diet containing less protein, that too for one to two times. Water should be taken half an hour after food. But those with good digestive capacity can take water along with food. Alcohol, coffee, tea should be avoided. In Ayurveda food is classified into 12 groups: grains, pulses, meat, vegetables, fruits, salads, wines, water, milk and milk products, sugar cane products, cooked foods and accessory foods (e.g. oils and spices). Ayurveda, further emphasizes that dietary consideration is an important component of every prescription in Ayurvedic therapy. Sometimes, dietary management itself is a complete treatment. According to Acharya Lolimbaraja, if wholesome diet is given in a planned way then a separate medicinal treatment may not be required as the diet itself can take care of the disease.

Concept of diet in Yoga Shrimad Bhagavad gita defines the yogic diet as, who is regulated in his habits of eating, sleeping, recreation and work can mitigate all material pains by practicing the yoga. The Bhagavad gita also classifies food as Sattvik, Rajasik and Tamasik. It has elucidated the three categories of food and its effect on human body and mind. Foods dears to those in the mode of goodness increase the duration of life, purify one’s existence and give strength, health, happiness and satisfaction. Such foods are juicy, fatty, wholesome, and pleasing to the heart. Those foods which are fresh, whole, natural, of good quality yet mild, neither over nor

under cooked are experienced as lending a calm alertness and at the same time a state of quiet energy. Such foods are called sattvic.
Foods that are too bitter, too sour, salty, hot, pungent, dry and burning are dear to those in the passion. Such foods cause distress, misery and disease. Food which is cooked a great deal to increase its taste appeal, that which stimulates the nervous system, speeds up metabolism and activates is called rajasic. Such foods as coffee, tea and tobacco are usually considered rajasic. These foods will energize, but not in the sense of lending a clear, balanced energy.

Foods prepared more than three hours before being eaten, food that is tasteless, decomposed and putrid, and food consisting of remnants and untouchable things is dear to those in the mode of darkness. Those foods which are “dead,” partly spoiled, have been processed a great deal, have been preserved in some way, have no spark of life about them, lack the vitality of food that is alive or has been recently cooked are called tamasic. Such foods create a feeling of heaviness, lethargy; they nourish only the grossest aspects of the body. If the diet is consistently comprised of tamasic food, then the person can continue to live but the body will become heavier, or else functioning will be sluggish, and diseases of degeneration and accumulation of excessive matter are likely to occur (obesity, arthritis, hardening of the arteries, and so forth.)

Concept of diet in Naturopathy, accumulation of waste and systemic poisons is the cause of the majority of diseases arising within the human organism. Therefore, it is imperative that the neutralizing and eliminating food elements be provided in sufficient quantities. Naturopathy aims to reduce these foods in the natural dietary and to increase the purifying and eliminating fruits and vegetables. Diet therapy is both an art and a science. Naturopathy deals with the subject of diet therapy in an elaborative way. It is so important that the food is given the status of medicine in Naturopathy. The real factors concerned in diet are the proper balance of food, food production, preparation and consumption in accordance with natural requirements. Proteins, starches, sugars, vitamins, mineral salts and roughage have to be considered in relation to human needs so that health can be the result. If the people learn to select, combine and balance their food suitable to age, occupation, climate, it would make a lot of difference in their health and resistance to disease. When we do not eat correctly or

rationally and on top of it do not get sufficient exercise, fresh air, sun shine, and adequate rest and so neglect the laws of Nature, it is not possible to attain and maintain good health. We have to pay the penalties exacted by Nature. Naturopathy encourages that to remain healthy the food items must contain 80 % alkaline and 20 % acidic substance. The proteins and carbohydrates are acid forming, and the fruits and vegetables are alkaline. However, in making the diet prescription, Indian Naturopaths also consider the Ayurvedic as well as Yogic concepts of diet as these are very near to the concept of Panch mahabhutas and fit in the acidic or alkaline food items as per the requirement at different stages of the treatment.

Naturopathy advocates Sattvik food for healthy persons. Naturopathy believes that '**food has a great influence on the mind because everything we eat and drink is transported by the blood which sustains the nervous system'.** Therefore, the quality of food has much to do with the quality of the mind. In Naturopathy food items are generally classified on the basis of the acidic or alkaline ash they leave in the body after digestion. The broad classification of these food items are acidic and alkaline food, live and dead food, eliminative, soothing and constructive food, fruit diet, liquid diet, raw diet, mono diet, etc. Some of these diets prescribed in Naturopathy are defined as under,

Raw diet: Raw fruits and vegetables are the ideal foods, low in calories, but high in nutritive value. They contain the vitamins and minerals required by the body in their natural state apart from their healing properties. Raw diet consists of fresh and dry fruits, raw vegetables, nuts, sprouted whole grain cereals and pulses, etc.

Mono diet: The mono diet means using only one kind of food at a meal, and not the same one continuously.

Eliminative diet: The dietary items beneficial in the cleansing of the system come under eliminative diet. During the first stage of treatment eliminative diet pattern is followed which encourages the detoxification of the body by eliminating the morbid matter and toxins from the system by way of activating the eliminative organs, i.e., kidneys, intestines. The eliminative diet is very near to fasting. Therefore, the food items like citric juices, lemon water, tender coconut water, etc., are generally prescribed as eliminative diet. It is also known as cleansing diet.

Soothing diet: In second stage of Naturopathy treatment when the body is almost clean and detoxified, the patients are kept on soothing diet for sometime which is slightly filling wherein patient don't feel as he or she is fasting and action is not as vigorous as eliminative diet. The food items in this phase generally consists of the fruits, salads, boiled/steamed vegetables, sprouts, vegetable soups, butter milk, wheat grass juice, etc.
Constructive diet: In the third phase of treatment when the body is fully detoxified and patient is free of disease condition, he is prescribed constructive diet whereby his new blood, lymph and body cells are building up normally. The food items in this phase generally consist of wholesome flour, unpolished rice, pulses, sprouts, curd, etc. Being alkaline, these diets help in improving health, purifying the body and increasing immunity. To this end, a proper combination of food is also essential. Moreover, the time and state of mind is equally important while taking food.

Naturopathy physicians advice and provide naturopathic diet especially to the indoor patients apart from teaching them regarding the importance of diet in health and disease. Most of the Naturopathy hospitals have a well developed kitchen and diet centre with all the requisite equipment and facilities of preparation of cooked and un-cooked food items. The indoor patients are provided wholesome and quality naturopathic diet as per their disease condition and prescription. They are also advised to follow the diet pattern at their home and be in touch with the physician for further modifications in the diet schedule, if any, so that the management of the disease could be done properly and effectively. One cannot expect to have good health by just observing proper diet but neglecting other laws of health. To build and maintain proper health it is necessary to observe the health laws in totality which is summarized as under:

•fresh air and sun shine;
•deep breathing exercise,
•correct posture;
•rest;
•recreation;
•relaxation;
•sleep;

•right mental attitude;
•internal cleanliness;
•proper elimination

Diet and diseases Naturopathy believes that the diseases are the manifestation of violation to the laws of nature. Modern science acknowledges that lifestyle is one substantial reason for diseases. Lifestyle diseases include metabolic syndrome and cancer. There are considerable epidemiological evidences suggesting that appropriate lifestyle changes including inclusion of exercise and dietary modification may lower the risk for these diseases. To get rid of disease and to improve the vitality one has to follow the laws of nature in terms of exercise, rest, diet, etc. and follow the Yogic way of life to manage the lifestyle related disorders effectively. Regular practice of Yoga promotes strength endurance, flexibility, and facilitates characteristics of friendliness, compassion, and grater self control while cultivating a sense of calmness and well-being. Yoga and Naturopathy, the drug less systems of healing improve the functioning of entire body system by correcting the lifestyle.

There are some golden rules to be followed by the persons who want to be healthy. These are enumerated as under:

a. In order to insure the full benefits of mouth digestion, the starchy foods should be thoroughly masticated and mixed with saliva.

b. The drinking water must be at natural temperature as it comes from well or hydrant.

c. Food and drink should never be taken hot or icy cold. This habit may, in time, ruin the best stomach and the finest set of teeth.

d. Do not eat when overtired or emotionally excited.

e. Do not eat the heavy meal of the day between working hours.

f. White Bread and pastry should be avoided altogether or used very sparingly. Bread and other cereal products should be prepared from whole meal only.

g. Green vegetables are most beneficial when eaten raw with a dressing of lemon juice.

h. Fruits and vegetables are rich in all the mineral salts in the live, organic form, and therefore the addition of inorganic mineral table salt is not only superfluous but positively harmful.

i. After the vegetables are thoroughly washed and prepared, place them in the cooking vessel, adding only enough boiling water to keep them away from burning, cover the vessel with the lid, and let them steam slowly in their own juices. The leafy vegetables (spinach, beet tops, etc.) contain enough water for their own steaming. If placed in a vessel over a slow fire enough juice will gather in a few moments to prevent burning.
j. Cook all vegetables only as long as is required to make them soft enough for easy mastication. Do not throw away a drop of the water in which vegetables have thus been cooked. Use whatever is left for the making of soups and sauces.

These are just a few of the more important rules which if strictly followed, will soon improve the digestion and insure better elimination from free movement of the bowels. Foods to be avoided For getting optimum health and prevention from disease.

Naturopathy advises to avoid following health harming and disease developing items:

1. Tobacco in the form of Zarda, Khaini, Bidi,Cigarette, Cigar and Pan masalas.
2. Coffee, Tea, Chocolate and Cold drinks.
3. Over use of salt.
4. Alcohol and drugs.
5. White sugar, fine flour, maida and its products like bread, biscuit, sweets, namkeen and ice-cream, etc.
6. All processed, refined, tinned, preserved and chemically prepared factory foods.
7. All foods kept overnight and stinking foods.
8. Egg, meat, fish, fried food, polished rice, condiments and pickles, etc.
9.All garden and farm products with pesticides and disinfectants.

Foods to be taken Similarly Naturopathy advises for edible food items which are necessary for maintenance and improvement of physical and mental health as:

- 1. Vegetables - All green fresh vegetables such as Lauki, Torai, Parval, Tinda, Cabbage, Turnip, Beet, Carrot, Cucumber, Spinach, Radish, Tomato, Methi, Dhania, etc.
- 2. Cereals - Unpolished rice, Wheat flour with bran.
- 3. Sweets - Honey, Jaggery, khadi sakar.

- 4. Sprouts - Moong, Moth, Gram, Methi, Wheat, Alfalfa, Ground nut, etc. 5. Dry fruits - Date, Fig, Raisin and Currant.
- 6. Fresh fruits - All seasonal fresh and ripe fruits like Guava, Pear, Apple, Banana, Papaya, Chiku, Orange, etc.
- 7. Juice - Fresh juice of Pine apple, Orange, Carrot, etc.
- 8. Soup -Vegetable soup.
- 9. Liquid - Lemon water, Coconut water, Mattha, Butter milk, etc.

The concept of diet in Naturopathy is nearer to nature. It recognizes food as medicine. The patients are successfully advised wholesome Naturopathy diet along with other Naturopathy treatment modalities to manage the disease conditions. However, there is an urgent need of providing correct dietary education to the people so that they could understand the concepts of diet and utilize the knowledge for the prevention of disease and betterment of health. The book 'Natural Dietetics' has very importantly stated that, 'all serious dietetic research has unanimously reached the same conclusion that one of the chief causes of the constitutional deterioration of our state of health at present is to be found in the defective diet of the so-called civilized nations.

Once the science of healing is linked with the knowledge of dietetics the treatment of diseases will be greatly revolutionized. An immediate attention of all the concerned is required, as it is the need of time to link the knowledge of diet with the science of healing to reduce the burden of so called costly treatments to manage various disease conditions. By reviewing the literature available regarding diet and its concepts in Naturopathy, it may be concluded that the concepts of diet therapy in Naturopathy are well narrated and in practice among the Naturopathy practitioners, patients, and Naturopathy followers over the globe. Naturopathy believes in purity of diet and also in the concept of 'we are what we eat'. As clearly stated in one of the ancient text: 'Purity of diet and nutrition can only help us to maintain physical, vital, mental purity and spiritual harmony in life thereby we can manage the dualities of life and pave the path of liberation'

Raw diet :

Raw diet means a diet or food which has not been exposed to fire. It has not been cooked. Such food is known as live food or raw diet. When

any food is exposed to fire, it starts burning. In such food, all the essenstial vitamins, minerals, digestive juices and other elements are destroyed and it gets deficient. Such deficient food when taken invites many diseases. Most of the diseases occur only because of the intake of cooked food.

The elements which have been destroyed in the food will be used from the buffer stock of the body. Thus due to the intake of such food, the stocks of the body get used causing dual harm to the body. When cook food, it's natural taste and essence are lost. Thus have to add various spices to make it tasty which are more harmful. These spices excite hunger and in return we become voracious eater. Due to this digestive system gets exhausted as it has to pass through unnecessary digestive and assimilative processes. Due to this, the body loses energy and falls prey to digestive disorders.

Raw diet brings excellent results. Body recovers from deficiency. As a result, body ache, acidity, heaviness, laziness etc are lost within few weeks of raw diet. Body becomes healthy and active. Energy which otherwise gets wasted, helps in rejuvenating body.

Raw juice diet :

fruits and vegetables juices to be consumed in raw juice diet.

- Juices from sweet fruits – sub-acid. Which includes prune and grapes juice.
- Juices from sub-acid fruits. These includes apple, plum, pear, peach, apricot, cherry, orange, lemon.
- Juices from acid fruits. These includes grapefruit, strawberry and pineapple juice.
- Juices from vegetables fruits. These include tomato and cucumber juices.
- Juices from green leafy vegetables. These include cabbage, celery, lettuce, spinach, parsley juice.
- Juices from root vegetables. These include beetroot, carrot, onion, potato and radish juice.

Fruits juices strip up toxins and acids to the body. Stimulating the eliminative processes. Vegetables juices soothe nerves and work in a much mild manner gently carrying away toxic matter and dispensing accumulations of waste products. Fruits and vegetables juices should not

be used at the same time or mixed together. It is advisable to use juices individually and no more than three juices should ever be included in any one mixture.

Rules apply when using mixture of juices;

- Juices from the sweet fruit may be combined with the juices of the sub-acid fruits, but not with acid fruits, vegetable fruits or vegetables.
- Juices from the sub-acid fruits may be combined with juices of sweet fruits or acid fruits, but not with other juices.
- Juices from the acid fruits may be combined with those of the sub-acid fruits or vegetables fruits but not with other fruits.
- Juices from the vegetable fruit may be combined with the acid fruits or of the green leafy vegetables, but not with other juices.
- Juices from green leafy vegetables may be combined with those of the vegetables fruits or the root vegetables, but not with other juices.
- Juices from the root vegetables may be combined with those of the green leafy vegetables, but not with the other juices.

Fruits juices stimulate appetite. They should be taken before meals or two three hours after meals. Vegetable juices are best taken at least half an hour or more after meal. They should not be taken before meals or near the same time as fruit drink. Natural raw juices improve health by enabling the body's own defensive, protective and healing mechanism. The fruits juices are comparatively better than vegetable juices because they are ripen naturally hence it becomes easy for the body to digest them. When illness is in the body, one of the best and quickest way to alkalize the body cells and to reverse their excess acid condition is to take fresh, raw juice. Vegetables juice are more potent and generally should be used in smaller amount.

Nature in her wisdom has provided with natural whole raw fruits and vegetables and we should use this in their natural taste as food. This is one of the secret to healthier and happier life.

Milk diet :

From the most ancient times, the value of milk has been recognized in the treatment of various disorder. In thousands of cases results have been obtained that could not have been secured by any other form of treatment. Raw milk rich source of vitamins and enzymes with the finest

quality of protein for nerve brain and muscle building, while the fats are in a state of fine emulsion. It is true that the milk contains only a small amount of iron, but this objection is readily overcome by taking five or six quarts a day. Milk diet prove most gratifying at any time. Milk, being easily digested repair the worn-off cells as the most suitable diet to bring about a rapid return to health. It is the only mono-diet that will remedy a large variety of diseases and preserve health and strength for indefinite period.

All food need to be masticated and so as milk also. It should be thoroughly mixed with the saliva. Milk when swallowed rapidly is likely to form in the stomach large and hard cuds which are slowly digested. The milk should be taken cool or slightly up to the temperature of the body. If one suffers from slow digestion or poor circulation, it may be taken warm. It should never be boiled nor heated over 110 degree.

Wheat grass juice diet :

the what grass juice is also known as ‘green blood’. It is the best alkaline form of liquid. Full of minerals and vitamins. Wheat grass has been proved the best. It can be used for drinking, as drops in eyes, ears and nose or a enema. It has been used with miraculous results in the treatment of cancer. For tr4eating chronic disease, the patient should be given 25 gm of wheat grass juice for 3 to 4 times a day and should be asked to fast on it for 5 to 7 days. It proves essential vitamins and minerals to the body and also helps in purifying the body and in removing acids of the body. It is useful in treatments of cancer, arthritis, acidity, mental disorders and other chronic disorder.

*Fasting :

Fasting is considered as one of the most important methods of nature cure. In Naturopathy, fasting is practiced to enable nature to perform its cleansing process in the body, without any hindrance, and without any additional load of food to digest. The digestive organs are given a rest, to enable them to regain their health and work efficiently. As per Naturopathy, initially, one should fast for a limited period of time and then

gradually increase the time period. One should break the fast with juice, vegetable juice, soups, and fruits. But the best and the safest way of fasting is the lime juice fasting. Before fasting, the bowel should be completely empty. Rest is advised during fasting.

Benefits:

- Fasting helps to excrete accumulated poisons, toxins and waste materials. Dead cells are removed, and new cell formation is sped up.
- Fasting provides rest to the different organs of the body, especially the digestive and assimilative ones.
- Fasting is good in treating of disorders like indigestion, gas formation, obesity, asthma, high blood pressure, and other digestive disorders.

"Langanam param oushadham"

Fasting is the ultimate medicine!!

Therapeutic fasting is defined as the complete abstinence from all substances except pure water in an environment of complete rest. A true fasting, undertaken with understanding and discipline has the power to cure most ailments of the body, mind and spirit. The toxins and impurities in our blood and tissues are eliminated and our system becomes rejuvenated. At ayusmat fasting is an important line of treatment modality for healing body physiology preserving your health . In fasting, the mental preparations are an essential factor to experience the path-yam in its purest form.

The duration of the fast depends upon the age of the patient, the nature of the disease, amount and type of drugs previously used. When properly applied and conducted, the therapeutic fasting is one of the most potent tools available for assisting the body in healing itself. The best means of facilitating the restoration of health is therapeutic fasting. It allows the body to create a unique physiological healing response that is

unparalleled. It should be under the proper guidelines and supervision of a professional Naturopathy Doctor.

Fasting is primarily the act of willingly abstaining from some or all food, drink, or both, for a period of time. The word is derived from the old English , ‘ Feastan’ means to fast, observe, be strict. In Sanskrit ‘ Vrath’ means ‘determination’ and ‘Upavasa’ means ‘ near to God’. A fast may be total or partial concerning that from which one fasts, and may be prolonged or intermittent as to the period of fasting. Fasting is an important treatment modality for health preservation. In fasting, mental preparedness is an essential pre-condition. Prolonged fasting should be done only under the supervision of a competent naturopaths. The duration of the fast depends upon the age of the patient, the nature of the disease and amount and type of drugs previously used. It is some times advisable to undertake a series of short fasts of two or three days and gradually increase the duration of each succeeding fast by a day or so. No harm will accrue to fasting patient provided they take rest and are under proper professional care.

Methods of fasting are water, juices or raw vegetable juices. The best, safest and most effective method is lime juice fasting. During fasting, the body burns up and excretes huge amounts of accumulated wastes. We can help this cleansing process by drinking alkaline juices. Sugars in juices will strengthen the heart, juice fasting is therefore the best form of fasting. All juices should be prepared from fresh fruit immediately before drinking. Canned or frozen juices should not be used. A precautionary measure, which must be observed in all cases of fasting, is the complete emptying of the bowels at the beginning of the fast by enema so that the patient is not bothered by gas or decomposing matter formed from the excrement remaining in the body. Enemas should be used at least every alternate day during the fasting period. The total liquid intake should be approximately six to eight glasses. A lot of energy is spent during the fast in the process of eliminating accumulated poisons and toxic waste materials. It is therefore, of utmost importance that the patient gets as much physical rest and mental relaxation as possible during the fast.

The success of the fast depends largely on how it is broken. The main rules for break in the fast are: do not overeat, eat slowly and chew

your food thoroughly and take several days for the gradual change to the normal diet.

Benefits and Physiological effects of Fasting:

Physicians of most cultures, throughout history, have recommended extended fasting as therapy for various conditions from ancient to modern. Though earlier observations were studied without scientific methodology or understanding they still point to utilization of fasting as a therapeutic modality. Earlier observations were based on animal behavior, but today they are based on animal physiology.

Prominent among the physiological effects conferred by fasting (Calorie Restriction and Intermittent Fasting) are:
increased insulin sensitivity that results in reduced plasma glucose and insulin concentrations and improved glucose tolerance, reduced levels of oxidative stress as indicated by decreased oxidative damage to proteins, lipids and DNA, increased resistance to various types of stress including heat, oxidative and metabolic stresses and enhanced immune function. Both gross and cellular physiology is profoundly affected by caloric restriction (CR) or intermittent fasting (IF) regimes. With respect to gross physiology there is of course a significant reduction of body fat and mass, which supports a healthy cardiovascular system and reduces incidents of myocardial infarction. In addition to cardio protection a greater tolerance to stress is induced in the liver, the nutrient core of homo sapiens. The presence of alternative energy stores such as ketone bodies (e.g. β-hydroxybutyrate) enable homo sapiens to survive additional stresses of life. Excessive and deleterious blood glucose is curtailed by an enhanced sensitivity to insulin (Ins) and glucose and its utilization as an energy source.

*Air therapy :

Fresh air is most essential for good health. The advantage of air therapy can be achieved by means of Air bath. Everybody should take an air bath daily for 20 minutes or longer if possible. It is more advantageous when combined with morning cold rub and exercises. In this process, one should walk daily after removing the clothes or wearing light clothes at a

lonely clean place where adequate fresh air is available. Another alternate method is in a constructed room without roof and surrounded by shutter like walls so as to allow free passage of air but prevent any view of the interior. In order to react against the chilling effect of cold air or water, the nerve centers, which control the circulation, send the blood to the surface in large quantities, flushing the skin with warm, red, arterial blood. The flow of the blood stream is greatly accelerated and elimination of morbid matter on the surface of the body is correspondingly increased.

Air bath has soothing and tonic effect upon the millions of nerve endings all over the surface of the body. It has good results in cases of nervousness, neurasthenia, rheumatism, skin, mental and various other chronic disorders. The action of the skin can be stimulated by three simple procedures: sunbaths, water applications and air baths. The most imposing results are obtained by the simplest of all—the air bath. Air is to humans what water is to fish. It's not enough to breathe-in air through the nostrils while wholly neglecting the skin's breathing function. Like the lungs, the skin takes-in oxygen and throws-off carbon dioxide. Hiding the body under synthetic and/or heavy, tight-fitting clothing seals-off the skin from the life-stimulating influence of air.

Since the skin is the primary organ involved in the regulation of blood-flow through the capillaries, some scientists feel it does as much work toward the proper circulation of blood as does the heart. The skin capillaries have approximately 800-times the combined cross-section area of the aorta, the largest artery in the body. The best time for your air bath is during fresh morning hours or just before bedtime to refresh the skin before a good night's sleep. If at all possible, the air bath should be taken outdoors; it's most invigorating on breezy days.

If this is impractical, it may be taken by a private, open window. Compared to the air outdoors, indoor air is relatively stagnant, but a well-ventilated room, especially one with cross-ventilation, will serve the purpose. The air bath may last from one minute to one hour, according to the ability of the skin to react and rewarm itself as well as season of the year. Sensitive individuals might begin with air baths of only one minute—or even less if feeling chilly.

*Magnet therapy :

Magnetic therapy, also called magnetic field therapy and bio energy therapy, is an alternative therapy that uses magnets of varying sizes and strengths that are placed on the body to relieve the pain and treat disease. Thin metal magnets are attached to the body alone or in groups. They can be worn as bracelets or necklaces, attached to adhesive patches to hold in place, placed in bands or belts to be wrapped around the wrist, elbow, knee, ankle, foot, waist, or lower back. Also available are magnetic insoles, blankets, and slumber pads. These magnets may be worn for just a few minutes or for weeks, depending on the condition being treated and the practitioner.

Proponents state the magnetic fields produced from the negative pole of the magnet have healing powers. Negative magnetic fields are thought to stimulate metabolism, increase the amount of oxygen available to cells, and create a less acidic environment within the body. Conditions diagnosed or treated include arthritis, cancer, circulatory disorders, diabetic neuritis (nerve disease), immune dysfunction, infection, inflammation, insomnia, multiple sclerosis,muscles pain, rheumatoid arthritis, sciatica, stress and to increase energy and prolong life. Although there are anecdotal reports of healing with magnetic therapy, available scientific evidence does not support these claims.

*Color therapy :

Color Therapy uses the energy relating to each of the seven spectrum colors of red, orange, yellow, green, blue, indigo and violet. Each of the spectrum colors is simply light of varying wavelengths, thus each color has its own particular energy. Color is absorbed by the eyes, skin, skull and our ‘magnetic energy field’ or aura. Color energy affects us on all levels, that is to say, physical, spiritual and emotional. Every cell in the body needs light energy - thus color energy has widespread effects on the whole body. There are many different ways of giving color, including; Solarized Water, Light boxes/lamps with color filters, color silks and hands on healing using color.

Colors have many uses as they have differing qualities. For example:- red, orange and yellow are warming and energizing colors whereas blue, indigo and violet are cooling and calming colors. Green is known to be a balancing color between the warm and cool colors.
Color therapy can be shown to help on a physical level, which is perhaps easier to quantify, however there are deeper issues around the colors on the psychological and spiritual levels. Our well being is not, of course, purely a physical issue. That is to say, we are body, mind and spirit and none of these areas function entirely alone; each has an effect upon the other. This is why Color Therapy can be so helpful since color addresses all levels of our being.

As a child we associate with color as part of our first learning processes. These first associations contribute to our consciousness. As we get older we attach many different feelings, memories and meanings to certain colors and this can then become a feature in our subconscious. We can build up prejudices to colors which have happy, sad, or frightening connotations for us. Noting strong color preferences can also be a helpful aid to finding possible problems and working with the appropriate color/colors to help to dispel negative feelings, free blocks and re-balance the body emotionally, spiritually and, in turn, physically.
Color Therapy is a totally holistic and non-invasive therapy and, really, color should be a part of our everyday life, not just something we experience for an hour or two with a therapist. Color is all around us everywhere. This wonderful planet does not contain all the beautiful colors of the rainbow for no reason. Nothing on this earth is here just by chance; everything in nature is here for a purpose. Color is no exception. All we need to do is to heighten our awareness of the energy of color and how it can transform our lives.

A professional therapist will help you to do this. The capacity for health and well being is within us all. Color therapy is safe to use alone or alongside any other therapy whether orthodox medicine or another complementary therapy and is safe and helpful for adults, children, babies and animals too. No complementary therapy should be considered as an *alternative* to professional medical advice where necessary and no properly qualified complementary therapist would suggest that, neither would they suggest that you stop taking your medication etc. If you are

taking medication you should consult the prescribing professional before you stop taking it.

Chapter 3 - The digestive system

The human digestive system consists of the gastrointestinal tract plus the accessory organs of digestion (the tongue, salivary glands, pancreas, liver, and gallbladder). Digestion involves the breakdown of food into smaller and smaller components, until they can be absorbed and assimilated into the body. The process of digestion has three stages. The first stage is the cephalic phase of digestion which begins with gastric secretions in response to the sight and smell of food. This stage includes the mechanical breakdown of food by chewing and the chemical breakdown by digestive enzymes, that takes place in the mouth.

Saliva contains digestive enzymes called amylase, and lingual lipase, secreted by the salivary glands and serous gland on the tongue. The enzymes start to break down the food in the mouth. Chewing, in which the food is mixed with saliva, begins the mechanical process of digestion. This produces a bolus, which can be swallowed down the esophagus to enter the stomach. In the stomach the gastric phase of digestion takes place. The food is further broken down by mixing with gastric acid until it passes into the duodenum, in the third intestinal phase of digestion, where it is mixed with a number of enzymes produced by the pancreas. Digestion is helped by the chewing of food carried out by the muscles of mastication, the tongue, and the teeth, and also by the contraction of peristalsis, and segmentation. Gastric acid, and the production of mucus in the stomach, are essential for the continuation of digestion.

Peristalsis is the rhythmic contraction of muscles that begins in the esophagus and continues along the wall of the stomach and the rest of the gastrointestinal tract. This initially results in the production of chyme, which when fully broken down in the small intestine is absorbed as chyle into the lymphatic system. Most of the digestion of food takes place in the small intestine. Water and some minerals are reabsorbed back into the blood in the colon of the large intestine. The waste products of digestion (feces) are defecated from the anus via the rectum.

There are several organs and other components involved in the digestion of food. The organs known as the **accessory digestive organs** are the liver, gall bladder and pancreas. Other components include the

mouth, salivary gland, tongue, teeth and epiglottis. The largest structure of the digestive system is the gastrointestinal tract (GI tract). This starts at the mouth and ends at the anus, covering a distance of about nine meters. The largest part of the GI tract is the colon or large intestine. Water is absorbed here and the remaining waste matter is stored prior to defecation. Most of the digestion of food takes place in the small intestine, which is the longest part of the GI tract.

A major digestive organ is the stomach. Within its mucosa are millions of embedded gastric gland. Their secretions are vital to the functioning of the organ. There are many specialized cells of the GI tract. These include the various cells of the gastric glands, taste cells, pancreatic duct cells, enterocyte and micro fold cells. Some parts of the digestive system are also part of the excretory system, including the large intestine.

Oral cavity/mouth :

The mouth is the first part of the upper gastrointestinal tract and is equipped with several structures that begin the first processes of digestion. These include salivary glands, teeth and the tongue. The mouth consists of two regions; the vestibule and the oral cavity proper. The vestibule is the area between the teeth, lips and cheeks and the rest is the oral cavity proper. Most of the oral cavity is lined with oral mucous, a mucous membrane that produces a lubricating mucus, of which only a small amount is needed. Mucous membranes vary in structure in the different regions of the body but they all produce a lubricating mucus, which is either secreted by surface cells or more usually by underlying glands. The mucous membrane in the mouth continues as the thin mucosa which lines the bases of the teeth. The main component of mucus is a glycoprotein called mucin and the type secreted varies according to the region involved. Mucin is viscous, clear, and clinging. Underlying the mucous membrane in the mouth is a thin layer of smooth muscle tissue and the loose connection to the membrane gives it its great elasticity. It covers the cheeks, inner surfaces of the lips, and floor of the mouth, and the mucin produced is highly protective against tooth decay.

The roof of the mouth is termed the palate and it separates the oral cavity from the nasal cavity. The palate is hard at the front of the mouth

since the overlying mucosa is covering a plate of bone; it is softer and more pliable at the back being made of muscle and connective tissue, and it can move to swallow food and liquids. The soft palate ends at the uvula. The surface of the hard palate allows for the pressure needed in eating food, to leave the nasal passage clear. The opening between the lips is termed the oral fissure, and the opening into the throat is called the fauces. At either side of the soft palate are the palatoglossus muscles which also reach into regions of the tongue. These muscles raise the back of the tongue and also close both sides of the fauces to enable food to be swallowed. Mucus helps in the mastication of food in its ability to soften and collect the food in the formation of the bolus.

The main salivary glands :

There are three pairs of main salivary glands and between 800 and 1,000 minor salivary glands, all of which mainly serve the digestive process, and also play an important role in the maintenance of dental health and general mouth lubrication, without which speech would be impossible. The main glands are all exocrine gland, secreting via ducts. All of these glands terminate in the mouth. The largest of these are the parotid gland—their secretion is mainly serous. The next pair are underneath the jaw, the sub-mandibular glands, these produce both serous fluid and mucus. The serous fluid is produced by serous gland in these salivary glands which also produce lingual lipase. They produce about 70% of the oral cavity saliva. The third pair are the sublingual glands located underneath the tongue and their secretion is mainly mucous with a small percentage of saliva.

Within the oral mucosa and also on the tongue, palates, and floor of the mouth, are the minor salivary glands; their secretions are mainly mucous and they are innervated by the facial nerve. The glands also secrete amylase a first stage in the breakdown of food acting on the carbohydrate in the food to transform the starch content into maltose. There are other serous glands on the surface of the tongue that encircle taste buds on the back part of the tongue and these also produce lingual lipase. Lipase is a digestive enzyme that catalyses the hydrolysis of lipid(fats). These glands are termed Von Ebner’s gland, which have also

been shown to have another function in the secretion of histatins which offer an early defense (outside of the immune system) against microbes in food, when it makes contact with these glands on the tongue tissue. Sensory information can stimulate the secretion of saliva providing the necessary fluid for the tongue to work with and also to ease swallowing of the food.

Saliva :

Saliva moistens and softens food, and along with the chewing action of the teeth, transforms the food into a smooth bolus. The bolus is further helped by the lubrication provided by the saliva in its passage from the mouth into the esophagus. Also of importance is the presence in saliva of the digestive enzymes amylase and lipase. Amylase starts to work on the starch in carbohydrates, breaking it down into the simple sugar of maltose and dextrose that can be further broken down in the small intestine. Saliva in the mouth can account for 30% of this initial starch digestion. Lipase starts to work on breaking down fats. Lipase is further produced in the pancreas where it is released to continue this digestion of fats. The presence of salivary lipase is of prime importance in young babies whose pancreatic lipase has yet to be developed.

As well as its role in supplying digestive enzymes, saliva has a cleansing action for the teeth and mouth. It also has an immunological role in supplying antibodies to the system, such as immunoglobulin A. This is seen to be key in preventing infection of the salivary glands, importantly that of parotisis. Saliva also contains a glycoprotein called haptocorrin which is a binding protein to vitamin B12 It binds with the vitamin in order to carry it safely through the acidic content of the stomach. When it reaches the duodenum, pancreatic enzymes break down the glycoprotein and free the vitamin which then binds with intrinsic factor.

Tongue :

Food enters the mouth where the first stage in the digestive process takes place, with the action of the tongue and the secretion of saliva. The tongue is a fleshy and muscular sensory organ, and the very first sensory information is received via the taste buds in the papillae on its surface. If the taste is agreeable, the tongue will go into action, manipulating the food

in the mouth which stimulates the secretion of saliva from the salivary glands. The liquid quality of the saliva will help in the softening of the food and its enzyme content will start to break down the food whilst it is still in the mouth. The first part of the food to be broken down is the starch of carbohydrates (by the enzyme amylase in the saliva).

The tongue is attached to the floor of the mouth by a ligamentous band called the frenum and this gives it great mobility for the manipulation of food (and speech); the range of manipulation is optimally controlled by the action of several muscles and limited in its external range by the stretch of the frenum. The tongue's two sets of muscles, are four intrinsic muscles that originate in the tongue and are involved with its shaping, and four extrinsic muscles originating in bone that are involved with its movement.

Taste :

Cross section of circumvallate papillae showing arrangement of nerves and taste buds. Taste is a form of chemo-reception that takes place in the specialized taste receptors, contained in structures called taste buds in the mouth. Taste buds are mainly on the upper surface (dorsum) of the tongue. The function of taste perception is vital to help prevent harmful or rotten foods from being consumed. There are also taste buds on the epiglottis and upper part of the esophagus. The taste buds are innervated by a branch of the facial nerve the chorda tympani, and the glossopharyngeal nerve. Taste messages are sent via these cranial nerves to the brain. The brain can distinguish between the chemical qualities of the food. The five basic taste are referred to as those of saltiness, sourness, bitterness, sweetness, and umami. The detection of saltiness and sourness enables the control of salt and acid balance. The detection of bitterness warns of poisons—many of a plant's defenses are of poisonous compounds that are bitter. Sweetness guides to those foods that will supply energy; the initial breakdown of the energy-giving carbohydrates by salivary amylase creates the taste of sweetness since simple sugars are the first result. The taste of umami is thought to signal protein-rich food. Sour tastes are acidic which is often found in bad food. The brain has to decide very quickly whether the food should be eaten or not. It was the findings in 1991, describing the first olfactory receptors that helped to prompt the research

into taste. The olfactory receptors are located on cell surfaces in the nose which bind to chemicals enabling the detection of smells. It is assumed that signals from taste receptors work together with those from the nose, to form an idea of complex food flavors.

Teeth :

Teeth are complex structures made of materials specific to them. They are made of a bone-like material called dentin, which is covered by the hardest tissue in the body—enamel. Teeth have different shapes to deal with different aspects of mastication employed in tearing and chewing pieces of food into smaller and smaller pieces. This results in a much larger surface area for the action of digestive enzymes. The teeth are named after their particular roles in the process of mastication—incisors are used for cutting or biting off pieces of food; canines, are used for tearing, premolars and molars are used for chewing and grinding. Mastication of the food with the help of saliva and mucus results in the formation of a soft bolus which can then be swallowed to make its way down the upper gastrointestinal tract to the stomach. The digestive enzymes in saliva also help in keeping the teeth clean by breaking down any lodged food particles.

Epiglottis

The epiglottis is a flap of elastic cartilage attached to the entrance of the larynx. It is covered with a mucous membrane and there are taste buds on its lingual surface which faces into the mouth. Its laryngeal surface faces into the larynx. The epiglottis functions to guard the entrance of the glottis, the opening between the vocal folds. It is normally pointed upward during breathing with its underside functioning as part of the pharynx, but during swallowing, the epiglottis folds down to a more horizontal position, with its upper side functioning as part of the pharynx. In this manner it prevents food from going into the trachea and instead directs it to the esophagus, which is behind. During swallowing, the backward motion of the tongue forces the epiglottis over the glottis' opening to prevent any food that is being swallowed from entering the larynx which leads to the lungs; the larynx is also pulled upwards to assist this process. Stimulation

of the larynx by ingested matter produces a strong cough reflex in order to protect the lungs.

Pharynx :

The pharynx is a part of the conducting zone of the respiratory system and also a part of the digestive system. It is the part of the throat immediately behind the nasal cavity at the back of the mouth and above the esophagus and larynx. The pharynx is made up of three parts. The lower two parts—the oropharynx and the laryngopharynx are involved in the digestive system. The laryngopharynx connects to the esophagus and it serves as a passageway for both air and food. Air enters the larynx anterior but anything swallowed has priority and the passage of air is temporarily blocked. The pharynx is innervated by the pharyngeal plexus of the vagus nerve. Muscles in the pharynx push the food into the esophagus. The pharynx joins the esophagus at the esophageal inlet which is located behind the cricoid cartilage.

Esophagus :

The esophagus, commonly known as the food pipe or gullet, consists of a muscular tube through which food passes from the pharynx to the stomach. The esophagus is continuous with the laryngopharynx. It passes through the posterior mediastinum in the thorax and enters the stomach through a hole in the thoracic diaphragm—the esophageal hiatus, at the level of the tenth thoracic vertebra. Its length averages 25 cm, varying with an individual's height. It is divided into cervical, thoracic and abdominal parts. The pharynx joins the esophagus at the esophageal inlet which is behind the cricoid cartilage.

At rest the esophagus is closed at both ends, by the upper and lower esophageal sphincters. The opening of the upper sphincter is triggered by the swallowing reflex so that food is allowed through. The sphincter also serves to prevent back flow from the esophagus into the pharynx. The esophagus has a mucous membrane and the epithelium which has a protective function is continuously replaced due to the volume of food that passes inside the esophagus. During swallowing, food passes from the mouth through the pharynx into the esophagus. The epiglottis folds down

to a more horizontal position to direct the food into the esophagus, and away from the trachea.

Once in the esophagus, the bolus travels down to the stomach via rhythmic contraction and relaxation of muscles known as peristalsis. The lower esophageal sphincter is a muscular sphincter surrounding the lower part of the esophagus. The gastroesophageal junction between the esophagus and the stomach is controlled by the lower esophageal sphincter, which remains constricted at all times other than during swallowing and vomiting to prevent the contents of the stomach from entering the esophagus. As the esophagus does not have the same protection from acid as the stomach, any failure of this sphincter can lead to heartburn.

Diaphragm :

The diaphragm is an important part of the body's digestive system. The muscular diaphragm separates the thoracic cavity from the abdominal cavity where most of the digestive organs are located. The suspensory muscle attaches the ascending duodenum to the diaphragm. This muscle is thought to be of help in the digestive system in that its attachment offers a wider angle to the duodenojejunal flexure for the easier passage of digesting material. The diaphragm also attaches to, and anchors the liver at its bare area. The esophagus enters the abdomen through a hole in the diaphragm at the level of T10.

Stomach :

The stomach is a major organ of the gastrointestinal tract and digestive system. It is a consistently J-shaped organ joined to the esophagus at its upper end and to the duodenum at its lower end. Gastric acid (informally *gastric juice*), produced in the stomach plays a vital role in the digestive process, and mainly contains hydrochloric acid and sodium chloride. A peptide hormone, gastrin, produced by G cells in the gastric glands, stimulates the production of gastric juice which activates the digestive enzymes. Pepsinogen is a precursor enzyme (zymogen) produced by the gastric chief cells, and gastric acid activates this to the enzyme pepsin which begins the digestion of proteins. As these two chemicals would damage the stomach wall, mucus is secreted by innumerable gastric

glands in the stomach, to provide a slimy protective layer against the damaging effects of the chemicals on the inner layers of the stomach.

At the same time that protein is being digested, mechanical churning occurs through the action of peristalsis, waves of muscular contractions that move along the stomach wall. This allows the mass of food to further mix with the digestive enzymes. Gastric lipase secreted by the chief cells in the fundic glands in the gastric mucosa of the stomach, is an acidic lipase, in contrast with the alkaline pancreatic lipase. This breaks down fats to some degree though is not as efficient as the pancreatic lipase. The pylorus, the lowest section of the stomach which attaches to the duodenum via the pyloric canal, contains countless glands which secrete digestive enzymes including gastrin. After an hour or two, a thick semi-liquid called chyme is produced. When the pyloric sphincter, or valve opens, chyme enters the duodenum where it mixes further with digestive enzymes from the pancreas, and then passes through the small intestine, where digestion continues. When the chyme is fully digested, it is absorbed into the blood. 95% of absorption of nutrients occurs in the small intestine. Water and minerals are reabsorbed back into the blood in the colon of the large intestine, where the environment is slightly acidic. Some vitamins, such as biotin and vitamin K produced by bacteria in the gut flora of the colon are also absorbed.

The parietal cells in the fundus of the stomach, produce a glycoprotein called intrinsic factor which is essential for the absorption of vitamin B12. Vitamin B12 (cobalamin), is carried to, and through the stomach, bound to a glycoprotein secreted by the salivary glands - transcobalamin It also called haptocorrin, which protects the acid-sensitive vitamin from the acidic stomach contents. Once in the more neutral duodenum, pancreatic enzymes break down the protective glycoprotein. The freed vitamin B12 then binds to intrinsic factor which is then absorbed by the enterocytes in the ileum.

The stomach is a distensible organ and can normally expand to hold about one liter of food. This expansion is enabled by a series of gastric folds in the inner walls of the stomach. The stomach of a newborn baby will only be able to expand to retain about 30 ml.

Spleen :

The spleen is the largest lymphoid organ in the body but has other functions. It breaks down both red and white blood cells that are *spent*. This is why it is sometimes known as the 'graveyard of red blood cells'. A product of this *digestion* is the pigment bilirubin, which is sent to the liver and secreted in the bile. Another product is iron, which is used in the formation of new blood cells in the bone marrow. Medicine treats the spleen solely as belonging to the lymphatic system, though it is acknowledged that the full range of its important functions is not yet understood.

Liver :

The liver is the second largest organ (after the skin) and is an accessory digestive gland which plays a role in the body's metabolism. The liver has many functions some of which are important to digestion. The liver can detoxify various metabolites; synthesis proteins and produce biochemicals needed for digestion. It regulates the storage of glycogen which it can form from glucose (glycogenesis). The liver can also synthesis glucose from certain amino acids. Its digestive functions are largely involved with the breaking down of carbohydrates. It also maintains protein metabolism in its synthesis and degradation. In lipid metabolism it synthesises cholesterol. Fats are also produced in the process of lipogenesis. The liver synthesises the bulk of lipoproteins. The liver is located in the upper right quadrant of the abdomen and below the diaphragm to which it is attached at one part, the bare area of the liver. This is to the right of the stomach and it overlies the gall bladder. The liver synthesises bile acids and lecithin to promote the digestion of fat.

Bile :

Bile produced by the liver is made up of water (97%), bile salts, mucus and pigments, 1% fats and inorganic salts. Bilirubin is its major pigment. Bile acts partly as a surfactant which lowers the surface tension between either two liquids or a solid and a liquid and helps to emulsify the fats in the chyme. Food fat is dispersed by the action of bile into smaller units called micelles. The breaking down into micelles creates a much larger surface area for the pancreatic enzyme, lipase to work on. Lipase

digests the triglycerides which are broken down into two fatty acids and a monoglyceride. These are then absorbed by villi on the intestinal wall. If fats are not absorbed in this way in the small intestine problems can arise later in the large intestine which is not equipped to absorb fats. Bile also helps in the absorption of vitamin K from the diet. Bile is collected and delivered through the common hepatic duct. This duct joins with the cystic duct to connect in a common bile duct with the gallbladder. Bile is stored in the gallbladder for release when food is discharged into the duodenum and also after a few hours.

Gallbladder :

The gallbladder is a hollow part of the biliary tract that sits just beneath the liver, with the gallbladder body resting in a small depression. It is a small organ where the bile produced by the liver is stored, before being released into the small intestine. Bile flows from the liver through the bile ducts and into the gall bladder for storage. The bile is released in response to cholecystokinin (CCK) a peptide hormone released from the duodenum. The production of CCK (by endocrine cells of the duodenum) is stimulated by the presence of fat in the duodenum.

It is divided into three sections, a fundus, body and neck. The neck tapers and connects to the biliary tract via the cystic duct, which then joins the common hepatic duct to form the common bile duct. At this junction is a mucosal fold called *Hartmann's pouch*, where gallstones commonly get stuck. The muscular layer of the body is of smooth muscle tissue that helps the gallbladder contract, so that it can discharge its bile into the bile duct. The gallbladder needs to store bile in a natural, semi-liquid form at all times. Hydrogen ions secreted from the inner lining of the gallbladder keep the bile acidic enough to prevent hardening. To dilute the bile, water and electrolytes from the digestion system are added. Also, salts attach themselves to cholesterol molecules in the bile to keep them from crystallizing. If there is too much cholesterol or bilirubin in the bile, or if the gallbladder doesn't empty properly the systems can fail. This is how gallstones form when a small piece of calcium gets coated with either cholesterol or bilirubin and the bile crystallises and forms a gallstone. The main purpose of the gallbladder is to store and release bile, or *gall*. Bile is released into the small intestine in order to help in the digestion of fats by

breaking down larger molecules into smaller ones. After the fat is absorbed, the bile is also absorbed and transported back to the liver for reuse.

Pancreas :

The pancreas is a major organ functioning as an accessory digestive gland in the digestive system. It is both an endocrine gland and an exocrine gland. The endocrine part secretes insulin when the blood sugar becomes high; insulin moves glucose from the blood into the muscles and other tissues for use as energy. The endocrine part releases glucagon when the blood sugar is low; glucagon allows stored sugar to be broken down into glucose by the liver in order to re-balance the sugar levels. The pancreas produces and releases important digestive enzymes in the pancreatic juice that it delivers to the duodenum. The pancreas lies below and at the back of the stomach. It connects to the duodenum via the pancreatic duct which it joins near to the bile duct's connection where both the bile and pancreatic juice can act on the chyme that is released from the stomach into the duodenum.

Aqueous pancreatic secretions from pancreatic duct cells contain bicarbonate ions which are alkaline and help with the bile to neutralise the acidic chyme that is churned out by the stomach.

The pancreas is also the main source of enzymes for the digestion of fats and proteins. Some of these are released in response to the production of CKK in the duodenum. (The enzymes that digest polysaccharides, by contrast, are primarily produced by the walls of the intestines.) The cells are filled with secretory granules containing the precursor digestive enzymes. The major proteases, the pancreatic enzymes which work on proteins, are trypsinogen and chymotrypsinogen. Elastase is also produced. Smaller amounts of lipase and amylase are secreted. The pancreas also secretes phospholipase A2, lysophospholipase, and cholesterol esterase. The precursor zymogen, are inactive variants of the enzymes; which avoids the onset of pancreatitis caused by auto-degradation. Once released in the intestine, the enzyme enteropeptidase present in the intestinal mucosa activates trypsinogen by cleaving it to form trypsin; further cleavage results in chymotripsin.

Lower gastrointestinal tract :

The lower gastrointestinal tract (GI), includes the small intestine and all of the large intestine. The intestine is also called the bowel or the gut. The lower GI starts at the pyloric sphincter of the stomach and finishes at the anus. The small intestine is subdivided into the duodenum, the jejunum and the ileum. The cecum marks the division between the small and large intestine. The large intestine includes the rectum and anal canal.

Small intestine :

Partially digested food starts to arrive in the small intestine as semi-liquid chyme, one hour after it is eaten. After two hours the stomach has emptied. In the small intestine, the pH becomes crucial; it needs to be finely balanced in order to activate digestive enzymes. The chyme is very acidic, with a low pH, having been released from the stomach and needs to be made much more alkaline. This is achieved in the **duodenum** by the addition of bile from the gall bladder combined with the bicarbonate secretions from the pancreatic duct and also from secretions of bicarbonate-rich mucus from duodenal glands known as Brunner's glands. The chyme arrives in the intestines having been released from the stomach through the opening of the pyloric sphincter. The resulting alkaline fluid mix neutralizes the gastric acid which would damage the lining of the intestine. The mucus component lubricates the walls of the intestine. When the digested food particles are reduced enough in size and composition, they can be absorbed by the intestinal wall and carried to the bloodstream.

The first receptacle for this chyme is the duodenal bulb. From here it passes into the first of the three sections of the small intestine, the duodenum. (The next section is the **jejunum** and the third is the **ileum)**. The duodenum is the first and shortest section of the small intestine. It is a hollow, jointed C-shaped tube connecting the stomach to the jejunum. It starts at the duodenal bulb and ends at the suspensory muscle of duodenum. The attachment of the suspensory muscle to the diaphragm is thought to help the passage of food by making a wider angle at its attachment.

Most food digestion takes place in the small intestine. Segmentation contractions act to mix and move the chyme more slowly in the small

intestine allowing more time for absorption (and these continue in the large intestine). In the duodenum, pancreatic lipase is secreted together with a co-enzyme, colipase to further digest the fat content of the chyme. From this breakdown, smaller particles of emulsified fats called chylomicrons are produced. There are also digestive cells called enterocytes lining the intestines (the majority being in the small intestine). They are unusual cells in that they have villi on their surface which in turn have innumerable micro villi on their surface. All these villi make for a greater surface area, not only for the absorption of chyme but also for its further digestion by large numbers of digestive enzymes present on the micro villi.
The chylomicrons are small enough to pass through the enterocyte villi and into their lymph capillaries called lacteals. A milky fluid called chyle, consisting mainly of the emulsified fats of the chylomicrons, results from the absorbed mix with the lymph in the lacteals.[*clarification needed*] Chyle is then transported through the lymphatic system to the rest of the body.

The suspensory muscle marks the end of the duodenum and the division between the upper gastrointestinal tract and the lower GI tract. The digestive tract continues as the jejunum which continues as the ileum. The jejunum, the midsection of the small intestine contains circular folds, flaps of doubled mucosal membrane which partially encircle and sometimes completely encircle the lumen of the intestine. These folds together with villi serve to increase the surface area of the jejunum enabling an increased absorption of digested sugars, amino acids and fatty acids into the bloodstream. The circular folds also slow the passage of food giving more time for nutrients to be absorbed.
The last part of the small intestine is the ileum. This also contains villi and vitamin B12; bile acids and any residue nutrients are absorbed here. When the chyme is exhausted of its nutrients the remaining waste material changes into the semi-solids called feces, which pass to the large intestine, where bacteria in the gut flora further break down residual proteins and starches.

Cecum :

Cecum and beginning of ascending colon,The cecum is a pouch marking the division between the small intestine and the large intestine. It

lies below the ileocecal valve in the lower right quadrant of the abdomen. The cecum receives chyme from the last part of the small intestine, the ileum, and connects to the ascending colon of the large intestine. At this junction there is a sphincter or valve, the ileocecal valve which slows the passage of chyme from the ileum, allowing further digestion. It is also the site of the appendix attachment.

Large intestine :

In the large intestine, the passage of the digesting food in the colon is a lot slower, taking from 12 to 50 hours until it is removed by defecation. The colon mainly serves as a site for the fermentation of digestible matter by the gut flora. The time taken varies considerably between individuals. The remaining semi-solid waste is termed feces and is removed by the coordinated contractions of the intestinal walls, termed peristalsis, which propels the excreta forward to reach the rectum and exit via defecation from the anus. The wall has an outer layer of longitudinal muscles, the taeniae coli, and an inner layer of circular muscles. The circular muscle keeps the material moving forward and also prevents any back flow of waste. Also of help in the action of peristalsis is the basal electrical rhythm that determines the frequency of contractions. The taeniae coli can be seen and are responsible for the bulges (haustra) present in the colon. Most parts of the GI tract are covered with serous membranes and have a mesentery. Other more muscular parts are lined with adventitia.

Chapter 4 - Minerals and Vitamins

Vitamins and minerals are two of the main types of nutrients that your body needs to survive and stay healthy. Vitamins help the body to grow and work the way it should. Vitamins have different jobs—helping resist infections, keeping nerves healthy, and helping the body to get energy from food or your blood to clot properly. By following the Dietary Guidelines, you will get enough of most of these vitamins from food.

Minerals also helps the body function. Some minerals, like iodine and fluoride, are only needed in very small quantities. Others, such as calcium, magnesium, and potassium, are needed in larger amounts. As with vitamins, if you eat a varied diet, you will probably get enough of most minerals. Vitamins and minerals are measured in a variety of ways. The most common are:

- mg – milligram
- mcg – micro-gram
- IU – international unit

Micro-grams are used to measure very small amounts—there are 1,000 micro-grams in a milligram. The size of an international unit varies depending on the vitamin or drug it is used to measure.

Different foods in each food group have different nutrients. Picking an assortment within every food group throughout the week will help you get many nutrients. **It is usually better to get the nutrients you need from food, rather than a pill.** That's because nutrient-dense foods contain other things that are good for you, like fiber. Most older people can get all the nutrients they need from foods. Avoid supplements with mega-doses. Too much of some vitamins and minerals can be harmful, and you might be paying for supplements you don't need.

Every day, your body produces skin, muscle, and bone. It churns out rich red blood that carries nutrients and oxygen to remote outposts, and it sends nerve signals skipping along thousands of miles of brain and body pathways. It also formulates chemical messengers that shuttle from one organ to another, issuing the instructions that help sustain your life.
But to do all this, your body requires some raw materials. These include at least 30 vitamins, minerals, and dietary components that your body needs

but cannot manufacture on its own in sufficient amounts. Vitamins and minerals are considered essential nutrients—because acting in concert, they perform hundreds of roles in the body. They help shore up bones, heal wounds, and bolster your immune system. They also convert food into energy, and repair cellular damage.

Vitamins and minerals are often called micro nutrients because the body needs only tiny amounts of them. Yet failing to get even those small quantities virtually guarantees disease. Here are a few examples of diseases that can result from vitamin deficiencies:

- **Scurvy.** Old-time sailors learned that living for months without fresh fruits or vegetables—the main sources of vitamin C—causes the bleeding gums and listlessness of scurvy.
- **Blindness.** In some developing countries, people still become blind from vitamin A deficiency.
- **Rickets.** A deficiency in vitamin D can cause rickets, a condition marked by soft, weak bones that can lead to skeletal deformities such as bowed legs. Partly to combat rickets, the U.S. has fortified milk with vitamin D since the 1930s.

Just as a lack of key micro nutrients can cause substantial harm to your body, getting sufficient quantities can provide a substantial benefit. Some examples of these benefits:

- **Strong bones.** A combination of calcium, vitamin D, vitamin K, magnesium, and phosphorus protects your bones against fractures.
- **Prevents birth defects.** Taking folic acid supplements early in pregnancy helps prevent brain and spinal birth defects in offspring.
- **Healthy teeth.** The mineral fluoride not only helps bone formation but also keeps dental cavities from starting or worsening.

Although they are all considered micro nutrients, vitamins and minerals differ in basic ways. Vitamins are organic and can be broken down by heat, air, or acid. Minerals are inorganic and hold on to their chemical structure. It means the minerals in soil and water easily find their way into your body through the plants, fish, animals, and fluids you consume. But it’s tougher to shuttle vitamins from food and other sources into your body because cooking, storage, and simple exposure to air can inactivate these more fragile compounds.

Many micro nutrients interact. Vitamin D enables your body to pluck calcium from food sources passing through your digestive tract rather than harvesting it from your bones. Vitamin C helps you absorb iron. The interplay of micro nutrients isn't always cooperative, however. For example, vitamin C blocks your body's ability to assimilate the essential mineral copper. And even a minor overload of the mineral manganese can worsen iron deficiency.

Water-soluble vitamins are packed into the watery portions of the foods you eat. They are absorbed directly into the bloodstream as food is broken down during digestion or as a supplement dissolves. Because much of the body consists of water, many of the water-soluble vitamins circulate easily in your body. kidneys continuously regulate levels of water-soluble vitamins, shunting excesses out of the body in urine. Although water-soluble vitamins have many tasks in the body, one of the most important is helping to free the energy found in the food you eat. Others help keep tissues healthy. Contrary to popular belief, some water-soluble vitamins can stay in the body for long periods of time. Probably have several years' supply of vitamin B12 in your liver. And even folic acid and vitamin C stores can last more than a couple of days. Generally, though, water-soluble vitamins should be replenished every few days.

Just be aware that there is a small risk that consuming large amounts of some of these micro nutrients through supplements may be quite harmful. For example, very high doses of B6—many times the recommended amount of 1.3 milligrams (mg) per day for adults—can damage nerves, causing numbness and muscle weakness.

Rather than slipping easily into the bloodstream like most water-soluble vitamins, fat-soluble vitamins gain entry to the blood via lymph channels in the intestinal wall. Many fat-soluble vitamins travel through the body only under escort by proteins that act as carrier. Fatty foods and oils are reservoirs for the four fat-soluble vitamins. Within your body, fat tissues and the liver act as the main holding pens for these vitamins and release them as needed. Your body squirrels away the excess and doles it out gradually to meet your needs. Together this vitamin quartet helps keep eyes, skin, lungs, gastrointestinal tract, and nervous system in good repair. Because fat-soluble vitamins are stored in your body for long periods, toxic levels can build up.

The difference between “just enough” and “too much” of the trace minerals is often tiny. Generally, food is a safe source of trace minerals, but if you take supplements, it’s important to make sure you’re not exceeding safe levels.

Potassium :
works with sodium and maintain the body’s water balance.
Banana, orange, grapefruit, apricot, prunes, raisin, dates, cooked spinach, cooked broccoli, potato, sweet potato, peas, cucumber, buttermilk, sprouts, pear are rich source of potassium.

Vitamin C :
it helps to protect level of nitric oxide, which relaxes blood vessel and keeps healthy BP.
Orange, kiwi, lemon, peru (guava), grapefruit, broccoli, cauliflower, capsicum, papaya, strawberry.

Nitric oxide :
helps blood vessels to relax, remain smooth, regulating blood flow, inflammation and BP. Prevents blood from clotting.
Dark chocolate, citrus fruits, pomegranate, walnut, spinach, watermelon, beetroot.

Calcium :
hypertension is more likely due to calcium deficiency rather than due to excess of sodium.
Sesame seeds, dairy products, fenugreek, bajra, ragi, millets, bran, dates, black chana.

Fiber :
Two types of dietary fiber soluble and insoluble. Soluble dissolves in water and insoluble absorbs the water. Both are necessary for overall health. It reduces cholesterol and obesity. Diastolic BP was more commonly reduced by adding food with insoluble fiber and systolic BP is lowered by adding soluble fiber as Lentils, beans, oats, fruits. Insoluble is in whole grains, and vegetables.

Sodium :
It narrowing the blood vessels. So the amount of space blood has to travel through decreases.
Processed meat, salty snacks, cheese, canned food, beetroot, carrot, radish, musk melon, pineapple, grapes, paneer.

Saturated fat :
increases the level of LDL. This deposit of fat is known as atherosclerosis, begins with accumulation of fatty streaks on the inner arterial walls.
Butter, cream, ghee, meat.

Omega 3 fatty acid :
reduces depression, good in cholesterol, reduces testosterone hormone level, helps to regulate menstrual cycle.
Walnut, flax seeds, chia seeds, spinach.

Vitamin B :
essential for the liver to convert old hormones into harmless substance.
Milk, whole wheat, broken wheat, bran, oats, dates, prunes, curd.

Magnesium :
Important function in bone marrow. It activates alkaline phosphate, which built bone, regulates the vitamin D absorption in the body. Alcohol is causing deficiency of it and liver cirrhosis occurs. Due to deficiency of it urinal problems and Parkinson occurrences. The nervous system and prevents excessive production of stress hormone. It helps to support the adrenal gland.
Green leafy vegetables, fig, nuts, seeds, wheat grass, sprouts, nutmeg.

Chromium :
which fight against insulin resistance and diabetes.
Whole grain, brown rice, broccoli, green beans, cereals, mushroom, corn and sweet potato.

Zinc :
Important functioning in absorption of vitamin D. increases immune system and may cure diabetes. Improves skin disorder and dandruff. It increases the level of testosterone hormones in male. deficiency of it can lead to increased level of male hormones androgen. Helps to produce enzymes, growth of physical and mental, to digest protein and to eliminate carbon dioxide.
Yeast, sprouts wheat, seafood, Til, peanut, garlic, mushroom, sunflower seeds, turnip, rajma, brown rice, spinach, dark chocolate.

Phosphorous :
Built the bones, teeth, blood balance the alkaline and acidic in blood. Absorbs the carbohydrates. Helps in function of muscles. Deficiency of it can lead to diseases of bones and teeth.
Milk, buttermilk, sprouts, leafy vegetables, seasonal fruits, Jaggery.

Chlorine :
Is acidic in nature. Balances the acid, alkali and osmotic pressure in the body. Produces HCL in stomach. Due to deficiency of chlorine vomiting occurs. **E**xcess sodium and chlorine are main cause of kidneys and high BP.
Salt,milk, fruits, vegetables, sprouts.

Iron :
In form of hemoglobin. It is in liver, spleen, bone marrow, kidney, plasma and other enzymes. Iron is important for formulate hemoglobin in blood. Deficiency of iron lead to anemia, liver problems, hyper acidity, diarrhea. child period, pregnancy and breast feeding period chances to anemic. Consume lots of iron food in plenty during above circumstances. Deficiency of iron, calcium, minerals and vitamins indication on face in form of black patches and spots.
Leafy vegetables, apricot, black raisin, til, black chana, apple, grapes, sprouts, beet root.

Manganese :
Important for producing cartilage and bones connective tissues. It produces thyroxin to digest protein to activate vitamins. Manganese is necessary to fight osteoporosis.
Sprouts, leafy vegetables, pineapple, nutmeg.

Copper :
It helps absorption of iron and produces hemoglobin. Anti-acidic and to digest thyroxin protein. Gives natural color to skin, hair, nails. Deficiency of copper and iron leads to psychological disorder, liver disorder, digestive disorder, white spots (lucorrhea).
Leafy vegetables, sprouts.

Iodine :
Essential to produce thyroxin hormone. Deficiency leads to muscular problem, psychological disorder, growth of bones disturbance, BP, heart disease, thyroid, cancer.
Sea food, milk, sea salt, water chestnut, makhana, lotus stem, turmeric.

Florin :
Necessary for bones and teeth. High amount in water leads to disease of teeth and bones.
Sprouts, fruits, vegetables.

Silicon :
It strengthens the connective tissues, helps to strengthen the bones, healing wound.
Cereals, fruits, living food, turmeric, green vegetables.

Amla :
Cures scurvy, strengthen semen, increases weight of thin and emaciated one. Useful in diabetes, natural antacid and antidote against hyper-acidity. Improves concentration, falling hair, graying of hair, helpful in painful respiration, diarrhea, dysentery, anemia, jaundice, dyspepsia, burn in vagina, cough, inflammation of eyes, toothache, fever, epilepsy, fistula, cholera, sterility in women.

Pear :
Rich in vitamin A, D, E,K,B complex, calcium, iron, magnesium, phosphorous, potassium, zinc, dietary fiber. Vitamin K in pear helps blood clotting, protects from stroke and heart disease, lowers cholesterol, constipation, intestinal inflammation, colon cancer, diabetes.

Pomegranate :
Rich in niacin, B-6, thiamine, riboflavin, fol ate, vitamin K,E, iron, potassium phosphorous, manganese, copper, calcium, fiber in seeds. Lowering cholesterol and BP. Stimulate serotonin and estrogen hormones which cures symptoms of depression and increasing bone mass. Having for one year (one gm) daily chances for reduction atherosclerosis, plaque. Improves memory, good in heart problem.

Ginger :
Increase urinal has properties as gingerol, which improves fever and stress. Detoxify blood so helpful for heart problem. Cures inflammation. It is antioxidant, cures ulcers, peptic ulcer.

Aelovera :
Gel in useful for burn, cuts, wound, sunburn, skin infection, warm gel is beneficial on eyes for eye flu, liver and spleen disease. Improves metabolism and sugar and fat. Cures peptic ulcer (prior wash gel with fresh water). Avoid during pregnancy, breast feeding, mences, kidneys and piles person.

Walnut :
Rich in omega 3 fatty acid, which is best supplement for supporting brain function and reduce sign of mental illness.

Berries (each) :
are antioxidants and reduces depression.

Mushrooms :
Oppose insulin control blood sugar, promote healthy bacteria (intestine).

Onion :
Anti inflammatory antioxidants, contain favonoids to regulate intestinal function and brain function.

Red chilly :
It clear the blood. It helps in thinning of blood. Protects from calcium coagulation in heart arteries.

Garlic :
Releases the blocked arteries. Two to four cloves boiled in toned milk is good for heart. Garlic juice + honey (1:1) every morning and evening is good for heart.

Turmeric :
Stop the clotting of blood in heart arteries. Use in turmeric milk, with honey in vegetables is good.

Lemon :
Prevents hardening of wall of the arteries and veins. Controls BP, blood thinning agent, purifies blood, throws toxins from the body. 1Spoon honey+1 spoon lemon juice + black pepper powder clears the blockage of arteries.

Flex seeds :
Contains alpha lenotenic acid which clears heart arteries. One – one spoon powder every morning and evening.

Cinnamon :
Antioxidant, helps in reducing cholesterol, strengthens the cardio-vascular system, cleans the arteries, control BP.

Spinach :
Contains fiber, iron, potassium, vitamins in sufficient amount. Spinach leaves grind and drink juice daily will improve hemoglobin level. Maintains high BP.

Water melon :
Contains amino-acid. Good for high BP, good for kidneys and heart blockage.

Lemon grass :
Improves metabolism, diminishes cholesterol level, control high BP.

Cardamom :
Prevents burns, improve hunger, urinal, strengthening the heart, ½ gm cardamom powder+honey everyday, morning and evening controls high BP. Thins the blood and cleans the heart arteries.

Eggs :
Leads to BP, heart disease, injured to the walls of stomach, intestine, blood vessels, high in cholesterol, which creates congestion in blood vessels, hardening and in-sensitiveness in blood vessel.

Dates :
Rich in soluble fiber – for constipation. Contains sugar, protein, fat. If taken with cucumber paste helps in putting on weight. Lowers cholesterol and good for liver. Rich in iron and folic acid – for anemic.

Chapter 5 – Diagnosis

Role of Doctor :

The most important role to play on the side of the doctor is to have close and intimate relation with the doctor and patient, as the patient comes with the fervent hope in mind. The doctor, is a person who is trained and licensed to treat sick and injured people. He/She should be kind and friendly with the patient. If patient feel comfort to talk with doctor, he will be able to give information of illness. Close and intimate relation should be shaped that the patient talk quiet freely with open mind and heart. It is expected that relationship between the doctors and patients should be as intimate as family members, so that doctor and patient can communicate their views, complaints. With this friendly relation are established and the patient can put up his complaints confidently and clearly. The doctor should be humble and gentle in behavior. It is quite good for the patient to have knowledge about his disease. Doctor should be frank and lively with the patient, he may be a semi-god for the patient. Deep faith assurance and inspiration from the doctor plays an important role to cure disease. Doctor-patient relation must be trust worthy as teacher-student. Doctor should guide, inspire and encourage the patient to provide exact direction about his diet, his disease and instruct him to follow carefully. Doctor’s role is only to show the path and assist the patient. Nature is the true and miraculous force with cure the patient. Doctor’s word must be with the depth of full experience and must reflect self-confidence. To seeing the doctor, half of the disease vanishes.

Causes of the disease:

People often think disease happen by chance, that is strikes suddenly for no reason. Unsure of what to do, they might turn to conventional medicine for answers, they offer limited ability to restore normal health. Disease are the result of specific causes. May be (i) direct (ii) indirect (iii) unknown. Direct causes as infections disease, which are due to specific organism. A detail examination will reveal the direct cause. Indirect cause are related to infection. An exposure may not result in disease until and unless there are certain favorable condition. When body resistance is

lowered a predisposing cause is created to cause disease. These factors are poor diet, tiredness, exposure to cold, inadequate exercise and fresh air. Obscure or unknown causes, which lowers the body resistance. Without adequate exercise, outdoor or indoor one can not aspire for good health. Lack of sunshine causes low vitality. The sun is main source of energy for blood and tissues of whole body. Lack of fresh air lowers the body resistance. The blood must be very oxygenated.

Proper nourishment with good food in right quantities is vital for good health. Tiredness due to insufficient sleep or rest. Too much or too tiny clothing can also lower body resistance. Those who are living in warm and hot climate are usually active than those who residing in colder climate. Eight hours of sleep is necessary. A well ventilated rooms and a free mind without any tension will induce instant sleep. Bath also relaxes mind and body. Alcohol, drugs, tobacco and certain chemical causes disease. Wrong posture of body while standing, sitting and walking harm the nerves and blood supply to the vital organ and tissues. Feeling as worry, grief, anxiety, temper and excessive emotion disturbance have a bad impact on the nervous system. Many disease are possible because of the infinite variety of ways. These factors can come together over a lifetime. When exposure to theses stress factors is reduced the healing system of the body flourish and risks of disease can be reduced profoundly.

Diagnosis :

In naturopathy, treat the person and not the disease. As disease vary from person to other person. The disease is not due to virus or bacterium but psychology of the person plays an important role in treatment of disease or its causes. While examine the patient, the doctor must have keep in mind may points, as successfully treating a patient is to know some vital details about the person. Patient mode of living, illness from which the patient is suffering. Some of the points to examine the patient are as,

- Keep patient's record as name, address and contact number.
- The age, marital status, occupation.
- In case of lady patient, ascertain the numbers of children if any. Also note about menstrual cycle, regular-irregular or flow is profuse-scanty-normal. Patient’s experience any acute pain during menstruation. Any abortion or about delivery.

- Note down weight, height presently.
- Details of family history. Which is very important. Ascertain if the patient's ancestors are thin-stout, short-tall, etc. Check if suffering from hereditary disease like consumption, cancer etc.
- Make the patient recall his problem in detail and all the symptoms that he has been experiencing.
- Closely question your patient on these points,

a) urine
b) stool
c) piles
d) sore throat
e) cough
f) expectoration
g) pain in abdomen
h) vomiting
i) hearing
j) eye problems
k) catarrh
l) stomach ache
m) convulsion
n) dizziness
o) neck, back eruption
p) lucorrhea
q) fever
r) irregular heart beats
s) cramps
t) breath
u) nervousness
v) chills
w) cold
x) pelvic
y) dysmenorrhea
z) night sweat

- Details of daily diet, breakfast, lunch, eating habits, dinner, digestion amount of food, types of food as fruits, vegetables, fish, fresh or stale food, coffee or tea habits etc.
- Habits-pertaining to sleep, sex, bath, work, exercise, rest, recreation, bowl, bladder etc., smoking or drinking habits.
- Check occupation, posture, fatigue, ventilation, sanitation, temperature,founding, association.
- Clothing- too much or too tiny, friction, shoes.
- Home life – family, associates, surrounding, temperature, ventilation etc.
- Mentality – psychological strength, emotion, disposition, worry, contentment etc.
- Check out trauma, injuries, wounds, fall, blows, shock, strain, any accident.
- Infection – chemical gases, bacterial, drugs etc.

The blood pressure :

The blood pressure of a person can be found out by means of ‘sphygmomenometre’. It shows systolic and diastolic pressure. The normal level is 120/80 mm/hg. Certain details are important in the use of sphygmomenometre. The patient must be sitting or lying at ease. The sphygmomenometre is placed so as to be at the same level as the observer’s eye. All clothing should be removed from the arm. The cuff should be applied closely to the upper arm with the lower border not less than 2.5 cm from the cubital fossa. The radial pulse is palpated while the cuff is inflated to a pressure of 30 mm/hg above the level at which radial pulsation can no longer be felt. The stethoscope is then placed lightly over the bronchial artery. The pressure in the cuff is lowered to 5 mm/hg at a time, until the first sound is heard, which is a systolic pressure, continue to lower the pressure in the cuff until die sound becomes suddenly faint. This is diastolic pressure.

The average systolic pressure of healthy adult is 100-140 mm/hg. The diastolic pressure 60-90 mm/hg. In children it approximates to the lower figure in each case. And in elders it reacts or even exceeds the high figure. The pulse pressure is 30-60 mm/hg. High systolic pressure (systolic hypertension) is frequently encountered, in the elderly people and is a cause of in elastically of the arteries.

A raised diastolic pressure is of much greater significance and should lead to a search for a primary cause. If these causes are included, a diagnosis of idiopathic hypertension is made. BP depends on

i) heart
ii) resistance
iii) elasticity of the blood vessel walls
iv) amount of blood
v) viscosity of blood

The force of the heart to pump the blood through the arteries creates systolic pressure. The tension, which the arteries walls pressurize upon the blood creates diastolic pressure.

The poisonous waste matter in the system or weakening of one or more organs, causes high BP. It is note in arteriosclerosis, toxemia, nephritis, nervous tension etc. BP decreases in general weakness, wasting disease, anemia, low vitality weak heart, exhaustion etc. increased BP is

indicated in cardiac hypertrophy or aortic regurgitation, decreased is indicated in weak or incompetent heart and aortic stenosis.

Urine analysis :

The urine analysis is a set of screening tests that can detect some common disease. It may be used to screen for or help diagnose condition such as urinary tract, infection, kidney disorder, lover problem, diabetes etc. A urine analysis is comprised of several chemical microscopic and visual examination used to detects cells, cell fragments and substance, such as crystal in the urine. Substance as protein or glucose will begin to appear in the urine before people are aware that they may have a problem. It helps people to follow treatment. It is a sure way of diagnosing a disease. Urine is a secretion of kidney and examination of urine is analysis.
Urine examined in
a) physically
b) chemically
c) microscopically
d) bacteriological.
Urine is produced from the blood by kidneys through filtration and secretion. Once the urine is ready in kidneys, it passes into the excretory duet called uretress, 16 to 18 inches long. Then urine is collected in urinary bladder, which is then passed out of the body by way of urethra, 1/2” long in the female and 8 to 10” long in male. For the purpose of analysis, 4 ounce of urine should be sent in a clean bottle with the patient’s name. Fresh specimen of urine should be used for all tests as changes in the composition.

During physically test of urine, must observe the color and clarity of urine. These can be signs of what substance may be present in the urine. Urine can be a variety of colors, most often shades of yellow, pale or colorless, very dark or amber. Abnormal color can be the result of a disease process, few medicines as multi vitamins can turns urine bright yellow or eating food as beetroot the color of urine may be changed. However red color urine can also occur when blood is there in urine. And can be indicator of disease or damage to some part of the urinary system. Yellow-brown or greenish-brown urine that may be sign of bilirubin in the urine. Normal urine can be clear or cloudy. Other substance that can make

urine cloudy, like red blood cells, white blood cells or bacterial indicate a condition that requires attention.

In chemical examination of urine most clinically labs use test strip with test pads, that have chemical impregnated into them. Dip the strip into the urine, chemical reaction change the color of the pads. The degree of color change on a test ad can give an estimate amount of substances present. A slight color change indicate a small amount of protein present in urine and deep color change may indicate a large amount.

Microscopic examination is done when there are abnormal finding on the physical or chemical examination and the result from all will be taken into account for interpretation. The fluid at the top of the tube is then discarded and the drop of fluid remaining are examined under a microscope. Cells, crystals and other substances are counted and reported as,

Red Blood Cells (RBC)
White Blood Cells (WBC)
Epithelial cells
Bacteria, yeast and parasites
Trichomonas
Cysts
Crystal

To find if the urine is alkaline or acidic in reaction use blue and red litmus paper. If the paper turn into red, the reaction is acid. If there is no change in color, dip a piece of red litmus paper into the urine, if the paper changes to blue, the urine is alkaline. If no change on both red and blue litmus paper, the urine is said to be neutral in reaction. Urine is normally acidic in reaction.

Blood test :

The blood test is a laboratory analysis performed on a blood sample that is usually extracted from a vein in the arm using a needle. Blood tests are often used to determine physiological and biochemical stats, such as disease, mineral content, organ function. 5 ml of whole blood should be placed in a dry sterile container and allowed to clot, if there would be delay in delivery of the specimen, the serum should be removed with sterile syringe and a needle and placed in a separate container. If delay to

send a blood sample is inevitable. Freshly separated plasma is essential for sodium, potassium chloride bicarbonate and inorganic phosphate testing for plasma cortisol determination. Plasma must be separate immediately.

a) Blood normal characteristic;

bleeding time	2 to 6 minutes
clotting time	5 to 10 minutes

b) red cell fragility;

haemolysis, beginning	0.45 to 0.39 %
haemolysis, complete	0.33 to 0.30 %
erythrocyte sedimentation rate	1 to 2 mm

c) hemoglobin (hb);

men	13.5 to 18.02 / 100 ml
women	11.5 to 16.5 / 100 ml

d) red cells (RBC);

men	4.5 to 6.5 million/ cubic mm
women	4.0 to 5.5 million/ cubic mm
reticulosytes	½ to 1 %

e) mean caspuscular hemoglobin;

concentration (mchs)	30 to 36 %
mean corpuscular volume	78 to 94 cubic mm

f) packed cell volume (PCV);

men	40 to 45 %
women	36 to 47 %
platelets	1,50,000 to 4,00,000 / cubic mm
white cells (WBC)	4,000 to 10,000 / cubic mm

g) different count dc;

neutrophils	60 to 70 %
lymphocytes	20 to 35 %
monocytes	2 to 10 %

esonophiles	1 to 4 %
basophiles	0 to 1 %

The tongue :

The tongue is a muscular organ in the mouth. It covered with moist, pink tissue called ‘mucosa’. Tiny bumps called ‘papillae’ give the tongue its rough texture. Thousands of taste buds cover the surface of the papillae. It vertebrates that manipulated food for mastication and is used in the act of swallowing. It is of importance in digestive system and is the primary organ of taste in the gustatory system. This organ affords important indication, dryness points to diminished secretion an is common in acute and febrile disease. It is sensitive and kept moist by saliva. And is richly supplied with nerves and blood vessels. A major function is the enabling of speech in humans and vocalization in other animals. The human tongue is divided into two parts, an oral part at the front and a pharyngeal part at back.

Moisture is generally a favorable sign, particularly when it succeeds a dry or furred condition.

A red tongue - eruptive fever and
in gastric and bilious fever
red tip and edges - in bed case of indigestion
strawberry tongue - scarlet fever
fissure tongue - typhoid and enteric fever
purple tongue - defective oxygenation of blood
furred tongue - inflammation and irritation of the mucous membrane in disease of brain
in all kind of fever
in all acute and dangerous maladies
coated tongue (rising) - tobacco smoker
white coated - gastric or intestinal disorder
yellow coated - indicates liver disorders
brown/black - low state of vitality and contamination of blood

As the tongue gets browner, dirtier and drier each day, the nervous and muscular system gets weaker.

The hope is extinguished, when the fur separates in patches, leaving a red glossy surface.

It is also unfavorable, when the crust is rapidly removed, leaving a raw dark color appearance.

The skin :

The skin has three layers. The epidermis, the out most layer of skin, provides a water proof barriers and creates out skin tone. The dermis, beneath the epidermis, hair follicles, sweat glands. The deeper hypo-dermis, is made of fat and connective tissue. Skin has a big job to protect the body so it is made to be tough and stretchy. Skin is the most soft outer covering of vertebrates.

In good health, the skin imparts the sensation of an agreeable temperature with just sufficient moisture to preserve its softness. It is elastic, smooth and not to tense nor too loose. A harsh dry burning heat of the skin is indicative of fever and regarded unfavorable in inflammation condition of internal organs. If these conditions are followed by perspiration, coincident with general improvement, it is favorable condition. Great relief is usually experienced on the occurrence of the sweating stage in inflammatory fever. Complication may be feared if sweat, ensured without any amelioration of other symptoms. If perspiration occur after trifling exertion, they point to excessive weakness. Night sweat of frequent occurrence not only show debility, but when preceded by chills and fever may indicates tuberculosis. A bluish tint of the skin indicate structural disease of heart. A yellow – biliary affection. A rich blush of cheeks and the surrounding parts pale, may indicates an irritable condition of the nervous system or diseased state of the lungs.

Chapter 6 - Diseases

- Inflammation :

It is a localized physical condition in which part of the body becomes red, swollen, hot and often painful. When something harmful or irritating affects a part of the body, there is a biological response to try to remove it, the signs and symptoms of inflammation shows that the body is trying to heal itself. Inflammation does not mean infection. Infection is caused by bacterium, virus or fungus, while inflammation is the body's response to it. Inflammation means congestion of blood vessels. The blood vessels become thick and enlarged. A result circulation is checked and plasma pass out into the surrounding tissue without the walls being broken. Long standing inflammation is usually called chronic inflammation.
Catarrh – affects the mucous membrane.
Fibrinous – pertains to fibrous ensues.
Intestinal – refer to connective tissue.
Purulent – produces a creamy substance called pus.
It indicates high degree of inflammation in the white cells comes out from the blood vessels form changed skin tissues.

- Anemia :

Anemia is a condition that develops when blood lacks enough healthy red blood cells or hemoglobin. Hemoglobin is a main part of red blood cells and binds oxygen. If too few or abnormal red blood cells (RBCs), the cells in body will bot get enough oxygen and organs are not getting what they need to function properly. Certain forms of anemia are hereditary and infant may be affected at time of birth. Women in the childbearing years are particularly susceptible to iron-deficiency, anemia because of blood loss from menstruation and their increased blood supply demands during pregnancy. Older adults may have greater risk of anemia because of poor diet. When blood is low and deprived of its richness and aluminous material, it tends to develop tuberculosis deposits, low inflammation, derangement of liver, dropsical effusion and other infection. There are two forms of anemia simple and pernicious diet, latter being the

more serious. An anemic condition young girls is called ‘ chlorosis’ or ‘ green sickness’.

Symptoms :

May vary according to the type of anemia. The severity and any underlying health problems such as ulcer, hemorrhage, menstrual problem or cancer. The anemic person is pale, white and blood less in appearance. Weakness of vital organs and of the entire muscular system hurried respiration on slight exertion. Cold hands and feet, ringing in the ear, rapid and feeble pulse, nervousness. There are usually a lack of appetite, in some cases headache, constipation, digestive disturbance, vertigo and irritability of temper, The BP is often low and temperature is frequently subnormal.

Causes :

Anemia caused by deficiency of vitamin B-12, blood loss due to bleeding, ulcers, cancer and regular use of some over the counter pain relievers especially ‘aspirin’. Among the existing causes are excessive work, not sufficient variety of diet, too frequent child bearing, chronic cater run of stomach and intestine, prolonged discharge, excessive nursing, mental shock and anxiety, various tozomias, lack of fresh air, sunshine, exercise.

Treatments :

Anemia is not a disease in itself, it results mainly from a nutritional deficiency. Exercise at the open air and sunshine according to one’s strength is important. Food rich in iron and other blood making elements should be used If constipation must be remedied. Sun bath and out door walk are of value. Deep breath should be practiced. Plenty of fresh air in the room. Very warm or hot baths may be given once or twice a week. If the vitality of the patient is low, cold water should be sparingly, until a better condition of the health obtained. Spinal stimulation in the form of manipulation and alternate hot and cold compresses is useful. A general massage of the entire body is to be recommended in anemia. It should be continued from six to eight weeks. In some cases raw eggs beaten in milk can be used with marked benefits. The bowl should move freely. Enema should be given when needed. A sufficient amount of rest should be secured.

- Arteriosclerosis :

Arteriosclerosis is one of the most common disease of the blood vessels. It refers to a thickening of walls of the arteries due to the presence of calcium or lime. When this condition exists, there is a loss of elasticity in the blood vessels with narrowing of the caliber of small arteries, thus interfering with the free circulation of blood. These changes may also extend to the capillaries and veins. It is more frequent in men than woman, especially in the younger age group. It has been estimated that 40% of all men over 40 years have a significant degree of obstruction of their coronary arteries and this can lead to heart attack any time.

Symptoms :

The symptoms may vary with arteries involved. Signs of inadequate blood supply generally appears first in legs. There may be numbness and coldness in the feet and cramps and pain in the legs even after light exercise. If the coronary arteries are involved the patient may have sharp pain, characteristics of angina pectoris. When arteries leading to brain are involved, the vessel may burst, causing hemorrhage in the brain tissues. A cerebral vascular stroke, with partial or complete paralysis of one side of the body may result, if there is a blockage with a blood clot. It may also lead to memory loss and a confused state of mind in elderly people. If arteries leading to the kidneys are involved, the patient may suffer from high blood pressure and kidney disorder. Dizziness, laboring of the heart and sometimes unconsciousness in the aged are amongst the symptoms. In marked cases the arteries may be felt hard, thick and in-compressible.

Causes :

The most important cause of it is excessive intake of white sugar, refined food and high fat diet, rich is cholesterol. A sedentary habits and excess of all kind, are the major contributing causes. It may also caused by other disease such as high BP, obesity, diabetes, rheumatism arthritis, Bright’s disease, malaria, syphilis, emotional stress also plays an important part. Heredity also plays a role.

Treatment :

If the causes are known, they should be remove. Put the patient on protein diet and discard meat, tobacco, tea, coffee, condiment. Let the larger part of diet consist of fresh fruits and vegetables. Avoid grief, worry, constipation. A quite lie with moderate exercise is indicate.

- Tuberculosis (TB) :

It is the most dreaded disease. It is a major health problem in India. Approx five lac people die due to this disease. It is caused by a tiny germ called ‘ tubercle bacillus’, which is a small that it can be detected only by a microscope. The germs enters into the body through the nose, mouth and wind pipe and settles down in the lungs. It multiplies by millions and produces small raised spot called tubercles. It is not hereditary but an infectious or communicable disease. Those suffering from the disease for a considerable time effect living germs, while coughing or spitting and when these germs enters the nose or mouth of healthy person, they contract the disease. Kiss, mouth – breath as well as contaminate food and water are also responsible for spreading it. It is of four types : namely lungs, bones, intestine and glands. Pulmonary or tuberculosis of lungs is by far the most common type pf TB. It tends to consume the body and the patient losses strength, color and weight. Off color for a while or over worked or have a troublesome catarrh from which they recover. Military tuberculosis is a condition caused by the spread of large numbers of the bacilli to many parts of the body. This type of tuberculosis can effect the meninges, causing a serious infection called tuberculosis of meningitis.

Pott’s disease is tuberculosis of spine and result in Kyposis Lupus vulgaris is tuberculosis of skin. In it brownish lesions or nodules may form on the face or mucous membrane, the lesion then become ulcerous and form scars. There may be tuberculosis infection elsewhere in the body, which must be identified and treated. Scrofula disease usually affects children between the age of 3 to 7 years. The germs may enter the body through the tonsils. As The disease progresses, the nodes swell and cluster together, forming obsesses that break through the skin and cause large, running sores. If left untreated, the sores eventually heal and leave unsightly scars. The disease usually begins with general debility, increased temperature, increased frequency of the pulse, anemia, slight hacking cough. As the disease progresses the cough becomes more difficult, the pulse becomes more rapid and facial debility increases with time and hemorrhage is found.

Causes :

Lowered resistance or devitalization of the system is the main cause of it. Lack of minerals of the tissues of the body due to an adequate diet

and the chief mineral concerned is calcium. It is the disease of calcium deficiency. Thus an adequate supply of organic calcium in the system together with organic minerals matter is a sure preventive of development of TB. Lack of fresh air, sunshine, disorder of digestion, diet – insufficient, improvement of the bowl, improper treatment of other disease, depressing mental emotion are the causes of disease. Suppression of the disease by drugs and medication, use of stale, devitaminished, acid forming food, eating wrong combination of food (viruddha aahar) such as taking fruits with starchy food at one meal, causes fermentation in the stomach, living in ill-ventilated plate. These germs may be present in the body but are quite harmless for those who are full of vitality and natural resistance.
Treatment :

TB is no longer considered incurable if it is tackled in early stages. The patient should be put on an exclusive fresh diet for three four days. As apples, grapes, pear, peaches, oranges, melon, pineapple, seasonal fruits. Bananas must be avoided. Unsweetened lemon water in hot or cold water may be taken. Those who are underweight or losses weight due to fruit diet, can add glass of milk to each fruit meal. The patient may begin with a liter of milk on first day increase by quarter liter daily. The milk should be fresh and unboiled, should be sipped slowly, may be slightly warm if desired. The fruits and milk diet should be continued for 4 to 6 weeks. The bowls should be cleansed daily with warm water enema and afterwards necessary. The patient should avoid devitalized food such as bread, sugar, refined cereals, pudding, preserved food, strong tea, coffee, pickles, condiments, sauces etc. The custard apple is regarded as an effective food remedy for TB. Amla juice and honey mix together should be taken every morning. Radish is also beneficial.

The patient should take complete rest. Must spend most of the time in the open air and should sleep in well ventilated room. Sunshine kills the tuber bacilli, so patient must be in exposure to sun rays. Slow massage, deep breath and light occupation to ensure mental diversion. Spinal manipulation may be give two or three times a week. The patient must keep the mind free from worry, grief, anxiety and all devitalizing habits must be discontinued during the treatment.

- Constipation :

Is a common disturbance of digestive tract. The bowels don't move regularly or are not completely emptied, when they move. Constipation is the chief cause of many disease such as a condition produces toxins, which find their way into the blood stream and are carried to all parts of the body. This result in weakening of vital organs and lowering of resistance of the system. It has been estimated that the food taken per diet is about 35 ounce, 30 of which are assimilated and 5 left as a true excreta. Occasionally irregularity in evacuation from the bowels, increase in their consistence and often a sensation of fullness and tension in bowel and surrounding parts. Purgation during sickness is generally injurious, while temporary relief is afforded by powerful purgatives, the delicate mucus membrane of the intestinal tract is weaken.

Symptoms :

The most common symptoms of it are infrequency, difficulty of elimination due to hard faecal matter. An other is coated tongue, foul breath, loss of appetite, headache, dizziness, dark circles under the eyes, depression, nausea, pimples on face, ulcers in mouth, constant fullness in the abdomen, diarrhea, constipation, alternating, varicose veins pain in the lumber region, acidity, heart burn and insomnia. Large intestine becomes so distended with gas that it presses against the lungs and heart causing difficult breathing. Sedentary habits, improper food, lack of exercise, inattentive to the call of nature, insufficient water drinking, irregular meals are common causes of it. The remedy must be directed to the cure of disease.

Treatment :

To cure constipation must have simple and natural diet. This consist of unrefined food as whole grain cereal, bran, honey, lentils, green and leafy vegetables as spinach, fresh beans, lettuce, onion, cabbage, celery, fresh fruits as pears, grapes, figs, papaya, mangoes, Amla, guava, oranges, dry fruits as fig, raisin, apricot, dates, milk and milk products in the form of ghee, paneer, cream etc. Food must be masticated properly. Hurry meal and meal at the odd time must be avoided. Sugar food should be avoided as it losses vitamin 'B' from the body. Without vitamin 'B' intestine could not work normally. Constipated food as maida, bread, rice, cake etc. should be avoided.

Regular drinking of water is beneficial for cleaning the system. Six to eight glasses of water should be taken daily as it is essential in digesting and dissolving food nutrients, so that they can be absorbed and utilized by the body. Drinking hot water with lime juice and ½ a teaspoon of salt is also effective remedy for constipation. Water kept in copper vessel overnight and drink first in morning with empty stomach will bring good result. The practice of having two glasses of water immediate upon rising is an excellent. A teaspoon full of salt dissolved in a glass of water drunk as a first on arising has a laxative effects.

The enema may be more effective by the addition of half teaspoonful soda and one teaspoon full of salt for each quart of water. After the water has been injected, the patient should lie on the right side for few minutes. This will allow the water to reach all parts of the colon and soften and loosen the hard faecal matter, so it can be expelled. After on week enema should be used only when necessary. Active exercise promotes all the bodily function and helps to regulate the bowels. Walking is a good form of exercise. Outdoor sports, exercise to strengthen the internal muscles and increase peristaltic action of the intestinal tract should be practiced daily in morning or evening.

A cold friction bath taken daily in the morning can help to cure constipation. Alternate hot and cold hip bath taken before retiring to bed is also beneficial. Abdominal exercise and manual or mechanical vibratory massage have a refreshing and stimulating effect in many cases. Fresh air, out door games, waking, swimming, gardening plays an important role in strengthening and activating the muscles. Certain ‘Yogasan’ also helps to bring relief from it as they strengthens the abdominal and pelvic muscles and stimulate the peristaltic action of the bowel. An orange in the morning and evening will cause the bowels to move in many cases. Establishing a regular habits of attending to the call of nature is also highly important.

- Heart disease :

There has been marked increase in the incidence of heart disease in recent years. Heart attack have become the one killer in western countries. They rank third in India, after tuberculosis and infection. This disease affects people of all ages and both sex, although it is more common in men than women, among the age group 40 to 60 years. The heart is the most

vital organ in the body, is a muscle about the size of a clenched fist. It start working even before birth inside the womb, weighing less than 350 gm. It pumps about 1300 gallons of blood per day through the body and supplies oxygen and nourishment to all the organs. It beats 1,00,000times a day, continuously pump the blood through more than 60,000 miles of tiny blood vessels. The heart in turn needs blood for nourishment, which is supplied by coronary arteries, coronary arteries are so called because they are arranged like a crown or corona.

In narrowing or hardening of the arteries on account of their getting plugged with fatty substance. The flow of blood restricted. The heart is unable to get sufficient oxygen. This condition is known as ischemia of heart or angina pectoris. In this condition exercise or excitement provokes severe pain and so limits the patient's physical activity.

The narrowed arteries get blocked due to a clot or thrombus inside them, causing death of that portion of the heart, which depends upon the choked arteries, it is called a heart attack or 'coronary thrombosis'. Patient with healed lesion may be severely disabled or may be able to resume normal life with restriction in their physical activities. Heart disease include numerous problems, many of which are related to a process called atherosclerosis. This is a condition that develops, when a substance called plaque builds up in the walls of the arteries. This build up narrows the arteries, making it harder for blood to flow through. If a blood clot forms, it can stop the blood flow. This can cause a heart attack or stroke. If this clots cuts off the heart muscle supplied by that artery begins to die. Most people survive their first heart attack and return to their normal lives to enjoy many more years of activity.

Congestive heart failure, cardiomyopathy, valvular heart disease are among the heart disease types. There are are more than 50 types, each one affecting different areas of heart or the blood vessels system within it. Some people are born with certain types of heart disease, known as congenital heart disease, others are develop over time. There are two forms of heart disease. Functional and organic. Functional disorder of the heart refer to the action of the hear, which may be increased, decreased or irregular.

Organic disease have reference to the structure of the heart itself.

a) Pericarditis :

An inflammation of membranous substances surrounding the heart, may be acute or chronic.

b) Endocarditis :

An inflammation of the lining of the cavity of the heart, most frequent form, may be acute or chronic.

c) Mayocarditis :

An inflammation of muscle of the heart, not a common disorder. May be acute or chronic.

d) Angina Pectoris :

Is a neurological affection of the heart, at lack being brought about by spasmodic contraction of the heart muscle.

e) Valvular lesion :

Disordered condition of the valves of the heart. The valves may become thick and inflexible by the growth of new fibrous tissues.

f) Dilation :

It is an increase in the capacity of cavities of the heart, with diminished contractible power. The walls may be stretched so as to contain 2/3 times usual quantity of blood.

g) Atrophy :

Is wasting away of the substances of the heart muscle, diminishing its power. The size and weight of the heart increased.

h) Fatty generation :

In which fat is distribute in place of the muscle. Particles of fat are deposited within the sheath which invests the fibrils.

I) Aneurysm :

This disease of the heart signifies a localized or pouch like dilation in the walls of the heart. The left cavity is the one in which the dilation is most likely to occur.

- Diabetes :

Also called diabetes mellitus describe a group of metabolic disease In which the person has high blood glucose (blood sugar). Either because insulin production is inadequate or because the body's cells don't respond properly to insulin or both. Patient with high blood sugar will typically experience polyuria (frequent urination). Or they become polydipsia (increasingly thirsty) and polyphagia (increasingly hungry). Diabetes is

a disease known to the medical world since time immemorial. The most commonly used screening tests are the determination of the fasting blood glucose level and two hours after meal. The normal fasting blood sugar contents is 80 to 120 mg/100 ml of blood and can goes up to a level of 180mg/100 ml two hours after meal. Anything above these norms can be termed diabetic level. It occurs in all age group from young infant to elder. It is estimated that 80 to 85 % of all persons with diabetes are 45 years of age or older.

The word ‘diabetes’ is derived from the Greek word which means ‘to pass through’ and ‘mellitus’ comes from the Latin word ‘honey’. The normal volume of urine passed daily is about 1.5 liter but diabetic patient, condition may vary from 4 to 20 liters. The urine is of pale color, an acidic reaction and sweetish odor. The quantity of sugar resent in it varies from one and a quarter decigram to two and half gm per day, in many cases reaching as much as one kg in 15 liters of urine. A diabetic feels hungry and thirsty most of the time, does not put on weight, though eats every now and then, tired easily, both physically and mentally. Looks pale, may suffer from anemia, constipation, intense itching around the genital organs, palpitation and general weakness. Feels drowsy and has a lower sex urge. It is hereditary disease, but precise cause is not known. In many people, the condition arises when the pancreas fail to produce the hormone ‘insulin’ in sufficient quantity (hypoinsulinism) Insulin helps the body to utilize carbohydrate. Sugar is building up in the blood eventually, this excess sugar is passed off in the urine, known as ‘glucosuria’. Diagnosed by testing the urine and blood for sugar. Later developments are gangrene, rashes and infection of kidney, liver enlargement, coronary artery disease, cataract, coma, hardening of arteries, impotence etc.

Among the caused of diabetes insipidus are disease of the nervous system. Exposure to cold, general debility, malaria and improper diet. Diabetes mellitus is a result of an over consumption of starch, sugar with faulty action of liver and pancreas. It is described as a ‘prosperity disease’, caused by over-eating and consequent obesity. Not only the over eating of sugar and refine carbohydrate but also of proteins and fats, which are transformed into sugar, if taken excess. Is harmful and may result in diabetes. Grief, worry and anxiety also have a deep influence on the metabolism and may cause sugar to appear in urine.

Diet plays a vital role in such treatment. The primary dietary consideration for a diabetic is that should be strict lecto-vegetarian and take a low calories, alkaline diet of high quality natural food. Fruits, nuts and vegetables, whole wheat roti, dairy product, good diet, cooked starchy food must be avoided, Buttermilk is an excellent diet or soft boiled eggs may be taken in moderation. The bowel must be move freely once or twice a day. Enema can used of necessary. Out door exercise and air according to the patient's strength should be taken daily. Hot tub bath, hot air bath or vapor bath may be taken once or twice a week. The Epsom salt bath is excellent. Spinal stimulation is desirable with massage of full body. Percussion of the back and strong vibration in the region of the pancreas will helps stimulate the glands to increase secretion. The use of alpine light over the patient is placed on an auto ondensation and a large electrode place over the abdomen is beneficial. Tea, coffee, cocoa has adverse effect on the digestive tract should be avoided, white bread and white flour product, sugar, stale food, sweet, pastries, pie,alcohol etc. should be avoided. Manganese is vital in the production of natural insulin found in citrus fruit, in outer covering of nuts, grains and in the green leafy vegetables. Other nutrients of special value are zinc, B complex vitamin and Polly unsaturated fatty acid.

Exercise is an important factor in treatment. Yog, jogging, swimming are recommended. Yogic kriyas as jalneti, kunjal, pranayam as kapalbhati, anulom vilom, and ujjai are beneficial. Keep stress away from life.

- Gall stone :

It is a hardened deposit within the fluid in the gallbladder, a small organ under the liver. They are not really stones. Blocks a bile duct, causing pain that you need to get treated right away. Vary from size of a pin head to that of a hen's egg. It is two type :

1. Cholesterol stone – They are usually yellow-green in color. They are the most common kind.
2. Pigment stone – They are smaller and darker. They are made up of bilirubin, which comes from bile, a fluid liver makes and gallbladder stores.

If the stones are very small they may cause little or no pain, if large in size, then gives rise to severe pain. The patient is suddenly seized with excruciating pains in the stomach and right side, the pulse becomes slow and weak. The muscles of the abdomen becomes tense, the victim breaks into a profuse perspiration. There are nausea, vomiting and unconsciousness may follow. As the stones reaches the intestine, which may be from one to five hours or more, the pain immediately causes.

Gall stones are result of unhealthy condition of bile. The formation of stone may be due to sedentary habit, obesity, excess eating of sugar and starch, disorder of stomach and liver. Genetic bile can part of the problem. Poor health, hereditary factors, stress, spinal displacement, wrong posture and muscular tension may cause gall stone.

Smaller gall-stone can be cleared through nature cure method. Diet is a basic factor in its treatment. In case of acute gall-stone attack, hot packs over the region of pain will help to give relief. Hot enemas are beneficial, sometimes the cold application will bring relief. To relieve the vomiting, ice may be sucked. A glass or two of lemonade without sugar is useful. The diet should exclude refined carbohydrates as sugar, alcohol, soft-drink, cakes, pudding, ice-cream, coffee, citrus fruits.

A most efficient remedy is to take a solution on one tablespoon of Epsom salt dissolved in a glass of water at bed time and following morning a glass full of olive oil should be taken. Then 4-5 o'clock in evening, another table spoon of epsom slat should be taken in a glass of water. This will remove the gall stones in discharge. To prevent recurrence the patient must adopt health building, massage over the region of the liver will be value spinal stimulation is also indicated. A hot tub bath or hot air bath may be taken once a week, for a time friction may begin to vital patient. In beginning free drinking of water will thin up bile and assist in the passage into the intestine. Outdoor exercise should form part of the daily program. Sun bath and deep breath should be done. The patient may take some twisting and side bending exercise to stimulate the liver and intestinal tract. Fresh fruit and vegetable, juices, milk diet will bring excellent result.

- Goitre :

Abnormal enlargement of the butterfly shaped gland (thyroid). Is a swelling of the neck or larynx resulting from enlargement of thyroid gland, that is not functioning properly. The thyroid gland is ductless gland. It regulates the day to day activities maintains homeostatic through period of stress and strain, provides a fine balance to regulatory system of the body through secretion. It is common in women who are over worked and who don't get enough rest.

They are two kinds of goitre.

a) Those in which increased in thyroid secretion.

b) Those in which decrease secretion.

It is difficult to recognize symptoms of goitre. They usually appear as emotional upsets. Other symptoms are loss of power of concentration, depression, irritation, nervous breakdown. There is a rapid through regular heart beat and any undue excitement increases this to a quick pulsation. The alarming symptoms of goitre is the weight loss, which no treatment seems to check, this can persist till the patient feel extremely weak.

Deficiency of 'iodine' cause the goitre. The thyroid gland makes use of organic iodine its secretion. People living near sea rarely contract goitre, because all seafood are rich in organic iodine. It doe not mean eating fish or seafood are necessarily immune from the disease. Some of the causes are depression, diseases ovaries, excess sex, worry, fright, fear. Goitre occurs most frequently in mountains district.

Fresh fruit juices as orange, apple, pineapple grapes may be taken every two or three hours. The bowels should be cleansed daily with lukewarm water. After the juice fast, may consume fruits and milk, taking three meals a day of juicy fruits as apple, pineapple, grapes, papaya, glass of milk, every five hours interval, then balanced diet should be followed. White flour products, white, sugar, flesh food, condiments, tea, coffee, alcohol should not be taken. Iodized food should be taken as carrot, garlic, onion, oats, pineapple whole rice, tomato, strawberries. The cure of goitre is not speedy, strict adherence to a suitable diet is essential for complete cure. All efforts should be made to prevent emotional stress. Massage the back, the breast and around the goitre. Hot bath once or twice a week will be of benefit and hot compresses may made directly the goitre.

- Emaciation :

Abnormal thinness caused by lack of nutrition or by disease. If a sufficient amount of the nutrient is not extracted from our food and absorb into the blood stream, the entire body is affected. Emaciation is caused by severe malnourished and starvation. It is a predominant symptom of malnourished, a basic component of poverty and famine that also occurs with disease that interfere with digestive system. These include nutrient deficiency disorder disease with prolonged fever and infection, malignant disease and other condition. The malnourished associated with emaciation has been referred to as ‘inaniation’. While infection by parasites has been described as ‘adulteration’. Rest, emotional and psychological therapy and support may included.

The symptoms of emaciation are thinning of the limbs, upper body and buttocks to an almost skeletal seeming state with an apparent absence of fat and muscles tone. The skin is thin dry and transculant in some part of the body. The face is thin, eye socket are sunken, the scalp is bony with dry whitening hair. The stomach is bloated, with gastrointestinal disease. The mouth, tongue may be excessively dry or moist with the tongue thickly coated. Can be caused by over work, grief, worry, lack of sunshine, out door air, exercise. Reduced food intake while hunger is held on to, may also be responsible for weight loss, depression, anorexia nervous, digestive disease. An infectious disease accompanied by fever, HIV infection, tuberculosis, endocarditis.

Outdoor exercise, deep breath, sun bath are of value. Walking is beneficial. A sufficient rest is essential. Constipation should be remedied. Food rich in iron and other blood making element should be used. A warm bath may be given twice a week and after gaining weight, commence with cool sponge bath. Chiropractic adjustment, spinal stimulation, general massage of the entire body and use of quartz light is of a great value, alternate hot and cold packs to spine are beneficial. Violet rays treatment can be used. A fast of only one and three days should be taken preceding the milk diet. Juices are also beneficial.

- Liver disease :

The liver plays an important role in many bodily function from protein production and blood clotting to cholesterol, glucose and iron

metabolism. Many illness affect the liver. Certain drugs like excessive amount of vicodin affects liver disease. Liver disease is any disturbance of liver function, that causes illness. The liver is responsible for many criticle function within the body and should it become diseased or injured, the loss of those function can cause significant damage to the body. Also referred to as hepatic disease. The liver is the largest soled organ in the body and is also considered a gland because among its many function, it makes and secrets bile. It is locating in the upper right portion of the abdomen, protected by the rib cage. It has two main lobes that are made up of tiny lobules. Liver cells have two different sources of blood supply. The hepatic artery supplies oxygen rich blood that is pumped from the heart, while the portal vein supplies nutrients from the intestine and the spleen. Veins return blood from the body to the heart, but the portal vein allows chemicals from the digestive tract to enter the liver for detoxification and filtering prior to entering the general circulation.

As its function, liver makes bile, a fluid that contains among other substances, water, chemical and bile acids, made from stored cholesterol in the liver. Bile is stored in gallbladder and when food enters the duodenum (the first part of small intestine), bile is secreted into the duodenum, to aid in the digestion of food. It is a only organ in the body that can easily replaced damaged cells, but if enough cells are lost, the liver may not be able to meet the need of body. It can considered as factory. ‘Cirrhosis’ is a term that describes permanent scarring of the liver. In cirrhosis, the normal liver cells are replaced by scar tissue that can not perform liver function.

The symptoms of liver disease vary according to the nature of the ailment. Among the symptoms are the right shoulder blades, coated tongue, depression, loss of appetite, irregularity of bowels, dizziness, lack of energy, dark circle under eyes, brown spots on the skin, digestive disturbance and many more depend on the constitution of person. Cancer of the liver is painful and patient rarely lives longer than two years. In jaundice the symptoms are usually yellow color of the skin, urine, white eyes, the pulse is slower. Abscess of the liver is not very common. Person in tropical countries are most liable to this disease. Congestion of the liver gives rise to a feeling of fullness in right side. Tenderness upon pressure. Acute pain, which may extend to right shoulder, pain increases after meals and when lying on the right side. The liver is slightly enlarged and may be

felt projecting below the margin of the lower rib. In majority of liver disease there is more or less enlargement of liver and spleen. Enlarge can be felt upon palpation.

The main cause of liver failure is due to failure of dietetic hygiene, constipation, over consumption of sugar, starch, fat and meat are conducive to these disorder. Alcohol abuse is the most common cause of liver disease in North America. Alcohol is directly toxic to liver cells and can abuse liver inflammation, referred to as alcoholic hepatitis. Cirrhosis is last stage of liver disease, scarring of the liver and loss of functioning liver cells cause the liver to fail.

Food as meat, white bread, fats, sugar etc. condiments should be omitted from the diet. The use of tobacco must be discontinued. Fresh fruits and vegetables should form large part of diet, constipation must be remedied. Grape fruit, lemon are beneficial in liver disease. The juice of lemon in a glass of water (hot/cold) without sugar taken in the morning upon rising will useful. Starchy food must be avoided. Six ti eight glasses of water, buttermilk with meal and other time is useful. A buttermilk diet for several weeks will give excellent result. Exercise is also an important factor. The abdominal and trunk twisting and side bending exercise are beneficial. Massage also gives good advantage in live disease. Spinal treatment, stimulation is of value. Vibration over the live is useful. Chiropractic adjustment should be made necessary. Deep breath is beneficial. Horse back riding is of valuable in torpid or inactive liver. Walking should form a part of daily program. Sunlight, photo-therapy may also be given. A few days fast can give excellent result. After complete fast, the juice of three/four oranges a day may be taken for few days. The fruit diet fast should be followed by the milk diet or sweet milk few weeks. Sweet milk is used,use lemon juice to prevent tendency to biliousness. Electric treatment can also be given in many disease.

- Hemorrhoids :

It is swollen and inflamed veins in the rectum and anus that cause discomfort and bleeding. Sometimes the walls of these blood vessels stretch so thin the veins bulge and get irritated especially when pooping. Swollen hemorrhoids are called ‘piles’. It is a cause of rectal bleeding. They are rarely dangerous and usually clear-up in a couple of weeks, if it is

not a more serious condition. Internal hemorrhoids are far enough inside the rectum that you can not usually see or feel them. They generally do not hurt, because have few pain sensing nerves there. Bleeding may be the only sign of them.

External hemorrhoids are in the anus, where there are more pain sensing nerves, so they tend to hurt as well as bleed. Sometime hemorrhoids get bigger and bulge outside the anal sphincter. Then you may be able to see them as moist bumps that ate pinker than the surrounding area. They are more likely to hurt, often when pooping. Prolapsed hemorrhoids usually go back inside on their own. A blood clot can form in a external hemorrhoid, turning it purple or blue. This is called thrombosis. It can hurt and itch a lot and could bleed. When the clot dissolves, still have a bit of skin left over, which could get irritated.

The symptoms of internal piles are sensation of heat with itching and prickling about the anus. If they are increased to a considerable extent, there is fullness in the rectum and pain in the back. Bleed while pooping. The external piles are large and inflamed and there is a dull aching pain in the piles up along the rectum.

Some people may be more likely to get this if other family members like parents, had them. A build up of pressure in your lower rectum can affect blood flow and make the veins there swell. That may happen from extra weight, when obesity or pregnancy is there. It may cause due to push during bowel movement, lift something heavy. People who stand or sit for long stretches of time are at great risk. Constipation or diarrhea, coughing, sneezing and vomiting could make disease worse.

The essential thing in the treatment is to secure a free and easy movement of the bowel each day. This can usually accomplished by use of laxative food as bran. In-digestive and constipating food must be avoided. Make use of buttermilk. Drink water, which will helps to avoid hard stool and constipation. Abandon use of fruits and vegetables, which have good source of fiber. Physical activity as walking a half an hour everyday, keeps blood and bowels moving. Use the toilet as feel the urge. The affected part should be bathed frequently with plain water and in case of internal piles a little cool or cold water may be injected into the rectum allowed to remain a few minutes. It should be done before retiring. Massage of the liver and back will be of value. The rectum may be massage by inserting finger and

manipulating for two minutes. Spinal stimulation and massage of the abdomen are desirable. A little witch haze put on a wade of cotton if laid on the piles at night, is a valuable local remedy to haste a cure. If the use of enema causes increase irritation, it is will to apply a little carbonated Vaseline to the rectum after bowel movement. Cold Sitz bath may be taken once or twice a day with benefit, it should be of short duration. The hot Sitz bath should be taken as it will have tendency to relax. The milk diet proves useful. The use of bran, agar-agar, prunes, figs, orange juice etc is beneficial. One should be preceded by several days fast if possible or few days on orange juice.

An internal and external piles, can be remove entirely by dislocation through the use of electric current. Anesthesia of the anus is given or injected into the base of the piles, after which it is remove by electricity. This procedure requires special techniques, can not be done by an ordinary doctor.

- Rheumatism :

Rheumatism or rheumatic disorder is an umbrella term for condition causing chronic, often pain affecting the joints or connective tissues. The term ‘rheumatism’, however does not designate any specific disorder, but covers at least 200 different condition. It was believed that chronic joint pain was caused by excessive flow of bodily fluids into the joints. Before the 17th century joint pain thought to be causes, was named ‘gout’. It is specific febrile disorder, due to certainly of specific micro-coccus accompanied by acute inflammation of the white fibrous tissue, ligament, tendon, sheath of tendons, spine uroses etc. surrounding the joints are affected simultaneously. The local symptoms are very erratic, the skin at the affected part is covered with copious, sour, sticky perspiration containing lactic acid. The word rheumatism is derived from the Greek word ‘rheuma’ means swelling. It is recognized as one of the most serious threats to health. This disorder extends to the heart, the valves and the lining this vital organ becomes inflamed. It is the most common cause in 80% of the cases valvular organic disease of the heart, is never the same in any two individuals. Rheumatism may be acute or chronic, can be roughly grouped into two classes. These are muscular rheumatism, which affects the muscles and articular rheumatism, which affects joints. The muscular is

far less common than that affecting the joints. In the acute form generally among children and young people, while chronic form, generally confined to the adult. Term as arthritis, rheumatoid arthritis, arthritis deformans, osteo – arthritis are often given to articular rheumatism. When disease due to gonorrhea, known as gonorrheal arthritis. Gout is also closely allied to rheumatism and joint of the big toe is usually affected one.

In muscular rheumatism, torticollis of stiff neck, when the neck is affected it is known as 'lumbago'. When the joints are affected it is known as pleurodynia. When the inter costar muscles are affected, known as cephalodynia, when the scalp muscles are affected, known as scalpulodynia. Neuralgia is closely allied to muscular rheumatism.

The acute type of rheumatism is characterized by fever, rapid pulses with intense soreness and pain. In the acute muscular type, the tissue become to sensitive that even the weight of bed clothing aggravates the pain. The liver is extremely painful but it leaves no permanent defects, of treated properly. The symptoms of chronic muscular rheumatism are pain and stiffness of the affected muscle. The pain increases, when an efforts are made to move these muscles. In case of chronic articular rheumatism pain and stiffness are felt in one or more joints of the body, with swelling in most cases. In addition there may be fever.

The root cause of rheumatism is the poisoning of the blood with acid waste, which results from imperfect elimination and lowered vitality. Suppose to be a cause of excess uric acid. In some cases infection from the teeth, tonsils and gall bladder may produce this disease. It is aggravated by exposure to wet and cold weather. Meat, white bread, sugar and refined cereals, leaves a large residue of acid toxic waste in the system. These acid waste are not neutralized due to absence of sufficient quantities of alkaline mineral salt in the food eaten. This upsets the acid-alkaline balance in the body and produces the condition described as acidosis, when the vitality, is low, the acid waste are concentrated around the joints and bony structure, where they form the basis of rheumatism.

Food made from bran or whole wheat should be used. Ripe fresh fruits and vegetables should be eaten in abundance. Celery is beneficial in rheumatism. The juice of lemon in a glass of water may be taken in the morning and again in the evening. Use little or no sugar in liquid. All acid fruits can be used with excellent result. Buttermilk and fresh vegetables

may be used for several days gives good result. The bowels should move freely once or twice a day. If necessary an enema should be used.

In case of acute rheumatism, the patient should be put on a short fast of orange juice and water for three to four days. While fasting, the bowels should be cleansed through a warm water enema. After juice fast, the patient should be place on a diet for 14 days. Orange or grapefruit may be taken for breakfast, lunch may consist of raw salad of seasonal vegetables. With raisins, fig, prunes, or dates. In dinner one or two steamed vegetables, such as spinach, cabbage, carrots, etc. and few nuts or some sweet fruits may be taken. Starchy food as bread of potato should be avoided. Otherwise the effect of the diet will be lost. In case of chronic rheumatism the patient may be placed on an fruits diet for 4 to 5 days. In this regimen fresh, juicy fruits as apples, grapes, peaches, pear, oranges. There after gradually adopt well balanced diet. Raw potato juice is regarded as an excellent food remedy, one or two tea spoonful of juice pressed out of massed raw potatoes should be taken before the meal.

The skin of potato is rich in vital minerals salt and water is and excellent food remedy for rheumatism. Application of radiant heat and hot packs to the affected parts, a hot tub bath, cabinet steam bath, sponge bath. The affected parts should also be bathed twice daily in hot water containing epsom salt after which olive oil should be applied. Fresh air, deep breathing and light outdoor exercise, are beneficial. The diathermy electrical treatment is of extreme importance. Advance cases can not be cured, but this may arrested by removal of the cause.

- Sciatica :

The term sciatica describes the symptoms of leg pain and possibly tingling, numbness or weakness that originate in the lower back and travel through the buttocks and down the large sciatic nerve in the back of each leg. Common lower back problems that can cause sciatica symptoms include lumber herniated disc, degenerative disc disease, spondylotithesis, spinal stenosis. It is a serious disease of nervous system. Its a neuritic condition of sciatica nerves. The sciatica nerve is the largest nerve in the body. It has branches in the thigh muscles, knee joints, down into the muscles of the leg and feet. This nerve begin in the lower part of the back and passes down behind the thigh.

The patient feels severe pain in the buttock, which may radiate down the posterior aspect of the thigh and calf to the outer border of the foot. Constant pain in only one side of the buttock or leg. Pain that is worse while sitting, leg pain that is often described as burning, tingling dull ache. A sharp pain that may make it difficult to stand up or walk. In severe cases feel weakness of calf muscles or foot drop. In case of rapture disc the pain is often aggravated by coughing, sneezing, bending forward or straining at the stool.

It may be caused by any type of injury to the spine because of compression of the sciatica nerve at its root. Any infection or toxic material near the nerve may result in this disease. But in the trouble is due either to a rapture disc occur when the soft inner material of the disc leaks out or herniates through the fibrous outer care and pinches the contiguous nerve root. While some level of disc degeneration is a natural process that occurs with aging. For some people one or more degenerated disc in the lower back can also irritate a nerve root and cause sciatica. Other causes include pregnancy, tumor of pelvis, deformities of the lower spine and exposure to cold and dump. The sciatica nerve may be even be injured by walking running or riding a bicycle. Prolonged standing or sitting on one side of the edge of the chair may also lead to disease. The real cause of sciatica, is the direct outcome of excess acidity of the blood and tissues and rundown condition of the system generally. It is frequently followed by an attack of lumbago.

Constipation must be remedied. If the disease is acute, the patient should adopt a raw juice diet for at least 5 days, should take juices of orange, apple, pineapple pear, peach, carrot, beet every two hours. Warm water enema should be used daily. After juice fast, breakfast may consist of orange, sweet lime, pineapple or grapefruit. The lunch may comprise of fresh raw vegetables salad with lime juice and olive oil dressing. Dinner may consist of fresh raw vegetable salad or steamed vegetables. After the restricted diet, the patient may adopt a well-balanced optimum diet. The patient must avoid tea, coffee, sugar, white flour, fried food, condiment,pickle, alcohol, tobacco, smoking. Garlic and garlic milk is beneficial. This milk is prpare by adding the pulp of crushed garlic in uncooked buffalo milk, r coves of garlic in 110 ml of milk. Another method is to boil the garlic in milk. A sufficient intake of lemon juice

prevent the deposit of uric acid in the tissues. The hot sitz bath will be found valuable in securing relief front pain. The therapeutic light is effective. If pain is severe, rest in bed is advisable. Spinal manipulation, over the region of the sacrum is beneficial. The patient should also undertake some exercise aimed at strengthening the back. Yog considered beneficial in the treatment.

- Skin disease :

Chronic skin disease typically are not curable, but they can be managed using drugs and by paying close attention to one's lifestyle. There are many forms of skin disease. Many of which are of an infectious nature. Probably the most common type of skin disease is Eczema. Eczema is term for a group of medical condition that cause the skin to become inflamed or irritate, redness, eruption. The eruption terminates into a discharge with formation of crust, scales, fissure pustules with something thickening of the cuticles. It appears on any part of the body and chronic in nature. Impoverishment of the blood brought about by defective action of the alimentary canal is root cause of eczema. Improper food, kidney disorder nervous debility and catarrh condition are among the causes, troubled condition are among the causes, troubled with constipation and sedentary habits are causes eczema.

Constipation must be remedied by use of laxative food and proper exercise and proper treatment. Enema should be administered if needed. Affected areas usually appear very dry, thickened or scaly. In fair skinned people, these areas may initially appear reddish and then turn brown. Among darker skinned, it can affect pigmentation, making the affected area lighter or darker. In infant, the itchy rash can produce on oozing crusting condition, that happens mainly on the face and scalp, but patches may appear anywhere.

Eczema is commonly found in families with history of other allergy or asthma. For some coming into contact with rough or course material may cause the skin to become itchy. Feeling too hot, or too cold, exposure to certain household product like soap or detergent, coming into contact with animal, stress may cause the condition to worsen. The disease is not contagious and can not spread from person to person.

The patient should guard against auto-intoxication and anti-toxic diet is the low protein diet. Fruits for several days will be beneficial. Sun and air bath should be taken daily if possible. Out door exercise and deep breath must be regular. Massage can be used for strengthen digestive and eliminative organs. Cool and cold water application may be used with some exercises for strengthening the internal and external muscular system as treatment for relief of itching and dryness of the skin glycerin may be applied freely to the effected part before retiring. In some cases ointment prepared from sulfur and Vaseline is valuable. Good quality of soap should be used to avoid skin disease.

Acne :

although acne remains largely a curse of adolescence, 20% of all cases occurs in adults. It starts when greasy secretion from oil glands of the skin. If the opening are large, the clog take the form of blackheads. If the opening stay small, the clog take the form of whitehead. Acne are most common on the face but they can also occur on the neck, chest, back, shoulder and upper arms. Heredity and hormones are causes of acne. Dirt also tends to clog pores and promote it.

Psoriasis :

psoriasis is a common skin disorder that produces thick red plaque covered with silvery scales. They can pop-up any where, but most appear on the scalp, elbows, knees and lower back, not contagious. Rashes may itch and skin may become cracked and painful, nails may form pits, thicken crack. Something wrong with immune system causes inflammation. There is no cure, but treatment reduces symptoms.

Contact dermatitis and drug reaction (allergy) :

Drug reaction may appear all over the body. Scratching or rubbing causes secondary infection. If severe reaction called exploitative dermatitis occur there may be fever, redness, rash peeling of skin, loss of nails and hair. May be caused due to poison, clothing cosmetic household articles, soaps, drugs, starches and cleaning fluid, industrial chemical.

Hives (urticaria) :

Hives are an inflammation of the skin triggered when the immune system is low. This causes small blood vessel to leak, which leads to swelling in the skin. They are acute and chronic- acute urticaria occurs after eating a particular food or coming in contact with a particular trigger. Non-allergic causes as heat or exercise, medication, food, insect bites, chronic urticaria is rarely caused by specific cause can last for many months or years. Often painful but not contagious.

Shingles (herpes zoster) :

A reactivation of the chickenpox virus in the body, causing a painful rash. It is a viral disease characterized by a painful skin rash with blister involving a limited area. Before the rash occurs there may be a pain or tingling in the area. In children is often painless. May occurs in the mouth. Poor immunity may causes shingles. Besides the skin, other organs as liver or brain may also be affected. Commonly caused by food as shell-fish, chocolate etc.

- Stomach disease :

There are many types of chronic disorder which affect the stomach. However, since the symptoms are localized to this organ, the the typical symptoms of stomach problems, include nausea, vomiting, bloating, cramp, diarrhea, and pain. Stomach is an organ between esophagus and small intestine. It is where digestion of protein begins. It stores swallowed food. It mixes the food with stomach acids, then it sends to mixture into the small intestine. Indigestion and heart burn are a common problems, dyspepsia, ulcer, dilution of the stomach, acidity, cancer of the stomach, gastritis or catarrh of the stomach. Dyspepsia is divided into two types as atonic dyspepsia, acid dyspepsia and nervous dyspepsia. If the stomach is not doing its work properly, digestion id delayed, fermentation and putrefaction takes place and gas is formed, which distend the stomach. This decaying mass of food passes into the intestine in a partly digested condition and as such it can not be acted upon properly by the intestinal juices, hence the blood becomes impoverished and the vital organ fail to obtain sufficient nourishment. In many chronic condition of stomach disorder ulcers form as result of continual inflammation and infection of

mucous membrane. Continual weakness of the digestive organ necessarily causes disease general we3akness of entire body.

Some of symptoms are impartment of appetite, flatulence, drowsiness after meal, weight and fullness in stomach, coated tongue, headache, heart burn, bad breath, morbid craving after food, disturbed sleep, palpitation of the heart, irregularity of bowels, lack of energy and highly colored urine. It was widely believed that the highly acidic environment of the stomach would keep the stomach immune from infection. One of the way it is able to survive in the stomach involves its urease enzymes which metabolize urea (which is secret into the stomach) to ammonia and carbon dioxide which neutralize gastric acid and thus prevents digestion. Having too little or no gastric acid is known as hypochlorydria or achlorydria. In the dilation of stomach, the main characteristics are in increase in the capacity of the stomach to 2 or 3 times its normal quantity. The walls of the stomach become stretched, weak and lose their elasticity.

There is more or less gas from fermenting food, which does not pass out of the stomach and there is bad taste in mouth. Sometimes there is vomiting of undigested food. Constipation usually present. In some cases the stomach become so distended with the gas that is presses against the heart and lungs, interfering with the circulation and r, there is prolapsed condition of the digestive organs. Hyper acidity is secretion of an excessive amount of hydrochloric acid, resulting in heart burn. Cancer of stomach rarely occurs in people under 40 years. The symptoms are constant pain, dull and heavy feeling, which is increased by food. Absence of hydrochloric acid in the stomach, general digestive disturbance, frequent vomiting with blood and mark anemia and emaciation and general debility.

Gastritis or catarrh of the stomach has many symptoms similar to dyspepsia. In chronic gastritis, the pain is most severe with apigastric tenderness. Thirst is often one of the morbid symptoms. Long standing cases of gastric catarrh impair the gastric gland and produce slow degerative process of the wall of the stomach.

The main cause of all stomach disorder is wrong food, improper diet, sedentary habits, lack of fresh air, and exercise. Excessive use of tea, coffee, ice water, liquors, tobacco chewing etc. smoking has been linked to

a verify of disorder of the stomach. Tobacco is known to stimulate acid production and impairs production of the protective mucus. This lead to development of ulcers in the smoker. Alcohol intake can cause stomach ulcers, gastritis and even stomach cancer. One of the most causes of chronic stomach problem is use of medication. Use of aspirin and other non-steroidal, anti-inflammatory drugs to treat various pain disorder can damage living of the stomach and cause ulcers. Even though there is no specific food responsible for causing chronic stomach problems, experts recommended eating a healthy diet of fruits and vegetables. Meat and heavy food should be omitted.

“Good health starts with good digestion”

digestive system is one of the most important system in whole body. If body can not properly digest and absorb nutrients and eliminate waste product, then its nearly impossible to achieve and optimal health.

In the treatment of stomach trouble, constipation must be remedied, with proper healthy diet. Meat, fried, greasy, starchy, bread, tea, coffee, fatty food should be avoided. Eggs should be poached. Meat should be roasted or boiled and not even two or three times a seek. Plenty of ripe fruits and fresh vegetables took place in diet. All food must be masticated. A day without breakfast helps stomach trouble. If the person can not manage, he may drink a pint of buttermilk or fresh fruit juice in breakfast. The juice of half lemon a glass of water (cool or warm) each morning upon rising is of great benefit. Walking or any other exercise according to one’s strength should be a part of patient’s daily program. Deep breath is beneficial sun and air bath is valuable. A hot bath may be given once a week. Cool or cold bath as per patient’s strength is valuable. Massage of full body and over the abdomen, liver and spleen is indicated. If there is tenderness in the the region of stomach, the area should not massaged.

In case of stomach trouble, a fast followed by exclusive milk diet will be satisfactory. The length of the fast must be as per the strength and weight of a person. The juice of three or four oranges a day for few days may be used if the complete fast is not taken. In hyper acidity, it would be better to take grapes or apple juice. Rest is essential in stomach ulcer.

- Impotence :

Impotence means sexual weakness in male. Occurs when a man can not get or keep an erection firm enough for sexual intercourse. There can be several contributing factors for impotence, as emotional and physical disorder. The risk of impotence increases with age. It often has a negative affect on sex life and can cause additional stress depression and low self-esteem.

The treatment is vibration of lower lumber and sacrum. Alternate hot or cold sitz bath. Avoid excess sexual connection, hot and cold application to lower spin, radiant lamp to spine and sexual organ. Vibrate intermittently for two or three minutes the prostrate by one finger through rectum, leg exercise, electric violet rays between the legs, sun bath, ultraviolet ray over sexual organ and other part of the body. Milk diet should be taken.

Sexual weakness in female :

Female sexual dysfunction occurs, when a women is not able to fully, healthily, pleasurably experience some or all of the various physical stage, the body normally experience during sexual activity. This stage can be broadly thought of as the despite phase, arousal phase, orgasm phase. It also included painful intercourse. It is important to address all the aspects of a women’s sexuality, whether physical, psychological, physiological or interpersonal in order to resolve the problem. It is quite common. It has been estimated that about 40% of women are affected by disease and about 10% of women are unable to achieve orgasm. A person’s view of their own sexuality is largely influenced by culture, society and personal experiences. Personal character, disposition and life experience plays a role in sexual dysfunction. Fear of intimacy can be a factor in arousal problems. Experience of abuse, either in childhood or in past or current relationship can establish a cycle of associating sex with psychological or physical pain. Conflict, tension and incompatibility with a sexual partner can cause sexual dysfunction.

The treatment is massage the ovaries and uterus with deep pressure. Vibrate intermittently the uterus internally two or three minutes by use of six inches soft rubber rectal attachment inserted into vagina, concuss the

3rd lumber to stimulate the ovaries. Adopt other health building and stimulating measures as given for sexual weakness in female.

- Gonorrhea :

A sexually transmitted bacterial infection that if untreated may cause infertility. Many people have no symptoms. Men may have burning with urination, discharge from the penis. Women may have burning with the urination, vaginal discharge, vaginal bleeding between periods and pelvic pain. Complication in women include pelvic inflammation disease and in men include inflammation of the epididymis. If untreated, it can occasionally spread to affect joints or heart valves. It is spread through sexual contact with an infected person. This includes oral, anal and vaginal sex. It can also spread from a mother to a child during birth. Can be prevented with the use of condom, having sex with only one person, who is uninfected and by not having sex.

The treatment is abstain sexual intercourse. Hot and cold sitz bath. Fast followed by milk diet. Hot tub bath or vapor bath, spinal manipulation concuss the 7th cervical and 11th dorsal allowing ten minuted gap to follow after which concuss the 2nd lumber, the ultra violet rays (quartz light) over sexual organ and other part of the body.

- Psychogenic ailment :

It is physical illness that are believed to arise from emotional or mental stress. It is most commonly applied to illness where a physical abnormality or other bio-marker has not yet been identified. In the absence of such biological evidence of an underlying disease process, it is often assumed that the illness must have psychological cause, even if the patient shows no indication of being under stress or of having a psychological or psychiatric disorder. It includes psychogenic seizure, psychogenic tremor and psychogenic pain. There can not assumed that all medically unexplained illness must have a psychological cause. It is possible that genetic, biochemical, electo-physiological or other abnormalities may be present which we do not have the technology to identify. However the term ‘psychogenic’ usually a key casual role in the development of illness.

Many people report pain in the absence of tissue damage or any likely pathos-physiological cause. Usually this happens for psychological

reasons. There is usually no way to distinguish their experience from that due to tissue damage, if we take the subjective report. If they regarded their experience as pain and if they report it in the same ways as pain caused by tissue damage. It should be accepted as pain. In old days any person suffering from a psychogenic ailment either organic or non-organic, was considered as a mental case and if considered in any way uncontrollable, was promptly sent to psychiatric hospital. Nowadays a large majority of such cases are cured. Some of example of psychological disease.

- a) Hypochondriac :
  It is exaggerated anxiety of one's own health. Negative mended persons suffer from it.

- b) Depression :
  When a person has a feeling of anxiety, hopelessness or worthlessness.

- c) Hysterical :
  Various ailments as constant headache, paralytic condition which has no psychological basis are found in such cases.

- d) Psychopathic deviation :
  Here people with anti-social and immoral behavior are seen.

- e) Masculinity and femininity :
  Masculine and feminine interest in the other sex especially feminine value and emotion in men.

- f) Paranoia :
  Here a person feels extreme suspicious and a frequent feeling of plotting against him.

- g) Psychasthenia :
  It is constant irrational thinking, repetition or doing of meaningless activities.

- h) Hyper-mania (hypernoea) :
  Elation and excitement without any reason are seen.

- I) Schizophrenia :
  Withdrawal into one's own private world often accompanied by constant hallucination are seen.

- j) Social introversion :
  Here avoiding people and removing oneself from social contact is seen in people.

- Neurosis :

A relatively mild mental illness that is not caused by organic disease, involving symptoms of stress, depression, anxiety, obsessive behavior, hypochondria but not a radical loss of touch with reality. It is a class of functional mental disorder involving distress but neither delusion or hallucination. Neurosis may also be called 'psychoneurosis' or 'neurotic disorder'. It means an illness in which the patient is aware that he is ill or has problem that requires help and treatment. He may bot understand the exact nature of his illness, but he does have some understanding. The symptoms in mild cases are insomnia, nightmare, irritability, anxiety and depression. Depression is a feeling that many experience at some time or the other, but depressive illness is much more serious and also disabling. Depression may be precipitated by some obvious event in a patient's life. For eg. failing in examination, break-up of a friendship, death of a close relative. Several cases of neurosis include the anxiety states, confusional states and hysterial states.

Neurosis may be defined simply as a poor ability to adopt to one's environment, an inability to change one's life pattern and inability to develop a richer more complex, more satisfying personality. It is frequently seen people become neurotic, when they content themselves

with in adequate or wrong answers to the question of life. Each person builds up his personal idealized image from the material of his own special experience. Earlier fantasies, particular need. It were not for the personal character of the image, he would not attain a feeling of identity and unity. The word is derived from the Greek word ‘neuro’ means ‘nerves’.

Anxiety states :

The presence of anxiety in a situation or to a degree where it becomes mal-adaptive. Simple states are agoraphobia, a fear of crowd, claustrophobia, fear of enclosed spaces eg. lift. Anxiety is the normal emotional response to a threatening situation. It is very common fear of spider and small rodent. There is come overlap with obsessive compulsive illness. The patient will show the physical sign of anxiety such as rapid pulse, sweating,loss of appetite, indigestion and diarrhea and will complain of feeling tense and frightened of some unknown fear.

Confusional states :

There may be associated with number of condition as fever, poisoning of drugs, kidney failure, diabetes in which shortage of oxygen to the brain aggravates the patient’s illness. It is an organically caused decline from a previously attained baseline level of cognitive function. It is typified by fluctuating cause, attention deficit and generalized severe disorganization of behavior. It involves hyperactive hypoctive, perceptual deficit, altered sleep-wake cycle, psychotic features, such as hallucination and delusion. It is itself not a disease but rather a clinical syndrome. It may result from underlying disease, over consumption of alcohol, drug administered during treatment of disease. It may be difficult to diagnose without proper establishment of the baseline mental function of the patient.

- Hysteria :

It is exaggerated or uncontrollable emotion of excitement, thought to be particular to women and causes by disturbances of the uterus. The patient exhibits physical symptoms, such as low back pain or limb paralysis, which have no apparent physical cause. It is disorder, which is incapacitating for the patient because his means of relaxation is disturbed. In this case usually has some motive for his symptoms, although he may

not be aware of it. Due to sudden emotional strain of fear, the patient may suffer from hysterical fits in which he falls suddenly to the ground and is not conscious of his surrounding. He may write on the floor, laugh or scream and even resist help.

- Endocrine gland :

Endocrine gland is a gland of the endocrine system that secret hormones, directly to the blood, rather than through a duct. The major glands of the endocrine system include the pineal gland, pituitary gland, parathyroid gland, hypothalamus gland and adrenal gland. The ability of a target to respond to a hormone depends on the presence of receptors. Within the cell or on its plasma membrane, to which the hormone can bind. Blood level of hormone reflect a balance between secretion and excretion. The liver and kidneys are the major organs that degrade hormones breakdown, products are excreted in urine, faeces. Hormones which they produce help to regulate the function of cells and tissues throughout the body. Endocrine organs are activated to release their hormones by humeral, neural or hormonal stimuli.

- Thyroid gland :

It is found at the front of neck, below the laryngeal prominence. Thyroid gland secrets thyroid hormones, which influence the metabolic rate, protein synthesis and have a wide range of other effects, including development. The thyroid hormones T3 and T4 are synthesized from iodine and thyrosine. It also produces calcitonin, which plays a role in calcium. Hyperthyroidism occurs when the gland produces excessive amount of thyroid hormone. Hypothyroidism is insufficient thyroid hormone production. The most common causes is ‘iodine deficiency’. This are important for development and hypothyroidism secondary to iodine deficiency remain the leading cause of preventable intellectual disability. The thyroid gland may also develop several types of nodules and cancer.

- Parathyroid gland :

Are small endocrine gland in the neck. Humans usually have four parathyroid gland. Variably located on the back of the thyroid gland. Parathyroid hormone and calcitonin have key roles in regulating the

amount of calcium in the blood and within the bones. It share a similar blood supply, venous drainage, lymphatic drainage to the thyroid gland. These are derived from the epithelial lining of the third and fourth bronchial pouches, with superior gland arising from the higher third pouch. The major function of it is the maintain the body's calcium and phosphate level within a very narrow range, so that the nervous and muscular system can function properly. It do this by secreting parathyroid hormones. (It is a small protein that takes part in the control of calcium and phosphate, bone physiology). The hypo-active parathyroid leads to an irritable, quick reacting person. Sensitiveness to criticism and opposition and negativism. The hyperactive parathyroid means a general lassitude loss of muscular tone and lack of interest.

- Adrenal gland :

It is also called super adrenal. Are also produce a variety of hormones including adrenaline and the steroids aldosterone and cortisol. They are found above the kidneys. Each gland has an outer cortex which produces steroid hormones and an inner medulla. The adrenal cortex produces three types of steroid hormones in the zona glomerulosa, helps in the regulation of blood pressure and electrolyte pressure. Their function include the regulation of metabolism and immune system, suppression. The inner most layer of the cortex, the zona reticulary produces androgen, that are converted to fully functional sex hormone in the gonads and other target organs. The production of steroid hormones is called 'steroidogenesis'. It involves a number of reaction and processes that take place in cortical cells.

A number of endocrine disease involve dysfunction of the adrenal gland. Overproduction of it leads to cushing's disease, coheres insufficient production leads to congenital adrenal hyperplasia, is a genetic disease produce by dis-regulation of endocrine control mechanism. A tumors can arise from adrenal tissue and the adrenal glands are located on both sides of the body in the above and slightly medial to the kidney. Right adrenal gland is pyramidal in shape, whereas left is semi lunar and some what larger. The glands are about 5x3 cm in size and their combined weight in adult from 7 to 10 gm. They are yellowish in color. A weak wall of connective tissue separates the gland from the kidney. The glands are

directly below the diaphragm and are attached to the crura of the diaphragm by the renal fascia. They secrets a number of different hormone which are metabolized by enzymes either within the gland or in other part of the body. These hormones are involved in a number of essential biological function. The glands in a new born babies are much larger as proportion of the body size in and adult. At age three months the glands are four tines the size of kidneys. The size of glands decreases relatively after birth, mainly because of shrinkage of the cortex and completely disappear by age one develops again from age 4-5. the gland weight about 1 gm at birth and develop to an adult weight of about 4 gm each. The normal function of the adrenal gland may be impaired by conditions such as infection, tumors, genetic disorder and auto-immune disease or as a side effect of medical therapy.

- The gonad (sex) glands :

a gonad or sex gland or reproductive gland is and endocrine gland, that produces the gametes (sex cells) of an organism. In the female of the species the reproductive cells are the egg-cells and in the male cells are sperms. The male gonad, the testicles, produce sperms in the form of spermatozoa. The female gonad the ovaries produces egg-cells. It starts developing as an organ in the earliest stage of development, in the form of gonadal ridges and only later are differentiated to male or female sex organ. The development of the gonads is a part of the development of the urinary and reproductive organs. The gonads in males are testes and in females are ovaries.

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