REFLEXOLOGY
Its Origin, Concept and Technique

Indian Origin

Reflexology, which is also known by names like Zone Therapy, Shiatsu, Pointed Pressure Therapy, Contact Therapy, Concentrated Massage or Acupuncture without Needles, is probably the oldest system of natural treatment in the world, based on scientific technique of massage or pressure.

How, when and where this system originated lacks consensus but on the basis of certain ancient documents, it is assumed that acupuncture and Reflexology, which work on a similar theory, were first conceived by Indian thinkers in primitive times. It was from here that the knowledge of these sciences disseminated to certain other countries through students, pilgrims and tourists. Research in Russia has endorsed this contention. On the basis of this research, it is said that the art and science of acupuncture originated in India, not in China, as is believed by most people in the world. This astounding revelation is made in the publication 'Indiskaya Meditsina Drevneruskom Vrachevaniyii' (Indian medicines in ancient Russian treatment of diseases) by N.A. Bogoyavlensky published in 1956 by the Gosudarstbennoye Izdatelstvo Meditsinkoi Literaturi (State Publishing House of Medical Literature), Leningrad Department.

According to Bogoyavlensky, one of the prominent scholars of China of VIIth century, Heun Tsang spent many years in Nalanda University in India. On his return to his own country,

he wrote a book in which he described in detail the teaching work done in Nalanda University, particularly in the medical science. Another prominent scholar from China, I. Tzin who visited India in 673 A.D., also studied in Nalanda University for many years. In his works, Tzin describes the customs of Indian people, their clothes, food and occupations. He calls India a 'Noble Province'. He also mentions that the Indians are imparting medical knowledge to the Chinese viz the complete art of treatment *by* pricking, now called acupuncture. He also confirmed the flourishing of various branches of medical science in India. Chinese translations of many Indian manuscripts on philosophy, astronomy, mathematics and medical science have been preserved in various libraries in China till date. From China, Indian writings on medicine also circulated to Tibet, and some other countries.

Bogoyavlensky's book also contains an interesting and revealing illustration which shows various points and areas in human body for purpose of curative cauterization and acupuncture. This illustration dates back to the first century A. D. and was procured from Eastern India. These early writings undoubtedly establish India's pioneering role in the field of Reflexology and acupuncture. Interestingly, reflexology historian Christine Issel has mentioned that certain traditional paintings of the feet of Hindu God Vishnu are covered in symbols coinciding with reflex points,which corroborate that Reflexology was widely practised in earlier times in India. Mr. Stanley Burroughs in his book 'Healing for the Age of Enlightenment' has tried to authenticate that this sort of medical treatment was known and practised in many parts of ancient India.

On the basis of certain tomb drawings, which depict feet

being massaged in a particular position, Egyptians are also believed to be practising Reflexology like system in ancient times. It is said that new inventions leave behind many well-established systems, though temporarily. Truly, with the advent of certain new *pathies,* Reflexology and acupuncture received some setback but these systems could not be ignored altogether. Their abiding qualities again attracted the attention of men in medical profession as well as others. It was during the year 1582 that two distinguished European physicians, Dr. Adamus and Dr. A'tatis, brought out a book on Zone Therapy which gave eminence to this primitive system of treatment.

Reflexology or reflexology or zone therapy, in fact, got scientific approach during the early years of twentieth century when an American doctor William H. Fitzgerald, M.D. (1872-1942), a reputed medical physician and surgeon, who was the head of the Nose and Throat Department of the St. Francis Hospital in Hartford, Connecticut, developed the modern zone therapy. Dr. Edwin F. Bowers, M.D. and Dr. George Starr White are two other great physicians of this period who also did remarkable work in elaborating this unique theory of healing. Dr. Joe Shelby Riley and his wife Elizabeth Ann Riley were two other stalwarts who tried out this system on their vast number of patients and made unmatched contribution towards its development. Dr. Riley wrote twelve books on zone therapy, the first being copyrighted in 1917 and the last in 1942.

Eunice D. Ingham, a member of New York State Society of Medical Masseurs, also did marvellous work in popularising this therapy by benefiting her numerous patients and by bringing out certain good books on reflexology including 'Stories The Feet Can Tell' and The Stories The Feet Have Told'. From the early 1930s

until her death in 1974, Eunice D. Ingham worked zealously to make it a perfect branch of medical science.

In their present form Reflexology and acupuncture are attributed to China where intensive research and significant work has been done to make these systems more effective and popular. During the historic visit of U.S. President, Richard M. Nixon and his wife Pat, to China in 19 7 2, they showed deep interest in acupuncture which became instrumental in bringing greater attention to this *pathy* in the U.S.A. and in some other countries. In Denmark, reflexology is the most popular of all complementary therapies and about nine to ten per cent of the population of that country has tried this system to their satisfaction.

Japan has taken a lead in developing and popularising a distinct type of pressure therapy called 'SHIATSU', which is also based on the principles of Reflexology. In Japanese language, the word 'SHI' means finger and 'ATSU' means pressure. Prof. Sir Park Jae Woo, a South Korean by birth, who has set up his academy in Moscow, gave Su Jok system of treatment to the world in the year 1986 which has its roots in Reflexology.

In recent times, immense interest has been shown in reflexology by certain qualified health professionals in Europe, U.S.A., Canada, Germany and many other countries including India, the place of its origin. Stephanie Rick in his book 'The Reflexology Workout' has mentioned that in Europe nearly six thousand medical personnel combine reflexology as a part of their healing process these days. The number of such practitioners is increasing gradually. More and more people are now taking deep interest in this system. In view of its multifarious qualities, Reflexology has now become one of most

popular systems of natural treatment in many countries.

Reflexology and Acupuncture
Similarities and Dissimilarities

Reflexology and acupuncture are both ancient therapies. As mentioned earlier these systems were first conceived and practised by Indian physicians and from here these reached China and many other countries. In the present context, Chinese sages are credited for developing and widely practising these natural modes of treatment.

Reflexology is an amalgamation of two Latin words, acus+ pressura. Acus means needle and pressura indicating pressure, thus, giving the impression that the treatment is through the pressure of needles. In practice, its method of treatment is not through needles but by pressing certain reflex points in hands, feet and other parts of the body, with thumbs, fingers or some gadgets especially prepared for this purpose.

Acupuncture is also derived from two Latin words, acus+punctura. Acus means needle and punctura being puncture, thus, conveying the meaning - treatment by pricking needles. Human body is endowed with a number of spots called acupuncture points. These points when stimulated by needles activate body's energy and bring about the cure.

The very purpose of both these *pathies is* to arouse immense invisible physical and mental energy in the body by pressing various reflex points or by pricking acupuncture points so as to restore health and to keep the body in perfect order.

Both these systems are based on holistic healing approach. 'Holistic' is a term derived from Greek word 'hobs', conveying the sense 'whole', aiming at treating the patient as a complete and undivided entity, incorporating three basic characteristics of an individual - the body, the mind and the spirit. When treated collectively, the results are really effective.

Reflexology

A System for All

Reflexology is a marvellous system, simple to understand and easy to practise. It is highly effective, completely safe and absolutely scientific. Whereas, acupuncture can only 3e carried out by a qualified and trained doctor, anybody, educated or illiterate, can benefit Tom Reflexology by understanding the theory of ten invisible zones in the body, location of various reflex points in hands, feet and other parts of the body and the technique of applying pressure on these points. The best thing being, Reflexology treatment can between to people of any sex and age - men, women, babies, children, young and old, anywhere and at any time. There is nothing to lose but much to gain from this therapy. It is due to these unique qualities of Reflexology that a large number of medical specialists, laving progressive and unbiased approach, speak highly of this therapy.

Zone Theory

The Pivot of Reflexology

The concept of zone therapy which is the basis of reflexology or Reflexology got new dimension and scientific

recognition when a distinguished American ENT specialist, Dr. William H. Fitzgerald undertook research during the early years of twentieth century to establish its practicality. His colleagues in the medical profession highly discouraged him but his continuous research and dedicated efforts brought to light the presence of en energy zones in the body. These zones are, in fact, the basis of reflexology and Reflexology.

Zone therapy is very simple. According to it, there are ten invisible life force currents massing through the body from head to feet and hands, in line with all toes and fingers ending in the tips as shown in fig. 1. The specific area falling under each life force current s called a zone. There are five longitudinal zones on the right side of the body and five longitudinal zones on the left side of the body in equal proportions. All the ten zones un parallel over the entire body covering head, face, shoulders, arms, hands, chest, abdomen, reproductive organs, legs and feet.

Zone-1

Extends from top of the head to big toes in feet passing through the mid of forehead, lose, palate, lips, chin, chest, spine, abdomen and legs. This zone also goes up to thumbs

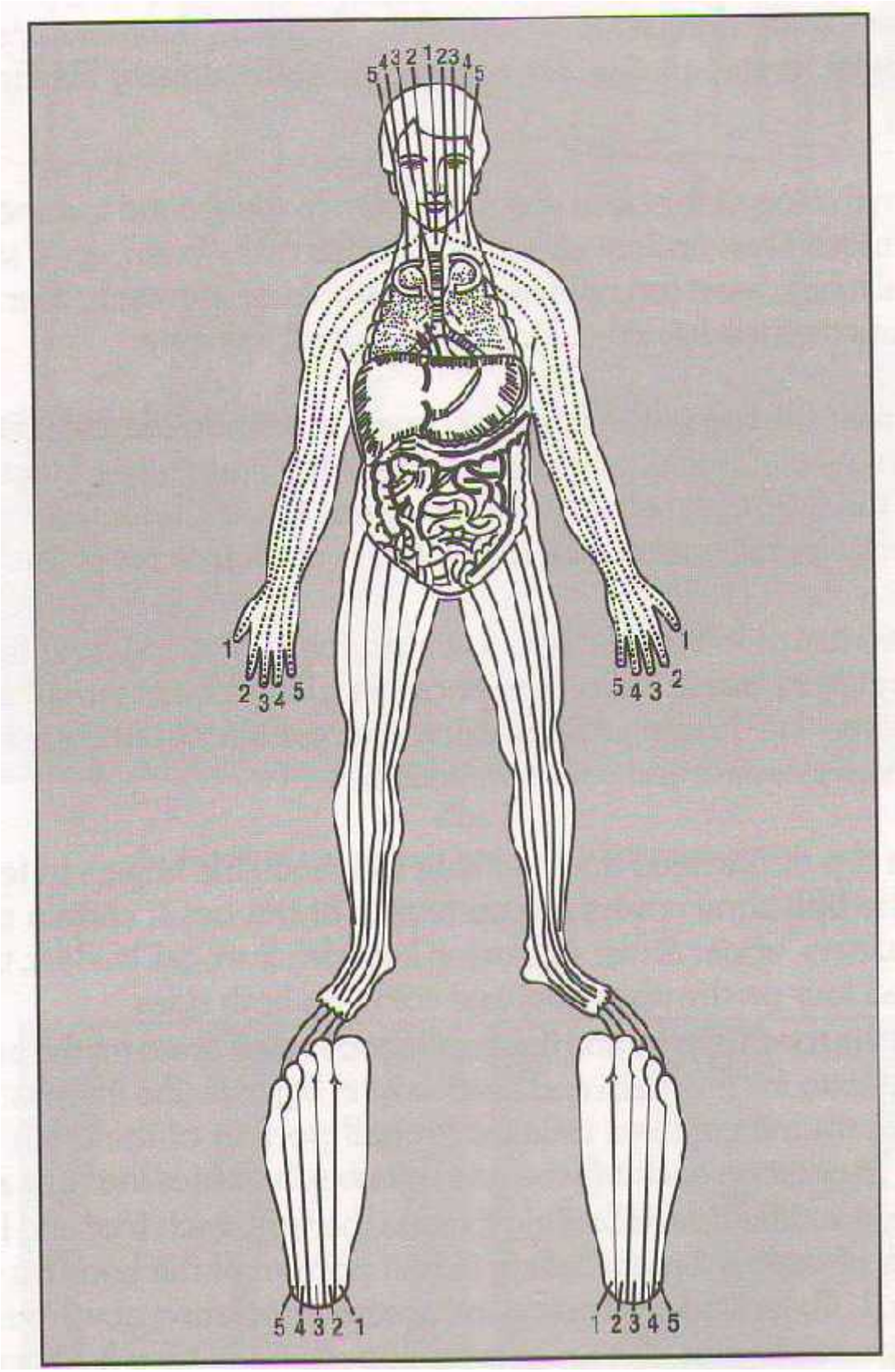


Fig. 1

Division of the body into longitudinal zones

covering shoulders and arms. Zone 1, thus feeds a part or entire area of the organs falling in this zone according to their actual position in the body namely head, brain, spine, nose, mouth, chin, pituitary, pineal, thyroid, thymus and adrenal glands, lungs, heart (on the left as well as on right side), oesophagus, stomach, duodenum, small intestine, liver (on right side), ureter, uterus, sex organs, prostate, urinary bladder, rectum and anus.

Zone-2

Comes from the top of the head and runs down to the second toe and likewise up to the tips of first finger. This zone covers certain portion of the brain, eyes, sinuses, tonsils, lungs, bronchial tubes, heart (on right and left, both sides), stomach, liver (on right side), solar plexus, pancreas (on left side), kidneys and small intestine.

Zone-3

Emanates from the top of the head and goes up to third toe in feet and also up to second finger in hands. It includes some portion of the brain, eyes, lungs, heart (on left side), stomach (on left side), solar plexus, pancreas (on left side), liver (on right side), kidneys, appendix on right side and small intestine on both sides of the body.

Zone-4

Extends from top of the head down to fourth toe in feet and third finger in hands. This zone feeds certain area in brain, ears, shoulders, lungs, heart (on left side), stomach, spleen and pancreas (all three on the left side), liver, gall bladder and appendix (all three on right side) small intestine and colon on both sides.

Zone-5

Moves from top of the head down to little toes and little

fingers in feet and hands, respectively. The fifth zone covers the outer side of the head, certain portion of the brain, ears, shoulders, upper arms, spleen (on left side), liver, gall bladder, ileocecal valve and appendix (all four on the right side) and colon on both sides.

Although all the toes, thumbs and fingers embody reflex areas for the brain and head, but the major reflexes for the brain and head exist in big toes and thumbs. Interestingly, each big toe and thumb contains reflexes for half portion of the brain and head on respective side. In addition each big toe and thumb sub-divides into five zones.

From above, it is clear that according to zone therapy, each foot and hand contains the reflex points of various organs falling in half portion of the body on that side as is evident form fig. 1. To facilitate the quick and accurate detection of various reflex points pertaining to different organs, the founders of zone therapy have further divided hands and feet into transverse zones as is shown in fig. 2. The transverse zones in hands and feet showing the reflex areas of various organs are shown in fig.3.

To get the desired results from zone therapy, it is imperative that one must possess the basic knowledge of the position of various organs in the body. A number of drawings inserted in the beginning of the book give approximate location of the organs in the body and their reflex points in hands and feet.

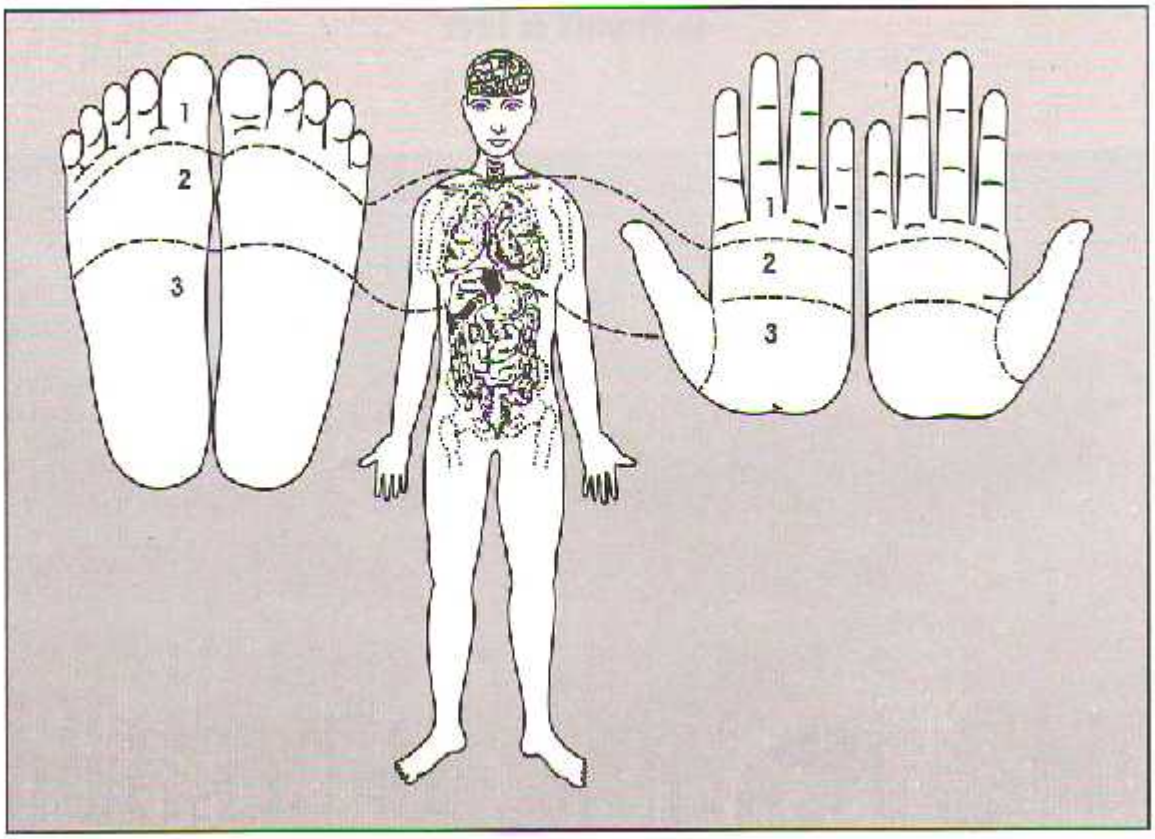


Fig. 2
Division of hands and feet into transverse zones

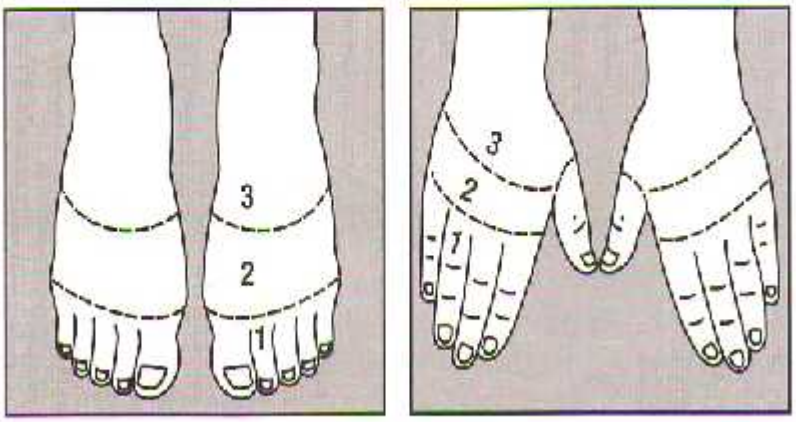


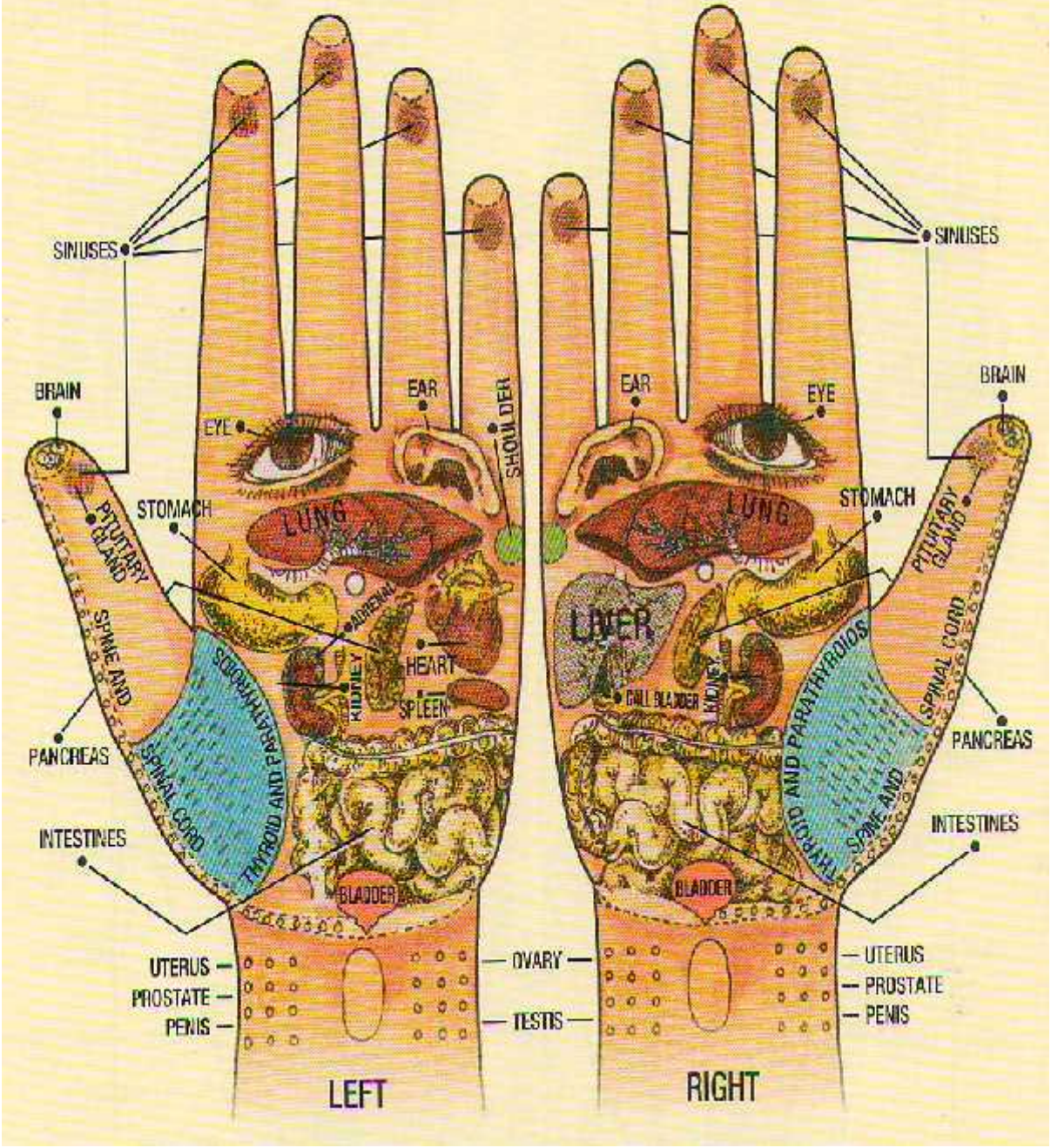
Fig. 3
Division of upper part of both hands and feet into transverse zones

Representation of Various Organs in Hands & Feet

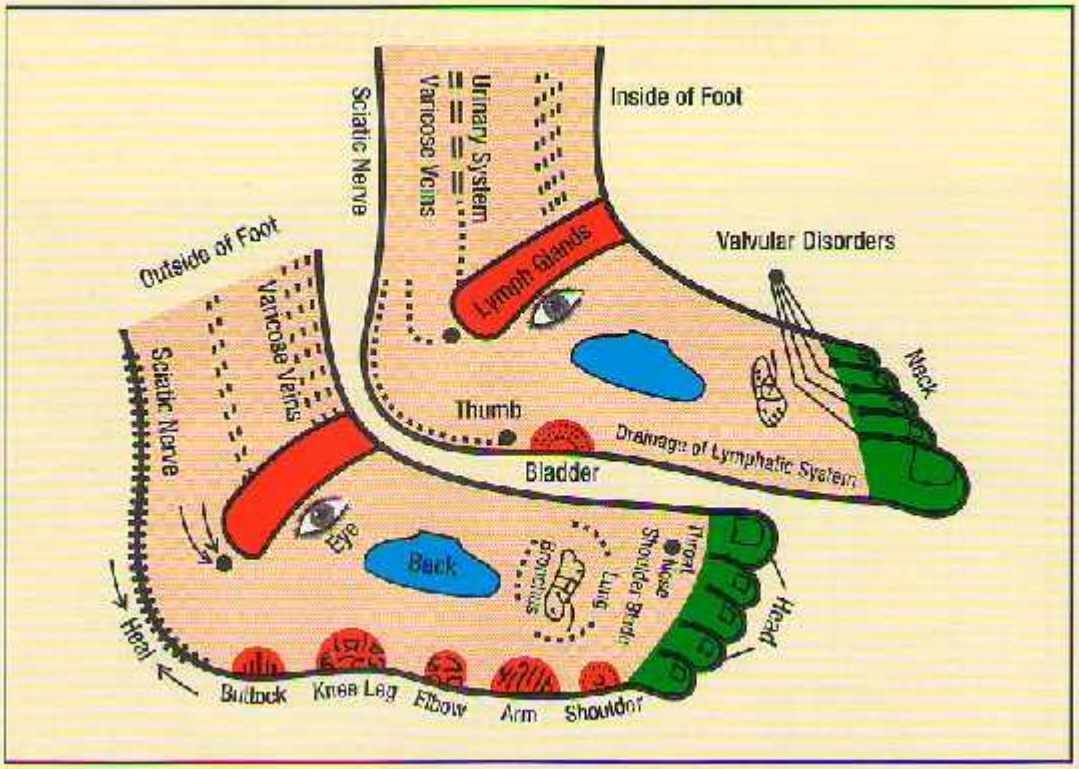
Part of hand/feet	Reflex points of organ
Big toes/thumbs	Head, neck
Small toes/ fingers	Head
Shoulder line to diaphragm line in feet/ hands	Chest, lungs, shoulders
Arch (upper portion)	Diaphragm to waist portion of the body and the organs falling in upper abdominal area.
Arch (lower portion)	Waist to pelvic portion of the body and organs lying in lower abdominal region.
Heel	Pelvic area and sciatic nerve.
Inner foot/hand	Half portion of the spine of right side and half portion on left side.
Outer area of foot/hand	Arm, shoulder, hip, leg, knee and lower back.
Ankle area of feet/wrists	Pelvic area, reproductive organs.

Miraculous Mirrors of the Body

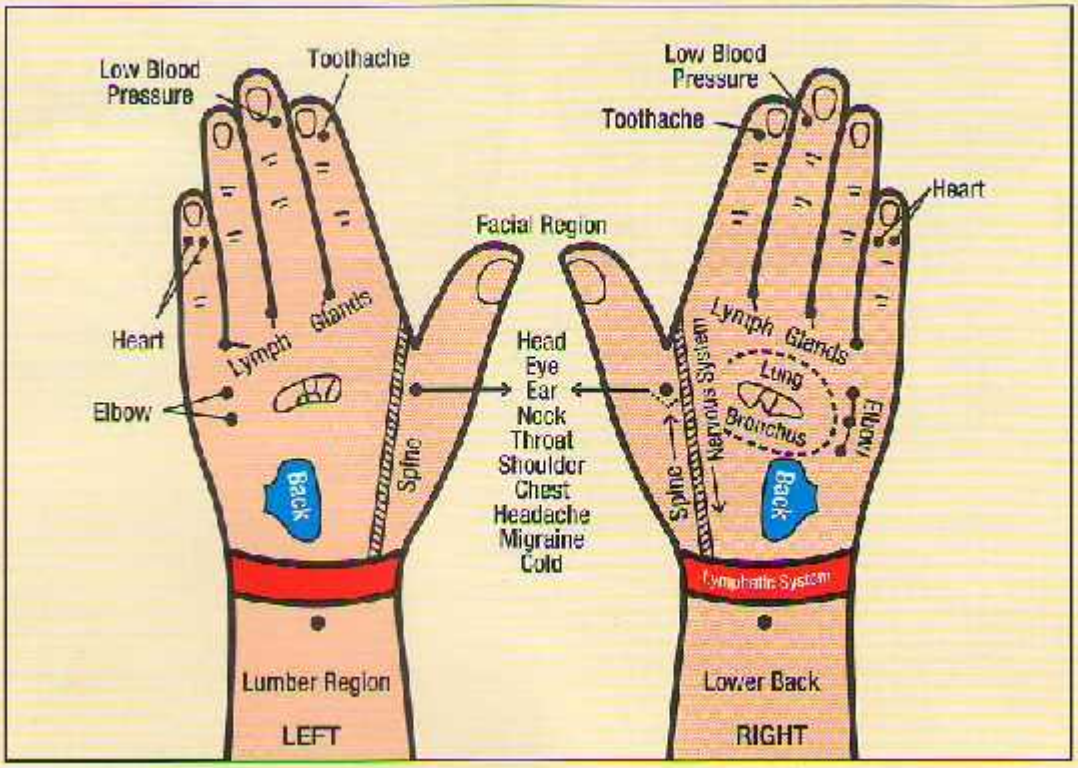
Reflex Centres on the Hands

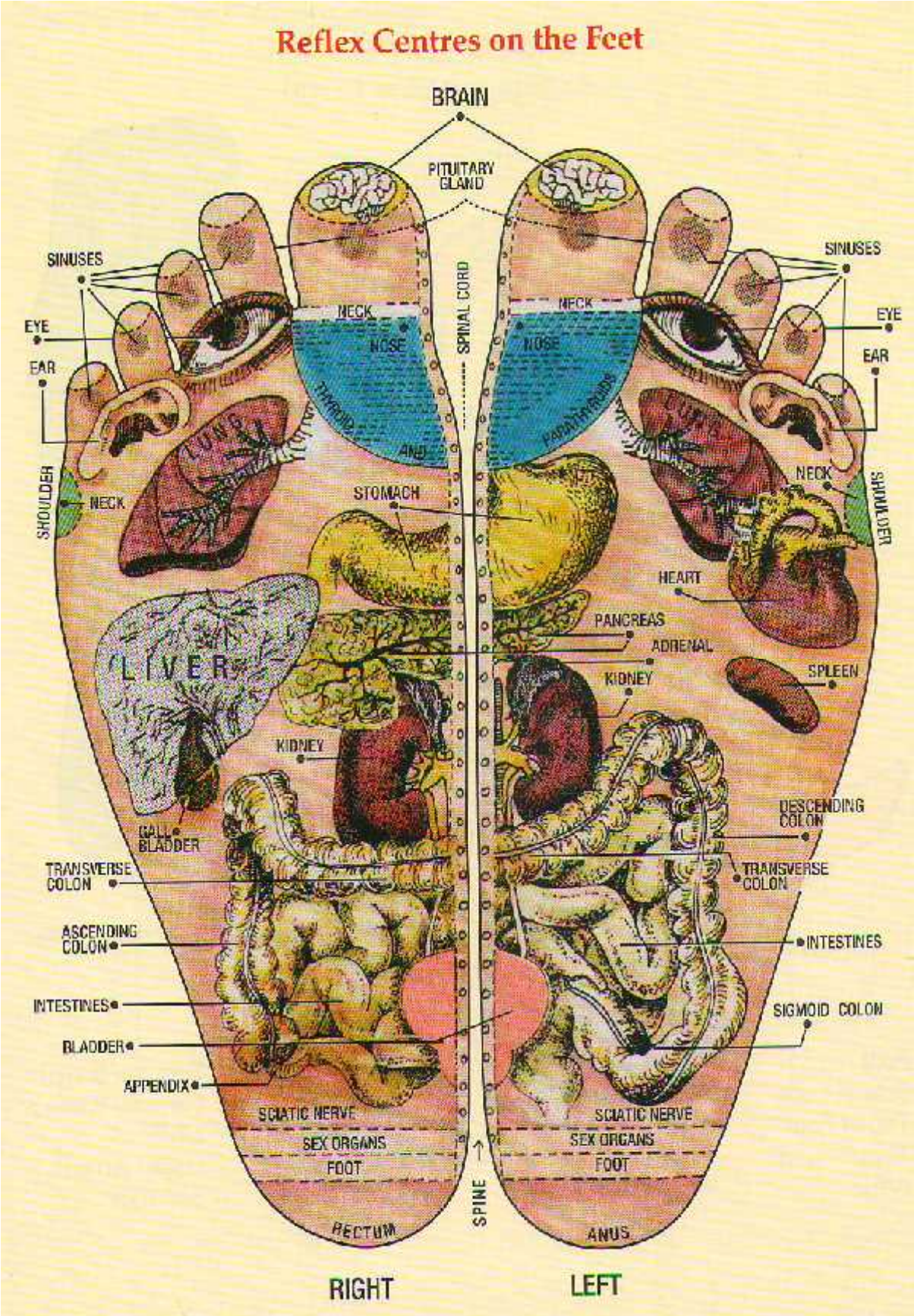


Reflex Centres Located on Upper Part of Feet

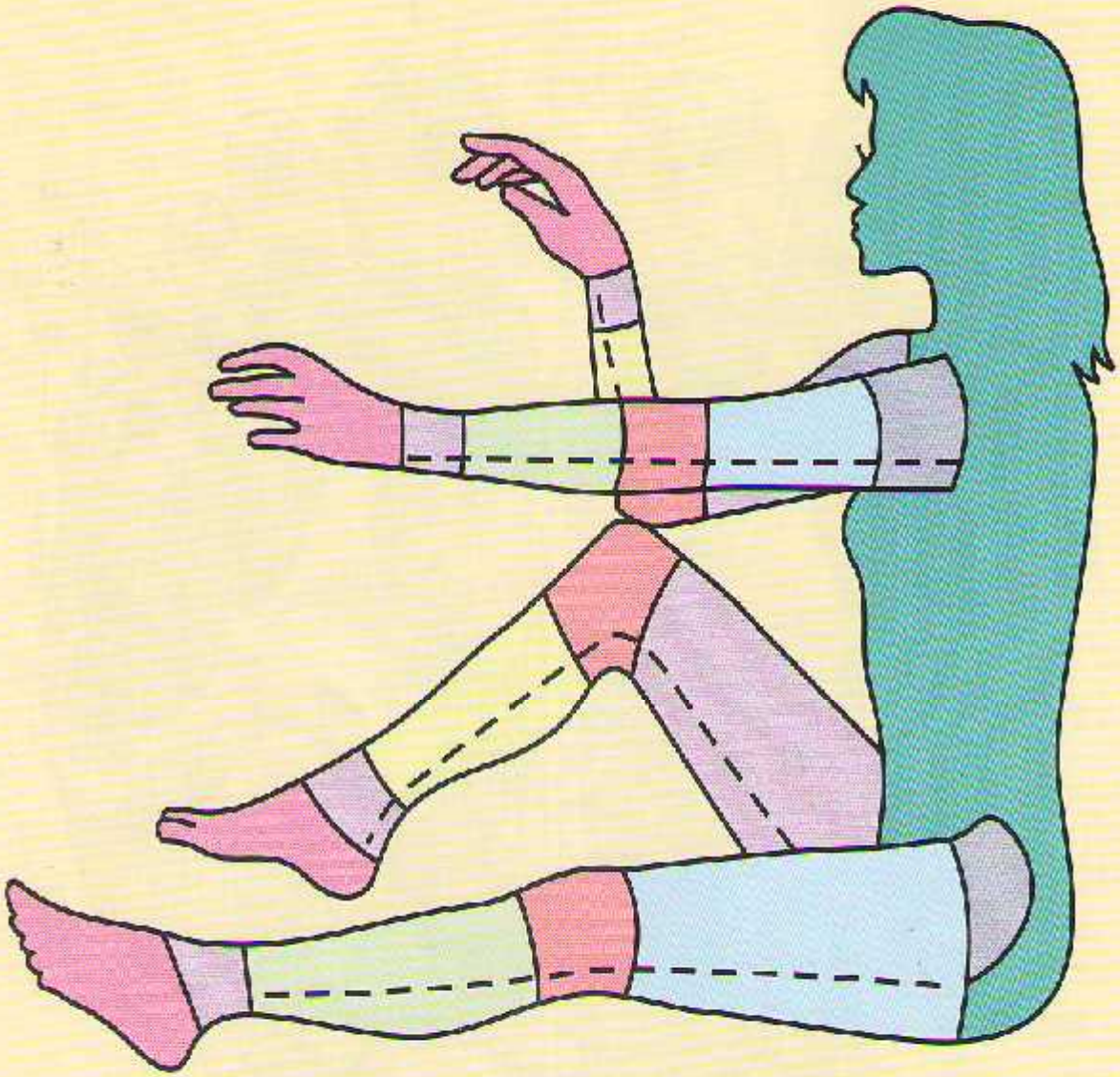


Reflex Centres Located on Upper Part of Hands




Reflex Centres on the Feet
BRAIN
PITUITARY GLAND
SINUSES
EYE
EAR
SHOULDER
NECK
NOSE
THYROID AND PARATHYROIDS
SPINAL CORD
LUNG
STOMACH
HEART
PANCREAS
ADRENAL
KIDNEY
SPLEEN
LIVER
GALL BLADDER
TRANSVERSE COLON
DESCENDING COLON
ASCENDING COLON
INTESTINES
SIGMOID COLON
BLADDER
APPENDIX
SCIATIC NERVE
SEX ORGANS
FOOT
RECTUM
ANUS
SPINE
RIGHT
LEFT

Referral Areas



Adapted from : Laura Norman's Feet First

Foot	:	Hand	Calf	:	Forearm (Inner)
Sole of Foot	:	Palm of Hand	Shin	:	Forearm (Outer)
Top of Foot	:	Back of Hand	Knee	:	Elbow
Toes	:	Fingers	Thigh	:	Upper Arm
Ankle	:	Wrist	Hip	:	Shoulder

Feet - The Mirror of the Body

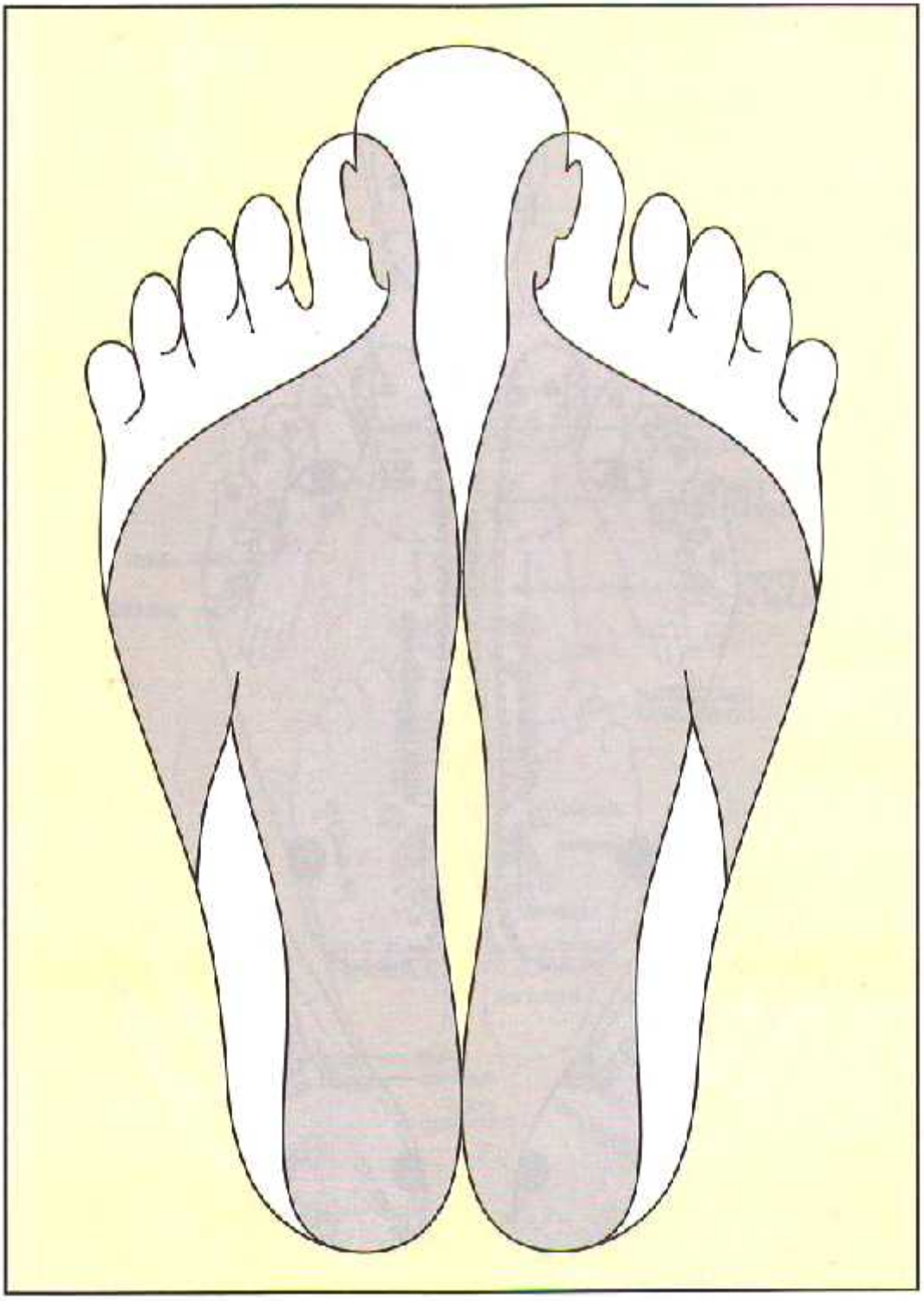


Fig. 4

Nervous System, Eye, Ear and Skeletal System

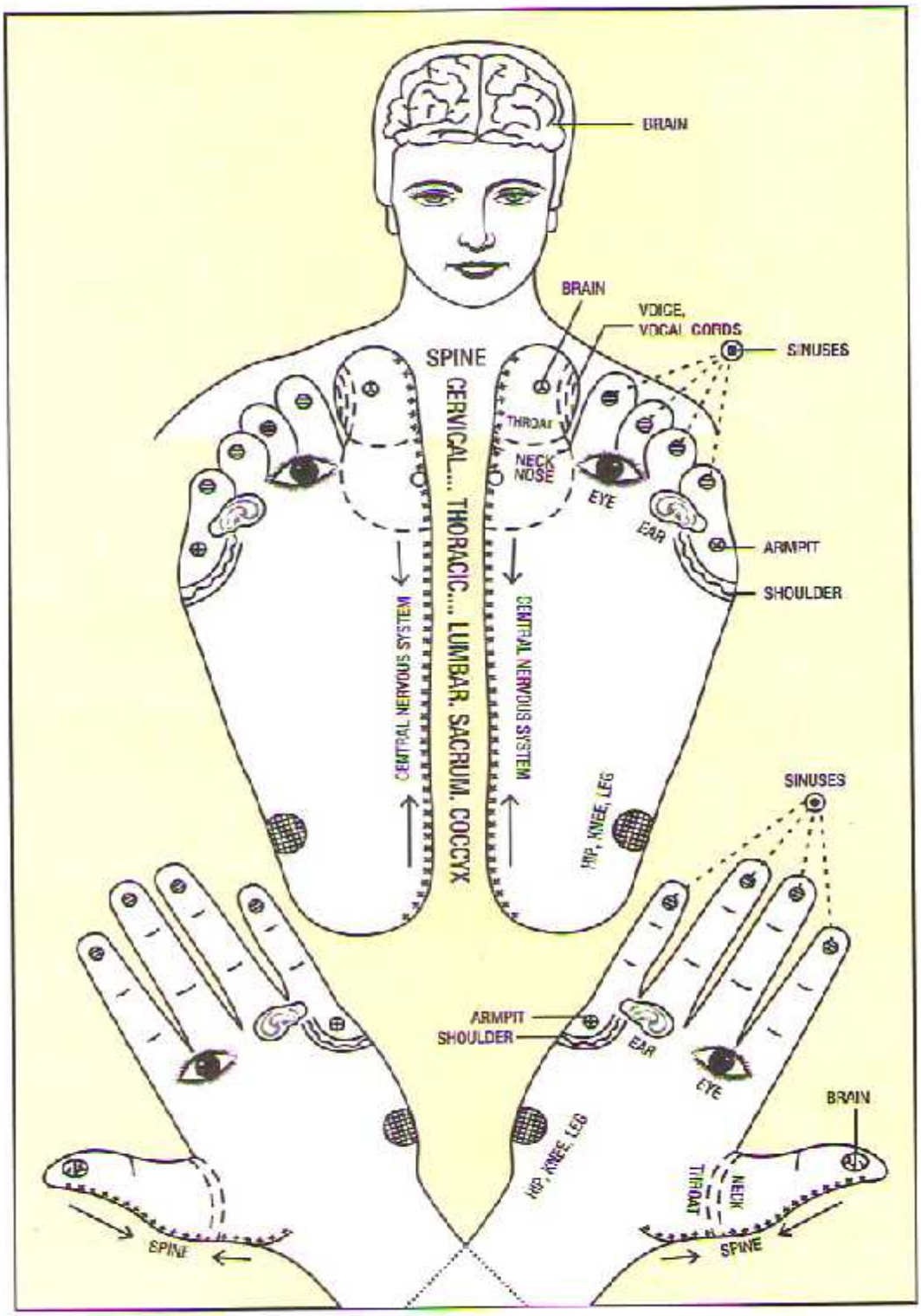


Fig. 5
Reflex centres of brain, eyes, ears and spine in hands and feet

Endocrine System

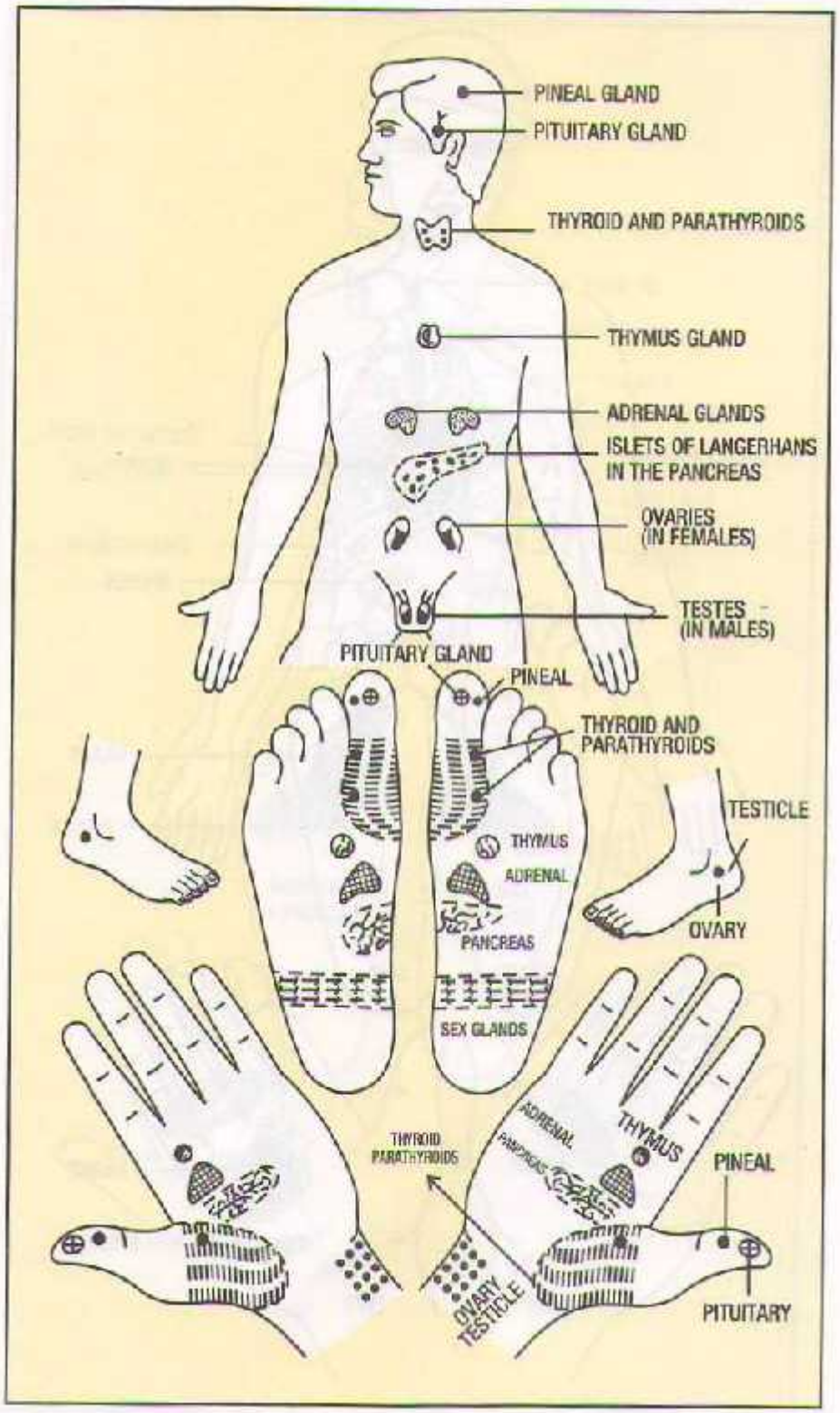


Fig. 6
Location of endocrine glands in the body and their reflex centres in hands and fee

Heart and Circulatory System

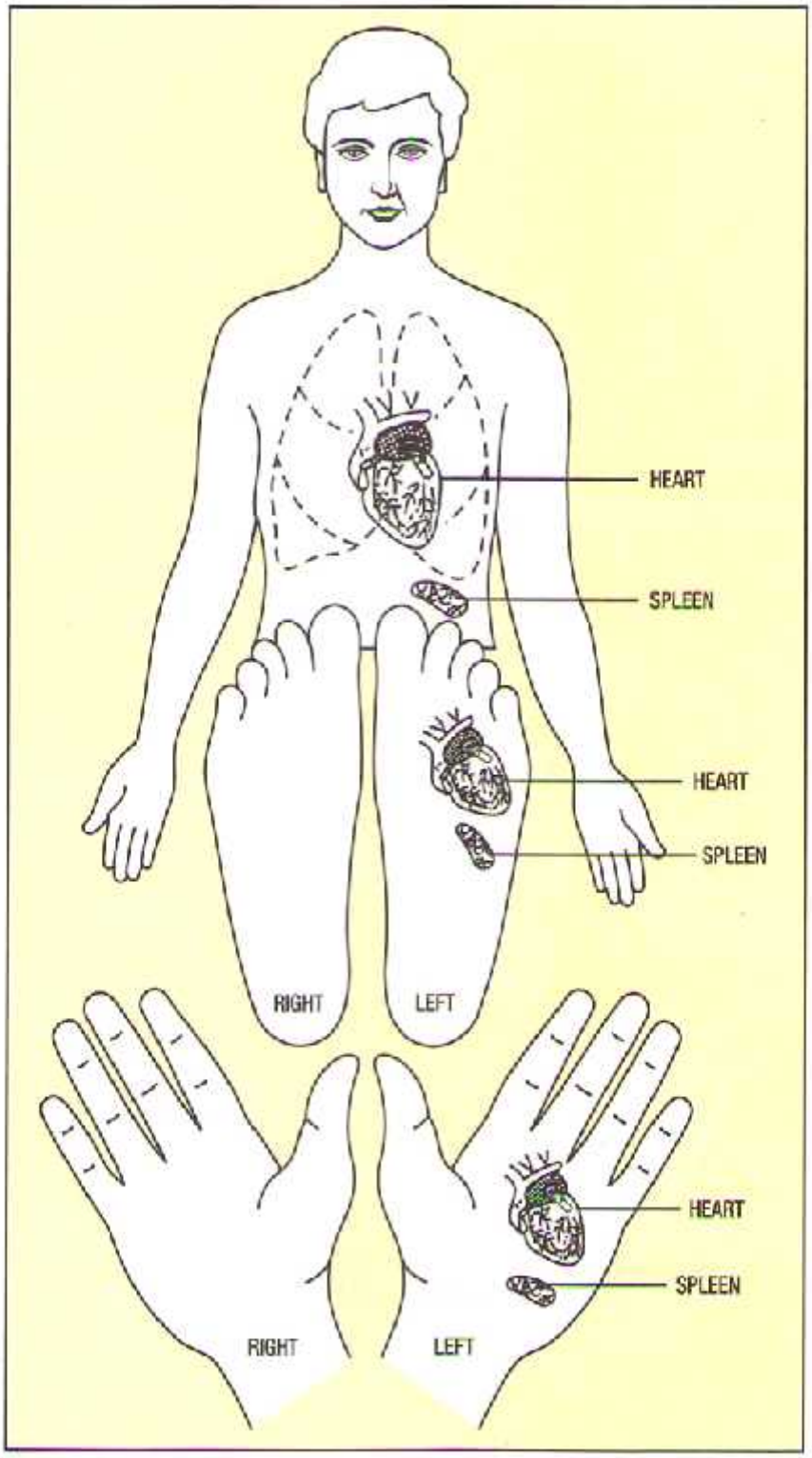


Fig. 7
Organs related to circulation (Heart, Spleen) and their reflex centres in hands and feet

Respiratory System

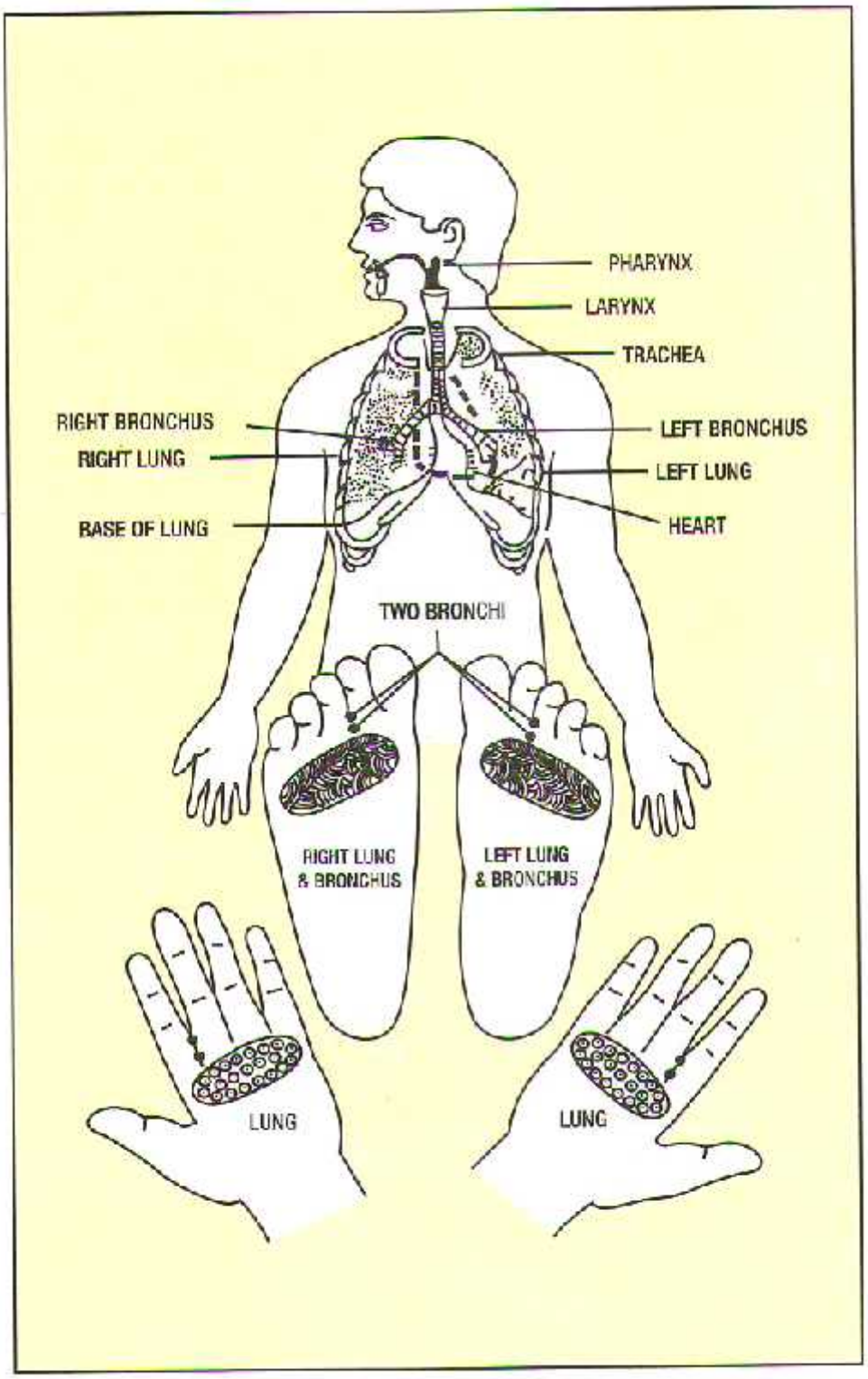


Fig. 8
Organs related to respiration and their reflex centres in hands and feet

Digestive System

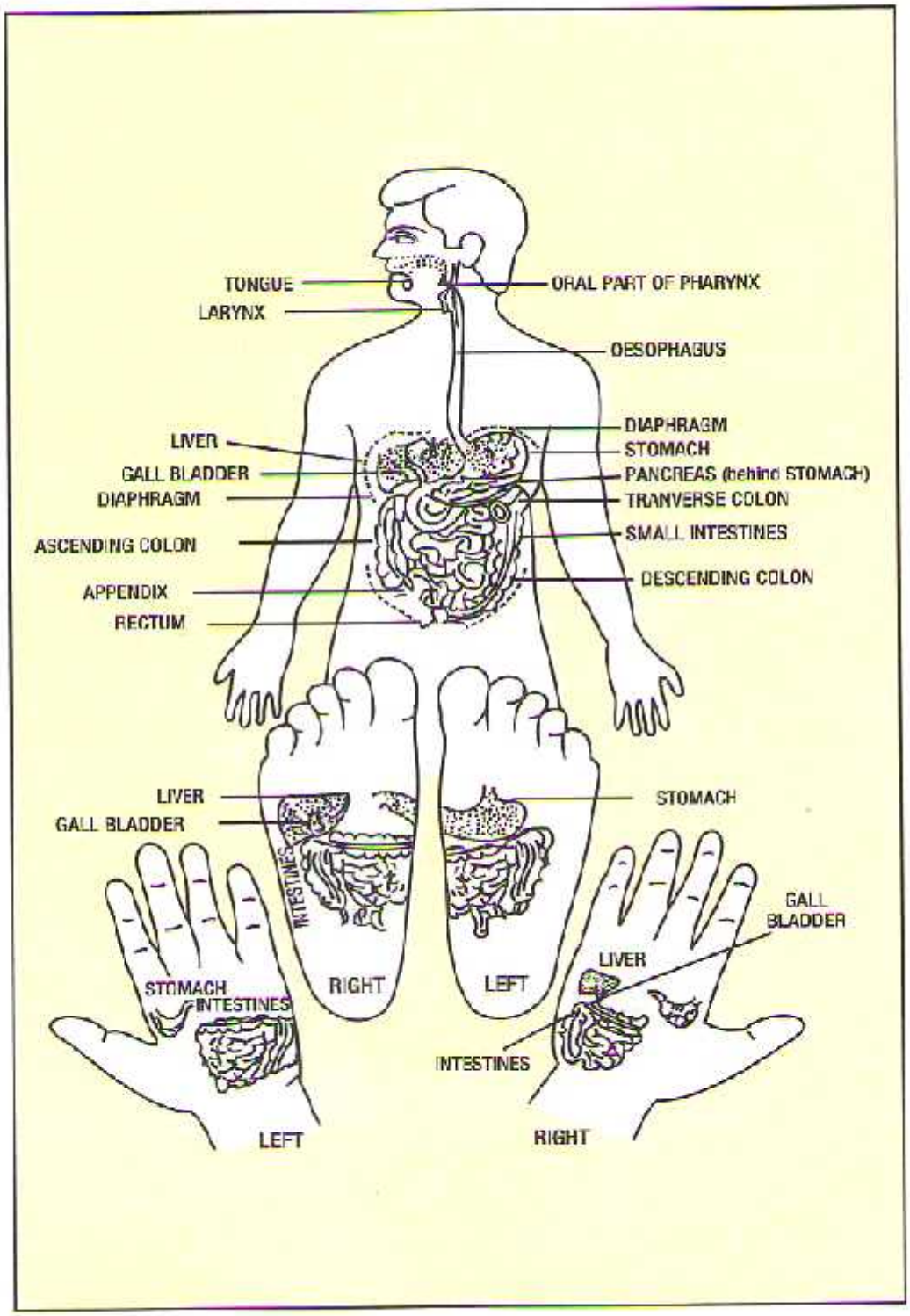


Fig. 9
Organs related to digestion of food and their reflex centres in hands and feet

Urinary System

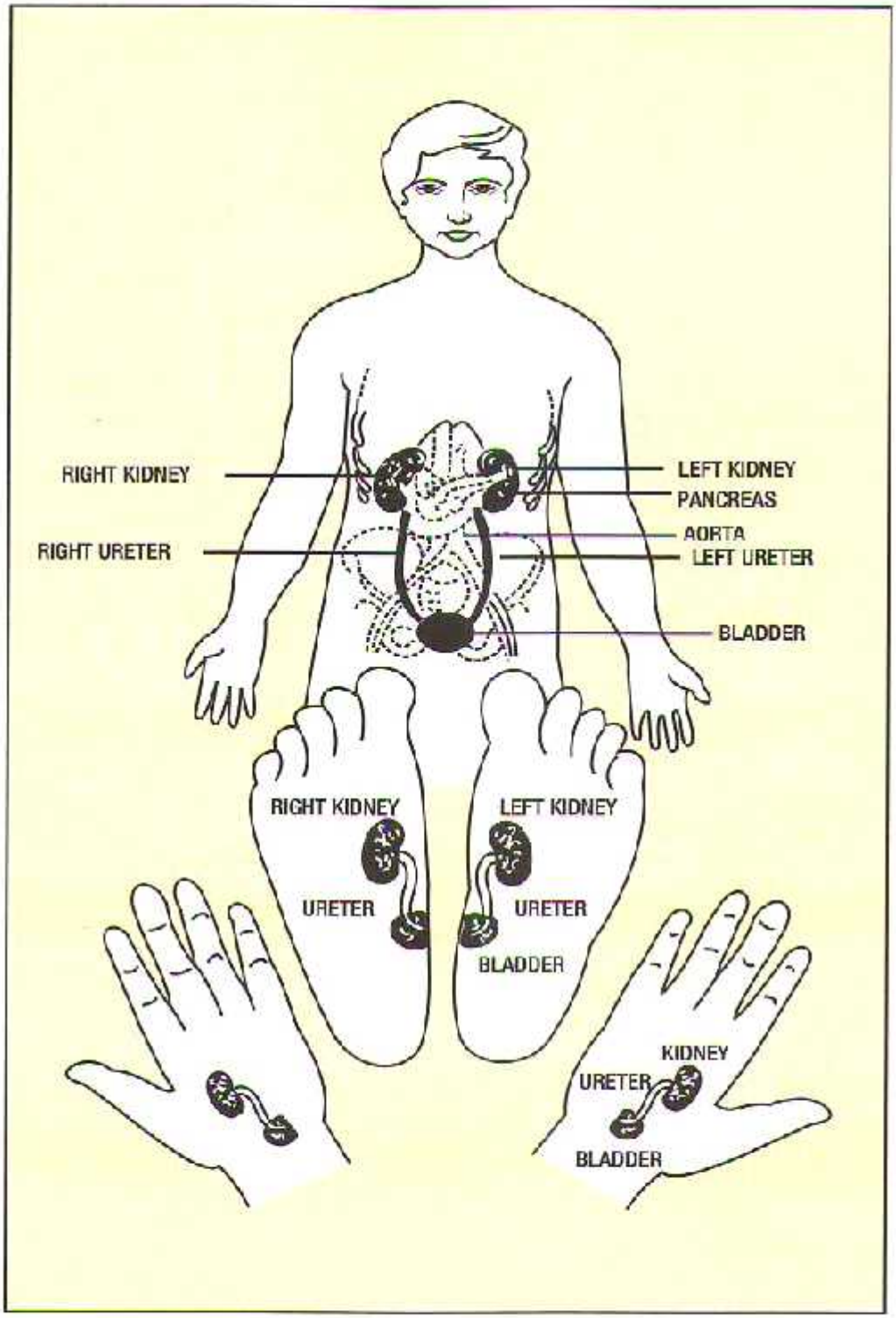


Fig. 10
Organs of urinary system and their reflex centres in hands and feet

Reproductive System

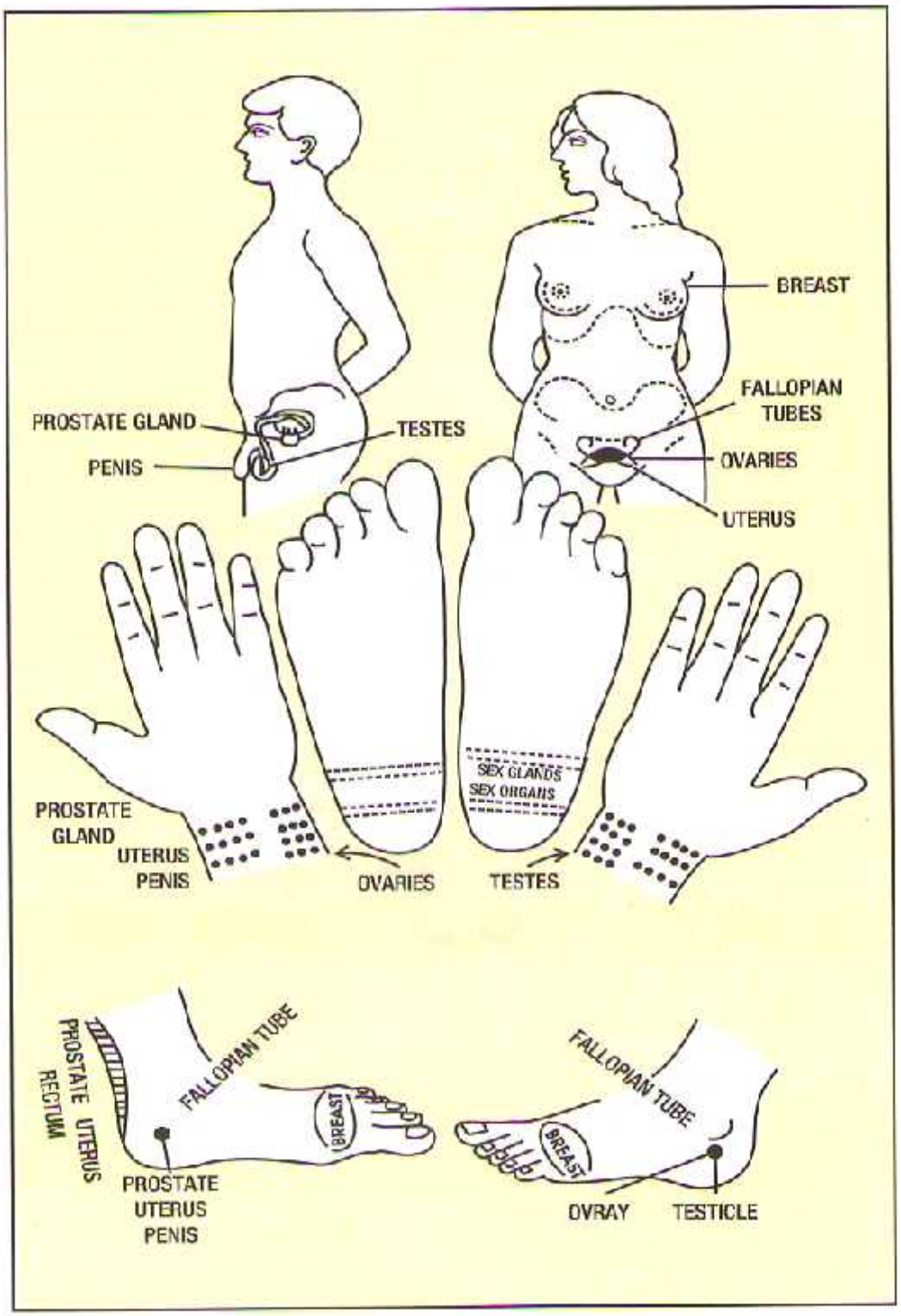


Fig. 11
Reproductive organs and their reflex centres in hands and feet

The Reflex Area for Spine Runs along the Centre of Feet

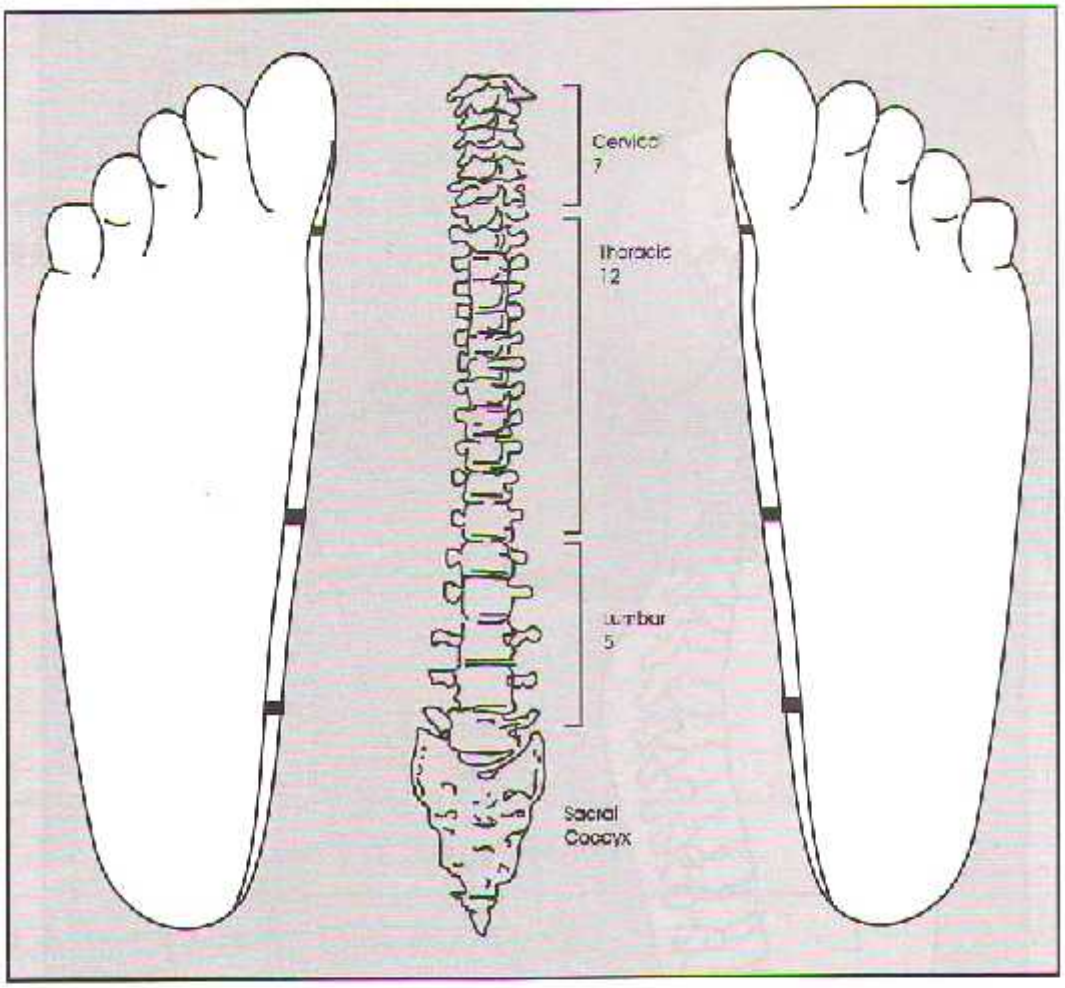


Fig. 12

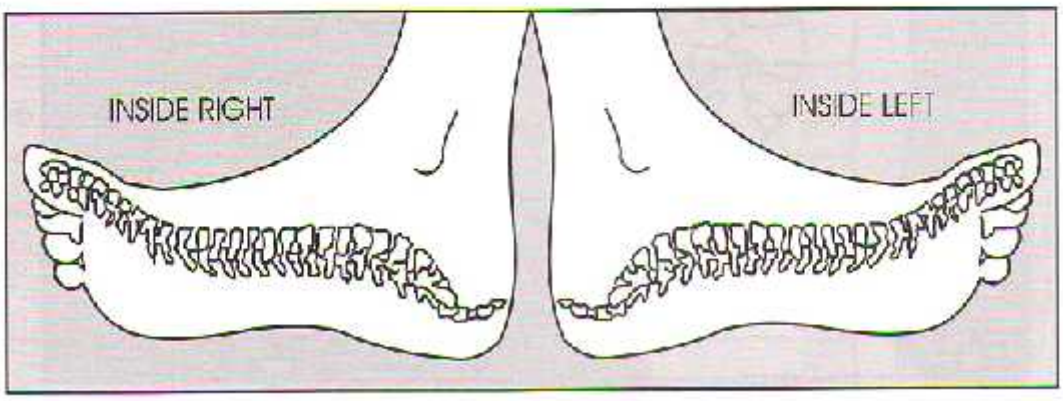


Fig. 13

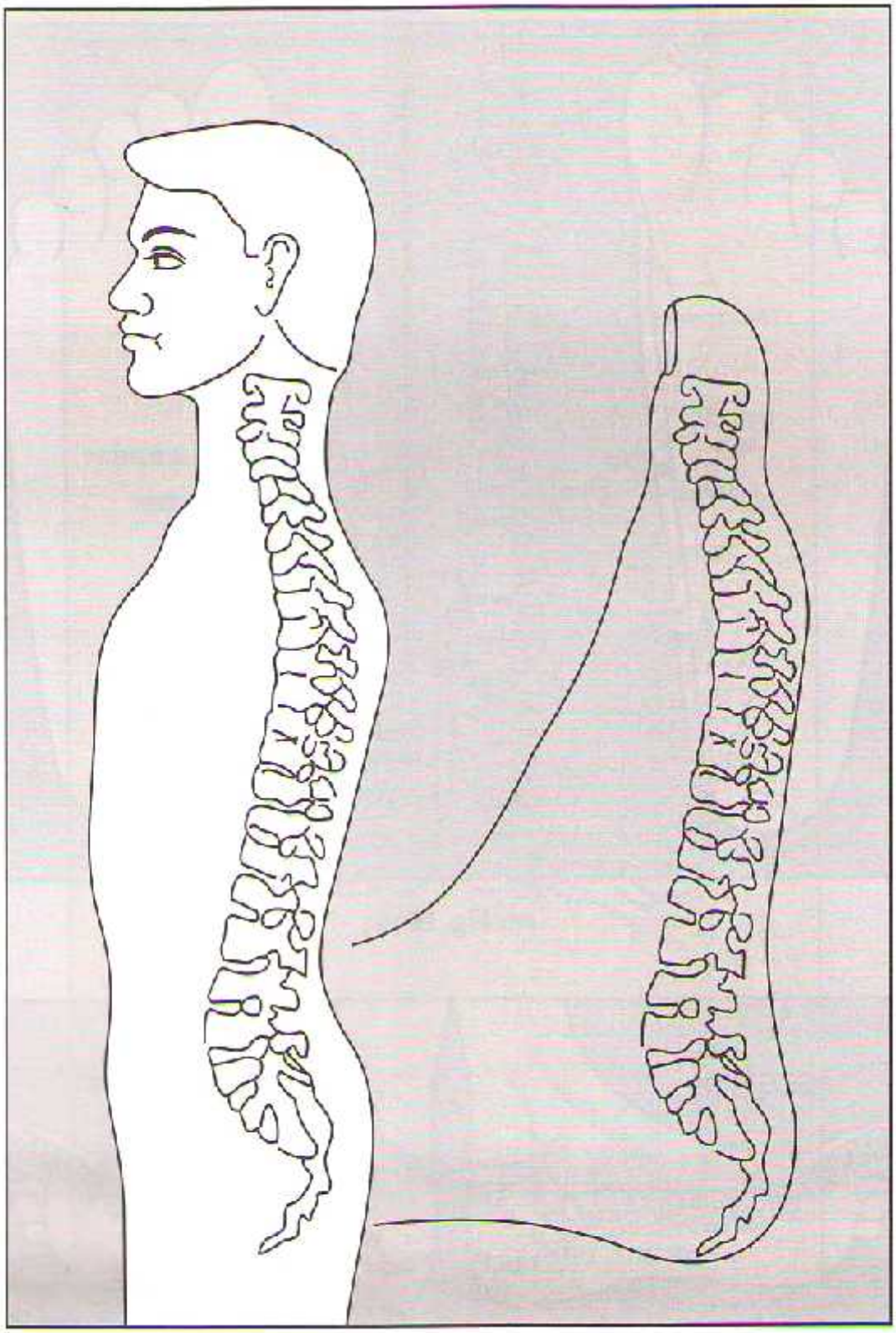


Fig. 14
The inside curve of the foot corresponds to the curves of the spine

Reflex Centres on the Face

Pressure can be applied with the help of the thumb or finger for 5-7 seconds. Pressure must be gentle yet deep. Repeat thrice.

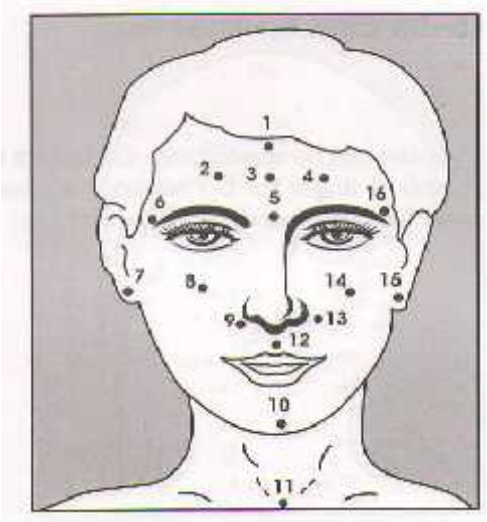
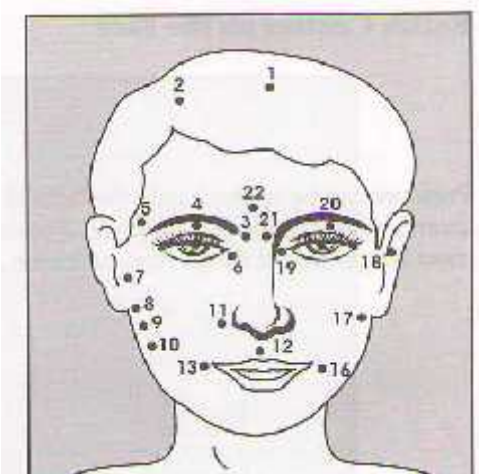


Fig. 15

1.	Menstrueal problems
2, 4, 8, 9, 13, 14	Catarrh, headcold
3.	Pelvis troubles
5.	Headach, giddines
6, 16	Migraine
7, 15	Sleep disturbances, paralysis
10.	Menopause
11.	Throat, cough, dyspnoea, asthma
12.	Toothache

Reflex Centres on the Face

Pressure can be applied with the help of the



thumb or finger for 5-7 seconds. Pressure must be gentle yet deep. Repeat thrice.

1	Piles, bed wetting, diseases of urinary system
2	Double vision – diplopia
3, 21	Diseases of brain, insomnia, cold
4, 20	Sciatica, brain, liver, gall bladder related disorders
5	Diseases of the eyes (same on left side)
6, 14, 15, 19	Diseases of eyes
7	Tinnitus
8, 10	Paralysis, mental stress
9, 17	Toothache
11	Blocked and runny nose (same on left side)
12	Paralysis, sneezing, unconsciousness, epilepsy
13, 16	Toothache, mental stress
18	High blood pressure, frozen shoulder & aches
22	Diseases of eyes, legs & stomach

Reflex Centres on the Face

Pressure can be applied with the help of the thumb or finger for 5-7 seconds. Pressure must be gentle yet deep. Repeat thrice.

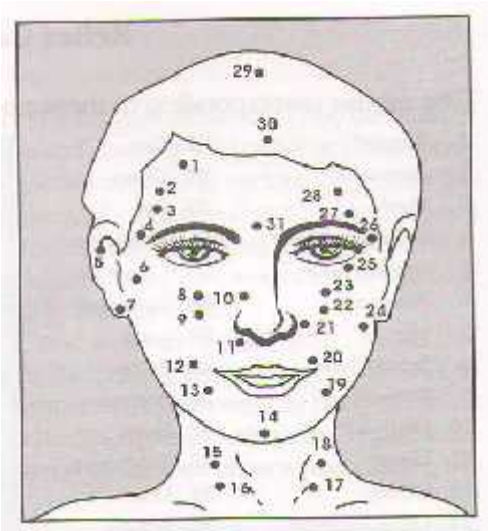


Fig. 17

1	Memory
2	Sciatica
3, 25	Gas
4	Disorders of the Liver
5	Blood circulation
6, 24	Goiter
7	Paralysis
8, 23	Diseases of the Kidney
9, 14, 22	Constipation
10, 11	Intestinal Diseases
11	Diseases of the Pancreas
12, 13	Disorders related to the right lung
15, 18	Sex Stimulation
16, 17	Abdominal Disorders
19, 20	Disorders related to left lung
26	Disorder of spleen
27	Disorders of the heart
28	Sciatica
29	Migraine
30	Diseases of Reproductive Organs
31	Headache

Reflex Centres on the Ear

The organs corresponding to these points located on the ear are as follows :

1. Tonsils
2. Appendix
3. Heel
4. Knee Problems
5. Hypertension
6. Asthma
7. Hip
8. Sciatic Nerve
9. Buttock
10. Urethra
11. Ureter
12. Kidney
13. Large Intestine
14. Rectum
15. Small Intestine
16. Stomach
17. Bronchus
18. Lung
19. Lung
20. Hypertension
21. Inner Portion of nose
22. Eye
23. Eye
24. Ovary
25. Eye
26. Middle ear
27. Upper jaw
28. Lower jaw
29. Lung
30. Testis
31. Asthma
32. Brain
33. Toothache
34. Liver
35. Spleen
36. Pancreas
    Gall bladder
37. Neck
38. Shoulder joint
39. Shoulder
40. Abdomen
41. Elbow
42. Knee
43. Hip point

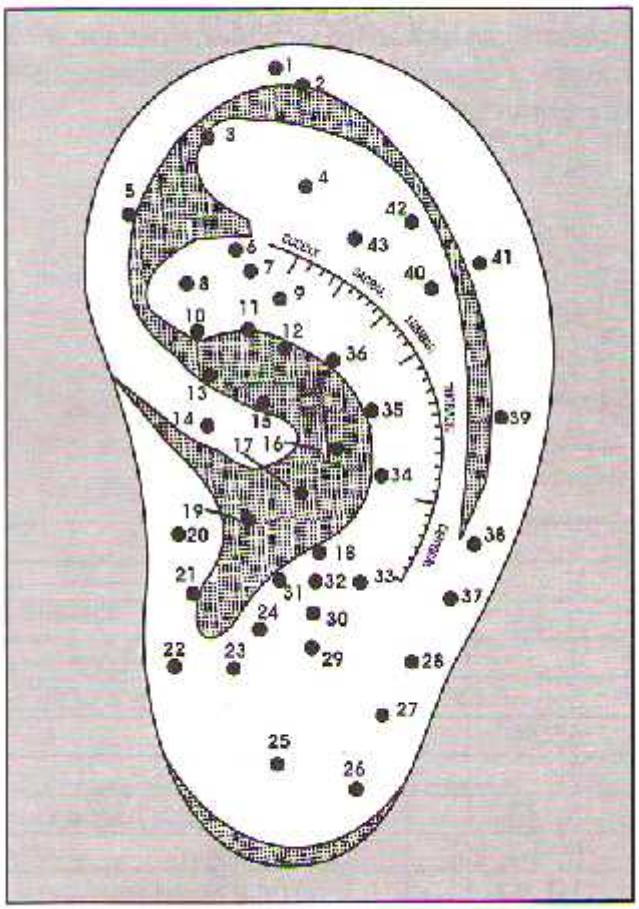


Fig. 18

Duration

Pressure should be applied at each centre with the help of thumb / finger in a rotatory motion. Pressure should be in accordance with patient's tolerance for about half minute to two minutes, twice a day. While giving pressure just move the hand and not the ear In pregnant women and patients suffering from serious heart condition, avoid giving pressure on ear.

Identification

The points corresponding to diseased organs are usually tender as compared to other points. They may also be swollen or discoloured.

Disease Theory

How Reflexology Works

The ancient healers had made a deep study of the human ailments. They believed in the oneness of universe and individual body as a small cosmos-and order and harmony are possible when there is coordination and cooperation among various organs in the body. They were of the view that when this natural equilibrium was disturbed in the body for one reason or the other, one or more ailments took place according to the proportion and nature of imbalance or disturbance. According to them, Reflexology was the best system to restore normal functioning of the body in a natural way.

There has been much discussion previously, and even in recent years, about the working of Reflexology. The much talked theory which many ancient healers as well as modern Reflexology therapists advocate is that Reflexology cleanses the body of toxins and impurities which accumulate in nerve endings leading to many ailments. These toxic chemicals, in fact, obstruct the normal flow of energy to various organs and disturb the balance of the body.

It is through Reflexology that various crystals like calcium deposits, which accumulate at the nerve endings in hands, feet and certain other parts of the body, are broken down. Once such harmful material is crushed into pieces and uprooted, it goes out of body through various outlets. Some Reflexology therapists, thus, suggest that before or immediately after massage of reflex points, a glass of plain water should be taken so that poisonous substances are driven out from the body immediately through urine and other outlets.

As per zone theory, which is the basis of Reflexology or reflexology, energy is constantly flowing in the body through ten

invisible channels. When this normal energy flow is disrupted due to one reason or the other, diseases arise. The fundamental concept of energy flow is accepted in all branches of natural healing-Reflexology, acupuncture, shiatsu, zone therapy, reflexology and polarity therapy. On these ten energy pathways exist some reflex points also called 'push buttons', acu-points or trigger points which when pressed with thumbs, fingers or with some other devices, activate the life force in the body and create a balance of energy where there was previously an imbalance. Such type of pressure also keeps the body in perfect order if there is no disease or loss of strength. Reflexology thus performs two unique functions-during the condition of disease **it** works as a curative method and during normal functioning of the body it helps as a preventive measure for maintaining good health and fitness.

Every system in the body has its own importance but blood circulation and nervous system are two most powerful streams which exercise overall control on the working of the human body. A perfect circulation is a vital force which carries necessary nutrients to all tissues. Reflexology helps a lot to improve and strengthen the circulatory system leading to better functioning of all organs. The modern medical science accepts that about 75 per cent of all ailments take place due to 'nerve tension' in different areas of the body. Fear, stress, sadness, anger, anxiety and worry all lead to tension, sickness and ageing. Reflexology helps in releasing tension and in maintaining good health. Another school of thought gives one more scientific theory that body is electrical in nature. When any fault relating to loss of energy from any part of the body takes place, diseases arise. Contact heading, Reflexology or reflexology is an age-old

method of contacting various electrical centres in the human body and restoring normal energy flow to all organs by plugging energy leakage.

All branches of medical treatment agree that human body possesses immense natural strength to cure itself of any disease. It, however, requires impetus or external force to rejuvenate its energy. It is now an established fact that Reflexology is one of those remarkable few natural systems which revives and revitalises the hidden strength in the body to cure all ailments.

Reflexology works, its results are indeed marvellous and matchless. Many theories are proposed about its working but we have to accept it that how this system works inside the body is still a mystery. One can hope that a single scientific explanation appealing to all, including men in modern medical profession, will be available in the years to come.

How to Locate the Correct Reflex Points

Reflexology is a unique system in two respects - easy detection of diseases and their prompt cure. It is perhaps the only natural therapy through which one can easily ascertain the normal or abnormal functioning of different internal organ of the body instantly by pressing certain reflex points in hands and feet. Similarly, it is by pressing these points that many ailments can be cured without any medicines and without any side effects.

To cure a disease through Reflexology, the primary act is to ascertain the involvement of specific organs in that ailment. The next step is to locate the relevant reflex points in hands, feet and other parts of the body so as to start the treatment.

From the drawings given in the previous pages, the

location of reflex points representing various organs and different systems in the body is very clear. For example, if a person is suffering from some problem concerning urinary system, he can start giving pressure in the feet and hands on the reflex points of kidneys, ureters, urinary bladder and the relevant area of spine, and like wise in other diseases. Now, the question arises whether pressure is being given on the right points or not.

The major criteria for detecting the accurate reflex points in the case of any disease or abnormal functioning of a particular organ is the feeling of excessive and intolerable pain by pressing the respective areas. In case of any disease, the patient feels too much pain on the concerned reflex points by pressing them as if some nail or piece of glass has entered that area. Strangely, the patient does not feel such type of prickly pain either before or after giving the pressure. It is only on giving pressure that one comes to know about the normal or abnormal functioning of an organ through the pinch of pain.

It is thus clear that any spot in the reflex area representing a particular organ which hurts too severely on giving pressure is the proper reflex point for that organ. It would, thus, not be necessary to locate the problem points everyday. Generally, there is only one major reflex point for every organ but there can be more than one reflex points according to the size of the organ and nature of problem. In case of pituitary gland, a small organ in the body, there will be only one reflex point, while in case of liver, which is the largest organ in the body, there can be more than one reflex points. Painful reflex points are, in fact, the indicators of some problem inside the body. When the disease subsides or is completely cured, these particular areas in hands

and feet will indicate less pain or no pain at all.

Regarding size of reflex points, the Reflexology experts are of the view that each such point will measure not more than a size of pea. In children and infants its size will be comparatively small. Some therapists, however, suggest that every Reflexology point is of the size of pinhead in area, just below the surface of the skin and is more electrically conductive than the surrounding area of the body.

While detecting the correct pressure points, it should always be kept in mind that as each individual body differs, so the points of each person may not be exactly the same spot in hands and feet. According to the body structure of the person concerned, the location of reflex points can also vary. But these will definitely be in the same zone and same area. In addition, reflex points of more than one organ can be in the same area in hands and feet according to their position in the body. Certain glands and organs are virtually on top of each other, tightly fixed in the body. Take the case of liver, gall bladder and upper portion of ascending colon and likewise of stomach and pancreas, kidneys and upper coils of small intestine etc. which are very close to each other. The reflex points of such organs are, thus, so near to each other that sometimes it becomes very difficult to distinguish whether these are of liver, gall bladder, small intestine or ascending colon etc.

There is another important factor to remember in the context of reflex points. It is the principle of zone therapy that all those organs which fall in a particular zone in the body, their reflex points in hands and feet will also become tender if any organ in that zone becomes sick, because they are linked with the same life force current. For example, in case of any eye

disease the reflex points of all organs falling in zone 2 and 3 i.e. of eyes, kidneys, liver and small intestine will also become sore, some less some more. As such, for cure of any eye ailment, it will be imperative to press the reflex points of eyes, liver, kidneys and small intestine to restore the normal energy flow in both the zones, particularly in the area of the eyes. The same procedure will have to be adopted in the case of all diseases.

For the proper diagnosis of many diseases and their treatment through Reflexology, it is very important that one must have basic knowledge about the working of the body, the position of various organs in the body and their function, understanding of zone therapy and location of numerous reflex points in hands, feet and other parts of the body.

By going through the following description, which is strictly according to the zone therapy, it will be very easy to understand the exact location of reflex points of major organs and glands, in hands and feet. An effort has also been made to describe such locations through various illustrations in the book.

Pituitary gland : Its reflex point exists in the centre of both big toes and thumbs in zone 1.

Pineal gland : Its reflex point is situated in zone 1 at the inner side towards the top of big toes and thumbs.

Hypothalamus : Its reflex point is at the same place as that of pineal gland.

Brain : Reflex points of brain are located in all five zones in upper portion of tips of thumbs, big toes, fingers and toes.

Spine : On the inner side of both feet and both

hands, reflex points of all 33 vertebrae of spine are situated beginning from both big toes and ending down towards heels in zone 1 (fig. 12,13). Likewise starting from inner side of thumbs it goes towards wrists on both sides in zone 1.

Thyroid gland : The reflex area of the thyroid gland is situated at the base of both big toes and base of both thumbs in zone 1.

Parathyroid gland : The reflex points of these glands are located around the thyroid area in zone 1.

Thymus gland : Its reflex area is found in zone 1 in both feet and hands.

Eyes : The reflex points of eyes are situated beneath the second and third toe in feet and at the base of first (index) and second finger in hands in zone 2 and 3.

Ears : The reflex area of ears is located at the base of fourth and fifth toe in feet and at the base of third and little finger in hands in zone 4 and 5.

Heart : Its reflex area largely falls in left foot and left hand from zones 1 to 4 and in zone 1 to 2 in right foot and right hand between the shoulder line and diaphragm line.

Lungs : The reflex points of lungs are situated in upper side of feet and hands in zones 1 to 4 between the shoulder line and diaphragm line.

Solar plexus : Its reflex area is found beneath the diaphragm line in feet and hands between zones 2 and 3.

Liver : Its reflex points are found in right foot and right hand in zones 1 to 5 between the diaphragm line and waist line.

Gall bladder : Its reflex points are between zone 4 and 5 in right foot about two fingers above the waist line. Likewise its reflex points are in right hand in zones 4 and 5.

Stomach : The major part of stomach's reflex area is situated in left foot and left hand in zones 1 to 4 and some area in right foot and right hand in zones 1 and 2.

Pancreas : Its reflex area is located mostly in left foot and left hand from zones 1 to 4 and some portion in right foot and right hand in zone l and zone 2.

Duodenum : The reflex area of duodenum is located in both feet and both hands in zone 1 on the waist line.

Spleen : Spleen is on the left side of the body. Its reflex points are located in zone 4 and 5 in left foot as well as left hand.

Adrenal glands : One gland each is situated on the upper portion of each kidney. The reflex points of the adrenal glands are thus located in both feet and hands midway between the diaphragm line and the waist line in zone 1.

Kidneys : One kidney on each side of the body is situated in the mid back area. Their reflex points are found in both feet and both hands in zones 2 and 3 on the waist line.

Ureters : The reflex points of ureters are found in both feet and both hands between the waist and pelvic lines in zone l.

Bladder : Its reflex point is situated in both feet in zone 1 where the heel starts. Similarly it is found in both hands where hand meets with wrist in zone 1.

Small intestine : The reflex area of the small intestine is situated in both feet and both hands from the waist line to the pelvic line, inside the region of large intestine, spreading from zone 1 to 4.

Ileocecal valve : Its reflex point is situated in the right foot and right hand in zone 5.

Colon : The ascending, transverse, descending and sigmoid, all are integrated parts of the colon. Their reflex points according to the placement of the colon in the body are situated in zones 1 to 5, in both feet as well as in both hands.

Appendix : The reflex point of appendix is located in zone 5 in right foot and right hand, slightly above the pelvic line.

Uterus/Prostate : The reflex points of uterus (in women) and prostate (in men) are situated over both feet on the inside of the ankles, midway

on a straight line from the base of the heel to the ankle bone. The reflex points of these organs are also found on wrist on both arms on the thumb side in about 1½" area.

Ovaries/ Testicles: The reflex points of ovaries (in women) and testicles (in men) are located over both feet on the outside of the ankles, midway on a straight line from the base of the heel to the ankle bone. The reflex points of both these organs are also found on wrist on both arms parallel to third and little finger in about 1½" area.

Fallopian tubes/ Seminal Vesicles/ Vas Deferens : The reflex points of fallopian tubes (in women) and seminal vesicles/vas deferens (in men) are situated over both feet across the top of the feet from one ankle bone to the other in all five zones. Similarly, these points are found over the hands in the lower region where hand meets the arm, from thumb side to little finger side in all five zones.

Reflexology is a scientific and perfect system of treatment but like all other established medical systems, Reflexology too has its limitations. It has wonderful diagnostic peculiarities. Just by pressing various reflex areas, one can detect which organ is not functioning properly or where the problem lies.

Reflex points are indeed mirror to the internal organs and pain on these points indicates the extent of disease. There are

thousands of ailments related to various systems in the body. The ancient as well as the modern therapists have cured from minor to so-called incurable diseases with Reflexology. Still, there are certain diseases, like cancer, which if not treated in earlier stages, can lead to disaster. It would be, thus, advisable that while starting Reflexology treatment one must be sure that the patient is not suffering from any serious disease like cancer where time factor is very important and medicine is absolutely necessary for the health of the patient. In such cases, Reflexology can be applied in conjunction with some other treatment. Reflexology can help to a great extent even in cancer cases, especially in reducing the intensity of pain.

There should be, thus, a clear approach of Reflexology therapists. If the ailment does not respond to Reflexology within a reasonable time, there should not be any hesitation in obtaining an objective diagnosis but that too from a well-qualified doctor. It should not be done as routine matter unless it is absolutely necessary in the interest of patient. Sometimes, such diagnosis helps in detecting the right reflex points and in giving more attention to those points which can help in accelerating the cure.

Do's and Don'ts

Reflexology is a unique system which can be applied anywhere and any time, in minor to major diseases without the risk of any side-effects. Its results are really marvellous. To derive full advantage of this scientifically proven therapy, it would, however, be advisable to follow certain principles which

will further help in curing numerous diseases promptly.

1. It is very important that the place of treatment should be clean, well-ventilated, at normal bearable temperature, have soothing and attractive environment which helps to release tension and create a sense of joy, satisfaction and well being.

2. The furniture for the patient as well as for the therapist should be specially designed so that both feel comfortable during the period of treatment. Comfortable domestic furniture can also serve the purpose. Treatment can be given while the subject is lying down in bed in a straight posture (fig. 19) or sitting in a chair (fig. 20 and 21) but in both positions, the patient should feel relaxed. Pressure can be given on relevant reflex points by the patient himself as shown in fig. 22.

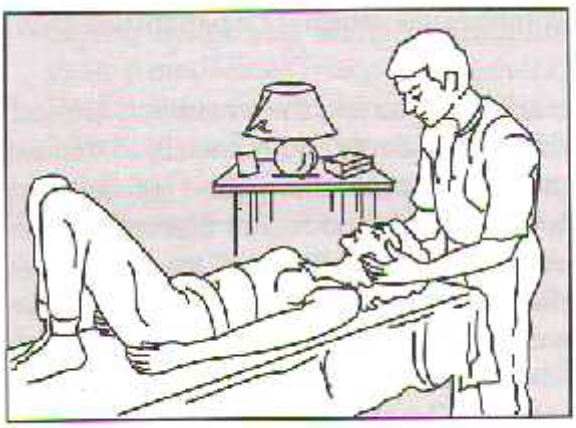


Fig. 19

Fig. 20

Fig. 21

Fig. 22

3. It would be better if one glass of plain water is taken before or after 15-20 minutes of Reflexology treatment. Plenty of plain water i.e. 8 to 10 glasses should be taken daily at short intervals. Plain water alone will help in flushing out toxins from the body.
4. While starting the treatment for the first time, the therapist must explain in brief the working of Reflexology to the patient, especially the pain factor. Often, some patients are worried that the treatment is going to be painful. Every patient should, thus, be told that pain on pressure is the indication of the problem inside the body. There will be some points where one will feel no pain at all even with strong pressure while certain points will show considerable amount of pain. With the recovery, the pressure pain will gradually decrease and ultimately will vanish. The patient will, thus, gladly cooperate with the therapist.
5. The therapist must wash his hands properly before starting the treatment. Utmost hygiene should be observed in

attending different patients and especially in the use of any oil, talcum powder, towel, bed-sheet etc. Some therapists don't recommend use of any cream, lotion or oil on the recipient's hands and feet or therapist's own hands. According to them, if the skin is covered with oil or cream, the thumb will glide making it difficult to find accurate reflex points and press them properly. The crushing of crystalline deposits in hands and feet would thus not be possible. They, however, allow use of oil or cream on sensitive areas like around ankles and sides of fingers and toes for massage and light pressure. The therapist also must keep the nails of thumbs and fingers short as long nails can hurt any patient's skin especially that of children. In winter, while starting the treatment, the therapist must rub his/her hands together briskly to warm them to avoid giving feeling of cold touch tome patient.

6. Never give treatment when one has a full stomach because in that case the pressure can upset digestive process. It should preferably be given when one has empty stomach, or taken very light refreshment or after two-three hours of taking meals.
7. Reflex points of spine can be pressed any time since these are not directly involved indigestion.
8. Don't give Reflexology treatment just before or immediately after taking a bath or undergoing full body massage or after strenuous physical exercises or any laborious activity. In such cases, there should be a gap of about half an hour. This treatment should not be given to pregnant women and persons suffering form serious cardiac problems. Pregnant women suffering from spondylosis, migraine, headache,

insomnia, asthma, bronchitis, cough, allergy, depression, anxiety and some other diseases where reproductive organs and lower abdomen area is not directly involved, can be given pressure on hands and feet and that too when it is absolutely necessary. This treatment can be helpful to those pregnant ladies who cannot take medicines. It is also advisable not to give Reflexology treatment to a woman during her menstruation period as it can lead to somewhat excessive and prolonged bleeding as well as discomfort. If it is absolutely necessary to give pressure in certain diseases, it should not be given on reflex points concerning reproductive organs.

9. Pressure can, however, be given to anybody, any time, in any position and any physical condition even when there is an emergency like fainting, heart attack, paralysis or some other disease which needs immediate attention.

10. Very light pressure should be given to those persons suffering from serious diseases of lung, liver and kidneys. Patients who are on life saving drugs and show improvement with Reflexology must not decrease or stop medicines without the advice of their doctor.

11. Direct pressure should not be given on that part of the body where there is infection, swelling, fracture, scar, mole or a wart. In such cases, pressure should be given on referral areas or on some other suitable reflex points.

12. It is important to note that when attending children, very light pressure and that too with thumbs and fingers should be given because they have delicate system. Never use gadgets or other electrical instruments on children.

13. Reflexology has no side-effects whatsoever, still, there may

be some persons who may, for one reason or the other, feel little aggravation of the problem or no relief at all even after many days of treatment. In that case, the treatment should be stopped unless the therapist is sure of getting good results after more sittings.

14. Doctor's advice for rest/diet and for precautions must be taken seriously. The basic principles of health apply in all systems of treatment whether allopathy, homoeopathy, ayurveda, nature cure and Reflexology.

15. While treating a particular disease, the emphasis should be on relevant reflex points but in every case, points concerning nervous system, especially the brain, lymphatic system, circulation and kidneys (fig. 23 & 24) must be pressed as these release tension and purge the body of harmful substances.

Fig. 23

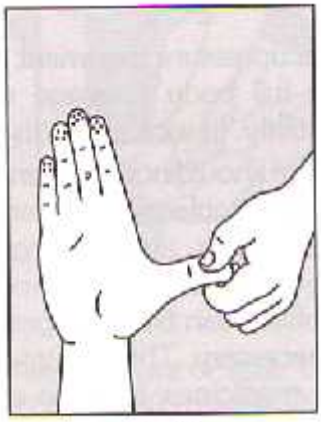


Fig. 24

16. Diet plays an important role along with any system of treatment because all food items don't suit all persons. Generally, too spicy, ice-cold foods and drinks and alcohol should be stopped permanently or at least avoided during the period of treatment. Fats and sugar should be taken in

moderate quantity.

17. Reflexology is also a self-help therapy but it is always more beneficial if it is taker in a relaxed position at proper place, from some other person, may be a family member, but preferably from a trained and experienced therapist.

18. Reflexology is a simple yet very effective treatment. It, however, requires proper attention for exploring various reflex points and giving pressure attentively in a systematic manner. It is thus important that both the patient and the therapist must keep complete silence during the time of treatment. Whatever is to be inquired and whatever is to be told by any of them, should be done before or after the treatment. As far as possible there should be no interruption i.e. of telephone, mobile etc.

19. Keep a daily record of your experiences, feelings, improvement and aggravation of the problem (though it may occur in rare cases and that too for reasons other than Reflexology) to analyse the progress. It will also help if the detail of all food items taken daily is penned at least during the period of treatment to find out which food item is not good for the body.

20. Just as the doctors suggest a tentative time for taking medicines, it is better to fix a convenient time for taking Reflexology treatment during the day. It helps in achieving speedy results.

21. Many diseases are outcome of worry, tension, anxiety and feelings of uncertainty. Reflexology helps in curbing all negative thoughts. To make Reflexology more elective, one must try to develop optimistic outlook, noble ideas and a

strong sense for good health. Light and melodious music soothing the senses can be played during the treatment to make it more effective.

22. During the period of treatment, and otherwise too, one should eat normally. Dieting or fasting is not required because the body requires well-balanced and nutritional meals for combating ailments. Over eating is harmful. It should be avoided.

23. Reflexology has no clash with any other medical system and can be applied in conjunction with any *pathy*. In non-serious cases, there is no need to depend on any other system when Reflexology alone can cure. In case of serious or persistent symptoms, it is better to consult your doctor.

Pressure Technique

Most Distinctive Feature

In Reflexology, basic knowledge of body's functioning, understanding of zone therapy and method of locating correct reflex points is an important aspect, but the correct pressure technique is the most important feature of this system. Pressure given in an incorrect manner does not yield results. It is, thus, very important to know various methods of applying pressure in hands and feet to cure diseases and to rejuvenate the body.

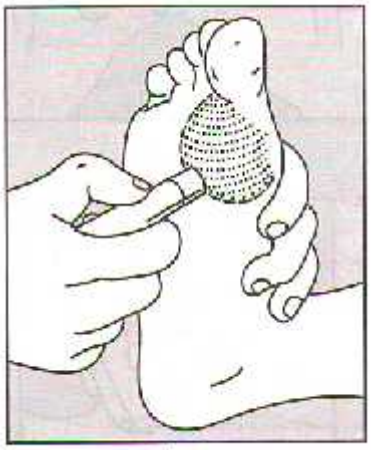


Fig. 25

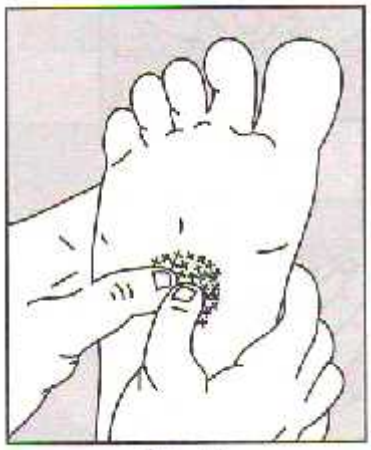


Fig. 26

As discussed earlier, one must know the method to find out correct reflex points by applying pressure with some gadget or with thumbs (fig. 25 & 26) at a number of points in hands and feet. After ascertaining the location of reflex points, the next step is to apply pressure on these points in a systematic and right manner. Pressure is always given on bare feet and hands and not over socks, stockings and gloves.

The oldest, the simplest and the best method of applying pressure is with thumb (fig. 27) or thumbs. Pressure can also be given with finger or fingers, fist, palm and elbow (fig. 27-34 and 209) according to the requirement of specific part of the body.

Correct technique of pressure application

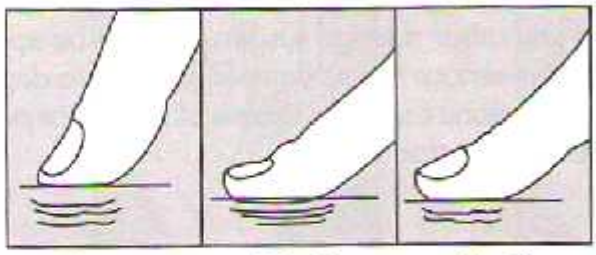


Fig. 27 Fig. 28 Fig. 29

'Pointed finger or thumb' Incorrect pressure technique

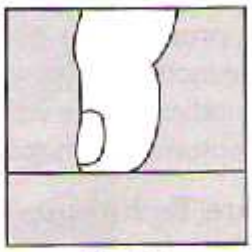


Fig. 30

Thumbs of both hands can be used simultaneously to give effective pressure

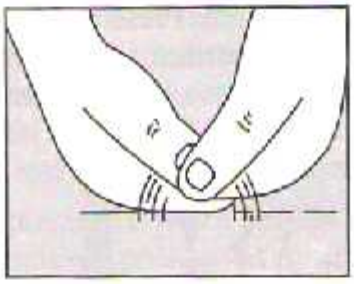


Fig. 31

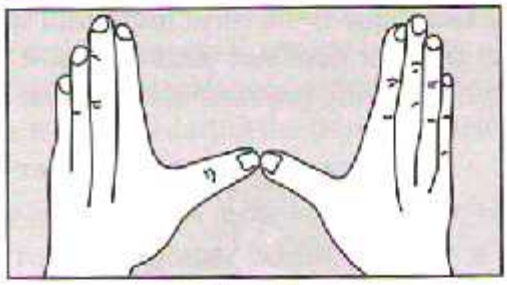


Fig. 32

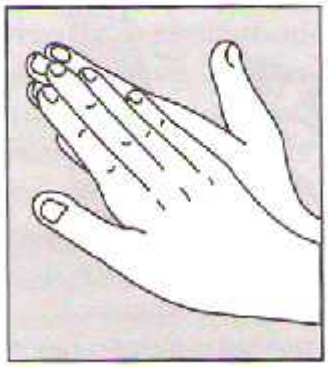


Fig. 33

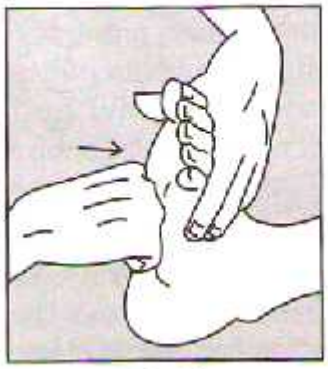


Fig. 34

While starting pressure, the first step is the position of the recipient and the therapist. Both should sit face to face, the recipient sitting in a chair, with one foot or both feet resting simultaneously on a stool before him, and the therapist sitting either on a stool or a chair, keeping the gadgets, cream and hand towel in a rack on his right side. Pressure can also be given while the subject is lying on a bed in a comfortable position, the legs fully stretched and the therapist sitting on a stool or chair facing

the recipient. Pressure in hands can be given while holding the hand of the patient. Any two persons can give pressure to each other in feet simultaneously while sitting on a bed or a carpet on the floor. This technique is very useful for those persons who can afford very little time for exercise. However, pressure in hands cannot be given to each other by two persons simultaneously.

Before examining the patient or starting the pressure, the therapist should warm his hands by rubbing them together for a few seconds. Never examine or give pressure to the patient with cold hands. After warming his own hands, the therapist should relax the patient's feet and hands by gently rubbing (fig. 35, 36, and 37) with his fingers and palms.

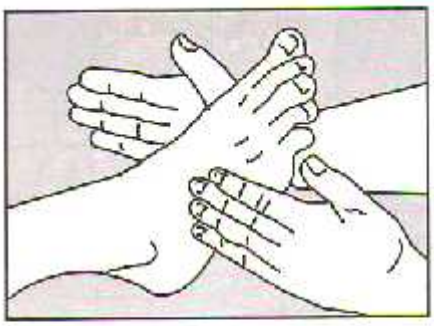


Fig. 35

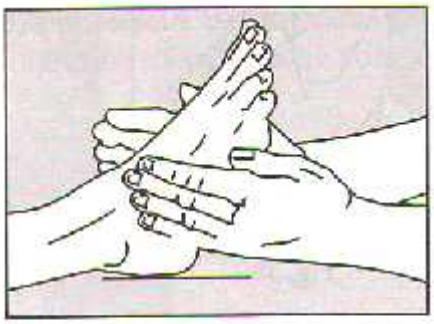


Fig. 36

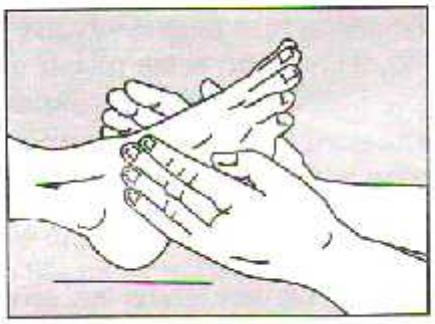


Fig. 37

In order to give a soothing touch, some talcum powder can be smeared over the recipient's hands and feet. If it is the first visit of the patient to the therapist, it would be advisable to first

record the medical history of the patient and then accurate reflex points should be searched as per zone therapy and be marked in a chart-for repeating pressure on subsequent visits.

After ascertaining the reflex points, press the relevant points preferably with thumb (fig. 26) or with a pointed gadget made of rubber or wood (fig. 25) especially for this purpose. While applying pressure with right hand, the therapist should firmly hold the foot of the patient (fig. 38) with his left hand. This will help the therapist to give pressure in a right manner.

The pressure with thumb or gadget should be soothing but at the same time go down the skin so as to touch the relevant reflex points. Pressure given in rotary motion adopting clockwise direction (fig. 39) is the most appropriate method. It is ideal to use the ball of thumb (fig. 40) to give pressure.


Fig. 38


Fig. 39

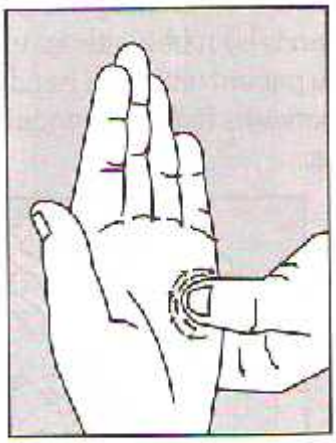


Fig. 40

Those who have weak thumbs or their thumbs cannot give pressure for a longer period can use the index (finger next to thumb) and third finger separately or jointly, with index finger placed over the third finger. Where more pressure is required it can be given placing one thumb over the other (fig. 31) or with some rubber or wooden gadget. Pressure along the spine should be given either with thumbs (fig. 32 and 160) or with one or both

palms. Never give pressure along the spine with any pointed gadget. It can, however, be given with rubber or wooden gadget called spine roller (fig. 46) keeping the wheels of the roller at least half an inch away from the spine otherwise the instrument can hurt the vertebrae.

Those parts of the body which have very tender and sensitive skin, like fingers, toes, areas adjoining ankles, upper portion of hands and feet, and back side of knees should always be pressed with thumbs and fingers and not with any instrument. On such parts some non-greasy cream or a bit of mustard oil can be applied before giving the pressure, and should be wiped with a towel after pressure. Small children should always be given pressure with thumbs and fingers and that too with utmost care.

Never give pressure with thumb (fig. 30) in a straight position. The ideal position has been shown in fig. 27, 28 and 29 which is comfortable both for the patient and the therapist.

The pressure on the reflex points needs to be gentle but reasonably firm and strong to the extent that it is felt below the skin. Crude, rough and strong pressure can produce red or blue marks. Some persons have very sensitive skin and by simple touch develop red or blue marks and swelling. It is nothing serious but simple reaction of the sensitive skin. If such marks or swelling don't disappear by the time of next sitting, pressure should be deferred for two-three days. By that time, these symptoms will vanish and pressure can be started again. Don't give direct pressure on varicose veins as it can lead to more pain and discomfort to the patient.

Those who have made deep research about the method and technique of Reflexology, are of the opinion that as body is

integrated in constitution and functioning, every ailment should be tackled taking the body as a single entity. They, thus, suggest that in case of any disease, reflex points of all organs and glands should be pressed giving an emphasis on the reflex points of the affected organs and glands. They further advise that the treatment should be started by first giving the pressure on solar plexus points (fig. 41) in both feet and hands. According to them without putting the solar plexus in order, pressure on the reflex points will not work to the desired extent.

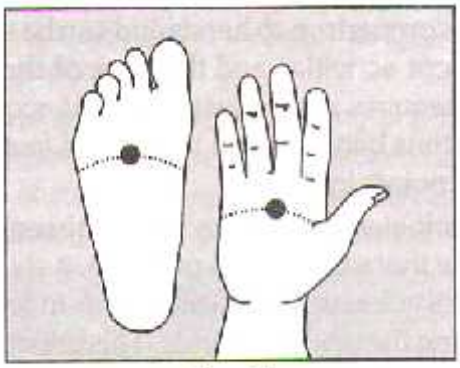


Fig. 41

Another school of therapists, however, opine that while starting treatment, first give pressure on the reflex points of pituitary gland. They also advise that whatever may be the problem, in addition to the reflex points of concerned organs, the reflex points of brain, thyroid, parathyroid, lungs, stomach, liver, kidneys and lymphatic system must be pressed as these are the major organs around which other systems revolve.

The third group of therapists have another plea. They suggest, first start the pressure from points of brain in all tips of fingers and toes to lessen the tension and then press the reflex points which have been found painful.

It would be more appropriate if a list of all painful reflex points is made after minutely examining the feet and

hands. These points should be marked in a chart for further reference. The treatment should be started from the points of pituitary gland and brain. After that the reflex points found painful should be pressed along with points of all major organs and glands i.e. thyroid, parathyroid, heart, stomach, liver, kidneys and lymphatic system. It would be better if the symptoms and causes of the particular ailments are kept in view as these will help in examining and finding the correct reflex points and tackling the problems efficaciously.

There is no consensus as to which hand and foot should be taken first for giving pressure. A number of healers suggest that pressure can be started on any foot first, but it should be kept in mind that after finishing the pressure over feet, the pressure in hands should be given in same order. This will help in maintaining the balanced flow of energy in the body. There is, however, no binding on the first priority given to feet or hands.

Research has also revealed that it is not necessary to apply pressure to feet as well as to hands at the same time. While some therapists are of the view that pressure given in feet and hands simultaneously leads to better results, others hold that as hands and feet contain the identical reflex points, results can be obtained by applying pressure either in hands or in feet. There is, however, no harm if hands and feet are treated during the same sitting. All therapists admit that reflex points in feet are spread over a larger area due to bigger size of feet in comparison to hands and can be easily located. As the hands remain occupied in different activities and the area of the reflex points in them is somewhat small in size, it requires more perfection and accuracy to find them out and give pressure. It would be thus

better if both hands and feet are treated in one sitting, giving more time to reflex points in feet.

There are again two ideologies as to how to follow the sequence of pressure. Majority of therapists are of the view that while giving pressure, it should be from top to bottom i.e. starting from tips of toes going down towards heels in feet, and from tips of fingers going towards wrists covering the whole of hands. This pressure should be applied either organ wise on the respective reflex points, or covering the pathways of all ten zones, five in right foot and five in left foot and likewise in hands.

A number of therapists also recommend that while giving pressure horizontally, it should be from outer side to inner side (same procedure in hands and feet), as it will facilitate easy elimination of toxins from the body. They argue that if the direction is reversed i.e. from inner side to outer side, the crushed toxins will move to the extreme ends of hands and feet making it difficult to be flushed out by the main stream of blood. Some therapists, however, are not convinced by this theory. They are of the view that once the toxins are crushed into microscopic pieces, these will definitely go out of the body because there are many channels and systems in the body to push them out.

In order to derive maximum benefit from this system, it is better to give pressure from top to bottom in feet and hands as well. If pressure is to be applied on the whole area in feet and hands, then horizontal line of action can be adopted. Otherwise the therapist should himself decide the procedure to be adopted according to the disease, time factor and emergency, if any, in handling the case.

While discussing location, size, working and diseases of various organs in the body the forthcoming chapters of the book,

a special reference has been made about the pressure technique to be followed in different body systems. This will give more correct idea about the proper pressure technique.

Referral areas

Unlike any other medical system, reflexology and Reflexology have certain marvellous specialities. One is referral areas in the body.

We have discussed earlier that it would be better to give pressure on various reflex points in hands and feet for curing numerous diseases but in case a particular area or areas in hands, feet, arms, shoulders and legs itself is injured, swollen, fractured or not in a position to be touched due to extraordinary sensitivity for any reason, in that case the particular area in hands, feet, arms, shoulders and legs can be cured by giving pressure on the respective corresponding areas. Those persons who have lost certain portions or whole of hands, feet, arms, shoulders or legs can benefit with the assistance of corresponding areas and zone therapy.

Following are the referral areas for different body organs which can be pressed at the time of necessity. Their position in the body has been described below which gives a clear idea of the concept of referral areas and zone therapy. In addition, any pain or some other problem at a particular area or spot can be cured with this ideology:

Organ / Area	**Referral Organ Area**
Foot	Hand
Sole of foot	Palm of hand (right side for right and left side for left side organ/area)
Top of foot	Backside of hand
Big toe	Thumb

Small toes	Fingers
Ankle	Wrist
Calf	Forearm (inner)
Shin	Forearm (outer)
Knee	Hbow
Thigh	Upper arm
Up	Shoulder

Duration of Sittings

There is no consensus amongst Reflexology specialists about the duration of each sitting of Reflexology treatment to be given to a patient for curing diseases. Certain Chinese healers and Shiatsu experts, who treat the patients by pressing some fixed points as per meridians other than reflexology and zone therapy, recommend the following time limit for each day's Reflexology session according to the age-group of the patients:

- New born babies : ½ to 3 minutes
- Babies between 3 to 6 months : l to 4 minutes
- Babies between 6 to 12 months : 1 to 5 minutes
- Children aged 1 to 3 years : 3 to 7 minutes
- Older Children : 5 to 10 minutes
- Adults : 5 to 15 minutes

This group of therapists is of the view that pressure on each point should be restricted between 7 to 15 seconds.

The modern reflexologists who treat patients as per zone therapy, which is our subject are of the view that a typical reflexology treatment session should last about 30 to 40 minutes or a little more per day. To give pressure for a longer time than one hour in one sitting is excessive. The specific reflex points concerning particular ailments and of major organs in the body

should be given more time, from few seconds to one-two minutes per point, depending upon the nature of the problem. Too much concentration on a point, does not yield extraordinary results rather that area in hands and feet becomes sore and sensitive. In this context, the advice of Eunice D. Ingham, one of the leading therapists of the twentieth century, should always be kept in mind, "It is better to undertreat than overtreat".

It would be better if the Reflexology therapist himself decides after examining every patient thoroughly which points in his or her case need more attention and time. There can be general guidelines for total time to be devoted in one session but not the final word as every individual patient needs a different approach to his or her ailment.

Regarding the number of sessions needed daily, one session of treatment is recommended per day, either in the morning or in the evening according to the convenience of the patient. Some therapists are of the view that two sittings can be given per day at an interval of five to seven hours or even less if the nature of diseast and the condition of the patient so demands. There is also a section of such therapists who suggest that pressure should be given once or twice a week only.

The ideal course would be to give pressure once a day for about 15 to 45 minutes depending upon the disease, need and physical capacity of the patient. Pressure can, however, be applied two or three times a day in the severe cases of migraine, vertigo or asthma, in emergency cases, in those circumstances where the patient is solely dependent on Reflexology or where the patient is allergic to medicines. When a significant improvement takes place or in the case of those patients who cannot tolerate even moderate

pressure daily, they can be attended to once, twice or thrice a week. In such cases, the decision should be taken by the therapist himself keeping in view various factors about the patient's general health, nature of the disease and pressure endurance capacity.

New born babies should ordinarily be left for child specialists as they require very special and timely attention. Babies above six months of age and children should be given very soft touch pressure and that too from 5 to 10 minutes according to their requirements.

Number of Sittings Required for Cure

One question which is generally put to every therapist by patients is the number of sittings required for complete cure of their ailments. It is almost very difficult for any doctor of any *pathyto* precisely tell the period of complete recovery in any disease. Unlike other *pathies,* if an Reflexology therapist has properly examined the reflex points and has started the treatment in an appropriate manner, significant improvement starts from the first session itself. It is on the basis of these results that a vague idea can be formed about the complete recovery or satisfactory progress in different diseases. There are some diseases in certain age-groups where complete recovery cannot be expected and logically one must be satisfied with some significant improvement. There are, however, a number of diseases which can be fully cured with Reflexology and there are others where after recovery certain precautions are to be taken so as to avoid their recurrence.

The patients undergoing treatment of any *pathy* must keep in mind a natural principle that disorders which continue for a long time and are of some serious nature will naturally take a long time in recovery. In Reflexology, however, miracles take place at most of the centres daily where numerous chronic cases get cured almost instantly and many go with the hope that they will be cured of their so-called incurable ailments. Miracles, no doubt, cannot be expected in all cases. One thing is certain that Reflexology extends relief to every patient; the percentage can vary from disease to disease. Again, many factors viz body's constitution, diet, posture, family environment, working conditions and one's temperament and outlook all contribute to recovery in all diseases.

Many Reflexology therapists have recorded somewhat identical period during which a number of ailments get cured through this system, the detail of which is given below. This period does not apply in all cases, some patients may take less time and some comparatively more time as recovery depends on many factors from individual to individual. This list does not mention the names of all diseases. In Reflexology, all those cases can be tried where there is no emergency and one can wait to let the system do its work in a natural way.

Name of the disease/ disorder		**Approximate Reflexology sittings required**
• Cervical Spondylosis, degenerative changes with multiple disc	:	7 to 30 sittings depending upon the nature of problem, some very sensitive cases and

dehydration -diffuse disc bulging, protrusion at certain levels, cervical cord compression, canal stenosis, PIVD at one or more points, OA changes with osteophyte formation at multiple positions, loss of cervical curvature, narrowing of disc spaces, straightening of cervical spine, muscles spasm and vertigo etc.		patients having chronic ailment take more time but one thing is certain that everyone is benefitted.
• Lumbar Spondylosis and other problems in lumbar and sacral region of the spine, similar to those as stated above in cervical portion of the spine.	:	As mentioned above
• Sciatica		1 to 30 sittings and in about 5 per cent cases even more sitting are required.
• Backpain	:	As mentioned above
• Frozen shoulder	:	1 sitting to two – three months depending upon the severity of the problem
• Migraine	:	7 to 15 sittings. In very rare cases more sittings are needed.
• Chronic Headache	:	7 to 15 sittings
• Insomnia	:	5 to 20 sittings
• Sinusitis	:	15 to 30 sittings. In about 10 per cent cases it takes more time to cure.
• Bronchitis/ asthma	:	15 days to 3 months and in very chronic cases even more time is taken. Some patients are advised to press certain points themselves daily to avoid re-occurrence of the ailment
• Arthritis	:	15 days to 6 months or even more depending upon the severity of the disease
• Knee-pain	:	15 days to two-three months. In certain cases of advanced

		deformity and stiffness in knees, more time is needed
• Tonsillitis	:	Generally 15 to 30 sittings.
• Paralysis	:	7 days to 6 months, some cases even take more time in full recovery
• Polio in children	:	Six months to one-two years depending upon every individual case

Usefulness of Gadgets for Giving Pressure

Reflexology, reflexology and shiatsu, all natural *pathiesare* based upon the principles of giving pressure on *different parts of the body with thumbs, fingers, palms etc. Life* style and physical activities of all human-beings have greatly changed since the time these systems of natural treatment were invented.

Ancient healers have been shown giving pressure with thumbs, fingers, palms and elbows, in certain pictures which relate to the previous centuries. Majority of reflexologists and Reflexology specialists in U.S.A., Europe, Canada and some other countries give pressure to their patients with thumbs and fingers. This has two advantages-first, giving pressure with thumbs and fingers helps in minutely exploring acute sensitive points in hands and feet; *second,* it does not hurt the skin of the patient. Above all, it builds faith of patient for the therapist who has put adequate time to diagnose and to treat the disease.

Climatically, the majority of people in U.S.A., Europe, Canada and some other countries who reside in snow covered areas have soft skin and don't need pressure with any hard device. In many countries including India where climate changes frequently during the year and a large section of people have

rough and tough skin of hands and feet, pressure cannot be given to all patients effectively with thumbs and fingers on all reflex points. In such cases, the therapists, besides giving pressure with thumbs and fingers, need the assistance of some gadgets to get the desired results.

Generally, a therapist can easily give pressure to four-five patients at a stretch without the assistance of any gadgets but those therapists who have to attend a large number of patients daily, need to use some gadgets to lessen their physical burden. One thing must be kept in mind that total dependence on gadgets is neither required nor beneficial. In self-help cases, gadgets can also be used on those reflex points where hard pressure is required or in such cases where patients have weak thumbs and fingers and find it difficult to use them for pressure purposes.

In recent times hundreds of items for giving pressure have flooded the market. These items may serve the purpose to some *extent* but no research has *been carried out so far* by any individual or organisation to find out the extent of their utility. In this scientific era, adequate research is required to apprise the people of the usefulness of various gadgets. As far as the number of gadgets is concerned, it can be conveniently given with three-four different items depending upon the portion of the body where pressure is needed.

It would be appropriate to mention here that a number of gadgets have been invented by some therapists for their own use and for the facility of patients. The practitioners in their various conventions should also think over the practicality of various Reflexology instruments available in the market, recommend the

use of really good items, ask the manufacturers to devise certain new items if actually needed, and improve upon the quality of existing items if in their opinion it is necessary in the interest of the *pathy* and the patients.

During the course of my long practice, I have invented rubber/wooden jimmi (a small device for giving pressure in hands and feet) and magic massager (rubber bail) with 14 elevated points for giving pressure, which I and thousands of my patients have found very useful in curing numerous diseases.

Rubber - Wooden Jimmi

This is about 4" long gadget (fig. 42) made of rubber. It is very easy to handle and to give pressure (fig. 25) on various reflex points in hands and feet. In fact, it is the master gadget and is sufficient to give pressure on various points in hands and feet. Similar type of jimmi is also made of wood. Jimmi can be used in three ways

(i) For giving pressure clockwise

(ii) For giving static pressure and

(iii) By rolling the instrument over the skin to create a soothing effect. Always give pressure with jimmi according to the bearing capacity of the patient, otherwise it can hurt the skin.

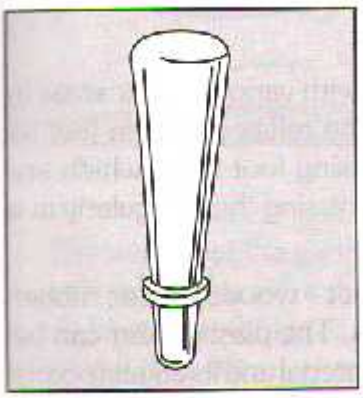


Fig. 42

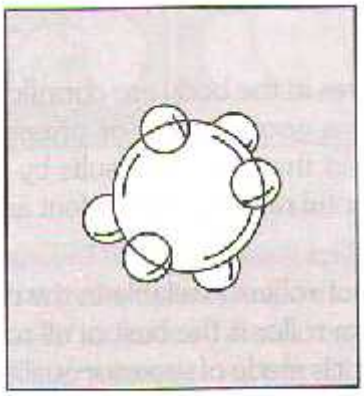


Fig. 43

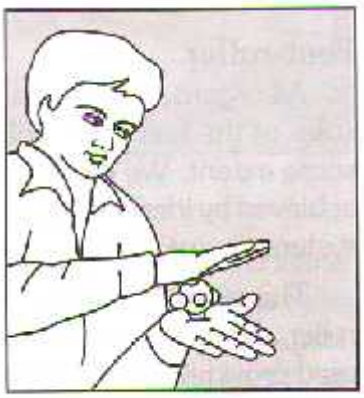


Fig. 44

Magic Massager (Rubber Ball)

The magic massager, a rubber ball with fourteen elevated points (fig. 43) is another device to give deep massage to the reflex points in hands. The therapy of the rubber ball is being recommended by doctors for a long time to cure arthritis in fingers, hands and arms.

There are three methods to use the magic ball :

(i) Take the massager in one hand and close the fingers around it, then press the massager with certain force but gently for about 2 to 3 minutes. While pressing, try to change its position in the palm. After massaging the points in one hand, press the ball in another hand likewise. In this way almost all reflex points in both hands are massaged in a soothing manner

(ii) Cover the magic massager with both hands and press it with both palms for about 5 to 6 minutes moving its position slowly so that all points in both hands are pressed.

This has double advantage as all points in both hands can be pressed simultaneously (fig. 44).

(iii) You can, if you so desire, take two balls, putting one ball in

each hand, pressing these with the fingers, slowly changing their position in the palms so as to cover all reflex points. This can be done for about 5 to 6 minutes at a time.

Pressure with magic massager can be given two-three times a day at an interval of three to four hours each time.

The magic massager is safe for everyone - children, young and old. It has been found extremely useful in the diseases of high blood pressure, diabetes, paralysis, arthritis, insomnia, sinusitis, asthma and many other ailments. Regular use of magic massager marvellously helps in reducing excess weight. Its use by sports persons keeps them physically and mentally fit. **Magic massager can be used anytime anywhere, but not when the stomach is full otherwise it will disturb the digestive process.**

Foot-roller

All organs, glands and nerves in the body are connected with various reflex areas in soles of the feet. Foot-roller is a good device for pressing the reflex points in feet to some extent. We cannot expect that type of results by pressing foot-roller which are achieved by identifying the painful reflex points in feet and pressing them regularly in a systematic manner.

There are three types of foot-rollers available in the market - wooden roller, rubber roller and plastic roller. Wooden roller is the best of all rollers. The plastic roller can be used provided you are sure that it is made of superior quality material and its edges (points) are not very sharp otherwise roller made of inferior plastic and having sharp points can harm the skin in feet and lead to some other diseases.

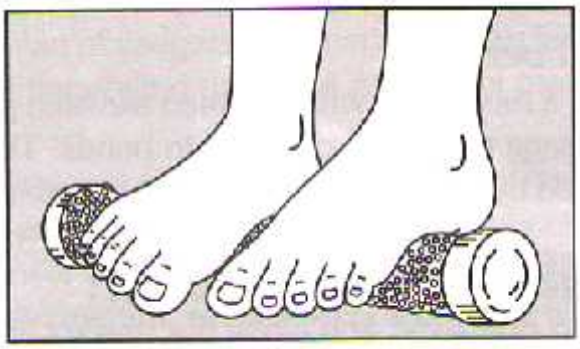


Fig. 45

For medium pressure, foot-roller can be rolled under both feet (fig. 45) while sitting on the edge of a bed or in a chair, doing any activity like reading, writing, meeting people, watching TV etc.

For somewhat stronger pressure, it can be rolled while standing, putting the roller first under one foot and then under the second foot. Pressure cannot be given in both feet simultaneously while standing. Pressure with roller should be given from 5 to 10 minutes at a time, once or twice a day and be soft otherwise it can hurt the skin of the feet. It is advisable to give pressure empty stomach or after two-three hours of taking meals.

Spine Roller

Spine roller is also a useful apparatus to give pressure along the spine. It is better to use thumbs for giving pressure on both sides of spine but if it is difficult to use thumbs spine roller can be used (fig. 46).

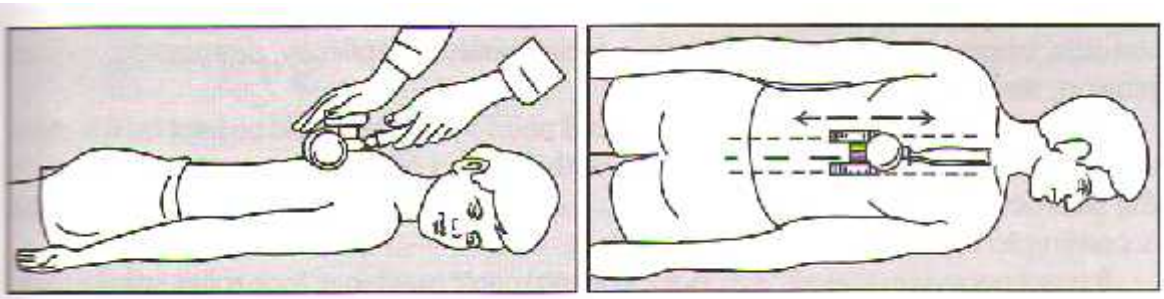


Fig. 46

The wheels of the gadgets should remain at least half an inch away from the spine on both sides. The roller should be pressed smoothly from head side to hips side so as to give light and soothing pressure. It should be limited to two-three rounds at a time, once or twice a day. Never give direct pressure on vertebral column either with thumbs or with spine roller as it can aggravate the problem.

Muscle Relaxing Roller - Energy Roller

Like spine roller, it is a simple small wooden gadget having two round wheels, one on each side of the handle (fig. 47-a) which can be rolled gently on any part of the body, including face. It creates a relaxing impact on the skin, helps in releasing tension and is helpful in curing numerous problems especially insomnia, migraine, phobia, anxiety, depression, mental tension and lack of proper circulation in facial area leading to certain ailments. Its regular use for about 5 to 10 minutes once or twice a day over the upper parts of hands, feet, arms, legs and on face relaxes muscles as well as improves the flow of energy in the body.

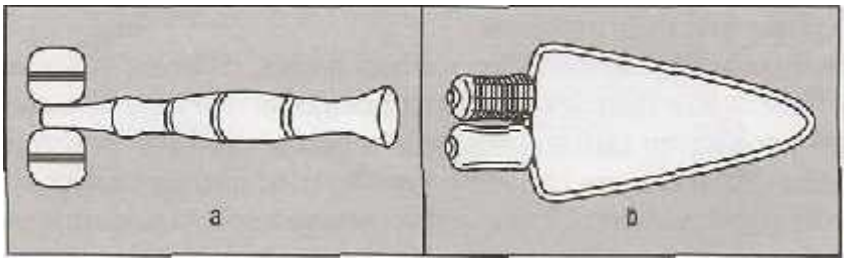


Fig. 47

Finger Massager

It is also a small wooden gadget (fig. 47-b) with two rollers- one plain and one having elevated points for giving pressure on the fingers of both hands, one by one. It should be rolled over

every finger giving three-four rounds of pressure up-down, smoothly. Some drops of mustard oil or some cream can be applied on fingers before giving pressure. This exercise improves circulation in all zones of the body and is especially useful in curing sinusitis, insomnia, headache, migraine, facial paralysis, epilepsy, depression, mental tension, weak memory and eye-sight.

While rolling the finger massager, elevated point's portion should be kept on the palm side and plain portion on the upper side of the fingers otherwise it can cause injury to the skin over the fingers. This exercise should be done once or twice a day, any *times* according to the convenience of the patient.

It is not necessary that all exercises involving magic massager, foot-roller, spine roller, muscle relaxing roller, finger massager and some other gadgets should be done daily. It depends upon the necessity of every individual to undertake one or more such exercise daily. One thing is certain that use of these gadgets helps in curing and preventing many diseases.

Key to Forthcoming Chapters

The twentieth century can be described as the golden period in the domain of reflexology and Reflexology as a large number of books have been published in different languages on these subjects in many countries particularly in the last quarter of the century. Significantly, millions of people including may reputed doctors, throughout the world started taking deep interest in these *pathies* due to their amazing results especially in the treatment of chronic diseases without the use of medicines.

It has been our endeavour to discuss the treatment of various diseases in this book as per body systems like nervous

system, respiratory system etc. The functioning of all systems and organs has been described briefly which is necessary to understand the body, different diseases and their treatment. We hope readers will appreciate this approach as it will be more convenient for them to understand different ailments when seen as part of various systems in the body. Moreover, it will be easy to find out relevant chapters in the book concerning their problems.

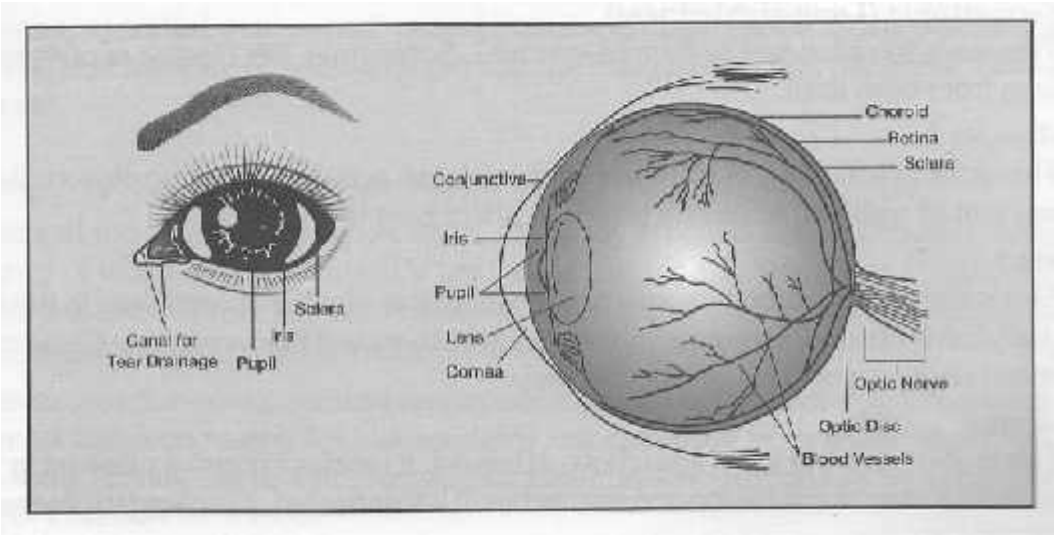
There are thousands of ailments from which babies, children, young and old, men and women, have been suffering since time immemorial. We have discussed only those ailments in the book which can be completely or partly cured with Reflexology within a reasonable time. Reflexology can, however, be tried in many other diseases not mentioned in this book as it strengthens the immune system and helps in speedy recovery of almost all ailments.

2. Eye

The human eye is often called the king of the senses, for it gathers 80% of all the knowledge we absorb. It is also called light of the body, pearl of the face, the window of the soul and the mirror of the mind. But the construction of the eye and the intricate way in which it works are far more wonderful than any of the characteristics attributed to it.

Structure of the Eye

The eye functions just like a small camera. It has millions of minute electrical connections which can relay 1.5 million messages simultaneously. Eye is a spherical, fluid filled



intricate structure enclosed by three layers. From the outermost to innermost these are

1. The sclera and cornea
2. The choroid and iris
3. The retina

Most of the eyeball is covered by a tough outer layer, the sclera, which is the visible part of the eye. Anteriorly, this outer layer consists of transparent cornea through which the light rays can pass into the interior of the eye. In case of eye donation, it is

the cornea which is transplanted from the donor to the receiver.

The middle layer underneath the sclera is highly pigmented choroid which contains many blood vessels that nourish the retina.

The innermost coat under choroid is retina which contains photo-receptors that convert light energy into nerve impulses and relay these to the brain.

Different Diseases of the Eye

Normally, the eyes function so flawlessly and precisely that we tend to take them for granted. But not all of us are blessed with eyes that are perfect. One out of every three people in our country uses or ought to use glasses and a fifth of the entire world's blind live in India.

Though eyes are small in size, yet they are plagued by many diseases. These diseases can occur in any stage of life, be it childhood or adolescence or old age. Here, we will discuss only those diseases which can either be completely cured by Reflexology or where Reflexology is extremely beneficial.

Myopia (Short-sightedness)

A myopic person finds it difficult to recognise distant objects. It is quite common people who indulge in excessive reading or writing.

Hypermetropia (Long-sightedness)

This leads to dislocated or blurred eyesight. Sometimes this disease is present in children from birth itself.

Presbyopia

This is the gradual loss of the eye's ability to focus actively on nearby objects. I natural part of ageing that usually begins to affect people after age 40.

Cataract

This is the most common disease of old age. In this, the transparent lens in the eye gradually turns opaque. Generally it happens in both eyes at the same time. Cataract in advanced stage can only be cured by surgery.

Glaucoma

This is also common in old age (above 40 years). It creates excessive pressure in the eye socket causing blurred vision and headaches. If left untreated, it can lead to blindness.

Astigmatism

A person suffering from astigmatism (distorted vision caused by uneven curvature of the cornea) has to put lots of stress on eye muscles while trying to focus on an object. It also causes blurred and dislocated vision.

Diplopia

This is the disorder of vision in which two images of a single object are seen.

Lazy Eye (Amblyopia)

This is a condition among children that should be treated before the age of 6 and 7, otherwise it may lead to permanent impairment of vision. It is often caused when one eye turns in and out while the other sees straight, so that a double image is sent to the brain. The child solves this confusion by ignoring the message from one eye, thus gradually weakening it through disuse. The usual treatment is patching the good eye in order to force the use of weaker eye.

Night Blindness

The inability to see at night is called night blindness. The main cause of this is lack at balanced diet (deficiency of vitamin A).

Colour Blindness

Similarly the inability to identify the distinctiveness of different colours is called colour amdness.

Other Common Diseases of the Eyes are :

Conjunctivitis (pink eye), retinitis, optic neuritis, dry eyes, optic atrophy (degeneration of optic nerve), blepharitis (inflammation of eyelids and especially of their margins), watery eyes, squint (to be cross eyed), ptosis (drooping of upper eyelid), iritis (inflammation of the iris), stye (swelling of sebaceous gland at the margin of eyelid), trachoma, photo-phobia etc.

Causes

Stress of too much close vision work, diabetes, irregular and insufficient sleep, deficiency of vitamin A, watching TV from close distance, living in dim-lit areas and industrial work hazards are the main causes of eye related diseases. However hereditary disease and infections can also lead to diseases of the eyes.

Besides refractive errors, accidents are a common cause of impaired vision. Negligence is the most common reason for eye accidents and can result from sharp edged toys, blades, sticks, arrows, crackers etc. Surmas and kajals prescribed by quacks are a common source of infection for the eye.

Computer usage in children

Twenty years ago, most children played outside in the open and there was no stress on near vision. Today much has changed. Most children work at a computer either at home or in school each day. Sitting in front of, and staring at a computer screen is causing vision problems that were not known some years ago.

Computer use demands fine motor skills from young eyes that are not well developed yet. Sitting for hours in front of a computer screen stresses the child's eyes because the computer forces the child's vision system to focus and strain a lot more than any other task.

To reduce the risk of eye strain :

- Restrict computer usage in very young children.
- Tilt the screen slightly backward at an angle of 15°.
- The recommended distance between the monitor and eyes for children is 18-28 inches.
- Consult your doctor if your child complains of blurred vision and headache, because he might have an underlying eye problem.

Prevention

- **Have your eyes checked**

  Regardless of how well you see, have your eyes checked regularly.
- **Control chronic health conditions**

  Certain conditions such as diabetes and high blood pressure can affect your vision.
- **Recognise symptoms**

  Sudden loss of vision in one eye, sudden hazy or blurred vision, flashes of light, black spots, halos or rainbows around lights may signal a serious medical problem such as acute glaucoma, stroke or retinal detachment.
- **Protect your eyes from sun**

  Wear sunglasses that block UV (ultraviolet radiation). This is especially important if you spend long hours in sun.
- **Eat healthy foods**

  Maintain healthy diet that consists of plenty of fruits and

vegetables. Foods rich in vitamin A and C are beneficial for eyes. Vitamin A prevents night blindness. The deficiency of vitamin A contributes to blindness by making the cornea very dry and damaging the retina. Vitamin A is found in animal sources such as liver, eggs and dairy products such as cheese, butter etc. Plant sources include carrots, mango, green leafy vegetables, pumpkin, spinach, apricots, sweet potato etc. Recommended daily allowance for vitamin A in adults is 3000 IU (900ug/day).

Vitamin A isn't the only antioxidant your eyes need. Another important vitamin is vitamin C. Studies suggest that high levels of vitamin C can reduce the risk of cataract which is caused by buildup of proteins that result in cloudy vision. Antioxidant vitamins C and E also play a role in delaying age related macular degeneration which currently has no cure. The recommended daily allowance (RDA) of vitamin C is 60 mg for both males and females. Green leafy vegetables and fruits especially citrus fruits are rich in vitamin C. As with vitamin A, foods with vitamin Care better fresh than frozen or canned, as either process can deplete the amount of vitamin.

- **Use right glasses**

  The right glasses optimize the vision.

- **Use good lighting**

  To save your eyes from unnecessary stress while reading, you must have sufficient light coming from left and behind. Indirect lighting is easier on the eyes than a bright beam concentrated on what you are reading.

  Also avoid reading in moving trains and buses. Do not read while lying down or in a dim or flickering light. Books and

magazines with very fine prints are known to cause eye strain. While reading or doing work that is close to the eyes, you must rest your eyes frequently either by closing them or by looking at a distant object preferably at greenery.

- **Wash eyes**

  Wash eyes at least 2-3 times a day with water. Use clean and separate towels to wipe your face and eyes. Never touch the eyes with anything unclean and rough.

  Regular morning walk is useful to keep the eyes healthy. Rose water too is beneficial for eyes but care should be taken that it is pure. Head and body massage can also help.

In case of any problem in your eye, avoid self medication. Consult a doctor.

Reflexology Treatment

Reflexology can stimulate the eyes to stay healthy and resist infections and alleviate many eye problems. Since there are two eyes, the reflex points can be found on the palms of both hands and soles of both feet. The points on the left hand & foot correspond to the left eye, and the points on the right hand & foot correspond to the right eye.

One cannot predict with certainty that a specific disease will be cured in a certain time period but positive results follow within 10-15 days of Reflexology treatment. Results may vary from person to person even if the disease is the same. Therefore, patience is required to get the desired results.

Principal Reflex Centres Related to the Eye

Principal reflex centres related to eye are present at the base of index and middle fingers, where the fingers meet the

palm and sole (in both feet and hands) as shown in 48 & 49. It is best to work on both eyes rather than concentrating on only one of them in a session.

Fig. 48

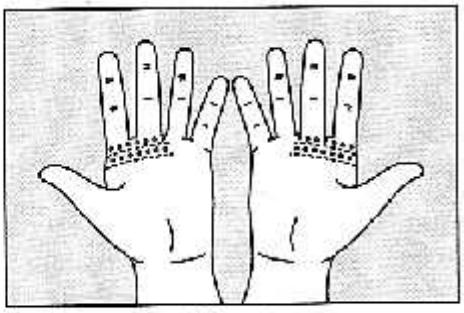


Fig. 49

Fig. 50 and 51 clearly show the manner in which pressure is to be applied. Any rubber or wooden instrument designed specifically for the purpose can also be used. Note carefully any tenderness while exerting pressure on reflex points. Detailed description about the pressure technique is given in chapter 1.

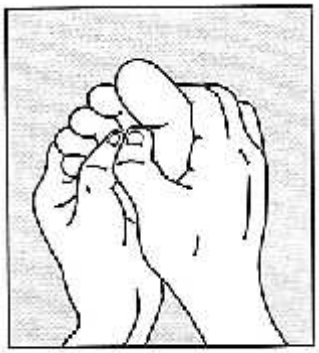


Fig. 50

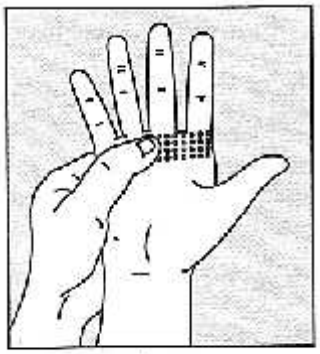


Fig. 51

Secondary Reflex Centres Related to the Eye

There are many other reflex centres helpful in curing eye diseases. By applying pressure on these secondary reflex centres along with principal reflex centres, many diseases can be cured in a short span of time.

Eyes and brain have a significant relation with each other. Therefore, pressure must be applied on the finger tips of both hands and feet (reflex points of brain) as shown in fig. 52 & 53.

It must be noted that upper portion of the neck nourishes

the eyes. Therefore, pressure is applied at the outer, inner and upper portions of both toes and thumbs feet and hands respectively, as these represent reflex centres of the neck. The location of reflex points and techniques of pressure application is shown in fig. 54, 55, 56&57.

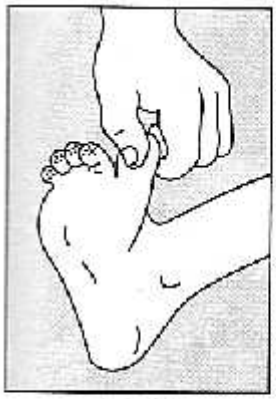


Fig. 52

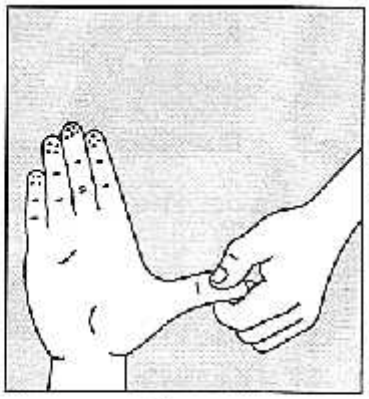


Fig. 53

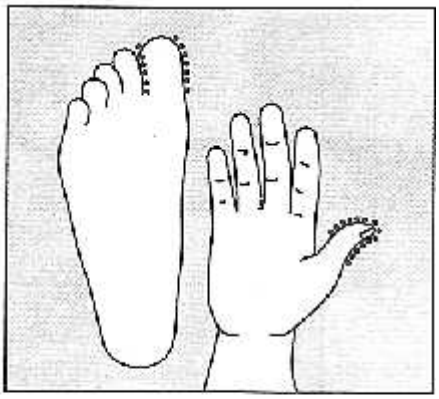


Fig. 54

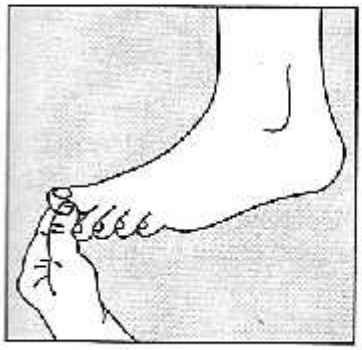


Fig. 55

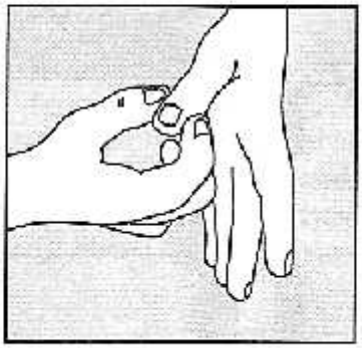


Fig. 56

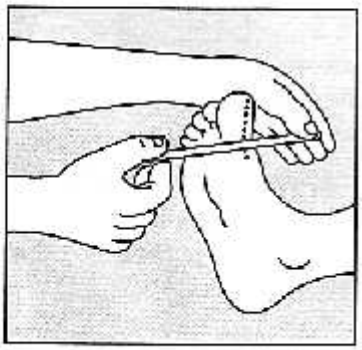


Fig. 57

Reach both of your hands behind your head to the base of your skull (Fig. 59). With the thumbs, locate the slight indentation at the top of the neck, just below the base of skull. These reflex centers are important in stimulating circulation to the head and brain. Apply pressure on points 1-7 shown in fig. 58 for 2-3 seconds. Pause. Repeat the pressure.

Many eyes diseases can be cured by applying pressure or massaging the first two ringers on both hands (fig. 60). The method of applying pressure is shown in fig. 61.

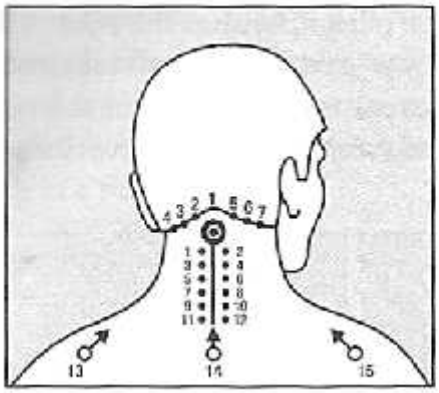


Fig. 58

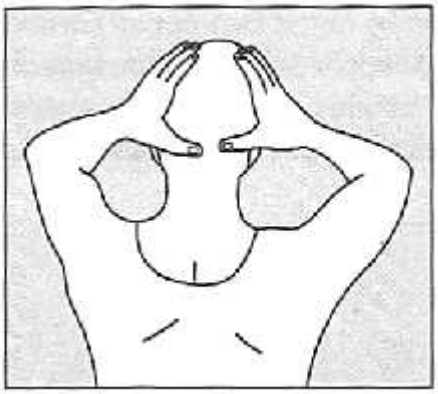


Fig. 59

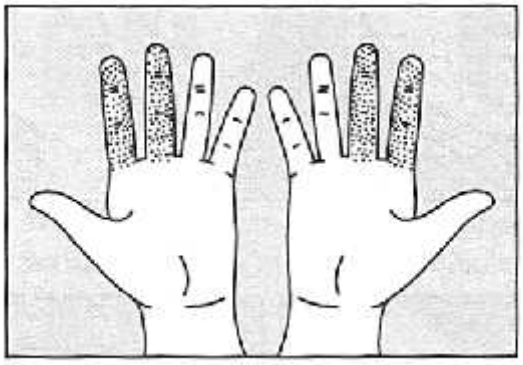


Fig. 60

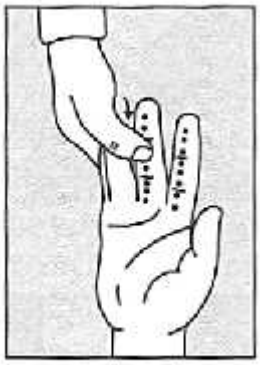


Fig. 61

Other reflex centres related to eyes are on the triangular part formed between the thumb and index finger on both hands as shown in fig. 62. It lies below the point when thumb and index finger meet each other. In case of headache, instant relief can be fel[1] by applying pressure on these points on both hands. The method of applying pressure is shown in fig. 63.

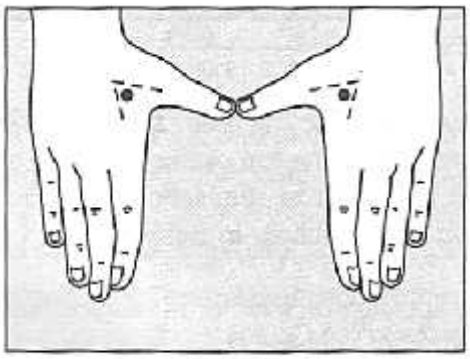


Fig. 62

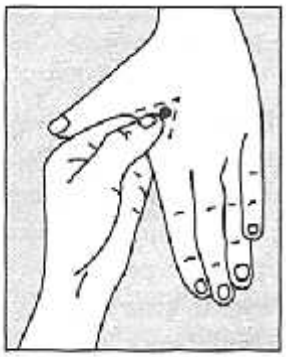


Fig. 63

Reflex centres related to eyes are located on feet as well. First centre lies on the first-channel (ditch between tendons) of

each foot at a distance of an inch from the base of roe whereas the second centre lies on that central part where leg and feet meet each other (fig. 64). The second reflex centre is also particularly beneficial for those suffering from asthma and other diseases of respiratory system. The duration of pressure application is 10-15 seconds.

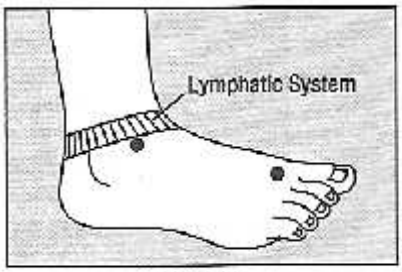


Fig. 64

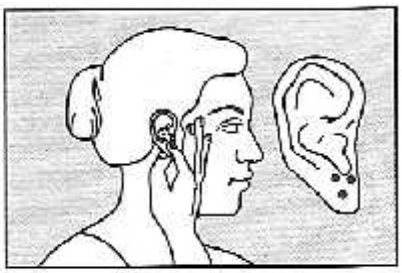


Fig. 65

There are three important eye related reflex centres on the lower part of the ear lobe. In case of any eye disease, pressure should be applied on these centres. Fig. 65 shows the location and method of pressure application on these centres. Massage the point in small circular movements. Be careful to move only the finger, not the ear.

Place your thumbs on the lower edge of the upper ridges of the eye sockets, as close to the nose as possible (fig. 66). Give light pressure on the inner edge of the socket for 3 seconds. Move your thumbs out toward the side of face. Repeat the light pressure on the inner edge of the sockets. Go back to the inside corner of the eyes and repeat the sequence (fig. 67 & 68).

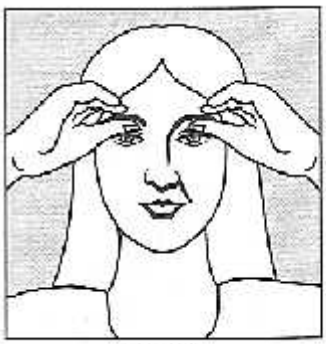


Fig. 66


Fig. 67

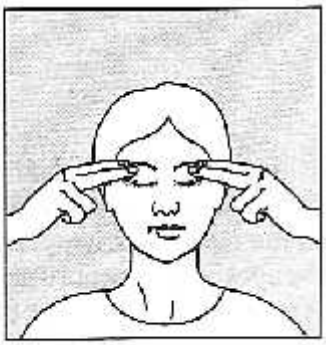


Fig. 68

Place your index finger on the small recess about two finger widths beyond the outside corner of the eye and a little above it (fig. 69). It is important reflex centre for diplopia. Give moderate pressure for 3 seconds. This reflex centre can sometimes be intensly painful, so it is advisable to do it gently.

There are reflex centres near the inner corner of the eyes. Applying pressure on these points is beneficial in case of many eye related diseases. The location of reflex centres and method of pressure application is shown in fig. 70 and 71, respectively.

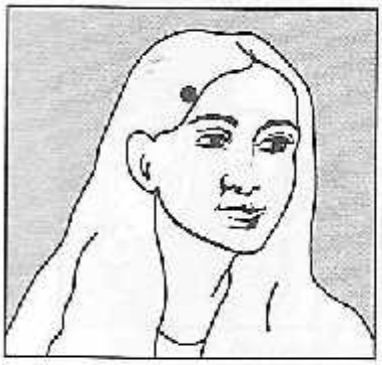


Fig. 69

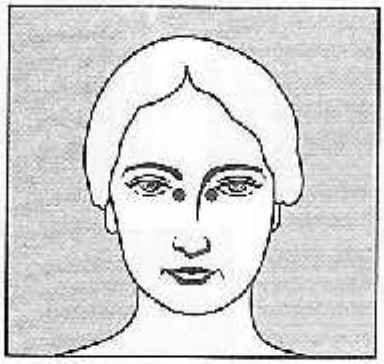


Fig. 70

Fig. 71

Palming is a very good exercise for curing eye pain, heaviness and other diseases of the eyes. Covering eyes closely with palms without applying pressure on them is called palming. Palming (fig. 72) should be done for 5 to 10 minutes everyday. While doing the exercise visualize only black colour in front of your eyes.

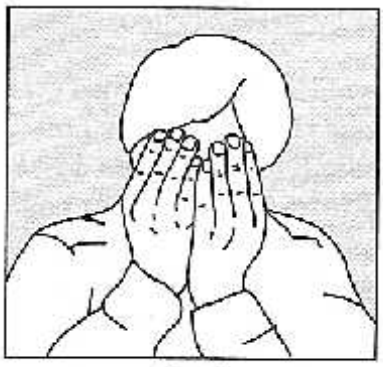


Fig. 72

In case of colour blindness and atrophy of the optic nerve, pressure must be applied on reflex centres related to kidneys and nervous system along with reflex points related to the eye. Liver, lymphatic system and spleen play an important role in protecting the eyes from infections and maintaining good eyesight. Liver stores and suppies vitamin A to different parts of the body which helps in maintaining good night vision. Lymphatic system keeps the cornea clean. Spleen produces various antibodies to prevent infections of the eye. Therefore, pressure must be applied to reflex centres related to liver, lymphatic system and spleen as shown in fig. 7, 9 and 64. (For detailed description about time and method of pressure application, please see chapter 1).

As far as cataract is concerned, the general perception is that it cannot be cured and surgery is the only remedy. But it is not so. If detected early, Reflexology can cure cataract completely. In case of post- operative reddening of eyes, pressure should be applied on all eye related reflex centres on feet. It is advisable to give gentle pressure. Several patients have reported to me successful curing of cataract in early stages. However, if cataract is in an advanced stage, surgery is inevitable.

Better Sight Without Glasses

Improving poor eyesight is a process which requires a lot of patience and time. However, it can be successfully done following the fore-mentioned Reflexology techniques. Here, the important factors to be considered are the power of the spectacles, diet, reading-writing hours, sleeping hours, TV viewing hours, distance maintained from TV, atmosphere of the home (if the patient is suffering from tension) or if the parents too wear spectacles (hereditary causes).

In addition to Reflexology and proper nutrition, honey is also useful. In case of near and far sightedness, the following mix of natural products is useful and can give positive results. Take 3 parts honey, 1 part lemon juice, 1 part onion juice and 1 part ginger juice. Mix properly and sieve through a fine muslin cloth and pour in a clear sterile glass bottle. You can add a few drops of rose water to this mixture. Rose water is easily available with chemists. Take care that it should be absolutely clean. Put two to three drops of this mixture in your eyes twice daily. If it stings your eyes, add a little more of honey. You can store this mixture for 8-10 days. Make it fresh again. Early stage of cataract can be cured using this mixture. If you feel heaviness in the eyes or suffer headache, discontinue using the mixture. Stick to the Reflexology treatment only.

3 Ear

The ear has two important roles. It is our organ of hearing and organ of balance. Ear is made up of three different parts.

- **Outer Ear**

  This forms the visible part. Its shape helps to collect sound waves.

- **Middle Ear**

  Separated from the outer ear by eardrum, the middle ear consists of tiny bones. These amplify the sound waves.

- **Inner Ear**

  Here sound waves are changed into electrical impulses and sent to the brain. The electrical impulses are carried by the auditory nerve. The brain then translates these electrical impulses as sound.

Sense of balance

Inside the inner ear is a series of canals filled with fluid. These canals are positioned at different angles. When the head is moved, the rolling of the fluid inside the canals tells the brain how far, how fast and in what direction head is moving. The brain coordinates this information with information from your eyes and from the muscles (called muscle sense or kinaesthesia). The brain uses the inner ear, the eyes and muscles to pinpoint the position of the body at all times.

Common diseases of the ear

Deafness, tinnitus (sensation of ringing sound in the ears), vertigo, wax and motion sickness

Hearing Loss or Deafness

Hearing loss or deafness is a partial or total inability to hear sound in one or both the ears. In adults, the most common

cause of hearing loss is prolonged exposure to loud noise. Excessive noise levels over a long period of time will damage your hearing.

The loudness of the noise is measured in decibles (db). Sensitivity of the sound differs from one individual to another, but experts believe that damage to hearing occurs when noise levels are higher then 85 db.

Relative magnitude of common sounds:	
• Human breathing at 3 metres	: 10 db
• Whispering	: 20 db
• Inside Office or restaurant / Normal conversation	: 60 db
• Busy traffic	: 70 db
• Food blender / Vacuum cleaner at 1 metre	: 80 db
• Inside discotheque	: 100 db
• Gun shot fired at 1 metre	: 140 db

For most cases of noise induced hearing loss, there is no cure. Hearing aids only amplify sounds and cannot replace normal hearing.

One's hearing gradually becomes less acute as we age. This is normal and rarely leads to deafness. Age related hearing loss typically begins with loss of higher frequencies so that certain speech sounds such as s, f, t end up sounding very similar. This means that older person can hear, but not always understand.

Other causes of hearing loss include:

- Ear wax build up or an object in the ear
- Ototoxic medicines :

  Certain drugs are known to be toxic to ears. These are amino-glycosides (streptomycin, gentamycin) and drugs for malaria (quinine and chloroquine).
- Diseases:

Viral infections e.g. mumps, measles, pertussis (whooping cough) and rubella (German measles) can cause hearing loss. These types of infections are more common in childhood. Bacterial diseases such as meningitis and syphilis can also target and harm the ears.

- Injury to the head or ear can cause hearing loss.
- Ear infection such as middle ear infection (otitis media) or infection of the ear canal (otitis externa). Ear infection is very common in children and can cause considerable pain. The outer ear can easily pick up infection while swimming, particularly in unclean water. The middle ear can get infected as a result of upper respiratory tract infection-cold or flu.
- Decreased blood flow to the inner ear or parts of the brain that control hearing may lead to its loss. This may be caused by heart disease, stroke, high blood pressure or diabetes.
- Tinnitus is often associated with deafness.

Prevention

1. Don't try to clean your ear by poking anything into it. It may injure the delicate skin or impact earwax. Ear produces wax (cerumen) to protect itself. Wax and tiny hair inside the canal prevent small objects getting down inside the ear. Ear has a clever mechanism for clearing itself. There is a natural movement of wax and dirt away from the ear drum. All you need to clean the ears is to wipe around the outside of the ear with a damp cloth. Ear buds are unnecessary, rather can be harmful as they can push wax towards the ear drum.

2. Avoid swimming in dirty water.
3. Reduce exposure to excessive noise in the workplace. Use personal hearing protection such as ear plugs.
4. Do not self-medicate especially with antibiotics.
5. Reduce the risk of ear infections by treating upper respiratory tract infections promptly.

Tinnitus

Tinnitus is defined as a sensation of a sound in ear or head not due to a source outside the body. It may be a buzzing, ringing, roaring, whistling or a hissing sound. Sometimes it involves more complex sounds that vary over time. It may be there all the time, or come and go. An associated hearing loss is usually present. Unfortunately, in most cases, no underlying cause can be detected.

A wide variety of treatments have been tried. These include masking the bothersome sound by continuous playing of more acceptable sounds (white noise), hypnotherapy, counselling and use of hearing aids.

Vertigo

Vertigo is a false sense that either you or your surroundings are spinning around. Vertigo often causes loss of balance. It is a common symptom of inner ear disorder, which is where the organs of balance are situated. Osteoarthritis of the neck, which is very common in older people, can squeeze the major arteries to the brain in certain neck positions. The resulting fall in blood flow causes dizziness. Vertigo may accompany an ear infection or congestion of the ear.

Modem Sickness

Motion sickness is the unpleasant sensation of nausea and dizziness that some people experience when riding in a moving vehicle. Motion sickness can be brought about on by travelling in cars, ships, airplanes, trains, by riding amusement rides that

spin and even when using a swing at a playground.

Our primary sense of balance is a series of fluid filled canals inside the inner ear. Motion sickness may occur when the fluids in the semicircular canals are in a sustained state of turbulence. Symptoms can range from mild to serious. Frequent vomiting can lead to dehydration and low blood pressure, so it is important to seek prompt medical attention if you are severely affected.

Reflexology Treatment

Reflexology can stimulate the ears to maintain their health and cure many ear related diseases and in some cases, can alleviate motion sickness. Since there are two ears, the reflex points are located on the palms of both hands and the soles of both feet.

Principal Reflex Centres Related to the Ears

The principal reflex centres related to the ears are located on the base of fourth and fifth fingers on the palm and sole (fig. 73 & 75) of both hands and feet. The method of applying pressure is shown in fig. 74 and fig. 76. Pressure can also be applied with a

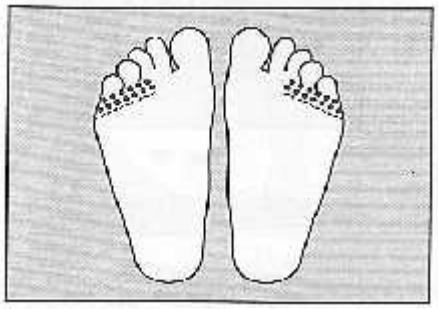


Fig. 73

Fig. 74

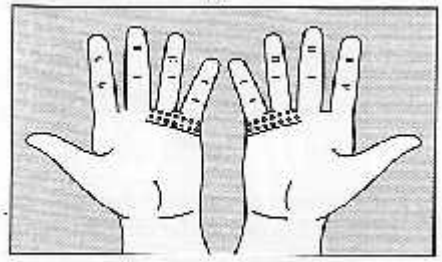


Fig. 75

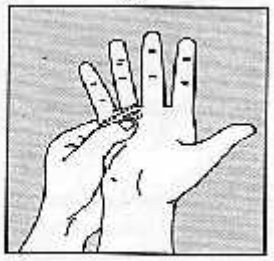


Fig. 76

rubber or a wooden instrument. For detailed description on the method of pressure application please refer to chapter 1.

Secondary Reflex Centres

Apart from the above mentioned reflex centres, there are a few other important reflex centres. Applying pressure on all or some of the secondary reflex centres is helpful in speedy recovery from ear diseases.

Neck nourishes the entire head. Therefore, it is necessary to apply pressure on all reflex centres related to neck. These centres are located on the inner and outer parts of the toes and thumbs of feet and hands (fig. 77). The method of pressure application is shown in fig. 78, 79 & 80,

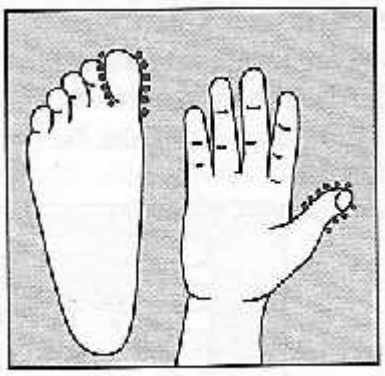


Fig. 77

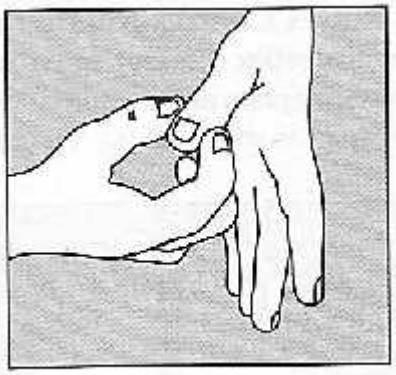


Fig. 78

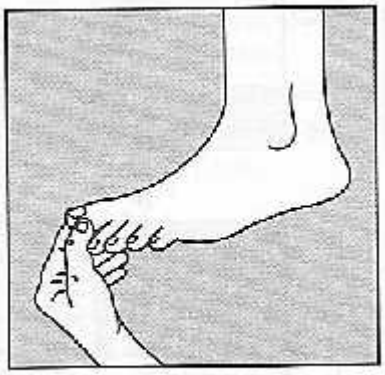


Fig. 79

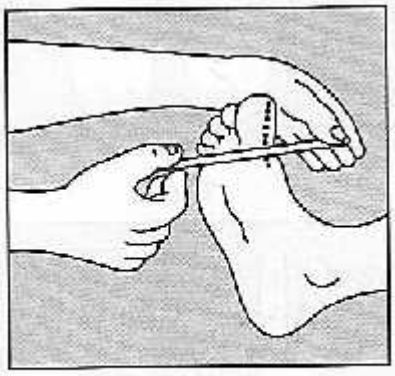


Fig. 80

Another important reflex centre to cure ear related diseases is the area on the bad of neck where head meets the neck (fig. 81, pt. 1 to 7) and on the neck midway between pts 1-2 and 3-4.

You can easily put your hands behind and give pressure with the thumb (fig. 82). At each reflex point, pressure is to be given for 23 seconds. Repeat this twice

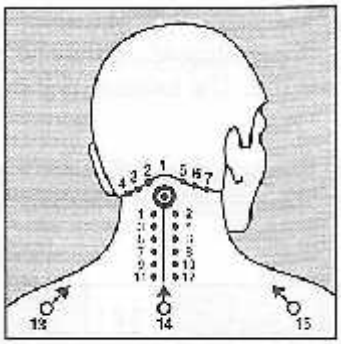


Fig. 81

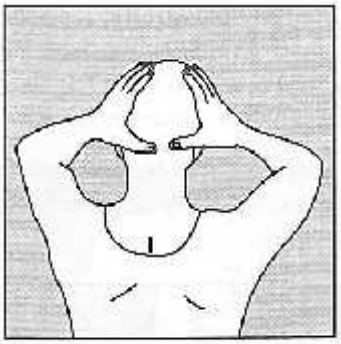


Fig. 82

Massaging and giving pressure on the ring and the little finger of both the hands is very helpful in curing ear ailments (fig. 83). The method of giving pressure at these areas is given in fig. 84.

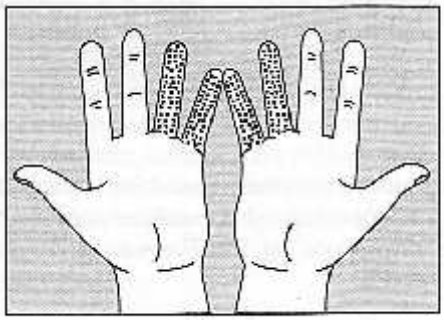


Fig. 83

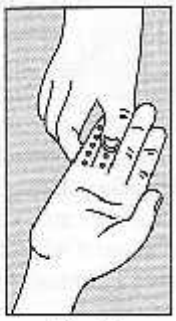


Fig. 84

Other secondary reflex centres are present on both the hands in the triangular area (web) between the thumb and the index finger as shown in fig. 85. Pressure technique for the area is shown in fig. 86.

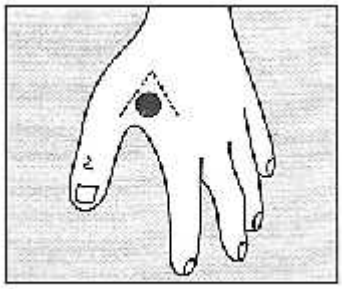


Fig. 85

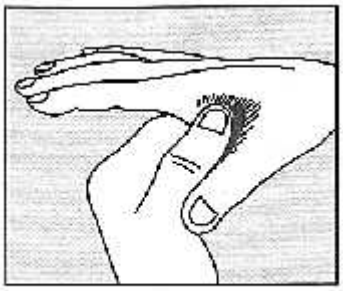


Fig. 86

Another very important reflex centre related to ears and which is very helpful in curing deafness, is present on both the feet. This centre is situated on the first channel at a distance of about one inch from the base of the toe. The location and the method of pressure application is shown in fig. 87.

In all ear related ailments, pressure should be applied on reflex centres located on the fourth channel (midway between fourth and fifth fingers) on both hands and feet, as shown in fig. 88.

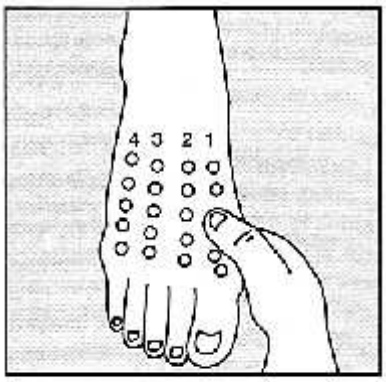


Fig. 87

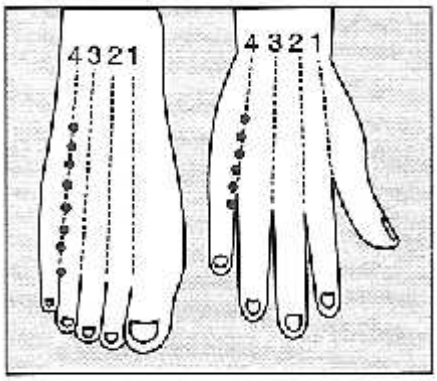


Fig. 88

Ear related reflex centres are also present on the face and the ear itself. On the face, the reflex centre is located just near the opening of ear canal and just below the earlobe (fig. 89). On the ear it is located on the earlobe (fig. 90). Pressure can be given with the thumb or finger, 2-3 times for 2 seconds.

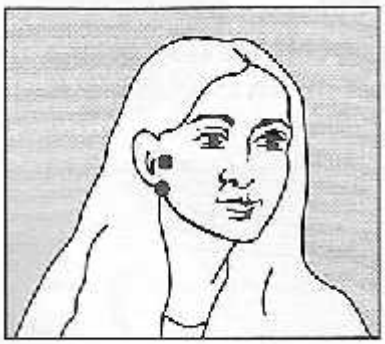


Fig. 89

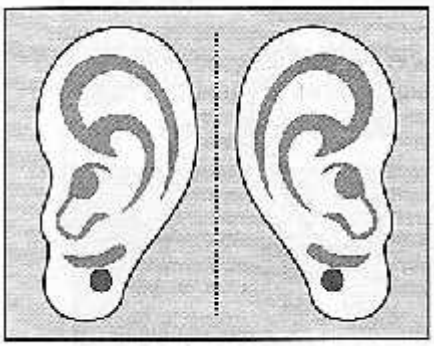


Fig. 90

Apply pressure on the bony depression behind the ear, as shown in fig. 91. This very important area to cure loss of

hearing and tinnitus.

Protrude your tongue around ½ of an inch and press gently with the teeth as shown in fig.92. Hot fomentation over the ear with a warm cotton cloth for around 5-10 min helpful in earache.

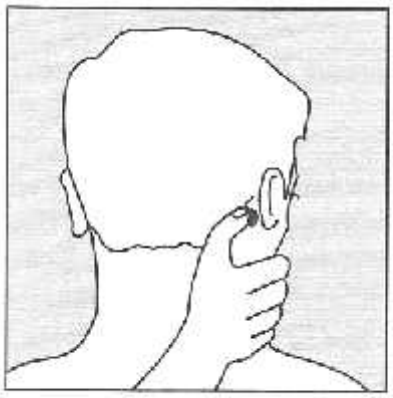


Fig. 91

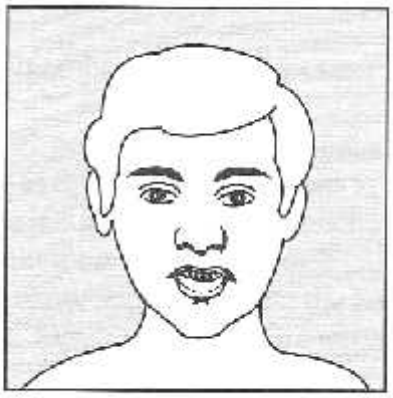


Fig. 92

Diseases of the ears have a close relation with brain, cervical vertebrae, solar plexus, diaphragm sinuses, liver, kidneys and lymphatic system. Therefore, pressure is applied at the reflex centres of these areas along with the ear related reflex centres. The location reflex centres is shown in fig. 5, 9, 10, 41 & 64.

4 Nose

The nose is the main entrance to the respiratory system. The air we breathe is processed by the nose before it enters the lungs. Nose is an air conditioner of the body responsible for warming and saturating air before it reaches the lungs, removing bacteria and particulate debris as well conserving heat and moisture from expired air. Nasal breathing is important for normal lung function.

The nose is also of course the main organ of smell. The sense of smell is provided by cells in the roof of nose which respond to just a few molecules in air. The resulting nerve impulses go straight for analysis, to a part of the brain which is also involved with mood and emotion, which explains why smells have such an evocative or disturbing effect.

The nasal passage is not a simple tube. Pairs of air filled cavities (the sinuses) branch from it into the bones of skull at various points. There are three main sinuses: the maxillary in the cheek bones, the frontal sinus above the eyes and the ethnocide behind the bridge of nose. The function of sinuses is to make the skull lighter and to add resonance to the voice. The lining of the sinuses produce a mucous secretion which carries away any infection and dust that have penetrated the sinuses.

A few of the common diseases affecting the nose are common cold, sinusitis (acute and chronic), epistaxis and hay fever (allergic rhinitis).

Common Cold

Many micro-organisms are part of the normal flora of the upper respiratory tract. When a person is healthy, these germs are harmless. But when immunity is lowered due to some

reason; these micro-organisms can cause a disease.

A person suffering from common cold experiences symptoms like shivering, sneezing, redness of nose and eyes, headache, running nose, watering of the eyes and thirst. Some may even experience pain in the neck and throat. As the disease progresses and becomes chronic, it can lead to bronchitis, asthma and pneumonia.

Sinusitis

Sinusitis is an inflammation of the mucous membranes of the sinuses resulting from bacterial or viral infection.

In case of acute sinusitis, a few days after cold, pain increases over one of the sinuses, most often the maxillary sinus. Pressure is felt in the skull which results in aching teeth and pain behind the eyes. Often pain of sinusitis is confused with toothache. On bending forward, you feel a rush of fluid within the sinus along with increased pain. The nasal discharge becomes particularly offensive and yellow and drips down the back of nose to the throat, creating a foul taste and bad breath. Other symptoms are lethargy, swelling around the eyes and in a few cases vomiting.

In chronic sinusitis, there is persistent nasal obstruction and discharge of infected mucous, in addition to the pressure symptoms mentioned above.

The sinuses do not begin to form until about five years of age and are not fully formed until about twelve. Thus, sinusitis is impossible below the age of five and unusual before the age of twelve.

Epistaxis

Several arteries run very close to the surface near the front of the nose and bleed readily if irritated through inflammation or

trauma, typically when having cold or picking at the nose.

Nose bleeds are more common in children and in the elderly. The majority of nose bleeds are otherwise merely inconvenient rather than dangerous. Every adult with a nose bleed without any obvious cause should have his blood pressure checked. Although, in fact, most people with high blood pressure do not get nose bleeds. People who have profuse or recurrent nose bleeds should be tested to ensure their blood is clotting normally.

Hay Fever (Allergic Rhinitis)

Hay fever is a common name given to an allergic response to specific substances in the environment. It is usually seen during the spring season, when the pollen of trees, grass and weeds act as an allergen.

The pollen is spread by the wind. Even though pollen is usually invisible in the air, it is a potent stimulator of allergy. Pollen lodges in the nasal lining tissues (mucous membranes) and other parts of the respiratory tract where it induces an allergic reaction. Many people are allergic to other substances such as mould spores, dust mites and animal protein. Food is an uncommon cause of hay fever.

Symptoms of hay fever include nasal congestion, a runny nose, eye and nose itching, sneezing and post-nasal dripping of clear mucous frequently causing cough. Loss of smell is common and loss of taste occurs occasionally. Nose bleeding may occur if the condition is severe.

The allergic symptoms often interfere with one's quality of life and total health. Hay fever can cause sleeplessness, fatigue and irritability and increase the risk of developing into a more serious condition such as asthma or eczema.

Reflexology Treatment

The Reflexology treatment of sinuses achieves two aims. The first is preventive; stimulation can help keep the mucous membrane of the sinuses healthy and can encourage them to drain accumulated debris regularly. The second is curative; Reflexology has been known to cure cases of sinusitis, unblocking clogged air passages and relieving the accompanying headaches.

Principal Reflex Centres Related to the Nose

The reflex centres related to sinuses are located on the tips of all the fingers of the hands and feet. Location of reflex centres and the method of pressure application is shown in fig. 93. Other reflex centres related to sinuses are located on the upper portion of all the fingers of hands and feet. Pressure should be applied with thumb in the manner shown in fig. 94.

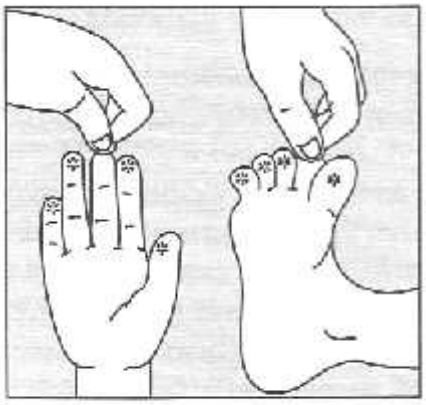


Fig. 93

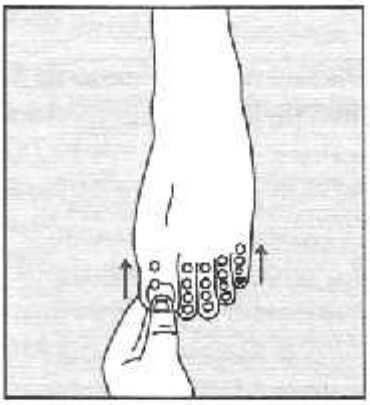


Fig. 94

Secondary Reflex Centres

In addition to the above mentioned points, pressure should be given on the reflex points related to pituitary gland, adrenal gland, lymphatic system, nervous system and centres related to the cervical vertebrae.

Pressure should be given along the outer and inner surfaces of the thumbs of both application is shown in fig. 95, 96, 97 and 98.

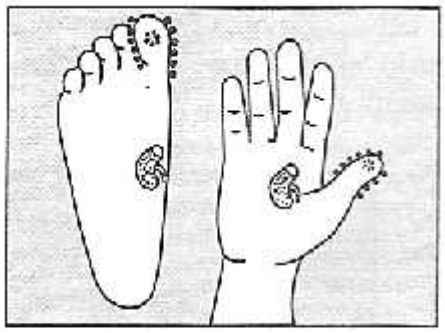


Fig. 95

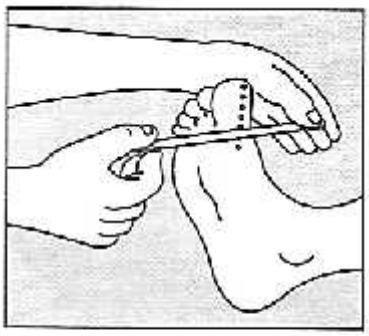


Fig. 96

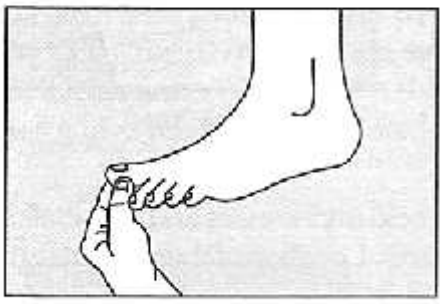


Fig. 97

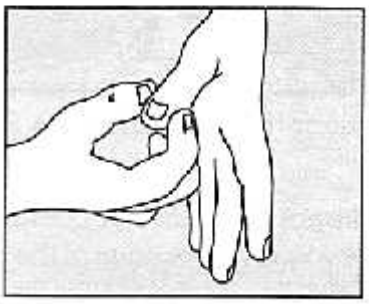


Fig. 98

An important centre related to sinusitis and epistaxis is located on the nape of the neck at the mid-point on the junction line between the head and neck. Press the 1.1 shown in fig. 99 with the thumb for 2 -3 seconds thrice. Pressure given should be in accordance with the patient's tolerance as shown in fig. 100. Later apply pressure 2, 3, 4, 5, 6 and 7 for 2-3 seconds.

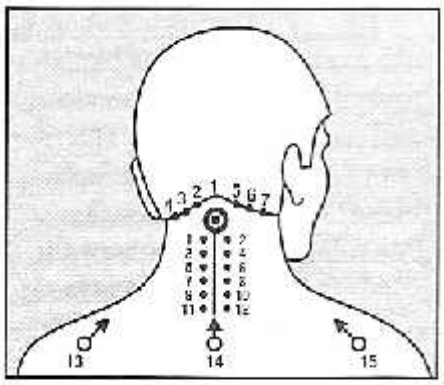


Fig. 99

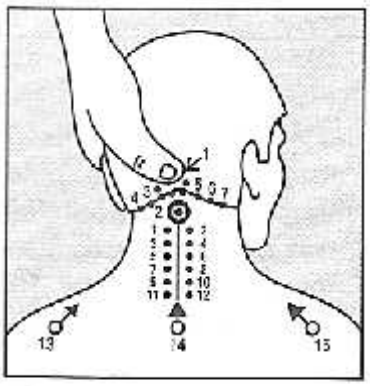


Fig. 100

On the neck, apply pressure thrice on either side of the vertebral column (½ inch from the column) at points 1 to 12 as shown in fig. 99 & 101. Patient can either do this himself (fig.

102) or can take the help of a therapist.

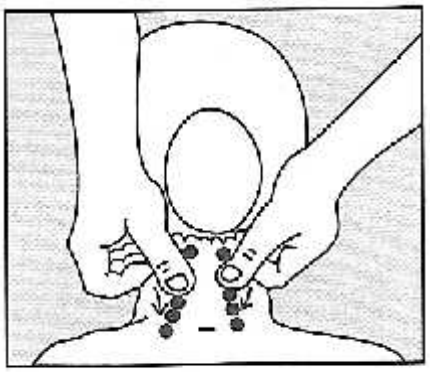


Fig. 101

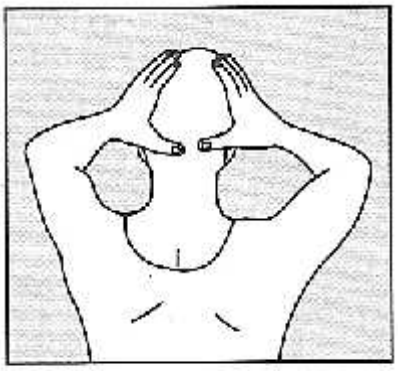


Fig. 102

Another important point for common cold and sinuses and especially for epistaxis is located on the lower outer edge of the nostrils. Location of these points and the method of pressure application is shown in fig. 103 & 104.

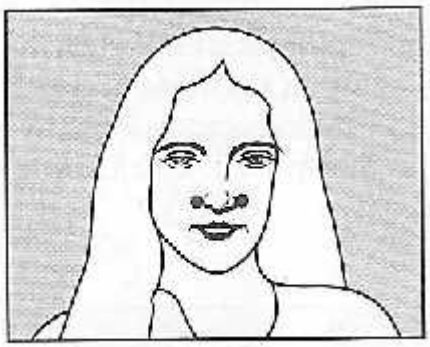


Fig. 103

Fig. 104

In addition to these, pressure should be applied on the crease between the thumb and the index finger of both the hands (fig. 111 & fig. 112). This reflex centre is related to eyes. ears and other organs. Reflex centres related to ailments of the nose are also present on the face as shown in fig. 15 (pt. 2, 4, 8, 9, 13, 14) and fig. 16 (pt. 3,11 & 21).

To reduce the intensity of various nasal ailments, apply pressure on all the channels on the hand and feet (fig. 105 & 106).

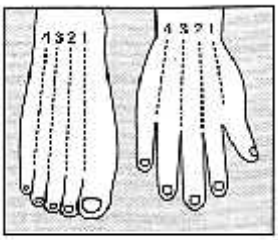


Fig. 105

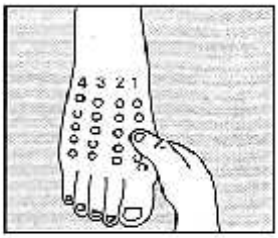


Fig. 106

Use of magic massager is advisable to apply pressure on the hands especially the fingers and thumbs (fig. 10 7). Common symptom of cold and sinusitis is heaviness of the head due to congestion. Locate the slight recesses at the temples with both hands simultaneously; give moderate pressure for 3 seconds. Pause. Repeat the pressure (Fig.108).

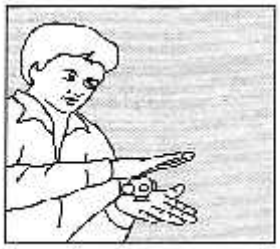


Fig. 107

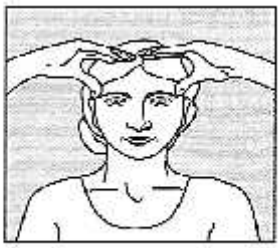


Fig. 108

If common cold leads to asthma or chest pain then pressure should be applied at all he reflex centres related to the respiratory system as shown in chapter 10 and on the sack on either side of the back bone. In case of shivering, apply pressure on the bony repression behind the ear (fig. 91).

Many people think that vitamin C helps prevent the common cold. Despite exhaustive research across the world, there is no clear evidence that large doses of vitamin C (or any other vitamin) will prevent or cure colds. You also need to consider the health risks associated with taking large doses of vitamin C. Large doses may cause nausea, abdominal cramps, headaches, fatigue, kidney stones and diarrhoea. Do not self-medicate. Consult your physician.

Epistaxis

The first-aid treatment for epistaxis is to pinch the soft part of the nose, hard enough to close the blood vessel for about 10

minutes. The patient should tilt his head back or if he wants to lie down, head should be raised. Make the patient comfortable. An ice packheld over the nose helps in reducing the bleeding. A profuse nose bleed will require the nose to be packed tightly with a long ribbon of gauge to put pressure on blood vessels. It is removed after 48 hours.

For nose bleeds apply pressure on the back of the neck (fig. 99, pt. 1) and also on the lower part of the nose (fig. 103 & 104). Apply pressure on the tips of fingers and toes of hands and feet (fig. 93). Pressure should also be applied on reflex centres of adrenal glands.

In all the disease conditions of the nose, pressure should be applied along the thumbs of both the hands and feet (fig. 95, 96, 97 & 98). In addition to the reflex centres shown in fig. 99, 103 and 104, apply pressure on reflex centres located just below and on sides of thumb (fig. 110) and on the crease between the thumb and the index finger of both the hands (fig. Ill and 112). Also, press reflex centre located right in the middle of the head for 2-3 seconds (fig. 109).

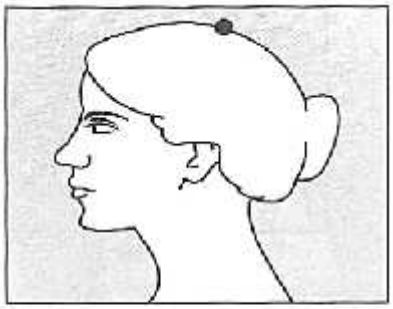


Fig. 109

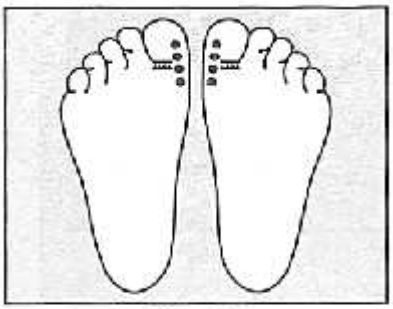


Fig. 110

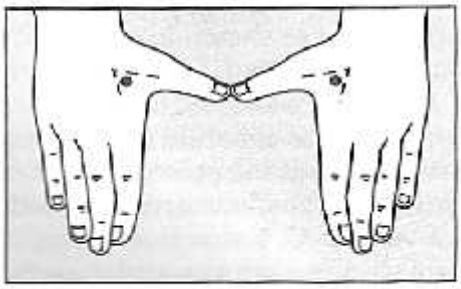


Fig. 111

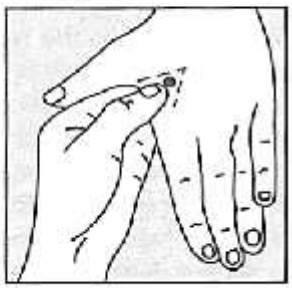


Fig. 112

Hay Fever

In hay fever, over the counter medication may be enough to manage acute symptoms but it provides only symptomatic relief. For complete cure, Reflexology is helpful as improves the functioning of immune system thereby increasing the body's resistance infection.

Pressure must be applied on all the reflex points (fig. 93-112) daily. In addition, apply pressure on reflex centres of kidneys and intestines. Acute condition may take 15-20 days to recover though chronic conditions may take a bit longer.

5 Mouth and Throat

The throat is a multipurpose tube leading from the back of the nose and mouth down to the trachea (wind pipe) and oesophagus (food pipe). When we breathe, air passes through the throat into the trachea on its way to the lungs. When we swallow, the food slips down the oesophagus on the way to the stomach. Like the rest of the respiratory system, the throat is chiefly at risk from infection.

Tonsillitis

The two tonsils at the back of the throat are part of the ring of lymph glands that guard the entrance to respiratory and digestive system. Very small at birth, they enlarge gradually, reaching their maximum size at age of 6-7 years. Thereafter they shrink in size but do not disappear.

Tonsillitis is an acute viral or bacterial infection of tonsils, sometimes causing them to become abnormally swollen as well as inflamed. It occurs mainly in school-age children and occasionally in adolescents. The illness starts suddenly with sore throat and difficulty in swallowing. Within a few hours, the child becomes feverish and may seem quite ill. The painful irritation in the throat makes some children vomit or cough. Glands on either side of the neck and the angle of the jaw may swell and become tender They can be felt as small protuberances. Surgery was done frequently in the past but most doctors nowadays recommend it only as the last resort. If the attacks of tonsillitis are so severe and frequent that they affect general health, the surgical removal of the tonsils may be the only answer

Adenoids

Adenoids are two glandular swellings at the back of the nose, above the tonsils and found almost exclusively in the pre-adolescent children. They also assist the body's defenses against respiratory tract infections.

Normally, adenoids begin to enlarge at about the age of three. From age five, they begin to get smaller and then disappear at puberty. In some children, they grow even larger from the age of five and eventually obstruct the airway from nose to the throat or block the opening of eustachian tube from middle ear into the throat.

If the airway from the nose is blocked, the child breathes mainly through the mouth, snores when asleep and is likely to speak with a nasal twang. The infection may also spread along the tube to the middle ear and partial deafness may result.

Reflexology Treatment Principal Reflex Centres

Tonsilitis, enlargement of adenoids, goitre and other diseases of the throat can be cured by Reflexology. There are three main points located on hands and feet.

First point is located at the junction of the thumb and first finger (fig. 113). Second point is located at the junction of the toe and foot and thumbs and palm (fig. 114). Correct way of applying pressure is shown in fig. 115.

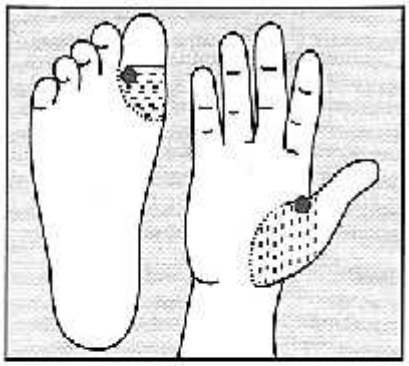


Fig. 113

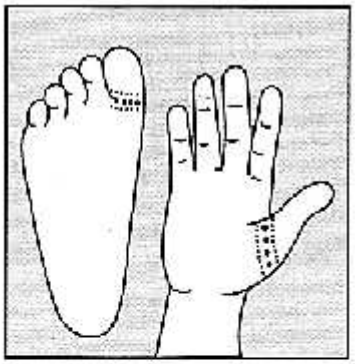


Fig. 114

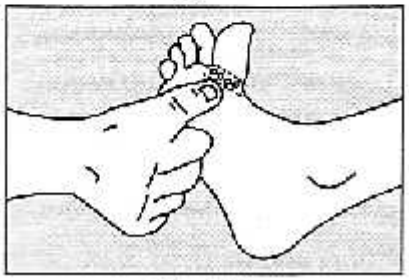


Fig. 115

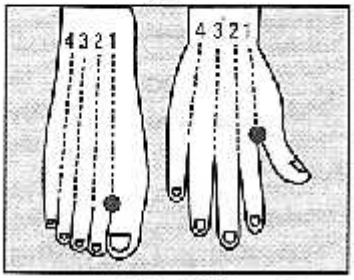


Fig. 116

Third point is located at the junction of thumb and first finger on upper part of both hands and feet as shown in fig 116.

Secondary Reflex Centres

A few secondary reflex centres are located on neck, hands and feet. In disease condition, pressure may be applied on all or some of these points. Pressure must be applied on the points related to the nervous system i.e. on the outer and inner surfaces of thumbs of both hands and feet (fig. 117, 96, 97 and 98). Other points are located on the back of the neck at the junction line of head and neck as shown in fig. 99, 100, 101 and 102.

In case of tonsillitis, pressure should be applied in the hollow at the base of throat with the help of finger for a few seconds (fig. 118). Also, apply pressure on the upper back along the back bone (fig. 160).

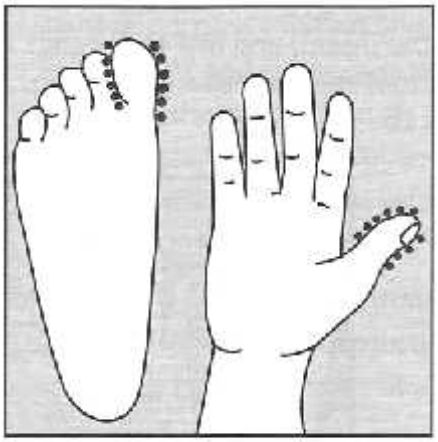


Fig. 117

Fig. 118

Toothache

Pain is always a signal to us that something is amiss somewhere. A toothache should alert you to immediately get in touch with your dentist and have the tooth examined and treated. Reflexology cannot cure a bad tooth. But it can greatly reduce the pain that derives from a bad tooth. We strongly

recommend that you see your dentist even if the pain is entirely eliminated.

A very important reflex centre to get relief from toothache is located on the fourth channel of hands and feet. Location of the channel and method of pressure application is shown in fig. 119,120.

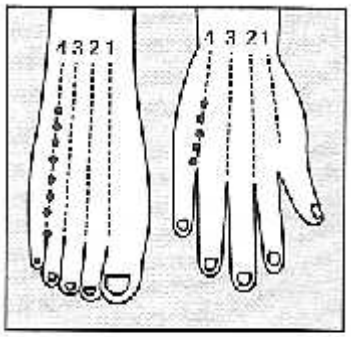


Fig. 119

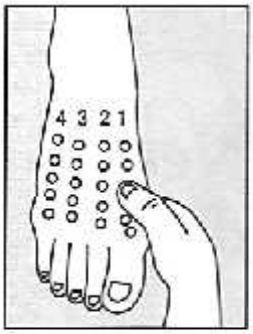


Fig. 120

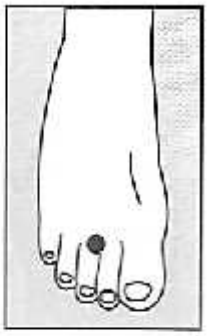


Fig. 121

Now using thumbs apply pressure to the point located between the second and third toe of each foot (fig. 121), on the middle of the leg at the junction of the foot and leg (fig. 122), on the first finger next to big toe (fig. 123) and on Wrist in line with the little finger (fig. 124). In addition pressure should be applied on reflex centres on the face (fig. 15 point 12, fig. 16 point 9,13,16&17) and on the temples (fig. 108).

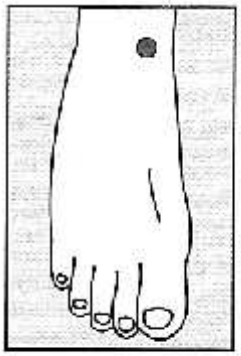


Fig. 122

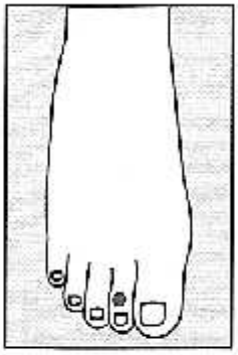


Fig. 123

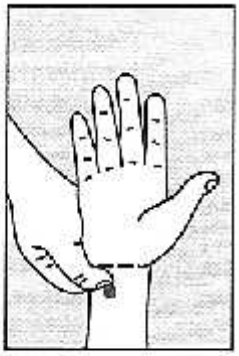


Fig. 124

Pressure should be applied on the tips on the fingers of the hands and feet of the affected side for 3-5 minutes. Similarly, pressure can be applied on the jaw at the affected site. Applying

pressure on the web between the thumb and index finger helps in getting relief from pain (fig. 111 & 112).

In addition to all the above mentioned points, pressure must be applied on the reflex centres related to nervous system and on the back of the neck (fig. 99 to 102).

Dryness of the Mouth

This is seen usually as a result of any disorder of the liver. In this condition, pressure should be applied on the reflex centres of the liver, located on hands and feet (fig. 9).

6 Back, Neck and Shoulder Pain

A fit back is strong and resilient, capable of absorbing a multitude of shocks everyday and of supporting loads far greater than body weight. Yet, back pain is one of humanity's most frequent complaints. Eight out of ten people, including those who are generally fit, experience some type of back pain during their lives.

Before we understand how Reflexology can cure various ailments related to back, it is necessary to understand the structure of back, how it is related to different parts of our body and the symptoms and causes related to neck, shoulder and backache.

Structure of the Back

The back is a complex structure, made up of many components. At its core is the spine on which the stability of the back depends. Many, though not all of the problems, that we experience in our backs, are due to disorders of the spine.

The back consists of a scaffolding of bones, joints and ligaments, surrounded by muscles which serve both to move the spine and to support it and give it integrity. There are also numerous blood vessels and nerves.

The Spine

The spine comprises a column of 26 bones, the vertebrae, stacked on top of one another like a pile of coins. Between each vertebrae are spongy, tough cushions called discs that act as shock absorbers and give the spine its flexibility.

The vertebrae are grouped in five regions. At the top is the cervical or neck region, made up of seven vertebrae. Below this is the thoracic or chest region, with 12 vertebrae, each of which

has a pair of ribs attached to it. Next there is the lumbar or lower back

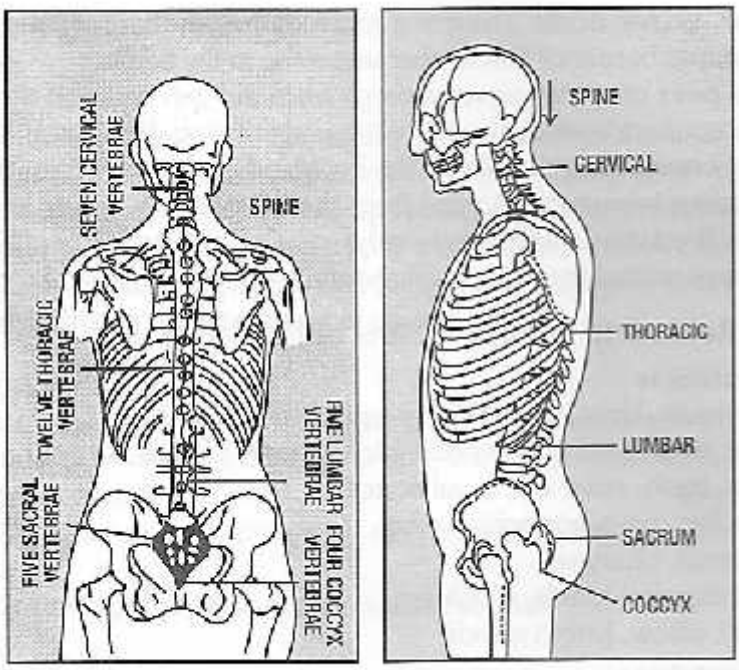


Fig. 125

region, with five vertebrae. It is the lumbar part, where back pain strikes more often. This is because the lower part of the back bears the entire weight of the upper body plus any weight that the person is carrying. It also twists and bends more than the upper part of the back. Beneath the lumbar region is sacrum, made up of five fused vertebrae and forming the back of pelvis. Finally there is the coccyx, a vestigeal tail attached to the bottom of sacrum and made up of four small vertebrae fused together. For convenience, each of the five regions is identified by a letter and the vertebrae within each region by numbers: C1-C7, T1-T12, L1-L5, S & CO.

The normal spine has a gentle curve that gives it an S-shape, which makes it more shock resistant. The cervical region curves anteriorly, the thoracic region curves posteriorly, the lumbar region curves anteriorly and the sacral and coccygeal regions together curve posteriorly.

Strong elastic ligaments hold the vertebrae and discs firmly together in a column. Muscles are attached to the vertebrae by rubber like connections called tendons and the tractions and expansions of the complex layers of back muscles produce the movements of back and upper body.

The Spinal Cord and Nerves

A very important function of the spine is to protect the spinal cord. The spinal cord is in effect a projection downward from the brain, and like the brain, it contains numerous nerve pathway and nerve cells. The spinal cord runs from the base of the skull and reaches as low as the upper border of first lumbar vertebrae in the adults.

Thirty one pairs of spinal nerves emerge from the gap between the two adjacent vertebrae and connect brain with rest of the body. Through these spinal nerves, the spinal cord is connected to the rest of the body and via these nerves, the spinal cord sends and receives information to and from the brain. Acupuncture and Reflexology recognised this direct relationship between the spine and internal organs. Thus by treating the reflex centres related to spine, one can influence specific organ functions.

Body Parts Related to Different Parts of the Spine

7 cervical vertebrae

1 Skull, mouth, brain, ears, blood supply to head

2 Sinuses, eyes, forehead, tongue, blood supply of eyes

3 Cheeks, teeth, outer ear, facial bones

4 Mouth, lips, nose, eustachian tube

5 Vocal cords, pharynx

6 Throat muscles, tonsils, shoulders

7 Thyroid, elbow, lymph glands

12 thoracic vertebrae

1 Trachea, oesophagus, right hand and forearm

2 Heart valves

3 Chest, lungs, breast, trachea

4 Gallbladder

5 Liver, blood, solar plexus

6 Stomach

7 Duodenum, pancreas

8 Spleen, diaphragm

9 Adrenal glands

10 Kidney

11 Ureters

12 Small intestines, fallopian tubes

5 lumbar vertebrae

1 Large intestine

2 Abdomen, appendix, thigh

3 Reproductive organs, knee

4 Prostate gland, sciatic nerve, muscles of lower back

5 Legs, ankle and feet

5 fused sacral vertebrae:

1. Hips

4 fused coccygeal vertebrae:

1. Rectum
2. Anus

It is important to note that if there is a deformation in the backbone or spine cord, then it can affect those body parts that are related to it. Therefore, it is necessary to note that when we are applying pressure on reflex centres of a particular body part, we must also apply pressure on reflex centres related to backbone and spinal cord on hands and feet. Because there is

every possibility of the root cause being in the backbone or spinal cord.

Causes of Back Pain

There are many possible causes of back pain. Any structure in the back has the potential to cause pain if affected by injury or disease. Pain may result from:

1. Bad posture over a long time
2. Disease: Degeneration of spine such as that seen in arthritis, disc diseases and osteoporosis.
3. A sprain or strain of the joints or muscles of the back
4. Pregnancy
5. Stress
6. Lack of exercise
7. Poor muscle tone
8. Obesity
9. Ageing

1. Postural stress

Poor posture over an extended period of time places stress on all the structures of the spine. Ligaments and joints are overstretched, muscles are over worked and may spasm and nerves may be compressed in some positions.

2. Disease

Back problems are more likely caused by lifestyle factors such as inactivity than by serious disease. However, some of the diseases that can affect the spine include

Spondylosis

It is hardening and stiffening of the spinal column that results in a loss of flexibility. It is due to the degenerative changes in the spine that often come with ageing. These changes with age are also referred to as wear and tear. It is important to

realize that spondylosis does not necessarily produce much pain and clearly there is no close connection between the severity of the changes as seen on X-ray and any symptoms there may be. You may have a lot of changes and little or no pain or a few changes and a lot of pain.

Spondybsis or wear and tear is not a disease in itself. Changes in the structure and function of the spine are inevitable as we age but the degree to which they give rise to symptoms is variable and unpredictable.

On X-ray, some people have evidence of osteophytes, which are outgrowths of bony tissue at the margins of vertebral bodies. Although they look dramatic they do not cause pain unless they happen to compress a nerve root. In fact, by limiting spinal movement, they may actually be protective to the spine.

The rate at which spondylosis progresses is variable. Some people show changes sooner than others. They may occur even in the twenties, although symptoms generally appear a decade or two later. Partly this is a question of heredity. Occupation also plays a part. Heavy labour work causes osteoarthritic changes to appear in spine.

Spondylolisthesis

This condition occurs when one vertebrae in the spinal column slips forward over another.

Osteoporosis

A disease characterised by thinning of the bones. It commonly occurs in women after the menopause but also affects men with increasing age. It is discussed in chapter 14.

Spinal Stenosis

This condition OCCUYS when the space around spinal cord and nerve roots narrows due to arthritis and bone overgrowth.

This can press or pinch a nerve.

Structural problems

Kyphosis is an excessive outward curve of the upper back, which is sometimes referred to as a hunchback. Scoliosis is an excessive sideways curve that can affect either the upper or lower regions of the spine. Causes of Kyphosis and Scoliosis include birth defects, bad posture and certain diseases that affect the integrity of the bones, such as osteoporosis.

Sciatica

Sciatica is a nerve pain arising from the sciatic nerve that runs from the spine in to the buttock and down the back of the leg. The cause is usually a bulging or prolapsed disc pressing on the nerve. Sciatica is discussed in detail in Chapter 7.

Slipped disc

In fact it is a misnomer, because there is no such thing as a slipped disc. Discs are firmly anchored between vertebrae and while they may be subject to considerable deformation, they cannot become dislodged. What is often referred to as slipped disc is actually a disc that has partially collapsed or ruptured as a result of degeneration a strain.

When a disc ruptures, or heniates, the outer tissue of the disc tears, allowing the softer material to ozze into the spinal canal. This can lead to severe pain if the disc material presses on the nerve. A bulging pre-ruptured disc can cause the same sort of pain.

Most disc problems arise from injury and might be caused by straining the back (such as when lifting) or excessive compression, which can happen after having poor posture for a long time.

Fortunately, disc problems account for only 5-10% of all back trouble and of

this percentage, only a small minority require surgery. Up to 90% of those with disc problems respond to conservative treatment. Reflexology treatment allows the disc to heal by reducing inflammation and reabsorbing the extruded material responsible for pain.

3. Soft tissue injuries (Sprain and Strain)

A sprain is a joint injury characterised by tearing of the ligaments, while a strain is an injury to muscle or tendons. Stretching a ligament or muscle too far or too quickly could result in a tear of the tissue. Excessive force and repetitive use may also damage muscles.

4. Pregnancy

It is so common for women to get backache when pregnant that up to 50% will have it. The weight of the womb and its contents places extra strain on the back, forcing the woman to lean back. This increases the normal hollow in the lumbar region (lordosis). Backache usually decreases after delivery but not always and sometimes it comes on for the first time after baby is born. Epidural anesthesia is often blamed for post delivery backaches.

5. Stress

One of the side effects of stress is increased muscle tension, which can lead to fatigue, stiff ness and localised pain. Constantly tight muscles can create postural imbalances that may cause misalignment of the spine.

Referred pain

Back pain is a symptom. Pain arising from other organs may be felt in the back. This is called referred pain. Many intra

abdominal disorders such as appendicitis, kidney diseases, pancreatic disorders, bladder infections, pelvic infections and ovarian disorders among others can cause pain referred to the back.

While it is rare, back pain can be a sign of serious medical problem.

- Back pain that occurs after accident / trauma should be promptly evaluated by a medical professional to check for fracture or other injury.
- Severe back pain (such as pain that is bad enough to interrupt sleep) that occurs with other signs of severe illness (eg. fever, unexplained weight loss) may also indicate serious underlying diseases such as cancer.
- Bladder or bowel incontinence along with back pain are potentially life threatening conditions and warrant immediate medical care.

Test

If the pain is severe and unresponsive to treatment, imaging tests may be needed. X-rays show the alignment of the bones and whether you have degenerative joint disease or fracture. X-ray images won't directly show problems with your spinal cord, muscles, fibrous tissues, nerve or discs. For conditions involving the soft tissues, a CT scan (Computed Tomography) or MRI (Magnetic Resonance Imaging) may be needed to make a diagnosis.

MRI can produce very striking images of the interior of the body. This had made a dramatic difference to the diagnosis of back pain, but the very success of the technique has created its own issues of interpretation. Most people have some degree of abnormality on MRI scanning, but these may not be causing any symptoms, it is only the more severe abnormalities that are

significant in this way. MRI scans may show reduced spinal movements, wear and tear changes in the spine, osteoarthritis of facet joints or abnormalities of discs and even disc protrusions but these things seldom have any close relation to the symptoms the patients complain of.

Also, severe symptoms can occur without any abnormalities showing up in investigations. What all this amounts to is that much skill and judgment is required to interpret the results of sophisticated tests that are available today, and it has to be accepted that, even with the help of these tests, an identifiable cause that can be remedied will not always be found.

Treatment

1. Keep moving

A typical response to experiencing back pain is to take it easy- either staying in bed or at least stopping any activity that is strenuous. While this approach is understandable and may even be recommended in short term, when done for more than a day or two, it can actually undermine healing. Light activity speeds up healing and recovery. If your back hurts, stop the aggravating activities but try to keep up the activities that are not painful.

2. Belts / Brace / Corset

Your doctor may prescribe a brace cushioned for your back. However, research studies are divided as whether back braces/belts relieve back strain. They can provide warmth, comfort and a degree of support to your back. But the back muscles may weaken with prolonged use of brace/belt. It is best to use a brace/belt only for short periods or during back straining exercises, if at all. The best brace or belt you can give yourself is your own muscle brace. You can build up your

muscle brace through back strengthening and stability exercises.

3. Give cold, then heat treatment

Use cold treatment first. Immediately after the injury of your back, apply ice several times a day, for up to 20 minutes at a time. Put ice in a bag, and then wrap the bag in a cloth or towel to keep a thin barrier between the ice and your skin. After the acute pain subsides, apply heat from a heating pad or heat lamp to help loosen tight muscles. Limit each heat application to 20 minutes.

4. Surgery

Surgery is rarely needed to treat back pain. Although surgical intervention is anathema to a vast majority of people, many patients (and even some doctors) have the notion that if the back pain gets bad enough, they can always resort to surgery. Nothing could be farther from truth. The amount of pain somebody is in, has very little to do with whether he or she could benefit from surgery. One British researcher has estimated mat for every 10,000 people who experience back pain, only four need surgery.

Reflexology Treatment

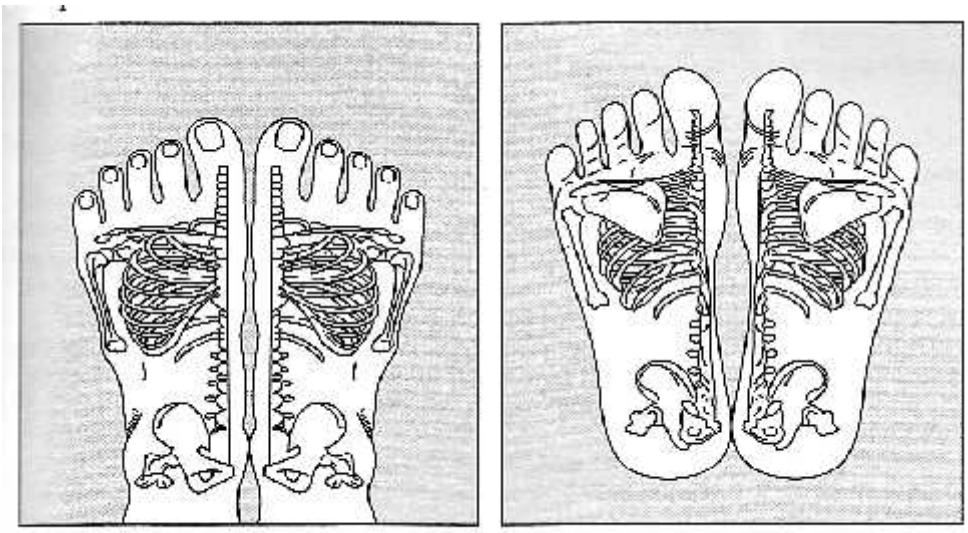


Fig. 126

Principal Reflex Centres Related to Spine

Principal reflex centres related to the vertebral column, spinal cord and the muscles of the back are located on the feet along its length starting from the thumb towards the heel (fig. 126 & 127). On the hands these reflex points are located along the outer side of the thumbs and palms and along the index finger as shown in fig. 128 & 129.

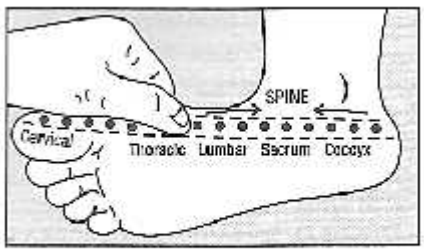


Fig. 127

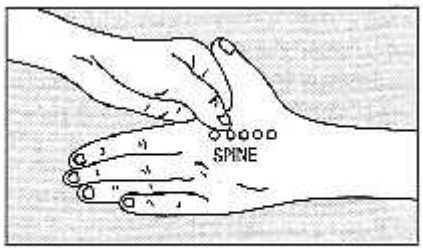


Fig. 128

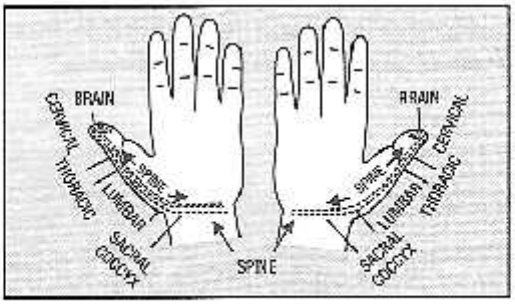


Fig. 129

Pressure can be given on these points in all the disease conditions of back and vertebral column. Pressure can be given with the help of the thumb or rubber jimmy. The point which elicits pains on pressing is the relevant reflex centre.

Neck (Cervical Region) & Shoulder Problems

The neck is one of the regions of the spine that commonly gives rise to pain, probably because of its mobility and the fact that the head exerts a lot of leverage in the neck structures. Common disorders of neck region include

- Neck pain
- Shoulder pain, frozen shoulder and brachial neuritis
- Pain, stiffness or restricted movement of thumb

- Writer's cramp
- Tennis elbow
- Stiff neck (torticollis-wry neck)
- Vertigo (illusion of revolving motion, either of oneself or one's surroundings)

Though these disorders produce significant degree of discomfort and pain, they can be easily treated with Reflexology treatment. Neck pain, stiffness of neck and vertigo can be cured in 7-15 days depending on the severity of the disease. Whereas shoulder pain, stiff shoulder and writer's cramp take a little longer.

1. Neck pain

Trauma, poor posture and degenerative diseases such as arthritis are the most common causes of neck pain.

Cervical spondylosis

It is a chronic degeneration of the cervical vertebrae and the inter-vertebral discs. Also known as cervical osteoarthritis, the condition usually appears in men and women older than 40 years of age and progresses with age.

Neck pain and stiffness that gets progressively worse may be an indication of cervical spondylosis. The pain may range from mild to severe and debilitating. Other signs and symptoms may include:

- Neck pain that radiates to the shoulders and arms.
- Numbness or weakness in the arms, hands and fingers.
- Loss of balance.
- Headaches that radiate to the back of the head.
- Pressure on the spinal cord in the neck can cause symptoms including leg weakness and bladder disturbances.

Postural neck pain

As in the other regions of the spine, pain can arise as a result of poor posture. Common causes here include constantly keeping the head thrust forwards; for example, n front of computer screen and clamping the phone between the shoulder and neck.

Whiplash injury

A passenger in a motor vehicle in a rear-end collision may suffer from whiplash injury of the neck, where the impact forces the person's head back and then forward at a great -speed. This can overstretch the neck and upper back region, resulting in a strain or tear the supporting ligaments, muscles and discs. Seatbelts do not help to prevent this kind injury but properly adjusted head rests do.

The common symptoms of a whiplash injury are pain, stiffness and headache. Recovery depends on the individual and extent of the injury, but can take atleast three weeks. Patients should avoid using a soft collar and should remain active and try to return to their usual activities.

Osteoporosis

Many older people, women especially, suffer from osteoporosis. Loss of calcium from ~-e bones makes them weak, and the vertebrae may collapse with a consequent increase in spinal curvature. The affected vertebrae may be painful. There may also be referred owing to pressure on the nerve roots.

Anxiety/Depression

Probably the commonest cause of neck pain is tension. The patient, who is often a women in middle age or younger, experiences ache in the neck, usually more on one side. The pain may radiate to the shoulder. Neck movements are usually

limited, and there is frequently tenderness of neck and shoulder muscles, which feel more tense than usual. The cause of this kind of pain is difficult to establish. Often, though not always, patients recognise that there is a definite correlation between their symptoms and their psychological state, which is frequently one of mild depression or anxiety.

2. Frozen shoulder

Frozen shoulder, also known as adhesive capsulitis, is a disorder characterised by pain and loss of motion or stiffness in the shoulder. It affects about 2% of the general population. It is more common in women between the ages of 40 - 70 years.

The causes of frozen shoulder are not fully understood. It occurs more commonly in individuals with diabetes, affecting 10-20% of these individuals. Other medical problems associated with increased risk of frozen shoulder include- hypothyroidism, hyperthyroidism, parkinsonism disease, rheumatoid arthritis and cardiac disease or surgery. Frozen shoulder can develop after a shoulder is injured or immobilised for a period of time.

With frozen shoulder, the joint becomes so tight and stiff that it is nearly impossible to carry out simple movements, such as raising the arm. People complain that the stiffness and pain worsen at night. Pain due to frozen shoulder is usually dull or aching. It can worsen with attempted motion.

Physicians have described the normal course of a frozen shoulder as having 3 stages:

Stage One - It is the freezing or painful stage, which may last for six weeks to nine months. Patient has a slow onset of pain. As the pain worsens, the shoulder loses motion.

Stage two - The frozen or adhesive stage is marked by slow improvement in pain, but the stiffness remains. This stage

generally lasts four months to nine months.

Stage three - The thawing or recovery, during which the shoulder motion slowly returns toward normal. This generally lasts five months to 26 months.

Maintaining as much range of motion as possible in your shoulder is important. Your physiotherapist can show you how to move your shoulder joint through comfortable range of motion phases to avoid further stiffening. Reflexology increases the circulation of blood and energy, reduces inflammation, pain and stimulates healing of damaged tissues.

3. Tennis elbow

Tennis elbow is a common term for a condition caused by overuse of arm and forearm muscles that result in elbow pain. You do not have to play tennis to get this, but the term came into use because it can be a significant problem for some tennis players.

Tennis elbow is caused by either abrupt or subtle tearing of the muscle and tender area around the outside of elbow. Vow doctor may call this lateral epicondylitis. Symptoms include pain slowly increasing around the outside of elbow. Elbow is tender to touch and pain occurs on simple actions such as lifting up a cup of coffee. Another common term, Golfer's elbow refers to the same process occurring on the inside of the elbow.

4. Writer's Cramp

Writer's cramp develops with repeated hand or finger motion, such as writing or typing. Pain usually becomes more severe with ongoing use of the repeated motion. Writer's cramp may ease if the person takes frequent breaks from the repetitive motion. Other steps that may help are changing the motion or the writing or typing tool itself.

Reflexology Treatment

Principal Reflex Centres Related to Neck & Shoulder

The reflex centres related to neck are located on the thumbs of both hands and feet (fig. 130 & 131). The outer and the inner portion of thumb of left hand and foot correspond to the left part of the neck. The outer and inner portion of thumb of right hand and foot corresponds to the right part of the neck. The upper portion of thumbs corresponds to upper part of the neck and the lower portion of thumb (fig. 136 pt. 4) corresponds to lower part of the neck.

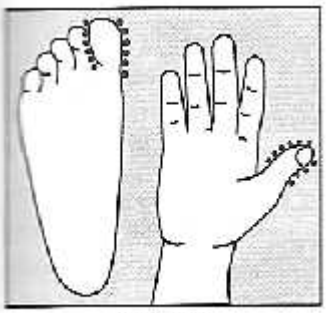


Fig. 130

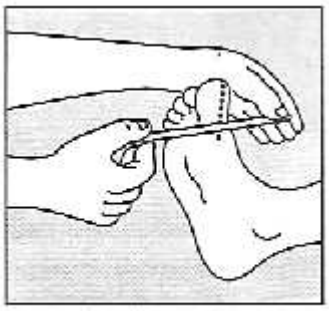


Fig. 131

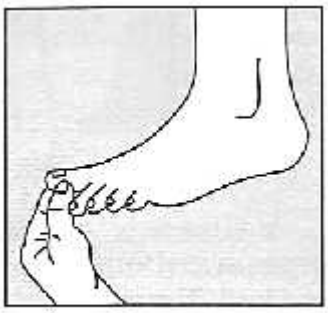


Fig. 132

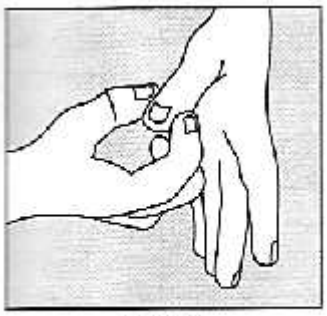


Fig. 133

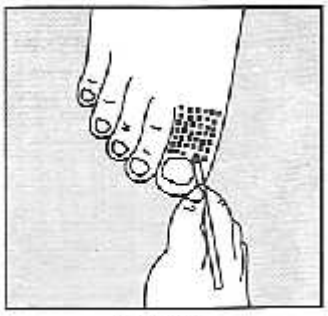


Fig. 134

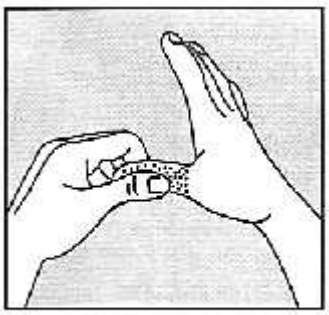


Fig. 135

Keeping this in mind, pressure can be given accordingly. Pressure can be given using the thumb or any soft rounded tool eg. Rubber/ wooden jimmy or simple pressure stick (fig. 132. 133, 134, 135 & 137).

Patients suffering from dizziness especially when they get up in the morning should apply pressure on the outer and inner edges of thumbs of both hands for 1-2 minutes. Applying pressure on these reflex centres whenever a patient feels dizzy,

results in prompt relief. In this condition/ pressure should also be applied on reflex centres related to ear (fig. 73, 74, 75 & 76) as any problem with inner ear can also cause dizziness / vertigo.

Other reflex centre related to shoulder, arms and neck is located just below the little ringer (fig. 136, pt. 1) on the heels and the palms. This reflex centre is also important for patients suffering from frozen shoulder, stiffness in the arms and paralysis. In addition, applying pressure on pt. 3 in fig. 136 also results in miraculous relief.

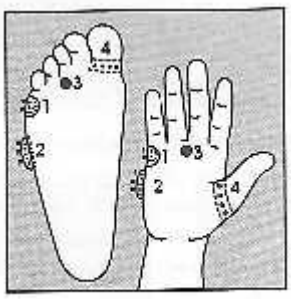


Fig. 136

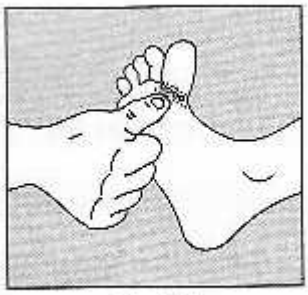


Fig. 137

In all the disorders / diseases of the neck, there is pain in shoulder blades too. Reflex centre related to this part is located on the fatty mound just below the thumb (both hands and feet). The method of applying pressure is shown in fig. 138.

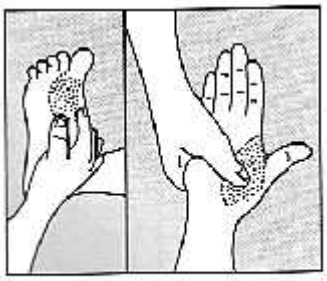


Fig. 138

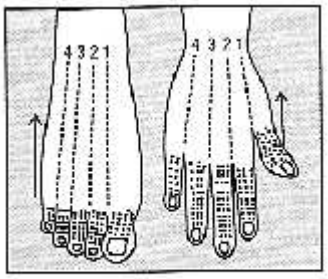


Fig. 139

For cure from all the above mentioned diseases, apply pressure on all the channels on the hands and feet, especially channel 1, and on the fingers (fig. 120 & 139) with the help of a thumb.

Fig. 140

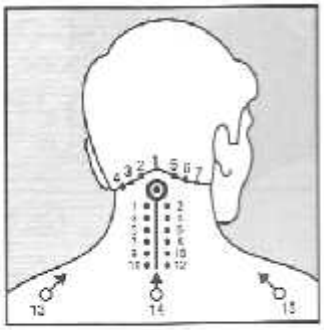


Fig. 141

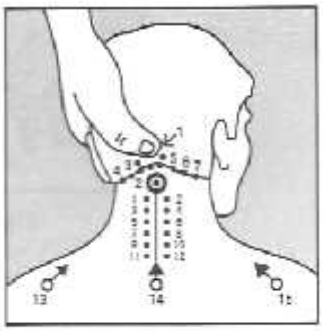


Fig. 142

There is a very important point related to pain in the elbow. This point is located on the outer surface of the palms and soles (pt. 2 in fig. 136). In addition apply pressure on the outer and inner surfaces of thumbs on hands and feet. Pressure should be applied on the fourth channel (fig. 139) on hands and feet.

For treatment of tennis elbow, in addition to the above mentioned reflex points, apply pressure on reflex point on the elbow. It is located at point of extreme end of outer and inner crease of the elbow (fig. 140). Apply deep pressure with thumb for 5-7 seconds repeating it thrice.

Secondary Reflex Centres

In addition to the above mentioned centres, there are a few secondary reflex centres. In all disease conditions of the neck, pressure must be applied on at least a few of these points, if not all.

Apply pressure on the back side of the neck and on the shoulder (fig. 141). First, apply pressure at the mid point on junction line of the head and the neck (medulla oblongata). This is the point where the vertebral column originates. Apply medium to light pressure on pt. 1, with the thumb of the hand for 3 seconds, thrice according to the patient's tolerance. Method of pressure application is shown in fig. 142. Later apply pressure on point 2, 3, 4, 5, 6 & 7 for 3 seconds, thrice.

After this pressure is applied with both the thumbs on the back of the neck, at a distance of half an inch on either side of the vertebral column (pt. 1-12 in fig. 143). Pressure should be light. A person can do this step himself by putting both the hands back and using the thumbs or fingers of both the hands (fig. 144).

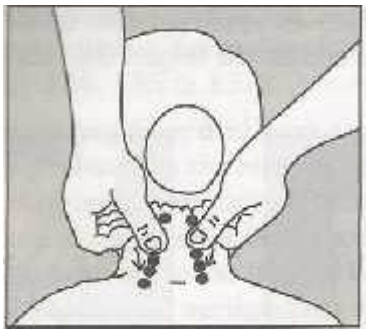


Fig.143

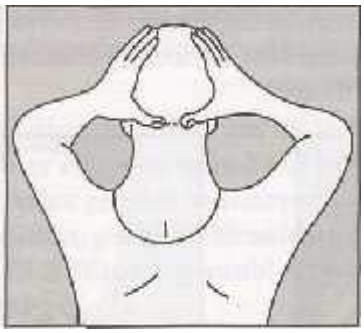


Fig.144

After giving pressure on the neck, pressure must be given on point 14 (fig. 142) which is the 7th cervical vertebra. Here, pressure is given with the thumb in the direction)f the neck. Later apply pressure on pt. 13 & 15 in the direction of the ear. This is a very effective reflex centre for the treatment of any problem of the arms. In these conditions, pressure should be applied on the outer surface of the neck and along the shoulder blades (fig. 145 & 146). If a patient suffers from vertigo / dizziness, then do lot apply pressure on the neck. Applying pressure on the principal reflex centres on lands and feet will suffice.

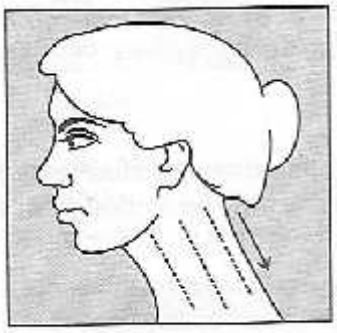


Fig. 145

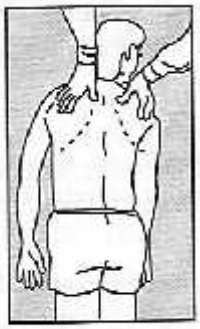


Fig. 146

Applying pressure on the front and back of the forearms at the reflex centres as shown in fig. 147 will result in fast relief from pain in the shoulder and elbow, frozen shoulder and pain in wrist and thumb. Apply pressure at each point for 2 seconds.

Apply pressure in the underarms with the thumb (fig. 148), along with pressure on reflex points on the shoulder, forearm and chest (fig. 149) for a few seconds. Pressure

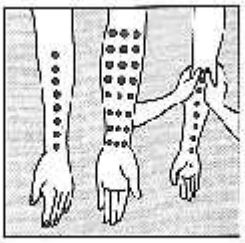


Fig. 147

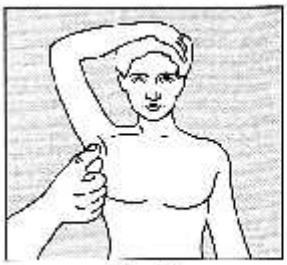


Fig. 148

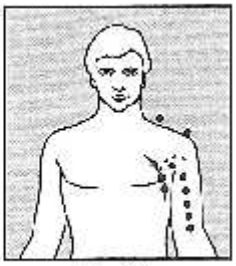


Fig. 149

In conditions like pain and stiffness in the thumb, inability in writing with the thumb or numbness of the thumb, pressure should be applied on the wrist as well as the arm at a distance of 3 finger width from the first crease of the wrist (fig. 150 & 151). Applying pressure on these points with help in reducing the intensity of the pain.

Fig. 150

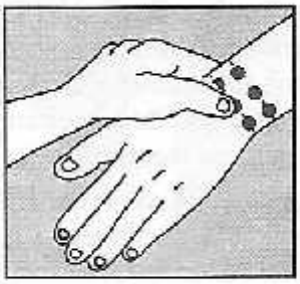


Fig. 151

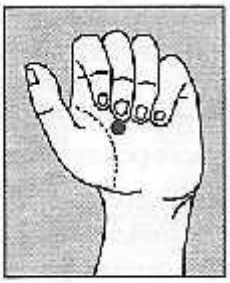


Fig. 152

A very important reflex centre related to writers cramp is present on the palm. To locate this point, close your fist and now the point on the palm, where the middle finger touches is the correct reflex point (fig. 152). Press this point for 1-2 minutes continuously with the thumb.

There are a few reflex points on the lobe of the ear (fig. 18 & 153). If possible, pressure should be given by the thumb or finger.

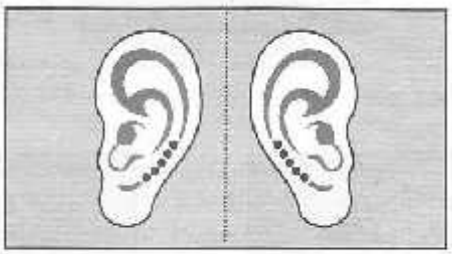


Fig. 153

To reduce stiffness of the shoulders, pressure should be applied on the reflex centres of kidneys (fig. 10). Patients suffering from all the conditions described above should drink plenty of water during this therapy.

Pain in the Back, Legs, Buttocks and Heel

- Pain in back and leg
- Lumbago
- Slipped / prolapsed disc
- Pain in feet and heel
- Foot drop
- Cramp in calf

Reflexology Treatment

Principal Reflex Centres Related to Back and Legs

Reflex centres related to lower back, waist, buttocks / hips, legs, feet, heel pain and prolapsed disc are located on feet, on channel 1, 2, 3 and along the heels (fig. 154). Points on channel 1 shown in figure are specific to the lumbar 4,5 and sacral 1.

Applying pressure on these points helps in speedy recovery.

Apply pressure on the reflex points shown in fig. 154, the points which are more sensitive are the principal reflex centres for the disease. It is better that you apply pressure on all the reflex centres irrespective of the fact that they are tender or not. These are the main reflex centres for sciatica.

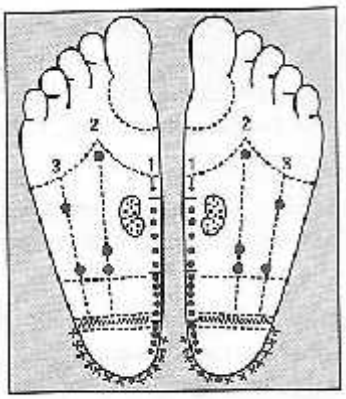


Fig. 154

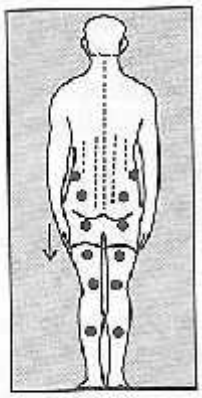


Fig. 155

The method by which pressure is applied on the reflex centres of lumbar, sacral and coccygeal region is shown in fig. 156 & 157. Pressure can be applied either by the thumb or by using any smooth round tool eg. Jimmy. Applying pressure in the mid of the ankle helps in relieving pain in the legs and sciatica. Other centres are located on the hands and as well as the palms (lower part) as shown in fig. 158 & 159.

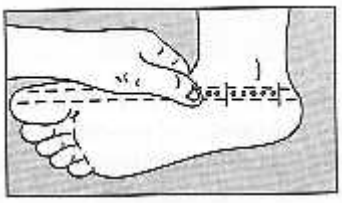


Fig. 156

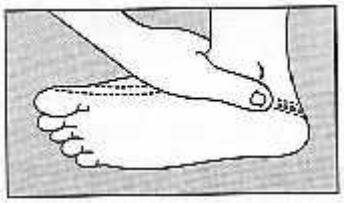


Fig. 157

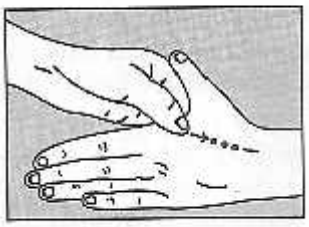


Fig. 158

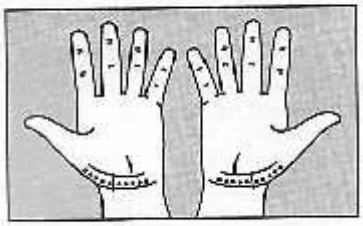


Fig. 159

Other reflex centres are located on the back especially the lower back, on either side of the backbone, above the buttocks, on the buttocks and on the back of the legs (fig. 155). If a patient complains of pain on applying pressure on these points, do not include them in the treatment. Just give pressure on the hands and feet. This might delay the treatment by 4-5 days.

For relief from pain in the legs, sciatica, heels, feet and foot drop, apply pressure on the area behind the knee and on the calves. The method of pressure application is shown in fig. 160 & 161.

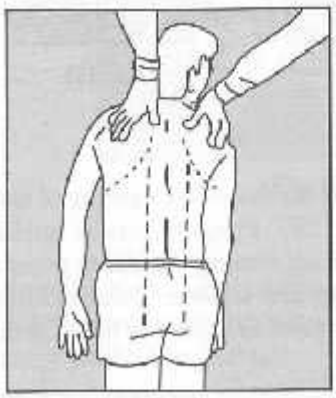


Fig. 160

Fig. 161

To give pressure on the back, make the patient lie down on his stomach on a hard surface like floor or firm bed. Start by pressing the middle of the crease of the buttock with the help of both the thumbs for 3 seconds. Apply deep pressure 3 times. Then apply pressure on the mid point between the buttocks and knees, and then apply pressure on the middle of the back side of the knee. Pressure should be in accordance to the patient's tolerance. Later apply pressure thrice on the mid point on the lower legs. Repeat the same procedure on the other leg the same way.

After giving pressure on the legs, apply pressure on the lower back on the lumbar, sacral and coccygeal parts a little away from the spine with the help of thumbs. Apply pressure at

each point three times.

A very important point is located just below the ankle (fig. 162). Applying pressure on this point with the thumb or finger results in instant relief from pain. This point is very sensitive, therefore care should be taken that the pressure given is light and according to patient's tolerance. It is better to give pressure all along the ankle (fig. 163).

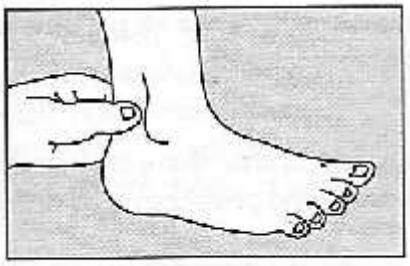


Fig. 162

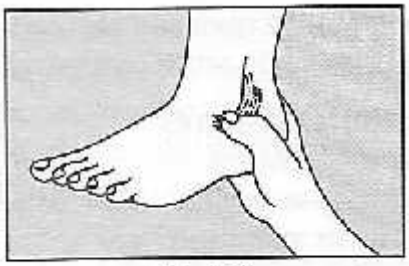


Fig. 163

For miraculous relief from pain in back, legs and knees, apply pressure on all the fingers of feet especially the two fingers next to the thumb. Pressure can be given in the manner of massage with the finger and thumb of the hand in a downward direction (fig. 164). Also apply pressure on the side of the leg (fig. 165).

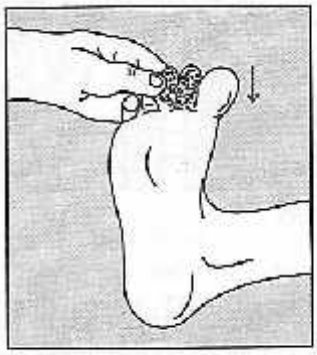


Fig. 164

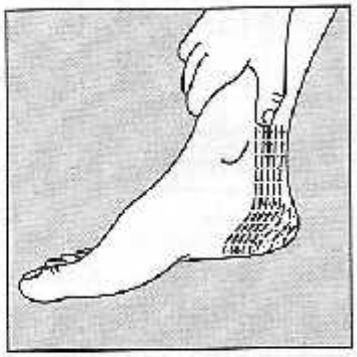


Fig. 165

In disease condition, regular pressure application on both hands and feet on the fourth channel also gives fast relief (fig .166). Take your hands behind the back and apply pressure with the thumb along the lower back keeping a distance of ½ inch

from the backbone as shown in fig. 167.

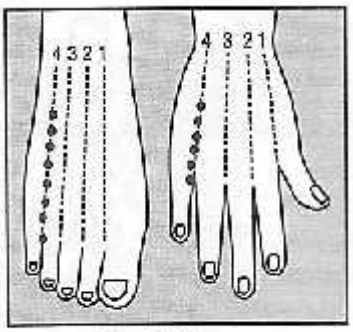


Fig. 166

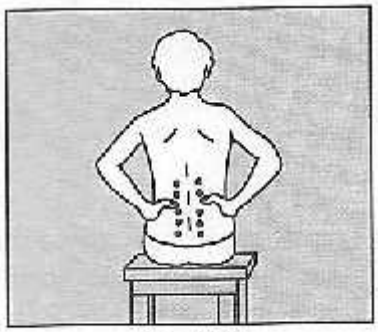


Fig. 167

Deformation in the neck can also cause back pain. Thus all patients of back pain should apply pressure on reflex centres related to neck also.

Secondary Reflex Centres

Apart from the above mentioned principal reflex centres, there are a few other centres which are known as secondary reflex centres. Applying pressure on all or some of these reflex centres helps in fast recovery.

Apply pressure on both the sides of the wrist (fig. 168 & 169) as well as on the outer side of the little finger of both the hands (fig. 170).

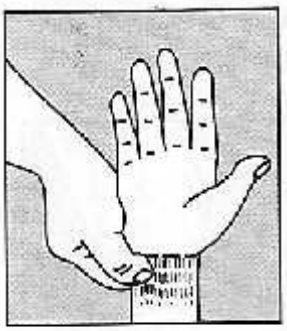


Fig. 168

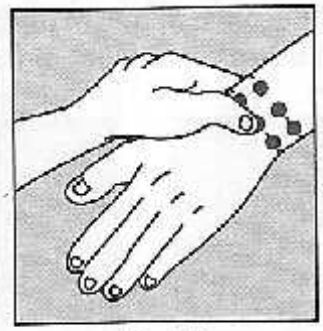


Fig. 169

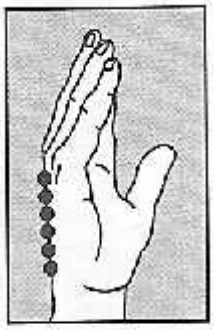


Fig. 170

In all these diseases, apply pressure on the reflex centres related to kidneys located on both hands and feet (fig. 171) as well as just below the outer ankle (fig. 172).

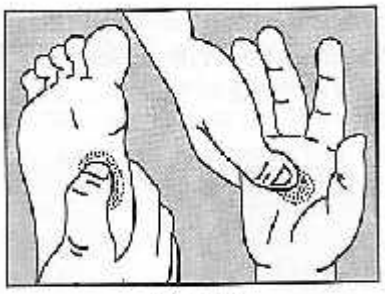


Fig. 171

Fig. 172

Sometimes the main reason behind the diseases of the back, leg and sciatica is some kind of problem with the digestive system. Therefore, it is imperative to apply pressure on all the relevant reflex points (fig. 173). The method of pressure application is shown in fig. 174. Start from pt. 1 (navel) and give pressure on all the points in a clockwise direction. At each point, give pressure for a few seconds only, repeat the whole cycle three times. Pressure should be given with the help of 3 fingers of the left hand. By placing the right hand over the left hand, you can increase the intensity of the pressure. Pressure given should be gentle and in accordance to the patient's tolerance. Pressure should be given before meals or atleast 2-3 hours after meals.

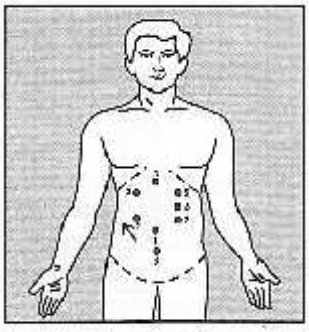


Fig. 173

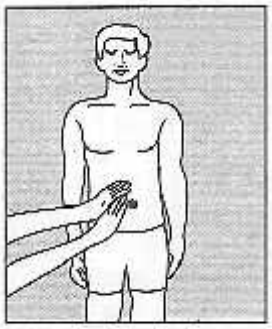


Fig. 174

In conditions like pain in legs, especially sciatica, weakness in legs and numbness of fingers of the legs, apply pressure, at short intervals, on the middle of the inner side of the whole thigh (fig. 175). There are a few reflex centres related to lumbar and sacrum on the upper part of the ear (fig. 176). Apply gentle

pressure with the thumbs on these points for a few seconds.

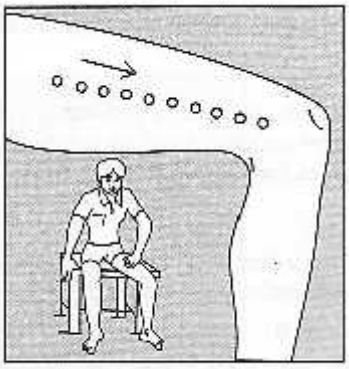


Fig. 175

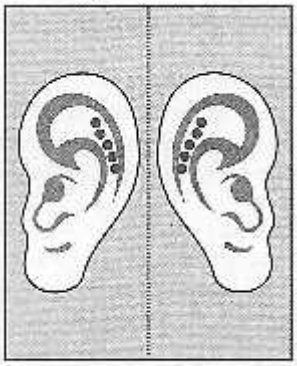


Fig. 176

Pain In Buttocks

Some people complain of chronic pain in the buttocks following injury. To relieve pain, apply pressure on reflex points shown in fig. 177.

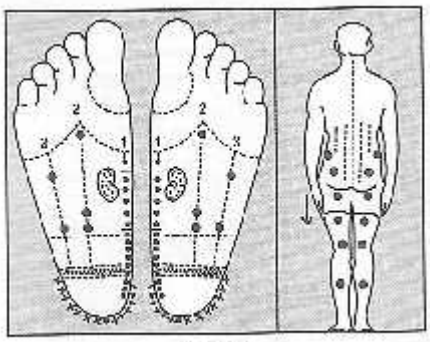


Fig. 177

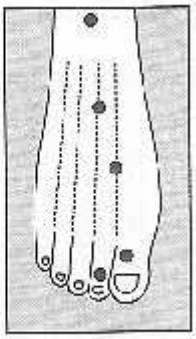


Fig. 178

Foot Drop

Foot drop is a defect in turning the ankle and toes upwards. When the person with the foot drop walks, the foot falls down onto the floor. To compensate for the toe drop, the patient must raise the thigh excessively as if walking upstairs. Individuals with foot drop are unable to walk on their heel, flex their ankles or walk with normal heel - toe pattern. Causes of foot drop include :

- Ruptured or herniated lumbar disc
- Injury to peroneal nerve in the leg
- Diabetes

- Muscular dystrophy
- Tumour or stroke affecting areas of the brain that control movements of the legs

Reflexology treatment of foot drop includes pressing all reflex points on the lower back and the reflex centres on the upper part of foot as shown in fig. 178.

Pain in Heels

Many people especially overweight women suffer from pain in either one or both heels. This happens due to swelling or any deformity of the bones of the heel.

To relieve pain in the heel, apply pressure on the back, back of legs, on the hands, along the lower border of the palm, along the ankles, lower part of the legs (above the heel) and the wrist. Refer fig. 155, 158, 159, 161 to 166, 168 to 170, 179 & 180.

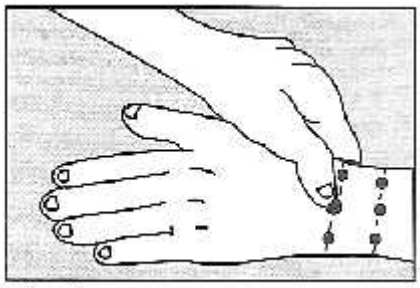


Fig. 179

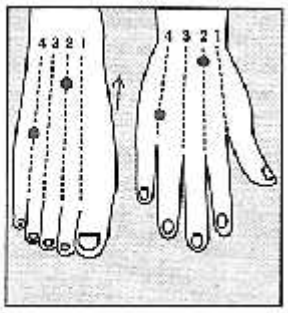


Fig. 180

Prevention

A common phrase 'Prevention is better than cure' stands true in this case more than anywhere else. If you want to protect your back from pain and avoid recurrence, it is prudent to adopt few changes in your lifestyle. The boundary between the treatment and prevention of back pain is not fixed and some methods advised for prevention may also have a role in treatment. Many of the measures described here can be easily adopted at home or in office, or while driving and travelling.

Posture

Be aware of your posture while standing or sitting. Some people stand stretched, stomachs forward and with exaggerated hump at the upper part of their back (fig. 181-a). It results in excessive strain in the lumbar and upper thoracic regions and is important cause of backache, especially in younger people.

Consider your posture, particularly in seated positions such as when driving or sitting at the desk for longer periods of time. Do not slump, keep your back upright and use support when necessary (such as lumbar support cushion or foot stool). As a general rule, your knees should comparatively be higher than your hips as shown in fig. 182-a.

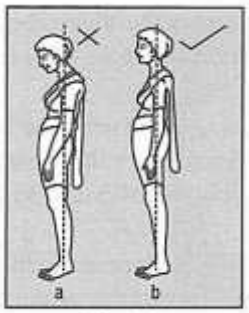


Fig. 181

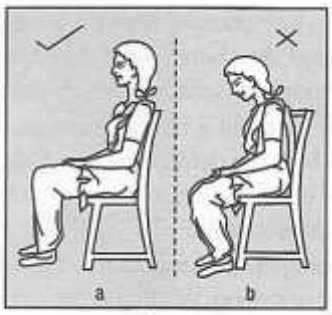


Fig. 182

Many chairs, especially so called easy chairs or bean bags, appear to have been deliberately designed to encourage those who sit in them to adopt a bad posture. You. are more or less forced to slouch with a curved spine.

Workplace/Office

Much pain in the neck and shoulders arises because the desk is too high. It should be so positioned so that your arms are roughly parallel to the floor. Do not sit too near the desk or too far away. Slouching and poking your head forward is bad; you should aim for an upright but not super erect posture. When reaching for a low object, squat rather than stoop, bend your knees rather than your back (fig. 183).

Fig. 183

Lifting

In order to help yourself at work, you should always remember the advice about lifting. Squat rather than bend, keep the objects you are lifting close to your body and avoid twisting your back while carrying weight.

Never try to lift a bucket, briefcase or any other heavy object with one hand (fig. 184- a & b). It can deform the lower back due to stress. If you have to lift something, lift objects of equal weights with both hands on both sides as shown in fig. 185 so that your back remains straight.

Stooping to lift is undesirable (fig. 186-b). Lifting should be done smoothly without snatching or jerking. When you put article down, you should repeat the same movement that you made while picking it up. Once again avoid stooping, squat instead.

Fig. 184

Fig. 185

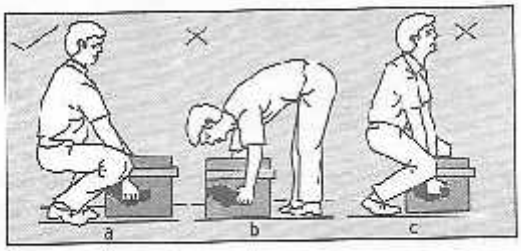
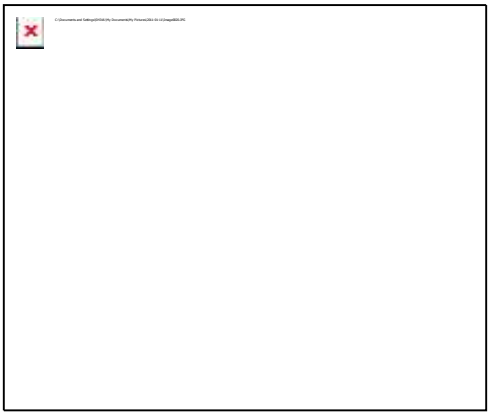


Fig. 186

In the home

Women are more susceptible to suffer from back pain as they do not take enough while doing various household activities. The kitchen sink should be set at a fortable height, neither too high nor too low. While ironing clothes, try to keep back straight (fig. 187 -b). Do not slouch as shown in fig. 187-a. Lifting small



children especially needs care. Again, squat rather than stoop (fig. 188-b). While dusting you should try to avoid making repeated movements with one arm. Change hands frequently to ease the strain on your back.

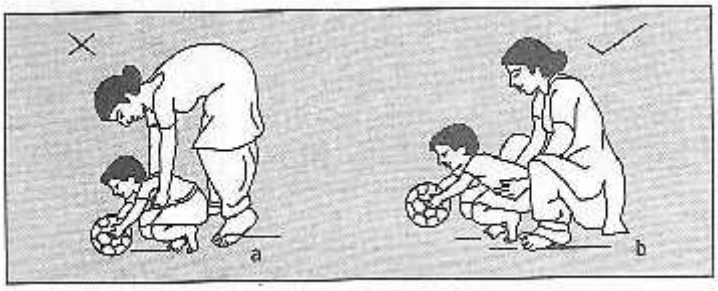


Fig. 188

Driving

Even people who normally do not have back symptoms often find that they get back pain when driving. Posture is the most obvious reason for back pain while driving. Both drivers and passengers, but especially drivers remain in one position for long periods. Few cars seem to have seats that are ergonomically

designed to give right support for your back.

Keep your posture upright when driving (fig. 189-b) by ensuring your seat in a comfortable distance from front pedals and in a adequately upright position. Make sure the headrest is high enough in case of a rear impact which could cause whiplash injury. On a long drive, stop atleast every two hours and get out of the car and walk about.

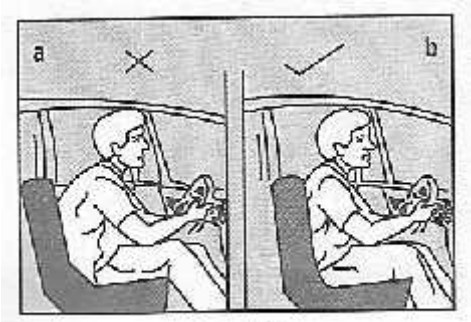


Fig. 189

Walking

Wearing high heels is likely to cause back problems because the natural balance of the body is upset. High heels tilt the pelvis and lower back forwards, and this might place a strain on the muscles and ligaments. Women especially overweight, or having backache, should wear shoes with flat soles (fig. 190).

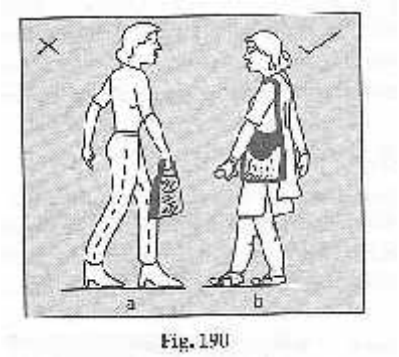


Fig. 190

A handbag or shoulder bag, especially if it is heavy can place undue strain on the neck and shoulder muscles, as well as on the spine itself. If it is essential to carry a load in this way. You should change the side frequently to even out the strain.

Lying / Sleeping

The ideal mattress is one that keeps your spine in as vertical position as possible, that is when your are lying your spine should be more or less in a straight line (fig. 191 -b).

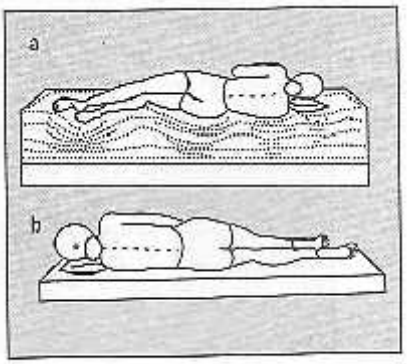


Fig. 191

The widespread belief that the firmer the better is misleading, in fact too firm a bed can be almost as bad as one that sags. Surfaces that are too soft or too hard can aggravate a sore back. For most people a thin cotton mattress used on a hard bed is probably best.

The number of pillows is like the mattress, a question of individual choice but use the same guideline - keep the spine more or less horizontal. Obviously, the consistency of the pillows is important: avoid the springy type filled with a compound that does not compress much because this will not mould itself to your contours. Tuck the pillow well under your neck, rather than placing the support at your head and leaving a gap at your neck.

Getting up from bed

If the manner of lying is important to avoid backaches, then the manner of getting up from a bed is also important. Because imperfect posture while getting up puts a lot of pressure on back bone. Never get up in straight position. Always turn to your side and get up taking support of your hands and arms as shown in fig. 192.

Get up gradually without bending your back. Lower your feet to the floor & use your arms to push yourself up into a sitting position

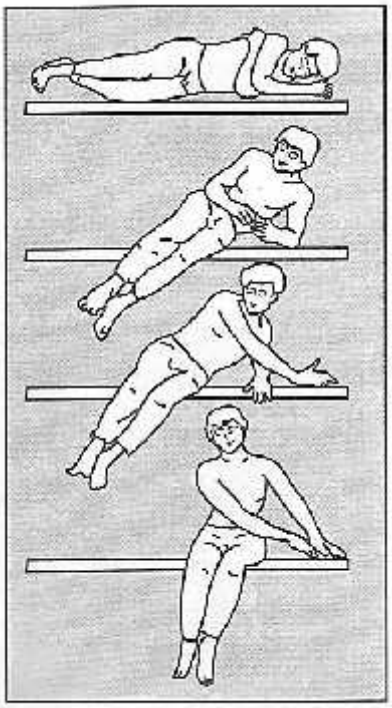


Fig. 192

Exercise

Exercise regularly to improve your posture and increase muscle support of the spine. The benefits of exercise apply regardless of age, even people in their 80s and 90s can respond to exercise programmes and increase their strength. Work towards doing 30 minutes of gentle exercise each day. Generally, some form of consistent stretching and exercise is believed to be an essential component of most back treatment programmes.

Yoga

Yoga incorporates stretching and relaxation, which reduces tension in stress carrying muscles. Yoga requires that individual hold gentle poses anywhere from 10-60 seconds. Within the pose, certain muscles flex, while others stretch, promoting

relaxation and flexibility in muscles and joints.

Many of the postures in yoga gently strengthen the muscles in the back, as well as the abdominal muscles. Back and abdominal muscles are essential components of the muscular network of the spine, helping the body maintain upright posture.

Walking is suitable for everyone. It is the simplest and for many people the best form of exercise. As little as 20 minutes of fairly brisk walk three or four times a week is enough to provide a worthwhile degree of fitness.

Additionally, stopping or avoiding smoking, eating a balanced diet with plenty of fresh fruits and vegetables and keeping your weight within the guidelines for your height will all tend to reduce the chances that you will suffer from back problems.

Diet

Diet can play its part in two ways. If you are overweight, then calories restrictions and exercise can reduce your weight effectively. Another factor in diet is quality of food-the need to have adequate intake of fresh foods rich in vitamins and minerals, the need to have adequate roughage and the need to cut down on animal fats and proteins. It has been shown that vegetarians living on high salad and vegetable intake are much less prone to osteoporosis than meat eaters, so a vegetarian diet is something to consider.

7 Sciatica

Sciatic nerve is the main nerve of nervous system. It originates from five points in the spinal cord, namely fourth and fifth lumbar and first, second and third sacral. It is the largest nerve in terms of length and breadth. Its width measures up to 2 cm near its origin from the spinal cord. As shown in fig. 193, the sciatic nerve starts at the spinal cord passing through the thigh and divides into two parts just above the knee. One part passes through the hind part of leg while other passes through the inner side and reaches the foot near the ankle. It controls many muscles of the lower legs and provides sensation to thighs, legs and feet. The term sciatica refers to that pain that radiates along the path of this nerve- from the back into the buttock and leg.

It affects men more than women, and especially those aged between 30 and 50. It generally comes on as a result of lifting motion (perhaps performed without due care), that displaces the intervertebral disc. This in turn irritates the nerve root and triggers the symptoms. The pain is made worse by the slightest strain, by coughing, sneezing or having bowel movement. It may be accompanied by neurological symptoms such as loss of muscle strength or sensation which make walking difficult.

Fig. 193

Causes of Sciatica

Any condition that causes irritation or impingement on the

sciatic nerve can cause the pain associated with sciatica. The most common cause is lumbar herniated disc (also called slipped disc) Discs are pads of cartilage that separate the bones (vertebrae) in spine. They keep the spine flexible and act as shock absorber to cushion the vertebrae when we move.

As. we grow older, the discs may start to deteriorate, becoming drier, flatter and brittle. Eventually the tough fibrous outer covering of the disc may develop tiny tears, causing the jelly-like substance in the discs centre to seep out (herniation or rupture). The herniated disc may then press on a nerve root, causing pain in the back, leg or both. If the damaged disc is in middle or lower part of back, one may also experience numbness, tingling or weakness in leg or foot.

Other common causes of sciatica are: Lumbar spinal stenosis, Spondylitis, Piriformis syndrome, Spinal tumours, Trauma, Osteomyelitis (swelling in bones of lumbar region) and Rheumatism.

Enlargement of prostate gland, bladder, uterus and ovary related problems, chronic constipation or problems related to colon, sudden jerks, lifting heavy objects, diabetes, vitamin deficiency may further aggravate sciatica. Most of the times, the cause is nothing too serious. Seek medical advice if the pain persists to make sure that causes like tumours are ruled out.

Symptoms

Pain that radiates from lower spine to the buttock and down the back of the leg is the hallmark of sciatica. Pain can vary widely from a mild ache to a sharp pricking sensation or excruciating discomfort. Sometimes it may feel like a jolt or electric shock. Sciatic pain often starts gradually and intensifies over time. It may worsen on coughing or sneezing. Prolonged sitting or walking may also aggravate symptoms. Patients suffering from sciatica find it difficult to walk, sit for long

periods, lie down, drive a car or climb stairs.

In addition, there may be numbness, tingling sensation or muscle weakness along the nerve pathway in the leg or feet. In my practice, I have noticed that such patients have a very tense and stiff abdomen. Additionally, loss of bladder or bowel control may occur. This is a serious condition which requires urgent medical help.

Treatment

I have seen patients suffering from sciatica taking complete bed rest for days together or even weeks. This prolonged inactivity is not advisable. It leads to muscle weakness and worsens the condition. Resting for a day or two is fine. Thereafter it is advisable to resume normal day-to-day activities which do not cause any pain or undue pressure on the nerve. Refrain from lifting heavy objects.

In addition to Reflexology, cold packs may be applied to the painful area for 15-20 minutes atleast 4 times a day. After 48 hours, hot fomentation may be done. This will reduce the swelling. If pain persists, try alternating the hot and cold packs. Rehabilitation typically includes exercises to help correct the posture, strengthen the muscles, supporting the back and improving flexibility.

Being conscious of how you stand, how you lift heavy objects and even how you sleep can a go a long way towards keeping your back healthy. That's because poor posture stresses the back leading to fatigue and stress on joints and nerves.

Reflexology Treatment

Reflexology can cure sciatica in a few days. Often applying pressure for the first time itself provides some relief. To completely cure the disease, it is important to first ascertain the cause of sciatic pain whether it is due to lumbar deformation, injury, prolapsed disc or any other reason.

The sciatic nerves are among the major conduits for stimulation from the reflex points on the feet to the specific organs and areas to be treated. Keeping the sciatic nerves alert and in good condition is of primary importance in Reflexology. The stimulation of reflex centers of sciatic nerve can improve the overall condition of the legs, knees, ankles, feet and toes, making the sciatic reflexes very important indeed. Since there are sciatic nerves in both legs, the reflex areas are found on both hands and both feet.

Principal Reflex Centres Related to Sciatica

To cure sciatica, pressure should be applied on reflex centres related to lumbar, sacrum, kidneys and bladder. Fig. 194 shows the position of these reflex centres on the foot. Channel 1 as shown in the figure depicts the main reflex points related to sciatica. They are located at the place where heels are located on the sole. All points should be pressed irrespective of whether they are tender or not. Since this area is a bit hard, it is better if pressure is applied with a rubber, plastic or wooden instrument. Alternatively, pressure can also be applied with the thumbs on the strips running underneath and behind the outer and inner ankle bones (fig 195 & 196).

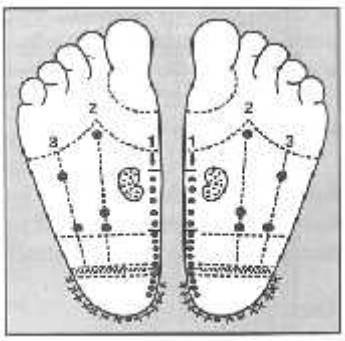


Fig. 194

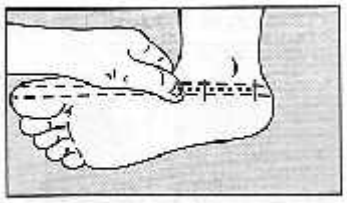


Fig. 195

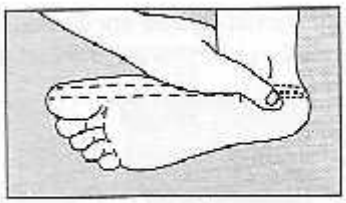


Fig. 196

For instant relief from sciatic pain, apply pressure on the narrow band in the middle of the heels that extend horizontally from edge to edge (fig 197). The part which has unbearable pain is the relevant reflex point. Also, the first two fingers adjoining the big toe should be massaged as shown in fig. 198. This also provides instant relief from pain.

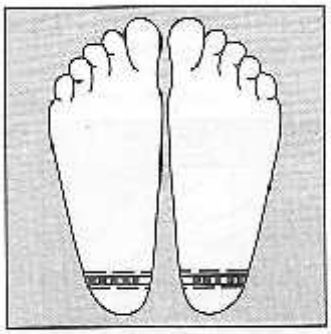


Fig. 197

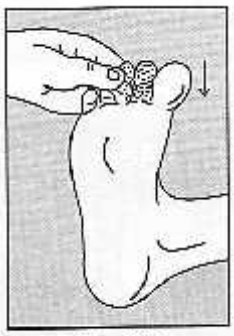


Fig. 198

One important reflex point is located just below the outer ankle as shown in fig. 199. It is a very delicate area so pressure should be gently applied for a few seconds within the patient's tolerance. It is advisable to press the whole outer side along the ankle as shown in fig. 200.

Fig. 199

Fig. 200

Pressure should also be applied on the lower portion of the legs (fig. 201) and the fourth channel of both hands and feet (fig. 202).

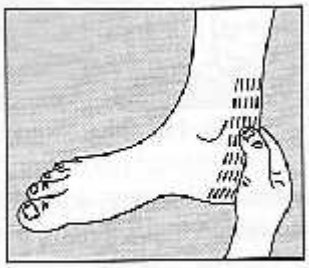


Fig. 201

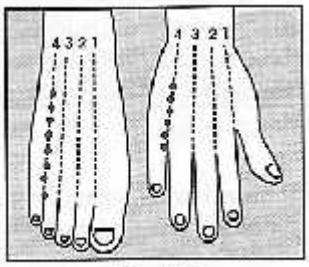


Fig. 202

It is beneficial to apply pressure on the lower part of palms (fig. 203) and upper side of hand between thumb and the index finger (fig. 204).

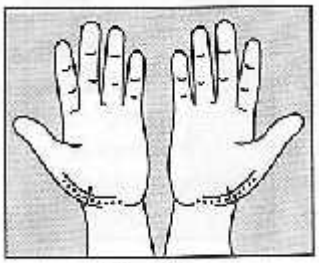


Fig. 203

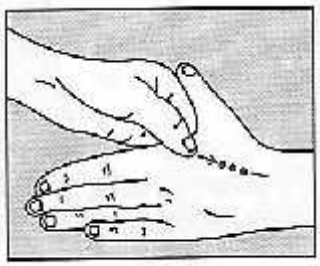


Fig. 204

For speedy recovery, apply pressure with the thumb on buttocks, back side of legs and especially on the middle of calves. The position and method of applying pressure is shown in fig. 205 & 206. Press each point varying from a few seconds to 1-2 minutes according to patient's tolerance.

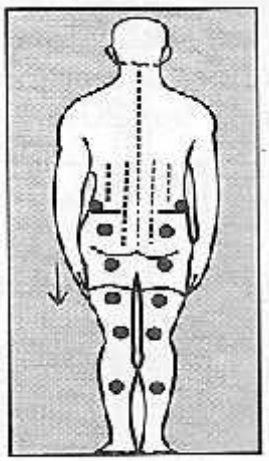


Fig. 205

Lie down on one side. Stretch your hand to touch the leg as

shown in fig. 207. The point where the index finger touches the leg is an important reflex centre for sciatica. There are four more reflex centres related to sciatica on the outer side of the leg (fig. 208). Make the patient lie down on one side on a hard surface and apply pressure with the thumb for ½-1 minute in the downward direction. Repeating this three

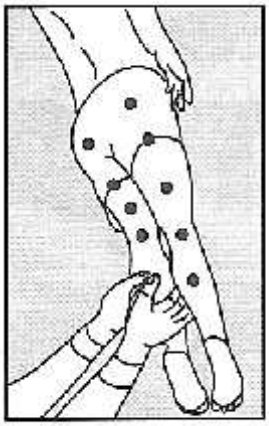


Fig. 206

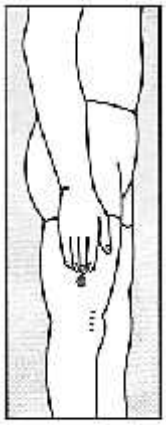


Fig. 207

times provides immediate relief. Instead of thumb, elbow can be effectively used to apply pressure on the reflex points on buttocks as shown in fig. 209.

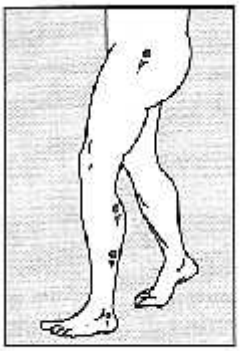


Fig. 208

Fig. 209

Secondary Reflex Centres

Sciatica can be cured by applying pressure on one or more of the above mentioned reflex points. In addition to these, pressure can be applied on reflex points of stomach (fig. 173 &

174), inner side of the leg (fig. 175) and ears (fig. 176) to get relief from pain. Pressure should be applied on wrist as shown in fig. 210 & 211.

Pressure should be applied on the back, on either side of vertebral column as shown in fig. 212 to get instant relief. **If pain aggravates, then do not apply pressure on reflex centres located on the back.**

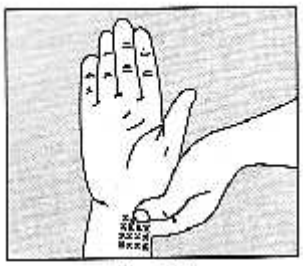


Fig. 210

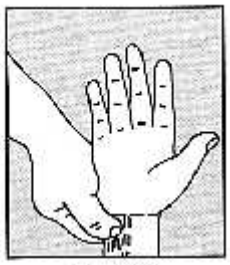


Fig. 211

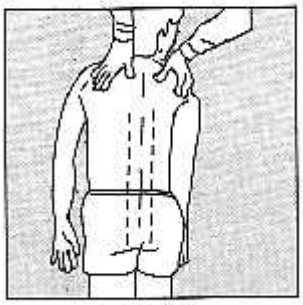


Fig. 212

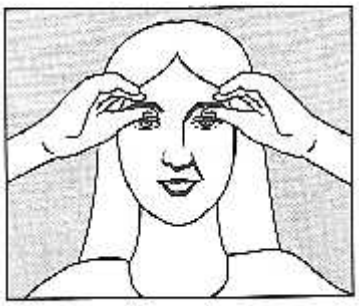


Fig. 213

There is one secondary reflex centre related to sciatica just beneath the eyebrow (fig. 213). The point where there is pain is the relevant reflex centre. Apply pressure very gently with thumb and fingers for a few seconds only.

If there is any disorder of uterus, ovaries, enlargement of prostate or diabetes, pressure should be applied on the relevant reflex centres.

8 Endocrine System

Endocrine system is a group of glands in the body which secrete hormones. The hormones travel through the blood stream to the cells designed to receive its message called target cells). The purpose of secreted hormones is to evoke a specific response in these target cells which are located far away,

The endocrine system influences almost every cell, organ and function of our body. The endocrine system is instrumental in regulating growth and development, tissue formation, metabolism, mood as well as sexual function and reproductive processes.

In general, the endocrine system is in charge of body processes that happen slowly, such as cell growth. Faster processes like breathing and body movement are monitored by the nervous system. But even though nervous system and endocrine system are separate systems, they often work together to help the body function properly.

The major glands that make up the human endocrine system are the hypothalamus, pituitary, thyroid, parathyroid, adrenals, pineal body and the reproductive glands which include the ovaries and the testes. The pancreas is also part of this system even though it is also associated with the digestive system. The location of these glands and the reflex centres corresponding to them is shown in fig. 6.

Pituitary Gland

Although it is not bigger than the size of a pea, the pituitary gland located at the base of brain is considered the most important part of the endocrine system. It is called master gland because it makes hormones that control several other

endocrine glands. The gland consists of two parts - the anterior (front) lobe and the posterior (rear) lobe.

The anterior lobe produces six hormones. Growth hormone, as its name implies, regulates the physical growth of most parts of the body. If there is over secretion of this hormone before puberty, it results in a disorder called Gigantism where arms and legs grow disproportionately long. If there is under secretion of this hormone, it results in Dwarfism. Prolactin stimulates the breasts to produce milk. The four other hormones made by anterior lobe stimulate four other endocrine glands - the thyroid, adrenal, ovaries in women and testes in men, which then produce hormones of their own.

The posterior lobe of the pituitary gland produces two hormones. Antidiuretic hormone (ADH) acts on the kidneys and plays a large part in regulating the volume of urine. The other hormone, oxytocin, stimulates uterine contractions in childbirth and milk ejection during breast feeding.

Reflex centres related to pituitary glands are located on the tips of the thumbs and toes of hands and feet (fig. 6). The method of applying pressure is shown in fig. 214 and fig. 215. To increase its activity, pressure should be applied in a clockwise direction (left to right) and to decrease its activity, pressure should be applied in an anticlockwise direction (right to left).

Fig. 214

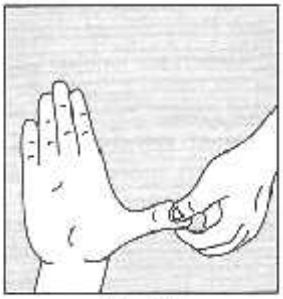


Fig. 215

With the advancement in medical science, it has now

become possible to determine the functioning of pituitary gland and therefore it has become easier for an endocrinologist to treat accordingly. But Reflexology can improve the functioning of the pituitary gland without the aid of medicines.

Thyroid Gland

The thyroid located in the front part of lower neck is shaped like a bow fie or butterfly and produces the thyroid hormones thyroxine (T4) and tri-iodothyronine (T3). These hormones control the rate at which cells burn fuel from food to produce energy. As the level of thyroid hormones increases in the bloodstream, so does the speed at which chemical reactions occur in the body. The thyroid gland needs iodine to produce these hormones. It absorbs the available iodine from the bloodstream. Thyroid hormones also play a key role in bone growth and the development of brain and nervous system in children.

The thyroid gland is prone to several distinct problems, some of which are extremely common. These problems can be classified as :

1) Those concerning the production of hormones (too much or too little).
2) Those appearing as increased growth of thyroid (goiter) causing compression of important neck structures or simply appearing as a mass in the neck.
3) Formation of lumps or nodules including thyroid cancer.

Hyperthyroidism

Hyperthyroidism, as the name implies is too much production of thyroid hormone. Symptoms may include weight loss, nervousness, irritability, increased perspiration, increased heart rate, hand tremors, anxiety, difficulty in sleeping,

increased bowel movements, fine brittle hair and muscular weakness- especially in upper arms and thighs. Also, bulging of one or both eyes may occur.

The diagnosis can be confirmed with blood tests that measure the amount of thyroxine and TSH in blood. High levels of thyroxine and low or non-existent amounts of TSH indicate an overactive thyroid. To help determine the cause of overactive thyroid, the doctor may recommend thyroid scan or radioactive iodine uptake test.

Hyperthyroidism can lead to a number of complications. Some of the most serious ones involve the heart. These include a rapid heart rate, a heart rhythm disorder called atrial fibrillation and congestive heart failure - a condition in which heart cannot circulate enough blood to meet the body's needs. Untreated hyperthyroidism can also lead to weak, brittle bones (osteoporosis).

It is very important that hyperthyroidism be controlled in pregnant women since the risk of miscarriage or birth defects are much higher.

Hypothyroidism

Hypothyroidism is the name for under activity of the thyroid gland. When it occurs, only small amounts of the thyroid hormone are produced and all chemical processes slow down as a result. Women, especially those older than 50, are more likely to have hypothyroidism than men. Symptoms include feeling run down, slow, depressed, sluggish, cold or tired and having dry hair, constipation, muscle cramps or weight gain.

One marked symptom of hypothyroidism is that the skin becomes dry, thickened and swollen due to a mucous like substance that collects in it. It makes the face look puffy-

hypothyroidism is sometimes called myxedema because of this puffy, swollen appearance.

People with under active thyroid often have joint and muscle problems due to low levels of thyroid hormone, such as joint pain and stiffness, muscle aches and tenderness and swelling of knee joint and small joints in the hands and feet. The joint problems caused by hypothyroidism are difficult to distinguish from rheumatoid arthritis. Both can cause painful, swollen and stiff joints which often worsen after rest. But people with hypothyroidism often have less morning stiffness.

The most common thyroid disorder occurring around or during pregnancy is hypothyroidism. It can also cause a variety of changes in women's menstrual periods like irregularity, heavy periods or loss of periods. When hypothyroidism is severe, it can reduce a woman's chances of becoming pregnant. Checking thyroid gland function with a simple blood test is an important part of evaluating a woman who has trouble in becoming pregnant.

Decreased metabolism associated with under active thyroid also causes high cholesterol levels. Treatment of hypothyroidism may improve the cholesterol levels.

In some children, the thyroid gland is non-functional by birth. So, mental growth and growth of sexual organs gets retarded. These children are usually physically disabled too.

To produce hormones, thyroid gland takes up iodine from the blood stream. In areas where iodine content in water is low, especially in hilly areas, people do not have sufficient iodine in the blood stream. This causes an increased growth of thyroid gland also called goiter. People inhabiting such places are recommended to use iodised salt.

Reflex centres related to thyroid and parathyroid are located on the soles of feet just below the thumbs and on the fleshy mounds of the palm (fig. 216). In case of hypothyroidism (decreased secretion), the aim is to improve the functioning of the gland. Therefore, pressure has to be given in a clockwise direction. In case of hyperthyroidism (increased secretion), the activity of the gland can be reduced by giving pressure in an anticlockwise direction. Applying direct pressure (without giving clockwise or anticlockwise motion) with the thumb or rubber jimmy also helps. The pituitary gland also releases a hormone TSH which stimulates the thyroid gland to produce its hormones. Thus, pressure should be applied on reflex centres related to pituitary gland also (fig. 214, 215).

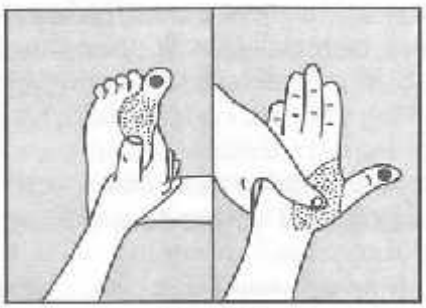


Fig. 216

The reflex centres related to goiter are located on the face (fig. 17 points 6 and 24). Pressure must be applied on reflex centres of pituitary, thyroid and parathyroid glands (fig. 6). In addition apply pressure on top of the head in the midline with the help of thumb. Pressure should be given for 3 seconds thrice (fig. 109).

Parathyroid Glands

Attached to the thyroid are tiny glands called the parathyroid glands that function together. They release parathyroid hormone which regulates the level of calcium in the

blood, with the help of calcitonin, which is produced in the thyroid.

Reflex centres related to parathyroid are similar to those of thyroid and are located on the palm and soles just below the thumbs and on the fleshy mounds of the palm and soles (fig. 216). In addition apply pressure on reflex centres of pituitary gland (fig. 214 and 215).

Pineal Gland

The pineal body also called pineal gland is located in the middle of the brain. It secretes melatonin, a hormone that helps regulate the wake - sleep cycle (biological clock).

Call Centre Workers

Research shows that hectic pace of modern life and irregular schedule many workers follow along with stress, noise and pollution can upset internal rhythms, illustrating how external environment affects our own internal environment and our health. The usual rhythms of wakefulness and sleep seem to exert a stabilizing effect on our physical and psychological health. The greatest disrupter of our natural circadian rhythms is the variable work schedule, seen commonly in call centres (BPOs).

Workers on alternating shifts suffer more ulcers, insomnia, irritability, depression and tension than workers on unchanging shifts. Their work performance suffers from fatigue. When workers arrive home for bed, they are exhausted but can't sleep, because they are trying to doze off at a time when the body is trying to wake them up.

Researchers are now finding ways to reset biological clocks. One simple measure is to put workers on a three week cycle to give their clocks time to adjust. And shift the workers forward

rather than backward eg. from a daytime to a night time shift. It is a much easier adjustment.

Such workers can benefit immensely with Reflexology by stimulating the pineal gland. Fig. 214 and 215 shows the method of applying pressure on the reflex centres related to the gland.

Adernal Glands

The body has two adrenal glands, one on top of each kidney. The adrenal glands have two parts - each of which produces a set of hormones and has a different function.

The outer part, the adrenal Cortex, produces corticosteroids that regulate salt and water balance, the body's response to stress, the immune system and sexual development and function.

The inner part, the adrenal medulla, produces epinephrine. Also called adrenaline, epinephrine increases blood pressure and heart rate when the body experiences stress.

The hormones of this gland help in shaping our personalities as courageous or timid. The location of reflex centres related to adrenal glands is shown in fig. 217.

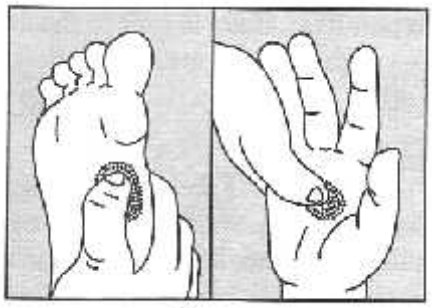


Fig. 217

The Gonads

The gonads are the main source of sex hormones. In males, they are located in the scrotum. Male gonads ortestes secrete

hormones called androgens, the most important of which is testosterone. These hormones regulate body changes associated with sexual development, the growth spurt that occurs during puberty, deepening of voice, growth of facial and pubic hair and increase in muscle growth and strength.

The female gonads, the ovaries, are located in the pelvis. They produce eggs and secrete the female hormones oestrogen and progesterone. Oestrogen is involved in development of female sexual features such as breast growth, accumulation of body fat around hips and thighs and growth spurt that occurs during puberty. Both oestrogen and progesterone are also involved in the pregnancy and the regulation of the menstrual cycle.

Reflex centres on feet and hand related to testes and ovaries are shown in fig 6 and 11 and detailed description is given in chapter 15 and 16.

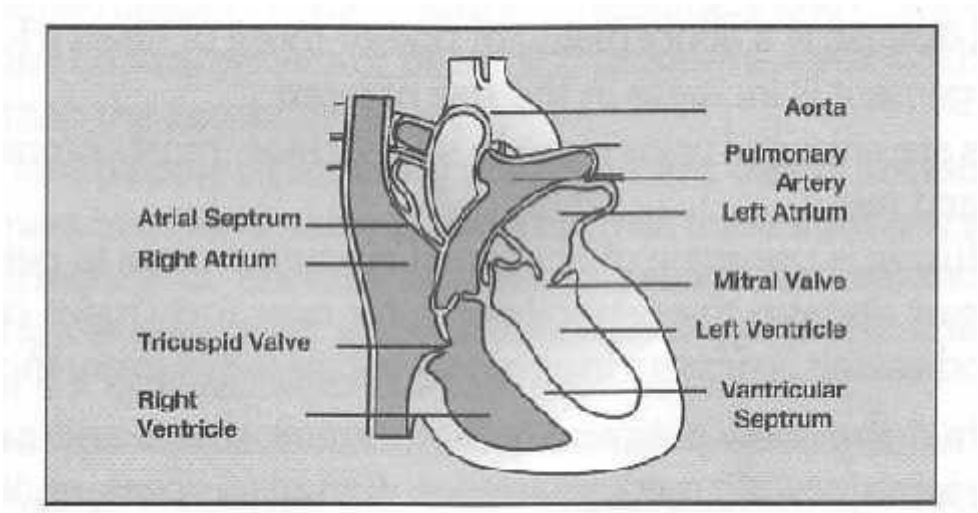
Thymus Gland

It is located just below the neck and a bit above the heart. It starts growing at the age of two years and vanishes into fat by fourteenth year. It helps in body growth and controls the growth of reproductive organs. Reflex centres related to this gland are shown in fig. 6.

9 Heart

The heart is a muscular organ about the size of two clenched fists. It consists of a double pump located a little to the left of the middle of the chest behind the breast bone. It lies enclosed in a sac called pericardium and is surrounded by the lungs.

After a few days following conception until death, the heart continues to beat, never stopping to rest except for a fraction of second between beats. The heart alternatively contracts to empty and relaxes to fill and this action is called heart beat. The interior of the heart contains four main chambers, the atria (right and left) and the ventricles (right and left). The atria are upper chambers, which receive blood into the heart while the ventricles are discharging chambers which pump blood from the heart into circulation. The ventricles meet at the bottom of the heart to form a pointed base which points towards the left side of the chest. The blood in the heart keeps flowing in the right direction by a system of valves. These four valves open and close automatically to let blood pass through and prevent it from flowing backwards.



Heart is made up of muscle called cardiac muscle which constricts and relaxes about 70 - 80 times per minute. As the cardiac muscle contracts, it pushes the blood through the chambers and into the vessels. The nervous system regulates the speed at which the muscle contracts. The heart rate is fastest in infancy, about 120 beats per minute. As the child grows, the heart rate slows. By the age of 18, the heart rate has stabilised to about 70 beats per minute. During vigorous exercise, the heart rate can reach up to 200 beats per minute. Other factors like fever, anaemia, anxiety and fear can also increase the heart rate.

Diseases of the Heart and Circulatory System

Advancements in medical science has helped in diagnosing a lot of problems associated with the heart at an early stage. Two most well-known (to the popular mind) ailments of the heart are angina and heart attack. However, other diseases that can affect the heart and circulatory system are :

- High blood pressure (hypertension)
- Low blood pressure (hypotension)
- Atherosclerosis
- Angina
- Tachycardia is a general term for a variety of different conditions that cause the heart to beat more than 100 times per minute during rest.
- Bradycardia is an abnormally slow heart rhythm (usually less than 60 beats per minute) that causes symptoms such as dizziness, fainting, extreme tiredness and shortness of breath.
- Coronary thrombosis is the development of blood clot in one of the arteries supplying blood to the heart, as a result

of which the blood circulation to that area of heart muscle stops. This is also called as myocardial infarction or heart attack.

- Heart failure is a condition that can result from any structural or functional cardiac disorder that impairs the ability of heart to fill with or pump a sufficient amount of blood throughout the body.
- Heart block
- Volvular heart disease is a abnormality of one or more of heart's four valves.
- Cardiac enlargement is increase in the size of heart
- Varicose veins are enlarged veins close to skin surface, most commonly affected are those in legs and feet.
- Pericardial effusion is presence of abnormal amount of fluid in pericardial space.
- Congenital heart disease- the general name for over forty types of birth defects of heart and blood vessels is present in about six babies out of every thousand live births.

Despite the fact that new diagnostic techniques, drugs and interventions are continually being introduced in medical science, there is a constant rise in the number of patients suffering from heart diseases. Unhealthy lifestyle, lack of proper exercise, irregular eating habits, smoking, excessive alcohol consumption, mental stress, overwork, lack of proper sleep are all conditions which favour development of heart diseases.

Hypertension

Tremendous force is needed to pump blood out of our heart and around our body. Blood pressure is the force of blood in the arteries. The pressure of blood travelling in the arteries is determined by how hard the heart works and the health of the

blood vessels.

Blood pressure is very variable. It varies from person to person and even in different parts of the body. It is, for example higher in legs than in arms. For the sake of convenience, doctors normally measure it in one of the large arteries of the arm.

Two types of pressure, systolic and diastolic are measured. Systolic pressure is the pressure at a moment when the heart contracts in the process of pumping out blood; diastolic pressure is the pressure at the moment when the heart relaxes to permit the inflow of blood. Thus, the systolic figure, representing the moment of greatest pressure is always higher than the diastolic figure. Doctors tend to speak of a patient's blood pressure as 110 over 80. This means the systolic pressure is 110 and the diastolic 80.

Current guidelines identify normal blood pressure as lower than 120/80. Many think 115/75 is optimal. Higher reading indicates increasingly serious risk of cardiovascular disease. Even blood pressures previously considered healthy—120 to 139 systolic and 80 to 89 diastolic are now believed to increase the risks. For people older than 50 years of age, systolic blood pressure greater than 140 is considered a much more important risk factor for cardiovascular disease than elevated diastolic blood pressure. High blood pressure (hypertension), that is when the pressure is persistently higher than it should be, increases your risk of heart disease, stroke and other problems such as kidney diseases, paralysis and eye related diseases.

There are two types of hypertension. They are known as essential and secondary hypertension. Any person with essential hypertension has raised blood pressure for no obvious reason, whereas secondary hypertension results from a number of other

conditions eg. kidney disease, certain hormonal disorders and changes produced in the body by taking oral contraceptives or becoming pregnant. Essential hypertension is far more common than the secondary kind.

Although a few people at an early stage of high blood pressure may have dull headaches, dizziness or more nosebleeds than normal, these signs and symptoms typically do not occur until high blood pressure has probably reached an advanced life threatening stage. That is why it is also called 'silent killer'. It is important to check blood pressure regularly, so that if it is raised, steps can be taken to reduce it.

There are two types of risk factors for hypertension - one is about which you carxxx do anything such as your age, gender or ethnic group. Other risk factors for Ugh blood pressure are within your control:

- Excess weight - The greater the body mass, the more blood you need to supply oxygen and nutrients to your tissues. As the volume of circulated blood increases, so does the pressure on the artery walls.
- Tobacco - The chemicals in tobacco damage the lining of artery walls, which promotes their narrowing.
- Too much sodium in the diet can lead to fluid retention and an increased blood pressure.
- Stress - High levels of stress can lead to a temporary but dramatic increase in blood pressure.
- Lack of exercise - People who are inactive tend to have higher heart rates. Higher the heart rate, the harder your heart must work with each contraction and stronger the force on the arteries.

Hypotension

Many people who have low blood pressure (hypotension) are healthy and have no signs and symptoms. But for others, low blood pressure can cause dizziness and fainting or indicate serious heart, endocrine or neurological disorders. Severely low blood pressure can deprive the brain and other vital organs of oxygen and nutrients, leading to shock, a life threatening condition.

Some experts define low blood pressure as readings lower than 90 systolic or 60 diastolic. Yet, this can be misleading because what constitutes low blood pressure is highly relative, varying considerably from one person to another. Therefore, doctors often consider chronically low blood pressure too low only if it causes noticeable signs and symptoms.

On the other hand, a sudden fall in the blood pressure can be dangerous. The following factors can cause or contribute to low readings.

- Dehydration-Fever, vomiting, diarrhoea, overuse of diuretics and strenuous exercise can all lead to dehydration, a potentially serious condition in which the body loses more water than intake.
- Blood loss - A significant loss of blood from major trauma or severe internal bleeding reduces blood volume, leading to severe drop in blood pressure.
- Nutritional deficiency - lack of essential vitamins B_{12} and folic acid can cause anaemia which in turn can cause low blood pressure.
- Postural hypotension - when we stand up from a sitting or lying position, the blood vessels have to contract in order to maintain normal blood pressure in the new posture and

this process is carried out automatically by reflex action of nervous system. But in postural hypotension, this reflex action is in some way defective and as a result, the blood pressure falls and flow of blood to the brain is temporarily reduced by a sudden change of posture. The result is dizziness or even a brief loss of consciousness.

Coronary Artery Disease

The heart muscle requires a constant flow of oxygen and nutrient rich blood, just as other body organs do. This blood reaches the heart through two coronary arteries, which nourish the heart muscle by means of a network of branches over its surface. If fatty deposits (atheroma) are found in the arteries, these passages become narrowed and fail to provide the heart with the right amount of oxygen and food.

When, in response to physical or nervous stress, the heart beats faster and thus requires increased oxygen and food, severely narrowed or blocked arteries cannot cope up and the result is angina. If the flow of blood to a part of heart muscle is reduced by a clot in one of the coronary arteries, the result is a heart attack.

Indians are predisposed to the disease six times more than the people in the West and 20 times more than the Chinese. The disease is now striking early. An in house survey done by the Department of Cardiology at Sir Ganga Ram Hospital, New Delhi found that 10 -12% of the patients undergoing bypass surgery were in the age group of 34-45 years.

More men than women suffer from coronary artery disease. This is because the female sex hormone oestrogen actively protects against heart disease by creating more favorable balance of blood fats and by contributing to the elasticity and

health of the arteries. However, after menopause or following a total hysterectomy, in which the ovaries as well as the uterus are removed, thus depriving the body of oestrogen, this natural protection vanishes and women's risk of developing heart disease rises equal to that of men.

Cigarette smokers are at least twice as susceptible as non-smokers. Also, more at risk are people who overeat - particularly if they eat a large quantity of fatty food. There is increased risk for people with high blood pressure and diabetes. People with sedentary jobs are more susceptible than people who do physical work. The disease seems to run in families. You are more at risk if members of your family have had it.

Angina

Angina or angina pectoris is not a disease, but a condition giving rise to chest pain when the muscular wall of the heart becomes temporarily short of oxygen. It is the most important clue that the arteries have become narrowed and hardened.

Angina is described as a feeling of pressure, heaviness, discomfort or pain in the centre of the chest that may spread to the arms, neck, shoulder or the jaw. It is most often triggered by exercise or exertion like climbing stairs or walking uphill. Normally, the coronary arteries supplying blood to the heart can cope up with an increased demand but this ability is restricted in a person with coronary artery disease (atherosclerosis). hypertension, or rarely, disease of heart valves or anaemia. Apart from exercise, angina can also be triggered by other factors such as cold weather, heavy meals or stress. People who smoke heavily or are overweight are more likely to suffer from angina. It is more common in males at old age.

The attack of angina may last for a few seconds to 2 -3

minutes. Consult the doctor as a matter of urgency if the pain lasts longer than 5 minutes after exercise has ceased.

There are two types of angina - stable angina and unstable angina. In stable angina pain is experienced after a particular amount of exertion like climbing stairs. Sometimes, however, the pain of angina comes and goes unpredictably. For example, it comes on after a little exertion or while sitting. This is known as unstable angina. Because unstable angina often precedes a heart attack, it is important to report to the doctor any change in the pattern.

All chest pains are not related to heart. Chest pain can also be caused by:

- Strain or inflammation of muscle and tendons between the ribs.
- Problems with digestive system including stomach ulcer, indigestion, heartburn or gastroesophagial reflux (when the acid from the stomach backflows into oesophagus).
- Lung diseases like pneumonia and asthma can also cause chest pain and are usually accompanied by shortness of breath, wheezing, cough and fever.

Alcohol Promotes Angina

In 1786, the English physician William Heberden recommended alcohol to treat angina and so have many doctors since then but alcohol probably does more harm than good. Current research suggests that alcohol actually brings on angina with presenting coronary artery disease. Drinking also induces an abnormally rapid increase in heart rate and systolic blood pressure.

There is no conclusive evidence of beneficial effects of alcohol on human heart. The two drink theory is a hoax. The

longer and harder you drink, more susceptible you are to cardiovascular damage.

Heart Attack

Most heart attacks are the result of a blood clot suddenly formed in coronary arteries diseased with atherosclerosis, thus blocking blood flow to a part of the heart. The heart reacts to the drop in blood supply with pain and loss of function. This means that the heart fails to beat effectively, leading to sudden heart failure. This is a medical emergency and doctor's help should be immediately sought.

Varicose Veins

(Swollen, dilated and contorted veins, mostly in the legs)

Arteries carry blood from the heart to the rest of the tissues. Veins return blood from rest of the body to the heart so that blood can be re-circulated. To return blood to the heart, the veins in the legs must work against gravity. Tiny one-way valves in the veins open as the blood flows towards the heart and then close to stop blood from flowing backwards. Varicose veins occur when these valves in veins malfunction. Blood pools in the veins and these enlarge and become varicose. These veins appear blue because they contain deoxygenated blood, which is in process of being re-circulated.

Women, especially older women, are more likely than men to have this problem. Taking hormone replacement therapy or birth control pills may increase the risk of varicose veins. It is also commonly seen during pregnancy because enlarged womb obstructs blood flow from the legs into the abdomen. Being overweight puts added pressure on your veins and may predispose to varicose veins. Similarly, standing for long periods of time also causes pooling in veins of legs. However, many

people inherit the tendency from their parents.

Most people have only cosmetic problems, but some develop swelling, scaling and irritation with discoloration of the leg and eventually extensive, chronic ulceration around the ankle.

Improving circulation and muscle tone can reduce the risk of developing varicose veins. Light exercise like walking is a good way to encourage blood circulation in legs. Avoid long period of sitting or standing. Try to move around at least every 30 minutes to improve varicose circulation, take several short breaks daily to elevate your legs above the level of heart by lying down with your legs resting on three or four pillows. Avoid high heeled shoes. Low healed shoes make calf muscles work more which is better for veins.

Generally, these patients suffer from indigestion, gas and constipation. They should eat slowly and chew their food well. Such patients should avoid, tea, coffee, packed food, spices and fried food. They are advised to eat green leafy vegetables and fresh fruits.

Reflexology is very helpful to prevent and cure varicose veins. However, appropriate medicine and consultation with doctor is also necessary in some cases.

Reflexology Treatment

Principal Reflex Centres Related to Heart

Reflexology stimulates the heart to perform its cardiovascular functions and maintain its overall health. Principal reflex centres related to heart are located on the sole of the left foot and the left hand. There is a difference of opinion among the Reflexology therapists regarding the correct location

of the principal reflex centres. Some are of the view that they are present on the sole and palm of the left foot and hand just below the smallest two fingers. Whereas some feel it is below the fore fingers on the feet and palms (shown in fig. 7). In my opinion in all the diseases of the heart, pressure must be applied on the upper portion of the left foot and palm. Be sure to note any tenderness in the reflex area, as this may indicate that some form of disease is present.

In heart and blood circulation related ailments, pressure should be applied on the left foot and hand below all the fingers. Pressure can be applied by the thumb or tyaomc tool (fig. 218 & 219).

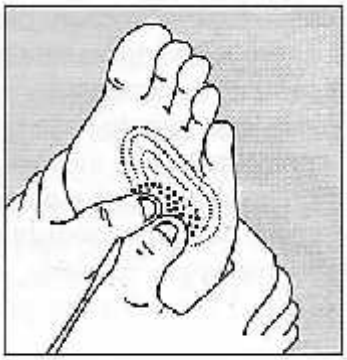


Fig. 218

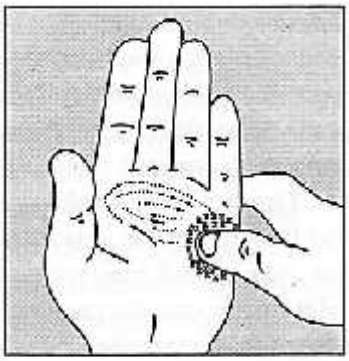


Fig. 219

In case of heart diseases, it is necessary to apply pressure on the reflex centres related to thoracic vertebrae, kidneys and lungs (fig. 220, 221 and 8). It is vital to keep these organs healthy.

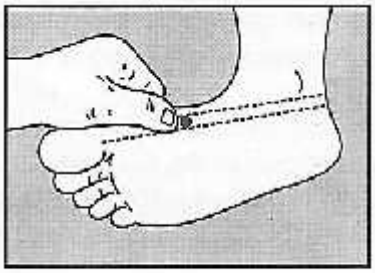


Fig. 220

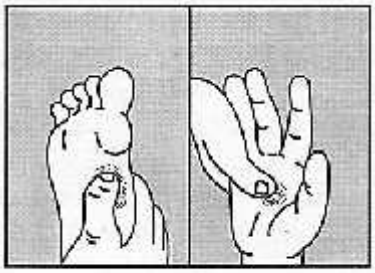


Fig. 221

Secondary Reflex Centres

To cure heart diseases and keep heart healthy, it is beneficial to improve the functioning of the pituitary, pineal, thyroid and parathyroid glands. This is possible only by Reflexology. Reflex centres related to these organs and the method of pressure application is shown in fig. 214, 215, 216 & 217.

In addition, pressure should also be applied on reflex centres of diaphragm, solar plexus, stomach, intestines, colon, pancreas and spleen. Location of reflex centres of these organs is shown in fig. 41, 9, 6 & 7.

Pressure should be applied along the back bone in the downward direction with the help of the thumb according to the patient's tolerance (fig. 160).

Hypertension (High Blood Pressure)

Hypertension can be cured by Reflexology. In addition to the above mentioned heart related reflex centres, there are a few other reflex centres too. Heart meridians are located on both the hands and arms. These meridians start from the tip of the little finger and go towards the heart (fig. 222). Pressure should be applied on the little finger (fig. 223) and the arms for 5-7 seconds on every point repeating it thrice. Pressure on the finger must be

applied with a thumb in an outward direction.

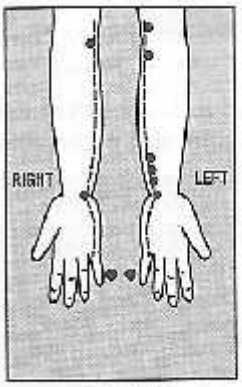


Fig. 222

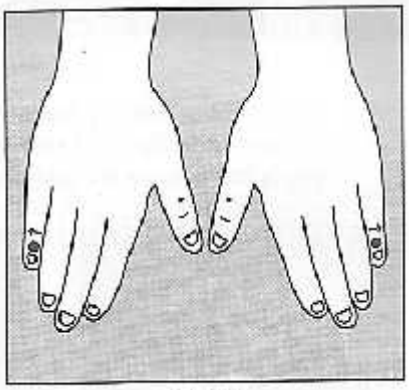


Fig. 223

To cure hypertension and to prevent it, pressure is applied on the wrist at a distance three finger width from the prominent crease (fig. 224). In the same way. apply pressure at the width of three fingers above the most prominent crease of the upper wrist in line with the middle finger. Pressure should be applied thrice for 2 seconds every time. In all heart related ailments and especially in high blood pressure, pressure should be applied on the throat a little below the Adam's apple on both sides (fig. 225) with the help of thumb and fingers. Here light pressure is given for a few seconds, 2-3 times in a day. These pressure points also relieve mental stress.

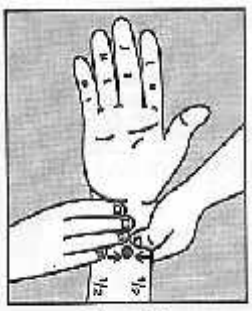


Fig. 224


Fig. 225

Press the point located behind the knee, as illustrated in fig. 226. Use both thumbs, one on top of the other, to give necessary pressure.

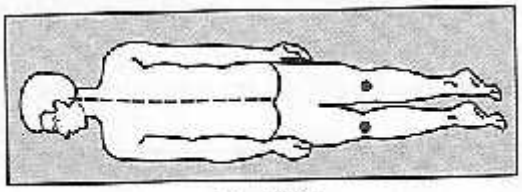


Fig. 226

Other related reflex centres are on the back side of the neck just below the skull (medulla oblongata) as shown in fig. 227 and on the outer side of the neck on both the sides (fig. 228). Apply light pressure for a few seconds.

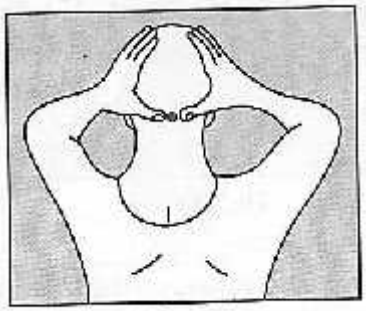


Fig. 227

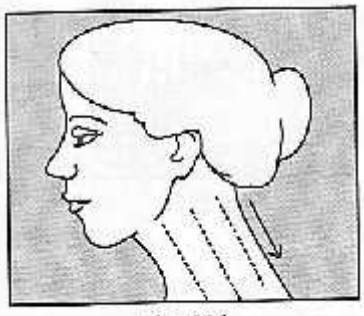


Fig. 228

Using fig. 229 as your guide, press the points along left arm using the thumb. Again press three times on each point. Now press the point located in the armpits (fig. 230). Use your thumb and apply pressure three times for three seconds. Eight reflex centres located on the abdomen are also significant in treatment of hypertension (fig. 173 & 174). Pressure should be applied on empty stomach or 2-3 hours after meals. Applying pressure on the hands with the help of a magic massager also helps (fig. 44).

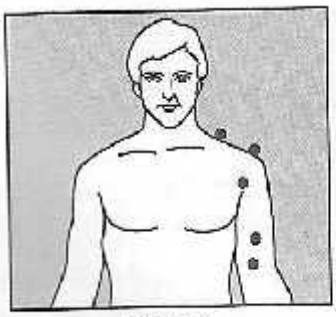


Fig. 229

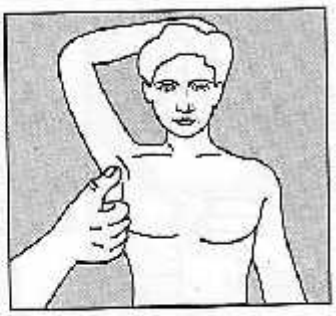


Fig. 230

Hypotension (Low Blood Pressure)

In patients suffering from hypotension, pressure should be applied on all the four points shown in fig. 231. First using your three fingers, press the point located in your armpit. Press this point for three seconds three times. Now, with your thumb, press the point located just beneath your jaw where you can feel your pulse. Press gently and count to ten. Release your pressure, breathe deeply a few times, and repeat this procedure three times on each side of your neck. Next press the spot over the medulla oblongata, located just at the base of the skull and finally on the reflex centre on the top of your head.

Also pressure should be applied on eight reflex centres located on the abdomen (fig. 173 & 174).

Fig. 231

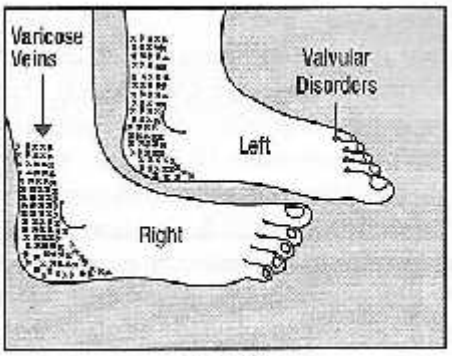


Fig. 232

Valvular Disorders

Along with giving pressure on the reflex centres related to heart on the left hand and left foot, pressure is also applied on

the upper portions of the left foot (fig. 232). Begin at the base of the big toe, working towards the little toe of each foot. Press gently but firmly.

Angina

Apply pressure on all the reflex centres related-to heart and hypertension.

Varicose Veins

Apply pressure on all the reflex centres related to heart, thyroid, pancreas, adrenal glands, liver, intestines and kidneys. In addition, apply pressure on the inner and outer portions of both the feet (fig. 232). Do not apply pressure directly on the affected veins.

Dietary Advice

Eating a healthy diet is one of the easiest things one can do to prevent and treat heart disease. Doctors and nutritional experts are virtually unanimous on the kind of eating regimen they recommend for a healthy heart. This consists of a diet rich in fruits and vegetables, fibre and unrefined carbohydrates such as wholegrain cereals and low in fats.

Cholesterol

Cholesterol is a waxy, fatty substance made in the body mainly by the liver. A-cholesterol is not bad. It is needed by the body to produce hormones including sex hormones. It helps the liver to produce bile salts, which are needed to digest fats. ft is also involved in the synthesis of vitamin D.

Cholesterol, being a very fatty substance, cannot travel alone in the blood which consists mainly of water. Instead, it is transported in special carrier proteins called lipoproteins.

The first are LDLs - low density lipoproteins, popularly known as bad cholesterol because of their role in depositing cholesterol

in the arteries. The second are HDLs -high density lipoproteins, also called good cholesterol because they help to sweep cholesterol away from the artery walls. Simply put, LDLs transport cholesterol to the body cells from the liver while HDLs clear excessive cholesterol from the arteries and carry it back to the liver, thus helping to protect against heart disease. Essentially, one should eat in a way to lower LDL and boost HDL.

* Eat garlic : Three fresh garlic cloves a day can lower cholesterol by an average of 10 -15%. It does not matter whether the garlic is cooked or raw. It is effective in both ways.
* Raw onion is one of the best treatments for boosting beneficial HDL cholesterol. The more you cook the onions, the more they loose the HDL raising powers.
* Deliberately eat foods rich in antioxidants that may help keep your LDL cholesterol from becoming oxidized and toxic. Eat fruits and vegetables high in Vitamin C and beta carotene.
* Of all the things you can eat, the most likely to send cholesterol soaring is saturated animal type fat, the type concentrated in meat, poultry and dairy products. It is important to restrict their intake.
* Restrict fats that are easily oxidized such as corn, sunflower and sunflower seed oils.

Supplements

In a perfect world, it would be possible to get the nutrients from a balanced diet. However many nutritionists agree that because of use of pesticides and preservatives together with environmental pollution, food is not as nutritious as it could be and we are often short of nutrients. Many experts believe that in

addition to eating a healthy diet rich in fruits and vegetables and low in animal fat, you should also take nutritional supplements to ensure that you get all the nutrients you need. Supplements that may be recommended for heart disease include fish oils, vitamin B, C and E (antioxidants).

Fibre

Many studies have shown that regular intake of fibre can help to lower cholesterol levels. The kind of fibre that is thought to be the most helpful is known as soluble fibre and is found in lentils, kidney beans and other pulses, apples, pears, strawberries and cereals such as rye, barleys, rice and oats and wholegrain bread. Starchy vegetables such as potatoes, peas and sweet potatoes are other food sources. Fibre helps in two ways - by producing substances in the body which inhibit the synthesis of LDL cholesterol and secondly, by buffering the effects of fat on the blood vessels so that less fat is absorbed and more is excreted.

Salt

Although we need some salt in our diets to maintain our body's sodium balance, a high intake of salt is linked to high blood pressure- one of the main factors for heart disease. One can reduce salt intake quite simply by limiting the consumption of processed food and by avoiding adding extra salts to food at the table.

Obesity

One of the key risk factors for heart disease, diabetes and hypertension is overweight. It can also worsen the symptoms such as angina and shortness of breath by increasing the workload on heart and lungs. You should limit your intake of fats of all kinds and of alcohol, which is high in empty calories.

Also avoid full fat dairy products and fatty and sugary foods like cakes, biscuits, sweets etc.

Yoga

Yoga, Sanskrit for union, is a gentle system that aims to unite body, mind and spirit through a series of postures or asanas together with breathing techniques and meditation, all designed to relax the muscles, improve suppleness and enhance the physical functioning of the body. Yoga is very helpful for any stress related condition such as anxiety, high blood pressure and circulatory and heart problems.

10 Respiratory System

We breathe in order to supply the body with the oxygen essential for energy production, and to get rid of carbon dioxide, which is a waste product of energy production. At the centre of the respiratory system are the lungs, where breathed in oxygen is exchanged for carbon dioxide from the blood. The channel along which air is breathed in and out of lungs consists primarily of the nose, throat and trachea. Deep in the chest, the trachea divides into two main bronchi, one for each lung, and each bronchus divides within each lung into increasingly smaller bronchioles. At the tip of all bronchioles are balloon like cavities called the alveoli. The vital exchange of oxygen for carbon dioxide occurs through minute blood vessels in alveoli walls.

The human respiratory system is a very flexible one. Whereas at rest the lungs shift 5-8 litres of air a minute, they can increase this 20-30 fold to upto 200 litres a minute.

Common disorders of the lungs are: asthma, bronchitis, pneumonia, pleurisy/ cough, allergies etc.

Asthma

It is a disease of the respiratory system in which the airways constrict, become inflamed and are lined with excessive amount of mucous, often in response to one or more triggers such as exposure to an environmental stimulant (allergen), cold air, exercise, cigarette smoke or emotional stress. This airway narrowing causes symptoms such as wheezing, shortness of breath, chest congestion and cough.

The exact cause of asthma is not completely known. The immune system overreacts to triggers and causes the airways to

become inflamed and tight. Asthma is characterized by periodic flare ups. Between flare-ups, many people return to normal breathing. Over years, this pattern can continue without the symptoms becoming dramatically worse. In some people, asthma flare-ups increase as they get older. In people with severe asthma, long-term inflammation can lead to permanent changes in the airways. This is called airway remodelling. The actual structure of airway walls can change; causing blockage that cannot be completely removed with treatment.

An acute exacerbation of asthma is referred to as asthmatic attack. Signs of asthmatic attack are wheezing, rapid breathing, tachycardia (increased heart rate) and over inflation of the chest. During very severe attacks, the patient can turn blue from lack of oxygen and can experience chest pain or even loss of consciousness. Severe asthmatic attack may lead to respiratory arrest and death.

Asthma is found in 3% to 5% of adults and 7% to 10% of children. Half of the people with asthma develop it before age ten and most develop it before age thirty. Asthma symptoms can also decrease over time, especially in children.

Asthma can be diagnosed by pulmonary function tests. However, there is no effective cure for asthma. With medicines, only the acute phase can be relieved. This however, does not prevent future attacks. Some people are misguided by quacks and consume dubious medicines which contain steroids. They may bring immediate relief but later on they have a very harmful effect on the body. Steroids have been found in many 'desi' medicines when tested in the laboratory.

Prevention

- The best way to prevent asthma is to identify and avoid

indoor and outdoor allergens and irritants.

- Yoga- Several studies have shown yoga to be a powerful adjunct therapy to reduce the frequency and intensity of asthma attacks as well as decrease medication use. Consistent practice of yoga postures of Pranayama (breathing exercises) increases the air flow of lungs, air capacity, stamina and efficiency. Back-bending exercises open the chest improving both lung and heart functioning. Pranayama cultivates the ability to maintain a relaxed and controlled breath that can prevent or reduce asthmatic attacks. To help strengthen the lungs and reduce mucous congestion, use Kapalbhati Pranayama, practising it very slowly and gently in short durations.
- Monitor your breathing. Learn to recognise warning signs of impending attack such as slight coughing or shortness of breath. The lung function may decrease before any signs or symptoms appear. Asthmatic patient should regularly measure peak airflow with peak flow meter at home.
- Quit smoking. As it is common with any respiratory disease, smoking adversely affects asthmatics in several ways including an increased severity of symptoms, a more rapid decline of lung function and a decreased response to medications. Asthmatics who smoke require additional medications to control their disease. Smoking cessation and avoidance of second hand smoke is strongly indicated in asthmatics.

Bronchitis

It is inflammation of the main air passages of the lungs. Bronchitis may be short-lived (acute) or chronic, meaning that it lasts a long time and often recurs.

Acute bronchitis may be caused by bacterial or viral infections. Bronchitis occurs more frequently in winter and more commonly in cold damp climates. Commencing as common cold or inflammation of the nose, throat and sinuses, the inflammation may spread into the chest.

Chronic bronchitis is a long term condition. It is a degenerative disease. After repeated attacks of bronchitis, the walls of the bronchial tubes become thickened, inelastic and narrowed. The mucous membrane of the bronchi are permanently inflamed and the airways become filled with tenacious sticky mucous.

Symptoms of either type of bronchitis include cough that produces mucous, shortness of breath, wheezing, fatigue, fever and chest discomfort. Cigarette smoke, including long term exposure to second hand smoke is the main cause of chronic bronchitis.

Pneumonia

It is the disease of lungs in which the alveoli (microscopic air filled sacs of the lungs responsible for absorbing oxygen) become inflamed and are flooded with fluid. Pneumonia can result from a variety of causes including infection with bacteria, virus, fungi and parasites. Pneumonia may also occur from chemical or physical injury to the lungs or indirectly due to other medical illness such as lung cancer or alcohol abuse. Typical symptoms associated with pneumonia are cough, chest pain, fever and difficulty in breathing.

Pleurisy

In this, the normally smooth lining of the lung (the pleura) becomes rough. Typically, it causes sharp pain, almost always during the act of breathing. A rough, grating sound called friction rub can be heard with the stethoscope. Pleurisy may

develop due to a variety of causes. These include acute viral infection, pneumonia, rheumatoid arthritis, tuberculosis and pancreatitis.

Cough

It is a sudden noisy explosion of air from the lungs. It is usually a reflex response of the body caused by an irritation in the throat or the wind pipe. There are many possible causes of a cough ranging from allergies to lung infection and cancer.

Reflexology Treatment

Stimulating the lungs through Reflexology contributes to their workout and can help the lungs regenerate damaged tissues and resist infections. The Reflexology treatment should relieve the asthmatic of the congestion and resultant difficulty in breathing that brings so much discomfort. In addition, it can be used for congestion brought on by chest colds.

Principal Reflex Centres

As shown in fig. 233,234,235 and 236, pressure should be applied on reflex centres related to pituitary glands, pineal glands, thyroid and adrenal glands. Pressure must be applied on fingertips of all the fingers of both hands and feet.

Fig. 233

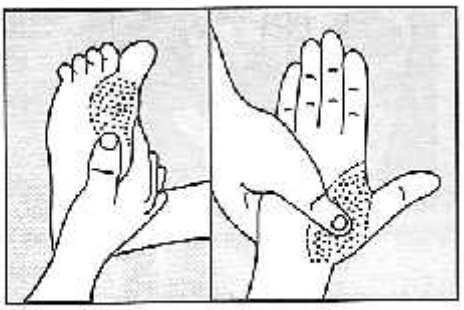


Fig. 235

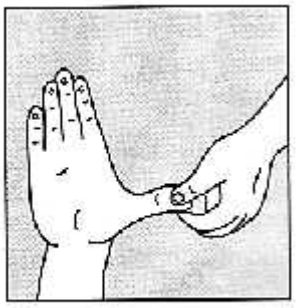


Fig. 234

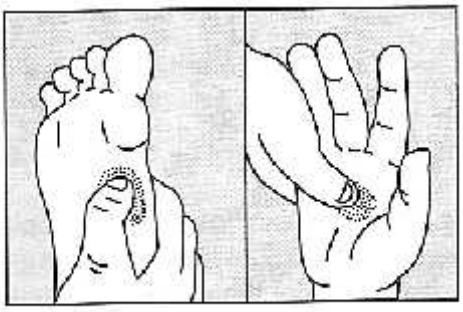


Fig. 236

Reflex centres related to the nervous system should also be pressed as shown in fig-237 and 238.

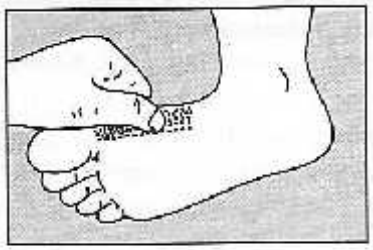


Fig. 237

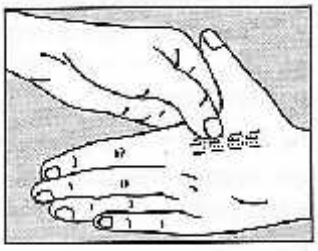


Fig. 238

After applying pressure on the above mentioned reflex centres, it is necessary to apply pressure on reflex centres related to bronchial tubes and lungs as shown in fig. 239.

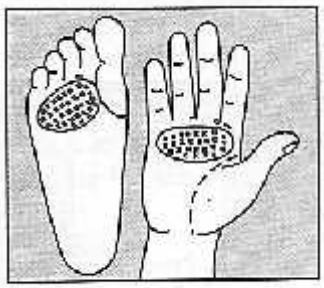


Fig. 239

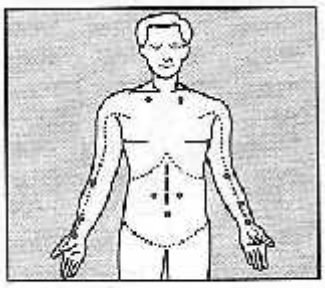


Fig. 240

There are meridians related to lungs on both arms (fig. 240). These three points shown on the arms are very effective in the treatment of respiratory disorders. Additional reflex centres are - one located just below the collar bone and the other at abdomen, midway between the ribs and the umbilicus. Apply pressure on these centres for a few seconds, twice.

Secondary Reflex Centres

Additionally, pressure must be applied on all or few of the below mentioned reflex centres:

- Congestion of chest can be relieved by applying pressure on all the channels of feet and hands as shown in fig. 241. In case of an asthmatic attack, massaging these points can reduce the severity of the attack. The method of pressure application is shown in fig. 242.

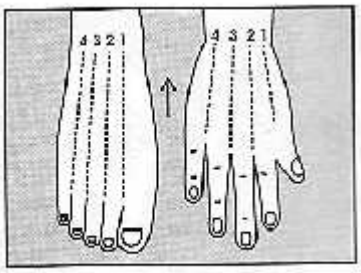


Fig. 241

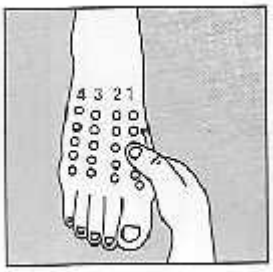


Fig. 242

The area between the thumb and the first finger on hands (fig. 243) is also related to respiratory disorders. Apply pressure with thumb of a hand as shown in fig. 244.

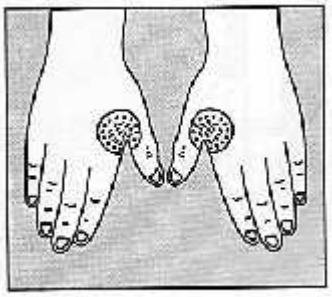


Fig. 243

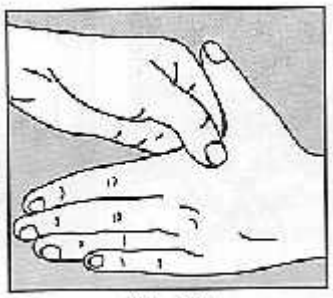


Fig. 244

- As shown in fig. 64, apply pressure for a few seconds on the anterior portion of a foot where leg and foot meet. This point is also related to eye diseases. Pressure should be applied thrice for a few seconds.
- Apply pressure with thumb on upper back along the shoulder blades for 2 - 3 seconds, thrice as shown in fig. 146. If pressure is applied at these points during asthmatic attack, then its severity is considerably reduced. It is advisable to apply pressure along the entire backbone (fig 160).
- To cure allergies, reflex points are located on the outside of elbow. Place your thumb in the ditch between the two bones in the outer corner of the elbow. Give deep pressure for 3 seconds. Repeat thrice (fig. 245). Also apply pressure on reflex centres located on upper portion of the soles (fig. 246) and just below the nose (fig. 247). These reflex centres are also effective in case of unconsciousness.
- Gently apply pressure on the hollow at the base of throat for a few seconds (fig. 248). Patients should also lightly press their tongues between their teeth for a few seconds (fig. 249). Pressure with the teeth should be light.

Fig. 245

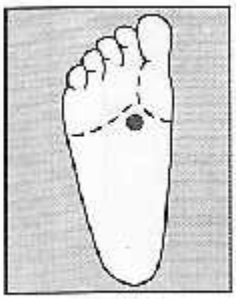


Fig. 246

Fig. 247

Fig. 248

Fig. 249

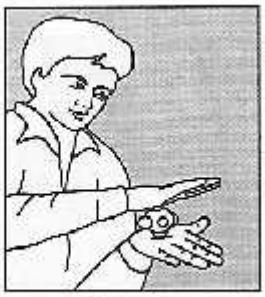


Fig. 250

- Magic Massager (fig. 250) can be used to apply pressure on hands for 2 -5 minutes, thrice a day. It is a relatively easy and an effective way to press all relevant reflex centres.
- Additionally, reflex centres related to respiratory disorders are located on face and ears. These are point 11 in fig. 15, points 19, 20 in fig. 17 and points 6, 17, 18, 19, 29 and 31 in fig 18.

Effective treatment of asthma reduces inflammation and narrowing of the airways, lowering the frequency of asthma attacks. Reflexology allows people with asthma to enjoy life without significant breathing problems.

11 Digestive System

The digestive system is body's power source. It breaks down food so that sugars, fats, proteins, vitamins, minerals and water can be absorbed into the blood, and used to provide

energy for repair and growth. Anything the body cannot use is expelled as faeces. Maintaining a healthy weight, following a balanced diet and exercising regularly helps to keep the digestive system functioning.

The digestive system consists partly of the digestive tract and partly of the digestive glands. The digestive tract is basically a long tube running from the mouth to the anus. The digestive glands, the liver and pancreas, make various chemicals needed to attack and break down the pieces of food we swallow.

The Digestive Process

The process of digestion starts in the mouth. Here the teeth work with the muscular tongue and saliva to cut, crush and mix food, ready to be swallowed.

After being chewed and swallowed, the food enters the oesophagus. The oesophagus is a long tube that runs from mouth to the stomach. At the end of oesophagus, a ring of muscle (sphincter) opens to allow food into the stomach. The food changes very little as it passes through the oesophagus.

The stomach is a large sac like organ that churns food and bathes it in a very strong acid. It stores the food after the meal and then allows it bit by bit into the next part of the digestive tract, the small intestine.

After being in stomach, food enters the duodenum, the first part of the small intestine. It then enters the jejunum and ileum (the final part of the small intestine). In small intestine, 3 produced by liver and stored in gall bladder and pancreatic enzymes help in breakdown of food. Main function of small intestine is that of absorption. About 80% of the food is absorbed through the walls of the small intestine.

Following the small intestine, the next region of tract is

large intestine. The large intestine has three parts- the caecum, colon and rectum. Here water is absorbed from the undigested remains and the result is semisolid faeces. The faeces are stored in the end of the large intestine, chiefly in the part called rectum. Finally the wastes are expelled at convenient intervals, through the last part of the tract, called the anus.

Many bowel problems revolve around the production of excess acid (ulcers, indigestion and heartburn), the upward escape of acid (hiatus hernia) and disordered movements of the intestine (constipation, diarrhoea and irritable bowel syndrome). The rapid turnover of the cells within the digestive tract predisposes to cancer, especially of the stomach and large intestine.

Liver

The liver is the largest and most important metabolic organ in the body. It can be viewed as the body's major biochemical factory. It weighs about 1.4kg, is reddish brown in colour and is divided into four lobes of unequal size and shape. The liver lies on the right side of the abdominal cavity beneath the diaphragm. Liver performs an astonishing large number of tasks that impact all the body systems.

* One of the major functions of the liver is secretion of bile. Liver secretes a remarkable 1 litre of bile every day, half of which is stored temporarily in the gall bladder. Bile is necessary for absorption of fat from food.
* The liver cells assimilate carbohydrates, fats and proteins. They convert glucose to its stored form glycogen, which is reconverted into glucose as the body requires it for energy. The ability of the liver to maintain proper level of glucose in the blood is called its glucose buffer function.

* The end products of the fat digestion, fatty acids are used to synthesize cholesterol and other substances needed by the body. Excess carbohydrates and proteins are also converted into fat by the liver.
* Detoxification or degradation of body wastes and hormones as well as drugs, alcohol and other foreign compounds is done by liver.
* Urea, a waste product of protein breakdown, is produced by the liver, a process which removes poisonous ammonia from body fluids.
* Also the liver contains cells that catch and destroy bacteria and viruses from the intestine and so prevent them from gaining access to the rest of the body.
* Liver stores important minerals and vitamins including Vitamin A, D, K and B_{12}.
* Some essential components of blood are manufactured by the liver including about 95% of plasma proteins and blood clotting substances (fibrinogen and prothrombin).

The liver is among the few internal human organs capable of natural regeneration of lost tissue, as little as 25% of remaining liver can regenerate into a whole liver again.

Diseases of Liver

With its huge blood supply and never ending activity, it is to be expected that liver is prone to disease. Hepatitis and cirrhosis are most common liver disorders.

Hepatitis

It is an inflammatory disease of the liver that results from a variety of causes, including viral infection or exposure to toxic agents like alcohol. Hepatitis ranges in severity from mild, reversible symptoms to acute massive liver damage with possible

imminent death resulting form acute liver failure.

Viral hepatitis now range from A to E. Hepatitis A is spread by mouth, usually by eating contaminated food. The virus causes fever, jaundice and abdominal discomfort which subsides over a period of three to six weeks. Long term effects are rare and no treatment is needed. Others such as B and C are transmitted by sexual contact or through blood products and intravenous drug abuse. Mothers positive for a hepatitis B almost always pass on the virus to the unborn baby. Internationally, hepatitis B is a major cause of chronic hepatitis, cirrhosis and liver cancer.

Cirrhosis

It is a chronic liver disease in which normal liver cells are damaged and replaced by scar tissue, decreasing the amount of normal liver tissue. The most common cause of cirrhosis is alcohol abuse. Though it affects many organs, alcohol is especially harmful to the liver. Alcohol must be metabolised and the liver performs most of the job, suffering serious damage in the process. Not only does alcohol destroy liver cells, it also robs them of their ability to regenerate. Such co-factors as Hepatitis C virus can increase the risk of cirrhosis.

If detected in early stages, cirrhosis can be treated. If not, the liver hardens, shrivels and is unable to function, leading to death.

Tumours

The majority of tumours within the liver spread there via the rich blood supply from cancers else where, especially bowel tumours. This so called secondary liver cancer is often the way in which the people with cancer finally die. Worldwide primary

cancer of liver is also common and often follows previous infection with Hepatitis B virus.

Jaundice

Jaundice is not a disease but a sign of some disease. Many diseases can cause jaundice including gallstones, various forms of hepatitis, tumours of the liver or pancreas and rarely cirrhosis of liver.

In jaundice, the skin and whites of eyes turn yellow due to build up of yellowish brown substance, bilirubin, in the blood. Bilirubin is a waste product formed when old red blood cells are broken down. Normally it is extracted from the bloodstream by the liver, collects in gall bladder as bile, passes down the bile duct into the intestines and is excreted in the faeces (Bilirubin colours the faeces brown). The faeces are no longer brown but chalky grey. In addition, bilirubin may darken the urine. Jaundice also causes severe itching of the skin.

Jaundice can also appear if the exit for bile is obstructed, for example, by a gallstone. Bilirubin accumulates in the bile and then overflows back into the blood stream. If you develop jaundice for any reason, you should visit a doctor immediately for a full examination.

Reflexology Treatment of the Diseases of Liver

Clearly, the liver is an indispensable organ and stimulating its reflex points can help it stay healthy and perform its many functions and keep the whole body in good working order. Since the liver is located on the right side of the body, the reflex centres are found only on the palm of right hand and sole of the right foot (fig. 9). The reflex centres and the method of pressure application is shown in fig. 251 and 252.

Fig. 251

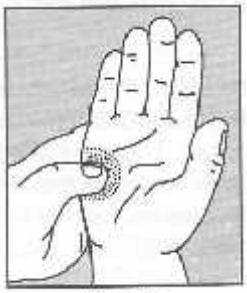


Fig. 252

In addition to these points, pressure should also be applied on the reflex centres related to thyroid and parathyroid (fig. 216), kidneys (fig. 10), gall bladder (fig. 251, 252), lymphatic system (fig. 64), nervous system (fig. 156 & 158) and spleen (fig. 7) because these glands are also related to the liver.

Meridian of the liver starts from the toe of the right foot and passes through the middle of the leg towards the liver (fig. 253). To enhance the functioning of the liver and to cure the diseases of the liver, regular Reflexology treatment should be given on the two points related to this meridian. First point of this meridian is at the junction of the toe and first finger and second point is located on the first channel an inch away from the first point (fig. 254). Another point is located on the right leg at a distance of about 5 inches from the outer side of the ankle (fig, 255). Apply pressure on each point for a few seconds. Repeat three times.

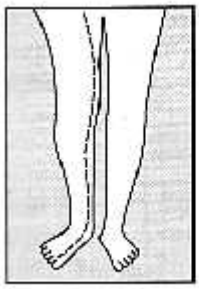


Fig. 253

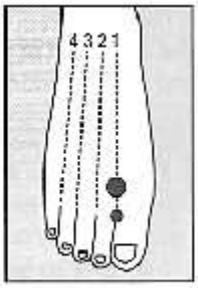


Fig. 254

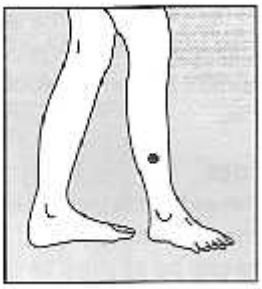


Fig. 255

Lie down on a firm bed or on the floor and apply pressure on the right side of the abdomen just below the ribs (fig. 256). Pressure should be given with fingers of both the hands. Apply

pressure on all the points and repeat it thrice. Take care not to press the rib-cage. Apply pressure on the back especially the middle back in a downward direction, thrice. This middle part is related to liver.

Reflexology should be incorporated into the daily routine to keep the liver healthy. A balanced diet also plays a major role in keeping the liver healthy. Avoid refined foods like maida and sugar and fatty foods. Increase the intake of fresh foods, citrus fruits (lemon, oranges etc.) and raw vegetables (radish, cucumber, carrots etc.). Take regular walk and exercise

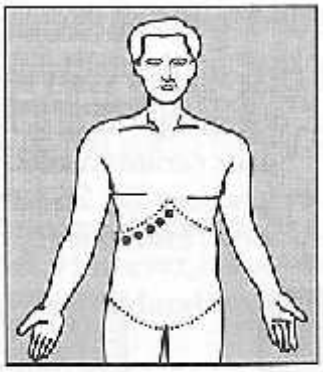


Fig. 256

Gall Bladder

Just beneath the liver lies the gall bladder, a pear shaped sac about 3 inches long. The liver manufactures the bile while the gall bladder stores and concentrates it until it is needed. Bile contains water, cholesterol, bile salts, proteins and bilirubin. Bile works to emulsify fats, allowing them to be absorbed into the body, and is essential for absorption of important fat soluble vitamins. Among these are vitamin A, which is necessary for good night vision and healthy skin and hair; vitamin D, which promotes healthy bones and teeth; vitamin E, which prevents the oxidation of unsaturated fats and vitamin K, a key component in normal blood clotting. Furthermore, bile acts as a

deodoriser and a mild laxative.

Gall Stones

Sometimes the concentration of bile can cause problems for the gall bladder. If the bile becomes too concentrated, small particles may precipitate out to form gall stones. Gall stones can be as small as a grain of sand or as large as a golf ball. Gall stones are extremely common. 10 -20% of adult population has them and only a fraction of them causes symptoms. Women are twice as likely as men to suffer from gall stones, but in later life, there is a roughly equal chance of gall stones.

Most gall stones are silent. They lie within the gall bladder and are simply a chance finding on routine investigations. A stone obstructing the gall bladder causes severe upper right sided abdominal pain, which comes and goes in waves as strong muscular contractions try to overcome the obstruction. Pain is usually more after eating - especially after fatty food because fats in food provoke reflex contraction of gall bladder. If there is complete obstruction, infection of gall bladder invariably results after 24 hours causing fever and jaundice.

Obesity is a major risk factor for gall stones, especially in women. A large clinical study showed that being even moderately overweight increases the risk for developing gall stones. Obesity tends to reduce the amount of bile salts in bile, resulting in more cholesterol. Obesity also decreases gall bladder emptying.

Reflexology Treatment of Diseases of Gall Bladder

With the help of Reflexology, one can get rid of gall stones already present and also prevent their further deposition. Reflex centres related to the gall bladder are the same as that of liver i.e. on the right hand and foot (fig. 257 and 258). Pressure can be applied with the help of the thumb or a wooden instrument.

Fig. 257

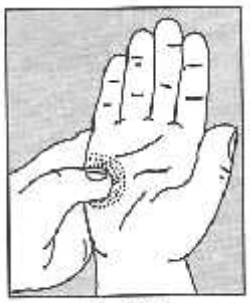


Fig. 258

Pressure must also be applied on the reflex centres related to the nervous system (fig. 156 & 158) and small intestine (fig. 259) and along the backbone in a downward direction (fig. 160).

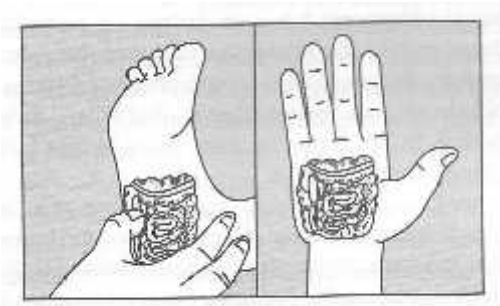


Fig. 259

In patients suffering from stones in the gall bladder, recovery is usually slow. In a few days the condition improves with reduction in nausea and fever. Initially light pressure should be given and as the patient gets used to this pressure, the intensity can be increased gradually. Stimulating the gall bladder reflex cuts down on the incidence of painful stone attacks by causing the gall duct to relax enough to pass the stones in small intestine and out of the body altogether.

Diet plays a very important role in patients suffering from stones. The prime contributor to gall stone formation is the degree of saturation of the bile with cholesterol. A good bet to prevent both gall stones and pain attacks is to eat more vegetables. Avoid fatty, fried foods, alcohol and foods that increase flatulence. Such a diet rich in vegetables and fruits will

help in proper elimination and prevent stone formation. A British study found vegetarian women only half as apt to have gall stones as meat eating women, regardless of the age or weight.

Reflexology or any other natural therapy is extremely beneficial if the gall bladder stones are small in size. However, if the size of stone is very large and pain does not subside even after a long duration, then surgical removal of the gall bladder is the only option.

Peptic Ulcer

Peptic ulcers include both gastric (stomach) and duodenal ulcers. Duodenal ulcers are three times more common than gastric ulcers and are common in 20-45 age group. On the other hand, people with gastric ulcers are likely to be over 50.

The stomach secretes highly concentrated hydrochloric acid which begins the process of digestion and sterilizes the food. Thick mucous coats the walls of the stomach, protecting it from this acid. Despite the mucous coating of the stomach and duodenum their linings can come under attack from this powerful acid. An ulcer is an area of the tissue that has been damaged by this acid.

The vast majority of peptic ulcers are caused by infection with Helicobacter pylori bacteria. People living in unhygienic living conditions are particularly at risk from this infection. Certain drugs irritate the protective lining of the stomach. NSAIDS (non steroidal anti-inflammatory drugs) are used for treatment of arthritis and muscular aches and pains. These include aspirin, indomethacin, ibuprofen, diclofenac etc. If taken regularly for a long period, these drugs can cause ulcers by interfering with the defence system of the stomach and duodenum.

There is also another factor which is perhaps as important in the causation of ulcer and that is dietary factor. In India, duodenal ulcer is seen most commonly in Kerela, Tamil Nadu and Punjab where the diet consists of greater quantities of chillies and spices. Apart from the direct injurious action on the mucosa, these substances act as stimulants for production of acid in the stomach in excessive quantities.

Excessive consumption of alcohol and possibly caffeine predisposes to ulcers Although smoking itself is no longer thought to be an independent cause of peptic ulcers it is known that tobacco smoking significantly impairs ulcer healing, so anyone who has an ulcer and smokes is advised to stop.

Stress is a contributing factor because it increases acid production. There may be a genetic factor since there often seems to be a family history of the condition.

Symptoms

Early symptoms of duodenal ulcer may be difficult to differentiate from what is vaguely termed as indigestion. One of the characteristic features of the condition is burning, gnawing pain in the pit of the stomach. There may be heartburn. The pain is aggravated by an empty stomach and is often relieved by eating. In later stages vomiting may occur. The two life threatening complications of duodenal ulcer are bleeding from the ulcer which leads to vomiting of blood and passing reddish black coloured stools and a perforation which means bursting of the ulcer, thus releasing the stomach and duodenal contents into the peritoneal cavity leading to peritonitis.

To prevent ulcers from recurring, your doctor may advise you to make long term lifestyle changes such as reducing high levels of stress at work, giving up smoking and alcohol, as

appropriate.

Constipation

Some people think they are constipated if they do not have a bowel movement everyday. There is no definition of constipation in the sense of how much, how often. Normal stool elimination may be three times a day or three times a week depending upon the person. If the bowels are opened only infrequently but without straining, there is no cause for concern whereas a daily struggle may indicate a problem.

As the food moves through colon, the colon absorbs water from the food while it forms waste products or stool. Muscle contraction in the colon then pushes the stool towards the rectum. By the time stool reaches the rectum, it is solid because most water has been reabsorbed. Constipation occurs when the colon absorbs too much water or if the colon's muscle contractions are slow or sluggish, causing the stool to move through the colon too slowly. As a result, stools can become hard and dry.

Most common cause of constipation is a diet low in fibre or a diet high in fats such as cheese, eggs and meats People who ignore the urge to have a bowel movement may eventually stop feeling the need to have one, which can lead to constipation. Some people delay bowel movement because they do now want to use toilets outside the home. Others ignore the urge because of emotional stress or because they are too busy. Children may postpone having a bowel movement because of stressful toilet training or because they do not want to interrupt their play. During pregnancy, woman may be constipated because of the hormonal changes or because the uterus compresses the intestines. Aging may also affect bowel regularity

because a slower metabolism results in less intestinal activity and muscle tone.

In most cases, dietary and life style changes will help relieve symptoms and help prevent them from recurring. A diet with enough fibre (20-35 gms per day) helps the body form soft bulky stools. High fibre foods include beans, whole grains, fresh fruits and vegetables, sprouts, cabbage and carrot. For people prone to constipation, limiting foods that have little or no fibre such as ice-cream, cheese, meats and processed foods is also important.

Other changes that may help treat and prevent constipation include drinking enough water and liquids such as fruit and vegetable juices and clear soups, engaging in daily exercise and reserving enough time to have a bowel movement. Avoid liquids that contain caffeine such as coffee and cola drinks as they cause dehydration. Alcohol too causes dehydration. In addition, the urge to have a bowel movement should not be ignored.

Sometimes, constipation can lead to complications. These complications include hemorrhoids (piles), caused by straining to have bowel movement or anal fissures (tears in the skin around the anus) caused when hard stool stretches the sphincter muscle. As a result, rectal bleeding may occur appearing as bright red streaks on the surface of the stool. Sometimes straining causes a small amount of intestinal lining to push out through the anal opening. This condition is called rectal prolapse.

Reflexology Treatment

In every disorder of the digestive system pressure must be applied on the reflex centres related to stomach, liver, gall

bladder, duodenum, intestines (small & large), anus, rectum, kidneys, brain, nervous system, pituitary gland, adrenal glands, thyroid and parathyroid glands present on both hands and feet. Pressure should especially be on the reflex centres of the affected organ.

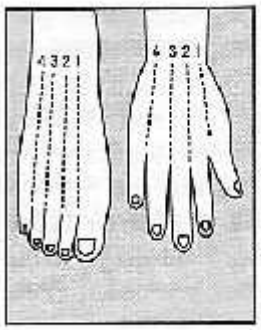


Fig. 260

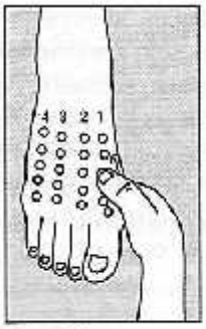


Fig. 261

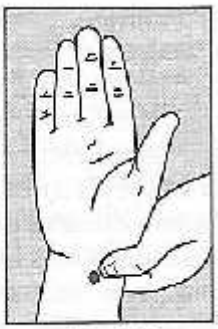


Fig. 262

In all the cases, apply pressure on all the channels of both hand and feet especially in the fourth channel. The method of pressure application is shown in fig. 260 and 261. There is a very important point specific to colitis on the forearms on the inside of the wrist near the pulse (fig. 262).

In all the disorders, apply pressure on the stomach (fig. 173 & 174) on all the eight points shown. Pressure must be given using three fingers for 3 seconds. Repeat the whole procedure three times. This step should be done either on an empty stomach or 2-3 hours after meals. In addition, pressure is applied on the back of the skull (fig. 141 & 142, pt.l). A few reflex centres related to digestion are located on the face (fig. 16 & 17). Pressure is applied on these points too.

For curing problems related to digestive system, pressure is applied on the back or. either side of the back bone (fig. 263) in a downward direction. Applying pressure in the mid of the calf muscle (fig. 264) relieves stomachache.

In case of appendicitis apply pressure on the back on the points as shown in fie 265. This point will be in line with the elbows. Apply pressure with the help of the thumb This will relieve pain related to appendicitis.

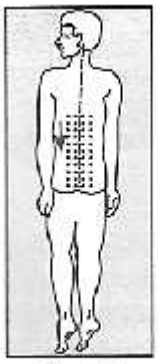


Fig. 263

Fig. 264

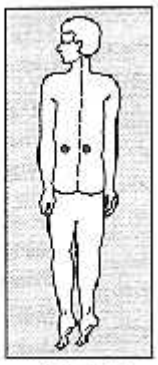


Fig. 265

Appendicitis is a medical emergency and should be treated promptly. In case of diarrhoea, apply pressure on the points located on hands as shown in fig. 62 &63.

Constipation and Piles

Treatment of constipation and piles includes natural therapy as well as Reflexology. All the reflex centres related to digestive system must be worked atleast once daily.

Massage the area on the lower legs as well as the outer side of the ankle (fig. 266). This area is the main reflex point for anal fistula. To treat constipation, lie down on the floor or bed and apply pressure on the stomach, at a point a little below and left of the navel with the help of fingers (fig. 267). This should be done early in the morning after passing urine. Deep pressure is applied for a few seconds repeating it thrice.

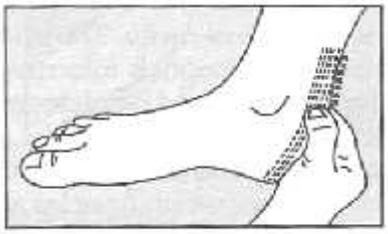


Fig. 266

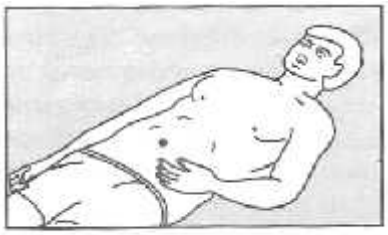


Fig. 267

Another point related to constipation, anal fistula and piles is located on both the hands. One point is located on the wrist adjoining the thumb and another point is located on the hands (fig. 268 & 269).

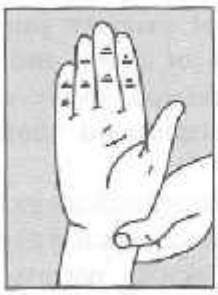


Fig. 268

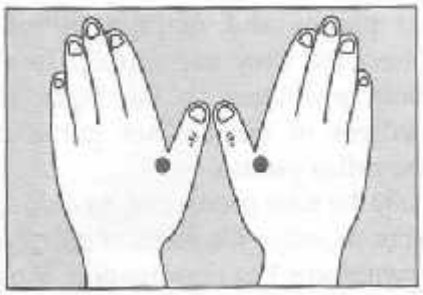


Fig. 269

An important reflex centre related to constipation is located on the chin (fig. 270). Apply deep pressure on this point with the thumb or finger.

Hiccups - Apply pressure on the back of the skull and the upper vertebral column (fig. 271 pt. 1 & 14) along with the reflex centres of thyroid, kidneys, stomach, liver, colon and intestines.

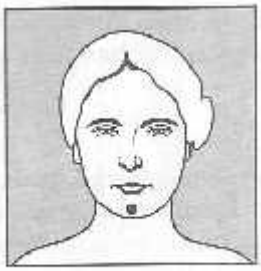


Fig. 270

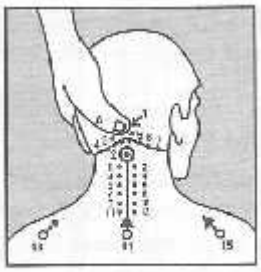


Fig. 271

Solar plexus

The solar plexus is located in front of the diaphragm, the horizontal muscular membrane that divides the chest cavity

from the abdominal cavity. The solar plexus acts as a central hub of nerves and a nerve switchboard. It channels information between the brain and the nerves to all the organs in the abdomen and regulates many organic functions and triggers when necessary emergency responses.

The solar plexus plays an important role in the body's reaction to stress. After receiving information from the brain, the solar plexus determines which muscles and organs in the abdomen should tense or relax and it conveys fight or flight instructions from brain to the adrenal glands. It also functions as a manager of the abdomen. Among many other supervisory duties, it directs the stomach and intestines to keep the food moving, to the liver to produce bile and filter toxins, and to the kidneys to remove wastes.

Disorders of the Solar Plexus

The solar plexus and diaphragm reflexes are of primary importance in reflexology because they are critical in the process of stress and relaxation. Since so many problems in the body are stress related, every Reflexology sitting, regardless of what other parts are being stimulated should include pressing these reflex points.

Occasionally the solar plexus may be dislocated due to many reasons including lifting of heavy objects, digestive disorders or indigestion. If the solar plexus is dislocated then it can cause symptoms like constipation, loose motions, acidity, nausea, and loss of appetite, fatigue and stomach ache.

To check the position of solar plexus, lie down on your back on an empty stomach with the arms on the side. Other person can take a piece of thread and measure the distance between the

navel and nipple of one side and navel and nipple of other side. If the measurement is the same then the position of the solar plexus is correct.

There is another way of checking the position of solar plexus. Lie down on the back with the knees and feet touching side by side. If the solar plexus is not in its correct location, the toe of one of the foot will be placed short of the toe of the other foot (fig. 272). To cure 'dharan' and restore the solar plexus to its correct position, one of the simplest method is to pull the shorter toe in an upward direction (fig. 273). Pulling this way twice or thrice will bring the solar plexus to its correct position. Otherwise press the knee of the longer thumb with the palms. This will result in shortening of the longer thumb. This procedure cannot be done by the patient himself. He will have to take the help of a therapist or may be a relative.

Fig. 272

Fig. 273

Reflex centres related to solar plexus are located on the hands and feet too as shown in fig. 274. Regular application and pressure on these points on an empty stomach also helps in restoring the solar plexus to its correct position. Even otherwise, pressure must be applied on these points regularly.

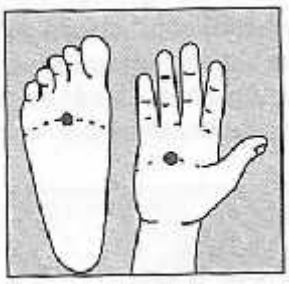


Fig. 274

Another very traditional and effective method to cure 'dharan' is using the lamp. Lie down on your back (preferably in the morning on an empty stomach). Some other person should place a lit lamp (earthen or other) on the navel (fig. 275). Then press a brass or steel tumbler over the lamp. Place it there for 1-2 minutes. This will create a vacuum and the lamp will extinguish. The force created by the vacuum will try to pull the solar plexus in its position. Now pull the tumbler to remove it. Repeat the whole process 3-4 times. The solar plexus will be restored to its position within a few days.

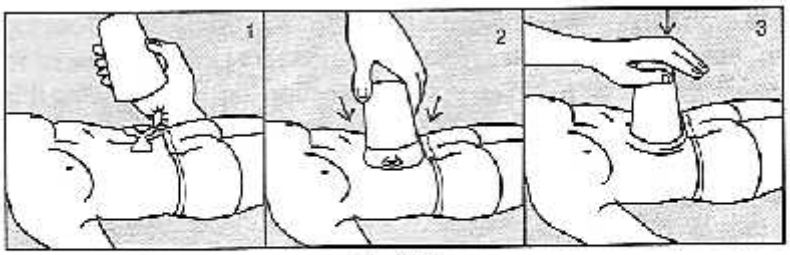


Fig. 275

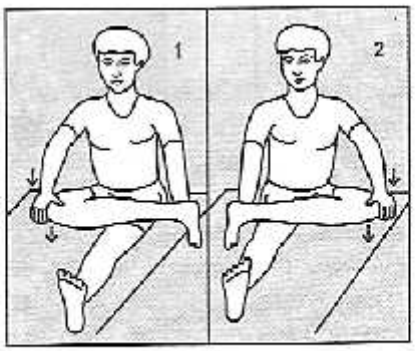


Fig. 276

Solar plexus can also be cured by a simple exercise. Sit on

a flat hard bed with your legs stretched. Fold your right leg and keep it on your left leg near the knee as shown in fig. 276 and press the right leg with right hand gently. Similarly do it on the left leg also and repeat it 3-4 times. Remember pressure should be gentle and within tolerance limits of the patient. To cure dislocation of solar plexus, follow one or more techniques described above for speedy recovery.

12 Urinary System

The urinary system consists of the kidneys, ureters, bladder and the urethra. The kidneys form the urine, the remainder of the urinary system carries the urine to the outside.

The kidneys are a pair of two bean shaped organs that lie in the back of the abdominal cavity, one on each side of the vertebral column, slightly above the waist line. The kidneys act on the blood passing through it to produce urine, conserving material to be retained and eliminating unwanted materials into the urine.

The actual filtering occurs in tiny units inside the kidneys called nephrons. Each kidney has about 10 lakh nephrons. In each nephron, a glomerulus (which is a tiny blood vessel) intertwines with a tiny urine collecting tube called tubule. A complicated chemical exchange takes place as waste materials and water leave the blood and enter the urinary system.

Fig. 277

It is estimated that kidneys filter nearly 200 litres of fluid every day of which 199 litres is recycled whereas 1 litre is flushed out in the form of urine.

From kidneys, two narrow tubes called the ureters carry urine to the urinary bladder, an oval shaped chamber in the lower abdomen. Like a balloon, the bladder's elastic walls stretch

and expand to store urine. Periodically, urine is emptied from the bladder to the outside through another tube called urethra. The length of urethra is different in males and females. In males, the urethra is much longer (10 inches) and follows a curving course from the bladder to the outside, passing through both prostate gland and the penis. The male urethra serves the dual function of providing both a route for eliminating urine from bladder and a passageway for semen from reproductive organs. The prostate gland lies below the neck of the bladder and completely encircles the urethra. Prostate enlargement, which often occurs during middle to older age, can partially or completely include the urethra, thereby impeding the flow of urine. A women's urethra is only 1 inch long. Because of the position which is close to anus and entrance to the vagina, women's urinary tract is more susceptible to infections.

Healthy urine is a clear aqueous solution, varying in colour from dark yellow to colourless depending upon the dilution. The main contents of urine are water, salts, urea, creatinine and uric acid. Urochrome is a pigment that gives urine its colour.

Urine is used as a diagnostic tool to determine many medical conditions concerning the kidneys, urinary bladder and even metabolic functions of the body. The presence of sugar in the urine indicates the possibility of diabetes mellitus. Albumin in the urine suggests renal disease or damage. Urine may be examined under a microscope to examine red blood cells (RBC) and white blood cells (WBC) to denote abnormal blood in the urine (known as hematuria) or bacteria denoting infection. The most common pregnancy tests are simple urine analysis devices. In summers, much of the body fluid comes out in the form of sweat hence urine is less but in winters there is no sweat hence

urine increases considerably. Drinking lots of water, tea and coffee can also cause increase in urine. For proper functioning of kidneys, it is necessary to drink 8-10 glasses of water everyday. In summers, the water intake should be even more.

The kidneys are amazingly adaptable and efficient organs and can even perform their duties when damaged or when only a small part of one of them is functional. In fact, one kidney alone can perform all the necessary tasks, and in 1954 a donated kidney became one of the first organs to be successfully transplanted in humans.

Different Diseases of the Kidneys

Infection may reach kidneys via the blood stream, or travel up the urinary tract from the opening of urethra. Infection or inflammation of the kidneys, or even damage caused by external injury, can cause scarring of the filtering tissue which may not only reduce the efficiency of the kidneys but can ultimately lead to their failure. Stones can form in one or both the kidneys and cause great pain as they pass down the ureters. This pain is commonly called as renal colic. As in other parts of the body, tumours both benign and malignant can occur in the urinary tract.

A few of the most common symptoms of the diseases of the kidneys are a yellowish brown cast to the skin, fluid retention, severe cramps (in case of stones), general malaise, bloody stools, pain on urination, involuntary urination, nausea etc.

Kidney Stones

Kidney stones are one of the most painful of the urologic disorders. Kidney stones (renal lithiasis) are an ancient affliction dating back to the age of Egyptian pyramids, yet they are still a common disorder today. But the incidence of kidney stones has

been increasing in recent decades. Experts believe that westernised diet and lack of fluids are important factors that have contributed to this increase.

Kidney stones are rock hard accumulations of crystal deposits, usually composed of calcium and oxalates that can grow and obstruct the flow of urine through kidneys. Kidney stone may be as small as a grain of sand or as large as a pearl. Some stones are even as large as a golf ball. Stones may be smooth or rough. Certain diseases like hyperparathyroidism, chronic urinary tract infection and gout increase the risk of kidney stones. More importantly, if you do not drink enough fluids, especially water, your urine is likely to have higher concentration of substances that can form stones. A diet that is high in protein (meat, chicken and fish) and low in fibre (fruits, vegetables and whole grains) may increase your risk. Men are three times more susceptible to kidney stones than women.

Kidney stones and gall stones are not related. They form in different areas of the body. If you have a gall stone, you are not necessarily likely to develop kidney stones.

Symptoms

Not all kidney stones cause symptoms

- Very small stones seldom give trouble since they are easily carried away and passed in the urine.
- If a stone stays inside one of the kidneys, it usually does not cause a problem, unless it becomes very large.
- If the stone is too large to pass easily, it may block the flow of urine resulting in sharp excruciating pain.

Typically, a person feels a sharp pain in the back and side in lower abdomen. Later, the pain may spread to the groin. Other signs and symptoms may include nausea and vomiting, bloody

/cloudy or foul smelling urine and persistent urge to urinate.

Dietary Advice

- Drink more water - at least 8 glasses a day and more if you live in hot and humid climate where you sweat more. Unfortunately, most people think they drink more fluids than they actually do.
- Restrict salt intake - restricting sodium decreases the amount of calcium in the urine.
- Restrict animal protein such as meat, chicken, fish, pork and dairy products.
- Avoid oxalate rich foods such as spinach, citrus juices, chocolate, coffee, strawberry, tea and diet colas.
- As a general rule, restricting your calcium intake does not seem to lower risk for stones.
- Eat more high fibre vegetables and grains.

Treatment for kidney stones varies depending upon type of the stone and the cause. One may be able to move the stone through the urinary tract by simply drinking plenty of water and by staying physically active. Extra corporeal shockwave treatment (ESWL) is the most commonly used procedure for treatment of kidney stones. In this, shock waves that are created outside the body travel through the skin and body tissues until they hit the denser stones. The stones break down into sand-like particles and are easily passed through the urinary tract in the urine.

Stones in the urinary bladder

A kidney stone that has come, perhaps painfully, through the ureter into the bladder is relatively small and it can pass out of the body in the urine with comparative ease. Stones that form within the bladder itself, however, tend to be bigger than kidney

stones and remain lodged in the bladder. They may cause troublesome symptoms such as an over frequent urge to urinate, pain on passing urine and blood in the urine (often blood seems to be 'squeezed out' in the last few drops). Nowadays, bladder stones are not a common problem and they are becoming increasingly uncommon, nobody knows why.

Prostate Enlargement

The prostate is a chestnut-sized, roughly spherical gland which is situated at the base of the urinary bladder in the males and surrounds the first one to two cm of the urethra. It is absent in females, so this is an exclusively male disease. The prostate gland functions as an accessory gland in the reproductive system. In the elderly age group i.e. beyond the age of 55 to 60 years, the gland undergoes enlargement, the exact cause of which is not very clear. When the gland enlarges, it obstructs the flow of urine from the urinary bladder and thus causes symptoms.

Early symptoms of prostate enlargement include difficulty in the act of passing urine, greater force being required to evacuate the bladder and the increased frequency of urination, especially at night. Also, the urinary stream becomes progressively poorer till at later stages it may come only in a few drops at a time. This poor control over urination results in urgency and the involuntary dribbling of the urine. As the condition worsens, it may lead to passing blood in the urine, retention of urine (an inability to evacuate the bladder at all) and pressure on the kidneys leading to kidney failure.

There is no known drug as yet which can cure the prostate enlargement once it has started to give rise to the symptoms. In advanced cases, the only treatment is surgical removal of the

gland.

Bed-Wetting

It is commonly seen in children around the age of 5-6 years and may continue into adolescence. There are many reasons behind it, common among them being mental stress. It can be also be due to anaemia, malnutrition, birth defects, diseases of the urinary bladder and phobias. Children suffering from bronchial asthma also suffer from bed-wetting.

Other main diseases are - Tumours of the kidney, inflammation of the bladder (cystitis), nephritic syndrome, tuberculosis of the urinary system, acute nephritis, chronic nephritis and acute renal failure.

Reflexology Treatment

The stimulation of kidney reflex centres can encourage the kidneys to flush themselves out. This can help them maintain their health by removing many of the harmful wastes that might cause nephritis. It also removes any small kidney stones and prevents the buildup of over concentrated urine that can form these stones. The kidney reflex areas are on the palms of both hands and the soles of both feet as shown in fig. 10 & 277. Method of applying pressure is shown in fig. 278 and fig. 279.

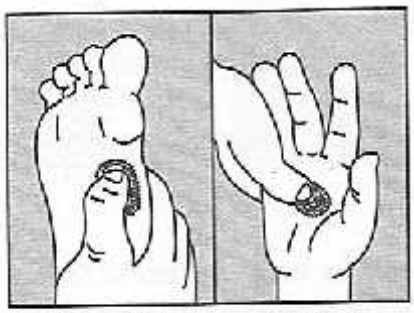


Fig. 278 Fig. 279

Here, it is to be noted that reflex centres related to right kidney and ureter will be present on right hand and foot.

Similarly, reflex centres related to left kidney and ureter will be present on left hand and foot.

Fig. 280

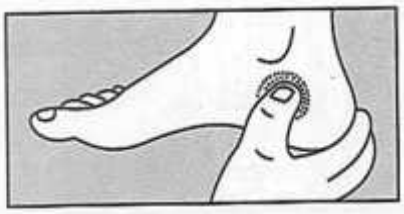


Fig. 281

Reflex centres related to urinary bladder are present on both hands and feet. Infact, they are located on the sole (fig. 10 & 277) and a little above the heel in line with the toe (fig. 280).

Reflex centres related to prostate gland are in area between the ankle and heel of the foot (fig. 281). Other centres are on lower legs (fig. 282) and on the wrist in line with the thumb (fig. 283).

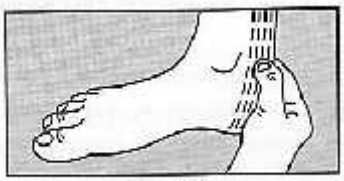


Fig. 282

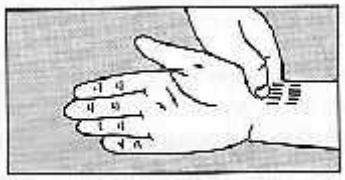


Fig. 283

Pressure should be applied on the reflex centres of nervous system on both hands and feet as shown in fig. 284 & 285.

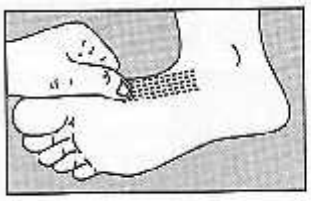


Fig. 284

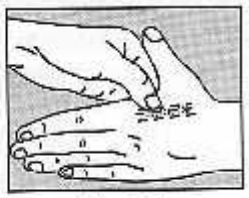


Fig. 285

Applying pressure on the lower back (related to thoracic and lumbar vertebrae) on both sides of the spine also helps in relief from the severe pain related to kidney stones (fig. 286). Pressure is also to be applied all around the ankle (fig. 287).

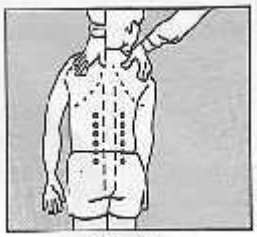


Fig. 286

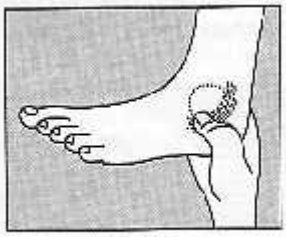


Fig. 287

One of the main reasons of formation of stones in kidney is the hyperactivify of parathyroid. To restore its normal functioning, apply pressure on the related reflex centres present on hands and feet (fig. 288).

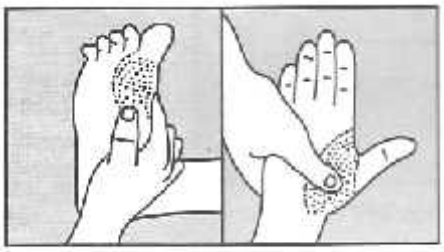


Fig. 288

If the kidney related disorders are chronic, refrain from applying pressure on the reflex centres daily as this will over work the kidneys. Instead start slowly by applying pressure twice or thrice a week and increase it to daily by the end of 2-3 weeks.

Enlargement of prostate gland will cause great pain and inconvenience when it comes to emptying urine. Fortunately, Reflexology can get this gland back to health in relatively short time. Pressure should be applied on related reflex centres as shown in fig. 281. If a person suffers from diabetes and hypertension also, then apply pressure on relevant reflex centres of these diseases. In prostate enlargement, treatment is aimed at reducing the size of the prostate gland and increasing overall body strength. It is best to avoid the fatty animal foods such as poultry, cheese, milk and eggs. Not only animal food, but also sugar, honey, chocolate and all sugary foods should be

discontinued.

Bed-Wetting in Children

Bed wetting may indeed be a symptom of inner problems the child may have, and the parents should be careful of their own behavior with the child around his bedtime. It should be a time of calm; it is definitely not a time for chastising or upsetting the child. When difficulties arise between the parent and child close to bedtime, it is beneficial if these can be resolved before the child is sent off for his night's rest. Parents should also be firm in the limiting of liquids for few hours before bedtime. Be sure that the child is dressed warmly, so that he will not get chilled during the night.

The most effective reflex centre related to this disorder is located on the lower back on either side of the backbone (fig. 289). The child can lie on his stomach and you can apply light pressure on these points with the thumb thrice moving in a downward direction. In addition to this apply pressure on the first two joints on the little finger of both hands on both the sides (fig. 290)

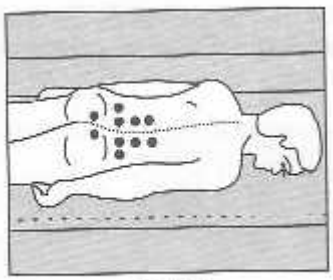


Fig. 289

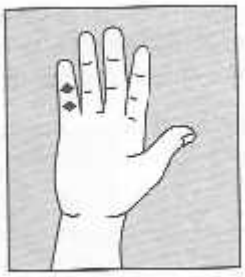


Fig. 290

Other reflex centres where one can apply pressure are on the middle of the backside of the knees (fig. 161) along the side of ankle (fig. 287) and on the last channel on both hands and feet (fig. 166). Also, apply pressure on pt.1 on back of the head (fig. 141 and 142) and reflex centres related to liver (fig. 9) and

urinary bladder (fig. 10 and 280). Most of the children will respond to this treatment within a week and a few may take a bit longer. But results will definitely follow.

Let your child know that Reflexology treatment is intended to help him not wet his bed. Children are usually delighted to cooperate with such a positive attitude. And the results are quite positive too. Be sure to give this treatment at bedtime and for a longer period of time. The treatment on the above points helps to stimulate a more normal reaction in the sphincter muscle of the bladder and takes time to be permanently effective.

Kidneys and diseases related to them are closely linked to nervous system, lymphatic system, solar plexus, diaphragm, pituitary, thyroid, parathyroid, adrenal glands, liver and spleen. Therefore it is advisable to apply pressure on the reflex centres to these organs too.

13 Diabetes Mellitus

Diabetes in Greek means to drain out arid meffitus in Latin means honey. Therefore, diabetes mellitus literally means draining out of glucose from the body. Diabetes is a disease in which blood glucose levels are above normal. In diabetes, the body either does not make enough insulin (a hormone produced by pancreas to regulate blood sugar) or can't use its own insulin as well as it should. This causes sugar to build up in the blood.

Of the 230 million people affected with diabetes worldwide, 30 million live in India. Researchers predict the number will double by 2030, making India home to a fourth of the diabetes population of the world. Many people with diabetes do not know that they have it. Even doctors miss signs such as frequent thirst, bad breath and gum disease and vision changes.

Diabetes is the single most important metabolic disease which can affect nearly every organ in the body. Excess sugar in blood for many years leads to neuropathy and peripheral vascular disease. Neuropathy is the nerve damage caused by blocking of blood vessels which supply oxygen to the nerves. This causes many severe effects such as decreased response of muscles of all the organs which include eyes, heart, bowel, urinary bladder and sex organs.

People with diabetes are 25 times more likely to develop blindness, 17 times more Ukely to develop kidney disease, 30-40 times more likely to undergo amputation and 2-4 times more likely to develop heart disease and twice as likely to suffer stroke than non diabetics. At least 65% of diabetic patients die of heart disease or stroke. About 70% diabetics also have high blood

pressure.

Role of Insulin

To understand diabetes, it is important to first understand the normal process of food metabolism. When food is digested, a sugar called glucose enters the blood stream. Glucose is a source of fuel for the body. The pancreas is a fist sized organ that lies just behind and below the stomach. In its tail, cells known as beta cells produce insulin and release it when needed. Normally, the pancreas act as a kind of glucose meter, closely monitoring levels in the blood and releasing insulin in spurts to match glucose levels.

The role of insulin is to move glucose from the blood stream into muscle, fat and liver cells where it can be used as a fuel. In the absence of insulin, glucose cannot be effectively transported to inside of the cells, thereby increasing blood sugar levels. Ultimately this increased sugar in blood is lost via kidneys through the urine.

Types of Diabetes

- Type I diabetes is caused by destruction of beta cells in the pancreas, which produce insulin. It is usually diagnosed in childhood and daily injections of insulin are required to sustain life.
- Type II diabetes is far more common than type I and makes up 90% or more of all cases of diabetes. It usually occurs in adulthood and is linked with sedentary lifestyle and unhealthy eating habits.

In type II diabetes, initially one develops insulin resistance; a condition in which the body cells do not use insulin properly. At first the pancreas work harder to produce more insulin to keep up with the added demand, but over time it loses its ability

to secrete the required insulin and the person becomes unable to metabolise the blood sugar. Usually it takes about 12 years for a person with insulin resistance to develop diabetes.

Many people with type II diabetes do not know they have it. It is a serious condition. Type II diabetes is becoming more common because of increasing incidents of obesity and lack of exercise.

Although these two types have different causes of origin, the long term complications in blood vessels, kidneys, eyes and nerves occur in both types. These are major causes of mortality and death from diabetes.

Diabetes can occur temporarily during pregnancy called as gestational diabetes which is due to the hormonal changes and usually begins in the fifth or sixth month of pregnancy. Gestational diabetes usually resolves once the baby is born. However, women with poorly controlled gestational diabetes are at an increased risk of having a very large baby (>3.8kg) because of the extra sugar in the mother's blood which crosses the placenta to reach the foetus. This makes it difficult to deliver these babies vaginally and puts them at risk for injuries during delivery. About 3-5% of pregnancies among women with diabetes result in death of new born within 28 days.

Risk Factors

Risk factors for type II diabetes include old age, obesity, family history of diabetes, prior history of gestational diabetes, physical inactivity and race ethnicity. Risk factors are less well defined for type I diabetes than for type II diabetes, but autoimmune, genetic and environmental factors are involved in developing this type of diabetes.

Obesity

Nothing signals more clearly that you are at risk for type II diabetes than being overweight. Excess weight especially in the gut makes you more likely to develop insulin resistance, a condition in which cells don't use glucose as well as they should, causing glucose to accumulate in the blood. Obesity also increases the body's demand for insulin which the pancreas may have trouble meeting, again resulting in high blood sugar Being overweight increases the risk of raised blood pressure, high cholesterol and heart diseases.

Losing weight may be the single most important thing you can do to control type n diabetes. There is no need for anything extreme. A slow and steady drop in weight keeps I pounds off better than crash diets.

Symptoms

The symptoms that cause a patient to seek medical treatment are:

- Frequent urination (polyuria)- the kidneys attempt to flush out extra sugar out of the system by boosting the production of urine.
- Excessive thirst (polydipsia)-each time that urine is passed, you lose fluid. To urge you to replace it, the body triggers a persistent thirst.
- Extreme hunger (polyphagia)-the irony of diabetes is that although your blood is overflowing with energy, your cells are starving. Deprived of energy, they direct the body's appetite system to send a call for more food.
- Unexplained weight loss
- Sudden vision loss
- Tingling or numbness in hands or feet
- Feeling tired most of the times

- Dry skin
- Sores that are slow to heal

Darkening of skin at the nape of neck could be an early indication of insulin resistance and diabetes, more so in Indians, say researchers from All India Institute of Medical Sciences (AIIMS, New Delhi). The condition called *Acanthosis nigricans* is marked by the darkening and thickening of the skin at the sides or back of the neck, the armpits, under the breasts and groin.

Diagnostic Tests

A urine test may be used to look for glucose and ketones from the breakdown of fat. However, a urine test alone does not diagnose diabetes. The following blood glucose tests are required to diagnose diabetes :

- Fasting blood glucose- the normal range of fasting blood glucose is from 70-110mg/ dL. It is done after 8-12 hours of fasting.
- Post prandial blood sugar- a blood sugar test taken after two hours of a meal is known as post prandial test or PP. The normal ranges are 70-140 mg/dL. Anything above the range would be diagnosed as diabetes.
- Oral glucose tolerance test- the patient is given glucose solution orally (containing 75 gms of glucose) which should cause glucose levels to rise in the first hour and then return to normal levels within two hours by the action of insulin produced in normal people. Diabetes is diagnosed if glucose level is higher than 140mg/dL after two hours.

These tests, though invaluable as a diagnostic tool, have an important shortcoming. These do not give you a full picture. Each reading is like a snapshot that shows what your blood sugar was like at that moment. There are other tests which

indicate the average blood sugar level over the period of 2-3 months, making them an invaluable tool.

- Glycosylated Haemoglobin (HbAlc) is a measure of average blood glucose during previous two to three months. It is a very helpful way to monitor a patient's overall response to diabetes treatment over a period of time. In most labs, the normal range is below 7%. In poorly controlled diabetes, it is 8.0% or above and in well controlled diabetes, it is less than 7%.

Long Term Complications of Diabetes

Over time, poorly controlled diabetes can wreak havoc throughout the body. But keeping the blood sugar in control will significantly reduce the risks.

SITE	**DAMAGE**
Blood vessels :	High blood sugar slows circulation, promotes high levels of cholesterol and heart and encourages formation of blood clots. Blockage can cause heart attack and stroke.
Kidneys :	Blood sugar gums up delicate capillaries that filter wastes. Kidneys work harder but less efficiently, gradually losing function and ultimately leading to their failure.
Nerves :	Blood sugar may block nerve signals or interfere with normal nourishment of nerves. This causes pain, lack of sensation in the body's peripheries, and muscle weakness.
Feet :	A combination of poor circulation and

	nerve damage can make feet prone to injuries that heal slowly and can quickly become infected.
Eyes :	High blood sugar weakens small blood vessels and makes them prone to rupture. New blood vessels proliferate out of control, causing eye damage that can lead to blindness.
Reproductive :	Many people with diabetic nerve damage have trouble having sex.
organs	For example, men can have trouble maintaining an erection and ejaculating. Women can have trouble with sexual response and vaginal lubrication.

Complications are less severe and less common in people who control their blood sugar well. In fact, better the control, the lower the risk of complications (same as that of non-diabetics). Hence, patient's understanding and participation are vital. Other health problems that accelerate the damaging effects of diabetes should also be addressed. These include smoking, elevated cholesterol, obesity, high blood pressure and lack of exercise.

Diabetes is not always about high blood sugar. In fact, the most common complication of diabetes is blood sugar that falls too low - a condition known as hypoglycaemia. It is most common in people with Type I diabetes because blood sugar is most likely to drop from taking too much insulin. But hypoglycaemia occurs in Type II diabetics as well, when glucose level falls due to medicines, strenuous exercise, going too long without eating and excessive alcohol consumption.

Hypoglycaemia can cause mental confusion, rapid heart

beat, sweating and double vision. Hypoglycaemia must be dealt with at once. Most cases are mild and can be treated by eating or drinking some carbohydrate food like fruit juice or candy. But left untreated, hypoglycaemia can lead to loss of consciousness.

Treatment

The silver lining in this cloud of gloom is the fact that few serious diseases allow you to fight back as much as diabetes does. If you take the right steps to keep the situation under your control, you can live a full and active life.

Diabetes and Diet

Maintaining a healthy diet is important for people with diabetes. Approximately 50% of new cases of diabetes can be controlled adequately by diet alone. Diabetics need a carefully planned diet depending on the type of diabetes, individual needs, body weight, age, sex, presence of any other disease and how physically active the person is. Contrary to the popular belief, having diabetes does not mean that you have to start eating special foods or follow a complicated diabetes diet plan. For most people, having diabetes simply translates into eating a variety of foods in moderate amounts and sticking to regular meal times. This means choosing a diet that emphasizes vegetables, fruits and whole grains, rather than a restrictive diabetes diet. It is a healthy eating plan that is naturally rich in nutrients and low in fats and calories. In fact, it is the best eating plan for anyone who wants to adopt healthy eating habits.

- If you are overweight, try to knock off extra weight through a correct diet and exercise regimen. Take the help of a dietician if need be. Ideal body weight is given by Body Mass Index (BMI), which is weight in kilograms divided by the square of height in meters. It should be 23 for Asians.

$$BMI = wt \text{ (in kg)} / ht \text{ (in m)}^2$$

- Follow the concept of Glycemic Index (GI). Glycemic Index is a scale that ranks carbohydrate rich food by how much they raise blood glucose levels as compared to glucose. Foods with high GI (70 or more) lead to a sudden spurt in blood glucose followed by an equally sharp plummet. High GI foods are dates, honey, watermelon, grapes, popcorn, french fries and ice-cream. The human body copes better with low GI food items (55 or less) as they do not cause a sudden spike in blood glucose level such as whole wheat and fruits like guavas, apples & pears.
- For most people with diabetes (and those without, too) a healthy diet consists of 40% - 60% of calories from carbohydrates, 20% from protein and 30% or less from fat. A medium built diabetic patient should have about 1600 - 2000 calories a day. However, physically active diabetics should aim for 2000 - 2400 calories a day.

Carbohydrates

Carbohydrates are found in fruits, vegetables, beans, dairy foods and starchy foods such as breads. Try to have fresh fruits rather than canned or fruit juices.

Proteins

Protein is found in meat, poultry, fish, dairy products, beans and some vegetables. Try to eat poultry and fish more often than red meat.

Fats

Butter, oils and. margarine add fat to food. Fat is also found in many dairy and meat products. Try to avoid fried food, egg yolks, mayonnaise based dishes and high fat dairy products.

- Stick to skimmed milk, monounsaturated/

polyunsaturated fats.

- Seeds of fenugreek (methi) taken daily not only control diabetes but also reduce the level of cholesterol, which predispose a person to heart attack, according to the studies by the scientists at National Institute of Nutrition (NIN) in Hyderabad. NIN scientists who reported the beneficial effects of fenugreek have now confirmed that it is effective in Type I diabetes that depend entirely on insulin.

  Fenugreek seeds lower blood glucose level in urine by as much as 64%. The same effect was marked in blood also and the results are noticeable within 10 days. Clinical symptoms like frequent urination also disappear with the use of fenugreek. One can blend 25 - 100gm of fenugreek seeds in staple diet such as chapatti, bread etc. Fenugreek has enough proteins and liascences to act as alternative to pulses. Scientists at Central Food and Technology Research Institute in Mysore reported that fenugreek activates bile formation in liver which converts cholesterol into the bile salts thereby reducing blood cholesterol levels.
- Bitter gourd also called karella is a dietary staple in Asia and India. According to one study, 73% of people who drink about cup of bitter gourd juice saw significant drops in blood sugar levels. Bitter gourd is thought to help cells use glucose through such active ingredients as plant insulin. Other substances in bitter gourd are thought to block sugar absorption in the intestine.
- Soya - Soyabean is a species of legume. Soya bean consists of 40% protein, 20% oil, 35% carbohydrates and 5% of ash. Nutritionally, soyabean is considered as a source of complete protein. Normally it has been seen that dieticians

recommend diabetic patients to take more of fibre and foods with low glycemic index. Soyabean has a low glycemic index and also serves as a rich source of fibre; 30% of which is soluble fibre. So a diet rich in soya foods helps in normalising the blood glucose in both healthy and diabetic patients. Current studies have shown that soyabean has been beneficial in reducing the risk of heart and kidney diseases in diabetic patients. Soyabean can be incorporated in the daily diet in the form of beans, soya milk, textured soya, tofu (soya paneer), soyabean oil and soya flour

Exercise

Regular exercise is an essential component of management in people with diabetes. Exercise is helpful as the body uses blood sugar without insulin. Therefore, lesser amount of insulin is enough to consume blood sugar. Light exercise like walking is good for health. Strenuous physical activity should be avoided. Exercise improves insulin sensitivity, HDL cholesterol, cardiovascular function, bone density, sense of physical and mental well being. It reduces hypertension, weight and serum triglycerides.

The practice of yoga helps therapeutically, and promotes physical and mental health. It has been seen that by regular practice of yoga that includes aasans, pranayama and meditation has been beneficial in controlling the blood glucose level in diabetic patients.

Care of Eyes

Many people have no symptoms before bleeding occurs in eye. This is why diabetic patient should have regular eye examinations (at least once a year). Keeping blood pressure

under control is also important. Diagnosing and treating eye problems early can help save sight.

Care of Feet

To prevent injury to the feet, the diabetic patient should adopt a daily routine of checking and caring of feet. Look out for cuts, cracks, sores, red spots or swelling.

Wash your feet everyday with lukewarm water and mild soap. Test the temperature of water before putting feet in, because the normal ability to sense hot temperature is usually impaired in diabetics. Burns can easily occur. Gently and thoroughly dry the feet, particularly between the toes because infections can develop in moist areas. Rub lotion on top and bottom of feet but not between the toes to prevent cracking and drying. Wear shoes that fit well. Break in new shoes slowly by wearing them one- two hours each day for first week. Always wear shoes or slippers because when barefoot, it is easy to step on something and hurt feet.

Reflexology Treatment of Diabetes

Doctors advise a balanced diet and medicines/insulin to control diabetes. This can certainly control diabetes but it is not a permanent cure. Reflexology can control as well as cure diabetes.

The organs affected by diabetes are pancreas, liver, stomach, intestines, kidneys and urinary bladder. The body either does not make enough insulin or can not use its own insulin as well as it should. This affects proper functioning of liver and kidneys. Stomach and intestines do not function properly in digestive system. In such a situation, Reflexology can naturally enhance the performance of pancreas, liver, kidneys, stomach and intestines.

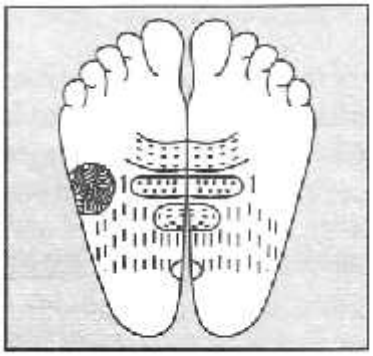


Fig. 291

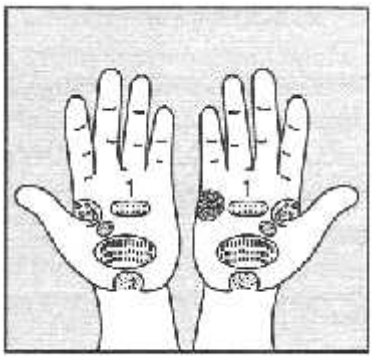


Fig. 292

Reflex centres related to liver are on the right foot and right hand only whereas pancreas, kidneys, stomach and intestines related reflex centres are on both hands and feet. Pressure must be applied on all points of these body organs. The location of these points is shown in figs. 6, 9, 10, 291 & 292. In fig. 291 & 292, point I is related to the pancreas.

Results can be felt within days of applying pressure to these reflex points. By applying pressure, functioning of pancreas, liver, kidneys, stomach and intestines is improved. Adequate production of insulin by the pancreas will help in utilising carbohydrates in the body. Liver will have the ability to convert carbohydrates into glycogen. Kidneys will function normally. Stomach and intestines will fully contribute in the digestion of food to keep the body healthy.

As described earlier, diabetes gives rise to many other diseases. It is advisable, therefore, to apply pressure at all reflex points on both hands and feet. Also, pressure should be applied on reflex centres related to nervous system as shown in fig. 156 & 158. If the patient is obese, the Reflexology treatment for obesity as described in chapter 20 should be followed.

During Reflexology treatment, do not stop taking insulin altogether Doctor must be consulted for any change in medication. As explained earlier, applying pressure on the reflex centres related to diabetes will certainly improve the functioning of pancreas, decreasing the dependence on medicines/ insulin. The greatest benefit of Reflexology is that diabetes can be controlled without the use of medicines.

14 Joints

To understand what goes wrong in arthritis and rheumatism, one must understand the functioning of joints, muscles, bones and ligaments that together make up the body's musculoskeletal system.

A joint is a junction where two bones meet. They have two purposes - to hold our skeleton together and to allow us to move. Joints are held in place by the ligaments and are moved by means of contraction and relaxation of the surrounding muscles. There are many different joints in the body, some fixed, some with restricted movement and some highly mobile.

The two main problems that affect bones and joints (apart from fractures) are arthritis and osteoporosis. Bone infections are relatively uncommon. Bone cancer is also uncommon but secondary cancer frequently spreads from cancer elsewhere. Bone diseases are intimately connected with the metabolism of calcium and phosphorus and are affected by several hormones - parathyroid hormone, calcitonin, hormones of the thyroid gland, growth hormone and vitamin D, which is necessary for the absorption and deposition of calcium.

Arthritis

The word arthritis is a blend of two Greek words 'arthron' for joint and 'itis' for inflammation. In other words, arthritis literally means joint inflammation. It is the most common and the best known of all joint disorders, affecting 10% of the world population. There are more than 100 different types of arthritis, which differ in their cause and progress. Various causes of arthritis include infectious agents, metabolic disorders, trauma

and immune disorders.

Osteoarthiritis

Osteoarthritis results from gradual wear and tear of a joint that occurs with advancing age. It is very common in older individuals. X-rays show some degree of osteoarthritis in one or more of the joints in 9 out of 10 people past the age of 40. It seldom becomes a serious problem however and in nearly all cases poses no life threatening risks. The condition is found more in women than men and the first symptoms are often experienced around the time of menopause. It tends to occur in larger weight bearing joints - chiefly the hips, knees or spine and is more common in overweight individuals.

In osteoarthritis, the smooth lining of the bones where they come into contact (known as articular cartilage) begins to crack and flake because of overuse, injury or some other reason. As the cartilage deteriorates, the underlying bone is affected and may become thickened and distorted.

Symptoms include early morning stiffness that wears off with activity. Where inflammation is present, the joint may become swollen, tender and warm. Although it often affects several joints, osteoarthritis is rarely severe enough at any one time to cause symptoms in more than one or two joints. In a few cases, pain that begins as a minor discomfort may slowly become severe enough to disturb sleep and interfere with every day life. However, unlike rheumatoid arthritis the person does not feel unwell. In the later stages, affected joints may make a crunching noise, known as crepitus when they move, caused by the eroded surfaces of the joint rubbing together.

The body goes to work repairing the damage, but the repairs may be inadequate, resulting instead in growth of new

bone along the sides of existing bone, which produces prominent lumps, most noticeable on hands and feet.

Rheumatoid Arthritis

Rheumatoid arthritis is among the most debilitating of all forms of arthritis, causing joints to ache and eventually become deformed. It is a general connective tissue disorder that affects the skin, blood vessels, lungs and other organs but is most pronounced in joints. It is severely disabling and most commonly involves small joints such as those in hands and feet. There may also be genetic predisposition to the disease. This type of arthritis is two or three times more common in women than men and generally strikes between the age of 20 and 50.

The precise causes of rheumatoid arthritis are not known. Until recently it is thought to be an autoimmune disease, one in which body's normal defence mechanism, the immune system turns its weapons against the body. The synovial membrane of the joint gradually becomes inflamed and swollen and this leads to inflammation of other parts of the joint. If the disease persists, the bones linked by the joint are slowly weakened and in severe cases, bone tissue may eventually be destroyed.

The presence of an antibody, known as rheumatoid factor can be detected in some patients of rheumatoid arthritis. But in some patients, even with severe symptoms of the disease, the rheumatoid factor is not present for a long time.

Rheumatoid arthritis usually causes problems in several joints at the same time. Early in this type of arthritis, the joints in wrists, hands, feet and knees are the ones most often affected. As the disease progresses, shoulders, elbows, hips, jaw and neck can become involved. Along with the physical symptoms of

tenderness, redness and swelling, people with rheumatoid arthritis often experience extreme fatigue, depression and irritability.

Small lumps called rheumatoid nodules may form under the skin at pressure points and can occur at elbows, hands and feet. These nodules can range in size from as small as a pea to as large as a walnut. Usually these lumps are not painful.

Although, rheumatoid arthritis is often a chronic disease, it tends to vary in severity and may even come and go. Periods of increased disease activity called flare ups alternate with periods of relative remission during which the swelling, pain, difficulty in sleeping and weakness fades or disappears.

Psoriatic Arthritis

This is a type of arthritis that affects people with the skin condition called psoriasis. In psoriasis, the skin cells are produced too quickly causing layers of cells to accumulate forming thickened patches covered with dead, flaking scales. Any joint can be affected by psoriatic arthritis although those at the tips of fingers, the knees and the spine are most often involved. The condition usually sets in between the ages of 30 and 50. It affects men and women equally.

Non-arthritic Joint Pain (Arthralgia)

Some people experience pain in the joints that is not associated with inflammation. This non-arthritic joint pain (sometimes called arthralgia) can be caused by overuse. Peoplewho use computer keyboard excessively in their work can develop arthralgia in the handsand wrists. Non arthritic joint pain is also a feature of food intolerance and allergy. In this case,

there are often other symptoms such as headache, bowel disturbances, fatigue and a general feeling of being unwell.

Gout

It is caused by an increase in uric acid in the body. Uric acid is a waste product, which can accumulate as crystals in various tissues including the kidneys and joint capsules. Gout is more common in males than females.

The onset of an attack of gout is often sudden and dramatic with rapid build-up of excruciating pain. Frequently only one or two joints are affected. The most commonly affected joints (85% of the cases) are the base of big toe and other foot and leg joints. The joint aches and becomes swollen and painful. An attack normally settles over a period of days or weeks as the joint returns to normal.

It is not known why some people produce more uric acid than others although men have higher level in their blood than women. An acute attack of gout may result from excessive intake of alcohol, high protein diet, diuretic drugs, intense physical exercise or starvation in patients with a tendency to increased levels of uric acid in blood. Some drugs like Aspirin and Diuretris (used to treat high blood pressure) prevent uric acid from being removed from the blood stream effectively.

Ankylosing Spondylitis

Spondylitis is an inflammation of the joints linking the vertebrae (backbone). It is a type of inflammatory arthritis which mainly involves the sacroiliac joints, causing stiffness and lower back pain. If the disease is left untreated, bony spurs grow out from both sides of the vertebrae and fuse them causing rigidity

and irreversible loss of movement. The spine may also lose its normal curvature. The condition affects men three times more than women.

The first symptoms are stiffness and pain in the lower back, which are often mistaken for ordinary backache or lumbago. There may be pain in the buttocks down the back of the thighs as well as in the lower back. Symptoms tend to be much worse in early morning or after a period of sitting down but improve with activity. Sometimes the symptoms appear first in the hips, knees and ankles.

Some people with ankylosing Spondylitis have more troublesome symptoms such as chest pain - caused by inflammation of the joints between the ribs and breastbone, loss of appetite and fatigue. For reasons that are not clear, the eyes may become red and painful. The disease can also lead to osteoporosis of the spine.

After some months, the lower back may stiffen, sometimes painlessly. In some people, the disease burns itself out at this stage and causes no further problems but in others attacks of pain and stiffness reoccur over a period of years.

Frozen Shoulder

Frozen shoulder is one in which the normal range of movement of shoulder is impossible because of stiffness and pain. It is discussed in detail in chapter 6.

Osteoporosis

The strength of the bones depends on their size and density; bone density depends in part on the amount of calcium, phosphorus and other minerals bones contain. Osteoporosis or porous bones result from reduction in the overall quality of the

bone matrix. The loss of bone mass makes bones so brittle and weakened that they are prone to fracture in response to a fall, blow or lifting action that normally would not strain stronger bones. Most of the fractures occur in hip, spine or wrist bones.

Although it is often thought of as women's disease, osteoporosis also affects a significant number of men. According to WHO, one out of three females and one out of eight males in India suffers from osteoporosis, making India one of the largest affected countries in the world. Doctors have estimated that India has over 5,00,000 patients with hip fractures and at least 4.5 million patients with spinal fractures caused by osteoporosis.

The condition is especially prevalent among post-menopausal women. After menopause, women start losing 1% or more of bone density each year. For every 10% loss of bone mass, the risk of fracture doubles. In post-menopausal women, the decreased production of female sex hormone, oestrogen can cause osteoporosis. The degeneration occurs especially in the vertebrae of the spine and bones of the forearm. Collapse of the vertebrae can cause a decrease in height or in more severe cases produce kyphosis (excessive curvature) in the upper back.

Conditions that result in decreased oestrogen other than menopause can also cause osteoporosis. Examples include removal of ovaries before menopause, anorexia nervosa and cigarette smoking.

Inadequate dietary intake or absorption of calcium can contribute to osteoporosis. Absorption of calcium from small intestine decreases with age and individuals with osteoporosis often have insufficient intake of calcium, vitamin D and vitamin C. Some drugs that interfere with calcium intake or use can also increase the risk of osteoporosis.

Steroids, sometimes used to treat rheumatoid and other types of inflammatory arthritis, also increase the risk. Finally, osteoporosis can result from inadequate exercise or disease caused by fractures or paralysis. Significant amounts of bone is lost after 8 weeks of immobilisation.

Tests

To cheekbone density, instruments that measure the absorption of photons (particles of light) by bone are currently used of which Dual Energy X-ray absorptiometry (DEXA) is considered the best. Other tests that can accurately measure bone density include ultrasound and quantitative CT scanning.

Treatment

Oestrogen replacement therapy, calcium supplementation and a regular weight bearing exercise programme have traditionally been the most common therapeutic approaches used to minimise or reverse bone loss. However, oestrogen therapy has been linked to an increased risk of breast cancer and cardiovascular disease and calcium alone has not been as effective in halting bone thinning as was once hoped.

Exercise

Exercise can help you build strong bones and slow bone loss. Exercise will benefit your bones no matter when you start, but you will gain the most benefits if you start exercising regularly when you are young and continue to exercise throughout your life. Recent research suggests that people with existing osteoporosis can also benefit from exercise. This is because a sedentary lifestyle encourages the loss of bone mass. Moderate, regular exercise should be considered an essential part of any osteoporosis treatment programme. See your doctor or physiotherapist for expert guidance. Always start your

exercise programme slowly and under medical supervision. Exercise that is too vigorous may increase the risk of fractures.

A person with osteoporosis should avoid high impact aerobics and abdominal sit ups. Similarly, any exercise that requires a twisting motion, eg. golf swing or that requiring sudden jolts such as tennis or squash are best avoided.

Good posture which involves keeping your head held high, chin in, shoulders back, upper back flat and lower spine arched - helps you avoid stress on your spine. Do not lean over while reading or doing handwork. When lifting, bend at your knees, not your waist, keeping your upper back straight (See chapter 6). Wear low heeled shoes with non-slip soles to prevent falls.

Getting a balance between activity and rest is especially important when you have arthritis or rheumatism. It may be tempting not to exercise because of fear of or actual pain when you move. However, stiff joints that are difficult to move become even more painful and immobile without exercise; while lack of activity can increase feelings of worthlessness and depression. Gentle, regular exercise on the other hand can help improve flexibility, reduce pain, improve bone density and by strengthening the muscles that support the joints, help to protect them.

Exercise has other benefits too. Research has shown that exercising helps to lift anxiety, depression and anger and improves mood, concentration and self-esteem both in the short and long-term. It has been established that people over 65 can significantly enhance the strength, stamina and flexibility within a matter of weeks of beginning a supervised exercise programme.

An increasing amount of reputable research is now showing that for some people who develop rheumatoid arthritis

and other types of inflammatory arthritis, an allergy or intolerance to particular foods can be a contributing factor. Such foods seem to trigger an immune reaction in the body which causes inflammation and swelling. Studies have shown that cutting out these foods can significantly reduce symptoms such as pain, swelling and stiffness and in some cases even cut out the need to take drugs. The most usual culprits include common foods such as corn, wheat, cow's milk and dairy products, pork, preserved meats, peanuts, tomatoes, chocolate and citrus fruit. Tobacco, potatoes and chillies should be avoided.

Nutrition

Everyone with arthritis can benefit from eating a healthy well balanced diet. There is no special diet or miracle food that cures arthritis, but some conditions may be helped by avoiding en-including certain foods. For example, osteoarthritis and rheumatoid arthritis seem to respond to an increased dietary intake of fish oils, while gout benefits from avoidance of alcohol.

- Eat a variety of foods- this includes a variety of vegetables, fruits and whole gain products.
- Maintain your ideal weight- excess body weight influences arthritis by putting strain on already burdened joints.
- Avoid too much fat, saturated fat and cholesterol.
- Eat adequate amount of starch and fibre.
- Avoid too much sugar- it provides empty calories and little nutrition, contributing to excess weight gain.
- Avoid too much sodium- excess salt can contribute to high blood pressure and water retention.
- Avoid alcohol- it can deplete the body of vitamins and minerals besides being high in calories. It can also potentially interact with medications for arthritis.

- In recent years, researchers have become increasingly interested in benefits of Omega 3 fatty acids which are found in fish oils. Studies have shown that taking Omega 3 fatty acid supplements can reduce the severity of tenderness in joints and amount of morning stiffness. Walnut is an excellent plant source of Omega 3 fatty acids. Walnuts have potential health benefits ranging from cardiovascular protection, to the promotion of better cognitive function, to anti-inflammatory benefits helpful in asthma, rheumatoid arthritis and inflammatory skin diseases such as eczema and psoriasis. In addition walnuts contain an additional compound called ellagic acid that supports the immune system and appears to have anti-cancer properties.

Do not forget that nutrition also plays an important role in preventing osteoporosis. The two most important dietary elements are calcium and vitamin D. The amount of calcium you need to stay healthy changes over your lifetime. The body's demand for calcium is greatest during childhood and adolescence, when the skeleton is growing rapidly and during pregnancy and breastfeeding. Post-menopausal women and older men also need to consume more calcium. Pre-menopausal women should consume at least 1200mg of calcium and 400 IU of vitamin D everyday. Post-menopausal women and men over 65 years should aim for 1500mg of calcium and at least 800 IU of vitamin D daily. Good sources of calcium include dairy products and green leafy vegetables, although calcium from milk and milk products is more easily absorbed and present in greater amounts.

Reflexology Treatment of Joints

Reflexology technique has proven itself to be very successful in the treatment of arthritis and other joint related problems. The duration of the treatment may vary according to the severity of the disease. Within a span of 3-4 days, pain is considerably reduced and swelling of joints lessens.

In case of arthritis, pressure should be first applied on the reflex centres of all endocrine glands especially pituitary (fig. 293 - mid of the thumb), thyroid and parathyroid (fig. 293), adrenal (fig. 6) and pancreas (fig. 6).

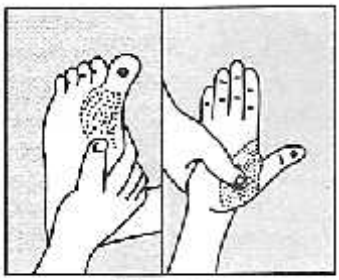


Fig. 293

Apply pressure on the reflex centres of the nervous system located on hands and feet (fig. 294 & 295). Later apply pressure on the reflex centres of liver, stomach and intestines (fig. 296). This is because almost all the disorders of joints are related to digestive problems. Kidneys play an important role in flushing out the waste toxins from the body. So pressure must be applied on the reflex centres related to kidneys regularly (fig. 297).

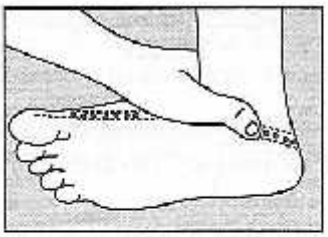


Fig. 294

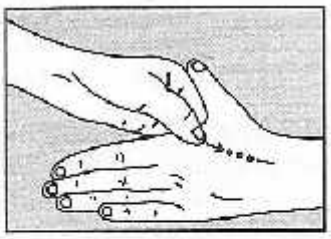


Fig. 295

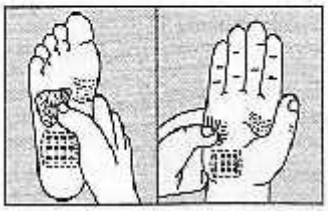


Fig. 296

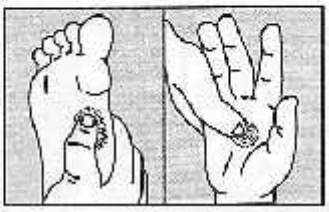


Fig. 297

In disorders of the joints, pressure must also be applied on the reflex centres related to solar plexus and diaphragm (fig. 298). Massaging all the channels present on the hands and feet will help in relaxing the joints (fig. 299). Pressure must be applied with the help of a thumb as shown in fig. 106.

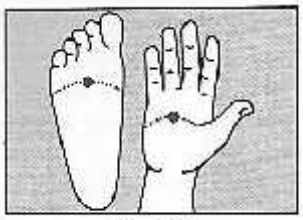


Fig. 298

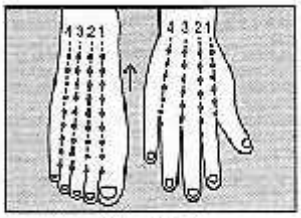


Fig. 299

In all the diseases of the joints especially when pain is in the knee, thighs or buttocks, pressure must be applied along the outer and inner ankle of both the feet (fig. 300). Pressure is also applied just below the ankle in line with the little finger (fig. 301).

Fig. 300

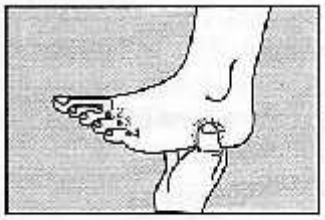


Fig. 301

To treat stiffness in the lower back, swelling and pain in the thighs, buttocks and feet, pressure should be applied on

both sides of the wrist as well as on the hand in line with the little finger (fig. 302, 303 & 304).

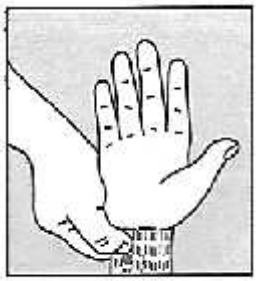


Fig. 302

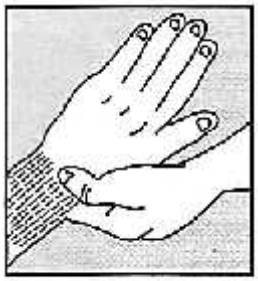


Fig. 303

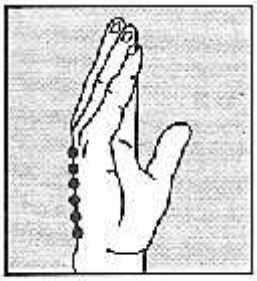


Fig. 304

Pressure should be applied at the back of the neck at the junction of the head and neck as well as along the vertebral column on the neck with the help of thumb (fig. 305). After this, apply pressure on the back along the back bone on both the sides (fig. 306). End this treatment by pressing reflex points located on the back of the calf three times each. Pressure should be applied with the help of thumbs of both the hands. Pressure can also be given by double thumb technique as shown in fig.32.

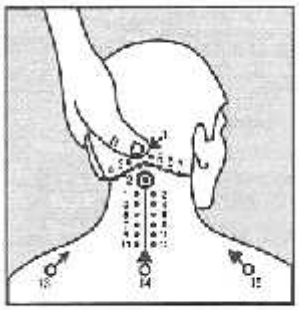


Fig. 305

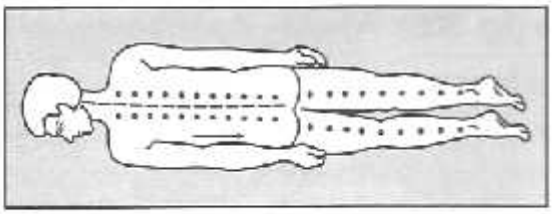


Fig. 306

In patients suffering from rheumatic fever, pressure is applied on reflex centres related to the heart. These points are located on the feet (fig. 301, points 1-4). Our only caution is that you should be gentle with pressure in those areas where pain is present-particularly the joints.

Along with the Reflexology therapy, over weight people should try to lose weight in a healthy manner. Reduce the intake

of sugar, rice, potato, maida and fried food. Exercise at least 3-5 times a week. Weight loss has been dealt in chapter 20.

Women suffering from joint related diseases should also apply pressure on reflex centres of uterus and ovaries. This has been explained in chaperl5.

Knee Pain

The knee is the largest joint in the body and is also one of the most complex. It is formed by the thigh bone (femur) and the shin bone (tibia). The bones are cushioned by cartilage pads called menisci which have a curved shape. Tough ligaments tether the bones and the joint is further stabilized by the kneecap (patella) and strong thigh muscles.

In children and adolescents, the pain of knee is almost certainly injury from sport or accidents. The resulting pain is more from strain of tendons or ligaments than any damage to the bone. In adults, injuries are the most likely cause of pain. Rheumatoid arthritis and gout are less common causes of knee pain. In later adult life are old age, osteoarthritis is the cause of most knee pain. It causes a chronically painful knee that is often more painful with activity.

Reflexology Treatment

Knee is a type of joint so all the above mentioned reflex centres are relevant for knee too. Special attention should be given to the reflex centres related to kidneys, endocrine glands and digestive system. Millions of people worldwide are suffering from osteoarthritis and pain in knees. There is no permanent cure except symptomatic relief with painkillers. Reflexology has proven itself beneficial in all such disorders.

When there is pain in the knee or swelling in the joint, the ankle joint also becomes swollen. Thus, in all the disorders of

the knee, pressure should be applied all along the ankles of both the feet (fig. 307). Another important reflex point is located below the outer ankle (fig. 308). Pressure should be applied here too.

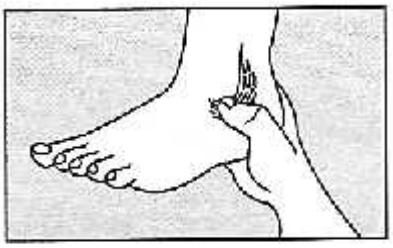


Fig. 307

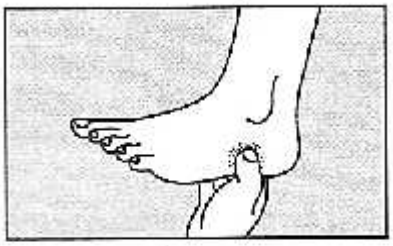


Fig. 308

A very important reflex centre which when massaged results in miraculous cure from knee ache is located on all the fingers of the feet especially the two fingers next to the thumb (fig. 309) and on the middle of the wrist (fig. 310).

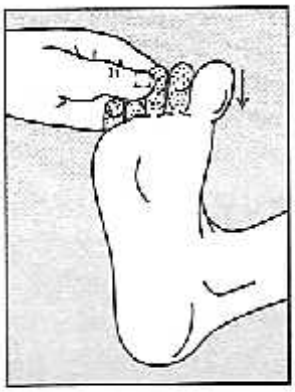


Fig. 309

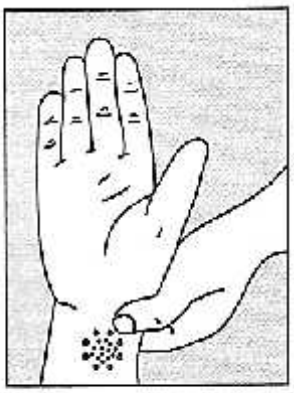


Fig. 310

Apply pressure on the areas shown on hands & feet in fig. 311. These are one of the main centres related to knee. Pressure should be given on both the hands and feet even though only one knee is affected. When there's pain in one knee, the whole body tilts towards the other knee. So its imperative to keep the other knee sound. Pressure is also applied on the reflex centres located on the fourth channel on the hands and feet (fig. 312).

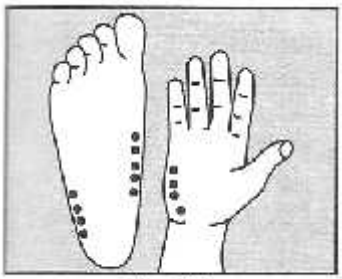


Fig. 311

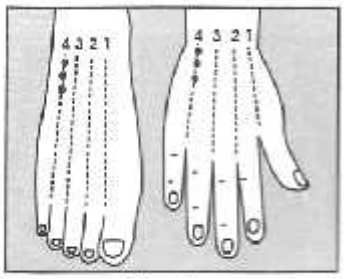


Fig. 312

Fig. 313

Another reflex centre related to knee is located on the neck at almost the same level as Adam's apple. Apply light pressure at this centre for 3 seconds, pressing down into muscle, not the wind pipe (fig. 313). This is also an important reflex centre related to hypertension and stress.

Apply pressure on the lower back on the either side of the back bone, on the outer side of the buttocks, just below the buttocks and in mid of the back of the knee (fig. 314). Pressure should be applied for a few seconds according to patient's tolerance. Pressure on the outer side of buttocks should be given with the elbow as shown in fig. 209.

Fig. 314

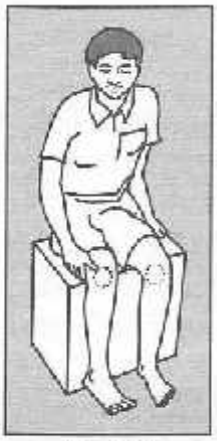


Fig. 315

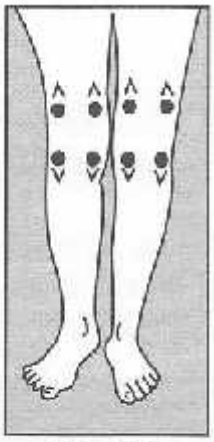


Fig. 316

A few reflex centres are located on the knee itself. Usually in the knee problems the joint is swollen and tender. So gentle pressure should be given. First using the thumb and fingers apply pressure on the knee all along the knee cap (fig. 315) three

times. Later apply pressure on the points located over the knee cap with the help of thumb and finger (fig. 316). Regulate your pressure according to the pain it may elicit. End the treatment by gently pressing on the kneecap itself with the palm of your hand.

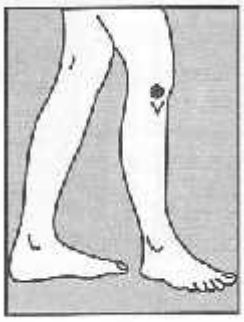


Fig. 317

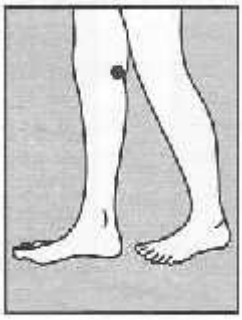


Fig. 318

Another important reflex centre is located on the outer side of the leg (fig. 317). To locate the correct point, place your hand over the knee cap with fingers pointing towards the feet. The point where the ring finger ends marks the location of this reflex centre. This will be normally tender in case of pain in the knee. Give deep pressure in accordance to patient's tolerance with the help of thumb. Stiffness in the knees, difficulty and pain in sitting and standing can be cured by applying pressure on the reflex centre shown in fig. 318. It is situated where the inner part of the legs meets the knee. As shown in fig. 18 point 42, there is a reflex point related to knee on ears too.

15 Female Reproductive System

The female reproductive system is designed to carry out several functions. It produces the female egg cells. In addition the female reproductive system produces the female sex hormones necessary for reproduction. The female reproductive system has organs like ovaries, fallopian tubes, uterus and vagina. These are located in the pelvic cavity.

Vagina

Vagina is a muscular tunnel that connects the uterus to the outside of the body. It provides the exit for menstrual fluid and an entrance for semen.

Ovaries

Ovaries are a pair of almond-shaped organs located on the either side of the uterus. The ovaries are gray - pink in colour and each is about 4 cm in length, 2 cm wide and about 8 mm in thickness. They weigh 2-3.5 gm each. The fallopian tubes are two delicate muscular tubes which are attached to the upper corners of the uterus, on either side. The ovaries contain immature eggs.

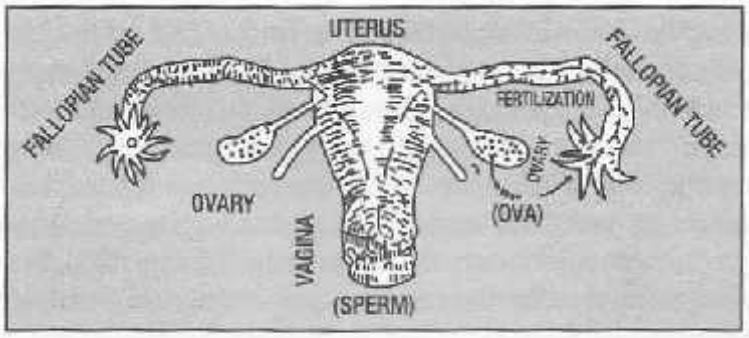


Fig. 319

From the onset of menstruation to menopause, every month one egg is released from either of the ovaries by a process

called 'ovulation' into the fallopian tube. During sexual intercourse, if a sperm enters the tube, then fusion of the sperm and egg can occur resulting in 'fertilisation'. Meanwhile, with the start of ovulation, the uterus starts preparing for implantation of the fertilised egg by lining itself with blood vessels.

Fallopian Tubes

The fallopian tubes are a pair of fine tubes running between the uterus and the ovaries. They are around 7- 14cm long and are not directly attached to the ovaries. Rather they end close to it forming finger like projections called fimbria. When an egg is released from either of the ovaries, these fimbria grab hold of the egg and push it into the fallopian tube. Tiny hair, lining the tubes, help in pushing the egg into the uterus. Fallopian tubes play a very important role in the reproductive system. It is here that the sperm from the male partner fuses with the egg resulting in the formation of an embryo. This embryo is then pushed into the uterus and it gets embedded here. This signals pregnancy. If fertilisation does not occur then this egg is pushed out through the vagina as menstruation. Sometimes, the embryo gets implanted in fallopian tubes, and then it is called ectopic (tubal) pregnancy.

Uterus

Uterus (womb) is the major reproductive organ of a woman. If is a pear-shaped organ, one end of which opens into the vagina and the other is connected on both the sides to the fallopian tubes. Its weight is 30 - 40 gm. Uterus is the place where the fertilised egg grows and develops into a baby during pregnancy. After the birth of the baby, the uterus comes back into its original position. Some diseases of the uterus are: prolapsed uterus, ectopic pregnancy, fibroids, and carcinoma.

Menstruation

Menstruation (menses or periods) is a recurring cycle of many physiologic changes that is associated with reproductive fertility. The lining of the uterus, in preparation for possible conception and the implantation of the embryo (fertilised egg) starts thickening and getting filled with blood. If the egg gets fertilised, then this fertilised egg is embedded in the uterus which provides nourishment to the growing foetus. If the egg is not fertilised, then this thickened, blood filled lining of the uterus is not required. This egg and the lining are then expelled out of the uterus through the vagina and out of the body. This bloody discharge (menstruation) lasts on an average 3-5 days and this occurs 14 days after ovulation. Immediately after the menstruation stops, the uterus again starts lining itself during the next nine days and ovulation starts again. This entire cycle takes about 28 days on an average. It may fluctuate in duration by a couple of days.

Every stage of the menstrual cycle is controlled by the hormones produced by the hypothalamus, pituitary and the ovaries.

Menstruation usually starts between the ages 11 and 14. This onset of menstruation is called menarche. Now, the female is sexually mature and can become pregnant. Menstrual cycle is repeated every month for the next many years when it draws to a close at the age of 45 to 50. This last period is termed menopause.

If a woman wants to conceive, the most fertile period occurs between 11 to 19 days prior to expected date of menses.

Hormones

The two main hormones of the reproductive system are the oestrogen and the progesterone. The pituitary gland releases some hormones to stimulate the ovaries to produce both oestrogen and progesterone.

Oestrogen is essential for the growth and development of the entire female reproductive tract, for egg maturation and release and labour. Progesterone helps in preparing a suitable environment for the nourishment of developing embryo and also helps in building bones and protecting the pre-menopausal women from osteoporosis.

Pituitary also releases a hormone Prolactin which promotes the secretion of milk in lactating mothers. The male sex hormone, Testosterone is also produced in the adrenal gland and ovaries and is responsible for sexual desire in both sexes.

Disorders of the Female Reproductive System

There are many disorders related to the female reproductive system but here we will discuss only those which are common and can be treated by Reflexology easily. Many problems of women are hormone related. The breasts, ovaries and uterus are all environments with great cell activity, which is why they are common sites of cancer. Quite unlike in men, infections can gain access to the interior of body via vagina and fallopian tubes; thus pelvic and vaginal infections are common and potentially extremely serious.

Prolapsed Uterus

Uterus is held in place inside the pelvis with the help of various muscles, tissue and ligaments. Sometimes, these muscles weaken and the uterus can collapse into the vaginal canal leading to the condition known as prolapsed uterus. The uterus may sag into the vagina or may come completely out of

the vagina.

The conditions that cause prolapsed uterus are multiple child births, advancing age, loss of tissue tone, after menopause and loss of natural oestrogen, chronic constipation, obesity and excessive lifting of heavy weights.

Symptoms associated with prolapsed uterus are feeling of pressure in the pelvis, low backache, painful sexual intercourse, and difficulty in urination or defecation and difficulty in walking.

In addition to Reflexology, exercise to tone up the pelvic floor muscles (kegel exercises), losing weight, if you are obese and eating fibre rich foods to avoid straining during defecation are some simple solutions.

Amenorrfioea

This is a medical term used to describe a temporary or a permanent absence of periods. It is of two types:

- Primary - where the periods fail to start at the normal age (usually 11-14 years).
- Secondary -delay or absence of periods in a woman who has had regular periods.

Menstruation does not occur during pregnancy or lactation and it ceases with menopause. Amenorrhea may be due to the disruption of the hormonal balance, illness, by taking certain drugs, abnormality in the production of hormones from the pituitary or the hypothalamus, in athletes, damage of the ovaries, anaemic women and women with low body fat (anorexic). Amenorrhea, though does not pose a serious health risk, women may find it difficult to conceive because of this disorder.

Dysmenorrhoea

It is also known as painful periods. The pain is a result of normal hormonal changes occurring during menstruation. Pain

may vary from a dull ache in the back or abdomen to a severe cramping abdominal pain. In some cases, it may be accompanied by nausea and vomiting.

If a woman develops severe pain during periods after 3-4 years of relatively pain-free periods, an underlying disorder like fibroids, endometriosis or a pelvic infection should be ruled out. Often dysmenorrhoea disappears after the birth of a child or as one grows older.

Menorrhagia

It is unusually heavy periods. The length of the periods varies from 3-7 days. But in most women it lasts 3-5 days. If the periods prolong more than seven days, or there is copious bleeding, or large clots of blood are passed, the condition is called menorrhagia. This condition may be due to some underlying hormonal disturbances, fibroids in the uterus, pelvic infection or any intra uterine contraceptive device.

This is a common complaint and is normal after child-birth or miscarriage. But consultation with a gynaecologist is a must to rule out any underlying disease. Prolonged menorrhagia may result in iron- deficiency anaemia. Women suffering from this disorder should take a diet rich in iron.

Pre-menstrual Tension

A combination of physical and emotional changes that occur in most women in a few days before a period is known as pre-menstrual tension.

This is seen as a result of hormonal changes in a menstrual cycle which may affect the mood. Changes may vary from increased irritability, aggression, depression, tender breasts, pain in abdomen and headache. The degree of these symptoms may vary from moderate to so pronounced that they

adversely affect interpersonal relationships.

Slight increase in weight gain has also been noticed due to fluid retention in body. So, women suffering from pre-menstrual tension should cut down on salt intake a few days prior to expected periods.

Leucorrhoea

There is a slight amount of vaginal discharge in a few days before or after a period. The discharge can be very thin or thick. This is normal. But in some women, there is a copious amount of discharge which is whitish, thick and smelly. Common causes are improper hygiene or infection in the vagina or cervix. Women suffering from leucorrhoea may find it difficult to conceive.

Menopause

Menopause is the natural point in your life when you have your last period. It signals the end of fertile phase (your ovaries gradually cease to function). In general terms, the woman is now unable to conceive. Worldwide the average age for women having last period is 51 years. Typically in Indian women, menopause takes place a little earlier, the average age ranging from 40-49 years.

Menopause isn't a one size fit all event. It varies from women to women. A third of women won't even notice the transition, while other third will experience mild to moderate symptoms. The remainder may have symptoms that severely hamper their lives.

- Hot flashes- a hot flash is a sudden feeling of heat in upper part of the body or all' over, lasting for anywhere between 30 sec. to 10 min. Heavy sweating and cold shivering may follow the sudden bursts of heat.
- Vaginal dryness- the vagina thins as a result of lack of

oestrogen and sex may be painful.

- Urinary problem- you may find it harder to hold your urine and find some leakage during exercise or while coughing or sneezing.
- Sleep disturbances- you may not sleep as soundly and sweating at night from a hot flash may wake you up.
- Mood changes- you may find that you are more sensitive and irritable than usual.
- Lowered libido-your feelings towards sexual intercourse may change. You may have a feeling of liberation or you could get less interested.
- The total cholesterol and LDL (bad) cholesterol levels go up due to decreased oestrogen. This could increase your risk of coronary heart disease.
- Your bones lose calcium in the first five years after menopause begins, resulting in loss of bone density. This increases your risk of osteoporosis and bone fractures. Your doctor may suggest you calcium supplements and bone strengthening exercises such as walking and light weight training to counter this.

In the last few years there has been an increasing tendency to treat the menopause as a medical issue; with the result that HRT (Hormone Replacement Therapy) is now much more widely prescribed. HRT is contraindicated in cases of breast and endometrial cancer, which would tend to confirm that it does carry some risk to those organs.

If you don't want to opt for HRT, you can still get oestrogen like benefits from foods such as soya, tofu, flaxseed, and other beans and legumes. A recent scientific study that suggests that reason Japanese women rarely suffer from hot flashes is that

they eat much more soya and beans, foods that contain large quantities of oestrogen precursors or phyto (plant) oestrogens.

Infertility

If a couple is unable to conceive after having sexual intercourse without the use of birth control for more than one year, the condition is termed as infertility. It may be a result of a single factor in either of the two partners or of a combination of factors.

Conception is an intricate process involving ovulation and fertilisation which need to be timed right. If there is a problem in any of these two, it becomes difficult to conceive. The egg is released by the ovary and is picked up by a fallopian tube. Egg is viable for up to 24 hours but it is most fertile up to 12 hours after ovulation. The sperm must be present in the fallopian tube at that time for the fertilisation to occur. Sperm is capable of fertilising the egg upto 72 hours. Thus, the timing must be just right. The ovulation occurs around the 14th day of the menstrual cycle (counting the first day of bleeding as dayl). So, the most fertile period of a female is 11 - 19 days before the next period.

The cause of the infertility might lie with any or both the partners. Either the ovulation process is not right or the sperm has not reached there, or the sperm is not able to fertilise the egg. For a sperm to reach an egg, many factors are involved. There must be enough sperms, they should be of the right shape, move the right way, and enough semen must be there for transport. Male should also be able to have a sufficient erection, he must be able to ejaculate the semen into the vagina.

The most common cause of female infertility includes fallopian tube damage, endometriosis, ovulation disorders,

fibroids. Other causes are medications, thyroid disorders etc.

Fallopian tube damage is one of the most common causes of female infertility. It is in the fallopian tubes that fertilisation takes place and if there is tubal scarring, risk of ectopic pregnancies increases.

Frigidity

Loss of sexual desire in women. It can be due to a variety of reasons. Most often it is due to psychological reasons especially stress or marital discord. Physical reasons include delivery or post-gynecological surgery or where ovaries or adrenals have been removed, hormonal imbalances particularly drop in the level of testosterone, use of steroids, contraceptive pills, hormone replacement therapy, alcohol etc. Any chronic or painful illness can cause you to become generally depressed and lose interest in sex.

Miscarriage

Miscarriage is defined as the pregnancy that ends prematurely with the loss of the foetus. Early miscarriages, up to about 14 weeks gestation are usually due to fundamental abnormality with the foetus or placenta. The baby may be seriously malformed, the placenta may be unhealthy or poorly attached to the womb. Late miscarriages means a miscarriage between 14 and 26 weeks. Late miscarriage is usually because of abnormality of the baby or the placenta. Additional causes are infections such as toxoplasmosis and trauma to the abdomen. In few cases, mother's health condition such as uncontrolled diabetes, thyroid disease, infections, blood clotting problems may lead to miscarriage. Women older than 35 years have a higher risk of miscarriage. Symptoms include vaginal bleeding, abdominal cramps and backache. Keep in mind that spotting or

bleeding in early pregnancy is fairly common.

In vast majority of cases there is nothing you can do to prevent a miscarriage. Simply focus on taking good care of yourself and your baby. Seek regular pre-natal care and avoid risk factors such as smoking and drinking alcohol.

Other diseases associated with the female reproductive system are irregular menstruation, metritis (inflammation of the uterus), ovaralgia (pain in the ovary), vaginitis (inflammation of the vagina) and mastitis (inflammation of the breast).

Reflexology Treatment

Reflexology treatment stimulates the reproductive organs to perform their reproductive and hormonal functions and help maintain their health and resistance to disease.

Begin the treatment by applying pressure on the reflex centres related to pituitary, pineal and brain located on the tips of thumbs of both hands and feet (fig. 320).

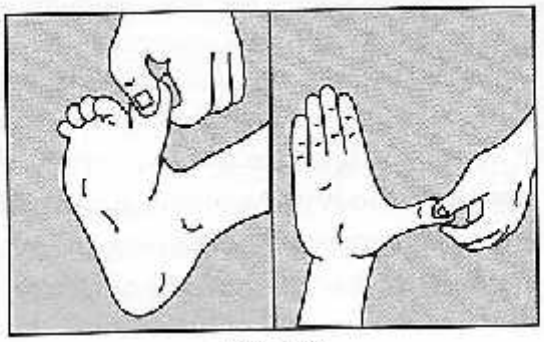


Fig. 320

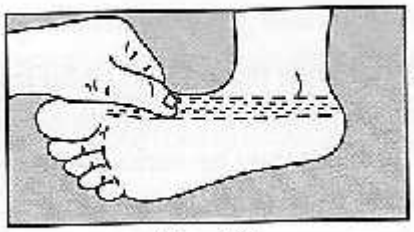


Fig. 321

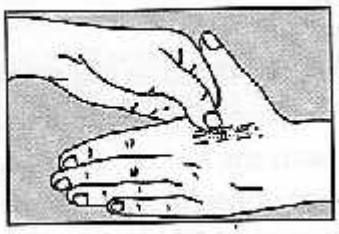


Fig. 322

The lumbar and the sacral parts of the nervous system are directly related to the reproductive organs. Pressure should be

applied on these reflex centres located on hands and feet as shown in fig. 321 & 322.

Pressure must be applied on reflex centres related to thyroid and parathyroid (fig. 323), adrenal glands (fig. 324), kidneys (fig. 10 & 324), spleen (fig. 7), liver (fig. 9), stomach (fig. 9), solar plexus and diaphragm (fig. 41) and lymphatic system (fig. 64).

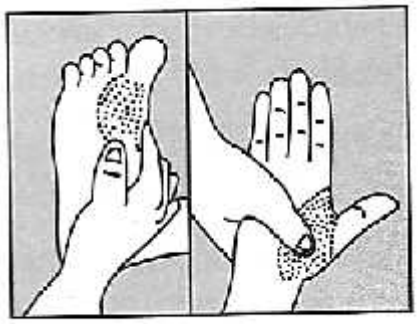


Fig. 323

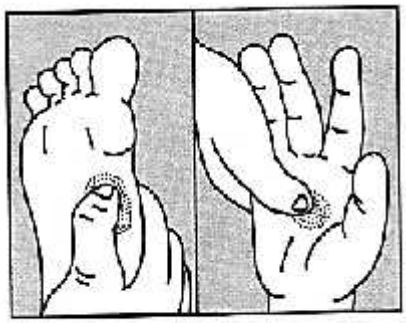


Fig. 324

In all disorders of the female reproductive system, it is necessary to apply pressure on all the reflex centres, irrespective of the fact that it pains on pressing or not as all the organs of this system are interrelated. Regular Reflexology treatment will alleviate the symptoms and the corresponding pain will be gradually reduced.

Reflex Centres Related to Uterus

The reflex centres on both feet are in the hollows under the inner ankle bones (fig. 325). These are extremely sensitive areas, so be careful while working on them, and be sure to work both the right and left foot in a session. For the first time, press slowly with the thumb for 3 seconds. Pause. Gradually increase the pressure with slight releases between presses. Applying pressure on the heels and the part of the legs behind the ankle (fig. 326) helps in all the disorders especially the menstrual disorders as this point helps in improving the circulation to the female sex

organs.

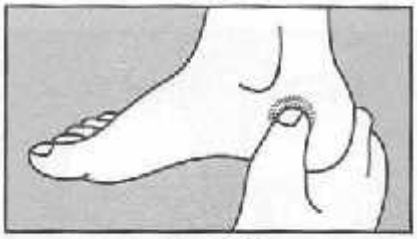


Fig. 325

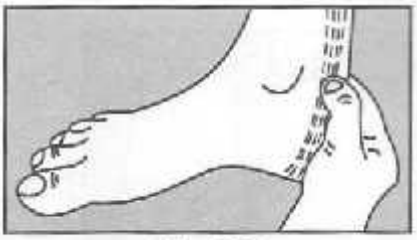


Fig. 326

Additional centres are located on the wrist in line with the thumb (fig. 327) and on the heels (fig. 328).

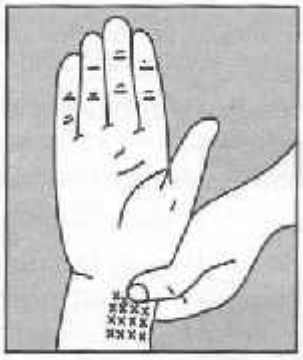


Fig. 327

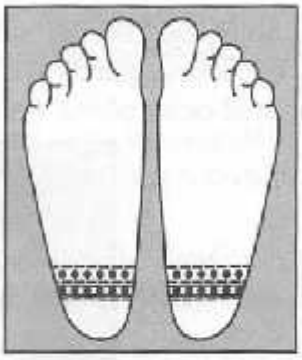


Fig. 328

Reflex Centres Related to Ovaries

The reflex centres on both feet are in the hollow under the outer ankle bones (fig. 3.29). These are extremely sensitive areas, so be careful while working on them.

The reflex centre on the hands is at the base of the palm, actually on the wrist on the outer edge, straight from the little finger (fig 330). Press gently but firmly with your thumb and index finger for 3 seconds.

Fig. 329

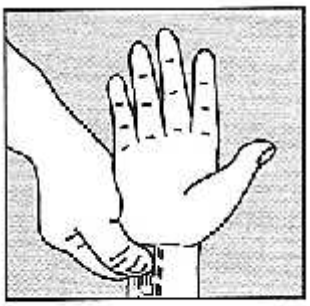


Fig. 330

Reflex Centres Related to Fallopian Tubes

These are located at the junction of the leg and feet (fig. 331) and the hands and wrist (fig. 332).

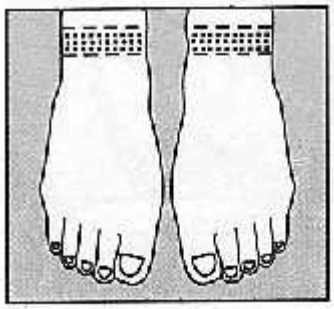


Fig. 331

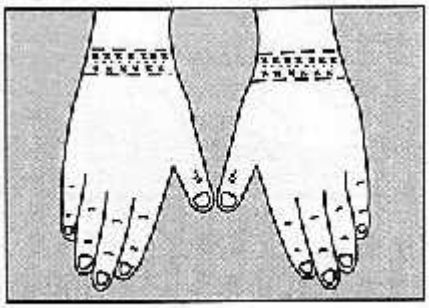


Fig. 332

Frigidity

This is a psychological disorder and pressure should be applied on reflex centres related to brain, endocrine glands and reproductive organs. Sit on a chair and apply deep pressure on mid point of the inner thigh for a few seconds (fig. 333)

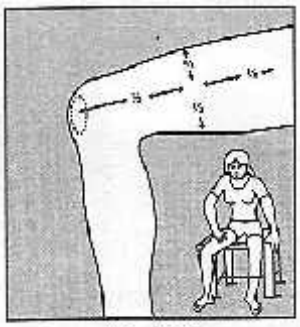


Fig. 333

A few other important reflex centres related to diseases of female reproductive system are located on the face. Pressure

must be applied as shown in fig. 15 (point 1, 3 & 10) fig. 17(pt.30)

16 Male Reproductive System

Most of the male reproductive system is visible, comprising of the penis, testicles and the scrotum. The prostate gland is hidden and can only be examined via the rectum or with ultrasound. Sperms are continually manufactured in each testis. When you have orgasm, the sperms pass into the urethra and are ejaculated in the seminal fluid. Thus the urethra, which runs from the bladder along the length of the penis, is a common passage for both seminal fluid and urine.

Men have very few problems related to their reproductive organs as compared to women. And Reflexology can cure all these diseases barring the infectious diseases (STDs) like syphilis, gonorrhoea etc.

Sexual problems of men have either a physical or psychological basis. And because of these men all over the globe suffer a lot by lowering their self-esteem and not being able to enjoy sexual life fully.

Common sexual problems of men are: erectile dysfunction, premature ejaculation, disorders of the prostate gland, sub-fertility, loss of sexual desire and cancer of the testicles and penis.

Erectile Dysfunction

Formerly called impotence, it affects the lives of many middle aged men and their partners to one degree or another. Although it is more common in men older than 65, it can occur at any age. The term erectile dysfunction covers a range of disorders, but usually refers to the inability to obtain an adequate erection for satisfactory sexual activity.

As men age, it is normal to experience changes in erectile function. Erections may take longer to develop, may not be as

rigid or may require more direct stimulation to be achieved. Men may also notice that orgasms are less intense, the volume of ejaculate is reduced and recovery time increases between erections.

An occasional episode of erectile dysfunction happens to most men and is normal. But when it proves to be a persistent problem, it can interfere with a man's self-image as well as his and his partner's sexual life. It may be a sign of a physical or emotional problem that requires treatment.

Erectile dysfunction can be due to many problems like psychological problem, negative feeling (resentment, hostility), alcoholism and other drug abuse, nerve damage from long standing diabetes (diabetic neuropathy), certain prescription medicines, abnormal levels of testosterone, fractures that injure the spinal cord and chronic fatigue. In fact, erectile dysfunction may be one of the first signs of an underlying medical problem.

As a general rule, in men who are unable to get an erection at all, there is probably a physical cause, whereas men who are impotent but get a nocturnal erection or wake with an erection are more likely to have a psychological cause for their impotence.

Premature Ejaculation

During ejaculation, reflex contractions of muscles at the base of the penis pump out 2-5 ml of ejaculate. An internal valve closes to prevent the backflow of semen into bladder. These reflexes are under unconscious control by the nervous system. Accompanying this is the intense sexual orgasm, which is the response of the brain to sexual stimulation. During sexual intercourse, if a man ejaculates quickly, then it is called premature ejaculation. This may result in feeling of despair and guilt or shame at failing to prolong the sexual act or failing to bring the partner to sexual satisfaction.

This disorder has its root cause in psychological disturbances or nervous system disorders. Many men occasionally ejaculate sooner than they or their partner would like during sexual intercourse. It is probably not enough cause for concern. However, if a man regularly ejaculates sooner than he himself or his partner wishes, usually before intercourse begins or shortly afterwards, then he suffers from premature ejaculation.

Reflexology Treatment

Begin the treatment by applying pressure on the reflex centres related to nervous system. Reach both of your hands behind your head to the base of your skull (fig. 334). Give deep pressure in the hollow just beneath the base of skull with your thumb. Hold for 3 seconds. Wait and repeat pressure. Then apply pressure on the tips of fingers of both hands and feet on the reflex centres of brain (fig. 335).

Apply pressure on the reflex centres related to solar plexus and diaphragm (fig. 41). In addition, apply pressure on the reflex centres related to pituitary, thyroid and parathyroid glands (fig. 336) and also on the reflex centres related to heart, liver and kidneys (fig. 7, 9, 10).

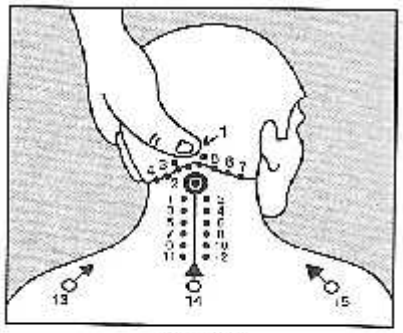


Fig. 334

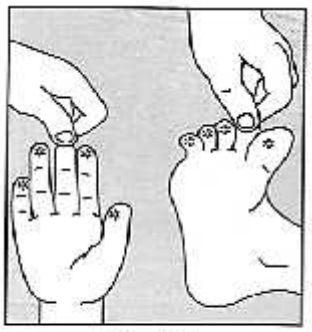


Fig. 335

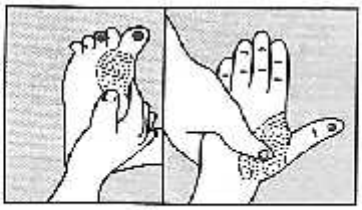


Fig. 336

To improve libido and to cure the sexual problems, it is important to apply pressure on the reflex centres of the prostate gland, penis and testes. The reflex centre of penis and prostate on the feet is in the hollow under the inner ankle bone (fig. 337). Reflex centre of prostate are on the heel and part of the legs behind the ankle (fig. 338). In females this area corresponds to uterus.

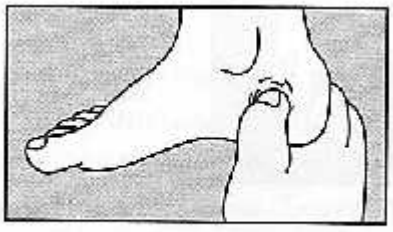


Fig. 337

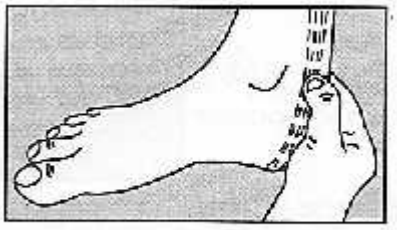


Fig. 338

The area on the wrist in line with the thumb corresponds to prostate and penis (fig. 339). There is an important point on the middle of the heel (fig. 340) and applying pressure here increases virility.

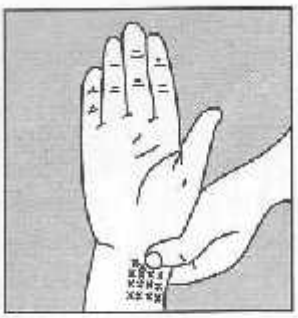


Fig. 339

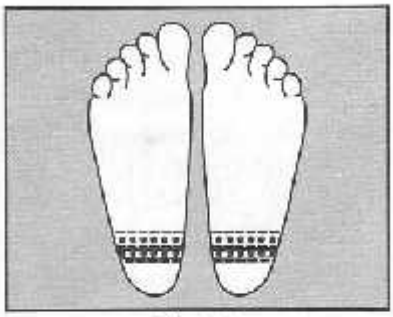


Fig. 340

Fig. 341

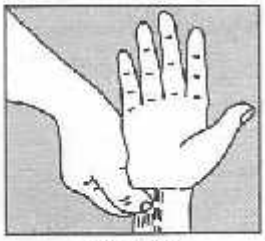


Fig. 342

The reflex centres related to testes on the feet are located in the hollows under the outer ankle bones (fig. 341). They are also located on the wrist in line with the little finger (fig. 342). There are a few other secondary reflex centres and pressure must be applied on these along with the ones described earlier.

For treatment of premature ejaculation, apply pressure on the web of the thumb 2- 3 times in a day (fig. 343). Pressure must be bearable.

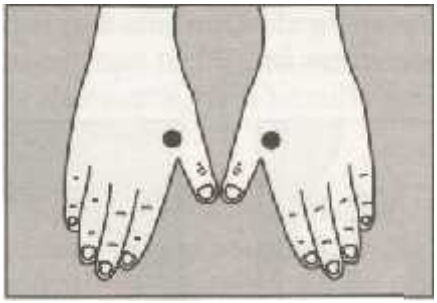


Fig.343

Apply pressure on the lower back in the recesses between the vertebrae and on either side of the vertebral column in a downward direction (fig. 344 and 345). The method of applying pressure along the backbone is shown in fig. 346. Pressure is

applied with the thumb for around 3 seconds at each centre. Do not apply direct pressure on the spine.

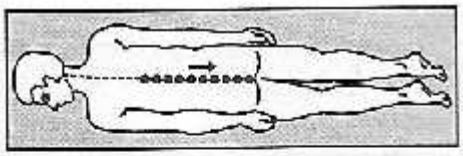


Fig. 344

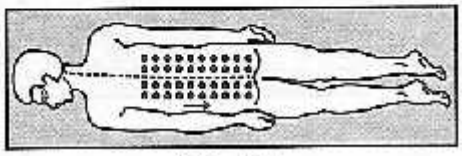


Fig. 345

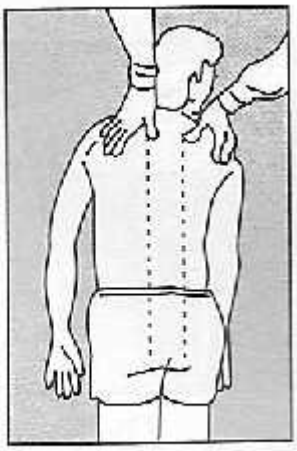


Fig. 346

There are many points on the abdomen related to sexual drive (fig. 347). Apply pressure on these points with fingers for 3 seconds. Complete the cycle of applying pressure with hands as shown in fig. 174.

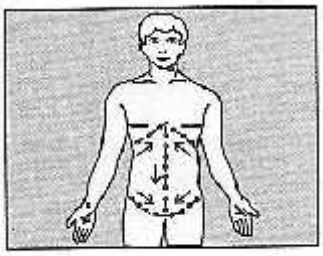


Fig. 347

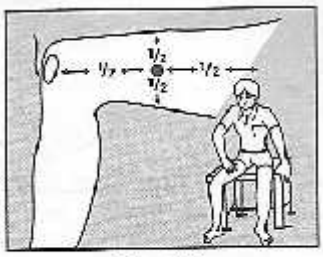


Fig. 348

Apply pressure on the inner thigh at the mid point (fig. 348) and at regular short distances with the thumbs of hands according to patient's tolerance. Self administration of this step can be easily done by sitting on a chair.

Male erection weakness - Specific reflex points related to this problem are located on mid point of both the upper and lower leg (fig. 349 & 350). Apply pressure on both the points three times for 3 seconds at each point.

To improve the libido and to cure many sexual problems,

apply pressure on the points on both sides of the neck (fig. 351). Pressure can be easily given with the thumbs of both hands in a downward direction thrice for 3 seconds each.

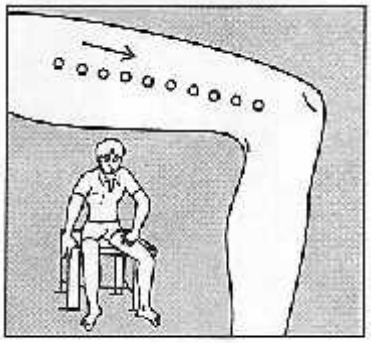


Fig. 349

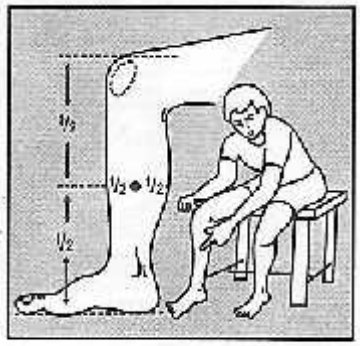


Fig. 350

Applying pressure on the wrist (fig. 352) strengthens the lower back and thus improves the reproductive power. For impotence, apply very light pressure at the mid point just below the penis with the help of a thumb for 3 seconds repeating thrice.

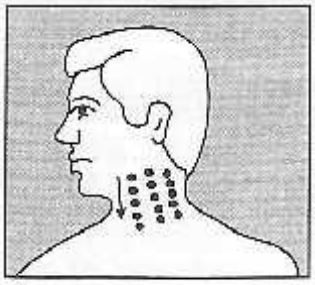


Fig. 351

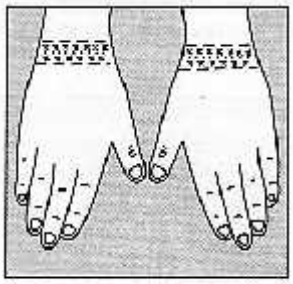


Fig. 352

To decrease the likelihood of the occurrences of these disorders, it is must to incorporate a healthy lifestyle. Tension and anxiety are behind many problems, so find time for relaxation and having fun. Limit or avoid the use of alcohol and other similar drugs. According to renowned American Sexologist Dr. Robinson, garlic is a magical cure for many sexual problems including impotence. Stop smoking, take regular light exercises, get enough sleep, reduce stress and deal with anxiety or

depression. Most importantly, do not rush during the act as anxiety to perform may lead to premature ejaculation leading to unfulfilment and frustration.

17 Brain and Nervous System

The nervous system is most sophisticated, extremely complex, yet highly dominant system in the body. It is neither possible nor necessary for an ordinary reader to understand the intricacies of anatomy and physiology of this system. We are describing here briefly some aspects of the structure and working of the nervous system.

The nervous system consists of two parts - the central system and peripheral system. The central system consists of brain together with the spinal cord. The peripheral system, which too is important, forms an extensive network of nerves reaching every part of the body.

The peripheral nerves are of two types - the sensory nerves that convey nerve impulses from sensory organs i.e. eye, ear, nose, taste buds and numerous sense receptors in the skin and muscles spread over the body, to the brain. The other being motor nerves which carry messages from the brain to all muscles of the body, dictating them to contract or relax. The peripheral nerves connect with the spinal cord at various levels and it is through spinal cord that impulses are received and conveyed by the brain. Thus this system controls all conscious and unconscious activities of the body.

The Brain

The superb wonder of the universe, the brain lies well protected in the skull. It is divided into three main segments namely the cerebral hemispheres (right cerebral hemisphere and left cerebral hemisphere), the cerebellum and the brain stem. The brain is the supreme computer and main control room for

the entire body. Strangely, the right half of our brain controls the left side of our body while the right side of our body is controlled by the left half of our brain. To keep the body in perfect order, nature has allotted different functions to different sections of the brain.

There is hardly any activity of the body which directly or indirectly does not come within the purview of the brain whether it is mental activity, sensory perception, and control of muscles. The brain imprints memories, directs the heart to beat, controls the breathing, evokes intelligence, reasoning, sense of responsibility, thinking, learning, reading, writing, speech and facial recognition. It processes what the eyes see, ears listen and nose smells, maintains body balance and coordinates muscles actions. The brain also arouses emotions, pleasure, sexual interest, anger, fear, sleep, hunger, thirst, taste sensation, and all imagination. Many of brain's functions are still unknown. Doctors throughout the world are engaged in exploring all those functions of the brain which are as yet unknown to the medical fraternity to find satisfactory cure for its major problems.

Like its multifarious functions, there are numerous ailments concerning brain and other constituents of nervous system. These may occur due to vascular (blood supply) disorders, infections, structural disorders, functional deficiencies and degeneration of the nervous system. We will discuss here only those diseases which can be fully or partly cured with Reflexology or where Reflexology can be of some advantage in accelerating the curing process.

Brain Stroke

A brain attack or stroke occurs more in males than in females when normal supply of blood to certain segments of

brain is partly or completely cut off due to blood clot or rupture. There are three major vascular (blood supply) disorders concerning the brain. The first called cerebral thrombosis can happen if anartery supplying blood to the brain is narrowed forming a clot that blocks the artery. The second, a cerebral embolism is also a blockage. It occurs when some disease elsewhere in the body releases a small blood clot creating obstruction in an artery carrying blood to the brain. The third, the cerebral haemorrhage is the type of stroke which takes place due to bursting of an artery. Whatever may be the cause of the stroke the amount of disability to the body depends as to which part of the brain is mainly affected and what is the extent of loss of the particular area of the brain.

Unlike a heart attack which is generally accompanied by pain, a brain stroke usually strikes all of a sudden paralysing one side of the body. The patient thus finds complete or part loss of strength and movement in shoulder, arm, hand, leg and foot in that particular side, either right or left. In majority of such cases, it also affects the power of speech, whether inability to speak, difficulty in speaking or slurred speech.

The stroke can be deadlier than the heart attack if not treated within few hours of its onset. At present, it is the third largest killer after cardiac disorders and cancer. What is equally alarming, unlike earlier times when it was in the higher age-group, many young people under 40 age-group are now having brain stroke. Normally, a stroke occurs with sudden loss of consciousness. There can be a number of other possible symptoms which include weakness or numbness in one arm, leg or face, blurred or double vision, confusion, headache together with nausea, vomiting, vertigo or dizziness etc.

Medical science has as yet not been able to find any specific cause for the brain attack. The doctors, however, link it with some major risk factors namely - diabetes, heart disease, high blood pressure, high cholesterol, obesity, smoking, drinking, lack of regular physical exercise, aging and family history.

Paralyis

Paralysis in medical terms means loss of voluntary muscular function, loss of sensation and loss of any organic function. Paralysis of sudden onset in one or more limbs is generally the result of the stroke. Paralysis of one side of the face is called Bell's palsy.

Paralysis can also occur in the course of an illness with fever and may be associated with poliomyelitis or meningitis. When paralysis comes on slowly in any part of the body, there may be an ailment or a tumour in the brain, in the spinal cord or in a nerve related with the affected part. Paralysis can also occur with or without any loss of feeling. In order to ascertain the cause of any type of paralysis, it becomes imperative to have a proper medical investigation.

In medical sphere different names have been given to different types of paralysis. Hemiplegia is paralysis of one side of the body in which organs on that particular side i.e. face, speech, arm, hand, leg and foot are affected. Monoplegia is paralysis of any one limb or part i.e. only one hand and one foot. The patient finds it difficult to use that particular hand and foot. Quadriplegia - diplegia also called tetraplegia is a paralysis of corresponding organs on both sides of the body. In fact, the

whole body stands crippled.

Paraplegia is that type of paralysis in which body area below pelvis i.e. both legs and feet are affected. Vocal cord's paralysis pertains to speech in which speech is completely or partly hampered. Progressive bulbar paralysis or Aphasia is atrophy of the muscles of the tongue, lips, palate, larynx, and pharynx, due to certain brain dysfunction. Facial paralysis or Bell's palsy relates to sudden occurrence of some deformities on one side of the face. It is being discussed below separately Writer's cramp or writer's paralysis creates weakness in the muscles of one thumb especially the right thumb and the adjoining fingers. Initially, the patient finds it difficult to write comfortably and gradually his handwriting becomes illegible. This problem has been discussed in chapter 6.

Bell's Palsy

Facial paralysis on one side of face, of acute onset, due to unknown reasons and generally considered to be the result of inflammation or neuritis of the seventh cranial (facial) nerve that controls the facial expression, is called Bell's palsy. The other causes can be viral infection, vascular damage, trauma and exposure to cold. There may be pain in the face and around the ear before the occurrence of the facial paralysis.

In Bell's palsy, the voluntary, emotional and other movements of half portion of face are affected simultaneously. The face becomes expressionless. The eye on that particular side cannot be completely closed and remains open to some degree with upward deviation. The mouth is drawn over to the normal side and saliva dribbles, uncontrolled. Normally, such patients have no control over tears which rundown the face. Bell's palsy patients have difficulty in speaking, eating and drinking. They

cannot blow, whistle or gargle properly. Patients find it difficult to smile. The affected side of the face shows almost complete absence of wrinkling on the forehead. The face takes on a droopy appearance. Bell's palsy is not restricted to any age group or any sex. Bell's palsy clears up on its own within weeks or months in most people.

Reflexology Treatment and Diet

Stroke and paralysis can be prevented by managing various risk factors through diet, exercise and Reflexology. Excess weight and high blood pressure must be reduced. Diabetes mellitus and cholesterol level should not cross the maximum limit. Smoking and drinking need to be gradually stopped and exercise, including Reflexology, be made a part of daily routine.

Diet plays an important role in preventing and curing stroke and paralysis. Food high in fat especially red meat, dairy products, eggs as well as sweets should be avoided. Minimise the intake of salt as it attributes to high blood pressure. Whole grains, fish, potatoes, green vegetables especially spinach and cabbage, root vegetables like carrot, fruits especially grapes are very good to keep away chances of brain stroke and paralysis. People who consume fish two times a month or more had almost half the risk of stroke as compared to those who never ate fish. Such diet is also helpful to the paralytic patient as it accelerates cure. Diabetics should eat according to their doctor's recommendation.

The recovery depends on many factors - medicine, diet, exercise, will power and behaviour of near and dear ones of the patients. The persons with some disabilities after the stroke must be encouraged in every respect. If a patient is unable to talk, try other forms of communication. Keep messages simple

and brief. Don't shout and offend him, have patience and behave nicely with him. If he is unable to walk and use his limbs, help him to do his activities himself so that he gains confidence and becomes capable of doing his work independently.

Reflexology can be of great help in preventing the stroke and paralysis. If practised regularly, it keeps the blood circulation in the brain and other parts of the body in perfect order. Reflexology has been of great advantage in keeping the cholesterol level within limit, lowering high blood pressure, reducing excessive weight, and controlling and curing diabetes.

Thousands of patients all over the world who suffered stroke and paralysis over the years and sought the help of experienced reflexologists or Reflexology therapists either got complete relief or substantial improvement in correcting various disabilities which are the worst effects of brain stroke and paralysis.

Reflexology has been instrumental in restoring the power of speech in majority of cases and restoring the strength in those parts of the body which had suffered paralysis. While continuing Reflexology, it is better not to stop the regular medical treatment from experienced medical specialists. It has been observed that unlike many other diseases, the period of recovery in stroke and paralytic cases differs from patient to patient. While some patients respond quickly and return to their normal activities within a few days, others take a few weeks or months to recover completely. One thing is, however, certain that almost every patient starts responding to the system - some quickly and some slowly.

If stroke or paralysis strikes a person, the immediate action should be to take him to the nearest hospital or a medical

specialist. As an emergency action, start giving pressure to the patient on the tips of thumbs and big toes and the area just below the tips (fig. 353) which are the reflex points of the brain. Keep in mind that the right half of the brain controls the functions of the left side of the body, and the left half of the brain controls the functions of the right side of the body. A workout of the brain reflex areas will help in dissolving the clot to some or to a greater extent, causing minimum possible damage to certain organs of the body. This process should continue intermittently till the medical treatment starts. In addition to reflex points of brain, the reflex areas of certain major organs like spine (fig. 354 & 355), heart, kidneys, lungs, and liver (fig. 356) should be pressed. Apply pressure on the wrists (fig. 357) as this is related to lower part of the body. Reflex points of such organs which are more likely to be affected i.e. speech (fig. 334 & 336) shoulders, arms, legs and feet (fig. 132, 133, 134, 135, 136, 137) need to be given pressure. In such condition, pressure should preferably be given with thumb and fingers and be soothing so that the patient does not feel any discomfort and pain. Apply pressure on the feet along the ankle (fig. 358), lower part of the legs behind the ankle (fig. 359) and all the fingers of the feet (fig. 360) for a fewminutes.

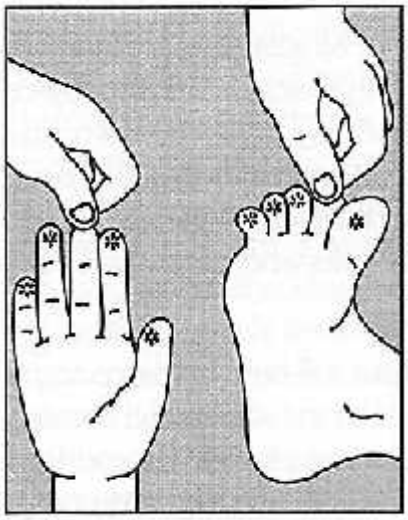


Fig. 353

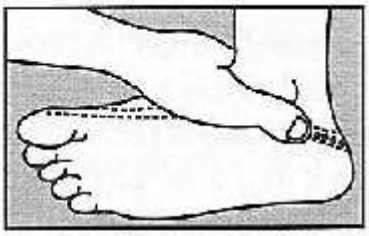


Fig. 354

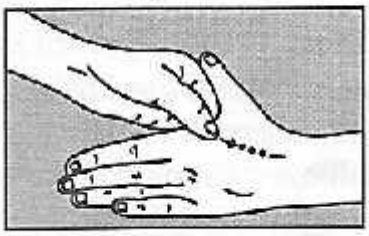


Fig. 355

After the patient is discharged from the hospital, Reflexology treatment should be given to the patient regularly once or twice a day for about 30 to 45 minutes per sitting, preferably at a fixed time. In addition to the reflex points of brain, spine, heart, lungs, kidneys, liver, stomach, small & large

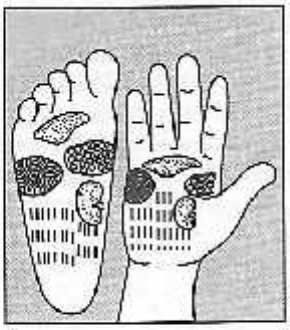


Fig. 356

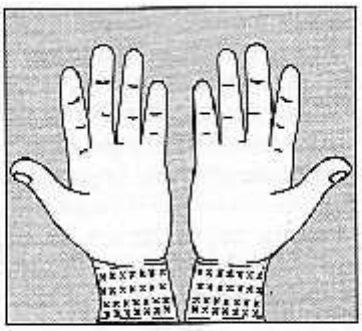


Fig. 357

Fig. 358

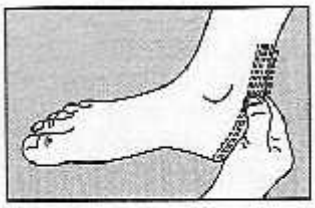


Fig. 359

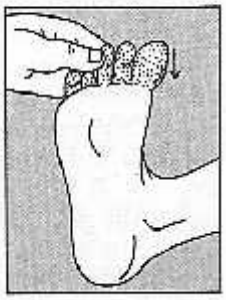


Fig. 360

intestine, all glands - pituitary, thyroid, pineal and adrenal, stress should be given on those points which are directly connected with the affected areas. In case of paralysis of right or

left side, reflex points of speech, shoulder, arm, leg and foot (fig. 132-137) need special attention. If there is Bell's palsy, while pressing reflex points of all organs generally, the reflex areas pertaining to cervical region of the spine, face, mouth and particularly the eyes and ears need somewhat more pressure.

If the clot persists after the stroke, Reflexology will help in dissolving it quickly along with the regular medicines. The disabilities caused by the stroke and paralysis like difficulty in speech, insufficient strength and movement in arm, hand, leg and foot will gradually disappear with regular Reflexology. As mentioned earlier the quantum of progress differs from patient to patient. Reflexology definitely helps a lot in such disorders. There is no doubt about it. If any patient cannot tolerate pressure twice or even once a day, it should be given on alternate days and that too very lightly with thumbs and fingers. The willing cooperation of the patients helps in achieving speedy recovery in such diseases which are directly connected with the brain.

Epilepsy

An age-old worldwide ailment affecting both sexes and all age-groups especially the children, epilepsy is the term used for recurrence of fits usually accompanied by convulsions (involuntary contraction of the muscles and twisting of limbs and face) and seizures (a sudden attack of illness, especially producing spasms). A number of world's renowned personalities and powerful men like Julius Caesar and Winston Churchill had epilepsy.

Statistics reveal that about 90 per cent of epilepsy starts before the age of 20 years and nearly 6 per cent of children have a seizure during their childhood associated with high fever. Fits can result from numerous causes other than epilepsy. A single

fit or all fits cannot be termed as epilepsy unless properly diagnosed.

There are many forms of epilepsy, each with characteristic symptoms. Whatever may be its form, epilepsy results from an occasional, excessive and disorderly electrical discharge from the brain cells. It is not yet fully known why such abnormal brain activity and recurrent fits happen to some people. Strangely, the brain corrects itself rapidly within a few seconds or minutes and starts functionally normally again.

The onset of epilepsy can often be traced to an accident, disease or medical trauma such as a stroke that injures your brain or deprives it of oxygen, often causing a small scar in your brain. In rare occasions, epilepsy may be caused by a tumor in your brain. Tape-worm infection in rural areas is another factor. However, in many cases there's no identifiable cause for the disease.

Like many other diseases, epilepsy is also a matter of concern for medical experts. In India alone, there are more than 50 lakh persons suffering from it.

With the advancement of medical science, a number of medical tests are now available to ascertain the existence of epilepsy and the type of it in a particular person. There are certain laboratory tests of patient's blood and urine, X-rays of the chest and skull, EEG (electro-encephalography), CT scan (computed tomography) and MRI (magnetic resonance imaging), lumbar puncture and examination of the cerebro-spinal fluid, radio isotopic scanning of patient's suspected cerebral tumour and ultrasonic echoencephalography to see the structural changes in the brain, through which it can be tentatively and quite precisely ascertained about the existence and type of

epilepsy.

There are a lot of myths associated with epilepsy which need to be dispelled. Epilepsy isn't a mental disease, although mental health can influence the control of seizures in epilepsy. Epilepsy doesn't cause psychiatric problems or mental retardation, even though people with epilepsy may also have those conditions. Except for a short period lasting a few seconds or minutes, the epileptics lead normal life both mentally and physically. They perform all activities of life smoothly and efficiently like all other human-beings.

Seizures may occur and reoccur at short intervals. Some people experience one or two fits and subsequently have no further convulsions for many years. There are also some patients who have only two-three convulsions during their entire life period.

There are two main types of epilepsy-major epilepsy (grand mal) arid minor: epilepsy (petit mal).

The major epilepsy (grand mal) occurs with an aura - a premonition period - in which the patient undergoes some peculiar change. The patient feels certain warning signs like nausea, lights flashing, a ringing in the ears, odd taste or smell or sensation. The patient can smell rain, or have a strange tingling or warmth in some parts of his body.

The patient suffering from grand mal epilepsy suddenly gets seizures with a loud shout called epileptic cry with the simultaneous loss of consciousness followed by falling. Immediately, all his muscles become tense, contracted, hands clenched and eyeballs rolled upward, with breathing seeming difficult the patient goes blue in the face. The tongue is frequently bitten. After undergoing this position for a few

seconds, another stage starts which includes muscular twitching, limbs and arms jerking, eyeballs rolling and foaming at the mouth. If the severity of the convulsions is too strong, then the patient may pass urine and faeces during the fit. After the attack, the jerking movements stop and the patient seem to have gone into deep sleep from which he may awake dazed with headache and sore muscles. The colour of the face returns back to normal. The attack normally lasts from two to five minutes. If it prolongs beyond 15 minutes, it can cause damage to the brain.

The risks of major epileptic attacks relate more to place of happening than to its severity. A fit near fire, during swimming, while handling a dangerous machine, climbing stairs or driving a vehicle can be serious and even fatal. Such activities are forbidden for the patients of epilepsy.

The minor epilepsy (petit mal) is more common in comparison to major (grand mal) epilepsy. It is mainly found in children. It is very rare below the age of 5 years and above the age of 20 years. Some patients suffering from major epilepsy at times too have fits of petit mal.

In minor epilepsy, the attacks occur for a lesser time but it may happen several times a day in rapid succession. The loss of consciousness remains for a few seconds say 5 to 10 seconds, rarely more than half a minute. During the attack the patient becomes motionless, pale and stares blankly or blinks his eyes speedily. There is no movement of arms or legs. The patient regains consciousness swiftly and after looking around for a moment resumes his previous activity as if nothing had happened. The perpetual attacks no doubt lead to some lapses in memory and concentration in some children but they possess normal intelligence and don't have any neurological problems.

In case you happen to see someone having an epileptic attack, lay the patient on his side if there is no bed available nearby. Loosen his tight collar and the tie, so that the patient does not feel suffocated. Put a wrapped spoon if available or a rolled up handkerchief between his teeth to prevent him from biting his tongue. Don't try to force open the jaws if the mouth is already closed. It is not advisable to slap the face of the patient or put liquid into his mouth. Don't surround him and let him recover. If, however the fit takes more than five minutes, take the patient to the nearest doctor or hospital immediately otherwise it can cause permanent damage to the brain.

Now-a-days a number of medical systems are available to treat the epilepsy patients which include allopathy, homeopathy, ayurveda, surgery and some other systems like hypnosis (an induced sleeplike state in which person is deeply relaxed), naturopathy, Reflexology, and dietary changes. Sleep disorders, stress and abdominal disturbances are closely linked with epilepsy fits. These should be set right to avoid occurrence of epilepsy.

Reflexology Treatment

Whenever you see a person having epileptic attack, start giving light pressure with your thumb or with first or second finger in a clockwise direction under the centre of the nose (fig. 361) and upper part of hand and feet (fig. 362) for a few seconds to a minute. He will immediately gain consciousness. If at all, the fit still persists, it will be helpful to give pressure on the last two fingers of the patient's both hands (fig. 83 & 84), one by one. This also assists in restoring consciousness. Constant pressure for about a minute or two on tips of both thumbs and big toes as well as on all fingers and toes, which are the reflex points of brain, immediately stops disorderly electrical activity in the

brain. (fig. 353). When the patient gains consciousness stop giving pressure. If he feels exhausted which normally happens with a majority of patients after fits, general light pressure can be given on all points in hands and feet to relax them.

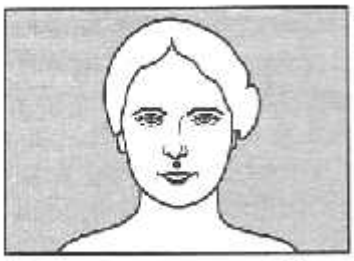


Fig. 361

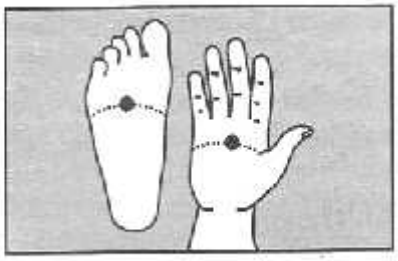


Fig. 362

For the treatment of all epileptic cases, it is better to first probe all painful points in hands and feet and mark them on a chart. The corresponding organs of painful points might be directly or indirectly connected with the problem. Pressure should also be given on these points while giving the regular treatment.

Epilepsy is a problem mainly connected with the brain. While laying stress on brain points (fig. 353), reflex points of spine, especially of cervical region (fig. 141 & 142) and those of all major organs i.e. lungs, heart, kidneys, liver, stomach, intestine, pituitary and thyroid gland (fig. 6,7,8,9) should be pressed daily, once or twice. All other points in hands and feet which pain by pressing also need pressure regularly along with the pressure on reflex points of brain and other major organs.

Reflexology definitely helps in reducing the frequency of attacks initially and ultimately stopping the occurrence of fits and seizures. It would be better for such persons to continue the pressure daily as there will be no fits any more and the general health will greatly improve. Adults can help themselves while children should be given pressure on the reflex points by their

parents.

Parkinson's Disease

Named after James Parkinson, an English surgeon, who first described the clinical features of the disease in detail during the year 1817, Parkinson's disease is a neurological disorder which strikes thousands of people all over the world. It is estimated that every year about 1 person in 1000 joins the list of Parkinson's patients in all countries.

Parkinson's disease results from a gradual degeneration of a specific group of nerve cells called substantia nigra. These cells form part of a complex of nerve tissue situated in brain and called the basal ganglia. This part of the brain controls the voluntary movements of the body such as swinging the arms while walking. This disease usually. affects persons over 50 years of age although in some cases it appears even earlier. Men are slightly more susceptible to it than women. There is some evidence that this ailment runs in certain families but is not inherited.

Parkinsonism is characterized by a slowness of all body actions. The earliest symptoms of the disease may be dragging of one foot while walking, a sense of heaviness of a limb and trembling of the resting hand. The constant involuntary movement of fingers has been given the name of 'pill rolling'. The mouth is partly open with dribbling saliva.

Other signs and symptoms of Parkinson's disease may include: tremors, slowed motion, rigid muscles, impaired balance, loss of automatic movements, impaired speech, difficulty in swallowing and dementia.

Reflexology Treatment

Modern drug treatment has greatly helped in Parkinsonism

to lessen the severity of stiffness and immobility but the standard medicines for this disease have a number of side-effects as serious as the ailment itself. It is, thus, better to adopt such methods which may stop deterioration in patient's condition and also contribute in curing the disease to a great extent.

First of all, the patient should help himself by doing some exercises regularly and keeping busy in certain suitable activities. Squeezing the magic massager (fig. 44) or a simple rubber ball in both hands one by one for a few minutes at least three times a day, will greatly remove the stiffness in hands and arms. This sort of exercise will also give pressure on all reflex points in hands. Smiling and 'lion' pose of yoga also helps in loosening the face muscles. General massage of the body is also beneficial. Above all, such patients need full family support and encouragement.

The patients of Parkinson's disease should eat nutritious food, wholegrain cereals, fruit and vegetables and low fat protein to provide energy. They should eat plenty of fibre to prevent constipation. A vegetarian diet is beneficial for such patients.

Reflexology has worked wonders in Parkinsonism. A number of patients suffering from this disease feel improvement even from the very first day of treatment. The rigidity in neck, hands, arms and legs becomes less day-by-day, speech improves, frequency of tremors in hands subsides, walk becomes less difficult, depression and other symptoms start vanishing. The general health of the patient betters.

As the disease has their root in brain, the reflex points of brain in the tips and nearby portion in thumbs and big toes (fig. 353) should be pressed regularly. As hands, arms and legs are

also affected by this disease, the reflex points of these organs (fig. 132,133,134,135,136 & 137) also need to be pressed. As many systems and organs are involved in this disease, it will be better to give pressure on reflex points of all major organs and also on those points which pain excessively on pressing.

Multiple Sclerosis

Numerous nerves intensively spread in brain andspinal cord are well safeguarded in a covering called myelin sheath. This sheath acts in two ways - it supplies nutrients to the delicate nerve fibres within its cover and also speeds up the passage of electrical impulses within the body. If the myelin sheath becomes inflamed and swollen at a number of places in the brain and spinal cord, it harms the central nervous system leading to the disease called multiple sclerosis.

There are no known causes of this disease though a virus or some deficiency in the fatty substance that makes up myelin sheath can be the possible cause in some patients. So far, no particular virus has been identified which causes this ailment. Multiple sclerosis is widely believed to be an autoimmune disease, a condition in which your immune system attacks components of your body as if they are foreign. There is no definite neurological or laboratory test that can confirm or rule out multiple sclerosis. For the diagnosis of this disease, doctors mainly rely on physical examination and the disease history of the patient.

Multiple sclerosis is a progressive ailment which strikes young adults in the age-group of 20 to 40 and the number of women sufferers is higher than men. It does not occur in children and people over 60 years of age. There is also no concrete evidence that this disease runs in families.

Multiple sclerosis is unpredictable and varies in its severity. In some people, it is a mild illness while in others it can lead to permanent disability. The symptoms of this disease are greatly dependent upon the area of the central nervous system affected. The early symptoms which can appear even before the onset of the disease itself include mild visual disturbances, fleeting palsy of the eyeball, unusual tiredness of an arm or leg, some sort of trouble with bladder, control or difficulty in urination, giddiness and mild emotional upsets.

The diagnosis of multiple sclerosis is very difficult as many symptoms first appear, then disappear and again return after months or years with additional problems. Moreover, many symptoms of multiple sclerosis resemble with certain symptoms of other diseases of central nervous system.

The general symptoms of this disease include tingling sensation, numbness, slurred speech, blurred or double vision, muscle weakness, poor co-ordination of various body systems, tremor of the hand, unusual fatigue, muscle cramps, spasms, bladder and bowel problems, impotency in men and numbness of vagina in women and gradual paralysis. Mental changes, such as forgetfulness and difficulty in concentration, may also occur. These symptoms can occur in any combination varying from very mild to very severe.

Many case histories reveal that disease can be treated to some extent with allopathy as well as with certain other alternative medical systems. Counselling to decrease emotional stress, rich diet, light exercises and proper rest also help the patient to lead normal life. Reflexology has given remarkable results in this disease. Many patients experience satisfactory

improvement even during the first week of treatment and the progress gradually increases.

Like all other ailments of nervous system the stress should be on the reflex points of brain and spinal cord. Later pressure should be given on the reflex points of those organs which have been visibly affected by the disease like vision, speech, movement especially of arms and legs, control over bladder and rectum and those of mental stress. In fact, the reflex points of all major organs and glands (fig. 356) should be pressed regularly once or twice a day for about 20 to 30 minutes in each sitting. The therapist, the family members and friends should note the progress minutely and encourage the patient from time to time which will help in speedy recovery.

Myopathy, Muscular Dystrophy

Myopathy, myopathic atrophy and muscular dystrophy are the diseases of the same group which are hereditary in nature and cause progressive wasting and weakening of the muscles as well as the nerves. There are several forms of these diseases; some of them are very rare. Basically, these are the disorders of the muscles which affect both boys and girls. In these diseases, the muscle fibres start degenerating and are replaced by fatty tissue.

Myopathies and muscular dystrophies are classified according to the patient's age at onset, distribution of the weakness, progression of the disease and mode of inheritance. There are a number of medical tests like creatine phosphokinase (CPK), electromyography (EMG), nerve conduction studies, muscle biopsy, and screening through which the existence and the type of such disease can be ascertained. The most common form of these ailments is Duchenne muscular dystrophy, which

affects only boys.

The symptom of Duchenne muscular dystrophy appear in early childhood usually before the age of five but parents remain unaware unless they note something abnormal in the child and approach a medical specialist. Initially, the ailment affects the muscles of the shoulders, hips, thighs and calves and gradually spreads to all muscles causing immobility. Besides, pain in some muscles, the size of calves and some other muscles, increases because the muscle fibres are replaced by fatty tissue.

All patients of Duchenne muscular dystrophy undergo similar problem. The first defect which the family members and other people note in such a boy is that he develops waddling gait, with the feet apart. The child, who previously seemed normal, has frequent falls and cannot get up easily. He fails to run as fast as his colleagues, and finds difficulty in climbing stairs. At a later stage, it almost becomes impossible for him to get up from the lying down position. In most cases, the limbs and spine become deformed and till the age of adolescence the body is confined to a wheelchair. In certain cases, the shoulders and upper arms are affected more than the legs, and the patient finds it difficult to raise the arms above the head.

Being congenital, one more disappointing aspect of Duchenne muscular dystrophy is that generally all brothers suffer from the disease. Signs and symptoms usually appear between ages 2 to 5. Most die by their late teens or early twenties often from pneumonia, respiratory muscle weakness or cardiac complications.

Unfortunately, so far no treatment has been found to cure this disease or to arrest its progress. The life of healthy muscles

can, however, is prolonged with exercise and involvement of the body in one activity or the other.

Since some cases of Duchenne muscular dystrophy are inherited through female carriers of the disease, genetic counseling may be helpful if you are considering having children and to assess the risk of the disease in other family members.

Boys suffering from Duchenne muscular dystrophy who are given Reflexology treatment in the early stage of ailment have been greatly benefited. The movement of their limbs and strength of their muscles substantially improves with it. They find it comparatively easy to get up from the floor and walk with less difficulty. They can attend to other routine activities without much help from other. Reflexology can also help even in advanced stages of the disease in many respects especially in relaxing the body and the mind.

The parents generally expect miracles from Reflexology in treating cases of muscular dystrophy, similar to painful disorders where it gives spontaneous or speedy relief. In this ailment they must continue Reflexology for months together rather for years, to get satisfactory, if not complete results. It would be better if the patients learn the technique of Reflexology from a competent Reflexology therapist and apply the pressure to their children themselves at home.

For any type of disease falling in the group of myopathy, myopathic atrophy and Duchenne muscular dystrophy, reflex points of all organs and glands (fig. 6 & 356) should be pressed for about 15 to 30 minutes per sitting. Initially pressure should be given once a day, which can be subsequently given twice a day, in the morning and evening. Stress should, however, be given on the points of brain, heart, lungs, kidneys, spine and

small intestine as these organs are directly connected with such problems.

Pressure should be given on the reflex centres related to hands and the arms (fig. 138-147), back, buttocks, legs and feet (fig. 154& 155). Apply pressure on upper part of all the fingers of hands and feet and on all the channels (fig. 363 & 364) with the help of thumbs. The method pressure appliation is shown in fig. 365. Reflex centres related to glands and the lower back are located on the wrist and the triangular area between the thumb and index finger (fig. 364 pt. 1).

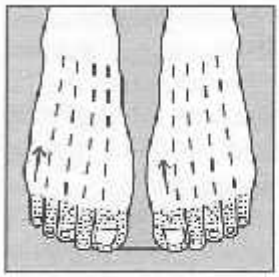


Fig. 363

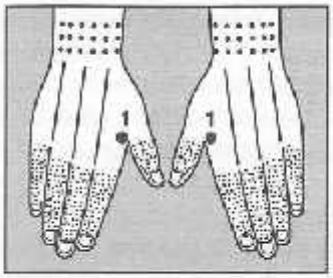


Fig. 364

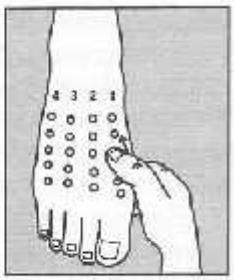


Fig. 365

Cerebral Palsy

Cerebral refers to the brain and palsy means paralysis or loss of control or feeling in any part of the body. Cerebral palsy is thus a paralysis of the muscles, especially of the limbs, caused by damage to the motor centres of the brain. In this disease, the affected part of the brain is unable to control certain muscles, making them stiff and difficult to use. It is a general term that describes a group of disorders that appear during the first few years of life and affect a child's ability to coordinate body movements. These disorders are caused by damage to a child's brain early in the course of development. The damage can occur in prenatal (prior to birth), perinatal (immediately before, during or shortly after the birth), or postnatal (after birth) period. The prenatal conditions include injury to the foetus, during the latter

part of pregnancy due to bleeding, toxaemia in blood, diabetes, placental problems, and kidneys infections etc. in the mother. Twin pregnancies, excessive radiation and congenital brain malformations can also be instrumental for this disease. Perinatal circumstances causing the disorder are damage' to the infant at the time of birth like-asphyxia, breech birth and difficult labour etc. In the postnatal cases, damage to the brain is caused in early infancy from encephalitis (inflammation of the brain), meningitis or any injury.

Cerebral palsy ranges from mild to severe. Physical signs of cerebral palsy include weakness and floppiness of muscles or spasticity and rigidity. In some cases, neurological disorders such as mental retardation or seizures also occur in children with cerebral palsy. The ill-effect on muscles can vary from slight to severe paralysing handicaps. Sometimes only legs are affected, and this condition is called as paraplegia. The position in which only one side of the body is involved is known s hemiplegia and those children with paralysis of all four limbs are termed as having quadriplegia.

As earlier mentioned, many of these children have one or more complications which include mental retardation (though some children may be extremely bright), convulsions, hearing, vision and speech defects, learning disorders, and behaviour problems. The movement patterns of such children are often distorted, uncontrolled and extremely difficult. Physical deformities and certain orthopaedic problems also develop in some children. The degree of the child's handicap varies in all such cases. Due to these shortcomings, children suffering from cerebral palsy are commonly called spastics.

For most children, the exact cause of cerebral palsy cannot be determined. The disease is neither hereditary, nor progressive nor is its symptoms episodic. One thing is certain parents having one spastic child need not to be afraid as younger children remain absolutely free of this disease unless there is some valid cause.

In numerous cases of cerebral palsy, the disease goes unrecognised up to the baby's first year. The main symptom which relates to the suffering of the limbs usually appears when the baby is at least six months old. Limbs now settle in typical abnormal position -elbows and wrists bent, legs may be crossed like scissors and they may point downwards from the ankle. This position compels the child to have very little movement. Many children having cerebral palsy have delayed speech and walking. The worst part, in numerous cases, stiff muscles become fixed and restrict the movement of such children.

Periodical medical check up of such children is needed so that defects like hearing, vision and orthopaedic deformities should be suitably corrected as far as possible well in time.

Reflexology has given a new lease of life to many children suffering from cerebral palsy. The extent of progress, however, depends on the degree and type of the handicap. One thing is certain; every child derives benefit from this system. No time limit can be defined for complete relief, but the graph of progress will touch new heights day-by-day. Like all other problems which require considerable time for satisfactory relief, it would be better for the parents to give Reflexology treatment to their children by learning the technique from some experienced therapist.

As the cause for this disease remains unknown, it is better to give pressure on the reflex points of all major organs and

glands (fig. 356). The reflex points of those systems which have been mainly affected like vision, speech, hearing and stiffness in legs, and those of brain, heart (circulation) and kidneys need special attention. Pressure should be given once a day for about 15 to 30 minutes on all points, and that too very light and soothing otherwise the child will not cooperate.

Motor Neurone Disease

Motor neurone disease being a rare condition, results from the dying off of certain nerve cells called motor neurones that run from the brain stem to the muscles in the body. The motor neurones virtually control the movement of the muscles. This is a progressive disorder of unknown cause.

In this disease, the muscles gradually waste away and the affected parts of the body become weak. Usually the muscles of limbs, tongue, face and palate (the roof of the mouth) are the first target. The patient feels difficulty in swallowing, breathing, walking and every type of physical activity.

This ailment occurs in people over 50 years of age but occasionally in 30-50 years age-group. In a majority of such cases, death occurs within 5 to 10 years of the onset of the disease.

Like all diseases of nervous system having unknown cause, reflex points of brain, spinal cord and all major organs in the body, together with the affected parts of the body (fig. 353, 354, 355 & 356) should be pressed once or twice a day for about 15 to 30 minutes per sitting. This will help the patient to do his activities somewhat comfortably without anybody's assistance. In some cases, satisfactory relief can also be expected where the disease is of recent origin and has not taken the severe turn.

Polio

Poliomyelitis also called polio, is a serious infection caused by a virus. A polio virus may attack the nerve cells of the brain and the spinal cord causing partial or complete paralysis. It can strike at any age although children are most affected. There are two forms of ailment - the minor called abortive polio, is non-paralytic. Some patients show only mild symptoms, such as fever, headache, sore throat and vomiting. These symptoms may vanish after about 24 hours.

The major polio attack begins with the same symptoms as the mild one. In this form, the symptoms, however, don't disappear after 24 hours and prolong for some days. Neck and back go stiff, muscles become weak and the movement is very difficult. Pain occurs in the back and legs. In a number of cases, paralysis takes place. Bulbar paralysis is the most serious form of the disease. It results from damage to the nerve cells of the brain stem. Some of these nerves control the muscles for swallowing and for moving the eyes, tongue, face and neck. The nerves that control breathing and the circulation of the fluids may also be affected.

Some polio patients also suffer new symptoms after the initial attack which includes fatigue, muscle weakness, pain in joints and difficulty in breathing. This condition is called post-polio syndrome.

Polio viruses can grow only in living cells. They get into the body through nose and mouth and are carried into the intestine. Then they travel along the nerve fibres or are carried by the blood to the central nervous system. Here, they enter a nerve cell and multiply so rapidly that they damage or destroy the cell. Paralysis occurs when many cells are devastated. Once the disease has taken hold, there is no specific treatment for it.

The occurrence of polio has virtually been stamped out in the western world through two vaccines, one given of injection and the other given through mouth. In the developing countries including India, strenuous efforts are being made to eradicate polio through periodical pulse polio programmes in which children up to the age of five years are administered polio vaccine drops directly into the mouth. It is advisable that parents regularly attend these programs and give their children polio drops.

The hardships of deformities in polio-affected persons can be lessened to some extent through splints, braces or crutches and some exercises. Reflexology has been tried on a number of polio-affected children and even on some young persons. In children, it has given miraculous results. The weak limbs gained strength and muscles showed much improvement after few months of Reflexology treatment. The progress, however, varies from patient to patient and the period of treatment also differs in all cases. Pain definitely decreases in those cases who experience it in different parts of the body. Worst cases of deformity should not expect miracles from Reflexology but they can expect substantial flexibility in terms of movement of different body organs. In young persons, it too has given good results.

As the problem is directly connected with brain and spinal cord, reflex points of brain, spinal cord as well as of circulation comprising heart, kidneys, lungs and also of liver alongwith all major organs should be pressed regularly once or twice a day. Light pressure should also be given along the spine from neck to downwards (fig. 143) and on the inner and backsides of (fig. 161 & 175) both legs. The area around shoulder blades should also

be pressed (fig. 146), if there is stiffness in the body. Special attention should also be given to the points of hands, pelvis, knees, ankles and feet (fig. 154 & 155).

18 Mental and Emotional Problems

Like physical ailments, there are numerous mental and emotional problems which disturb the equilibrium of the body. There are certain diseases that arise primarily from internal influences like depression though there may be many other factors too for such maladies. Some mental problems are triggered off by external influences such as alcohol and drugs. Some people are overwhelmed by sorrow and trivial crisis and other mishappenings in life which majority of other people boldly face in the same or more adverse circumstances or atleast try to reconcile with the difficult vicissitudes.

In probing and treating mental illness, one must keep in mind the chemistry of the brain which plays an important role in such diseases. Besides involvement of brain, personality factors also lead to some mental problem like anxiety, over sensitiveness, fear, sadness, disappointment, too much stress and tension, lack of energy, excessive haste, anger and emotional outburst also cause many mental diseases.

Depression

Depression is a medical condition that leads to intense feeling of sadness or despair. There is hardly any person who does not feel depressed once in a while. The occasional feeling of depression is not a mental illness, unless a person finds it very difficult to lift himself out of his misery and lead a normal life like healthy persons. There are two major types of depression. The first type is called 'Reactive Depression' which is caused due to excessive emotional stress like sudden and shocking death of a loved one, unbearable financial loss or some other disturbing event. The second type of depression is termed as 'Endogenous'

which takes place from within, without any apparent external cause. This type of depression is usually caused by a chemical change within the brain. It is a serious mental illness and needs medical help.

It is a matter of great concern that the incidence of depression is fast increasing in recent years, especially in urban areas. Depression can occur at any stage, but usually strikes around 40-years of age. It is more common among women than men. Once the depression has over powered the body, many symptoms become apparent. Besides melancholy, certain physical problems like loss of energy, decrease in appetite, insomnia, constipation, headache, vague body pains, diminished or no interest in sex, intense misery, negativity and self doubt, giddiness, palpitations, dryness of the mouth and blurred vision take place. Depression is also associated with many medical problems. These include paralysis, cerebral stroke, brain tumour, inflammation of the liver, influenza and cancer of the pancreas.

Severe depression leads to feeling of total hopelessness, suicidal thoughts, loss of weight, withdrawal into self and non-responsiveness. Mild transitory depression is experienced by a few women associated with pre-menstrual tension. Similarly, the onset of menopause leads to depression in a large number of women. Depression is also seen in some women after child birth and is caused by certain physical and chemical changes in the body. This type of depression is called four day blues which in majority of women vanishes within days. This type of depression is characterised by malaise, irritability, poor and restless sleep and constant tiredness. Sometimes, depression may be associated with diseases such as hypothyroidism.

Physiological treatment and behavior therapy undoubtedly help to a great extent in combating the problem of depression. The person suffering from depression has to be educated about the realities of life and the need for inculcating positive outlook. Exercise, massage, deep breathing, laughter and meditation help in curing depression. Above all, Reflexology is found to be very useful in removing negative thoughts and building positive outlook, which is very essential to cure depression.

Anxiety

Anxiety is an integral part of our daily life. No one can completely avoid it and no one can progress without having normal anxiety. It, however, becomes an illness if it lasts longer than the situation warrants and interferes with the individual's daily activities and puts extra ordinary pressure on one's mind. In medical terms, anxiety has some cause whether physical or physiological.

All those persons, who are sufferers of anxiety experience obnoxious feelings characterised by certain type of fear, apprehension and uncertainty. The sufferers term such dispositions as physical ailments but these are mainly disorders of emotions.

Persons having anxiety, generally complain of a wide variety of symptoms like vague fears, feeling of panic, occasional palpitations, giddiness, sweating palms, headache, diarrhoea, indigestion, dryness of the mouth, trembling, loss of voice, difficulty in swallowing and certain types of sexual problems. Sleeplessness, nightmares and a feeling of fatigue on awakening especially in the morning are some other symptoms of anxiety. Some people in state of anxiety find it hard to breathe as if their lungs are under constant pressure. Some physical problems

such as epilepsy and cardiac diseases also cause severe anxieties.

Anxiety is a very common form of physiological disorder. It is somewhat more common in women than men. Adolescents and the elderly are especially susceptible. An overactive thyroid gland also becomes instrumental in causing anxiety in a number of persons-Like all other physical and mental problems, anxiety too needs timely treatment. If severe anxiety is left untreated, the sufferer gradually becomes depressed or becomes victim of many stress related physical ailments.

If the anxiety is caused by a specific stress or any other problem, the first endeavour should be to remove that cause. Various techniques of relaxation, meditation and yoga can considerably lessen the severity of symptoms. Reflexology has been tried on a number of anxiety patients. It has given marvellous results not only minimising the ill effects but also in curing it completely.

Phobia

Phobia is a persistent, irrational fear of an object, situation or activity that compels a person to avoid it obsessively. For instance, you may dread the sight or touch of a spider, or you may have a morbid fear of heights (acrophobia). Such fears do not usually prevent you from leading a normal life, you can simply avoid spiders or high places. Some phobias however may make normal life impossible. A common example is agoraphobia which is generally defined as fear of public places.

Phobias often have no identifiable cause. Sometimes, however, phobia can be traced back to a traumatic experience in childhood. People who lack self-esteem are more likely to develop social phobias or agoraphobia.

A phobic person is aware that his or her fear is irrational but is still compelled to avoid the subject or situation he or she fears. Exposure to the subject of phobia causes a physical reaction, often with sweating and a rapid heartbeat. A factor that is common to all phobias is avoidance of the object of phobia and this may severely limit a person's activities. Anxiety and panic attacks sometimes develop in relation to phobia.

Phobias are principally treated with exposure therapy. Reflexology is helpful for treating the phobic terrain i.e. the background of anxiety and phobias.

Stress

A degree of stress is not in itself unreasonable and is indeed a necessary stimulus to high performance. Stress occurs all the time in most people's lives. Too much stress can however, seriously affect physical and mental well being. Stress decreases the quality of life by reducing feelings of pleasure and accomplishment.

When we encounter a stressful event, our bodies undergo a series of hormonal and biochemical changes that put us in alarm mode. Our heart rate increases, adrenalin rushes through our blood stream and our digestive and immune systems temporarily shut down. If the stress continues and we stay on a high alert for a prolonged period of time, we experience exhaustion and burnout. Common signs of too much stress include:

- Increased irritability
- Heightened sensitivity to criticism
- Loss of concentration
- Difficulty getting to sleep and early morning waking
- Drinking and smoking more

- Indigestion
- Rapid heartbeat
- Stiff neck and/or tight shoulders
- Headache

Recent research suggests that anywhere from two thirds to 90% of illness is stress related. The following table lists some of the health problems that can be caused or exacerbated by long term stress. Health problems linked to stress

• Heart attack	• Obesity	• Memory loss
• Hypertension	• Eating disorders	• Infertility
•Stroke	• Ulcers	•Autoimmune diseases
• Cancer	• Irritable bowel syndrome	
• Diabetes	• Insomnia	

The potential causes of stress are numerous. Your stress may be linked to outside world, the environment in which you live or work, or your family. Your stress can also be induced by your own irresponsible behaviour, negative attitude and feelings or unrealistic expectations.

Furthermore, the causes of stress are highly individual. What you consider stressful depends upon many factors, including your personality, general outlook on life, problem solving abilities, and social support system. Something that is stressful to you may be neutral or even enjoyable to someone else.

None of us can avoid stress altogether, but we can return to a state of balance and regulation through a variety of means: exercise, humour, play, music, prayer or meditation. These activities provide calming and relaxing sensory input for stress relief. Stress is also a well known trigger for depression and it can also affect your physical health. So it is important to identify

the cause of stress in your life and minimise these factors.

Some ways to cope with stress:

- Simplify your life - Rather than looking for ways to squeeze more activities into the day leave some things out.
- Manage your time wisely
- Be prepared- Organise your day ahead of time. Anticipate challenges. Try to keep your plan flexible. Don't worry about things you cannot control.
- Relax-When you feel your muscles begin to tense, breathe deeply. Inhale to a count of six, pause for a second and then slowly exhale.
- Exercise regularly - Exercising may decrease stress by improving a persons health and by giving them an outlet for relieving stress.
- Eat smart - A diet rich in fruits, vegetables and whole grains can give you more' energy.
- Laugh - Humour is a great way to relieve stress. Laughter releases endorphins, natural substances that help you feel better and maintain a positive attitude.
- Yoga - Slows down the mental activity and by gently stretching the body and massaging the internal organs, yoga creates a climate of dynamic peacefulness within.

Reflexology Treatment

Reflexology has proved not merely useful but sometimes indispensable thanks to its sedative action and ability to restore the equilibrium. For treatment of mental and emotional problems, it is important to first apply pressure on the reflex centres of pituitary, brain, nervous system, solar plexus and diaphragm, thyroid and adrenal glands in both hands and feet (fig. 366). Method of pressure application is shown in fig.

353,354 and 355.

Symptoms of diseases may vary individually- so apply pressure on all the points on hands and feet. The points which result in pain on pressing are the relevant reflex points.

To cure depression, apply pressure on the upper parts of the fingers and thumbs of both hands and feet as shown in fig. 134, 135 and 367.

Apply pressure on the triangular area between the thumb and index finger (fig. 368) - as well as on all the fingers of hands and feet (fig. 369) in the manner of massage. Applying pressure on the back, along both sides of the backbone (fig. 3 70) in a downward direction with the help of the thumbs of both hands

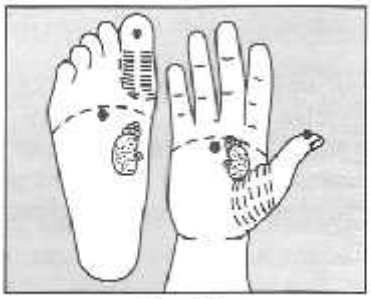


Fig. 366

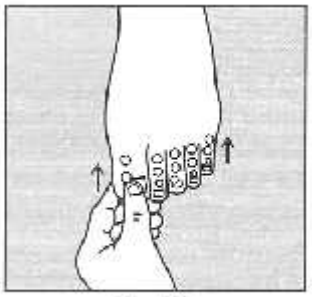


Fig. 367

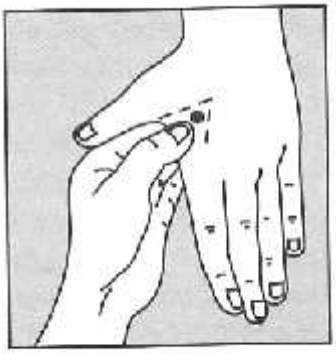


Fig. 368

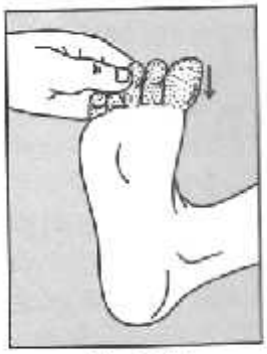


Fig. 369

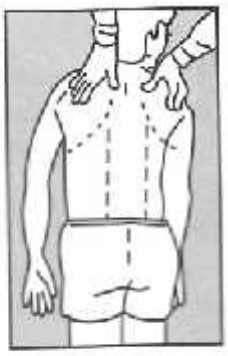


Fig. 370

alleviates many disorders of nervous system, strengthens muscles and reduces the stiffness and pain in body and joints, common symptoms of mental disturbances.

To stimulate the appetite, apply pressure on all the reflex points of digestive system (fig. 9). If a patient suffers from

diabetes or any other disease, pressure should be applied on related reflex points.

Hormonal disturbances can also result in many emotional problems, therefore when treating female patients, pressure should be applied on reflex points of endocrine glands (fig. 6). If the patient is married, pressure should be applied on the reflex points of endocrine glands and the reproductive organs (fig. 6 & 11) to stimulate libido as a satisfied sexual life helps in curing many such diseases.

Tension is a common symptom and such patients are often stressed out and in despair. To reduce this, apply pressure on both sides of the neck (fig. 145) in a downward direction with the help of thumbs. In addition apply pressure on all the channels of hands and feet (fig. 139).

Before starting the pressure and after completing the sitting, the therapist should apply pressure on the outer surfaces of thumbs of hands and feet (fig. 130 & 131) and on the back side of the neck (fig. 141-144).

An initial daily treatment is suggested in periods of great stress, followed by weekly maintenance treatment for several months.

MIGRAINE AND INSOMNIA

Headache symbolises discomfort or pain in the head. It is the commonest symptom which strikes people in all walks of life, of all ages and both sexes. There is hardly a human being who has never experienced a headache. The exact mechanism by which the headache is caused is not known. Headache is not a disease but an indication of some ailment in the body. Majority of headaches are not due to any serious disease. Any disorder in the body, even emotional and mental distress, can lead to some type of headache. Statistics reveal that nearly ninety percent people suffer from headache at least once in a year. Women are more likely to suffer from headache, especially migraine.

The exact nature and intensity of the feeling of headache is also variable. It can be felt either as mild, dull, diffuse, aching type pain or merely as a feeling of heaviness in the head. Simultaneously, it can be acute, intense, unbearable, agonising and throbbing type of pain. Further, it may continue for less than an hour or it may prolong for hours together.

The location of headache is not identical in all persons. It may be felt in the forehead-in the temporal region on one side or on both sides, upper portion of the face, around the eyeballs, front of scalp or the whole of the head depending upon me exact cause-There are quite wide and varied causes for headache. It can ordinarily be due to some stress and strain, certain unpleasant situations, physical or mental exhaustion, fatigue-depression, anxiety, fear, exposure to dust and smoke, extreme hot or cold environment-convulsions, dizziness, muscular cramps and strenuous exercise. In addition, suppression of

natural desires, sleeping during the day time and inadequate or too much sleep can also cause headache.

Any disorder in any organ of the body primarily affecting the eyes, nose, ears, anuses, throat, gums and teeth can cause mild to severe headache. Headache invariably comes along with several types of fever, specially the viral fever and any inflammation as me body. There are certain other headaches like pre-menstrual headache occurring before the menstrual period and menopausal headache happening around the time when women enter menopause stage.

At the extreme side, headache can be caused by certain serious diseases like tumour and bleeding in the brain, injury, brain infection like meningitis and tuberculosis of the brain. In these conditions, the headache is generally accompanied by symptoms such as visual disturbance, double vision, confusion, loss of memory, numbness in certain parts of me body, slurred speech and paralysis of any type.

A number of ailments like high blood pressure, low blood pressure, diabetes, eye strain, iritis and glaucoma, kidney disease, neuritis in the muscles and nerves of the neck, cervical spondylosis, vertigo, osteoarthritis, disorders of sleep, metabolic disorders, endocrine ailments, high doses of vitamin 'A' or 'D' and excessive dosage of steroids may be instrumental for headache in a number of cases.

Watching TV and looking at a computer screen for hours together, irregular meal timings and hunger too can cause headache. Certain types of foodstuffs such as chocolate, cheese and other dairy products, citrus fruits, fatty foods and alcohol also cause headache or migraine to many persons. Certain other factors like inadequate ventilation, buzz and flicker of old tube

lights and too many bright lights, noise, some perfumes, oral contraceptives and excessive sexual activity also lead to headaches.

Migraine

It is not just an extraordinary severe headache but a different type of headache. According to the World Federation of Neurology, migraine is a disorder with recurrent attacks of headache. This peculiar type of headache differs in intensity, frequency and duration from other headaches. Even the mildest form of it is much worse than any ordinary severe headache.

There is a family history in about 40 percent cases of migraine. Women suffer two to three times more than men. It is most common in early adult life and recurs in diminishing numbers and intensity with advanced age.

There are two types of migraine - (1) common migraine and (2) classical migraine. During the common migraine, throbbing pain is felt usually on one side of the head and lasts for one to three days and even for more days. The pain is usually associated with nausea, vomiting and increased sensitivity to light and noise. The pain increases with normal physical work. The classical migraine is a common migraine plus an 'aura' - about an hour advance warning that an attack is going to start soon. The symptoms of an aura in migraine generally include - focussing problems, blind spots in the field of vision, coloured lights and flashing lines, double vision, impaired speech, restlessness, mild depression, abdominal pains, faintness, numbness in hands or face, sudden hunger and thirst, and weakness on one side of the body.

Reflexology Treatment

As stated above, there are numerous causes for headache and migraine. If the cause is known, the first effort should be to remove it or to avoid those circumstances which lead to it. The other course is to find out the cause or at least ascertain which organs are directly responsible. This can be done by pressing all reflex points in hands and feet. The reflex points of those organs which abnormally pain by pressing can be solely or partially connected with headache and migraine. Regular pressure for about 15 to 30 minutes daily on these points will surely help in curing headache and migraine and some other known or unknown ailments.

Unless there is a tumour, injury, infection, bleeding or some other serious disease concerning brain, every type of headache and migraine can be cured with Reflexology in an unbelievable short time lasting a week to four- five weeks time.

There are a number of Reflexology points which give quick relief when applied in pain, and help in achieving permanent cure when pressed regularly once or twice a day. Light massage or pressure on both sides and backside of neck and also of hairline below the skull (fig. 371 & 372) removes tension in head. Pressure on neck should be given with thumb of one hand while holding the head of the patient with other hand. The patient himself too can give pressure along the hairline and also on both sides of the neck. Pressure on the neck and along the hairline should be avoided if one has vertigo.

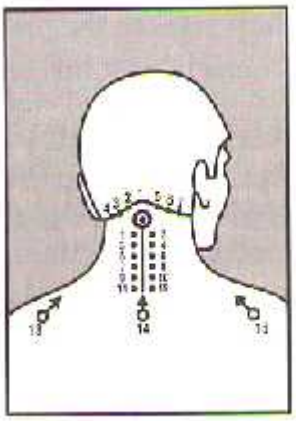


Fig. 371

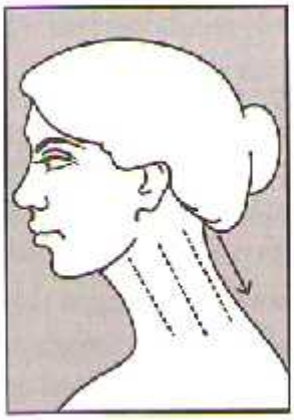


Fig. 372

Fig. 373

When there is acute headache or migraine, one can get quick relief by pressing tips (fig. 373) of thumbs, toes, fingers and small toes. It would be better if in addition to tips. thumbs, big toes, small toes and fingers are massaged from all four sides (fig. 374, 375 & 376) by applying mustard oil or cream. The master point for getting quick relief from pain in these ailments as well as permanent cure lies in the web between thumb and first finger (fig. 379) on the upper side of both hands and in the first channel between big

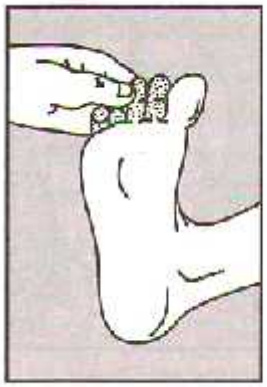


Fig. 374

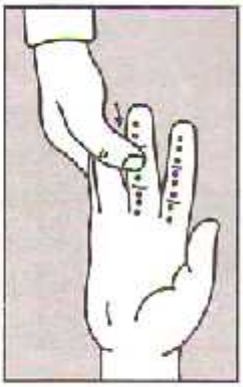


Fig. 375

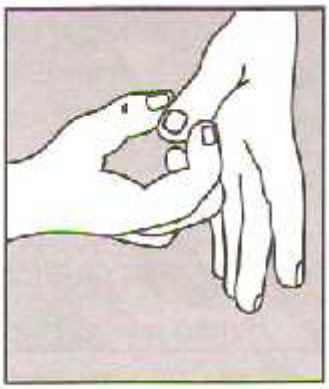


Fig. 376

toe and first toe (fig. 377 & 378) on the upper side of both feet. By massaging these points for a few minutes, one gets instant relief. In any type of headache and migraine, it is always

beneficial to press the reflex points of cervical area of spine, on both hands and feet.

Mental stress, depression, anxiety, fear and sleeplessness which are also some of causes for headache and migraine, gradually disappear by giving light pressure over thumbs, big toes, fingers, small toes and in all channels (fig. 377 & 378) over both hands and feet.

Digestive disorders are also closely connected with these problems. It is thus, imperative to apply pressure on the reflex points of liver, stomach, large and small intestive (fig. 380) and also solar plexus, heart and kidneys as these organs also play a major role in keeping the body's equilibrium in perfect order. While treating female patients, reflex points of reproductive organs should be given special attention whether one has some problem relating to these organs or not.

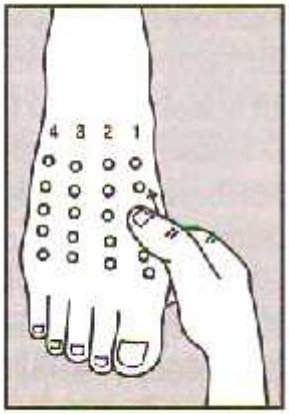


Fig. 377

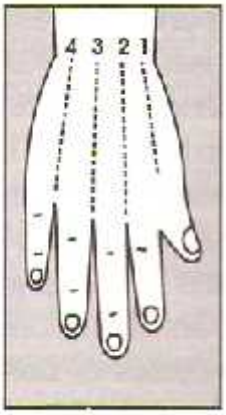


Fig. 378

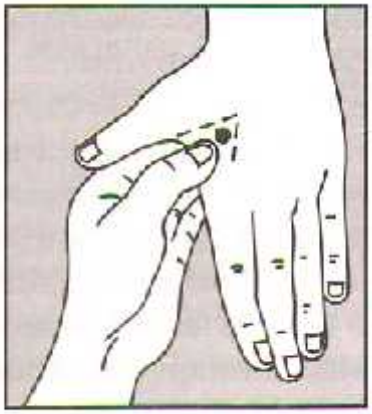


Fig. 379

At the time of headache or migraine, pressure given on face and head as per marked points (fig. 381) gives a very soothing effect. Pressure can be given with thumb, finger or fingers either by the therapist or by the patient himself. Pressing the eyebrow softly

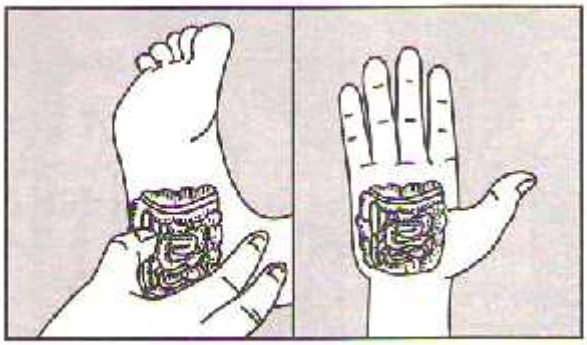


Fig. 380

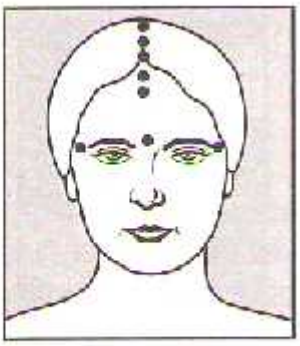


Fig. 381

with thumb and finger on both sides of face simultaneously (fig. 66) subsides the intensity of pain and discomfort within a few minutes. Taking the tongue about half an inch out from mouth and then lightly biting it with the teeth for a minute or two (fig. 92) also helps in reducing the pain and curing the problem because the front portion of the tongue contains the reflex points of all organs located in head, face and neck region. If any disease of eyes, ears and teeth persists, the relevant reflex points of these organs should also be given proper attention.

It is advisable for the patients of headache and migraine not to eat and drink food items which cause these diseases. On the start of the attack, if condition permits and the atmosphere is good, it is better to walk in a nearby park or garden or take rest in bed in a proper ventilated but curtained room, free of noise. It will lessen the severity of pain. The regular session of Reflexology will permanently cure the problem

Sleeping Problems (Insomnia & Snoring)

Sleep is very essential as it rests and restores our bodies. The brain's as well as the body's metabolic processes need regular periods of rest to recover from day long activities.

Sleep is divided into two distinct phases known as REM (rapid eye movement) and non - REM. In REM sleep, EEG (electroencephalography) is fast wave. In this situation, heart rate, blood pressure and respiration fluctuate. The skeletal muscles are thoroughly relaxed. The brain is active. This cycle is associated with dreams. During non- REM stage, EEG is slow wave, heart rate, blood pressure and respiration are steady and the muscles are relaxed. Growth hormone secretion is maximal and sleep is restful. There are four or five periods of REM (dream

sleep) in an average night's sleep. REM sleep develops after progression through the various cycles of non-REM sleep, usually within 90 minutes. Non -REM sleep makes up about 80 percent of the sleeping pattern. Both kinds of sleep are essential for good health.

Insomnia is that condition in which one fails to obtain normal amount of sleep-Sleeplessness can take different forms. The sufferer may find it hard to fall asleep initial-keep waking up during the night or lie awake for long periods.

Normal hours of sleep vary ranging from six to nine hours or even less depending upon the age of the person. Children and the elderly persons usually have different sleep patterns. Infants normally sleep for at least 14 to 21 hours a day. Adults sleep patterns are not adopted until around the age of 12. Most elderly people start to wake up earlier and earlier in the morning. Some years back the American National Sleep Foundation warned the adult persons that sleeping less than six and a half hours a night can kill them. It further opined that eight hours sleep is optimal for good health. Adequate sleep is considered one of the primary requirements for one's perfect health.

Insomnia as such, is not a disease but rather a symptom or chief complaint, with many plausible causes. It can be divided into three phases: acute, short-term and persistent. Insomnia occurring persistently needs in-depth attention to explore its causes and treatment.

Some causes of insomnia include disturbances of regular routine, shift work, pain and discomfort from a disease such as arthritis, toothache, shortness of breath, nervous disorders, heart, kidneys and gastrointestinal disorders, anaemia, high

blood pressure, emotional and psychiatric problems. Majority of women experience sleeplessness in pregnancy, especially during the last weeks that may be due to worrying about the baby or physical problems. Some women also undergo insomnia in menopause stage as they wake up in middle of the night due to hot flashes. In infants and children, the causes are indigestion, discomfort, hunger and teething.

Depression, worries, anger, bitterness, suppressed feeling of resentment, anxiety, tension and over excitement are some other causes for insomnia. Sleeping in stuffy, noisy and excessive hot or cold bedroom also creates this problem. A number of people who take lot of alcohol and heavy meals at night or drink coffee or tea before bed time feel difficulty in sleeping. Taking too much medicines or stoppage of sleeping pills after using these for a long time, having sedentary job and doing little physical exercise or undergoing too much strenuous exercises can also cause insomnia. Smoking and various intoxicants also create sleeping problems.

Snoring is another sleep disorder which affects millions of men and women all over the world. It is approximately ten times more in men than in women. Young people appear to suffer more from snoring than those over the age of 35. Normally, during sleep, the muscles which control the tongue and the soft palate hold the airway open. If these muscles relax, the airway becomes narrower, which causes snoring and breathing difficulties. If these muscles relax too much, the airway can be completely blocked, preventing breathing. With some persons heavy snoring can have serious health problems.

A congested nose due to allergies, polyps, sinus infections, swelling response to a cold or flu, or alterations in the size or

shape of the throat structures can also cause snoring.

The patients taking sleeping pills to induce sleep must keep in mind that recent research has revealed that sleeping pills are not only dangerous to health but their prolonged use can actually cause disturbed sleep patterns and increased wakefulness.

There are a number of natural principles, which if practised regularly, definitely help in sound sleep. Meditation and certain simple yoga exercises including breathing and at least half-an-hour morning walk besides solving sleeping problems also cure many other physical disorders. To have a perfect sleep, avoid taking caffeine products viz. tea, coffee, chocolates in evenings. Late evening consumption of spicy, stimulating and heavy meal, as well as alcohol and tobaco is harmful. Dinner should be taken at least two-three hours before going to sleep. After dinner it is advisable to have a short walk in a pleasant mood. Drinking too much water or other fluids close to bed time is not good as you might have to get up frequently to urinate. High protein dinner and a cup of hot milk before retiring for sleep are very good indeed. Milk contains an amino acid which stimulates a brain chemical involved in the sleep process.

Avoid problem-solving discussions in late evening as these perturb the mental equilibrium. Exercise should preferably be done in the morning or during day time and not in late evening. Don't take a nap during the day. Dark shades like red and crimson should not be used in the bedroom. Mattress and pillow must be comfortable. All items in the bedroom should be clean and placed at their proper place. To have a quick and disturbance free sleep, make your bedroom noiseless and pleasant. Try to avoid use of sleeping pills as these have many

side effects. The smell of lavender can be as effective as a sleeping pill. Temperature of the bedroom should be optimum i.e. neither very cold nor very hot. The bedroom should be exclusively for sleeping purposes and not for other household work. Reading something real boring at bedtime generally helps in inducing sleep. Fix a regular bed time preferably between 9-30 p.m. to 10.30 p.m. and arising time and adhere to it even on weekends and on holidays. Have a warm bath as it has a sedative effect but avoid hot baths or forceful showers as these can have adverse effect. Music has a great role in inducing sleep. Light classical and instrumental music at bedtime takes away day long tension and worries.

Once you are in bed stop worrying about not sleeping but think that your body is completely relaxing and sleep is overpowering you. There is one yogic technique to induce sleep. While your are lying in the bed in a straight position, close your eyes and start giving command to every part of the body commencing it from the toes coming upwards like feet, legs, knees, thighs, hips, abdomen, chest, hands, arms, shoulders, neck, nose, eyes, ears, head and finally to the body as a whole to go to rest for the bliss of sleep.

Reflexology Treatment

When you suffer from chronic or only occasional insomnia, the following Reflexology treatment will provide great benefit. They help the body and mind to achieve the state of relaxation necessary to a deep and restful sleep. First of all apply

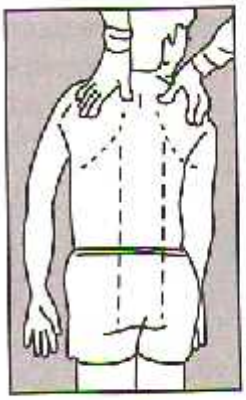


Fig. 382

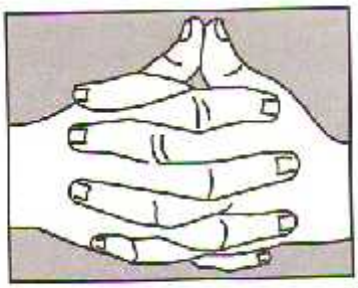


Fig. 383

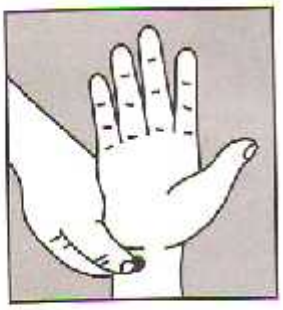


Fig. 384

pressure on reflex centres related to brain, nervous system and digestive system (fig. 371 to 381). In addition apply pressure on reflex centres related to endocrine glands (fig. 6),diaphragm and solar plexus (fig. 41). It is better if pressure is applied on all those reflex centres on hand that result in pain when pressed.

Apply pressure on the back, at a distance of half an inch on both sides of the backbone (fig. 382). Pressure should be given with the help of thumbs in a downward direction. This will improve the functioning of the nervous system in a natural manner.

When lying down in the bed, apply pressure on hands and feet as shown in fig. 373 to 376. In addition apply pressure in the manner of massage to all the channels of hands and feet. Intwine the fingers of right hand with left hand and try to move the skin back and forth as shown in fig 383. This will relax the nervous system and induce sleep.

Another effective point is located on the wrist of both arms as shown in fig. 384. Apply pressure on these points for a few seconds daily. Take a deep breath and stretch your whole body, loosening the tightness you have accumulated throughout the day. End the treatment by pressing once each for three seconds the eight points located on the abdomen as illustrated in fig. 173

and 174.

MISCELLANEOUS

Weight Problems

Obesity / Weight Gain

A main problem with today's sedentary lifestyle is obesity. If you eat more than you need for the energy you expend, your body stores the surplus as fat. And if the fatty tissues become conspicuous, you may be considered obese.

A healthy weight is a weight at which you feel good about yourself and have energy for work and play and one that does not put you at risk for weight related diseases such as heart disease, high blood pressure, stroke, cancer and diabetes.

Ideal weight according to height and build is given on page 243. An easy formula to calculate ideal weight for men is to multiply the height in cm with 0.358 and for women to multiply their height in cm with 0.313. If the weight is in excess of 10%, then you are obese. Maintenance of ideal weight improves flexibility and increases longevity of life.

There are many reasons attributed to weight gain. Chief among them, being consumption of food rich in calories, heredity, hormonal imbalances, post-delivery in women, psychological problems and some diseases.

The amount of food eaten is not the only determinant of weight. Age, metabolism, genetics and physical activity play a very important role in your weight health and risk for disease. Some important points to consider about weight include:

1. % of body fat - in general women have more body fat than men.

2. Body Mass Index, $BMI = \frac{wt\,(in\ kg)}{ht\,(in\ m)^2}$

3. Where you store the fat in the body by calculating waist circumference.

People who are 'apple shaped' store fat around the abdomen and are at an increase risk for diseases associated with being overweight. Pear shaped' people store fat around the hips.

Healthy height- weight chart for adults

Ht (in cm)	Wt (kg)		
Males	**Small frame**	**Medium frame**	**Large frame**
152	45.4 – 48.4	49.4 – 53.0	52.0 – 56.2
155	47.0 – 52.0	50.5 – 54.3	53.5 – 58.0
157	48.6 – 52.0	51.9 – 55.6	54.3 – 58.8
160	49.8 – 53.9	53.0 – 57.0	56.9 – 60.9
163	51.4 – 55.6	54.3 – 58.8	57.6 – 62.5
165	52.7 – 56.8	55.9 – 60.0	59.2 – 64.1
168	54.3 – 57.4	57.6 – 61.6	60.9 – 66.1
170	55.6 – 60.0	59.2 – 63.7	62.5 – 67.8
173	57.2 – 61.6	60.9 – 65.3	64.1 – 69.4
175	58.8 – 63.3	62.5 – 67.0	65.7 – 71.4
178	60.4 – 65.0	64.1 – 68.6	67.4 – 73.5
180	62.0 – 67.0	65.7 – 70.6	69.0 – 75.5
183	63.6 – 68.6	67.4 – 72.2	70.7 – 77.2
Women			
147	42.5 – 45.3	44.9 – 48.2	47.8 – 51.9
150	42.9 – 46.1	45.7 - 49.0	48.6 – 52.7
152	43.7 – 47.0	46.5 – 49.8	49.4 – 53.5
155	44.9 – 48.2	47.8 – 51.0	50.6 – 55.1
157	46.1 – 49.4	49.0 – 52.3	51.9 – 56.3
160	47.4 – 51.0	50.6 – 53.9	53.5 – 58.0
163	48.6 – 52.3	51.9 – 55.1	54.3 – 59.2
165	50.2 – 53.9	53.1 – 57.2	56.3 – 61.2
168	51.4 – 55.5	54.3 – 58.8	58.0 – 62.9

Obesity is an open invitation to many diseases eg. hypertension, heart diseases, kidney related diseases, gall bladder stones, joint pains and backaches. Weight management comprises of diet schedule and exercise regimen.

Nutrition is an extremely important component of being healthy. A diet that includes lots of fruits, vegetables, whole grains, proteins and low fat dairy products supplies your body's nutritional needs, satisfies hunger, decreases craving and lowers your risk for some diseases like some cancers and osteoporosis. In addition, you will generally feel better and have more energy.

The most important step to cut the calories is to reduce the portion size and stop in-between snacking. Eat in moderation, especially foods like sweets, chocolates, butter, fried food, soft drinks, alcohol, nuts, refined foods such as bread, pasta, potatoes, processed foods like instant noodles etc. Cook food in pure, unprocessed fats like olive oil, ghee (40% healthy unsaturated fat) as they have essential fatty acids that protect the heart by raising good cholesterol levels. Eat a lot of fibre especially raw vegetables. Boil or bake vegetables rather than frying them. Limit the amount of sugar and salt.

Physical activity is the key to improving health and preventing serious illness. Regular physical activity significantly reduces the risk of heart disease, hypertension, stroke, type II diabetes, obesity, anxiety, depression and cancer of breast, colon and female reproductive system. *You* should get at least 30 minutes per day of moderate physical activity for 5 or more days a week.

Some people especially young girls resort to crash dieting and try to starve themselves. This will lead to diseases like anemia and can result in chronic fatigue.

Reflexology Treatment

Apply pressure on reflex centres related to pituitary, thyroid, parathyroid, adrenal glands, liver, stomach, intestines

and kidneys. Location of these centres on hands and feet is shown in fig. 385. In females, reproductive organs play an important role in weight management, so apply pressure on reflex centres related to uterus, ovaries and fallopian tubes (fig. 6 & 11). In addition, there are a few important pressure points on the back, legs and stomach. Apply pressure as shown in fig. 160, 161, 173 & 174.

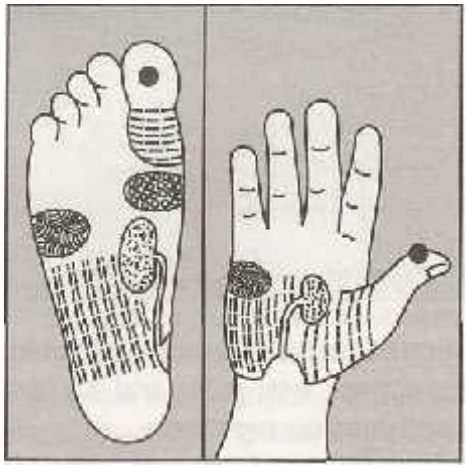


Fig.385

There is a point on middle of right shoulder which helps in reducing appetite (fig. 386). Apply pressure on this point with the thumb or finger of other hand for ½ a minute at a time. Repeat twice.

Use of tools like 'magic massager' (fig. 43 & 387) also helps. Using a wooden or rubber foot roller helps in applying pressure effectively and promotes the functioning of all internal organs and glands. The method of applying pressure with the foot roller is given in fig. 388. Additional information is given along with fig. 45.

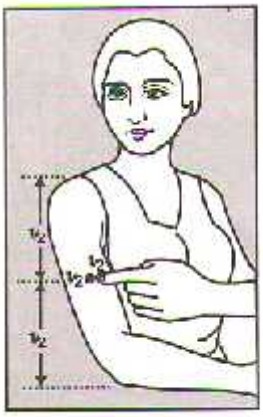


Fig. 386

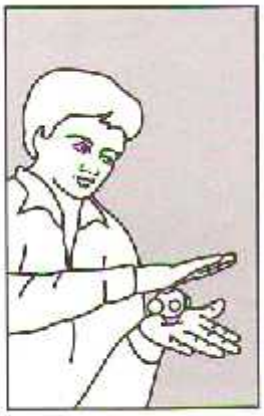


Fig. 387

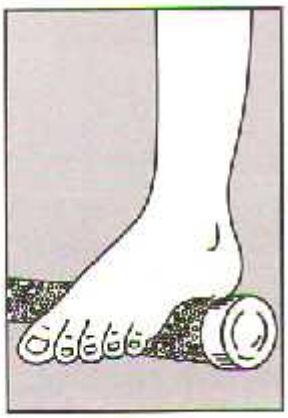


Fig. 388

Balanced diet and Reflexology in tandem can result in weight loss of upto 2-3 kg per month. Keep a record of your weight. Do not weigh more than once a week. Do not despair if for a month or so no change is noticed. Just follow the routine and results will soon show. Do not starve yourself. Starvation is debilitating for the body.

Hair Problems

Hair is truly known as the crowning glory. A shining mane is the reflection of good health and improves the personality of the owner.

Generally we lose about 5-10 strands of hair every day. This is normal. In fact, we don't even notice it. We only need to worry when we lose more hair than that. Some reasons for excessive hair fall include nutritional deficiency, stress (fear, anxiety, anger and frustration), hormonal changes, diseases and medications, pollutants in food and water, hair colour, hair treatments and hair styling.

Reflexology treatment is very successful in halting the hair fall, restoring hair in cases of balding and keeping them healthy and black for a long time. Rub the finger nails of one hand directly across the finger nails of the other hand with a quick

rapid motion as shown in fig. 389. This process should be done 2- 3 times in a day for about 5 minutes each time. Positive results are seen in a couple of weeks.

In addition apply pressure on the outer, inner and upper parts of the thumbs and toes (see fig. 131, 135 & 390). These points are related to the head and neck region.

Nutritional deficiency is a very important factor leading to hair fall. When body does not get enough vitamins, minerals and proteins, it affects the basic structure and strength of hair. To have problem free, healthy hair, take a high protein diet comprising regular

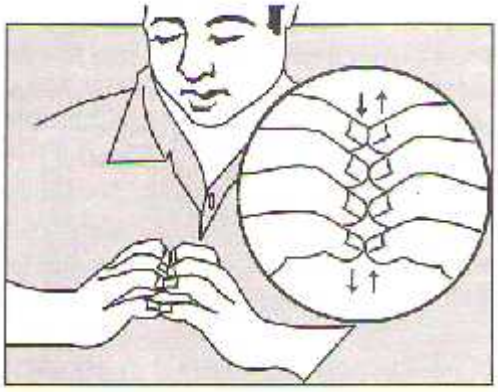


Fig. 389

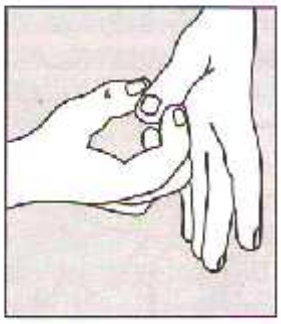


Fig. 390

intake of lentils, milk, eggs, and green leafy vegetables. Consumption of raw garlic cloves helps in maintaining healthy hair. Protect your hair from harsh sun.

Massaging your hair with warm mustard oil, rinsing hair with warm water in which some lemon juice is added or with water in which neem leaves or amla is boiled is beneficial for hair. Use good quality products on your hair.

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