

14. FLEXIBILITIES

We will learn now Yogasanas after discussing Pranayama and Kriyas but we need to train our bodies for that. We have to prepare our bodies for doing Asanas. Not in foreign countries but even in India people have forgotten to sit in cross leg posture. The people sit in chairs during post funeral meetings also. They use English style latrines. The toes of legs, ankle joints, knees and the hip joints have become stiff due to that; so we will have to make them flexible.

We rarely take care of our legs on which we walk and stand for the whole life. The girls get pedicure and manicure done before marriage but they are rarely aware of the problems occurring in their ankle, knee and hip joints by using the sandals with high heels. There is a tradition of making a child to wear shoes even at its age of 30 days which leads to the problems in its feet. We should be cautious of that. The mother believes that the shoes have been brought by the maternal uncle so the child should wear it. The child is unable to speak but it cries due to improper fitting of the shoes. The elders say that the child doesn't like to wear it. But unfortunately the toes are compressed due to tight fitting leading to pain in the feet, etc. But we never think about it !

The child starts walking at proper time by itself. But parents are also hasty in making it to walk. It may lead to the development of flat foot and there may be abnormal development of the toes.

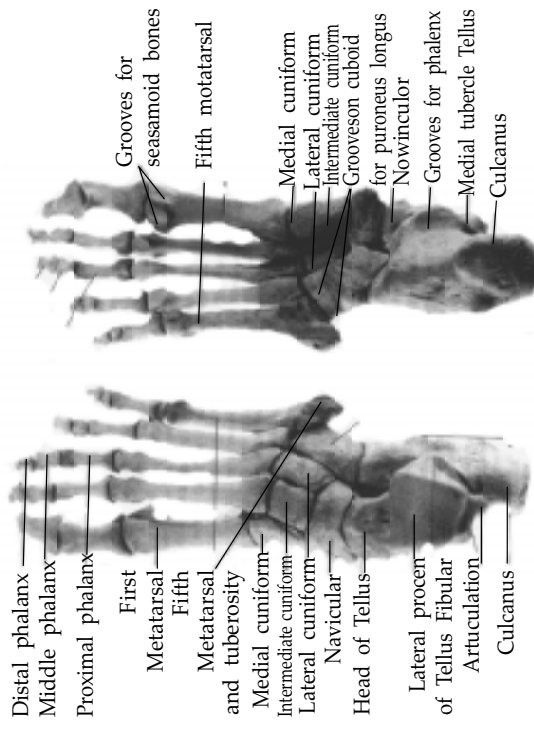
Let the children play in the rain water but afterwards the toes of the feet should be cleaned and dried properly from all sides otherwise fungus may develop.

The legs develop every year till the age of twenty years. So the footwear should be changed accordingly after taking the measure of both the feet. The same footwear may be used for two to four years after complete development of the feet. This is very essential for taking foot care.

Now it has become monotonous to walk on a walker machine (treadmill machine). It is better to walk on it rather than not walking; but it is not good to use it permanently. It is proper to wear shoes while walking on the cement, concrete or dammar roads but it is beneficial to walk without footwear on grass and sand. The old Gujarati saying suggests 'long live by long walking'.

I am sharing my experience. I climbed up Vaishnodevi Mountain and came down running. I used to wear Khadau (wooden sandal) but at that time I wore

Arches of Feet



routine foot wear. I walked for twenty six kilometers totally and it was six thousand feet high above the sea level. We ran up and came down just like a child but the feet were severely injured. There were bruising on both the great toes and the nails became loose. We took bath in Narmada. The sand and water entered between the nails and skin so it was infected. Then the nails had to be removed under local anesthesia.

Such incidences occurred for two times. Whatever has been written in these chapters is from various happy and unhappy experiences in the life. Therefore it is essential to do exercise of the toes of feet, soles, ankle joints, calf muscles, knee joints and the hip joints.

While walking following muscles of the legs get exercise.

- (1) Tendo achilis,
- (2) Peroneous longus,
- (3) Peroneous brevis,
- (4) Extensor digitorum brevis,
- (5) Extensor digitorum longus.

Let us start now flexibility exercise. This exercise has not been mentioned in old literature. Swami Shree Karunanandaji Maharaj was the disciple of our Dadaguru Shree Sivanandaji Maharaj. He was an Australian. His body was of six feet and five inches height but it was like rubber. He was an architect as well as a Hathayogi. He used to wear only a small strip of cloth around the private parts. I had this knowledge of flexibility exercise from him. It has been included in Swami Sivanandaji Maharaj's book on Yogasana in its later chapters. Then famous Yogacharya of Vishvayogayatana renamed flexibilities as Sukshma Vyayam. Shree Jasvantsinh Sanghi, the founder of Rajasthan Swasthya Raksha Parishada named it as 'Pavanmuktasana Ki Pacchis Kriya'. In the beginning this exercise is very useful and essential.

(1) Spread a blanket or Yoga mat on the floor. Use four times folded blanket. Sit on it with straight legs. The people who can't sit on the floor can do this exercise by sitting on the sofa or on the bed also. Now inhale slowly

and bend the toes of the feet on opposite side (downwards). Hold the breath. Then slowly exhale and relax the toes of the feet. Do it for eight to ten times. You have to take care to bend only the toes and not the feet. However by doing it we can give exercise to 26 small and big bones, 107 ligaments and 19 muscles of the legs.

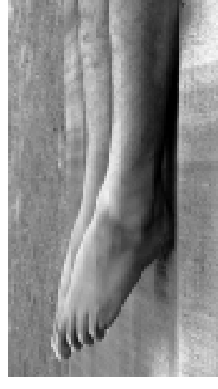
(2) Sit on the same blanket or the Yoga mat keeping the legs straight. Keep the spine in one straight line. It will be comfortable if you sit on the pillow in the beginning. Now inhale deeply and stretch the legs on opposite side (downwards) with keeping them nearer to each other. Don't give any jerk. Count for ten to fifteen times, holding the breath. Now exhale and relax the legs. Do this process for eight to ten times. Then keep the legs nearer to each other and bend them towards your own self (backwards). Inhale at the time of doing it. Count for ten to fifteen times. Relax the legs after that. Do it for eight to ten times.

Although this process looks simple, the calf muscles of the legs and Patella of the knee joint, ligaments, other leg muscles like vastus lateralis, iliotibial tract, tendons, head of fibula, sides of the tibia, peroneus longus, gastrocnemius, soleus, extensor digitorum longus and peroneus longus muscles also get exercise.

The patients who have difficulties in getting up and walking due to knee joint problem will be benefited by doing only this much exercise three to four times in a day.

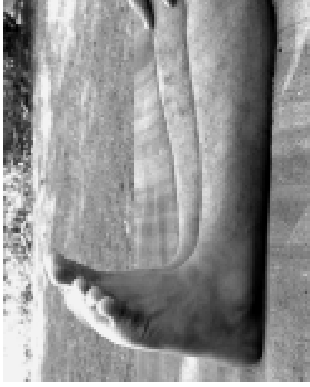


Position-1



Position-2

(3) Sit in the same position keeping the legs straight. Keep both the legs touching each other. Make the heel a center and now rotate the feet slowly. Initially do it clockwise and then anticlockwise. Inhale deeply when the feet move towards opposite side and exhale slowly when it moves towards you or on back side. It should be repeated for eight to ten times on both sides.



Position-3

(4) Now flex the right knee. Hold the thigh from back side and lift the right leg. Now rotate the right leg to make circles initially in clockwise direction and then in anticlockwise direction. Then do the same process by the left leg also. Deeply inhale when the leg moves up and exhale when the leg moves in downward direction. Do it for eight to ten times on both the sides.



Position-4

(5) Put the palms of both the hands on the floor behind the hips with fingers of each hand touching one another and keeping the thumb separate. A half circle is formed by that. It should touch the hips. The forearm between the wrist and elbow should touch the ground and the arm between the elbow and shoulder should remain vertical. The shoulders and the head should be straight. Now lift both the legs simultaneously. Bend both the legs and start running in the air as if we are cycling; first in forward direction and then in reverse direction. It should be done for ten to fifteen times both the ways.



Position-6

(6) After doing above mentioned exercise raise both the legs straight without bending at knees. By keeping them both nearer to each other rotate them from root of the thighs clockwise first and then anticlockwise for ten to fifteen times.

VAJRASANA

(7) We are doing flexibility exercise. Now sit in Vajrasana.

For doing Vajrasana first bend the right leg at knee joint then bend the left leg the same way. The toes and the paws of the feet should touch each other but the heels should be kept away from each other. Sit on these heels. This position will resemble the Moham-
medan prayer sitting position. The knees should be kept touching each other.



Vajrasana

The pressure is exerted on calf muscles, knees and

the thigh by sitting in this position and the blood circulation in those parts is decreased. So the abdomen gets extra blood supply. It is beneficial to sit in this posture after taking the meals. Usually the doctors don't advise to sit in this way for a long time. Don't do it if it is impossible but don't be afraid if there is slight difficulty in sitting in this posture for the first time.

We seldom sit in this position. Our hip bone is known as ileum. It has a cup like cavity in to which the head of the femur sets. Whenever there is an accident this femur gets broken at its neck. Sometimes it may get broken at its shaft. There is a need of orthopedic surgery by nailing if there is a fracture of the neck of femur and K-nailing if there is a fracture of the shaft of the femur. There is a hollow area in the femur which contains bone marrow where RBC and WBC are produced. The exercise of the muscles and the joint occurs by long walking. The same way climbing up and stepping down, walking on the slopes or hill give good exercise to these bones and muscles.

Benefits

Sitting in Vajrasana (after taking meals) increases blood circulation to abdominal organs; so there is proper digestion of food due to better functioning of the liver, pancreas, intestine, bladder, kidney, spleen and adrenal gland. There is no indigestion, so there is no gas formation. As there is no gas formation there is no constipation. As there is no constipation there is no knee joint pain, low backache or chronic colitis. There is mucus in the stool and the stool is not well formed or it is loose. There may be bad smell in the stool or from the mouth. There is abnormal pigmentation on the face as well as ulcers in the mouth. There may be feeling of heaviness in the head. The females suffer from leucorrhoea. In all such conditions it is very much beneficial to sit in Vajrasana.

Sitting in Vajrasana gives good exercise and also

improves the functioning capacity of head, neck, greater trochanter, intertrochanteric line, lesser trochanter of femur and lateral epicondyle, lateral condyle, patellar surface, medial condyle, medial epicondyle, adductor tubercle, and vascular foramina of the knee joint. In long run it is very much useful for old age. In the beginning sit in Vajrasana for one and half minute to two minutes.

After long term practice one can sit for three hours also comfortably.

The next exercise can be done in standing position or sitting in sofa sets or in the chair if one is unable to sit in Vajrasana.

(8) Lift the shoulders. Both the hands should relax and hang by the sides of the trunk. Then bring them down. There should not be any jerky movement. Do it for eight to ten times. Take deep inhalation while lifting the shoulders. Exhale when the shoulders are brought down.

(9) Now rotate the shoulder girdle clockwise for eight to ten times and anticlockwise for eight to ten times with keeping the arms relaxed. Inhale deeply when the shoulders move upwards and exhale when the shoulders move downwards.

(10) Now let the knees and the legs be on the ground (blanket or Yoga mat). Straighten the back. Lift the



Position-8



Position-9

hips and have a half standing position. Now rotate the arms in front of the chest crossing each other; initially clockwise and then anticlockwise. Inhale when the arms move upwards and exhale when the arms move downwards. Do it for eight to ten times. Do all the exercises with great enthusiasm, pleasure, but don't do them with jerks.

Let us understand the benefits which are obtained by shoulder exercise. We have mentioned about the joint of the head of the femur and the cavity of ileum. Naturally the cavity is larger than the head of the femur so it fits properly in it while it is not like that in the shoulder joint. The cavity of scapula is shallow and the head of humerus (the bone of upper arm) is larger. The seed of the mango is never larger than the mango but here it is like that. So it is also known as funny bone. Many muscles and ligaments attached with shoulders get enough and essential exercise.

(a) Who lift their hands above the head other than the players of volley ball and basket ball? In the past the ladies used to lift the hands to hang the clothes on the ropes after washing it and sometimes to get the vessels from the shelves above. Every two to four months to clean the walls and the high corners of the rooms they used to lift the hands. But nowadays it is done by the servants. In America vacuum cleaner is done on the floor routinely once every week. The walls and the corners are cleaned occasionally. So it is rare to have exercise of the shoulders for the common people other than the players of



Position-10 (a)

tennis, badminton or bowlers in cricket playing.

The joint of humerus and scapula is different than the joint of the head of femur and ileum. The dislocation of shoulder joint is possible but it rarely breaks while the fracture of the femur is common. This exercise is essential to prevent dislocation of the shoulder joint.

By doing this exercise there is strengthening of ulna, olacronon, fibrous arch, flexor digitorum, and pronator muscles. The functioning capacity of medial and radial muscles also improves. There is no fear of rheumatism in future after doing this exercise. The sufferers of rheumatism will be benefited very much if they do this exercise even by taking support of others.

Professor Bhalchandra Varma the dean of the Pantnagar university used to attend my Yogasana camp in the morning, afternoon and evening. He was unable to do even signature before. He had to grasp the glass with two hands but he was unable to drink water by his own hands. After attending Yogasana camp for twenty days he wrote me a letter by his own hand, "I and my family will remain indebted to you for the whole life".

A miracle doesn't happen in twenty days. He practised the exercise regularly which he learnt for three times in a day for twenty days. He started doing most of his work by himself in next three months. He worked in the University for thirteen years after attending this camp. Hence Shree Krishna says, "Swalpamapyasya Dharmasya Trayate Mahato Bhayat". (Little but regular exercise saves from the major problem.)



Position-11

(11) Sit in Vajrasana on the blanket. Keep both the hands on the respective shoulders, right hand on the right shoulder and left hand on the left shoulder. By keeping the hands on the shoulders rotate the arms initially clockwise for eight to ten



Position-12

times and then anticlockwise for eight to ten times. Deeply inhale when the elbows move forward and exhale when the elbows move backwards.

(12) Now keep both the arms (between the shoulders and the elbows) parallel to the ground at the level of the shoulders. The forearm that is the part below the elbow should remain perpendicular to the ground and at right angle to the arm. Move the forearm below the elbow like a pendulum of the clock. The biceps, triceps and trapezius muscles get exercise by that. The elbow joint also gets exercise and it helps to treat tennis elbow. The shoulders and the muscles attached to the shoulder joints also get good exercise.

Doing this exercise relieves the stiffness of the joints by release of the lubricating material in the joints. It increases the freshness and removes idleness.

CERVICAL SPONDYLOSIS

There are 33 bones in our spinal column. They are known as vertebrae. The upper seven vertebrae situated in the neck are known as cervical vertebrae. The subsequent twelve situated in the thorax are known as thoracic vertebrae. Then lower five are lumbar vertebrae. In the sacral region five vertebrae are fused together. The

terminal part of the spinal column is coccyx having four fused small vertebrae.

Here we are discussing about the flexibility exercise related with the most important cervical vertebrae.

Let us wait for some time and think.

-Do you have the habit of reading or writing for hours by bending the neck forwards ?

-Do you have to work on the computer for many hours ?

-Do you have the habit of lying down or sleeping by keeping two pillows or a big pillow under the head ?

-Do you have the habit of reading books or watching the television in lying down position ?

If the answer of any of these questions is yes, there are all possibilities of development of cervical spondylosis. It might have already developed. You may feel pain in shoulder, back of the neck or upper back while raising the hand or while bending forwards.

The orthopaedic surgeons advise to take treatment from physiotherapist for the problem of cervical spondylosis. They may advise to wear cervical collar and to avoid driving. But is it good ?

Following exercise is the perfect remedy for all these conditions.

(13) Sit on the blanket or a Yoga mat with keeping



Position-13

the legs straight. Keep the spine straight. Keep the fists half closed. Now move the hands initially clockwise and then anticlockwise with bending forward as if you are moving the oars to sail a boat. Exhale when you bend forwards and take the hands nearer to the feet. Inhale when the hands reach nearer to the chest, lean backwards and keep balance. Do it for eight to ten times.

It gives exercise to the intra-abdominal organs. It is good for obesity also. The shoulders, upper arm, elbows and wrists will get good exercise. The whole spinal column gets exercise and this is the primary exercise for cervical vertebrae.

(14) Sit in cross leg posture, Sukhasana or Vajrasana in a comfortable position. Lock the fingers of both the hands in such a way that the fingers remain on back side of the palms. Keep both the palms on lower part of the skull- the part from where the cervical vertebrae start and the skull ends. Both the elbows will remain parallel to the ground.

Now exhale and bring both the elbows nearer to each other in front of the face. Inhale deeply and move the elbows away from each other and parallel to the ground as well as in the line of the shoulders. Exhale each time when the elbows move forwards and inhale when they move away from each other and on back side. Do it for eight to ten times.

(15) Sit in Sukhasana or Vajrasana on a blanket or a Yoga mat. You can sit in Gomukhasana posture also. For that fold the right leg from the knee

and keep the heel of the right leg under the left hip. Now fold the left leg and bring the heel of the left leg under the right hip. The knees will remain one on another. The feet will remain in opposite direction. The hips will remain on the ground between both the heels.

Now take the right hand behind the head and bend it at elbow on back and lower side. Then take the left hand on the low back side and then bend the elbow from below upside. Make the hooks of the fingers and pull the hands in opposite direction. The upper elbow should remain exactly on the back side of the head so that it gives complete exercise to the cervical spine. Inhale deeply when you pull the hands. Relax the hands when you exhale. Then do the same type of exercise by bringing the left hand from above and the right hand from below.

It is not essential that all the people can grasp the fingers from both the sides. Most of the people can grasp it from one side. It is not unusual. If you can't grasp the fingers hold a thick hand-

kerchief by the hand above and the lower end of the napkin from the hand below. Pull it. Try to bring the fingers of both the hands nearer to each other with the help of the napkin. You will certainly succeed. Remember nothing is impossible because a word 'possible' is there in the word 'impossible'. So go on trying it. You will be able to do it by one week or ten days if not today. It has always been said - try, try till you succeed.

The person who walks will certainly reach to the



Position-15 (b)



Position-15 (a)

goal; so one will have to walk. Do it. A match stick may not get ignited on the first time, so try it for three to four times. Even if it doesn't ignite try with another or third match stick. The person who tries always succeeds. Hence don't get confused. Once it is understood properly, everything is easy and simple.

(16) Sit in Sukhasana or Vajrasana on the blanket or Yoga mat on the ground. This exercise can be done easily by sitting in the chair also.



Position-16

Close the fist of the right hand. Keep the part of the bent fingers where you wear ring under the chin. Now press the chin upwards by the fist. Head will move upwards. This is a very good exercise for cervical spine. Then make a hook of the index finger. Keep it on the chin and press it downwards. Inhale when you press upwards and exhale when you press downwards. Do it for eight to ten times.

(17) This exercise can be done by sitting on the blanket, Yoga mat or in the chair. Sit with keeping the back straight. Very slowly rotate the head first on the right side and then on the left side. Inhale deeply when the neck moves on right side and comes in the line of right shoulder and exhale when it returns to front side position. Inhale when it moves on the left side and exhale when it returns to front side gradually.

Do this exercise for eight to ten times on both the sides. Now relax the neck. Then rotate the head and neck from right side. For that tilt the head first on the right side then on back side, then on left side and in front side

at last which completes one rotation. Do it in reverse direction also that is starting it from left side. Don't make haste or don't do it haphazardly or it may lead to problem if the muscle gets pulled. It may require hot fomentation for about three days, local application of the cream or ingestion of the pain killer tablets to relieve muscle pain. Hence the exercise should be done cautiously without making any haste. Inhale deeply when the neck moves on right side and exhale slowly when the neck moves on the left side. This exercise should be done on both the sides for eight to ten times.

(18) Sit on a blanket or a Yoga mat with keeping the legs straight. Move the legs away from each other and keep the maximum possible distance between the legs. Then hold the left toe by the right hand. Take the left hand on low back side (lumbar region). Then hold the right toe by the left hand and take the right hand on low back side.



Position-17



Position-18

Exhale when you bend on front side. Inhale when the back is straightened.

In addition try to touch the head on the knee and the elbow on the ground when you bend forwards. If you have bent to hold the left toe by the right hand, the head should touch the left knee. If you have bent to hold the right toe by the left hand, the head should touch the right knee.

This exercise should be done on each side for eight to ten times. In the beginning you may not be able to hold the toe and the head may not touch the knee. But don't bend the knee while doing this exercise. Try it continuously. You will definitely succeed.

15. LIVER AND ADRENAL

I had to go to Government Yoga and Health Center, Chandigadh twice in a year for Yoga camp for twenty years. One elderly Punjabi lady regularly came to Yoga camp. She was very obese. Her arms were thigh like. She had problem in getting up from sitting position as well as while sitting also. It was difficult for her to get in to car also but she used to come regularly. After about five years she started her Yoga center. She proved to be an image of inspiration for many ladies.

Initially she started with flexibility exercise. Then she started doing Trikonasana and Suryanamaskara. She came for television programmes with me after about eight years and very pleasantly and easily she demonstrated all the Asanas without any difficulty.

Her weight was reduced by 42 kilograms in eight years. Her blood pressure got normalized and all the physical problems were solved. She stopped taking medicines. She remains happy and inspires others.

We described previously to sit on the floor keeping the legs wide away from each other. Hold the left great toe by right hand; take the left hand behind the low back. Then hold the right great toe by left hand and take right hand behind the low back. Keep the knees straight and touch the knee by the head.

(19) Now sit on the blanket keeping the legs wide apart. Straighten the hands in front of the chest. Lock the fingers with one another. Now turn the wrist so that



Position-19

the palms will face away and back of the fingers towards you. Now move whole hands (from shoulders to fingers) from left to right (clockwise) and horizontal to the ground as you are moving the grinding wheel.

Abdomen is pressed when the hands move forwards. So exhale at that time. When the hands come nearer to the chest, inhale deeply. Do this movement for ten to fifteen times clockwise and anticlockwise. This is a very simple remedy to reduce the abdominal fat and obesity. Let us see other benefits which are obtained by this exercise.

We take care of our teeth, hair, lungs and heart but we hardly think about liver, kidneys and pancreas. These three organs get massaged by doing this exercise and their functional capacity increases by increased supply of blood to these organs.

LIVER

When the problem of diabetes is detected, people take urgent treatment and care of pancreas. The same situation is there for the kidney problem also but people are hardly aware about liver. We are careless about liver because its problems are not manifested earlier. It is the biggest organ in our body. Its weight is about one to one and half kilograms. It is protected by the ribs. It is situated in the abdomen on right side and upper part.

The liver has to do various functions. The energy source of functional capacity of our muscles is from liver only. The digestion of the food and production of the vitamins needed to see at night time (darkness) are the functions of the liver.

The liver produces thousands of enzymes and it provides these essential chemical substances for various functions and keeps the different parts of the body fit. The chemicals which are produced by the liver are so many that we can produce these substances only by installing a big factory spread in many acres of land.

Whenever bleeding occurs from the injured part of the body, immediately clotting of the blood occurs by the clotting factors produced by liver. The production of immunoglobulin to fight against the infections occurs in the liver. After eating the nonvegetarian diet or fish dangerous ammonia is produced from the protein content in the stomach and intestine. If it directly enters in the blood it may result into life threatening condition. But by this liver only it is converted in to harmless substance. Even though some amount of it remains liver converts it into urea and it is eliminated by the kidneys through urine.

ADRENAL

The hormone controlling the salt level in our bodies is produced in the adrenal glands. If the level of that hormone increases in the blood, there is possibility of development of swelling in the whole body. But the excessive amount of the hormone is destroyed by the liver. The liver also works as a safety valve for our heart. When there is sudden flow of blood towards the heart, this liver sucks it as a sponge and later on it gradually releases towards the heart, so that heart can manage it properly.

The unwanted and excessive poisonous substances produced in our body are eliminated from our body by the liver. Certain substances like nicotine, caffeine and

some drugs entering in our body through food, water, air and due to our lifestyle get passed through liver and then they are allowed to go towards the heart. If these substances reach the heart directly, it may lead to sudden death. But within five to ten seconds of their reaching in to the liver they are eliminated by the liver through urine or stool. Alcohol that enters the body with cocktail is converted in to water and carbon dioxide by liver only. Within one hour time liver converts one and half to two liters of narcotic substances into simple form.

When some toxic substances are produced in the body, this liver keeps close and sharp watch on them. When we walk, run, climb the stairs up and down the muscles get energy by burning of glucose and some lactic acid is also produced and later on it is recycled. This glucose is obtained from metabolism of glycogen which is stored in the liver. There is a system of recycling in the liver. Nothing is wasted, everything is well utilized. Management is perfect !

In the past chocolate bars were available from German companies only. Nowadays big chocolate bars are also available in India and the fashion of eating chocolate bars has entered in India as it is in foreign countries. These chocolates contain high amount of sugar and it raises the blood sugar level; sometimes insulin administration may be required or it may lead to increase in diabetes, coma, paralytic attack or even death. But this liver blesses the people as 'Mrityunjay Mahadev' and converts that excessive sugar into glycogen. In the form of glycogen liver can store 250 grams of sugar. So that in future whenever sugar level decreases due to any reason, liver can convert glycogen into plain sugar and it protects the life.

Every second in our body ten millions of red blood cells are destroyed which should be cleared from the body. Recycling of it occurs by liver only. From those remnants liver produces about one liter of bile which is bitter in taste, green in colour and greatly helpful

substance in digestive processes.

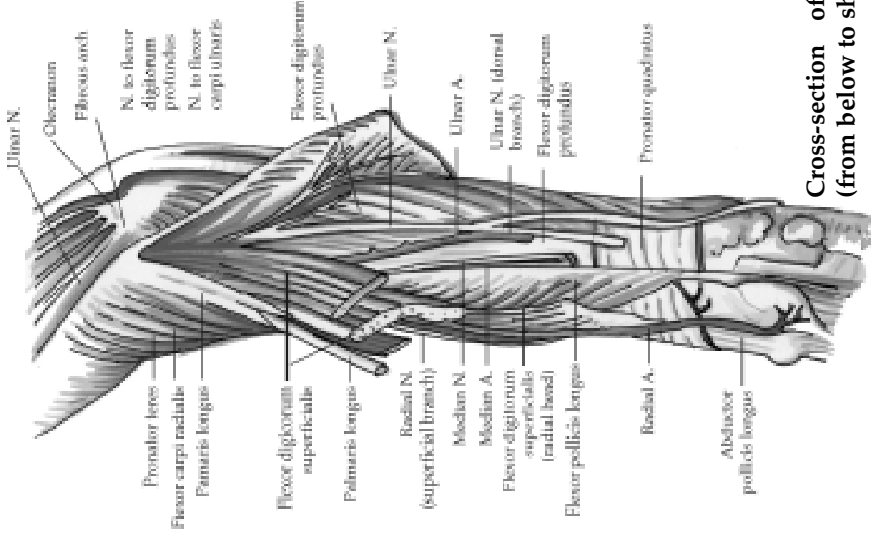
This chemical substance known as bile reaches the duodenum through gall bladder. The duodenum is the part of gastrointestinal tract between the stomach and intestine. This bile gets mixed with the food that passes through the duodenum and helps digesting the food. If extra bile remains in the tract it does Nadishodhana of the channels around the liver.

We learned the exercise of moving the grinding wheel. It looks simple but it has very high level of importance. The exercise of grinding wheel and hand movements are very simple but it gives good health. The meaning of 'Yoga is life' is to make the life successful by practising Yoga. Let us know, understand, enjoy the secrets of Yoga; let us have its benefits to make us healthy and thereby let us achieve the goal of life.

16. HANDS AND FINGERS

Since we wake up in the morning and until we go to bed, hands are the parts of the body which are maximally used. In the morning right from brushing of the teeth, morning rituals, writing, eating, computer operating to car driving, our hands are useful in various ways. Immediately after birth the thumbs, fingers and hands are used to grasp the breast of the mother while sucking milk. So the fingers and thumbs are functioning since birth. The legs, knees, thighs or the back may get tired while walking, the eyes may get tired after seeing for long period, the ears may get tired after hearing or there may be headache after too much of discussion; but have you heard that the hands are tired ?

The fingers of the hands don't have the capacity like liver, but there is no surprise about the fingers typing 120 words in a minute. The women of Punjab can rapidly knit the high collar neck, full sleeve sweater in a day by these fingers only. The design making artists can make different designs with each hand simultaneously of various colours. The different notes are produced by each hand on two different musical instruments as well as on harmonium and other organs. While playing violin right hand grasps the bow and another hand presses the wires, the same way different movements have to be done by each hand while playing Sitar. This coordination is a great thing but more than one thousand messages are passed in the brain while there is movement of the thumb



**Cross-section of Hand
(from below to shoulder)**

towards and away from the fingers. Are you aware of it? The major functional area in the brain is occupied by hand area. It is known as motor cortex. While rotating the thumb innumerable afferent (message going from peripheral part of the body to brain) and efferent messages (from brain to the peripheral part) are sent to ensure coordinated movement of the muscles of thumb. It is the wonder of nature. The hands get rest only during sleep otherwise from birth to death generally the fingers move for two and half crores of times. During that time the nervous system works thousand times the movement of