

HOME STUDY COURSE

IN

**OSTEOPATHY,  
MASSAGE AND  
MANUAL THERAPEUTICS.**

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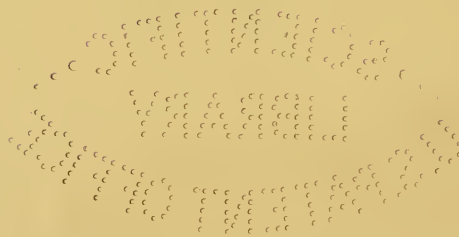
PUBLISHED BY  
**THE PSYCHIC RESEARCH COMPANY,**  
Temple Chambers, Temple Ave., London, E.C.

L. R. FOWLER & Co.,  
7, IMPERIAL ARCADE, LUDGATE CHURCH,  
LONDON, E.C.

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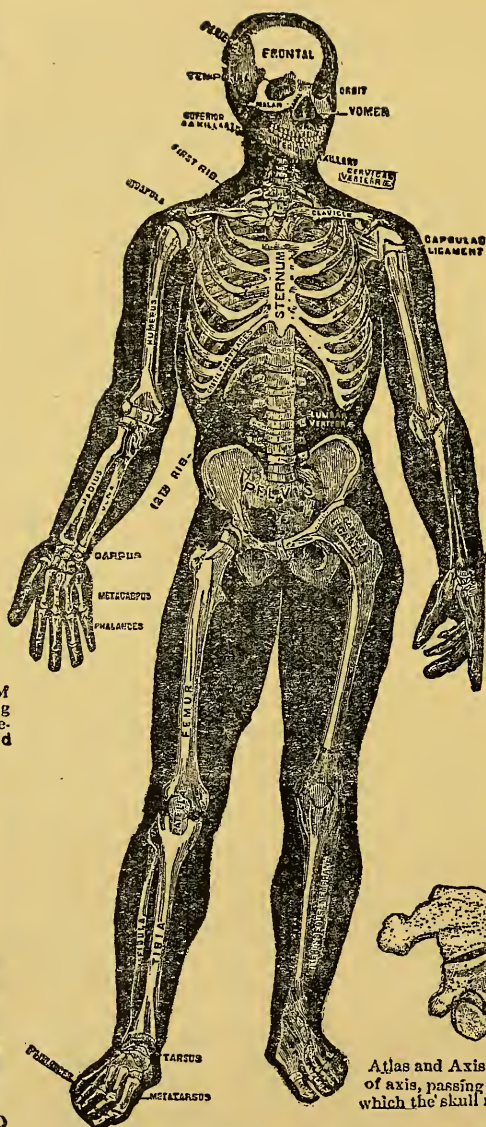


Fig. 2.  
Posterior view of  
femur, showing  
the ridges, de-  
pressions, and  
openings.

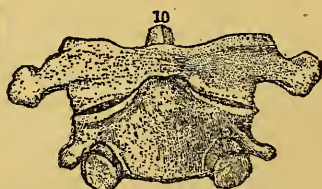


VIEW OF KNEE-JOINT.

A, Thigh bone; B, Knee-pan;  
C, D, Leg bones.



THE SPINAL COLUMN.



Atlas and Axis in position. 10, projection  
of axis, passing through the atlas, upon  
which the skull rests.



THE ATLAS.

FIG. 2.—THE SKELETON.



## LESSON I

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### THE THEORY OF OSTEOPATHY

Osteopathy is a system, method or science of healing disease without the use of drugs or medicines of any kind. It is based upon the proven laws of Anatomy and Physiology, and comprises a scientific and thorough knowledge of the structure and functions of the human mechanism. Our students are taught to understand and apply certain organic laws and natural remedial resources, within the human organism itself, and by means of scientific manipulation and adjustment assist Nature, in harmonious accord with its own mechanical principles, activities and processes, to recover from displacements, derangements, obstructions and pressures, and to regain its normal equilibrium of form, action and function, thus restoring to the patient normal Health and Strength.

Osteopathy holds to the theory that the body is a delicate mechanism, subject to the same laws of mechanics as those which regulate all mechanical structures in their construction, arrangement, position and operation. That to have perfect action in any machine, each and every part of it must be exactly in place and entirely free from obstruction. That any machine subject to great strains or shocks, such as the human body sustains from accidents, overwork, sudden atmospheric changes, bad surroundings, etc., can be so racked by these agents that some of its parts will be misplaced or dislocated and its normal action perverted or entirely destroyed. That the condition of the human body which we term Disease is due entirely to obstruction of or pressure on some of the arteries, veins, nerves or ducts of the body, from the action of which we obtain motion, sensation, digestion, assimilation, nutrition and egestion. That a removal of this obstruction or pressure will restore the circulation of the blood and other fluids of the body and bring about a condition of Ease, Strength and Health.

The aim of our students is to restore to normal action and function the organs and different parts of the body that have been manifesting along abnormal lines. The nerves, which have been likened to a great telegraphic system, passing

through, over, under and between the bones, muscles, ligaments, arteries and veins, are extremely sensitive and liable to get out of order. Our student, like the skilled lineman, first finds out where the wires are crossed or interfered with, and starts in to adjust them. He extends the contracted muscle or reduces the slight dislocation which has caused a pressure upon the nerve and has shut off its current, and by so doing he restores the line to working order and gives the suffering organ or part the perfect service which it demands. He does all this by scientific and intelligent manipulation. No drugs are prescribed by the Osteopath. He does not need them. He has something better.

The nerves convey sensations to and from the brain, and control the various functions of the body, and it is of the utmost importance that they be kept free from interference and pressure. But the nerves themselves are dependent on the supply of blood, as is also every organ or part of the body. The blood is sent to all parts of the body through the arteries and brought back to the heart through the veins, the arteries and veins branching out through the intricate network of organs, muscles and nerves. A natural flow of blood means Health, while a local or general disturbance of the circulation causes Disease. If the circulation is any way obstructed the part which is thus deprived of its nourishment is soon weakened and becomes diseased. An obstructed artery may cause heart disease, and an obstructed vein may cause inflammatory rheumatism, dropsy, erysipelas, varicose veins or even cancer. By our method of Osteopathic treatment the obstruction is located and removed, the circulation stimulated, the parts nourished, and the impurities which have gathered are carried off.

Our student adjusts into harmonious relation all the wonderful and intricate mechanism of the human body, thus giving free circulation of the blood to and from the heart, freeing the nerve force, adjusting any parts of the framework which may have become displaced, building up the system, stimulating and developing and thus effecting a cure.

He accomplishes the desired result by an intelligent and scientific method of manipulation of the different parts of the body. By his manipulations he stimulates the several nerve centers of action, removes the pressure from the nerves all along the lines of their distribution, arouses nerve force, frees and equalizes the circulation of the blood and other fluids of

the body, and, in short, equalizes the forces in every tissue, muscle, organ, nerve and cell in the body and restores harmony to every part of the system. If a muscle is contracted and tightens down on one or more nerves, trouble is sure to follow. If the nerve interfered with happens to be a sensory nerve, paralysis may ensue; if a sympathetic nerve, the nutrition is cut off; failure of any or all the various functions of the body is likely to occur. The only way to remedy the trouble and restore the normal workings of the different parts of this mighty machine is to go to the seat of the trouble, find and remove the obstruction and start the mechanism working without friction or jolting. With the obstructions to the free flow of the blood and other fluids removed, and the circulation restored through natural channels; with the removal of any and all pressure upon nerve fibers; with the adjustment of any misplaced or shifted parts of the machinery; the system must right itself and health ensue.

Every bone, every drop of blood, every nerve, ligament and muscle, however small and seemingly useless, has a distinct and positive work to perform, and in a normal condition it will unerringly perform that work. The human body is perfect in its plan and action, and disease is impossible except under abnormal conditions. Osteopathy teaches how to remedy the abnormal conditions and to again start this intricate machine running smoothly, with its parts all nicely adjusted, its bearings free from friction and every detail in perfect harmony with the whole.

Osteopathy goes to the root of disease, the prime cause of the disorder, and as many of the so-called varieties of disease have one common origin, there are practically no diseases but are materially benefited or entirely cured by this form of treatment. In fact, many diseases will yield to no other form of treatment. The best results of Osteopathic treatment are, of course, obtained in cases of disease resulting from an abnormal condition of the machinery of the body, the nerves, blood vessels and fluids of the system, which effects are, almost without exception, caused by partial or complete displacement of bones, muscles, tissues, etc. Chronic cases, which are the despair of the drug-giving physician, are those in which the Osteopath makes his most remarkable cures, and, naturally, he prefers to treat such cases.

The discoverer of Osteopathy, Dr. A. T. Still, inclined to the theory that the majority of diseases were caused by dislo-

cated bones, and he consequently named the new science "Osteopathy," from the Greek roots "osteon" (bone) and "pathos" (suffering). This name has been adhered to by his followers, notwithstanding the fact that the advancements in the science have shown that the real Osteopathic treatment consists principally in a treatment of the nerves, and, strictly speaking, the term "Neuropathy" would be far more appropriate, although the original name will probably be always adhered to, as the public have become accustomed to it, and a change of names at this time would create confusion.

We are inclined to the theory that there are but comparatively few cases of dislocation, and are convinced that in many cases the dislocated bone is but a contracted muscle, which is readily relieved by manipulation, the operator and patient both believing that a bone was dislocated and had been "set" by the Osteopath.

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### **BASIC PRINCIPLES OF OSTEOPATHY**

1. That Health and Normal Function depend upon the blood and nerve supply to the tissues.
2. That impaired structure or function of an organ causes pain to be manifested when a pressure is exerted upon or over the organ. That the nerves supplying the organ with its nerve current will also manifest a sensitiveness to the touch, as does the organ itself, consequently a sensitiveness along the course of the nerves supplying any organ is an evidence of abnormal conditions existing in the organ itself.
3. An interference with a nerve, or an irritation to the same, will affect the functions of the organ supplied by that particular nerve, causing it to function abnormally.
4. Alternate pressure along the course of a nerve will stimulate the organ supplied by that nerve. Steady pressure upon a nerve will inhibit the action of the organ supplied by that nerve.
5. That stimulation or inhibition of a nerve is most easily accomplished at its periphery, or at the point of its emergence from the spinal cord.
6. The only rational method of treatment of disease is that which removes the cause by removing physical obstructions, by stimulating or inhibiting functional activity, by restoring the normal condition of nerve current and blood supply to every organ in the body.
7. That an equalized circulation of the blood and freed nerve-current spells H-E-A-L-T-H.





## POINTS ON PRACTICE

(a) The Spinal Cord is the keyboard of a piano to the Osteopath. You will see by reference to our lesson on the Nervous System that the Spinal Column is the great cable from which branch out the spinal nerves which supply the nerve-current to each organ and part of the body. These spinal nerves escape from the Spinal Cord through openings along the length of the Spinal Column, and are often bound up, unduly pressed and interfered with by the muscles around the spine, and the nerve current to some part of the body is thereby reduced or shut off, causing pain and disease in some part or organ of the body supplied by that nerve, although that part or organ may be very far removed from the point at which the pressure or interference occurs. By proper manipulation and movements the obstruction is removed, the current turned on once more and normal conditions restored.

(b) The circulation of blood to and from the head is often found to be interfered with by a pressure or contraction of the muscles of the neck, and the interference often manifests itself in the shape of deafness, impaired sight, catarrh and other disorders of the sight, hearing and smell, and also in dizziness, headaches, etc., etc. By proper manipulation of the neck normal conditions are restored.

(c) Interferences with the circulation and nerve-current are often removed by the free movement and manipulation of the legs and arms, which frees and softens up the muscles and releases the obstructed circulation and nerve-current and allows Nature to restore normal conditions.

(d) It is often found that contracted muscles are drawing in the ribs and exerting an undue pressure upon some of the organs of the body. This condition can frequently be relieved by the simple treatment which we have described as "Chest Expansion" (see lesson on Movements), the principle of which is that the expansion is best given with the arms high above the head, and the knee of the operator pressed upon the spine, just below the shoulder blades, which treatment stretches the contracted chest muscles and springs the ribs into place.

(e) The Great Osteopathic Dysentery Treatment (see lesson), which consists in pressing your knee against the pa-

tient's spine, just below the last rib, at the same time bending the patient backward, will remove the trouble almost instantly. The theory of this treatment is fully set forth in the lesson treating of this class of troubles.

(f) Osteopathy has discovered a method of reducing fevers and slowing down the heart's action in a very short time. It is most simple and consists of a pressure on the vaso-motor center, at the base of the brain, on the back of the neck, just over the upper cervical vertebræ.

## SPINAL CENTRES

The following table of centres for Osteopathic Spinal Treatment will prove interesting and instructive to the student. When a muscular contraction is found at one or more points along the length of the Spinal Column, it will be found that a pressure is exerted upon the nerve emerging at that point, and a corresponding trouble is manifested in the organs supplied by that particular nerve or nerves. The proper manipulation will relieve the trouble.

The sensory nerve supply to the several parts and organs are as follows:

First, second and third Dorsal—Heart.

First, second, third, fourth and fifth Dorsal—Lungs.

Sixth, seventh, eighth and ninth Dorsal—Stomach.

Ninth, tenth, eleventh and twelfth Dorsal—Intestines down to upper part of rectum.

Second, third and fourth Sacral—Rectum.

Seventh, eighth, ninth and tenth Dorsal—Liver and Gall Bladder.

Tenth, eleventh and twelfth Dorsal—Kidney and Ureter.

Second, third and fourth Sacral—Neck of Bladder.

Eleventh and twelfth Dorsal, and first Lumbar—Over-distension and ineffectual contraction of Bladder.

Tenth, eleventh and twelfth Dorsal, and first, second, third and fifth Lumbar—Prostate.

Tenth Dorsal—Testis, or Ovary.

Eleventh and twelfth Dorsal—Appendages, etc.

Tenth, eleventh and twelfth Dorsal, and first Lumbar—Uterus (in contraction).

First, second, third and fourth Sacral—Os Uteri.





## LESION TABLE

### WHERE TO LOOK FOR LESIONS

If there seems to be trouble in any particular organ or part, look carefully for lesions in the corresponding centre on the spinal column, as per following table. If a lesion is found at the nerve centre of an organ, you may rest assured that there is a manifestation of disease in that particular organ. In case of trouble in any of the following organs or parts, examine the spine for lesions at the following points:

Pharynx, Larynx and Tonsils—Second and third Cervical.

Thyroid Gland—Fifth, sixth and seventh Cervical and first Dorsal.

Arm—Fifth, sixth, seventh and eighth Cervical and first Dorsal.

Lungs and Bronchi—Second to eighth Dorsal.

Heart—Second to fifth Dorsal; also middle of Cervical region.

Stomach—Third to eighth Dorsal.

Liver—Ninth and tenth Dorsal.

Spleen—Eighth to eleventh Dorsal.

Duodenum—Sixth to tenth Dorsal.

Jepunum and Ileum—Lower Dorsal and Lumbar.

Colon—Second to fifth Lumbar.

Rectum—Second to fifth Lumbar; Sacral; also third and fourth Dorsal.

Uterus—Second to fifth Lumbar; ninth and tenth Dorsal.

Genitals, generally—Second to fifth Lumbar.

Bladder—Second, third and fourth Sacral.

Sphincter Ani—Fifth Sacral.

You will understand that not only does a lesion of a centre produce disease in the organ supplied by it, but also a diseased condition of an organ will manifest itself in a tenderness at its spinal nerve centres.

## LESSON II

### MOVEMENTS AND MANIPULATIONS



Treatment for  
Dislocation of  
Atlas.



Raising Clavicle.



Kneading the Back.



Breast Manipulation.

There are several forms of Osteopathic treatment generally known as "Movements." They have a most important physiological and therapeutic effect. The venous and lymphatic circulation is materially affected by these Movements, and a corresponding therapeutic effect is thereby obtained. Osteopathic Movements are of two general classes: Active and Passive. Active Movements are produced by the efforts of both; the operator moves the body or limb, and the patient exerts a resistive effort; in others the patient moves his body or limb, and the operator exerts the resistive effort. The principle is the same in both cases, the details differing because of convenience of handling, etc.

Passive Movements are produced simply by the efforts of the operator, without any assistance or resistance on the part of the patient. The patient is perfectly passive and simply allows the operator to make the Movements.

Osteopathic Movements are several in number, each particular form being capable of manifestation by Active or Passive effort. The movements are known as: Rotation, Flexion and Extension, Separating and Closing, Joint Stretching. The name of each Movement will suggest its application, but, in order that the student may readily understand each Movement, we will give a short description of the various applications of each particular movement.

### ROTATION

**ROTATION OF THE FOOT.**—With the patient lying on his back, take his heel in your left hand, and his toes in your right, and make a rotary movement from the ankle, pressing the foot forward. Repeat several times. (Passive.)

**ROTATION OF THE LEGS.**—The patient on his back, place one hand on the sole of his foot, the other under his knee, raise the leg and rotate the leg from the hip, outward. Repeat several times. (Passive or Active.)

**ROTATION OF THE ARMS.**—The patient sitting, grasp the arm below the elbows and rotate outward. Repeat several times. (Passive or Active.)

**ROTATION OF THE SHOULDER.**—The patient sitting, place one hand on the shoulder and the other under the elbow, and rotate. Repeat several times. (Passive.)

**ROTATION OF THE HAND.**—The patient sitting, take his hand in one of yours, and with your other hand grasp his wrist and rotate from side to side. Repeat several times. (Passive.)

**ROTATION OF THE HEAD.**—The patient lying on his back, stand at his head, and place one hand on his forehead, the other under his neck, and rotate the head slowly from side to side. Repeat several times. (Passive.)

**ROTATION OF THE BODY.**—The patient sitting with hands on hips, stand behind him and place your right hand on his right shoulder-blade and your left on the left side of his chest. Rotate by pushing his right side forward with your right hand and drawing his left side backward with your left hand. Then reverse the position of the hands and rotate in an opposite direction. Repeat several times. (Passive.)

**ROTATION OF THE PELVIS.**—The patient on his back and holding on to the table, grasp his feet and rotate his legs in such a manner as to describe a circle large enough to bring the pelvis into action. Repeat several times. (Passive.)



Kneading Forearm.



Breast Manipulation.



Kneading Abdominal Muscle.



Kneading the Neck.

## FLEXION AND EXTENSION

**FLEXION AND EXTENSION OF THE FOOT.**—The patient on his back, take his toes in one hand and his ankle in the other. Move the foot backward and forward. If you prefer operate on both feet at the same time. Repeat several times. (Passive or Active.)

**FLEXION AND EXTENSION OF THE LEG.**—The patient on his back, place one hand on the knee, the other under the sole of the foot, and move the leg up and down, flexing it against the chest. Repeat several times. (Active.)

**FLEXION AND EXTENSION OF THE ARMS.**—The patient sitting, stand behind him and grasp his wrists, he keeping his elbows close to his body. Move his arms up and down. Repeat several times. (Active.)

**FLEXION AND EXTENSION OF THE HAND.**—The patient sitting, grasp his wrist with one of your hands and hold his



Kneading with Thumb.



Wringing Movement.



Kneading Arm.



Kneading the Glutei.



Kneading Abdomen.

fingers in your other hand, and move the hand up and down. Repeat several times. (Passive or Active.)

## SEPARATING AND CLOSING

**SEPARATING AND CLOSING THE ARMS.**—The patient sitting with arms extended to the front, take hold of his wrists and separate and close his arms. Repeat several times. (Active.)

**SEPARATING AND CLOSING THE LEGS.**—The patient on his back, take hold of his ankles, underneath, and separate and close his legs. Repeat several times. (Active.)

**SEPARATING AND CLOSING THE KNEES.**—The patient on his back, stand at his side and placing one hand on each knee, separate and close. (Active.)

## JOINT STRETCHING

**STRETCHING THE ARM AND SHOULDER JOINTS.**—The patient on his back, with head and shoulders raised on pillow, and arms extended over his head, stand at his head and take his hands in yours, passing your thumb between his thumb and forefinger, letting your fingers pass around the fleshy part of his thumb and back of his hand. Make several vigorous elastic pulls, avoiding sudden jerks. Make the pulls gradual, then withdraw the force suddenly. Repeat several times.

**STRETCHING THE LEG JOINTS.**—The patient on his back, take his ankles in your hands and pull straight down. Gently, but firmly. (Repeat several times.)

**STRETCHING TOE AND FINGER JOINTS.**—Take each toe or finger separately and pull slowly and gradually, releasing the pressure suddenly.

## KNEADING

This is a leading method of Osteopathic treatment, and one frequently employed. It consists of compression of the tissues and muscles by grasping them or by pressing them against underlying bony surfaces. It differs from Osteopathic Rubbing in as much as the hand is not allowed to move along the surface of the skin, but is held firmly on the parts. We separate the different forms of Manipulation into three general classes: Superficial, Digital and Palmar.

Surface Kneading is practically an intelligent form of pinching movement, and acts solely upon the skin and the tissues immediately underlying it. The skin is gently but firmly grasped between the thumb and forefinger, and lifted



Kneading Abdomen.



from the bone or muscle, then released the moment the strain is greatest. The two hands are alternately used, the one picking up the skin as the other drops it, the surface being gone over in a systematic manner. This form of Manipulation is most valuable in emptying and refilling the blood vessels and lymph spaces and channels, and is quite stimulating. It is especially useful in affections of the skin.



Surface Kneading.

Palmar Kneading is intended to act upon the muscles. It is akin to the movement of the hand of the baker as he kneads his dough. The operator grasps the muscle with the palm of his hand, keeping the fingers close together, the thumbs out. The thumb is not used, the muscle being grasped between the fingers and the palm of the hand, the heel of the hand, or the lower fleshy part of the thumb. Do not allow the skin to slip, but maintain a firm grasp. Manipulate deeply so as to reach the deeper parts. The muscle should be compressed by the hand and at the same time gently lifted from the bone or underlying tissues, rolled and stretched. When the strain is greatest, release so as to stimulate. Work slowly and carefully, repeating the manipulations according to the requirements of the case, and the state of the patient. In the beginning, do not exert much force, but later on increase the force as the patient becomes accustomed to it. Try to individualize groups of muscles, as the best results are thus obtained. In Palmar Manipulation, use the hands alternately.



Kneading Back.

In some cases it is also desirable to use a rolling movement, the heel of the hand and the fleshy part of the thumb being pressed upon the muscle, which is then rolled to and fro, the fingers not being used. Use one or both hands. This rolling movement is especially useful in manipulating the upper part of the back, the hips, arms and legs. In manipulating the legs or arms, a wringing movement may be used occasionally, the movement resembling the motions of a woman's hands when she is wringing out a thick garment. In some cases deep kneading with the heel of the hand is preferable to the use of both palm and fingers, especially in manipulating the back, chest and abdomen. The operator must use his own good judgment in such cases, ascertaining which method gives the most relief. The different modes of administering Palmar Manipulation may be varied, alternated or combined. The student should thoroughly acquaint himself with the several methods above mentioned, and should practice them on himself and his friends until he is proficient.



Kneading the Hand.



Kneading the Neck.



Rolling Movement.



Digital Kneading.



Beating Movement.



Chopping Movement.



Slapping.



Tapping.



Beating Sciatic Nerve.

Digital Kneading is effected by grasping the tissue between the ends of the fingers and thumb, and then rubbing the tissue against the bone. Either the end of one finger or of several may be used in connection with the thumb. This form of Manipulation is used principally in manipulation of the spine, joints, head, face and abdomen.

### RUBBING

We advocate the use of Rubbing, in connection with other Osteopathic treatment. The palm of the hand and the lower part of the fingers should be used, the tips of the fingers and the thumb being turned back. It is beneficial in stimulating the parts, and promoting the flow of the blood and lymph.

### PERCUSSION

Percussion is another form of administering Osteopathic treatment. It consists of administering blows to different parts of the body, with varying degrees of force. The wrist should be flexible and loose, as a stiff wrist gives a blow such as is used in fighting. The blow should be elastic and springy, which although penetrating deeply, does not injure the surface. Percussion can be given by several methods, which we will not briefly describe. The first method is by striking the body with the inside flat surface of the half-closed fist, the heel of the hand and the closed ends of the fingers coming in contact with the flesh. The second method is a chopping movement, made with the little finger side of the hand. The hand is likened to a butcher's cleaver in this chopping movement. The fingers are held loosely apart, coming together when the blow is struck. The third method is a slapping movement, which is best comprehended by the position and movement of the mother administering a well-merited spanking to one of her brood. The fingers are held rigid, and the body slapped. The fourth method is a clapping movement, the hand being hollowed so as to emit a hollow sound; just as one holds his hands in applauding at a theater or concert. The fifth method is a tapping movement, with the tips of the fingers, one or more fingers of one or both hands being used. Percussion in its different forms is a powerful stimulant to the nerve centers.

### VIBRATION

This is a most important form of Osteopathic treatment, and is a very powerful stimulant. It consists of certain oscil-

latory movements, produced through a succession of rapid individual efforts of the operator's hand. There should be little or no perceptible strain upon the arm muscles of the operator. The palm of the hand or the fingers must be placed firmly upon the parts to be treated, the arm being held straight and a fine trembling or vibrating movement communicated to the hand by the muscles of the upper part of the arm. The movement is somewhat difficult of acquirement, but practice will make perfect, and the student must persist in his practice until the desired movement is acquired, for this is one of the most stimulating and penetrating of all the methods of Osteopathic treatment, its effect being quite perceptible and almost akin to the effects of a current of electricity. It has a stimulating and strengthening effect upon the nerves, and acts strongly upon the venous circulation and upon the lymphatics. Be careful not to press upon the body with your wrist, as you should use no greater pressure than the weight of your hand. When properly administered by one hand on the breast, the vibrations should be distinctly felt by the other hand placed under the back of the patient. A useful method of practicing this valuable method of treatment is had by placing a goblet of water on the table and then placing the hand on the table and making the vibratory movement. If you have acquired the proper delicate vibratory motion, the water will merely quiver in the centre, and will not move from side to side. Practice this until you perfect it. Vibration using the fingers alone, is known as Digital Vibration: when the palm of the hand is used it is known as Palmar Vibration: and another method in which the knuckles of the closed hand are used, is known as Knuckle Vibration. The principle is the same in all three forms, the particular method to be used being merely that which may seem best to the operator and best adapted to the shape and form of the particular part of the body being treated.



Digital Vibration.



Digital Vibration.



Deep Vibration.



Vibration of Liver.

## STROKING

This form of Osteopathic treatment is useful in producing sedative or quieting effects. It should be applied with a very light contact, the tips of the fingers, or the palm of the hand, just barely touching the patient. In some cases it will produce a feeling of drowsiness on the part of the patient, and is also very useful in relieving certain forms of nervous headache, and in affording relief from insomnia. Patients will frequently





Stroking.

drop off into a light doze during this form of treatment. It is used after the more vigorous forms of Osteopathic treatment, and never fails to quiet down the patient, equalize the circulation and relieve an excess of stimulation. Stroking should always be performed in a downward and outward direction, and in one direction only, not to-and-fro. The tips of one, more or all of the fingers, or the palmar surface of one or both hands, are moved gently over the skin, with a light contact, not even the mere weight of the hand being allowed to press upon the surface of the skin. Lightness, gentleness, and airiness are the words best describing the Stroking movement. The student should acquire this most important and effective movement.

### NERVE PRESSURE

This form of treatment consists of a pressure upon a nerve at some point in its course. It is either stimulative or sedative, according to the manner of its application. The physiological effect of a sudden, light pressure upon a nerve, followed by an immediate withdrawal of the pressure, repeated several times, is that of decided stimulation. On the other hand, a firm, steady, deep pressure desensitizes or deadens sensation, and if continued for some time will produce numbness. Remember alternate pressure and relaxing stimulates; firm, steady, continued pressure desensitizes. We will frequently refer to these two forms of nerve pressure, so be sure to get them firmly fixed in your mind. The points at which the pressure is more frequently applied are the motor points lying near the surface, where the principal nerves are easily reached by pressure. The spinal nerves are treated by placing one finger on each side of the spinal column, and exerting a pressure at points on a line with the spaces between the vertebrae.



Holding Vaso-Motor.



Freeing Pneumo-Gastric.

### FREEING THE PNEUMO-GASTRIC NERVE

The patient on his back, place your hand under the chin, pull the head backward. Move from right to left, and manipulate deeply and firmly the lower part of the neck, on each side of the windpipe. This frees and stimulates the pneumo-gastric nerve, which largely influences the organs of digestion.



Pressure Phrenic Nerve.

### PRESSURE ON THE PHRENIC NERVE

Seat your patient on a stool or chair, standing behind him. Place the fingers of each hand upon the transverse processes



of the third, fourth and fifth cervicals. Press the fingers forward and down in front of the transverse processes, and press upon the phrenic nerve, which controls the diaphragm.

### PRESSURE ON THE VASO-MOTOR NERVE

Place the fingers on each side of the back of the neck and press with fingers on each side of the spine over the upper cervicals (vaso-motor centre) for two or three minutes. This will slow the action of the heart.



Holding Vaso-Motor.

### SPINAL TREATMENT

The patient on his side, then using the palmar surface of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward gently but firmly and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning him on his other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.



Spinal Extension.

### EXTENSION OF THE SPINE

The patient on his back, grasp his shoulders, your fingers under his armpits. An assistant holds the patient's ankles. The patient relaxes and you give a careful stretching or extension of the spine, gentle but firm, for about one minute. This frees the circulation of the spinal cord and relieves pressure upon the spinal nerves.

### NECK TREATMENT

The patient lying on his back, stand at his head and place one hand on his forehead, the other under his neck, and rotate the head slowly from side to side. Then manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position, and give the neck a thorough extension or stretching, gently but firmly, being careful not to rotate the head. This treatment frees the circulation to the brain.



Extending Neck.

### EXPANDING THE CHEST

Seat your patient on a stool or chair (if a chair, let him face its back) and stand behind him. Place your foot on the seat

of the chair, the tip of your toe being up against, or under, the body of the patient. Place your knee between the patient's shoulders, holding his wrists in each hand. Raise his arms (sideways) up and over his head, slowly but strongly, and press hard with your knee against his spine. Then maintaining the pressure of your knee, lower the arms with a backward motion. The patient should inhale, filling the lungs, while the arms are being raised; exhaling as the arms are lowered.

### THE GREAT OSTEOPATHIC DYSENTERY MOVEMENT

Seat your patient on a stool or chair (if a chair, let him face its back) and stand behind him. Place your foot on a round of the chair, grasp his shoulders, and press your knee firmly against his back, on the spinal column, just below the last rib. Draw him back by the shoulders, gently but firmly. Take your time and do not be in a hurry. In giving the treatment have him relax all his muscles. If the patient is in bed, place one hand under each of his sides, placing your fingers on each side of his spine just below the last rib. Lift him up from the bed several inches, his weight resting on the ends of your fingers, his body from shoulders to pelvis forming an arch.

### ADJUSTING RIBS

In our lesson on the Skeleton and Bones we have told you that the ribs form a bony cage, containing important organs. They are quite elastic, but have only a limited field of motion, and are rather easily forced into a strained and unnatural position. In many cases it will be found that the ribs on one side are slightly depressed, and those on the other side are slightly raised. This condition will, of course, produce abnormal results, as the nerve-current and circulation will be affected, in all probability.

Very fortunately, it is possible and comparatively easy to readjust these abnormal conditions, by replacing the ribs. There is a large muscle which covers the greater part of the breast (the pectoralis major, see lesson on the Muscles and accompanying cut), which is connected with the collarbone and the ribs, and also is connected by tendons with the Humerus (large upper arm bone) about three inches below the shoulder joint. You can feel the connection by raising your arm over



Expanding Chest.



Dysentery Treatment.

your head and realizing the movement of your upper ribs. Our Chest Expansion Treatment is designed to release the ribs and restore normal conditions.

The following movements are also useful in similar cases:

Stand beside the patient and place one hand on each side of the thorax (the upper cavity of the trunk of the body), pressing the ribs forward and upward, holding them in position while the patient inflates his lungs.

In some cases of Constipation we find the sixth or seventh ribs slightly contracted and turned to the side, and either the ribs or muscles exerting an undue pressure upon the Splanchnic nerves, which affect the digestive organs, bowels, etc., the result of the pressure being that a portion of the nerve-current is thus cut off. This condition is relieved by manipulation and by placing the tips of the finger or the thumb under the middle of the rib, while the patient inflates his lungs, and raises his arm over his head. You will see by reference to the several illustrations accompanying this part of the course the different methods of raising and adjusting the ribs in their proper position. The principle is the same in each case. The raising of the arm and inflating of the lungs should always accompany the raising of the ribs by the ends of the fingers or thumb. A little actual practice will give you the idea far better than can any printed description.



Raising Eighth Rib.



Raising Ribs.



Raising Ribs.



Raising False Ribs.



Raising Ribs.



## THE OSTEOPATHIC GENERAL TREATMENT

This treatment contains that which goes to make up most of the leading features of the treatments recommended for special complaints. When you can give a general treatment as below described, you have practically mastered the art of Osteopathic manipulation and treatment. The General Treatment can be advantageously used in every form of complaint, as it contains within it all the elements that go to make up the special treatments. Of course, in some cases, it is well to omit some of the movements, etc., but as a rule it is as well to retain them all, unless the patient is too weak to stand them, in which case you must use your own good judgment as to how much had better be omitted.

Some of the best Osteopathic practitioners confine themselves almost altogether to the General Treatment, in all cases, and the only special treatment given by them is an accenting of the treatment of the region of the affected part. You will see by studying carefully the theory of Osteopathic practice, that this General Treatment will free and equalize the circulation of the entire body, and will free and stimulate the nerve impulse to all the parts. This being the case, a normal condition will be soon restored, and the normal condition being restored, Health must manifest itself.

Our advice to you is to always carry in mind the General Treatment, no matter in what part of the body is located the complaint. Of course, pay special attention to the region of the affected part, giving special manipulations there, as the same is needed and the patient will expect it, but work in the General Treatment somewhere, either at the beginning or the ending, or in connection with the special treatment.

The patient will feel so invigorated after a few General Treatments that he will notice if you omit any of the movements, etc., afterwards. Many patients will experience a marked improvement after the first General Treatment. When you remember that an interruption of the circulation in any one part will produce results in parts of the body far removed from the point at which the obstruction occurs, you will see the importance of the General Treatment. In case it is difficult to



closely diagnose the trouble, you will get the result just the same as if you had been able to closely locate the trouble, if you will give the General Treatment. This is where you have quite an advantage over the Drug Doctor. And, then besides, you cannot do any harm in case of a mistaken diagnosis, as he is apt to do.

By all means let your hobby be General Treatments. Learn to give them thoroughly and effectively, and your success is assured.

PRELIMINARY.—Direct the patient to lie upon his face. Place a pillow under his breast, reaching up so that his chin may rest upon it. Let his arms hang loose over the sides of the table.

Examine his ribs and see if they are in place and presenting an even surface when the hand is placed over them. If a rib is turned it will present a sharp edge.

Place the first finger of the right hand upon the left side of the spinal column, close up against the spine, and the second finger upon the right side of the spinal column so that the spine is between the two fingers. Then, beginning at the first cervical, bring the fingers firmly down the entire length of the spine, *slowly* and carefully. If you find tender spots you will know that there exists a congested condition over a certain nerve center controlling some part of the body. If you find a small spot much colder, or much warmer, than the surrounding parts, you will know that some muscle is contracted and is obstructing the circulation supplying some nerve centre, which is undoubtedly causing trouble in the part of the body controlled by that nerve centre.

Go over the spine a second time, in the same way, only press your fingers in more deeply, and you will possibly find muscles manifesting a knotted feeling to the touch, which indicates a contraction, and consequent interference.

Placing the patient on his back, instruct him to place his arms to his sides and relax all over. Examine him thoroughly by passing the hands all over his body from head to feet, over all the organs and limbs, noting carefully all tender spots, contractions, swellings, etc. Do not neglect to examine the pulse to ascertain the action of the heart.

## TREATMENT

(1) Begin by giving a thorough Spinal Treatment, as follows: The patient on his side, then using the palmar surface



Spinal Treatment.

of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward gently but firmly and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning him on his other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.

(2) Then give a thorough Neck Treatment, as follows: The patient lying on his back, stand at his head and place one hand on his forehead, the other under his neck, and rotate the head slowly from side to side. Then manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position, and give the neck a thorough extension or stretching, gently but firmly, being careful not to rotate the head. This treatment frees the circulation to the brain.

(3) Then give Spinal Extension, as follows: The patient on his back, grasp his shoulders, your fingers under his armpits. An assistant holds the patient's ankles. The patient relaxes and you give a careful stretching or extension of the spine, gentle but firm, for about a minute. This frees the circulation of the spinal cord and relieves pressure upon the spinal nerves.

(4) Then give Chest Expansion, as follows: Seat your patient on a stool or chair (if a chair, let him face its back) and stand behind him. Place your foot on the seat of the chair, the tip of your toe being up against, or under, the body of the patient. Place your knee between the patient's shoulders, holding his wrists in each hand. Raise his arms (sideways) up and over his head, slowly but strongly, and press hard with your knee against his spine. Then maintaining the pressure of your knee, lower the arms with a backward motion. The patient should inhale, filling the lungs, while the arms are being raised; exhaling as the arms are lowered.

(5) Then give Rotation of the Shoulder, as follows: The patient on his back or sitting up, place one hand on his shoulder, and with your other hand take hold of his elbow and rotate the arm around the head.

(6) Then give Stretching of the Arm and Shoulder Joints, as follows: The patient on his back, with head and

shoulders raised on a pillow, and arms extended over his head, stand at his head and take his hands in yours, pressing your thumb between his thumb and forefinger, letting your fingers pass around the fleshy part of his thumb and back of his hand. Make several vigorous elastic pulls, avoiding sudden jerks. Make the pulls gradually, then withdraw the force suddenly. Repeat several times.

(7) Then give Rotation of the Hands, as follows: Take the patient's hand in yours, and with your other hand grasp his wrist and rotate from side to side. Repeat several times. (Passive.)

(8) Then give Flexion and Extension of the Hand, as follows: Grasp the patient's wrist with one of your hands, and hold his fingers in your other hand, and move the hand up and down. Repeat several times. (Active or Passive.)

(9) Then give Flexion and Extension of the Arm, as follows: The patient sitting, stand behind him and grasp his wrists, he keeping his elbows close to his body. Move his arms up and down. Repeat several times. (Active.)

(10) Then give Separating and Closing of the Arms, as follows: The patient sitting with arms extended in front, take hold of his wrists and separate and close his arms. Repeat several times. (Active.)

(11) Then give Flexion and Extension of the Legs, as follows: The patient on his back, place one hand on knee, the other under the sole of the foot, and move the leg up and down to and from the chest. Repeat several times. (Active.)

(12) Then give Rotation of the Leg, as follows: The patient on his back, place one hand on the sole of his foot, the other under his knee, raise the leg and rotate from the hip outward. Repeat several times. (Active or Passive.)

(13) Then give Flexion and Extension of the Foot, as follows: The patient on his back, take his toes in one hand and his ankle in the other. Move the foot backward and forward. If you prefer, operate on both feet at the same time. Repeat several times. (Active or Passive.)

(14) Then give Separation and Closing of the Legs, as follows. The patient on his back, take hold of his ankles, underneath, and separate and close his legs. Repeat several times. (Active.)

(15) Then give Separation and Closing of the Knees, as follows: The patient on his back, stand at his side, and placing one hand on each knee, separate and close.



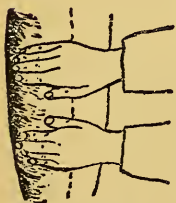
Manipulating  
Abdomen.



Kneading Leg.



Kneading the Arm.



Clapping.

(16) Then give Stretching of the Leg Joints, as follows: The patient on his back, take his ankles in your hands, and pull straight down, gently but firmly. Repeat several times.

(17) Then give the patient a good Kneading, all over, from Head to Feet, going over every portion of the body, carefully and thoroughly, as follows: Palmar Kneading is akin to the movement of the hand of the baker as he kneads his dough. The operator grasps the muscle with the palm of his hand, keeping the fingers close together, the thumbs out. The thumb is not used, the muscle being grasped between the fingers and the palm of the hand, the heel of the hand, or the lower fleshy part of the thumb. Do not allow the skin to slip, but maintain a firm grasp. Manipulate deeply so as to reach the deeper parts. The muscle should be compressed by the hand and at the same time gently lifted from the bone or underlying tissues, rolled and stretched. When the strain is greatest, release so as to stimulate. Work slowly and carefully, repeating the manipulations according to the requirements of the case, and the state of the patient. In the beginning, do not exert much force, but later on increase the force as the patient becomes accustomed to it. Try to individualize groups of muscles, as the best results are thus obtained. Use the hands alternately. In some cases it is also desirable to use a rolling movement, the heel of the hand and the fleshy part of the thumb being pressed upon the muscle which is then rolled to and fro, the fingers not being used. Use one or both hands. Digital Kneading is effected by grasping the tissue between the ends of the fingers and thumb, and then rubbing the tissue against the bone. Either the end of one finger, or of several, may be used in connection with the thumb.

(18) Then go over the entire body, and administer Percussion, using the particular form best adapted to the special part of the body upon which you are operating. A little practice will soon give you the best method of administering Percussion, but the following is the general rule: Percussion consists of administering blows to different parts of the body, with varying degrees of force. The wrist should be flexible and loose, as a stiff wrist gives a blow such as is used in fighting. The blow should be elastic and springy, which, although penetrating deeply, does not injure the surface. Percussion can be given by several methods, which we will now



briefly describe. The first method is by striking the body with the inside flat surface of the half-closed fist, the heel of the hand and the closed ends of the fingers coming in contact with the flesh. The second method is a chopping movement, made with the little finger side of the hand. The hand is likened to a butcher's cleaver in this chopping movement. The fingers are held loosely apart, coming together when the blow is struck. The third method is a slapping movement which is best comprehended by the position and movement of the hand of the mother administering a well merited spanking to one of her brood. The fingers are held rigid, and the body slapped. The fourth method is a clapping movement, the hand being shaped so as to emit a hollow sound; just as one holds his hands in applauding at a theater or concert. The fifth method is a tapping movement with the tips of the fingers, one or more fingers of one or both hands being used. Percussion, in its different forms, is a powerful stimulant to the nerve centers.

(19) Then give Vibrations over the principal organs of the body, as follows: This form of treatment is a very powerful stimulant. It consists of certain oscillatory movements, produced through a succession of rapid individual efforts of the operator's hand. There should be little or no perceptible strain upon the arm muscles of the operator. The palm of the hand or the fingers must be placed firmly upon the parts to be treated, the arm being held straight and a fine trembling or vibrating movement communicated to the hand by the muscles of the upper part of the arm. The movement is somewhat difficult of acquirement, but you must persist until the desired movement is acquired, for this is one of the most stimulating and penetrating of all the methods of Osteopathic treatment, its effect being quite perceptible and almost akin to the effects of a current of electricity. It has a stimulating and strengthening effect upon the nerves, and acts strongly upon the venous circulation and upon the lymphatics. Be careful not to press upon the body with your wrist, as you should use no greater pressure than the weight of your hand. When properly administered by one hand on the breast, the vibrations should be distinctly felt by the other hand placed under the back of the patient.

(20) Finish the treatment with a gentle and soothing Stroking, as follows: This treatment is useful in producing

sedative or quieting effects. It should be applied with a very light contact, the tips of the fingers or the palm of the hand just barely touching the patient. In some cases it will produce a feeling of drowsiness on the part of the patient. It never fails to quiet down the patient, equalize the circulation and relieve an excess of stimulation. Stroking should always be performed in a downward and outward direction, and in one direction only, not to and fro. The tips of one, more or all of the fingers, or the palmar surface of one or both hands, are moved gently over the skin, with a light contact, not even the mere weight of the hand being allowed to press upon the surface of the skin. Lightness, gentleness, and airiness, are the words best describing the Stroking movement.

In addition to the above movements and manipulations, etc., you should add the following to the General Treatment, when indicated by the requirements of the particular case treated:

(A) In cases of Stomach, Liver or Bowel trouble, Indigestion, Dyspepsia or Constipation, etc., etc., give the following treatment, which Frees the Pneumo-Gastric Nerve: The patient on his back, place your hand under the chin, pull the head backward. Move from right to left and manipulate deeply and firmly, the lower part of the neck, on each side of the windpipe. This frees and stimulates the pneumo-gastric nerve, which largely influences the organs of digestion.

(B) In cases where fever manifests itself, or where it is desirable to reduce or slow down the action of the heart, add the following treatment, which consists of a pressure upon the Vaso-Motor Centre: Place the fingers on each side of the back of the neck and press with fingers on each side of the spine over the upper cervicals (vaso-motor center) for two or three minutes. This will slow the action of the heart.

(C) In cases where Dysentery, Diarrhea, Cholera Morbus, etc., is feared, add the following treatment which is known as the Great Osteopathic Dysentery Movement: Seat your patient on a stool or chair (if a chair, let him face its back) and stand behind him. Place your foot on a round of the chair, grasp his shoulders, and press your knee firmly against his back, on the spinal column, just below the last rib. Draw him back by the shoulders, gently but firmly. Take your time and do not be in a hurry. In giving the treatment have him relax all of his muscles. If the patient is in bed place one hand

under each of his sides, placing your fingers on each side of his spine just below the last rib. Lift him up from the bed several inches, his weight resting on the ends of your fingers, his body from shoulders to pelvis forming an arch.

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## QUIZ QUESTIONS

1. What is Osteopathy?
2. What is the theory upon which it is based?
3. What part do the nerves and the circulation play in health and disease?
4. How does an Osteopath restore normal conditions?
5. Sum up in a few words the Basic Principles of Osteopathy.
6. State in a few words the "Points on Practice" given in Lesson I.
7. Name the Spinal Centre for the Liver.
8. Where would you look for a Lesion in a case of trouble with the Bladder?
9. Name the principal Osteopathic "Movements."
10. Name and describe the different forms of Kneading.
11. Name and describe the several forms of Percussion.
12. What is the effect of Vibration, and how is it administered?
13. How do you apply Stroking, and what is its effect?
14. How do you stimulate a nerve?
15. How do you desensitize a nerve?
16. How do you free the Pneumo-Gastric Nerve, and what is its effect?
17. How do you press on the Vaso-Motor Centre, and what is its effect?
18. How do you give a Spinal Treatment?
19. How do you give a Neck Treatment?
20. How do you Expand the Chest?
21. Describe the Osteopathic Dysentery Treatment?
22. Describe the theory of Rib Raising, and tell how you accomplish it?





## LESSON III.

### SPECIAL TREATMENTS.

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#### DISEASES OF THE STOMACH, INTESTINES, ETC.

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##### CONSTIPATION.

This disease is one of the most common, and at the same time one of the most difficult diseases to cure by Drug-giving Doctors. Happily, however, it yields readily to Osteopathic treatment. Constipation carries in its train ills and disorders of many kinds, and when we once rid a patient of Constipation we have relieved him of many other complaints. When the cause is removed the effects disappear. The symptoms of Constipation are too well known to be dwelt upon here. The Osteopathic theory of the disease is that the nerve force is partly shut off from the organs, which are consequently deprived of their ability to perform their accustomed tasks. By removing the pressure on the nerves and stimulating the action of the liver and bowels by manipulation the peristaltic action of the bowels is again made normal and all the organs of nutrition and elimination perform their work, and health ensues.

##### TREATMENT.

(1) Give the patient a good spinal treatment, as follows: The patient on his side, then using the palmar surface of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward gently but firmly and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning him on his other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.



Spinal Treatment



Extending Neck.

(2) Then give the Neck Treatment, as follows: The patient lying on his back, stand at his head and place one hand on his forehead, the other under his neck, and rotate the head slowly from side to side. Then manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position, and give the neck a thorough extension or stretching, gently but firmly, being careful not to rotate the head. This treatment frees the circulation to the brain.



Expanding Chest.

(3) Then give Chest Expansion, as follows: Seat your patient on a stool or chair (if a chair, let him face its back) and stand behind him. Place your foot on the seat of the chair, the tip of your toe being up against, or under, the body of the patient. Place your knee between the patient's shoulders, holding his wrists in each hand. Raise his arms (sideways) up and over his head, slowly but strongly, and press hard with your knee against his spine. Then maintaining the pressure of your knee, lower the arms with a backward motion. The patient should inhale, filling the lungs, while the arms are being raised; exhaling as the arms are lowered.

(4) Then give Extension of the Spine, as follows: The patient on his back, grasp his shoulders, your fingers under his armpits. An assistant holds the patient's ankles. The patient relaxes and you give a careful stretching or extension of the spine, gentle but firm, for about one minute. This frees the circulation of the spinal cord and relieves pressure upon the spinal nerves.

(5) Then give Rotation of the Pelvis, as follows: The patient on his back and holding on to the table, grasp his feet and rotate his legs in such a manner as to describe a circle large enough to bring the pelvis into action. Repeat several times. (Passive.)



Kneading Abdomen.

(6) Then administer Kneading in the region of the Liver, as follows: Palmar Kneading is akin to the movement of the hand of the baker as he kneads his dough. The operator grasps the muscle with the palm of his hand, keeping the fingers close together, the thumbs out. The thumb is not used, the muscle being grasped between the fingers and the palm of the hand, the heel of the hand, or the lower fleshy part of the thumb. Do not allow the skin to slip, but maintain a firm grasp. Manipulate deeply so as to reach the deeper parts. The muscle should be compressed by the hand and at

the same time gently lifted from the bone or underlying tissues, rolled and stretched. When the strain is greatest, release so as to stimulate. Work slowly and carefully, repeating the manipulations according to the requirements of the case and the state of the patient. In the beginning, do not exert much force, but later on increase the force as the patient becomes accustomed to it. Try to individualize groups of muscles, as the best results are thus obtained. Use the hands alternately. In some cases it is also desirable to use a rolling movement, the heel of the hand and the fleshy part of the thumb being pressed upon the muscle, which is then rolled to and fro, the fingers not being used. Use one or both hands. Digital Kneading is effected by grasping the tissues between the ends of the fingers and thumb, and then rubbing the tissue against the bone. Either the end of one finger, or of several, may be used in connection with the thumb.



Abdominal Kneading.



Kneading Abdominal Muscle.

(7) Then give Flexion and Extension of the Legs, as follows: The patient on his back, place one hand on the knee, the other under the sole of the foot, and move the leg up and down to and from the chest. Repeat several times. (Active.)

(8) Then Rotate the Legs, as follows: The patient on his back, place one hand on the sole of his foot, the other under his knee, raise the leg and rotate the leg from the hip outward. Repeat several times. Then treat the other leg.



Manipulating Abdomen.

(9) Then administer Vibration over the Liver and the Bowels, as follows: This form of treatment is a very powerful stimulant. It consists of certain oscillatory movements, produced through a succession of rapid individual efforts of the operator's hand. There should be little or no perceptible strain upon the arm muscles of the operator. The palm of the hand or the fingers must be placed firmly upon the parts to be treated, the arm being held straight and a fine trembling or vibrating movement communicated to the hand by the muscles of the upper part of the arm. The movement is somewhat difficult of acquirement, but you must persist until the desired movement is acquired, for this is one of the most stimulating and penetrating of all the methods of Osteopathic treatment, its effect being quite perceptible and almost akin to the effects of a current of electricity. It has a stimulating and strengthening effect upon the nerves, and acts strongly upon the venous circulation and upon the lymphatics. Be careful not to press upon the body with your wrist, as you should use no greater



Vibration of Liver.



Deep Vibration.



pressure than the weight of your hand. When properly administered by one hand on the breast, the vibrations should be distinctly felt by the other hand placed under the back of the patient.



Stroking.

(10) Finish by a gentle, quieting Stroking, as follows: This treatment is useful in producing sedative or quieting effects. It should be applied with a very light contact, the tips of the fingers, or the palm of the hand, just barely touching the patient. In some cases it will produce a feeling of drowsiness on the part of the patient. It never fails to quiet down the patient, equalize the circulation and relieve an excess of stimulation. Stroking should always be performed in a downward and outward direction, and in one direction only, not to-and-fro. The tips of one, more or all of the fingers, or the palmar surface of one or both hands, are moved gently over the skin, with a light contact, not even the mere weight of the hand being allowed to press upon the surface of the skin. Lightness, gentleness, and airiness, are the words best describing the Stroking movement.

Treat frequently. Patients suffering from Constipation usually take an insufficient quantity of fluids. The perfectly healthy man drinks at least two quarts of fluids each day. Without sufficient fluids Nature finds it hard to do her work. Accordingly instruct your patient to increase his fluids each day until he drinks the normal quantity. This is important; do not neglect the fluids.

### DYSPEPSIA, INDIGESTION, ETC.

These complaints are too well known to go into detail regarding symptoms, etc. Osteopathy teaches that the causes producing Dyspepsia and kindred troubles are identical with those manifesting in the shape of Constipation, Liver Complaint, etc. Consequently, the treatment is practically the same in each case. Osteopathy is very efficacious in cases of Dyspepsia, Indigestion, etc., the improvement usually being manifested from the first.



Freeing Pneumo-Gastric.

Treatment: Give the full treatment given for Constipation. In the Spinal Treatment, pay special attention to that part of the spinal column between the second and sixth dorsal vertebrae, in which region will probably be found tender spots showing an obstruction of the nerves controlling the organs of nutrition, digestion and assimilation.



Many Osteopaths treat Dyspepsia by giving the full General Treatment, in which they pay particular attention to kneading the region of the stomach, etc. Give frequent treatments.

### **DIARRHEA, DYSENTERY, CHOLERA MORBUS, ETC.**

These diseases and their symptoms are well known. Osteopathy offers a simple and effective cure. Osteopathy teaches that disorders of this class are caused by an interference with the peristaltic action of the bowels, which is controlled by the great Splanchnic and right Pneumo-Gastric nerves which together form the Solar Plexus or Abdominal Brain. Under ordinary conditions, just the right amount of nerve force is transmitted to move the bowels normally and naturally. However, occasions arise in which it would seem that Nature's "shut-off" had refused to work, or become fastened in some manner, and consequently the nerve force continues to be poured into the organs and parts until, unless checked in some way, the machine runs itself down and often collapses. It is practically a similar case to a runaway locomotive whose air brakes will not work. Every engineer knows what a terrible predicament he is placed in if his "air" refuses to work. He is very fortunate if he avoids a wreck. Now Osteopathy has discovered a way to help the Engineer of the system, when his air brakes refuse to act, and his train is threatened with destruction.

As we have already stated, the bowels are controlled by the great Splanchnic and right Pneumo-Gastric nerves, and it is over these nerves that this runaway current is speeding. You will see at once that a pressure on these nerves will desensitize them and shut off the current until Nature has time to adjust her air brakes. In another part of this course, we have explained that a steady, continued pressure over a nerve centre will desensitize it, and an alternated movement will stimulate it, so you see at once the philosophy of this Great Osteopathic Dysentery Treatment. The principal trouble seems to come over the Splanchnic nerve, and a steady, firm pressure there affords instant relief and very often one simple treatment will effect an entire cure. This is something that every man, woman and child should know. It has saved many lives, and has relieved thousands of cases of intense pain, weakness and drain upon the system.

The key to the treatment is the pressure upon the right Splanchnic nerve, which will readily respond to a pressure close to the spine, between the sixth and seventh ribs.

Treatment: (1) Seat your patient on a stool or chair (if a chair, let him face its back) and stand behind him. Place your foot on a round of the chair, grasp his shoulders, and press your knee firmly against his back, on the spinal column, just below the last rib. Draw him back by the shoulders, gently but firmly. Take your time and do not be in a hurry. In giving the treatment have him relax all his muscles. If the patient is in bed, place one hand under each of his sides, placing your fingers on each side of his spine just below the last rib. Lift him up from the bed several inches, his weight resting on the ends of your fingers, his body from shoulders to pelvis forming an arch.



Dysentery Treatment.

(2) Then hold the Vaso-Motor nerves as follows: Place the fingers on each side of the back of the neck and press with fingers on each side of the spine over the upper cervicals (Vaso-Motor center) for two or three minutes. This will slow the action of the heart.



Holding Vaso-Motor.

(3) Conclude the treatment with a quieting, soothing Stroking, which will be appreciated by the patient. Give as follows: This treatment is useful in producing sedative or quieting effects. It should be applied with a very light contact, the tips of the fingers, or the palm of the hand, just barely touching the patient. In some cases it will produce a feeling of drowsiness on the part of the patient. It never fails to quiet down the patient, equalize the circulation and relieve an excess of stimulation. Stroking should always be performed in a downward and outward direction, and in one direction only, not to-and-fro. The tips of one, more or all of the fingers, or the palmar surface of one or both hands, are moved gently over the skin, with a light contact, not even the mere weight of the hand being allowed to press upon the surface of the skin. Lightness, gentleness, and airiness, are the words best describing the Stroking movement.



Stroking.

Persons understanding the theory of the Osteopathic Dysentery Treatment, can apply the same to their own complaints, if they are where they cannot secure the services of a practitioner.

### CRAMPS IN THE BOWELS.

This trouble can be readily cured by the Dysentery Treatment, coupled with a good, thorough Kneading of the bowels. Vibration over the bowels can also be used to advantage in connection with the other treatment.

### CHOLERA INFANTUM.

Give the child the Dysentery Treatment, or rather that part of it in which the patient is lifted from the bed by the fingers being placed on each side of the spine. The movements should of course be more gentle than in the case of an adult. Also press on the Vaso-Motor nerve center for a minute or two. Finish by giving Stroking treatment, which will often cause the child to fall into a refreshing slumber. Osteopaths have cured many cases of this complaint, by this treatment, after the Drug Doctors had pronounced the case hopeless.

### APPENDICITIS.

This disease is caused by an inflammation of the Vermiform Appendix. The symptoms are fever; pain in the affected region; nausea and vomiting.

Treatment: The patient on his back, manipulate and knead the lower right side of the abdomen, and endeavor to move any lumps of hardened feces toward the rectum. Manipulate in a gentle, careful manner. Then Vibrate over the lower part of the abdomen. Then take the patient's right hand, having an assistant to hold his hip at the same time, and give the arm a thorough extension over his head, as described in the lesson on Osteopathic Movements. Then give him a thorough Spinal Treatment, paying special attention to any painful spots. Then press on the Vaso-Motor nerve center for two or three minutes. Finish by a gentle Stroking, from head to feet.

## DISEASES OF THE HEART AND CIRCULATION.

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The principles underlying Osteopathic treatment of Diseases of the Heart are that the majority of troubles of this class arise not so much from any congenital weakness of the heart, but from some obstruction or impediment in some other part of the body. With the circulation obstructed, the heart must in time feel the strain. The plain remedy, therefore, is to remove the obstruction, equalize the circulation and restore a normal condition of affairs, and the heart weakness disappears. A displacement, abnormal pressure, or contraction is very often, indeed, the real cause of "heart disease," and it readily will be seen just how Osteopathy is so successful in the cure of this class of diseases. In fact, Osteopaths frequently find that after treating a patient for some other disease, and relieving it, the old heart trouble has disappeared. With this in mind, we strongly urge the student to give to the patient suffering with heart trouble, the benefit of one or more General Treatments before beginning to treat him for the heart trouble. Many cases of heart trouble disappear after the patient is cured of constipation or dyspepsia. We herewith give a general form of treatment for diseases of the heart, which the student will use in connection with the treatments for the other troubles with which the patient is suffering.



Spinal Treatment

Treatment: (1) Begin by giving the Spinal Treatment, as follows: The patient on his side, then using the palmar surface of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward gently but firmly and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning him on his other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.



Extending Neck.

(2) Then give the Neck Treatment, as follows: The patient lying on his back, stand at his head and place one hand on his forehead, the other under his neck, and rotate



the head slowly from side to side. Then manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position, and give the neck a thorough extension or stretching, gently but firmly, being careful not to rotate the head. This treatment frees the circulation to the brain.

(3) Then give the following treatment designed to relieve a possible depression of the ribs which interferes with the heart's action:

Place your left hand under the right shoulder of the patient; then place the fingers of the left hand on the angle of the second rib of the patient; then take hold of his right wrist with your right hand, and draw it up slowly and steadily until it is above his head, the patient at the same time taking a long deep breath. Then lower the arm with a backward motion, at the same time pressing hard upon the angle of the rib. Then do the same with the third, fourth and fifth ribs. Then repeat on the other side of the patient's body. This treatment frequently gives instantaneous relief.



Raising Ribs.

(4) Then give Chest Expansion, as follows: Seat your patient on a stool or chair (if a chair, let him face its back) and stand behind him. Place your foot on the seat of the chair, the tip of your toe being up against, or under, the body of the patient. Place your knee between the patient's shoulders, holding his wrists in each hand. Raise his arms (sideways) up and over his head, slowly but strongly, and press hard with your knee against his spine. Then maintaining the pressure of your knee, lower the arms with a backward motion. The patient should inhale, filling the lungs, while the arms are being raised; exhaling as the arms are lowered.



Expanding Chest.

(5) Then give the Spinal Extension, as follows: The patient on his back, grasp his shoulders, your fingers under his armpits. An assistant holds the patient's ankles. The patient relaxes and you give a careful stretching or extension of the spine, gentle but firm, for about one minute. This frees the circulation of the spinal cord and relieves pressure upon the spinal nerves.

(6) Then give Flexion and Extension of the Leg, as follows: The patient on his back, place one hand on the knee, the other under the sole of the foot, and move the leg up and down to and from the chest. Repeat several times. (Active.)

**ANEMIA.**

This disease is caused by a deficiency of blood. The symptoms are a peculiar pallor of the face; eyeballs of a bluish tint; poor appetite and imperfect nutrition; urine pale; weak heart; neuralgia, etc., etc. The treatment is based upon the principle that the circulation once equalized and the organs of nutrition and assimilation stimulated so that new, rich blood can be made, the cause is removed and the patient will rapidly grow well.

Treatment: Give frequent General Treatments to equalize the circulation, giving especially thorough spinal treatment in the cervical and upper dorsal system which control the organs of assimilation.

Also give treatment given in lesson on Dyspepsia. You will see that whatever is conducive to the increase of nutrition and assimilation will result in the making of blood; and that when the blood supply is normal in quality and quantity, anemia must disappear. Encourage the patient to eat good, nutritious food, and obtain as much nourishment as possible. He will begin to feel hungry after your treatment for Dyspepsia, and improved appetite will do much for him, in connection with your treatment.

**VARICOSE VEINS, ETC.**

This disease is caused by a pressure upon some portion of the venous system. The veins are unduly dilated and are much swollen, and present a dark blue appearance.

Treatment: Give a general leg treatment, employing all the Methods of Manipulation and all of the leg Movements. Finish by giving a General Treatment. The principal object is to free the muscles, veins and nerves of the thigh, and the student must bear this in mind in giving the treatment.

Inflammation of a vein (Phlebitis) is treated by Movements and Manipulations to free the circulation at and around the affected parts.

**DROPSY.**

Dropsy is caused by an abnormal accumulation of serum. It causes swelling, beginning at the feet and extending upward. The swellings are soft and retain for some time a mark made by a pressure of a finger. The treatment is designed to stimulate the skin and kidneys into renewed activity and to pro-

note absorption. The fluids are carried off by the system and their reaccumulation is prevented by the natural functioning of the organs.

**Treatment:** Give the same treatment as that recommended for Diseases of the Heart, paying especial attention to the manipulation of the spine between the tenth dorsal and last sacral vertebrae, which treatment is designed to stimulate the kidneys. Also include in the treatment a thorough Vibration treatment of the kidneys, as follows:

This form of treatment is a very powerful stimulant. It consists of certain oscillatory movements, produced through a succession of rapid individual efforts of the operator's hand. There should be little or no perceptible strain upon the arm muscles of the operator. The palm of the hand or the fingers must be placed firmly upon the parts to be treated, the arm being held straight and a fine trembling or vibrating movement communicated to the hand by the muscles of the upper part of the arm. The movement is somewhat difficult of acquirement, but you must persist until the desired movement is acquired, for this is one of the most stimulating and penetrating of all the methods of Osteopathic treatment, its effect being quite perceptible and almost akin to the effects of a current of electricity. It has a stimulating and strengthening effect upon the nerves, and acts strongly upon the venous circulation and upon the lymphatics. Be careful not to press upon the body with your wrist, as you should use no greater pressure than the weight of your hand. When properly administered by one hand on the breast, the vibrations should be distinctly felt by the other hand placed under the back of the patient.

In about a week the kidneys will be found to be doing their work in a normal manner, and from that time on the recovery will be rapid. Osteopathy has cured thousands of cases of Dropsy that had defied the efforts of the Drug Doctors.



Digital Vibration.



Deep Vibration.

## LESSON IV.

### SPECIAL TREATMENTS.

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#### DISEASES OF THE LIVER.

You will see by reference to that part of the course which treats of the functions of the Liver what an important part it plays in the human economy, and how important it is that it should function normally. Osteopathy teaches that Biliousness, Jaundice and other Diseases of the Liver are occasioned by an obstruction or interruption of the circulation of the blood supplying the liver, or an interruption of the nerve current to that organ. The treatment is designed to relieve these abnormal conditions, and restore the organ to its natural condition. The following thorough Liver Treatment will apply equally to Biliousness, Jaundice, or any other affection of the Liver. Almost immediate improvement will be noticed and a speedy cure assured.

#### TREATMENT.

(1) Begin by giving a thorough Spinal Treatment, as follows: The patient on his side, then using the palmar surface of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward gently but firmly and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning him on his other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.



Spinal Treatment

(2) Then give a thorough Neck Treatment, as follows, giving special attention to the manipulation of the lower part of the side and front of the neck, in order to free the Pneumo-Gastric nerve: The patient lying on his back, stand at his head and place one hand on his forehead, the other under his neck, and rotate the head slowly from side to side. Then



manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position, and give the neck a thorough extension or stretching, gently but firmly, being careful not to rotate the head. This treatment frees the circulation to the brain.

(3) Then give a thorough Kneading of the Abdomen, as follows: Palmar Kneading is akin to the movement of the hand of the baker as he kneads his dough. The operator grasps the muscle with the palm of his hand, keeping the fingers close together, the thumbs out. The thumb is not used, the muscle being grasped between the fingers and the palm of the hand, the heel of the hand, or the lower fleshy part of the thumb. Do not allow the skin to slip, but maintain a firm grasp. Manipulate deeply so as to reach the deeper parts. The muscle should be compressed by the hand and at the same time gently lifted from the bone or underlying tissues, rolled and stretched. When the strain is greatest, release so as to stimulate. Work slowly and carefully, repeating the manipulations according to the requirements of the case, and the state of the patient. In the beginning do not exert much force, but later on increase the force as the patient becomes accustomed to it. Try to individualize groups of muscles, as the best results are thus obtained. Use the hands alternately. In some cases it is also desirable to use a rolling movement, the heel of the hand and the fleshy part of the thumb being pressed upon the muscle, which is then rolled to and fro, the fingers not being used. Use one or both hands. Digital Kneading is effected by grasping the tissue between the ends of the fingers and thumb, and then rubbing the tissue against the bone. Either the end of one finger, or of several, may be used in connection with the thumb.



Extending Neck.



Kneading.

(4) Then give Flexion and Extension of the Legs, as follows: The patient on his back, place one hand on the knee, the other under the sole of the foot, and move the leg up and down to and from the chest. Repeat several times. (Active.)



Digital Kneading.

(5) Then give Stretching of the Arm and Shoulder Joints, as follows: The patient on his back, with head and shoulders raised on a pillow, and arms extended over his head, stand at his head and take his hands in yours, passing your thumb between his thumb and forefinger, letting your fingers pass around the fleshy part of his thumb and back of his hand. Make several vigorous elastic pulls, avoiding sudden jerks.



Spinal Extension.

Make the pulls gradually, then withdraw the force suddenly. Repeat several times.

(6) Then give Spinal Extension, as follows: The patient on his back, grasp his shoulders, your fingers under his armpits. An assistant holds the patient's ankles. The patient relaxes and you give a careful stretching or extension of the spine, gentle but firm, for about one minute. This frees the circulation of the spinal cord and relieves pressure upon the spinal nerves.

(7) Then give Expansion of the Chest, as follows: Seat your patient on a stool or chair (if a chair, let him face its back) and stand behind him. Place your foot on the seat of the chair, the tip of your toe being up against, or under, the body of the patient. Place your knee between the patient's shoulders, holding his wrists in each hand. Raise his arms (sideways) up and over his head, slowly but strongly, and press hard with your knee against his spine. Then maintaining the pressure of your knee, lower the arms with a backward motion. The patient should inhale, filling the lungs, while the arms are being raised; exhaling as the arms are lowered.



Expanding Chest.

(8) Then give Vibration over the Liver, as follows: This form of treatment is a very powerful stimulant. It consists of certain oscillatory movements, produced through a succession of rapid individual efforts of the operator's hand. There should be little or no perceptible strain upon the arm muscles of the operator. The palm of the hand or the fingers must be placed firmly upon the parts to be treated, the arm being held straight and a fine trembling or vibrating movement communicated to the hand by the muscles of the upper part of the arm. The movement is somewhat difficult of acquirement, but you must persist until the desired movement is acquired, for this is one of the most stimulating and penetrating of all the methods of Osteopathic treatment, its effect being quite perceptible and almost akin to the effects of a current of electricity. It has a stimulating and strengthening effect upon the nerves, and acts strongly upon the venous circulation and upon the lymphatics. Be careful not to press upon the body with your wrist, as you should use no greater pressure than the weight of your hand. When properly administered by one hand on the breast, the vibrations should be distinctly felt by the other hand placed under the back of the patient.

(9) Finish by giving a soothing Stroking, as follows: This treatment is useful in producing sedative or quieting effects. It should be applied with a very light contact, the tips of the fingers, or the palm of the hand, just barely touching the patient. In some cases it will produce a feeling of drowsiness on the part of the patient. It never fails to quiet down the patient, equalize the circulation and relieve an excess of stimulation. Stroking should always be performed in a downward and outward direction, and in one direction only, not to-and-fro. The tips of one, more or all of the fingers, or the palmar surface of one or both hands, are moved gently over the skin, with a light contact, not even the mere weight of the hand being allowed to press upon the surface of the skin. Lightness, gentleness, and airiness, are the words best describing the Stroking movement.



Stroking.

Treat every day until marked improvement is noted, then every other day, and so on, lessening the treatment, until the patient is cured.

### DISEASES OF THE KIDNEYS.

Osteopathy teaches that Diseases of the Kidneys arise from an interruption of the circulation, or an interruption of the nerve current supplying that organ. The treatment, consequently, is such as will free the circulation and nerve current. The following is a good general treatment for Diseases of the Kidneys, and will be found to relieve the majority of cases treated. You can, of course, add to, or vary this treatment, according to your own good judgment, and according to the requirements of the special case before you:

(1) Begin the treatment with a thorough Spinal Treatment, as follows, paying special attention to the lower dorsal region: The patient on his side, then using the palmar surface of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward, gently but firmly, and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning him on his other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.



Spinal Treatment





Extending Neck.

(2) Then give a thorough Neck Treatment, giving special attention to the manipulation of the lower part of the side and front of the neck, in order to free the Pneumo-Gastric nerve, as follows: The patient lying on his back, stand at his head and place one hand on his forehead, the other under his neck, and rotate the head slowly from side to side. Then manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position, and give the neck a thorough extension or stretching, gently but firmly, being careful not to rotate the head. This treatment frees the circulation to the brain.

(3) Then give a thorough Kneading of the region of the Kidneys, as follows: Palmar Kneading is akin to the movement of the hand of the baker as he kneads his dough. The operator grasps the muscle with the palm of his hand, keeping the fingers close together, the thumbs out. The thumb is not used, the muscle being grasped between the fingers and the palm of the hand, the heel of the hand, or the lower fleshy part of the thumb. Do not allow the skin to slip, but maintain a firm grasp. Manipulate deeply so as to reach the deeper parts. The muscle should be compressed by the hand and at the same time gently lifted from the bone or underlying tissues, rolled and stretched. When the strain is greatest, release so as to stimulate. Work slowly and carefully, repeating the manipulations according to the requirements of the case, and the state of the patient. In the beginning, do not exert much force,



Kneading Abdomen.

but later on increase the force as the patient becomes accustomed to it. Try to individualize groups of muscles, as the best results are thus obtained. Use the hands alternately. In some cases it is also desirable to use a rolling movement, the heel of the hand and the fleshy part of the thumb being pressed upon the muscle, which is then rolled to and fro, the fingers not being used. Use one or both hands. Digital Kneading is effected by grasping the tissue between the ends of the fingers and thumb, and then rubbing the tissue against the bone. Either the end of one finger, or of several, may be used in connection with the thumb.



Slapping.

(4) Then give Flexion and Extension of the Leg, as follows: The patient on his back, place one hand on the knee, the other under the sole of the foot, and move the leg up and down to and from the chest. Repeat several times. (Active.)

(5) Then give Stretching of the Arm and Shoulder Joints, as follows: The patient on his back, with head and



shoulders raised on pillow, and arms extended over his head, stand at his head and take his hands in yours, passing your thumb between his thumb and forefinger, letting your fingers pass around the fleshy part of his thumb and back of his hand. Make several vigorous elastic pulls, avoiding sudden jerks. Make the pulls gradually, then withdraw the force suddenly. Repeat several times.

(6) Then give Spinal Extension, as follows: The patient on his back, grasp his shoulders, your fingers under his armpits. An assistant holds the patient's ankles. The patient relaxes and you give a careful stretching or extension of the spine, gentle but firm, for about one minute. This frees the circulation of the spinal cord and relieves pressure upon the spinal nerves.

(7) Then give Expansion of the Chest, as follows: Seat your patient on a stool or chair (if a chair, let him face its back) and stand behind him. Place your foot on the seat of the chair, the tip of your toe being up against, or under, the body of the patient. Place your knee between the patient's shoulders, holding his wrists in each hand. Raise his arms (sideways) up and over his head, slowly but strongly, and press hard with your knee against his spine. Then maintaining the pressure of your knee, lower the arms with a backward motion. The patient should inhale, filling the lungs, while the arms are being raised; exhaling as the arms are lowered.

(8) Then give Vibration over the Kidneys, as follows: This form of treatment is a very powerful stimulant. It consists of certain oscillatory movements, produced through a succession of rapid individual efforts of the operator's hand. There should be little or no perceptible strain upon the arm muscles of the operator. The palm of the hand or the fingers must be placed firmly upon the parts to be treated, the arm being held straight and a fine trembling or vibrating movement communicated to the hand by the muscles of the upper part of the arm. The movement is somewhat difficult of acquirement, but you must persist until the desired movement is acquired, for this is one of the most stimulating and penetrating of all the methods of Osteopathic treatment, its effect being quite perceptible and almost akin to the effects of a current of electricity. It has a stimulating and strengthening effect upon the nerves, and acts strongly upon the venous circulation and upon the lymphatics. Be careful not to press upon the body



Spinal Extension.



Expanding Chest.



Kidney Treatment.

with your wrist, as you should use no greater pressure than the weight of your hand. When properly administered by one hand on the breast, the vibrations should be distinctly felt by the other hand placed under the back of the patient.

(9) Then give the following treatment: The patient on his face, stand by his left side, and place your left hand upon the upper part of the sacrum. Place your right hand under his knees. Then, still pressing upon the sacrum, lift his knees up as high as he can stand without too much strain. Repeat several times. You will find that he will be able to stand a little higher raising of the legs each time. This is an important movement in the treatment of diseases of the Kidneys, and you should master it. (See cut.)

(10) Finish by giving a gentle, soothing Stroking, as follows: This treatment is useful in producing sedative or quieting effects. It should be applied with a very light contact, the tips of the fingers, or the palm of the hand, just barely touching the patient. In some cases it will produce a feeling of drowsiness on the part of the patient. It never fails to quiet down the patient, equalize the circulation and relieve an excess of stimulation. Stroking should always be performed in a downward and outward direction, and in one direction only, not to-and-fro. The tips of one, more or all of the fingers, or the palmar surface of one or both hands, are moved gently over the skin, with a light contact, not even the mere weight of the hand being allowed to press upon the surface of the skin. Lightness, gentleness, and airiness, are the words best describing the Stroking movement.



Stroking.

Treat every day, or every other day, as the case demands.

### DISEASES OF THE PANCREAS.

Give the same treatment as that recommended for Diseases of the Liver, excepting that you will give Vibrations over the Pancreas instead of over the Liver. Diseases of the Pancreas arise from the same causes as Diseases of the Liver, i. e., an obstruction or interruption of the circulation of the blood supplying the parts, or an interruption of the nerve currents to that organ. When these obstructions or interruptions are removed by Osteopathic treatment, normal conditions return and a cure is effected. Give treatment every other day.

### DISEASES OF THE SPLEEN.

Give the same treatment as that recommended for Diseases of the Liver, excepting that you will give Vibrations over the Spleen instead of over the Liver. Diseases of the Spleen arise from the same causes as Diseases of the Liver, i. e., an obstruction or interruption of the circulation of the blood supplying the parts, or an interruption of the nerve current to that organ. When these obstructions or interruptions are removed by Osteopathic treatment, normal conditions return and a cure is effected. Give treatment every day.

### DISEASES OF THE BLADDER.

The Osteopathic treatment of diseases of the Bladder can be readily understood, when it is remembered that the nerves controlling the Bladder can be reached by pressure upon or manipulation of the sacral region. Stimulation of these nerves causes an evacuation of urine, whilst a desensitization of the same nerves will cause the opposite result. Treatment is given by administering a thorough Osteopathic General Treatment, to equalize the circulation, etc., and to stimulate the vitality of the patient, followed by such local treatment as indicated by the requirements of the case. The sacral region being the important point for treatment in diseases of this kind, you will pay more attention to it than any portion of the spinal column. In case of Retention of the Urine, you will stimulate the muscles and nerves of the sacrum and give Vibration over the same part of the body. In cases of Incontinence of Urine, or Bed Wetting of Children, after giving the Osteopathic General Treatment, press one hand firmly on the Sacrum and the other hand under the knees, and raise the knees up as far as the patient can stand without pain. This treatment has cured thousands of cases of this annoying complaint, and can be relied upon. It works like a charm, effecting the cure often after one or two treatments.



Treatment for  
Bed Wetting.

### DISEASES OF THE RECTUM.

Piles and kindred diseases of the Rectum are treated by a thorough General Treatment, paying special attention to that part of the treatment recommended for Constipation. Then place your patient on his side, with his knees up against his chest, and after dipping the finger into vaseline insert it gently

in the rectum and manipulate gently, carefully but thoroughly in all directions, in order to free the circulation and stimulate the parts. Do not treat too often, as the internal treatment is apt to produce a tenderness of the parts, although the General Treatment may be given daily. Some remarkable results have been obtained by this treatment. A simple case of Piles may be removed by giving simply the Constipation Treatment for a week or so.

### DISEASES OF THE ANUS.

Diseases of this class are successfully treated by giving the Osteopathic General Treatment, followed by dipping the finger in vaseline and placing it within the rectum, manipulating the parts gently. Also pay special attention to that part of the treatment recommended for Constipation. Do not give internal treatment oftener than one time each week.



## **LESSON V.**

### **SPECIAL TREATMENTS.**

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#### **DISEASES OF THE RESPIRATORY ORGANS.**

Osteopathy teaches us that Consumption and other diseases of the Respiratory Organs are caused by contracted muscles obstructing the circulation and nerve-impulse to the parts. Consequently, the treatment must consist of such movements and manipulations as will free the circulation and the nerve-impulse; stimulate the circulation and nerve force controlling the affected organs. You must bear in mind the fact that the several diseases of the Organs of Respiration arise from practically the same cause, and that the apparently different kinds of disease of these organs are in reality only different manifestations of the same disease. Bearing this in mind, you will have the key to the situation, and although you will vary your treatment to fit the special requirements of the particular case which you are treating, you will follow the general principles underlying the treatment. The treatment that we give below has been found most valuable in cases of Asthma, Bronchitis, etc., and other Diseases of the Respiratory Organs, including Consumption. But right here we wish to say to you that you had better not seek after cases of Consumption. The percentage of deaths from this disease is very great, and the Drug Doctors pronounce the disease incurable. The cases of Consumption offered you will be, as a rule, those which have been pronounced incurable by the Drug Doctors, and you will stand but a slight chance of success with them, as the disease will have progressed too far. It would be folly for you to take these cases, with the chances all against you and with all the Drug Doctors in town waiting to cry you down in case the patient dies, notwithstanding the fact that they lose dozens of similar cases every year. As a matter of business precaution, leave these cases for the Drug Doctors, and do not accept them yourself. This may not be a very high sentiment, but it is good business policy. Take our

word for it. At the same time, if you have any one near to you who is suffering with this dread disease, you will be able to do much for them by giving the treatment below stated.

## TREATMENT FOR DISEASES OF THE ORGANS OF RESPIRATION.

(1) Start by giving Spinal Treatment, as follows: The patient on his side, then using the palmar surface of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward gently but firmly and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning him on his other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.



Spinal Treatment



Extending Neck.

(2) Then give Neck Treatment, as follows: The patient lying on his back, stand at his head and place one hand on his forehead, the other under his neck, and rotate the head slowly from side to side. Then manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position, and give the neck a thorough extension or stretching, gently but firmly, being careful not to rotate the head. This treatment frees the circulation to the brain.

(3) Then give Extension of the Spine, as follows: The patient on his back, grasp his shoulders, your fingers under his armpits. An assistant holds the patient's ankles. The patient relaxes and you give a careful stretching or extension of the spine, gentle but firm, for about one minute. This frees the circulation of the spinal cord and relieves pressure upon the spinal nerves.

(4) Then give Chest Expansion, as follows: Seat your patient on a stool or chair (if a chair, let him face its back) and stand behind him. Place your foot on the seat of the chair, the tip of your toe being up against, or under, the body of the patient. Place your knee between the patient's shoulders, holding his wrists in each hand. Raise his arms (side-ways) up and over his head, slowly but strongly, and press hard with your knee against his spine. Then maintaining the pressure of your knee, lower the arms with a backward mo-



Expanding Chest.

tion. The patient should inhale, filling the lungs, while the arms are being raised; exhaling as the arms are lowered.

(5) Then Rotate the Shoulders, as follows: The patient on his back or sitting up, place one hand on his shoulder, and with your other hand take hold of his elbow and rotate the arm around the head.

(6) Then administer Chopping Percussion to the Chest, as follows: With the patient on his back administer Chopping Percussion to the chest, with a flexible and springy wrist (beware of using a stiff wrist, as it will give too hard a blow). In this movement the hand is used as a butcher does his cleaver, the little finger side of the hand coming in contact with the body. The fingers are held apart, coming together with a springy movement when the blow is struck. The patient should practice deep breathing during this treatment.



Chopping Movement.

(7) Then administer Vibration to the Chest, as follows: This form of treatment is a very powerful stimulant. It consists of certain oscillatory movements, produced through a succession of rapid individual efforts of the operator's hand. There should be little or no perceptible strain upon the arm muscles of the operator. The palm of the hand or the fingers must be placed firmly upon the parts to be treated, the arm being held straight, and a fine trembling or vibrating movement communicated to the hand by the muscles of the upper part of the arm. The movement is somewhat difficult of acquirement, but you must persist until the desired movement is acquired, for this is one of the most stimulating and penetrating of all the methods of Osteopathic treatment, its effect being quite perceptible and almost akin to the effects of a current of electricity. It has a stimulating and strengthening effect upon the nerves, and acts strongly upon the venous circulation and upon the lymphatics. Be careful not to press upon the body with your wrist, as you should use no greater pressure than the weight of your hand. When properly administered by one hand on the breast, the vibrations should be distinctly felt by the other hand placed under the back of the patient.



Deep Vibration.

(8) Then press upon the Vaso-Motor Nerve Center, as follows: Place the fingers on each side of the back of the neck and press with fingers on each side of the spine over the upper cervicals (Vaso-Motor Center) for two or three minutes. This will slow the action of the heart.



Holding Vaso-Motor.

(9) Then administer Strokings, as follows: This treatment is useful in producing sedative or quieting effects. It

should be applied with a very light contact, the tips of the fingers, or the palm of the hand, just barely touching the patient. In some cases it will produce a feeling of drowsiness on the part of the patient. It never fails to quiet down the patient, equalize the circulation and relieve an excess of stimulation. Stroking should always be performed in a downward and outward direction, and in one direction only, not to-and-fro. The tips of one, more or all of the fingers, or the palmar surface of one or both hands, are moved gently over the skin, with a light contact, not even the mere weight of the hand being allowed to press upon the surface of the skin. Lightness, gentleness, and airiness, are the words best describing the Stroking movement.

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### QUIZ QUESTIONS

1. State cause and cure of Constipation.
2. State cause and cure of Dysentery.
3. State cause and cure of Heart Disease.
4. State cause and cure of Dropsy.
5. State cause and cure of Liver troubles.
6. State cause and cure of Kidney troubles.
7. State cause and cure of Bladder troubles.
8. State treatment of diseases of the Rectum.
9. State cause and cure diseases of the Respiratory Organs.
10. State details of tenth movement in treatment of diseases of the Kidneys.



## **LESSON VI**

### **SPECIAL TREATMENTS**

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#### **RHEUMATISM AND KINDRED DISEASES**

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##### **RHEUMATISM**

Osteopathy teaches that every organ and part of the body will function properly, providing that there is no irregular skeleton adjustment; no interference with the circulation; no interruption of the nerve force. This being granted, Rheumatism is but one form of the manifestation of imperfect or abnormal conditions, arising from one or more of the causes indicated above.

Rheumatism in any part of the body is simply an indication that there is an interference with the circulation or an interference with the impulses reaching the part from the nervous system. We find in practice that the obstruction or interference usually comes from the contraction of certain muscles, the circulation thus being interfered with and partially shut off. The muscles the contraction of which so interfere with the circulation, are more frequently the muscles of the thigh, and the muscles of the shoulder.

A General Osteopathic Treatment is found to be most beneficial in the treatment of Rheumatism, in its several forms, although we have indicated special treatments in the more common forms. You must use your own judgment, and adapt your treatment to the requirements of each particular case. Once learn the different movements and manipulations thoroughly, and you will almost instinctively use the movement or manipulation best adapted to the case.

The treatment given for Rheumatism is intended to cover the several manifestations or forms of this complaint, the cause being the same in all the different forms.

In the case of Stiff Neck, give the General Neck Treatment, combined with the treatment given for rheumatism. In

Sciatica, give the Rheumatism treatment, together with a thorough manipulation of the lower portion of the spine. We have given a valuable special treatment for Lumbago.

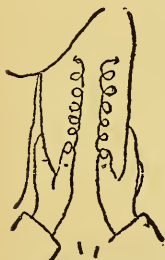
### RHEUMATISM IN THE LEGS

(1) Begin with Spinal Treatment, as follows: The patient on his side, then using the palmar surface of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward gently, but firmly and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning him on his other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.



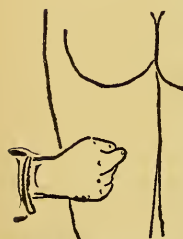
Spinal Treatment

(2) Then give Flexion and Extension of the Leg, as follows: The patient on his back, place one hand on the knee, the other under the sole of the foot, and move the leg up and down to and from the chest. Repeat several times. (Active.)



Kneading with Thumb.

(3) Then knead the Thigh and Leg as follows: Palmar Kneading is akin to the movements of the hand of the baker as he kneads his dough. The operator grasps the muscle with the palm of his hand, keeping the fingers close together, the thumbs out. The thumb is not used, the muscle being grasped between the fingers and the palm of the hand, the heel of the hand, or the lower fleshy part of the thumb. Do not allow the skin to slip, but maintain a firm grasp. Manipulate deeply so as to reach the deeper parts. The muscle should be compressed by the hand and at the same time gently lifted from the bone or underlying tissues, rolled and stretched. When the strain is greatest, release so as to stimulate. Work slowly and carefully, repeating the manipulations according to the requirements of the case, and the state of the patient. In the beginning, do not exert much force, but later on increase the force as the patient becomes accustomed to it. Try to individualize groups of muscles, as the best results are thus obtained. Use the hands alternately. In some cases it is also desirable to use a rolling movement, the heel of the hand and the fleshy part of the thumb being pressed upon the muscle



Beating Sciatic Nerve.

which is then rolled to and fro, the fingers not being used. Use one or both hands. Digital Kneading is effected by grasping the tissue between the ends of the fingers and thumb, and then rubbing the tissue against the bone. Either the end of one finger, or of several, may be used in connection with the thumb.

(4) Then Rotate the Leg as follows: The patient on his back, place one hand on the sole of his foot, the other under his knee; raise the leg and rotate from the hip outward. Repeat several times with each leg.

(5) Then Extend Foot as follows: The patient on his back, take his toes in one hand and his ankle in the other. Move the foot backward and forward. If you prefer, operate on both feet at the same time. Repeat several times.

Treat every day until marked relief is experienced. Then treat every other day.

### RHEUMATISM IN THE ARMS

(1) Begin treatment with Spinal Treatment, as follows: The patient on his side, then using the palmar surface of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward gently, but firmly with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning him on his other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.



Spinal Treatment

(2) Then give Neck Treatment as follows: The patient lying on his back, stand at his head and place one hand on his forehead, the other under his neck, and rotate the head slowly from side to side. Then manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position, and give the neck a thorough extension or stretching, gently but firmly, being careful not to rotate the head. This treatment frees the circulation to the brain.



Extending Neck.

(3) Then Stretch the Arm and Shoulder Joints, as follows: The patient on his back, with head and shoulders raised



Expanding Chest.



Kneading the Arm.



Wringing Movement.



Surface Kneading.

on pillow, and arms extended over his head, stand at his head and take his hands in yours, passing your thumb between his thumb and forefinger, letting your fingers pass around the fleshy part of his thumb and back of his hand. Make several vigorous elastic pulls, avoiding sudden jerks. Make the pulls gradually, then withdraw the force suddenly. Repeat several times.

(4) Then give the Chest Expansion treatment, as follows: Seat your patient on a stool or chair (if a chair, let him face its back) and stand behind him. Place your foot on the seat of the chair, the tip of your toe being up against, or under, the body of the patient. Place your knee between the patient's shoulders, holding his wrists in each hand. Raise his arms (sideways) up and over his head, slowly but strongly, and press hard with your knee against his spine. Then maintaining the pressure of your knee, lower the arms with a backward motion. The patient should inhale, filling the lungs, while the arms are being raised; exhaling as the arms are lowered.

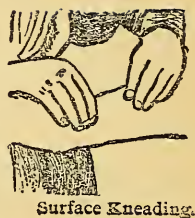
(5) Then Rotate his Arms and Shoulders, as follows: The patient on his back or sitting up, place one hand on his shoulder, and with your other hand take hold of his elbow and rotate the arm around the head.

(6) Then Knead his Arms as follows: Palmar Kneading is akin to the movement of the hand of the baker as he kneads his dough. The operator grasps the muscle with the palm of his hand, keeping the fingers close together, the thumbs out. The thumb is not used, the muscle being grasped between the fingers and the palm of the hand, the heel of the hand, or the lower fleshy part of the thumb. Do not allow the skin to slip, but maintain a firm grasp. Manipulate deeply so as to reach the deeper parts. The muscle should be compressed by the hand and at the same time gently lifted from the bone or underlying tissues, rolled and stretched. When the strain is greatest, release so as to stimulate. Work slowly and carefully, repeating the manipulations according to the requirements of the case, and the state of the patient. In the beginning, do not exert much force, but later on increase the force as the patient becomes accustomed to it. Try to individualize groups of muscles, as the best results are thus obtained. Use



the hands alternately. In some cases it is also desirable to use a rolling movement, the heel of the hand and the fleshy part of the thumb being pressed upon the muscle which is then rolled to and fro, the fingers not being used. Use one or both hands. Digital Kneading is effected by grasping the tissue between the ends of the fingers and thumb, and then rubbing the tissue against the bone. Either the end of one finger, or of several, may be used in connection with the thumb.

Treat every day until a decided relief is experienced; then every other day.



Surface Kneading.

### RHEUMATISM IN ENTIRE SYSTEM

Treat by combining the treatments given above for Rheumatism in the Legs and in the Arms, with special Kneading and Manipulating of the affected parts. Finish with General Treatment.

### LUMBAGO (BACK ACHE)

(1) Begin treatment with Spinal Treatment, as follows: The patient on his side, then using the palmar surface of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward gently, but firmly and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning him on his other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.



Spinal Treatment

(2) Then give Neck Treatment, as follows: The patient lying on his back, stand at his head and place one hand on his forehead, the other under his neck, and rotate the head slowly from side to side. Then manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position, and give the neck a thorough extension or stretching, gently but firmly, being careful not to rotate the head. This treatment frees the circulation to the brain.



Extending Neck.

(3) Then give Flexion and Extension of the Legs, as follows: The patient on his back, place one hand on the knee, the



Kneading the Back.

other under the sole of the foot, and move the leg up and down to and from the chest. Repeat several times. (Active.)

(4) Then Knead the Small of the Back, as follows: Palmar Kneading is akin to the movement of the hand of the baker as he kneads his dough. The operator grasps the muscle with the palm of his hand, keeping the fingers close together, the thumbs out. The thumb is not used, the muscle being grasped between the fingers and the palm of the hand, the heel of the hand, or the lower fleshy part of the thumb. Do not allow the skin to slip, but maintain a firm grasp. Manipulate deeply so as to reach the deeper parts. The muscle should be compressed by the hand and at the same time gently lifted from the bone or underlying tissues, rolled and stretched. When the strain is greatest, release so as to stimulate. Work slowly and carefully, repeating the manipulations, according to the requirements of the case, and the state of the patient. In the beginning, do not exert much force, but later on increase the force as the patient becomes accustomed to it. Try to individualize groups of muscles, as the best results are thus obtained. Use the hands alternately. In some cases it is also desirable to use a rolling movement, the heel of the hand and the fleshy part of the thumb being placed upon the muscle, which is then rolled to and fro, the fingers not being used. Use one or both hands. Digital Kneading is effected by grasping the tissue between the ends of the fingers and thumb, and then rubbing the tissue against the bone. Either the end of one finger, or of several, may be used in connection with the thumb.

(5) Then Rub the Small of the Back, as follows: In rubbing, the palm of the hand, and the lower part of the fingers should be used, the tips of the fingers and the thumb being turned back. It is beneficial in stimulating the parts, and promoting the flow of the blood and the lymph.

(6) Then administer Percussion to the small of the back, as follows: Percussion consists of administering blows to different parts of the body, with varying degrees of force. The wrist should be flexible and loose, as a stiff wrist gives a blow such as is used in fighting. The blow should be elastic and springy, which, although penetrating deeply, does not injure the surface. Percussion can be given by several methods, which



Kneading.



Kneading the Glutei.



Slapping.

we will now briefly describe. The first method is by striking the body with the inside flat surface of the half-closed fist, the heel of the hand and the closed ends of the fingers coming in contact with the flesh. The second method is a chopping movement, made with the little finger side of the hand. The hand is likened to a butcher's cleaver in this chopping movement. The fingers are held loosely apart, coming together when the blow is struck. The third method is a slapping movement, which is best comprehended by the position and movement of the hand of the mother administering a well-merited spanking to one of her brood. The fingers are held rigid, and the body slapped. The fourth method is a clapping movement, the hand being shaped so as to emit a hollow sound; just as one holds his hands in applauding at a theater or concert. The fifth method is a tapping movement with the tips of the fingers, one or more fingers of one or both hands being used. Percussion, in its different forms, is a powerful stimulant to the nerve centers.



Chopping Movement.

(7) Place the patient on his side, and place your hand under his knee, and then lift up his leg with a sideways motion, at the same time using your other hand to manipulate the muscles on the side of the spinal column, commencing at the lumbar vertebra and working down to the lower part of the sacrum. (See cut.)



Treating Lumbago.

(8) Finish by stroking the entire Back, as follows: This treatment is useful in producing sedative or quieting effects. It should be applied with a very light contact, the tips of the fingers, or the palm of the hand, just barely touching the patient. In some cases it will produce a feeling of drowsiness on the part of the patient. It never fails to quiet down the patient, equalize the circulation and relieve an excess of stimulation. Stroking should always be performed in a downward and outward direction, and in one direction only, not to-and-fro. The tips of one, more or all of the fingers, or the palmar surface of one or both hands, are moved gently over the skin, with a light contact, not even the mere weight of the hand being allowed to press upon the surface of the skin. Lightness, gentleness and airiness are the words best describing the Stroking movement.



Stroking.





Spinal Treatment



Extending Neck.

Treat frequently. This treatment is one of the best ever given for this very common trouble, and you should get quite satisfactory results from it. It is very thorough and effective, and you should thoroughly familiarize yourself with it, as the movements, etc., will prove useful in the treatment of other complaints, particularly Kidney Troubles and Female Complaints; in fact, this treatment alone has cured many cases of the last two named complaints.

### GOUT

(1) Begin treatment by giving Spinal Treatment, as follows: The patient on his side, then using the palmar surface of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward gently but firmly and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning him on his other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.

(2) Then give Neck Treatment, as follows: The patient lying on his back, stand at his head and place one hand on his forehead, the other under his neck, and rotate the head slowly from side to side. Then manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position, and give the neck a thorough extension or stretching, gently but firmly, being careful not to rotate the head. This treatment frees the circulation to the brain.

(3) Then give Flexion and Extension of the Leg, as follows: The patient on his back, place one hand on the knee, the other under the sole of the foot, and move the leg up and down to and from the chest. Repeat several times. (Active.)

(4) Give General Treatment. Treat frequently.



## LESSON VII

### SPECIAL TREATMENTS

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#### GOITRE AND TUMORS

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#### GOITRE

Goitre is an enlargement of the thyroid gland. The thyroid gland is situated at the front of the neck, and ordinarily, attracts no attention, but when under certain conditions the gland becomes enlarged, a swelling of the neck is produced, which becomes quite noticeable. This swelling sometimes attains enormous size, cases having been observed in which the size of the neck was much greater than that of the head. In some cases of Goitre, the patient suffers nothing beyond the annoyance occasioned by the impediment to the free movement of the head and neck, while in other cases, much trouble is caused by the pressure upon the windpipe, causing difficulty in breathing and swallowing, and often produces an obstinate cough, which weakens the patient. This disease has always puzzled and baffled the Drug Doctors, and many are the theories advanced in an attempt to explain the cause of the trouble. The Osteopathic theory is rational and simple, and has never been successfully contradicted. We claim that Goitre is caused by an obstruction of the circulation of the blood supplying the thyroid gland, thus occasioning a swelling or enlargement of the gland. This being granted, it follows that a removal of this obstruction and a consequent restoration of normal conditions, will cause the Goitre to be absorbed and carried off by the system. Some Osteopathic practitioners have found that in many cases of Goitre, the clavicle, or collar-bone, has been depressed and has obstructed the venous circulation from the thyroid gland, thus preventing the escape of blood and causing the enlargement of the gland. Stretching the muscles in the vicinity and raising the clavicle affords immediate relief, and has effected many cures. This treatment, in connection with General Osteopathic Treatment, gives an ideal treatment for this complaint, which has baffled and routed the Drug Doctors.

## TREATMENT



Raising Clavicle.

(1) Standing behind the patient, place your left hand around his neck and insert the thumb of that hand under the middle of the right clavicle. Take hold of the patient's right wrist, with your other hand, and slowly raise his arm above his head, and lower with a slightly backward motion. At the time you lower the arm, press the clavicle up with the thumb that is under it. Treat the other clavicle in like manner.



Spinal Treatment

(2) Then give Spinal Treatment, as follows: The patient on his side, then using the palmar surface of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward gently, but firmly, and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning him on his other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.

(3) Then give Neck Treatment, as follows: The patient lying on his back, stand at his head and place one hand on his forehead, the other under his neck, and rotate the head slowly from side to side. Then manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position, and give the neck a thorough extension or stretching, gently but firmly, being careful not to rotate the head. This treatment frees the circulation to the brain.



Expanding Chest.

(4) Then give Chest Expansion, as follows: Seat your patient on a stool or chair (if a chair, let him face its back) and stand behind him. Place your foot on the seat of the chair, the tip of your toe being up against, or under, the body of the patient. Place your knee between the patient's shoulders, holding his wrists in each hand. Raise his arms (side-ways) up and over his head, slowly but strongly, and press hard with your knee against his spine. Then maintaining the pressure of your knee, lower the arms with a backward motion. The patient should inhale, filling the lungs, while the arms are being raised; exhaling as the arms are lowered.

(5) Then place fingers under the goitre, pulling it upward and kneading it gently.

(6) Then give thorough General Treatment. Treat every other day.

## FLESHY TUMORS

Fleshy Tumors originate, as do goitres, in an obstruction of the venous circulation, the veins not being able to carry off the blood on its return trip to the heart.

### TREATMENT

(1) Give Goitre Treatment.

(2) Then knead the muscles and flesh in the vicinity of the tumor, as follows, also kneading and moving the tumor itself, gently, in all directions:

Palmar Kneading is akin to the movement of the hand of the maker as he kneads his dough. The operator grasps the muscle with the palm of his hand, keeping the fingers close together, the thumbs out. The thumb is not used, the muscle being grasped between the fingers and the palm of the hand, the heel of the hand, or the lower fleshy part of the thumb. Do not allow the skin to slip, but maintain a firm grasp. Manipulate deeply so as to reach the deeper parts. The muscle should be compressed by the hand and at the same time gently lifted from the bone or underlying tissues, rolled and stretched. When the strain is greatest, release so as to stimulate. Work slowly and carefully, repeating the manipulations according to the requirements of the case, and the state of the patient. In the beginning, do not exert much force, but later on increase the force as the patient becomes accustomed to it. Try to individualize groups of muscles, as the best results are thus obtained. Use the hands alternately. In some cases it is also desirable to use a rolling movement, the heel of the hand and the fleshy part of the thumb being pressed upon the muscle which is then rolled to and fro, the fingers not being used. Use one or both hands. Digital Kneading is effected by grasping the tissue between the ends of the fingers and thumb, and then rubbing the tissue against the bone. Either the end of one finger, or of several, may be used in connection with the thumb.

(3) Finish by giving thorough General Treatment. Treat every other day.



Manipulation.



Manipulation.

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## SCROFULA

This disease is caused by an abnormal constitutional condition, manifesting in inflammation and suppuration of the lymph-glands, ulcers, etc. Scrofula is, in fact, scarcely a spe-

cific disease, but an abnormal constitutional condition, which predisposes the system to certain diseases, and diminishes the power of recovery. This condition may be either inherited or acquired, but is most frequently manifested in children of consumptive and syphilitic parents, and in those whose youth has been passed in bad environments, and who have had insufficient and improper food, impure air and damp rooms.

### **TREATMENT**

Give thorough General Treatment. Treat frequently.

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## **DISEASES OF THE SKIN**

Osteopathy teaches that the majority of Diseases of the Skin, if indeed not all, arise from an obstruction to the lymphatic circulation. Consequently the ideal treatment is the Osteopathic General Treatment, which will free the circulation, removing obstructions, and stimulating the entire system, and restoring normal conditions. In cases of Boils, etc., in addition to the General Treatment, you should give local manipulations in the immediate region of the Boil, moving the muscles in all directions to free the circulation.

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## **DISEASES OF THE BONES AND JOINTS**

There is no better treatment for diseases of this class, than the Osteopathic General Treatment, special attention being given to manipulation and movements of the affected parts. When the circulation is free and equalized the improvement will be speedily apparent. Treatment should be given once a day until a marked improvement is noted; then every other day.

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## **GENERAL DEBILITY (OLD AGE)**

There is no better treatment for this trouble than Osteopathy. A thorough General Treatment does much to restore normal conditions, equalize the circulation, and stimulate the system. It is a veritable Elixir of Youth to the aged and infirm, and often acts almost like a miracle.

### **TREATMENT**

(1) Give thorough General Treatment.



## DISEASES OF THE EYE, EAR AND THROAT

This class of diseases yields very readily to Osteopathic treatment, and many an Osteopath has earned his first laurels in speedily curing diseases of this class after they have been pronounced incurable by the Drug Doctors, and after the patient had expended hundreds of dollars to no effect.

Diseases of the Eye, Ear, Nose and Throat are caused by a contracted condition of the muscles of the neck, and a consequent obstruction to the circulation, particularly the venous circulation, by which the blood is carried back to the heart. Obstructions and interferences of this kind naturally result in a diseased condition of these organs, and the only possible cure is to free the circulation and restore normal conditions. The following treatment will prove very valuable in diseases of the Eye, Ear, Nose and Throat, and we will refer to it under each head, accompanying it with such special treatment as may be indicated. In order that it may be distinguished from other treatments, we will call it, for convenience, the **COMBINED NECK TREATMENT**. You will notice that this Combined Neck Treatment is merely our regular Neck Treatment combined with a few other regular movements that tend to free the circulation of the neck.



Extending Neck.

### COMBINED NECK TREATMENT

(1) Begin by giving a thorough Neck Treatment, as follows:

The patient lying on his back, stand at his head and place one hand on his forehead, the other under his neck, and rotate the head slowly from side to side. Then manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position and give the neck a thorough extension or stretching, gently but firmly, being careful not to rotate the head. This treatment frees the circulation to the brain.

(2) Then give Spinal Extension, as follows:

The patient on his back, grasp his shoulders, your fingers under his armpits. An assistant holds the patient's ankles. The patient relaxes and you give a careful stretching or extension of the spine, gentle but firm, for about one minute. This frees the circulation of the spinal cord and relieves pressure upon the spinal nerves.



Spinal Extension.



Stroking.

(3) Then Rotate the Arm and Shoulder, as follows:

The patient on his back or sitting up, place one hand on his shoulder, and with your other hand take hold of his elbow and rotate the arm around the head.

(4) Finish by Stroking the head and neck, and around the affected parts.

Remember that the Neck Treatment must be very thorough, as therein lies most of the virtue of the treatment. The muscles must be manipulated until they feel soft and flexible.

## DISEASES OF THE EYE

### GRANULATED EYELIDS

This is a most annoying disease, which comes from long continued inflammation, and shows itself in granular excrescences on the inner surface of the eyelids.

### TREATMENT

(1) Begin by giving the Combined Neck Treatment, heretofore described.

(2) Then with the inner surface of the end of the second fingers of each hand, manipulate the eye (closed) and its muscles, gently but firmly. Press the ends of the fingers slightly under the edge of the bone and move gently. This treatment will afford relief at once, and will greatly stimulate and strengthen the eye. Then with your thumb and forefinger, gather up the eyelids, gently, and slightly press them together, or pinch them gently. This will stimulate the eyelids, and will cause the granules to be absorbed.

Treat every other day. You should be able to cure an ordinary case in one or two months. Some wonderful cures have been made by Osteopaths giving the above treatment.

### INFLAMMATION OF THE EYES

Give the same treatment as that recommended for Granulated Eyelids, and also manipulate well in the neighborhood of the eye, and apply Vibration over the eye ball, the eye being of course closed.

### CATARACT

Osteopathy has cured many cases of this dread disease, although considerable time is required to effect a cure, some



Extending Neck.

cases taking as much as six months, while others are relieved in say two months' time.

## TREATMENT

Give the same treatment as recommended for Granulated Eyelids, and also manipulate well in the neighborhood of the eye, and apply Vibration to the eye ball, the eye being, of course, closed.

## MISCELLANEOUS

Many cases of weak eyes, nearsightedness, etc., etc., have been materially benefited or cured by the treatment above recommended.

## DISEASES OF THE EAR

### DEAFNESS, EARACHE, ETC.

The following treatment will be found valuable in all cases of trouble in the ear:

(1) Begin by giving the Combined Neck Treatment, heretofore described.

(2) Manipulate thoroughly all the muscles around the ear, and in its neighborhood, and insert the end of your finger in the ears, manipulating gently and carefully so as to free the circulation, finishing by taking hold of the lobe of the ear between your thumb and forefinger, and pulling it gently downward and backward, thus freeing the circulation.

(3) Give a thorough Vibration over the Ear, as follows:

This form of treatment is a very powerful stimulant. It consists of certain oscillatory movements, produced through a succession of rapid individual efforts of the operator's hand. There should be little or no perceptible strain upon the arm muscles of the operator. The palm of the hand or the fingers must be placed firmly upon the parts to be treated, the arm being held straight and a fine trembling or vibrating movement communicated to the hand by the muscles of the upper part of the arm. The movement is somewhat difficult of acquirement, but you must persist until the desired movement is acquired, for this is one of the most stimulating and penetrating of all the methods of Osteopathic treatment, its effect being quite perceptible and almost akin to the effects of a current of electricity. It has a stimulating and strengthening effect upon the nerves, and acts strongly upon the venous circulation and upon the



Extending Neck.



Kneading Neck.



Digital Vibration.

lymphatics. Be careful not to press upon the body with your wrist, as you should use no greater pressure than the weight of your hand. When properly administered by one hand on the breast, the vibrations should be distinctly felt by the other hand placed under the back of the patient.

This treatment will materially relieve, or cure, many cases of long seated troubles of the ear. The time required is from one to three months, although sometimes results are obtained in a much shorter time. Treat every day, if possible.

### DISEASES OF THE NOSE

#### NASAL CATARRH—TREATMENT

(1) Begin by giving the Combined Neck Treatment, heretofore described.

(2) Thoroughly manipulate the nose, from the corners of the eyes down to the lower part of the nose. Also manipulate the muscles in the neighborhood of the eyes and nose. Finish by giving Vibration at the upper part of the nose.



Holding Vaso-Motor.

#### NOSE BLEED—TREATMENT

Press upon the Vaso-Motor centre, as follows:

Place the fingers on each side of the back of the neck and press with fingers on each side of the spine over the upper cervicals (vaso-motor center) for two or three minutes. This will slow the action of the heart.

### DISEASES OF THE THROAT

The Combined Neck Treatment is the proper treatment for diseases of the Throat, and the Osteopathic General Treatment should also be given when possible, as the latter will stimulate the entire system, and give the patient more vitality and power to throw off abnormal conditions. In cases of Croup or Sore Throat, place the forefinger in the mouth and gently manipulate the inner parts of the throat thoroughly, loosening up any membranous substance that may have formed there.



## LESSON VIII

### SPECIAL TREATMENTS

#### DISEASES OF THE NERVOUS SYSTEM

##### NEURALGIA

The best treatment for Neuralgia is a thorough General Osteopathic Treatment, accompanied by special manipulation of the affected parts. The real cause of the trouble may be in conditions existing in some part of the system apparently having no connection with the trouble. By stimulating the entire system, equalizing the circulation, removing obstructions, free the nerve force, etc., normal conditions are restored, and trouble disappears. Frequent treatments should be given until a material improvement is noted.

##### HEADACHE

Headaches arise from a number of causes, but can nearly always be relieved by the following simple treatment:

##### TREATMENT

(1) Begin by giving a thorough Neck Treatment, as follows: The patient lying on his back, stand at his head and place one hand on his forehead, the other under his neck, and rotate the head slowly from side to side. Then manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position, and give the neck a thorough extension or stretching, gently but firmly, being careful not to rotate the head. This treatment frees the circulation to the brain.

(2) Then give pressure on the Vaso-Motor Nerve Center, as follows: Place the fingers on each side of the back of the neck and press with fingers on each side of the spine over the upper cervicals (vaso-motor center) for two or three minutes. This will slow the action of the heart.

(3) Place one hand on the forehead and the other on the back of the head, and exert a firm, steady pressure; then place one hand on each side of the head, just above and slightly in



Extending Neck.



Holding Vaso-Motor.



Stroking.

front of the top of the ear, and press firmly and steadily; then place one of your middle fingers on each temple, and press firmly but not too hard upon the temple, at the same time executing a rotary motion with the tips of your fingers, not allowing them to slip over the skin, however, the motion being more in the nature of Digital Manipulation than Rubbing.

(4) Finish by gently Stroking the Head and Face, as follows: If you can get the patient to lie down, you had better finish the treatment with a Stroking of the entire body, from head to feet. We herewith give directions for Stroking:



Spinal Treatment

(5) This treatment will usually afford great relief, or an entire cure within a few minutes. If it appears to be Nervous Headache (which usually manifest themselves at the top of the head) you should also give a thorough Spinal Treatment, as follows: The patient on his side, then using the palmar surface of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward, gently but firmly, and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning him on his other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.

If it is what is generally known as a "Sick Headache," which arises from the stomach, you should in addition give the treatment given elsewhere for Dyspepsia.

### HICCOUGH

This trouble is caused by a spasmodic contraction of the diaphragm, which is controlled by the phrenic nerve. Pressure on the phrenic nerve will relieve the most obstinate case of hiccough almost instantly.



Pressure Phrenic Nerve.

### TREATMENT

(1) Begin by pressing upon the phrenic nerve, as follows: Seat your patient on a stool or chair, standing behind him. Place the fingers of each hand upon the transverse processes of the third, fourth and fifth cervicals. Press the fingers forward and down in front of the transverse processes, and press upon the phrenic nerve, which controls the diaphragm.

(2) Then give Expansion of the Chest, as follows: Seat your patient on a stool or chair (if a chair, let him face its

back) and stand behind him. Place your foot on the seat of the chair, the tip of your toe being up against, or under, the body of the patient. Place your knee between the patient's shoulders, holding his wrists in each hand. Raise his arms (sideways) up and over his head, slowly but strongly, and press hard with your knee against his spine. Then maintaining the pressure of your knee, lower the arms with a backward motion. The patient should inhale, filling the lungs, while the arms are being raised; exhaling as the arms are lowered.

(3) Finish by giving a gentle, soothing stroking of the head and face, or the whole body if deemed necessary, as follows: This treatment is useful in producing sedative or quieting effects. It should be applied with a very light contact, the tips of the fingers, or the palm of the hand, just barely touching the patient. In some cases it will produce a feeling of drowsiness on the part of the patient. It never fails to quiet down the patient, equalize the circulation and relieve an excess of stimulation. Stroking should always be performed in a downward and outward direction, and in one direction only, not to-and-fro. The tips of one, more or all of the fingers, or the palmar surface of one or both hands, are moved gently over the skin, with a light contact, not even the mere weight of the hand being allowed to press upon the surface of the skin. Lightness, gentleness, and airiness are the words best describing the Stroking movement.

### PARALYSIS

Osteopathy teaches that this dread disease is caused by a pressure upon certain nerves or nerve centers. The trouble can generally be traced to the spinal column, and the treatment consequently is based upon this fact. Before treating for paralysis you should make a thorough examination of the Spine, as explained in the lesson on General Treatment, paying special attention to ascertaining whether the vertebræ are all in line. In some cases you will find a slight dislocation which will have been occasioned by the contraction of a muscle, and which has resulted in a pressure on the spinal cord, causing paralysis of some particular part, or the entire body.

### TREATMENT

Give a thorough General Treatment (as described under that heading), paying special attention to the Spinal Treatment, Spinal Extension, Neck Treatment, and Flexing and Extending the Legs. If a slight dislocation is found, give special



Expanding Chest.



Stroking.



Spinal Extension.

manipulation of the surrounding muscles, and give Spinal Extension which will allow the vertebræ to slip back in place, and thus relieve the pressure.

### ATROPHY

This disease is practically a starving of the muscles, causing a shrinking and withering. It is caused by an interference with the nerves controlling the arteries supplying the affected part. Osteopathy offers the only known remedy for this terrible disease.

### TREATMENT

Give a thorough General Treatment, paying particular attention to the Spinal Treatment and manipulation and stretching of the afflicted part. There is nothing better than a good General Treatment, as in that treatment the entire system is stimulated, the circulation equalized and the nerves and nerve centers freed.

### LOCOMOTOR ATAXIA

This disease is caused by an obstruction to the circulation and nerve current, just as is Paralysis and Atrophy. The treatment is practically the same.

### TREATMENT

Give a thorough, careful General Treatment, paying particular attention to the Spinal Treatment, Spinal Extension, Flexing and Extension of the Legs.

### INSANITY

Many Osteopathic practitioners have cured cases of Insanity which were undoubtedly occasioned by obstructions to the circulation and nerve current, generally some pressure upon the spinal cord.

### TREATMENT

Give a good, thorough General Treatment, paying special attention to the Spinal Treatment.

### EPILEPSY ("FITS")

Osteopathy teaches that this disease is frequently caused by a partial dislocation of some of the other upper cervical vertebræ, and that if such dislocation can be remedied a cure can be effected. Eminent authorities state that their experience is that about 25 per cent of cases of Epilepsy are caused by the above mentioned dislocation, but that the causes of the



other 75 per cent have not yet been discovered. We believe that Osteopathy will eventually discover the cause of the majority of these cases, and the cure will follow. We believe, however, that every case of Epilepsy can be benefited by a thorough General Treatment.

### TREATMENT

(1) The patient on his back, place your left hand upon the top of his head, your right hand and arm beneath his head and neck, your fingers two upon each side of the fourth dorsal vertebra, pressing the muscles upward toward his head; at the same time pressing with your left hand firmly upon the top of his head and rotating it from side to side, working your right hand gradually upward until you reach the occipital.

(2) Then give thorough Neck Treatment, as follows: The patient lying on his back, stand at his head and place one hand on his forehead, the other under his neck, and rotate the head slowly from side to side. Then manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position, and give the neck a thorough extension or stretching, gently but firmly, being careful not to rotate the head. This treatment frees the circulation to the brain.

(3) Then give Spinal Extension, as follows: The patient on his back, grasp his shoulders, your fingers under his armpits. An assistant holds the patient's ankles. The patient relaxes and you give a careful stretching or extension of the spine, gentle but firm, for about one minute. This frees the circulation of the spinal cord and relieves pressure upon the spinal nerves.

(4) Then give a thorough Spinal Treatment, as follows: The patient on his side, then using the palmar surface of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward, gently but firmly, and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning him on his other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.

(5) Then give Chest Expansion, as follows: Seat your patient on a stool or chair (if a chair, let him face its back)



Treatment for  
Dislocation of  
Atlas.



Extending Neck.



Spinal Extension.



Expanding Chest.

and stand behind him. Place your foot on the seat of the chair, the tip of your toe being up against, or under, the body of the patient. Place your knee between the patient's shoulders, holding his wrists in each hand. Raise his arms (sideways) up and over his head, slowly but strongly, and press hard with your knee against his spine. Then maintaining the pressure of your knee, lower the arms with a backward motion. The patient should inhale, filling the lungs, while the arms are being raised; exhaling as the arms are lowered.

(6) Finish with a gentle, soothing Stroking.

### ST. VITUS DANCE

The Osteopathic General Treatment is the best possible treatment of this complaint, paying special attention to Neck and Spinal treatments.

### NERVOUS PROSTRATION (NEURASTHENIA)

There is no better treatment possible than the Osteopathic General Treatment, paying special attention to the Neck and Spinal treatments.

### HYSTERIA

Give Osteopathic General Treatment, paying special attention to Spinal and Neck treatments.

### LOCKJAW (TETANUS)

(1) Begin by giving a thorough Spinal Treatment, as follows: The patient on his side, then using the palmar surface of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward, gently but firmly, and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning him on his other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.

(2) Then give thorough Neck Treatment, as follows: The patient lying on his back, stand at his head and place one hand on his forehead, the other under his neck, and rotate the head slowly from side to side. Then manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position, and give the



Spinal Treatment

neck a thorough extension or stretching, gently but firmly, being careful not to rotate the head. This treatment frees the circulation to the brain.

(3) Then give Spinal Extension, as follows: The patient on his back, grasp his shoulders, your fingers under his armpits. An assistant holds the patient's ankles. The patient relaxes and you give a careful stretching or extension of the spine, gentle but firm, for about one minute. This frees the circulation of the spinal cord and relieves pressure upon the spinal nerves.

(4) Then give Flexion and Extension of the Legs, as follows: The patient on his back, place one hand on the knee, the other under the sole of the foot, and move the leg up and down to and from the chest. Repeat several times. (Active.)

(5) Then give Chest Expansion, as follows: Seat your patient on a stool or chair (if a chair, let him face its back) and stand behind him. Place your foot on the seat of the chair, the tip of your toe being up against, or under, the body of the patient. Place your knee between the patient's shoulders, holding his wrists in each hand. Raise his arms (sideways) up and over his head, slowly but strongly, and press hard with your knee against his spine. Then maintaining the pressure of your knee, lower the arms with a backward motion. The patient should inhale, filling the lungs, while the arms are being raised; exhaling as the arms are lowered.

(6) Finish by a gentle stroking, as follows: This treatment is useful in producing sedative or quieting effects. It should be applied with a very light contact, the tips of the fingers, or the palm of the hand, just barely touching the patient. In some cases it will produce a feeling of drowsiness on the part of the patient. It never fails to quiet down the patient, equalize the circulation and relieve an excess of stimulation. Stroking should always be performed in a downward and outward direction, and in one direction only, not to-and-fro. The tips of one, more or all of the fingers, or the palmar surface of one or both hands, are moved gently over the skin, with a light contact, not even the mere weight of the hand being allowed to press upon the surface of the skin. Lightness, gentleness, and airiness are the words best describing the Stroking movement.

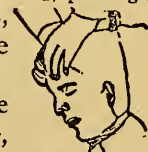
In this treatment the greatest care and attention should be given to the manipulation of the muscles of the neck and spine,



Spinal Extension.



Expanding Chest.



Stroking.



the muscles being kneaded and manipulated until they are soft and flexible. Treat twice a day.

### INSOMNIA

The Osteopathic General Treatment is the best possible treatment for this complaint.

### IMPOTENCY (LOSS OF SEXUAL POWER)

Osteopathy teaches that this trouble is caused by an impairment of the blood supply or nerve impulse to the sexual organs. If the patient is suffering from General Debility he should be treated for that trouble and his general system built up, in addition to the following treatment for sexual weakness.

### TREATMENT



Spinal Treatment



Spinal Extension.

(1) Begin by giving a thorough Spinal Treatment, as follows: The patient on his side, then using the palmar surface of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward gently but firmly and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning him on his other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.

(2) Then give Spinal Extension, as follows: The patient on his back, grasp his shoulders, your fingers under his armpits. An assistant holds the patient's ankles. The patient relaxes and you give a careful stretching or extension of the spine, gentle but firm, for about one minute. This frees the circulation of the spinal cord and relieves pressure upon the spinal nerves.

(3) Then give Flexion and Extension of the Legs, as follows: The patient on his back, place one hand on the knee, the other under the sole of the foot, and move the leg up and down to and from the chest. Repeat several times. (Active.)

(4) Then place the patient on his face, and (after removing your right shoe) stand on the table and place your left foot between the patient's knees, and your right foot on his sacrum. Then taking hold of his ankles, draw up his legs,



slowly but firmly, as high as can be done without causing too much pain, at the same time pressing hard with your right foot upon his sacrum. This is the great Osteopathic Impotency Cure, which is based upon the fact that the nerves supplying the sexual organs can be reached by the above movement and thereby stimulated.

(5) In some cases it is well to give Digital Manipulation to the Prostate Gland, which is often found to be enlarged. This treatment is given as follows: The patient on his side, with legs flexed, dip your forefinger in vaseline and pass it carefully up the rectum. Then gently manipulate the prostate gland.

(6) It is often well to carefully manipulate the penis and testicles, thus stimulating those parts.

Treat every day, or every other day. Marked improvement will be manifested in a week or two, and a decided change in a month, but the treatment should be kept up for two or three months if necessary. This treatment rarely fails to effect a cure.



Impotency.

## QUIZ QUESTIONS

1. State cause and cure of Rheumatism.
2. State special movement (No. 7) for Lumbago.
3. State cause and cure of Goitre.
4. State cause and cure of Tumors.
5. State cause and cure of Scrofula.
6. State Osteopathic theory and treatment of Diseases of the Eye, Ear and Throat.
7. State treatment for Neuralgia.
8. State treatment for Hiccough.
9. State treatment for Paralysis.
10. State special motion (No. 1) in treatment of Epilepsy.
11. State treatment for Lockjaw.
12. State special movement (No. 4) in treatment for Impotency.



## **LESSON IX**

### **SPECIAL TREATMENTS**

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#### **FEVERS, CONTAGIOUS DISEASES, ETC.**

Our advice to the student is to confine himself to chronic cases and to let acute diseases severely alone for the present. We say this because we know that the public is ignorant regarding the truth underlying the various systems of therapeutics, and that the loss of a single acute case (and every physician must lose some) will hurt the Osteopath materially, whereas the public will think nothing of the loss of a dozen of the Drug-Doctors' patients. Later on, when the public becomes accustomed to Osteopathic theories and practice, things will be different. For the present the Osteopath should content himself with curing the chronic cases, most of which have been pronounced incurable by the Drug Doctors. Besides this, office practice is the most profitable, and more easily built up. By all means confine yourself to the chronic cases. We give you general treatment for use in cases of fevers, etc., as you may be called upon to use same in cases of emergency.

#### **GENERAL TREATMENT OF FEVERS**

Osteopathy offers a treatment which will reduce the temperature of the body in less than one-half the time required by any other therapeutic method. The treatment consists of pressure upon the vaso-motor centre, thus reducing the general blood pressure, slowing the action of the heart, and reducing the temperature. The vaso-motor centre is reached by a pressure upon the upper cervicals, and at the same time tipping the head backward, so as to bring a pressure upon the nerves over the cervical vaso-motor centre. The following general treatment will be found efficacious in cases of fevers, although you must use your own good judgment, as no two cases of fever are exactly alike:

#### **TREATMENT**

(1) Begin by giving a thorough Spinal Treatment, as follows: The patient on his side, then using the palmar sur-



Spinal Treatment

face of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward gently but firmly and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning him on his other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.

(2) Then give a thorough Neck Treatment, as follows:

The patient lying on his back, stand at his head and place one hand on his forehead, the other under his neck, and rotate the head slowly from side to side. Then manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position, and give the neck a thorough extension or stretching, gently but firmly, being careful not to rotate the head. This treatment frees the circulation to the brain.

(3) Then give Spinal Extension, as follows:

The patient on his back, grasp his shoulders, your fingers under his armpits. An assistant holds the patient's ankles. The patient relaxes and you give a careful stretching or extension of the spine, gentle but firm, for about one minute. This frees the circulation of the spinal cord and relieves pressure upon the spinal nerves.

(4) Then give Vibration over Abdomen, as follows:

This form of treatment is a very powerful stimulant. It consists of certain oscillatory movements, produced through a succession of rapid individual efforts of the operator's hand. There should be little or no perceptible strain upon the arm muscles of the operator. The palm of the hand or the fingers must be placed firmly upon the parts to be treated, the arm being held straight and a fine trembling or vibrating movement communicated to the hand by the muscles of the upper part of the arm. The movement is somewhat difficult of acquirement, but you must persist until the desired movement is acquired, for this is one of the most stimulating and penetrating of all the methods of Osteopathic treatment, its effect being quite perceptible and almost akin to the effects of a current of electricity. It has a stimulating and strengthening effect upon the nerves, and acts strongly upon the venous circulation and upon the lymphatics. Be careful not to press upon the body with your wrist, as you should use no greater pressure than the



Extending Neck.



Spinal Extension.



weight of your hand. When properly administered by one hand on the breast, the vibrations should be distinctly felt by the other hand placed under the back of the patient.

(5) Then give Flexion and Extension of Legs, as follows: The patient on his back, place one hand on the knee, the other under the sole of the foot, and move the leg up and down to and from the chest. Repeat several times. (Active.)



Holding Vaso-Motor.

(6) Then give Pressure on the Vaso-Motor Nerve Centre, as follows: Place the fingers on each side of the back of the neck and press with fingers on each side of the spine over the upper cervicals (vaso-motor center) for two or three minutes. This will slow the action of the heart.

(7) Finish by giving a gentle, soothing Stroking, as follows: This treatment is useful in producing sedative or quieting effects. It should be applied with a very light contact, the tips of the fingers, or the palm of the hand, just barely touching the patient. In some cases it will produce a feeling of drowsiness on the part of the patient. It never fails to quiet down the patient, equalize the circulation and relieve an excess of stimulation. Stroking should always be performed in a downward and outward direction, and in one direction only, not to-and-fro. The tips of one, more or all of the fingers, or the palmar surface of one or both hands, are moved gently over the skin, with a light contact, not even the mere weight of the hand being allowed to press upon the surface of the skin. Lightness, gentleness, and airiness are the words best describing the Stroking movement.



Stroking.

Treat twice a day until a decided improvement is noted, then once a day.

### SUNSTROKE

Place patient in a cool place, applying ice or cold water to the head. Give General Fever Treatment. Treat every few hours the first day.

### INFLUENZA, HAY FEVER, ETC.

Give General Fever Treatment, with Digital Manipulation around the nose and inner corners of the eyes. Treat once a day.

### MEASLES

Give General Fever Treatment. Treat every day.

**WHOOPIING COUGH**

Give General Fever Treatment. Treat every day.

**MUMPS**

Give General Fever Treatment. Treat every day.

**CHICKEN POX**

Give General Fever Treatment. Treat every day.

**ERYSIPELAS**

This disease is caused by an obstruction of the venous circulation between the heart and the affected part. A thorough manipulation will free the circulation and effect a cure. The General Osteopathic Treatment should always be given with the local treatment in cases of this kind.

**DIPHThERIA**

The Osteopathic treatment of Diphtheria is based upon the theory that the disease is caused by certain contractions of the muscles of the neck and thorax, interfering with the circulation, thereby causing an inflamed condition. The following treatment is highly recommended by eminent Osteopathic practitioners who have found it very efficacious:

**TREATMENT**

(1) Begin by giving a thorough Neck Treatment, as follows: The patient lying on his back, stand at his head and place one hand on his forehead, the other under his neck, and rotate the head slowly from side to side. Then manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position, and give the neck a thorough extension or stretching, gently but firmly, being careful not to rotate the head. This treatment frees the circulation to the brain.

(2) Then place the fingers in the patient's mouth and move the muscles of the throat gently, thus loosening the membrane which will be expelled from the mouth.

(3) Then give Chest Expansion, as follows: Seat your patient on a stool or chair (if a chair, let him face its back) and stand behind him. Place your foot on the seat of the chair, the tip of your toe being up against, or under, the body of the patient. Place your knee between the patient's shoulders, holding his wrists in each hand. Raise his arms (sideways)



Extending Neck.



Expanding Chest.

up and over his head, slowly but strongly, and press hard with your knee against his spine. Then maintaining the pressure of your knee, lower the arms with a backward motion. The patient should inhale, filling the lungs, while the arms are being raised; exhaling as the arms are lowered.

(4) Then give pressure on the Vaso-Motor Center, as follows: Place the fingers on each side of the back of the neck and press with fingers on each side of the spine over the upper cervicals (vaso-motor center) for two or three minutes. This will slow the action of the heart.

(5) Finish the treatment with a gentle, soothing Stroking, as follows: This treatment is useful in producing sedative or quieting effects. It should be applied with a very light contact, the tips of the fingers, or the palm of the hand, just barely touching the patient. In some cases it will produce a feeling of drowsiness on the part of the patient. It never fails to quiet down the patient, equalize the circulation and relieve an excess of stimulation. Stroking should always be performed in a downward and outward direction, and in one direction only, not to-and-fro. The tips of one, more or all of the fingers, or the palmar surface of one or both hands, are moved gently over the skin, with a light contact, not even the mere weight of the hand being allowed to press upon the surface of the skin. Lightness, gentleness, and airiness are the words best describing the Stroking movement.

Treat every few hours.



Holding Vaso-Motor.



Stroking.

## DISEASES OF WOMEN

Osteopathy teaches that this class of complaints can be relieved and cured by treatment tending to free the circulation and nerve current, thus restoring normal conditions. Osteopathic treatment, in nearly every case, gives almost immediate relief followed by a permanent cure.

### DISPLACEMENT OF THE UTERUS—TREATMENT

(1) Give Spinal Treatment as follows, paying special attention to the Sacral region, as here we reach the nerves controlling the Uterus.

The patient on her side, then using the palmar surface of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down



Spinal Extension.



the entire length of the spine. Move the muscles upward and outward gently, but firmly and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning her on her other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.

(2) Give Neck Treatment, as follows, thus freeing the circulation to the brain, and enabling stronger nerve impulses to be sent to the affected parts:

The patient lying on her back, stand at her head and place one hand on her forehead, the other under her neck, and rotate the head slowly from side to side. Then manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position, and give the neck a thorough extension or stretching, gently but firmly, being careful not to rotate the head. This treatment frees the circulation to the brain.

(3) Give Flexion and Extension of the Legs, as follows, thus freeing the circulation and stimulating the nerve impulse to the weakened parts:

The patient on her back, place one hand on the knee, the other under the sole of the foot, and move the leg up and down to and from the chest. Repeat several times. (Active.)

(4) After carefully washing the hands, insert the finger into the vagina, and carefully press the uterus back to its normal place. Then gently manipulate the vagina.

(5) If the patient is Constipated (and she usually is) it will be well to give her the treatment recommended for Constipation.

Give treatment every day, with the exception of the vaginal treatment, which should be given, say, every third day. It will be as well to give an Osteopathic General Treatment the first day, and about once a week thereafter.

### **MENSTRUAL TROUBLES**

Osteopathy has been quite successful in complaints of this class. The freeing of the nerve supply and the equalizing of the circulation, results in rapid improvement and usually effects a permanent cure.

### **TREATMENT**

(1) Give thorough Spinal Treatment, as follows, giving special attention to the lower lumbar and sacral region:



The patient on her side, then using the palmar surface of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward gently but firmly, and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning her on her other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.

(2) The patient on her back, grasp her shoulders, your fingers under her armpits. An assistant holds the patient's ankles. The patient relaxes and you give a careful stretching or extension of the spine, gentle but firm, for about one minute. This frees the circulation of the spinal cord and relieves pressure upon the spinal nerves.

(3) Then give Flexion and Extension of the Limbs, as follows: The patient on her back, place one hand on the knee, the other under the sole of the foot, and move the leg up and down to and from the chest. Repeat several times. (Active.)

(4) Then give Vibration over the Uterus, as follows: This form of treatment is a very powerful stimulant. It consists of certain oscillatory movements, produced through a succession of rapid individual efforts of the operator's hand. There should be little or no perceptible strain upon the arm muscles of the operator. The palm of the hand or the fingers must be placed firmly upon the parts to be treated, the arm being held straight and a fine trembling or vibrating movement communicated to the hand by the muscles of the upper part of the arm. The movement is somewhat difficult of acquirement, but you must persist until the desired movement is acquired, for this is one of the most stimulating and penetrating of all the methods of Osteopathic treatment, its effect being quite perceptible and almost akin to the effects of a current of electricity. It has a stimulating and strengthening effect upon the nerves, and acts strongly upon the venous circulation and upon the lymphatics. Be careful not to press upon the body with your wrist, as you should use no greater pressure than the weight of your hand. When properly administered by one hand on the breast, the vibrations should be distinctly felt by the other hand placed under the back of the patient.

We recommend that frequent Osteopathic General Treat-



Spinal Treatment



Spinal Extension.



Deep Vibration.

ment be given, to stimulate and build up the entire system. In cases of too profuse Menstruation it is well to hold the thumbs on each side of each of the lower vertebræ (from the first lumbar, downward) for a few seconds at each vertebra. Treat every other day.



Spinal Treatment

### LEUCORRHEA (WHITES)

The following treatment usually effects a cure:

#### TREATMENT

Give the treatment given for Menstrual Troubles, every other day, with an occasional Osteopathic General Treatment.

### OVARIAN TROUBLES—TREATMENT

Give treatment recommended for Menstrual Troubles, also give Vibration over Ovaries, and manipulation in the immediate region.

### CATARRHAL VAGINITIS

This disease, which consists of an inflammation of the mucous membrane of the vagina, and kindred troubles, may be successfully treated as follows:

#### TREATMENT



Extending Neck.

(1) Give thorough Spinal Treatment, as follows: The patient on her side, then using the palmar surface of the fingers and hand, manipulate along the right side of the spinal column, commencing at the first cervical, and moving down the entire length of the spine. Move the muscles upward and outward gently, but firmly, and with a deep pressure, paying special attention wherever you find a tender spot, a hot or cold spot, or a knotted condition of the muscles. Then turning her on her other side, treat the opposite side in the same manner. Take your time in giving this treatment. Avoid using the finger tips.

(2) Then give thorough Neck Treatment, as follows: The patient lying on back, stand at her head and place one hand on her forehead, the other under her neck, and rotate the head slowly from side to side. Then manipulate thoroughly and deeply the muscles of the back, sides and front of the neck. Then place the hands in the first position, and give the neck a thorough extension or stretching, gently but firmly,

being careful not to rotate the head. This treatment frees the circulation to the brain.

(3) Then give Spinal Extension, as follows: The patient on her back, grasp her shoulders, your fingers under her armpits. An assistant holds the patient's ankles. The patient relaxes and you give a careful stretching or extension of the spine, gentle but firm, for about one minute. This frees the circulation of the spinal cord and relieves pressure upon the spinal nerves.

(4) Then give Flexion and Extension of the Legs, as follows: The patient on her back, place one hand on the knee, the other under the sole of the foot, and move the leg up and down to and from the chest. Repeat several times. (Active.)

(5) Then, after washing the hands, insert carefully the finger into the vagina and manipulate gently.

Treat every other day, occasionally omitting the vaginal treatment if the parts are tender. Also give an occasional Osteopathic General Treatment.

### **MENOPAUSE ("CHANGE OF LIFE")**

There is no better treatment known for the troubles incident to this period of a woman's life, than the Osteopathic General Treatment, given two or three times a week.



Spinal Extension.





Fig. 2.  
Posterior view of  
femur, showing  
the ridges, de-  
pressions, and  
openings.



VIEW OF KNEE-JOINT.

A, Thigh bone; B, Kneecap;  
C, D, Leg bones.

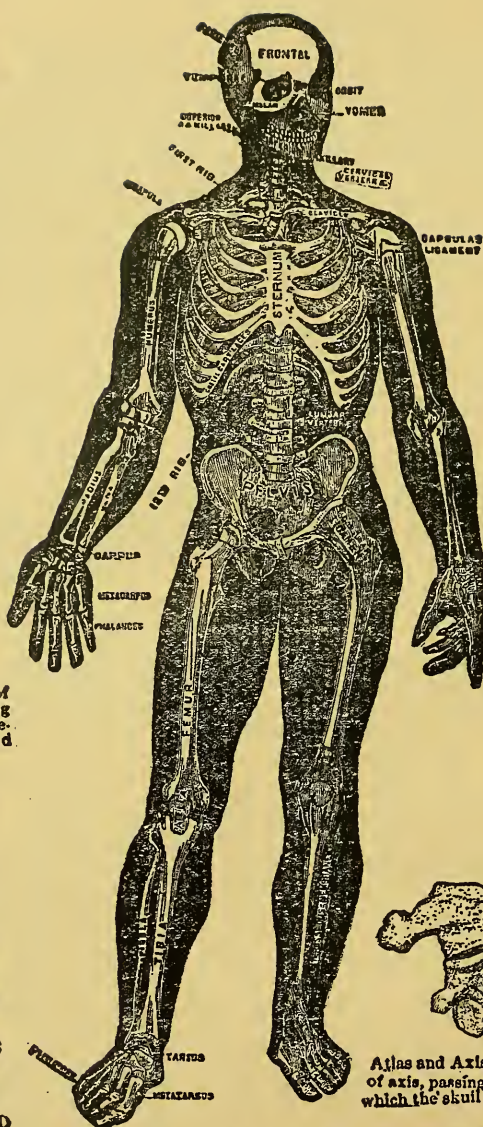
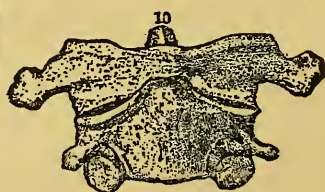


FIG. 2.—THE SKELETON.



THE SPINAL COLUMN.



Atlas and Axis in position. 10, projection  
of axis, passing through the atlas, upon  
which the skull rests.



THE ATLAS.



# The Skeleton Contains 206 Bones.

## I. THE HEAD. (28 Bones.)

- 1. THE SKULL. (8 Bones.)**
- 1 Fron'tal (forehead).
  - 1 Oc-cip'i-tal (back of head).
  - 2 Pa-ri'e-tals (side of head).
  - 2 Tem'po-rals (temples).
  - 1 Sphe'noid ("wedge-shaped").
  - 1 Eth'moid ("sieve-like," through which filaments of the olfactory nerve pass to the nose).

- 2. THE FACE. (14 Bones.)**
- 2 "Na-sal Bones (they form the "bridge" of the nose).
  - 2 Ma'lar (or cheek) Bones.
  - 2 Lach-ry-mals (from a Latin word meaning "tear"; small thin bones which form a part of the inner wall of the orbits).
  - 2 Pal'ate Bones.
  - 2 Tur'bin-ated ("cone-shaped," one on each side of the outer wall of the nasal cavities).
  - 2 Upper and 1 Lower Max'il-la-ry (or jaw) Bones.
  - 1 Vo'mer ("plough-share," a thin bone which separates the nostrils).

- 3. THE EAR. (6 Bones.)**
- Mal'le-us, or "mallet."
  - In'cus, or "anvil."
  - Sta'pes, or "stirrup."

## II. THE TRUNK. (54 Bones.)

- 1. THE SPINAL COLUMN. (26 Bones)**
- 7 Cer'vi-cal (or neck) ver'te-bræ.
  - 12 Dor'sal (or back) vertebræ.
  - 5 Lum'bar or loin vertebræ.
  - Sa'crum (the "sacred" bone, because used in sacrifices).
  - Coc'cyx (the "cuckoo" bone, because of its likeness to the bill of that bird).

- 2. THE RIBS. (24 Bones.)**
- 12 on each side; the upper seven are called "true" ribs, the five lower ones are "false," or "floating" ribs.

- 3. THE HYOID.**
- A small "U-shaped" Bone in the upper part of the neck, and supports the base of the tongue.

## 4. THE STERNUM, Breast-Bone.

## 5. THE TWO HIP-BONES.

## III. THE LIMBS. 124 Bones.

- 1. THE UPPER LIMBS. (64 Bones.)**
- Clav-i-cle, or Collar-bone (from "*clavis*," a key).
  - Scap'u-la, or Shoulder-blade.
  - Hu'mer-us (arm).
  - U'l-na (forearm), from the Greek word meaning "Elbow."
  - Ra'di-us (forearm), from the Latin word meaning "Spoke."
  - 8 Car'pals, or Wrist-bones.
  - 5 Met-a-car'pals (in the palm); *meta* "beyond" and *carpus* "the wrist."
  - 14 Pha-lan'ges (3 in each finger, 2 in the thumb).

- 2. LOWER LIMBS. (60 Bones.)**
- Fem'ur (thigh-bone).
  - Pa-tel'la, or Knee-pan.
  - Tib'i-a (leg-bone), a Latin word meaning "flute."
  - Fib'u-la (leg-bone), a Latin word for "pin."
  - 7 Tar'sals (forming the instep).
  - 5 Met-a-tar'sals.
  - 14 Phalanges (2 in the great toe, 3 in each of the others).

# **LESSON X**

## **OSTEOPATHIC ANATOMY AND PHYSIOLOGY**

---

### **THE SKELETON**

The general figure and support of the body are furnished by the skeleton, composed of a number of bones of all sizes and shapes. The skeleton furnishes a cage-like cavity containing and protecting the vital organs; joints to facilitate motion; surfaces for the support of the softer parts of the body.

It consists of 204 distinct bones, not including the kneecaps and other seed-form bones, which are situated in the tendons of certain muscles, nor does it include the teeth, 32 in number. The bones are classed as Long, Short and Flat. The long bones are hollow and have two ends, generally known as heads, to which are attached muscles and ligaments. The principal long bones are the collar-bone (clavicle), the arm-bone (humerus), the fore-arm bone (radius and ulna), the thigh-bone (femur), and the leg-bones (tibia and fibula). The Short bones are found in those parts of the body requiring strength, compactness and elasticity, and are bound together by ligaments. The wrists and ankles are good examples of Short bones. The Flat bones have flat, broad surfaces for muscular attachments, and their purpose is the protection of organs of the body. The principal Flat bones are the shoulder-blades, breast-bone, ribs, hips, etc.

The surface of the bones contain raised places and sunken places, the first being for the better attachment of the muscles, etc., and the second for the passage of blood-vessels, nerves, tendons, and muscles. Small openings are found in the bones, through which pass the blood-vessels, nerves, etc.

A Joint is the junction of two or more bones. The joints of the skull are immovable; those of the spinal column are partly movable and partly immovable; the majority of the other joints are movable, such as the shoulder and hip, which are ball and socket joints, and the knee and elbow which are hinge joints.

The skull rests and moves upon the first cervical vertebra (the first vertebra) which is known as the Atlas; and upon the tooth-like process of the second bone of the spinal column, generally known as the Axis, which projects upward through a hole in the Atlas, forming a pivot upon which the head turns from side to side, the nodding movement of the skull being upon the Atlas.

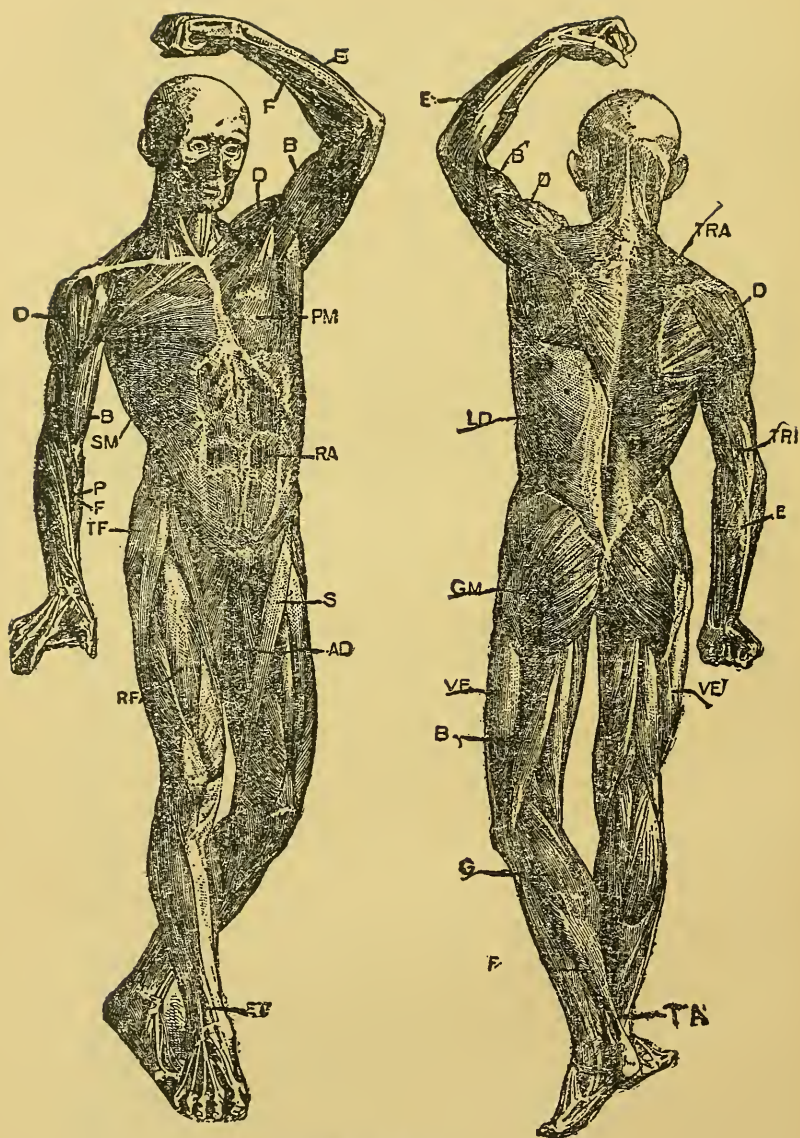
The bones are held together by a strong fibrous substance called ligaments, further strengthened by muscles and tendons.

The principal support of the body is the spinal column, which bears the skull at its upper extremity, and whose lower end is wedged in between the hip-bones, and with them forms the Pelvis. It consists of 26 bones known as vertebrae, of which there are 7 in the neck or Cervical region; 12 in the back or Dorsal region; and 5 in the loin or Lumbar region. The Sacrum and Coccyx are called false vertebrae. Each vertebra is a disk-like bone having a bony arch projecting backward from it, and has a large hole through it. When the vertebrae are in place, held by strong ligaments, this opening, or hole, in each forms a long tube extending through the entire length of the spinal column, which tube is called the Spinal Canal, and which contains and protects the Spinal Cord, which is a long cable of nerves which connects the brain with all the other portions of the body, by means of nerve branches being sent out through the apertures in the sides of each vertebra. The posterior projections of the vertebrae are what we feel when we pass the hand along the spinal column.

The Ribs which branch out from each side of the spinal column, in the dorsal region, are 24 in number, 12 on each side. The upper 7 on each side are called true ribs, being fastened to the breast bone direct; the lower 5 on each side are called false or floating ribs because they are not so fastened, the upper two of them being fastened by cartilage to the other ribs, the others having no cartilages, their forward ends being free.

The Pelvis is composed of the Sacrum and Coccyx behind the Hip-bones (innominate) upon the sides, and the pubic bone in front. Forming joints with the Pelvis are the two thigh bones, which rest upon the bones of the lower leg, which are supported by the bones of the feet. Forming joints at the upper part of the frame of the body, on each side, are the arm-bones, consisting of the collar-bone (clavicle), shoulder-blades





THE MUSCLES.



## THE PRINCIPAL MUSCLES.

(SEE PLATE.)

## THE HEAD.

**Oc-ci-p'i-to-fron-ta'lis**, moves the scalp and eyebrows.  
**Or-bic-u-la'ris pal-pe-bræ**, closes the eyes.  
**Le-va'tor pal-pe-bræ**, opens the eyes.  
**The Recti** muscles (four in number) move the eye-ball.  
**Tem-po-ral**,  
**Mas-se'ter**, } raise the lower jaw.

## THE NECK.

**Pla-tys'ma My-o'i'des**, } move the head forwards.  
**Ster-no Mas'toid**,  
**Sca-le'ni** muscles move the neck from side to side.

## THE TRUNK.

**P.M.—Pec-to-ra'lis**, moves the arm forwards.  
**L.D.—La-tis'si-mus dor'si**, moves the arm backwards.  
**T.R.A.—Tra-pe'zi-us**,  
**S.M.—Ser-ra'tus mag'nus**, } move shoulder-blade.  
**Rhom-boi-de-us**,  
**In-ter-cos'tals**, move the ribs in respiration.  
**External Oblique**,  
**Internal Oblique**, } move the trunk forwards.  
**E-rec'tor spi'næ**, move the trunk backwards.  
**R.A.—Rec'tus Ab-dom'i-nus**, makes tense the abdominal walls.

## THE UPPER LIMB.

**D.—Del'toid**, raises the arm.  
**Te'res ma'jor**, lowers the arm.  
**Sub-scap-u-la'ris**,  
**Spi-na'tus**, } rotate the arm.  
**E.—Bi'ceps**, bends forearm.  
**T.E.L.—Tri'ceps**, straightens forearm.  
**P.—Pro-na'tor**,  
**Su-pi-na'tor**, } rotate forearm.  
**F.—Flex'or car'pi ra-di-a'lis**,  
**" " ul-na'ris**,  
**E.—Ex-ten'sor car'pi ra-di-a'lis**,  
**" " ul-na'ris**, } move the hand.

## THE LOWER LIMB.

**Il-i'a-cus**,  
**Pso-as mag'nus**, } move the thigh forwards.  
**Pec-tin-e-us**,  
**A.—Ab-duc'tor**,  
**G.M.—Glu-te-us**, } move the thigh backwards.  
**Pyz-i-form'is**,  
**S.—Sar-to-ri-us** (from *Sar'tor*, a tailor), crosses one thigh over the other  
**E.F.—Rec'tus**,  
**V.E.—Vas'tus**, } move the leg forwards.  
**B.—Bi'ceps**,  
**Grac'i-lis**, } move the leg backwards.  
**T.A.—Tib-i-a'lis**,  
**Fer-o-ne-us**,  
**G.—Gas-troc-ne'mi-us**, } move the foot.  
**So-le-us**,  
**F.—Flexors** of the foot.  
**T.A.—Tendo Achillis**.  
**T.F.—Moves** thigh outwards.  
**E.T.—Extensors** of the toes.

(scapula), arm-bone (humerus), the two fore-arm bones (radius and ulna), and the bones of the wrist and hand.

The four principal closed cavities within the skeleton are the Cranial, Thoracic, Abdominal and Pelvic. The Cranium (skull) is a round, bony box containing the brain, the commencement of the spinal cord, etc. Its base is composed of bones firmly wedged together, with fine openings through which the blood vessels and nerves pass. The Thoracic cavity is found from the base of the neck to the diaphragm, from spinal column to breast-bone. It contains the lungs, heart, etc. The Abdominal cavity is located between the Thoracic and Pelvic cavities, and contains the liver upon the right side, the stomach and spleen upon the left, the intestines in front, and the pancreas, kidneys, etc., behind. The Pelvic cavity is enclosed by the pelvic bones, and contains the bladder and other viscera.

The student is advised to refer frequently to the several cuts illustrating this lesson, as there is no better way of fixing the lesson in the mind than by the object lesson afforded by the pictures.

## THE MUSCLES

The Muscles number about 400, and constitute what is generally called "flesh," or in animals, "lean meat," being of a dark red color. They are divided into three classes, i. e. voluntary, involuntary and mixed. The voluntary muscles, such as those of the face, neck, abdomen, thorax, etc., are governed by the will. The involuntary muscles are indifferent of the will, and are controlled by the automatic or sub-conscious functions of the mind. The mixed muscles belong partly to both of the above named classes, the muscles of the respiratory organs being examples of this class, they being partly under control of the will, and yet capable of action independent of the same.

Voluntary muscles are connected with bones, and with cartilages, skin, ligaments, etc., by either muscular tissue or by fibrous tissue known as sinews or tendons. These tendons or sinews serve as cords to connect the remote parts of the body with the moving muscles, and their arrangement is most ingenious, one of the tendons which moves the eye passing over a pulley like loop, and one under the jaw passes through a slit in another tendon whose direction is different. Voluntary muscles are composed of bundles of fibres, each fibre being firmly enclosed in an elastic covering which does not interfere



—A, Biceps muscle of the arm; B, C, Its tendons.

with its movement, the entire bundle of fibres being enclosed with connective tissue holding them together. Involuntary muscles are also composed of fibres which interlace and form tissues. Muscles are supplied with blood in large quantities by large blood vessels whose smaller branches pass between the fibres. The nerves accompany these blood vessels. The nerves supplying the voluntary muscles are largely motor nerves, while those supplying the involuntary muscles are principally sensory nerves. Muscles are usually contracted by the effort of the will, by means of the nerves, but contraction may also be produced by stimulation such as pinching, pricking with a needle, electricity, etc.

Muscles that bend the joints are called flexors; those that restore the bent parts to a straight condition are called extensors; those that turn the parts to which they are attached upon their axis are called rotators; those that move parts toward the axis of the body are called adductors; those that move the parts from the axis of the body are called abductors; those that close or constrict certain openings of the body are called sphincters; those that control the facial expression, etc., are called muscles of expression.

Muscles to be normal and healthy need a constant supply of good blood and sufficient nerve stimulus, these being lacking disease manifests.

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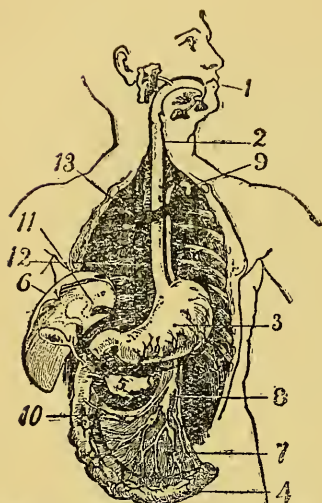
## THE CIRCULATION

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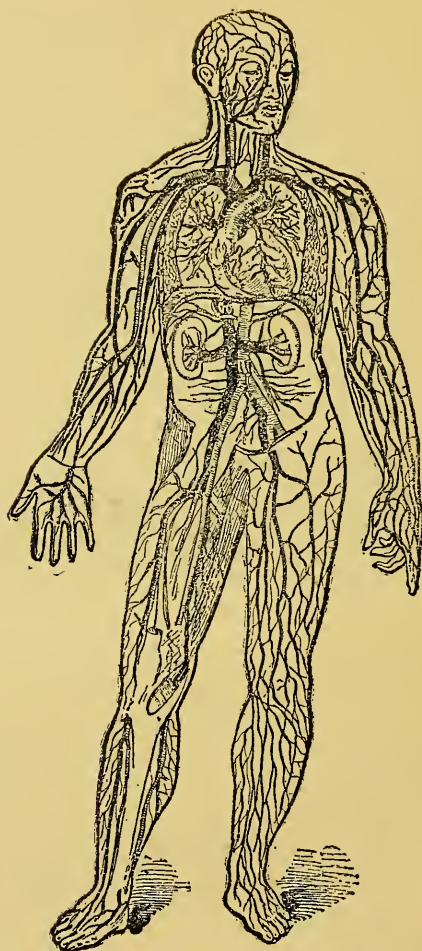
The blood is the principal form taken by the nutritive constituents of food after digestion. It flows through the arteries from the heart to every cell and tissue of the body, nourishing and strengthening them, and then returning through the veins to the heart, carrying with it the waste products of the system which are then expelled from the body by means of the lungs and other excretory organs. This flow of blood to and from the heart, is called the Circulation, and the organs of circulation are the heart, the arteries, the veins, the capillaries.

The heart is a hollow, muscular, pear-shaped organ, about the size of an average clenched fist. It is situated on the left side of the body, between the two lungs, the lower, pointed end resting about the fifth and sixth ribs, a little to the left of the breast bone, the broad, upper end being about on a level with the middle of the breast bone, near its junction with the cartilages of the third rib. It is divided into four compart-

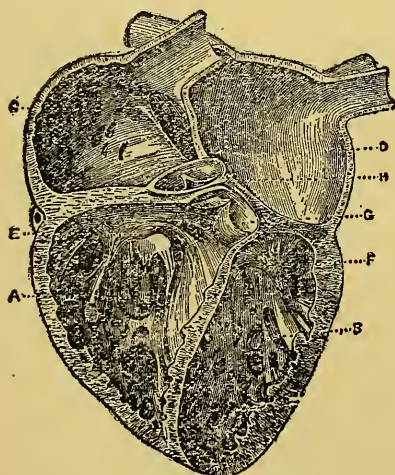




A diagrammatic representation of the various organs concerned in the conversion of food into blood.—1, Mouth and salivary glands; 2, the oesophagus; 3, the stomach; 4, a portion of the small intestine; 5, the pancreas; 6, the liver; 7, mesentery with lacteals; 8, receptacle of chyle; 9, the thoracic duct emptying its contents into the left subclavian vein; 10, branches of portal vein leading to liver; 11, an hepatic vein leading from the liver to the large ascending vein; 12, the large ascending vein cut off at its junction with the heart; 13, the large descending vein cut off in like manner.



Front view of the organs of circulation. Veins, black; arterics, with transverse lines. Parts on the right side of figure are removed to show some of the deep vessels, while the left side shows superficial vessels.



SECTION OF THE HEART.

- |                     |                                 |
|---------------------|---------------------------------|
| A, Right Ventricle. | E, F, Inlets to the Ventricles. |
| B, Left " "         | G, Pulmonary Artery.            |
| C, Right Atricle.   | H, Aorta,                       |
| D, Left Auricle.    |                                 |



THE VALVES OF THE VEINS HIGHLY MAGNIFIED.



## TABLE OF THE PRINCIPAL ARTERIES.

---

### THE HEAD.

**Internal Ca-rot'id,** } Supply the brain.  
**Ver-te-bral,** }  
**Oph-thal'mic,** supplies the eye.  
**External Ca-rot'id** } **Lin'gual,** supplies the tongue.  
                               } **Fa'ci-al,** supplies the lower part of the face.  
                               } **Tem'po-ral,** supplies the upper part of the head and face.

### THE TRUNK.

**The A or'ta,** arising from the heart, is the main arterial trunk.  
**Cor'o-na-ry,** supplies the walls of the heart.  
**Bron'chi-al,** supplies the lungs.  
**In-ter-cost'als,** supply the walls of the chest.  
**Gastric,** supplies the stomach.  
**He-patic,** supplies the liver.  
**Splen'ic,** supplies the spleen.  
**Re'nal,** supplies the kidney.  
**Me's-en-ter'ics,** supply the bowels.  
**Sp'i-nal,** supplies the spinal cord.

### THE UPPER LIMB.

**Branches of the Ax-il-la'ry,** supply the shoulder.  
       "      "      **Bra'chi-al,** supply the arm.  
       "      "      **Ra'di-al,** } Supply the forearm and fingers.  
       "      "      **Ul'nar,** }

### THE LOWER LIMB.

**Branches of the Fem'o-ral,** supply the hip and thigh.  
       "      "      **Pop-li-te'al,** }  
       "      "      **Tib'i-al,** } Supply the leg and foot.  
       "      "      **Per-o-ne'al,** }

ments, the two upper of which are called auricles; the two lower ventricles. The auricles have veins opening into them; the ventricles have arteries arising from them. The auricles receive the blood coming back through the veins. You will understand the workings of the heart better if we show you the course the blood follows in its circulation.

The blood coming back through the veins, laden with impurities and waste product of the system, is poured into two large veins which empty into the right auricle. When the auricle is filled to its full capacity, its walls contract and expel the blood through an opening into the right ventricle, which in turn contracts and forces the blood through the pulmonary artery into the lungs, where the blood is thoroughly distributed by numerous hair-like blood vessels among the air cells, where it is purified by exchanging its waste products for the oxygen of the air, and is converted into pure, red blood. This red blood is then carried from the lungs back to the heart, this time going into the left auricle, which in turn forces it into the left ventricle. This ventricle then forces the pure, red blood, laden with health-giving nutrition and life, into the arteries through the aorta, the largest artery in the body. The arteries carry the blood through its dividing and sub-dividing branches to the hair-like capillaries for the nourishment and building up of the tissues. The blood, after having parted with its life-giving properties, starts on its return journey to the heart, through the veins, gathering up as it goes the broken down tissues, waste products, and other refuse of the system. On its return journey it commences at the extremities of the venous system, and passing on enters larger veins, then still larger until it reaches the main venous river which pours into the right auricle, as stated at the beginning of this paragraph. The beating of the heart is caused by the alternate contractions and relaxations of the heart in performing the above work. The beats vary with age and temperament. At birth, the beats are about 140 per minute; at one year, 120; two years, 110; during middle life from 70 to 80, being ten more in women than in men; in old age, about 60.

The arteries are a series of elastic canals, which commence with the aorta and by means of divisions and sub-divisions convey the blood to all the vascular parts of the body. The larger arteries are composed of three coats; the smaller have but two coats; the capillaries have but one.

The pulsations of the aorta and its branches constitute the pulse or wave in the arteries.

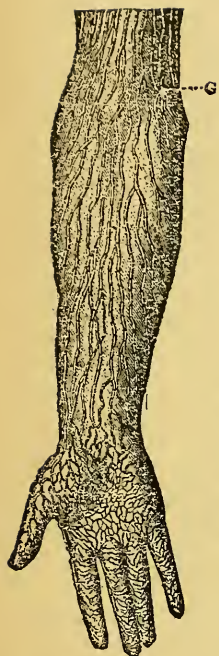
The capillaries permeate the vascular organs in meshes of network bringing the blood in close contact with the tissues. They measure about one three-thousandth of an inch in diameter. The nutritious ingredients in the blood transude through their walls and are appropriated by the tissues beyond. In the glandular organs they supply the substance requisite for secretion; in the villi of the intestine they take up the elements of the digested food; in the lungs they absorb oxygen and exhale carbonic acid; in the kidneys they discharge the products of destructive assimilation collected from other parts. The capillary circulation thus furnishes directly or indirectly the materials for the growth and renovation of the entire body.

As before stated, after the blood has parted with nutriment to the tissues, and absorbed waste products from them, it passes on from the capillaries into larger channels called veinlets, thence to the veins, thence to the heart. Other waste products not so taken up, are carried into the blood by another set of vessels called the lymphatics, which we describe later.

The veins are composed of three coats. In the limbs and external parts of the head and neck they are provided with valves, so arranged that their closure prevents a backward flow of blood.

The blood is eminently "the life," for it is that constituent of the body which either directly or indirectly affords nourishment and life to all the other constituents, whether solid or fluid. If the circulation is affected, the nutrition of some part or organ of the body is thereby cut-off or reduced, and disease inevitably follows. About one-tenth of a person's bodily weight is represented by his blood-supply. Of this quantity, about one-fourth is distributed to the heart, lungs, large arteries and veins; about one-fourth to the liver—one-fourth to the muscles, and the remainder to the remaining organs and tissues. The brain utilizes about one-fifth of the entire quantity of blood.

Besides the blood, there is another fluid which is widely distributed throughout the body. This is called the Lymph, a liquid closely resembling in composition the blood plasma, and containing some of the ingredients of the blood which have traversed the walls of the blood-vessels, and some of the products of disintegration, which, after renovation in the lymphatic sys-



Superficial lymphatics of the hand and forearm. — G, lymphatic gland.

tem, enter the blood and are again serviceable in the human economy. The lymph currents move in thin, delicate vessels called the lymphatics. These vessels are so fine that they cannot be seen readily until injected with quicksilver, and begin as network, or as tubes with free blind extremities, in the interspaces of the connective tissue, or of the capillary blood-vessels. These lymphatic capillaries converge and become larger as they approach the heart. The lymph empties into several of the large veins, and is thus mingled with the venous blood before its arrival at the right side of the heart.

In the course of the lymphatics, everywhere in the body, are numerous glands, called lymphatic glands, whose function is believed to be a renovating one. When these glands are hardened or otherwise altered, in large numbers, health fails and the person grows thin.

It will be seen that the blood takes up the nutritive fluids and gases, and they are by nature's processes converted into the secretions of the various organs, and the materials of the tissues. The natural constitution of the parts, though constantly changing, is maintained in its normal condition through the movement and renovation of the circulating fluids.

The student is urged to acquaint himself thoroughly with the above lesson, and to fix firmly in his mind the facts therein stated. It is necessary that he thoroughly understand the circulation of the blood, as therein lies much that goes to make up the Osteopathic theory and its practice.

## THE NERVOUS SYSTEM

The human body has been likened to a community in which a variety of industries are carried on, each in a different way, but all conducive to the public welfare and all controlled by its official head and his subordinates. The various organs of the body are connected with the centre of operations, the Brain, by means of nerves, which are like so many electric wires running to and from the seat of government of the community. By this arrangement notice of any disturbance is at once reported to headquarters, and the remedy promptly furnished. Over these wires, or rather, over some of them, also is sent the current which furnishes the power by which the various machines are run. If any of these wires become crossed, or if the current is in any way shut off or

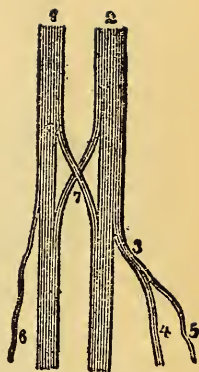


interfered with there will be trouble manifested in that particular part of the machinery dependent upon that particular wire, and probably in other parts of the shop, as the various machines are dependent very much upon each other, and an injury to one is apt to be an injury to all in time.

The general arrangement and structure of the nervous system is as follows:

There are two divisions of the nervous system, viz., the Cerebro-Spinal nervous system and the Sympathetic nervous system. The Cerebro-Spinal division includes all that portion of the nervous system contained within the cranial cavity and the spinal canal, viz., the brain and the spinal cord, together with its nerves which branch off from each. This system presides over the functions of animal life, as volition, sensation, etc. The Sympathetic division includes all that part of the nervous system located, in the main, in the thoracic, abdominal and pelvic cavities, and which is distributed to the internal organs. Its special function is the regulation of involuntary processes, as growth and nutrition.

The nervous system consists of two kinds of tissue, white and gray. These differ from each other not only in color but also in structure and mode of action. The white matter constitutes the bulk of the nervous tissue, and is in large quantity on the exterior of the spinal cord and in the interior and lower surface of the brain. It is a mass of white, semi-solid material, mingled with delicate and transparent connective tissue, forming slender threads, which are called nervous filaments or nerve fibres. Nervous filaments are cylindrical, and running longitudinally through the centre of each is a rounded, semi-transparent band of gray color, known as the axis cylinder, which is the essential element of the nerve fibre. Through it the nerve current is transmitted. These filaments are transmitted, in a varying degree, to all the tissues, and as they emerge from the tissues they come together, forming bundles, which in turn unite with similar bundles and form nerves. The structure of a nerve is similar to that of a cable, the individual threads or wires being united into strands, and the strands into the cable itself. The nervous filaments, however, are not twisted as are the wires of a cable generally, but for the most part lie parallel to one another, each being separate from its beginning to its end. Nerves are of various



Mode of branching of nerves.—1, 2, two bundles of nerve fibres; 3, a branch of three fibres; 4, branch of two fibres; 5, 6, branches of single fibres; 7, decussation between two nerves.

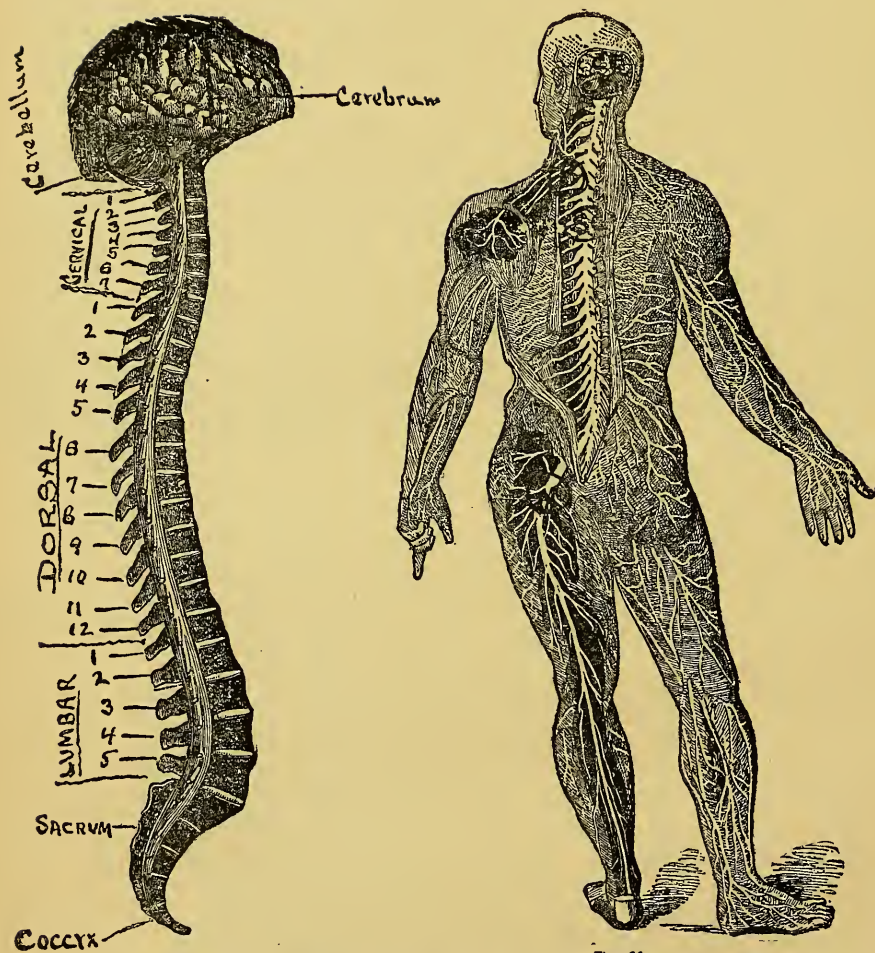


Fig. 66.

Posterior view of the spinal cord,—a portion of the cerebrum and cerebellum, and some of the nerves of the cerebro-spinal system. On the left side of the body some of the tissues are removed to show the deeper nerves, while the right side shows certain superficial ones.—CE, cerebrum; CER, cerebellum; B, nerves distributed to the arm; SC, spinal cord; SN, sciatic nerve.

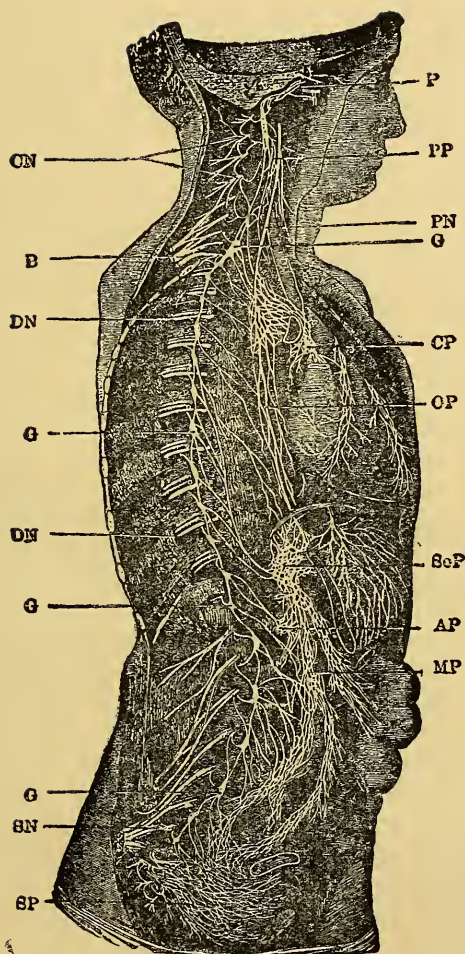


Fig. 75.

Vertical section of body, showing sympathetic nerves and ganglia of right side, and their connection with the cerebro-spinal nerves. — *Cerebro-spinal system*: CN, cervical nerves; B, nerves distributed to the arm; DN, dorsal nerves; SN, sacral nerves, some of which are distributed to the leg; PN, pneumogastric nerve. *Sympathetic system*: P, plexus in the head; PP, pharyngeal plexus; CP, cardiac plexus; OP, oesophageal plexus; SoP, solar plexus; AP, aortic plexus; MP, mesenteric plexus; SP, sacral plexus; G, some of the ganglia of the sympathetic system.



sizes, ranging from a very small size to the largest, which are the sciatic nerves located in the back part of the thighs, which are as large as the circumference of the tip of the little finger of the average adult. Each nerve is sheathed with what is called the neurilemma, which also contain capillary blood-vessels. The sole function of the nerves is to transmit nervous force and impressions. The student will find it convenient to think of the nerves as electric wires supplying the different parts and organs of the body with its necessary nerve-current.

The brain is the great mass of nerve tissue which occupies the cranial cavity. It consists of three parts, viz.: The Cerebrum, or brain proper, which is the largest and occupies the upper, front, middle and back portion of the cranial cavity; next, the Cerebellum, or "little brain," which about fills the lower and back portion of the cavity; and thirdly, the Medulla Oblongata, the smallest, which is the broadened commencement of the spinal cord, lying below and in front of the Cerebellum.

Both the brain and the spinal cord are protected from shock and friction against their strong, bony encasements by membranes, by connective tissue and by fluid between certain of the membranes. The outer membrane, which is called the Dura Mater, is brown, thick and very resisting, and lines the cranial cavity and the spinal cord, and has various shelf-like expansions in the former for the support of different portions of the brain. Under the Dura Mater is the arachnoid, a closed sac of serous membrane which secretes an albuminous, lubricating fluid and which affords the brain and spinal cord considerable protection and freedom of movement with its soft and yielding liquid contents. Closely adherent to the brain and spinal cord, and dipping down into the furrows, is the third and last covering, the Pia Mater, which is really a fine network of capillary blood-vessels in the meshes of a delicate connective tissue. Through these capillaries and the large blood-vessels which enter at its base the brain is abundantly supplied with blood, receiving about one-fifth of the entire volume of blood, although it is not more than one-fortieth of the weight of the body. This large proportion of blood is needed for the active work of the brain, and unless the brain is well nourished it is unable to send forth the proper nerve impulses and consequently the entire system suffers.



The Cerebrum is the organ of the Mind, and is that part of the nervous system through which the intellectual and moral faculties act. The Cerebellum has for its function the co-ordination or harmonious regulation of the movements of the voluntary muscles. The Medulla Oblongata is the upper enlarged end of the spinal cord, which it resembles in its arrangement of gray and white matter. From its interior and from the under surface of the cerebrum arise what are known as the Cranial Nerves, which emerge from the cranial cavity through openings in the base of the skull and are distributed to various parts of the head and neck, to the organs of special sense, and to some of the thoracic and abdominal organs. In its posterior and lowermost portion nerves have their origin, which control indirectly the function of respiration.

The Spinal Cord, or spinal marrow, is continuous with the Medulla Oblongata and fills the spinal canal in the vertebral column. It is a mass of nerve tissue, which becomes enlarged in the cervical and lumbar regions, at the points where the nerves supplying the upper and lower extremities are given off, and its lower ends send forth prolongations through the sacrum, which from their fancied resemblance to the hairs of a horse's tail are called the Cauda Equina. The spinal cord is composed of a central mass of gray matter, extending nearly its whole length, surrounded by longitudinal bundles of nerve filaments, the whole being enclosed by the several membranes heretofore described. The gray matter is arranged somewhat like a double crescent united by a band of gray matter, the respective ends of these united crescents being called the Anterior and Posterior Horns. Opposite them, at regular intervals, filaments of the spinal nerves emerge from the cord. The white matter of the cord lying between the posterior horns and posterior fissure constitutes the right and left posterior columns; and that between the posterior horns and anterior horns, the right and left lateral columns; that between the anterior horns and anterior fissure, the anterior columns. These columns are connected with filaments of the spinal nerves, and thus the spinal cord is a conducting medium as well as a nerve centre. The posterior columns of the spinal cord convey sensory impressions to the cerebrum, and the antero-lateral columns convey motor impulses from the cerebrum.

The Spinal nerves consist of thirty-one symmetrical pairs of nerves, which are connected with the spinal cord by so-called Roots. Each nerve has an anterior and a posterior root. The posterior roots, upon each of which is a ganglion, with their respective nerves, are known as Sensory roots and nerves, because they convey sensations; while the anterior roots and nerves are known as the Motor roots and nerves, because they convey motor impulses.

Of the Cranial nerves, one of the most important for the consideration of Osteopaths is the Pneumogastric, or twelfth pair of cranial nerves. The distribution of these nerves is wider than that of any nerves of the body, and their influence greater, for they supply the larynx, pharynx, heart and lungs, the stomach, intestines, liver and other abdominal organs, giving them sensibility and motion. The Pneumogastric nerves are connected at various points with the sympathetic system of nerves.

The Sympathetic system of nerves, or as it is sometimes called, the Great Sympathetic Nerve, consists of a double chain of ganglia on the sides of the spinal column; also of scattered ganglia in the head, neck, chest and abdomen. These ganglia are connected with each other by filaments and with the Cerebro-Spinal nervous systems, by motor and sensory nerves. From them numerous and very delicate fibres are distributed chiefly to the alimentary canal and its appendages, the heart, blood-vessels and other organs. The nerves distributed to the blood-vessels are known as the Vaso-Motor nerves, and the continuous muscular action they furnish is known as the "tone" or "tonic contraction" of the arteries.

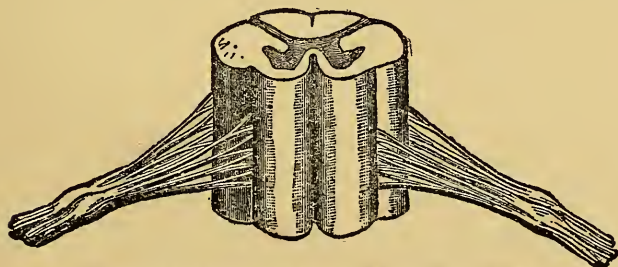
At various points the sympathetic nerves, with their ganglia, form about certain large arteries matted nets of "Plexuses." A typical one is the Solar Plexus (sometimes called the Abdominal Brain). This is situated in the abdomen, some of its filaments accompanying the branches of the aorta distributed to the stomach, intestines, spleen, pancreas, liver and other organs. The Sympathetic system controls, for the most part, the involuntary processes, such as circulation, respiration and digestion, so that we do not ordinarily notice that we have a heart, lungs and stomach, so quietly does this vital machinery work. Yet owing to the connection of the sympathetic with the cerebro-spinal nerves, the functions of the

internal organs may be disarranged by apparently slight causes. The student of Osteopathy will bear this in mind as he progresses with his lessons.

The peculiar power transmitted by the nerves is known as Nerve Force (the ancients, believing it to be a fluid, called it "the nervous fluid"). In character and rapidity of movement it seems like the electric current. It is put in motion by stimuli, within or without the body, as, for example, food, waves of light and sound, the emotions, the application of electricity and other agents; and when aroused it makes itself manifest in voluntary and involuntary functions and in the various motions and sensations incident to the body.

Nerve force is sometimes said to be "transferred," i. e., pain or some other sort of sensation is felt in an altogether different part of the body from that where the stimulus really is; for example, in disease of the hip-joint, pain in the knee is a common sign, while pain at the hip is comparatively rare. An impression conveyed to a nerve centre by a sensory nerve, and thence reflected to the motor nerve, results in muscular movement or secretion, which is said to be the effect of Reflex Action.

Reflex Action occurs frequently in the body and in both divisions of the nervous system. For the most part it is performed without the knowledge of the individual, but when it occurs through the brain it becomes appreciable, and may even be voluntarily aided. For example, the act of swallowing is mainly the result of an unconscious reflex action by the mere contact of substances with the pharynx. But if an irritant, such as the end of the finger, or a feather, be introduced in the throat, an involuntary effort at expulsion is made.



Section of Spinal Cord with roots of Spinal Nerves.

## QUIZ QUESTIONS

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1. State theory of treatment of fevers.
  2. State how you would give pressure on vaso motor center.
  3. State treatment for influenza.
  4. State treatment for diphtheria.
  5. State treatment for displacement of uterus.
  6. State treatment for menstrual troubles.
  7. How many bones are in the skeleton?
  8. Upon what vertebræ does the skull rest and move?
  9. How many vertebræ comprise the spinal column? Name them.
  10. Describe the different kinds of muscles.
  11. Describe the course of the circulation to and from the heart.
  12. What is the lymph?
  13. Name the two divisions of the nervous system and describe each.
  14. Name and describe the three parts of the brain.
  15. Describe the spinal cord.
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Our concluding part, Part V, will comprise Lesson XI, continuing Osteopathic Anatomy and Physiology, and Lesson XII, containing advice as to building up and conducting an Osteopathic practice, practical advice and suggestions and miscellaneous information.



# **LESSON XI**

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## **OSTEOPATHIC ANATOMY AND PHYSIOLOGY**

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### **ORGANS OF RESPIRATION**

The organs of respiration comprise the lungs and the air passages leading to them. The lungs are two in number, and are located in the thoracic cavity, one on each side of the median line, and separated from each other by the heart and its great blood-vessels, and by the larger air tubes. Each lung is cone-like in shape and extends upward to the lower border of the neck, and, excepting where the large blood-vessels and tubes enter, is covered with a strong but delicately constructed sac, known as the pleural sac. These sacs are together known as the pleura, and the space inclosed by each is known as the pleural cavity. One wall of each sac is closely adherent to the lung and the other to the concave inner wall of the chest. The lining of each sac secretes a fluid that allows the inner surfaces of its walls to glide easily upon each other in the process of breathing.

The Air Passages are the interior of the nose, pharynx, larynx, windpipe or trachea, and the bronchial tubes.

The Nose is lined with a mucous membrane, kept moist by the secretions of its mucous glands and warm by being richly supplied with blood, the air, therefore, in its passage through the nostrils coming in contact with a large extent of warm mucous membrane. The Pharynx is a passage for air as well as food, though the organs of respiration are sometimes said to begin with the larynx, which is located in front of and adjoining the upper end of the œsophagus. It is composed of several large cartilages controlled by muscles, and is so arranged as to form a kind of box, and has about the middle of it a dilatable opening called the glottis, through which respiration is performed, and by means of which articulate sounds are produced.

The Trachea is a membranous, elastic tube which extends

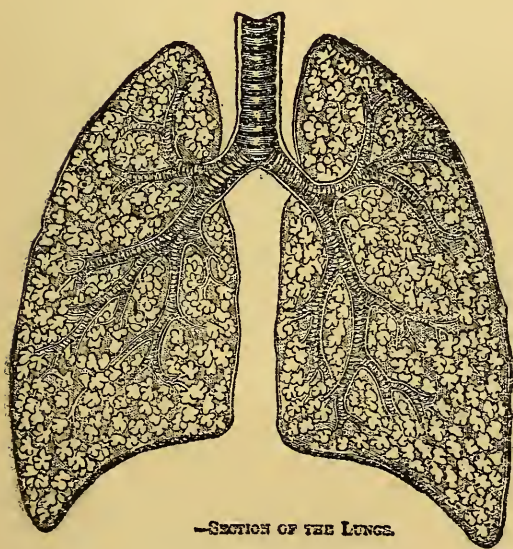
downward from the larynx. Nearly opposite the third dorsal vertebra it divides into smaller tubes, called the right and left bronchial tubes, which enter the lungs. These in turn divide and subdivide like the branches and twigs of a tree, becoming smaller and smaller, until they finally end in lobules, i. e., oval sacs or bags. Covering the lobules, and dipping down between the adjoining walls of the air vesicles, is the network of capillary blood-vessels referred to in our lesson on the Circulation. The peculiar arrangement of the walls of the lobules affords an extensive surface of very delicate membrane for the aeration of blood, it being estimated that the extent of surface of all the vesicles is about 1,400 square feet, and that in the course of twenty-four hours about 20,000 litres (35,000 pints) of blood traverse the capillaries, the blood corpuscles passing in single file and being exposed to air on both surfaces.

The process of respiration consists of inspiration, or breathing in, and expiration, or breathing out. The changes that take place in the air during respiration are as follows: Inspired air is robbed of a large part of its oxygen, which is appropriated by the blood between the adjacent walls of the air vesicles. At the same time the air acquires various matters, the results of tissue changes which have been brought to the air cells by the circulation. Hence expired air is charged with noxious materials and will not sustain combustion or maintain life. It contains carbonic acid in excess and small quantities of various excretory products similar to those excreted by the skin and kidneys, also an animal product which is prone to putrefy and is offensive.

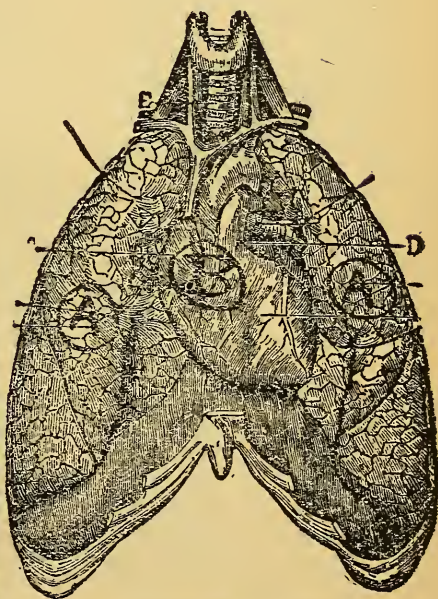
There are changes effected in the blood during respiration. The inhaled oxygen changes the color of the blood from the blue in the pulmonary veins to the scarlet in the capillaries of the lungs. The blood as sent from the right side of the heart to the lungs is venous, dark and impure, being laden down with waste products. But when it returns to the left side of the heart, from the lungs, it has become arterial, bright, pure and charged with nourishment for the tissues. This marvelous change is effected by the blood gaining oxygen and losing carbonic acid in the lungs.

The Animal Heat is produced in proportion to the activity of internal changes, which changes are especially indicated

by the absorption of oxygen and the exhalation of carbonic acid. The temperature of man in health is  $98\frac{1}{2}$  to 99 degrees F. A temperature of 105 degrees generally marks a severe attack of some disease; one above 105 denotes great danger, and a temperature of 110 to 112 is very quickly fatal. A temperature of 96 degrees denotes great danger and is a symptom of approaching collapse. Below 92 the probability of recovery is small.



—SECTION OF THE LUNGS.

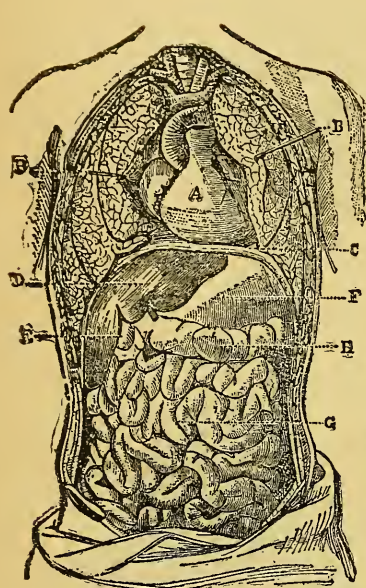


—ORGANS OF THE CHEST.

A, Lungs.  
B, Heart.

D, Pulmonary Artery.  
E, Trachea.

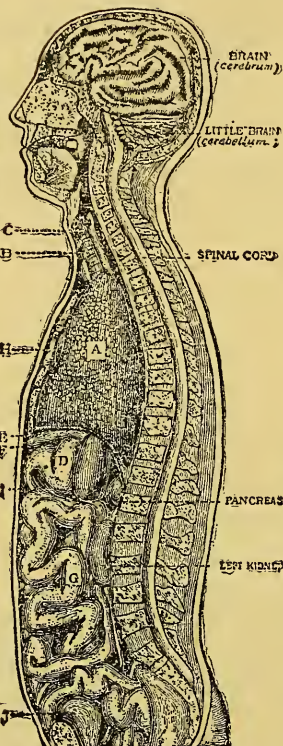




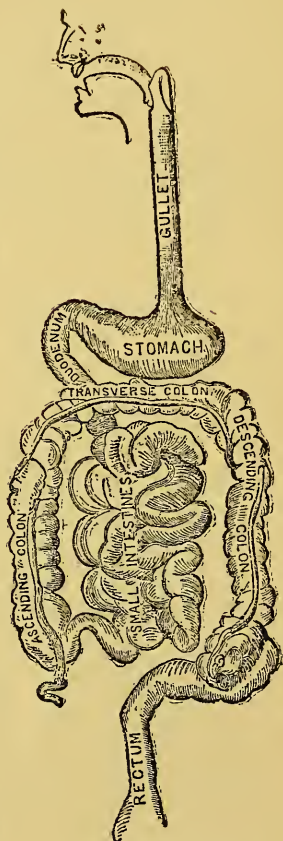
SECTION OF CHEST AND ABDOMEN.

A, Heart.  
B, The Lungs.  
C, Diaphragm.  
D, The Liver.

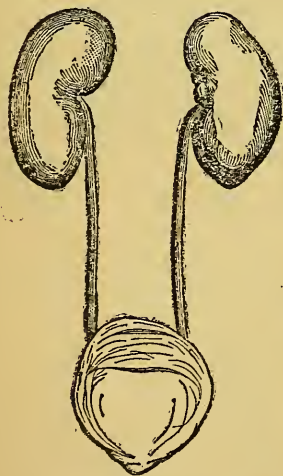
E, Gall Bladder.  
F, Stomach.  
G, Small Intestine.  
H, Large Intestine.



Side view of the head and trunk, the bones and soft coverings of the cavities being removed, and the face, throat, and spinal column given in longitudinal sections. The organs are in relief. A, lungs; B, trachea; C, œsophagus; D, stomach; E, diaphragm; F, a small portion of the liver; G, intestines; H, heart; I, spleen; J, bladder.



ALIMENTARY CANAL—Including Gullet, Stomach, Large and Small Intestines.



THE KIDNEYS AND BLADDER.



A gastric gland.



STRUCTURE OF A SALIVARY GLAND.



## THE DIGESTIVE APPARATUS

It is well known that the maintenance of life depends upon the vitality of the innumerable cells of which each body is composed, and this vitality is largely influenced by food. From the food the blood is fed; from the blood the tissues are fed. The conversion of food in the body into blood is called Digestion. The organs of Digestion consist of the Alimentary Canal and its accessory organs.

The Alimentary Canal is a muscular membranous tube, measuring in adults between 25 and 30 feet in length. It begins at the mouth and extends downward throughout the body. In it the digestion of the food is performed. It is lined throughout its entire length with a delicate but firm tissue, which is continuous with a similar lining of the air passages, the whole being known as the Mucous Membrane or "internal skin." This Mucous Membrane varies in thickness and general arrangement in different portions of the canal and contains numerous follicles for secretion and excretion, and its surface is covered with cells variously arranged. In addition to the digestive fluids which it secretes it contains a viscid fluid called mucus, which protects it and enables its opposing surfaces to glide easily upon each other in the various movements of the canal incident to digestion. The Alimentary Canal varies in size, form and structure, thereby forming the mouth, pharynx, oesophagus, stomach and intestines.

The mouth and its appendages are concerned in the earlier steps of digestion, and in health are supplied with a fluid called saliva. Behind the mouth, and at the first bend of the Alimentary Canal downward, is the pharynx, which is partly separated from the mouth by a movable curtain-like muscular flap called the soft-palate, and surrounded by three obliquely-placed muscles called the constrictors of the pharynx, which overlap each other and assist in the act of swallowing. The Oesophagus, or gullet, is the next portion of the Alimentary Canal, and connects the pharynx with the stomach. It is about nine inches long and lies upon the front and upper portion of the spinal column. Its walls contain certain muscular fibres which serve to propel the food toward the stomach. The wave-like motion caused by the alternate contraction and

relaxation of these fibres is called the Peristaltic Motion, and is similar to that of the intestines.

The Stomach is somewhat pear-shaped, the larger end being upon the left side of the body, beneath the ribs, in contact with the spleen, to which it is joined by a ligament of connective tissue. The smaller end is on the right side of the body, under the liver. It has two openings: one where the œsophagus enters, called the Cardiac opening because its location is near the heart, from which it is separated by the diaphragm; the other is styled the Pyloric or "gate" opening, because it is provided with a muscular valve known as the pylorus or "gate keeper," the object of which is to prevent the premature exit of food from the stomach.

The lining of the stomach is very soft and delicate and is amply supplied with blood-vessels, mucous glands and gastric tubules or follicles. These last secrete a thin, acid fluid, known as Gastric Juice. The muscles in the walls of the stomach and outside of its mucous membrane are involuntary and are arranged in three layers. Their alternate contraction and relaxation serve to agitate thoroughly the contents of the stomach. The remaining portion of the Alimentary Canal consists of the intestines, or bowels, which occupy the abdominal cavity, and are divided into the small and large intestines.

The Small Intestine is a cylindrical conduit, coiled upon itself and extending from the pylorus to the large intestine, its opening into which is guarded by the ileo-coecal valve, an arrangement which readily admits of the passage into the large intestine of refuse material, but interposes a very considerable barrier to its return. In the walls of the intestine, throughout nearly its entire length, are involuntary muscular fibres, which are abundantly supplied with a network of nerves. The lining of the intestine is very velvety, and throughout the larger part of the canal is arranged in transverse shelf-like folds, more or less circular in form, which by a winking motion sway backward and forward in the fluids of the intestines, retarding the passage of food and providing a very large surface for secretion and absorption. The velvety condition of the mucous membrane is due to its numerous cone-like elevations, presenting an appearance like plush, and known as the intestinal villi. There are more than ten million of these villi. Within them are numerous blood-vessels, which

empty into a large vein called the portal vein, which conveys to the liver certain products of digestion. They contain also other vessels, known as lacteals, which are a part of the wonderful system of vessels called the lymphatics, which are fully described in our lesson on the Circulation. These lacteals commence probably as blind extremities in the intestinal villi and empty into the receptacum chyli, a pouch lying upon the lumbar vertebrae. This pouch connects with the thoracic duct, a quill-like tube extending upward and emptying into the left subclavian vein the large vein under the left clavicle or collar-bone.

In the mucous membrane of the intestine are numerous follicles, some of which secrete mucus and some a digestive fluid known as intestinal juice. Within about three inches of the pylorus, the duct from the gall bladder of the liver, and that from the pancreas, open into the intestine, admitting the bile and pancreatic juice.

The large intestine begins at the ileo-coecal valve, in the right lower portion of the abdominal cavity, ascends upon the right side of the cavity, crosses over to the left underneath the stomach, and descends upon the left side, terminating the alimentary canal. Its commencement is known as the Coecum, which is a rounded cavity having a cylindrical tube from one to five inches long projecting from its lower portion, which tube is known as the vermiform appendix. Its uses are not fully known, some claiming it to be an attachment which was at one time needed to perform certain functions, but which has now outlived its usefulness; while others claim that its office is to furnish a fluid which lubricates the intestine. Its best known office seems to be to furnish Drug Doctors with cases of Appendicitis upon which to perform dangerous and expensive operations. Osteopathy affords a simple, practical, effective cure for Appendicitis without the risk of the knife.

The accessory digestive organs are the teeth, salivary glands, liver and pancreas. The spleen has been styled an accessory organ, but its function is not definitely known.

The teeth are the organs of mastication, by which the food is thoroughly broken up into minute fragments and thus prepared for the softening and digestive action of the saliva.

The Salivary Glands are important accessory organs of digestion. Their secretions, together with that from the glands of the general mucous surface of the mouth, constitute the

Saliva. This secretion is a thin alkaline fluid, whose function is to dissolve the particles of food, thus enabling us to taste; to soften food so that it may be the more readily chewed and swallowed; to keep the mouth moist and lubricated; and, finally, to transform some of the starch in food. A man secretes from one to three pounds of saliva per day.

The Pancreas is an elongated fleshy organ near to and just behind the stomach, which secretes the pancreatic juice, a viscid alkaline fluid which is poured into the upper portion of the small intestine. It acts principally upon the fat in food.

The Liver is the largest gland in the body. It secretes the bile, which is carried by a multitude of fine canals within the substance of the liver into a main tube which opens into the upper part of the small intestine before described. Part of this bile, however, passes through a branch of this main tube to the Gall Bladder, there to be stored for future use. This reservoir is a pear-shaped bag, about three inches in length, attached to the under side of the liver.

In addition to the secretion of bile, the liver has another important function, the glycogenic function, so named from the substance called glycogen. This substance is formed in the liver from the digested materials brought to that organ by the portal vein, but is derived chiefly from the starch and sugar absorbed in the digestive process. It is formed during digestion and stored in the liver, to be gradually transformed, in the intervals of digestion, into glucose, or a sugar similar to grape sugar.

The Bile is of a yellowish-green color and is constantly secreted; but the flow is increased soon after digestion in the stomach begins. About two and one-half pounds are secreted per day. It assists the pancreatic juice in preparing fat for absorption and assists in the prevention of decomposition and putrefaction of food during its passage through the intestines and also increases the muscular action of the intestines.

The various steps by which food is converted into the tissues of the body are: Mastication, Insalivation, Deglutition, Stomach and Intestinal Digestion, Absorption, Circulation and Assimilation.

When food has been received into the mouth it is masticated by the teeth, assisted by the action of the tongue, lips



and cheeks. At the same time it is softened by insalivation, or a thorough mixture with saliva, and during this process part of the cooked starch in the food is changed into dextrine, and then into glucose, and is thus rendered soluble. This change is effected by the ptyaline of the saliva, which acts as a ferment and changes the chemical constitution of any substance for which it has an affinity.

The food, having been properly prepared, now moves toward the pharynx to be swallowed. The passage of the food to the stomach is then effected by the peristaltic action of the œsophagus. When the food reaches the stomach digestion begins. The mucous membrane becomes red from its engorgement with blood, and the gastric juice pours out in abundance. The latter dissolves the connective tissue of meat, releases fat from its envelopes by breaking them up, and transforms some of the albuminous material, such as lean meat, the gluten of wheat and white of eggs, into albuminose, in which form they are capable of being absorbed. The transformation is effected by the ferment action of an organic ingredient of the gastric juice known as pepsin, in connection with the acid ingredient.

While the above processes are being carried on, the fluid portion of the food, both that which has entered the stomach as fluid and that which has been liquefied by stomach digestion, is rapidly taken up by the absorbents of the stomach and carried into the blood, while the more solid portions are thoroughly intermingled with the gastric secretions by the churning action of the muscles of the stomach. The unabsorbed food begins slowly to leave the stomach in about half an hour after its introduction, in the form of a gray semi-fluid, usually called chyme, which is a mixture of some of the sugar and salts of the food, of transformed starch or glucose, of softened starch, of broken fat and connective tissue, and of albuminose.

The chyme, upon entering the intestine, comes in contact with the bile and the pancreatic and intestinal juices, and intestinal digestion commences. By means of these fluids most of the food not already softened is dissolved. From the digestion in the small intestine there results three substances, *viz.*: (1) Peptone, from the digestion of albuminous matters; (2) Chyle, from the emulsion of the fats; (3) Glucose, from the transformation of starch. These substances are to a large extent carried into the blood and become a part

of it, while the undigested food passes on into the large intestines or bowels.

Absorption, or the process by which liquefied and transformed food is taken up by the veins and lacteals, is effected by endosmosis. By the blood vessels of the stomach, water, and whatever is dissolved in the gastric juice, are rapidly absorbed and carried by the blood in the portal vein to the liver, together with the peptone, glucose and molecular fat which has reached the portal vein through the blood-vessels of the intestinal villi. This blood, after traversing the liver, reaches the right side of the heart. On the other hand, the chyle passes through the lacteals into the thoracic duct, together with the lymph from the lower portions of the body, and is conveyed to the left sub-clavian vein, and so into the blood. We have explained in our lesson on The Circulation the process by which the blood carries the digested materials to the various tissues of the body and by which each cell and tissue appropriates material so brought for its growth and development.

Besides the organs already described, the abdominal cavity contains other important organs, the Kidneys, two in number, located in the loins behind the intestines, one on each side of the spinal column. They are shaped like a bean, being about four inches long, two inches wide and one inch thick. The function of the kidneys is to purify the blood by removing from it a poisonous substance called urea and certain waste products. If their action is interfered with, blood poisoning takes place, on account of the accumulation of urea and effete materials in the system. The watery fluid secreted by the kidneys is carried by two tubes, called ureters, to the bladder.

The Bladder is located in the pelvis, behind the pubes, and serves as a reservoir for the urine.

## THE SKIN

Some writers have likened the skin to a sentinel whose duty is to guard the body from attacks of the enemy, from both within and without. It consists of two distinct layers, the Dermis and Epidermis. The Dermis is also known as the Cutis Vera, or true skin, and the latter as the Cuticle, the scarf skin and the false skin.

The Dermis, or deeper layer, is composed of a dense net-

work of fibrous and elastic tissue, in the meshes of which are muscular fibres, blood and lymphatic vessels, nerves, sebaceous and sweat glands, hair and hair follicles. Under it, and closely blended with it, is the sub-cutaneous tissue, which contains blood-vessels, lymphatics, nerves, muscular fibres and adipose tissue.

The Epidermis, or superficial layer of the skin, is composed entirely of cells and is devoid of blood-vessels and nerves. By attrition and chemical action, the outer cells of the epidermis are almost constantly being removed, while the deeper ones, formed from the dermis, are being pushed forward to take their place, growing harder and flatter as they approach the surface. Having no nerves, the epidermis is not sensitive; and being without blood-vessels, can not bleed. It is adapted as a covering and protection to the sensitive tissues beneath.

Classed as appendages of the skin are the sweat and sebaceous glands (with their ducts) and the hair and nails. In the dermis and sub-cutaneous tissue are the sweat glands, consisting of numerous coils of exceedingly minute tubing, surrounded on all sides by a fine network of blood-vessels; the lower extremity of each coil being closed and turned toward its centre. From the blood in the blood-vessels the perspiration is being constantly filtered out by the tubular sweat glands. It is estimated that there are nearly three million sweat glands on the human body, and the entire length of the secreting tubes is said to be between two and three miles. The purpose of these glands is to eliminate the debris of used-up tissues and to keep the body comfortable in varying temperatures and conditions. The amount of perspiration excreted in twenty-four hours is from two to three pounds, under ordinary circumstances, but men working in iron mills, etc., may perspire as much as three pints in an hour. The sebaceous glands secrete an oily matter which lubricates the skin and hair. They are located in the Dermis, and are simple or compound follicles.

The hair bulb or root enlargements are inserted either in special hair sacs or follicles or in sebaceous follicles. Each hair is oval or somewhat flattened, and is composed of a pith-like substance in the centre, surrounded by a fibrous tissue, and this by a so-called cuticle of epidermis-like cells. Hairs



THE SKIN

are well supplied with blood at the base of the hair follicles, and are living tissues, strong and elastic.

The nails are modifications of the epidermis, identical in formation, but peculiar in appearance and manner of growth. The nail rests in a matrix, which is a fold of the dermis, particularly rich in papillæ, from which the nail cells are produced. When nails are destroyed, new ones will be formed if the matrix is uninjured.

The functions of the skin are six in number, as follows:

(1) A covering and protection to the external surface of the body.

(2) An organ of sensation.

(3) An organ of excretion.

(4) A regulator of temperature.

(5) An organ of absorption. This is its least known function, but it is a physiological fact that the skin will absorb certain drugs, poisons, oily substances, etc.

(6) An accessory organ of breathing. It absorbs a small amount of oxygen and gives out a larger amount of carbonic acid, performing, it is estimated, about one-fiftieth, or more, of the respiratory function.

Owing to the above named qualities or functions the skin is a valuable ally to the lungs, liver, bowels and kidneys, and its condition has much to do with the general health.

## THE MALE GENERATIVE ORGANS

The organs of generation in the male consist of the Penis, the Testes, the Prostate Gland, Cowper's Glands and the Vesiculæ Seminales.

The Penis consists of erectile tissue arranged in three cylindrical compartments, each surrounded by a fibrous sheath. It is the organ of copulation, and consists of a root, body and extremity, the latter being known as the *glans penis*.

The Testes or testicles are glandular organs, suspended in the scrotum by the spermatic cords, and secrete the seminal fluid. The scrotum is the pouch containing the testes and a part of the spermatic cord. Its appearance differs under different aspects and influences. In the young and robust man it is short, corrugated and closely surrounds the testes, while in the old or weak man it becomes extended and flabby. Warm weather causes it to extend and become loose and cold weather



the reverse. The spermatic cord, which is composed of arteries, veins, lymphatics, nerves, the excretory ducts of the testicle, etc., support the testes in the scrotum.

The Prostate Gland is a muscular, glandular body located immediately in front of the neck of the bladder. It resembles in size and shape a horse chestnut, and when enlarged may be distinctly felt by the finger inserted in the rectum.

Cowper's Glands consist of several lobules held together and are about the size of peas. They are situated one on each side of the membranous portion of the urethra, close above the bulb.

The Vesiculæ Seminales, or seminal vesicles, are small pouches lying between the rectum and the base of the bladder. They serve as reservoirs for the semen, also secreting a fluid to be added to the secretions of the testicles.

Erection of the penis is caused by the overfilling of the organ with blood, the size of the organ being increased very materially, and the blood pressure being largely increased. There is also a higher temperature, with at first a pulsatile movement, increased consistence and then erection of the organ. The semen passes from the testes to the Vesiculæ Seminales, and emission occurs by strong peristaltic contractions of the parts controlling the act.

It has long been known that percussion and manipulation of the sacral region and buttocks acted as a stimulant to the sexual organs, and was a valuable remedy for impotence in man and sterility in women. The ancient Romans practiced whipping of the buttocks for sexual weaknesses, and libertines have employed a vigorous spanking for the same purpose. Cases have been known where whipping of boys has given rise to involuntary action of the genital organs, and the same result has been noted in cases where men have been punished at the whipping post. The explanation of the above stated phenomena is to be found in the fact that the nerves controlling these parts may be reached and stimulated by manipulation and movements applied to the sacral region, the nerves thereby being freed and stimulated and allowed to perform their natural functions.

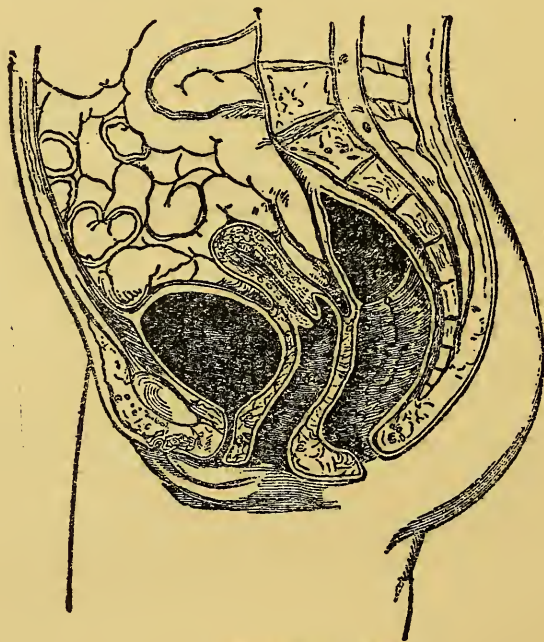
## FEMALE GENERATIVE ORGANS

The external generative organs of the female are the Mons Veneris, the Labia Majora, the Labia Minora, the Clitoris, the

Meatus Urinarius and the Orifice of the Vagina. The term Vulva, as generally applied, includes all these parts.

The Mons Veneris is a round eminence in front of the pubis symphysis, formed by a collection of fatty tissue beneath the integument.

The Labia Majora are two prominent longitudinal cutaneous folds extending downward from the Mons Veneris to the anterior boundary of the perineum.



Female Pelvic Organs.

The Labia Minora, or nymphæ, are two folds of mucous membrane, hidden posteriorly in the Labia Majora, but anteriorly they embrace the Clitoris, forming its prepuce.

The Clitoris is an erectile organ, analogous to the penis in man. It is partially hidden by the Labia Minora. Its body is short and is concealed behind the Labia. Its extremity or glans is a small rounded tubercle, which is extremely sensitive and easily excited.

The Meatus Urinarius is the orifice of the urethra, and is

located near the margin of the Vagina, about an inch below the Clitoris.

The Orifice of the Vagina is below the Meatus Urinarius and is surrounded by the sphincter vaginæ muscle. It is usually partly closed by the hymen in the virgin. The hymen is a membranous fold, which closes to a greater or less extent the opening of the Vagina. Copulation and other causes rupture the hymen, although cases have been known where it remained after copulation.

The internal generative organs of the female are the Vagina, the Uterus and its appendages, the Fallopian Tubes, the Ovaries and their ligaments and the Round ligaments.

The Vagina is situated in front of the rectum and behind the bladder, and extends from the Vulva to the Uterus. It curves upward and backward.

The Uterus is a hollow, pear-shaped muscular organ, about three inches long, two inches broad and one inch thick. It is the organ of gestation, receiving the fecundated ovum in its cavity, supporting and retaining it during the development of the fetus.

The Fallopian Tubes are really the ducts of the Ovaries. They convey the ova from the Ovaries to the cavity in the Uterus. They are two in number, one on each side, each tube being about four inches in length.

The Ovaries are oval-shaped bodies, about an inch and a half in length, three-quarters of an inch in width and about a third of an inch in thickness. They are analogous to the testes in the male.

Puberty in the female begins from the thirteenth to fifteenth year in temperate climates, although much earlier in the tropics. Between the ages of forty and fifty years the procreative function ceases in the female, the menses ceasing.

Menstruation is the term applied to the monthly flow from the genitals of the female. It lasts usually three or four days. The normal period between periods is twenty-eight days.

### QUIZ QUESTIONS

1. Name and describe the Organs of Respiration.
2. What are the changes effected in the blood during Respiration?
3. What is the temperature of a man in health?
4. Name and describe the Organs of Digestion.

5. Describe the functions of the Liver.
6. What is the Bile, and what is its purpose?
7. Describe the Kidneys, and state their purpose?
8. Describe the Skin.
9. What are the purposes of the Sweat Glands?
10. State the amount of Perspiration excreted in twenty-four hours.
11. Name the Male Generative Organs.
12. State the theory of the treatment for impotence and sexual weakness.
13. Name the Female Generative Organs (external).
14. Name the Female Generative Organs (internal).
15. State the age of puberty in females.
16. When do the menses cease?



## LESSON XII

### MISCELLANEOUS INFORMATION

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While Osteopathic treatment can be administered on a bed, couch or reclining chair, etc., the best plan is to have an Osteopathic table, measuring 2 feet 6 inches high, 2 feet 6 inches wide, and about 6 feet long. This table can be made as plain or as elaborate as the wishes and purse of the operator may indicate. A cheap pine table, of the above dimensions, with a blanket or bed-quilt spread over it, and a pillow at the head, will answer very well, where economy is desirable. The more expensive tables are upholstered with leather, or some durable material. The table should of course be strongly made, and capable of supporting the weight of the patient without a strain.

The question is often asked, "Must the patient remove his or her clothing?" The answer is that the less clothing, the better the operator can reach the parts, but when the patient is of the opposite sex to the operator some discretion must be used. In all cases, sufficient clothing should be removed to enable the operator to administer the manipulations and movements without being unduly hindered. Many Osteopaths have a loose robe of some soft material, fashioned somewhat after the famous "Mother Hubbard" gowns of a few years ago, which they keep in their office for the use of their female patients. This, of course, necessitates the use of a dressing room, which is a good thing to have in any event. It is not necessary to expose the person of the patient, except in very rare cases, and the operator should use delicacy in this matter, so as not to shock the sense of modesty in the patient.

The operator should give his treatments in a slow, careful, gentle manner, never hurrying through. The patient should be taught to thoroughly relax the muscles and take the tension off of every nerve, and lie perfectly passive and at rest.

The operator should refrain from giving vigorous treatments to a woman in pregnancy, as cases have been known in which an unduly vigorous treatment resulted in bringing on a miscarriage. In fact, it is better to avoid giving treatments to women in this condition, unless it be a light treatment of the head, neck, etc. Drawing the arms above the

head and pressing at the same time on the spine in the lower dorsal region, or flexing the legs against the chest, are two particularly dangerous movements at this time, and we especially caution you against giving same, under such circumstances.

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## PRACTICE

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We are supposing that you have taken up the study of Osteopathy with a view toward changing your present occupation after you have fully acquired the working principles of Osteopathy, and have enough practice in sight to justify you in giving up your present work. You begin with the first lessons, and after mastering the instruction therein imparted, you pass to the second, and so on. You should have some one upon whom you could practice the different manipulations and movements, thus familiarizing yourself with their principles and educating the hand as well as the head. You should practice the manipulations and movements until they come as natural and easy to you as any other familiar movement, such as handling the pen; knife and fork, etc. When your hands "learn to do the work themselves," thus leaving the head clear for planning out the most desirable combinations of treatment for each particular case, etc., you will be in an excellent condition to successfully treat any case that may present itself.

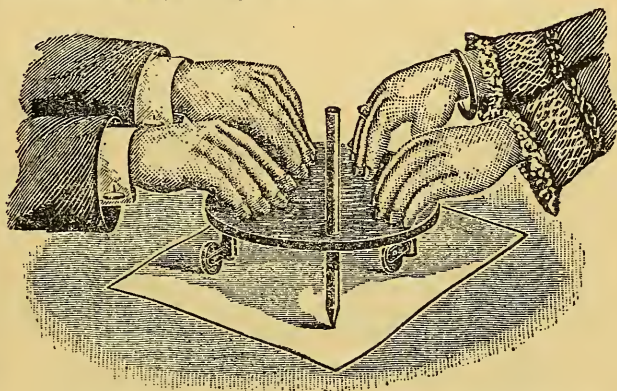
But you need not wait until you have attained this degree of proficiency before you take patients. Your best plan is to begin treating as soon as possible. Of course you cannot expect to obtain pay patients from the very start, but invite your friends and acquaintances to come to your room to be treated in the evenings, while you are studying. The result will be that you will obtain valuable practical experience, confidence in yourself, proficiency in the various movements and manipulations, and at the same time will be advertising your work.

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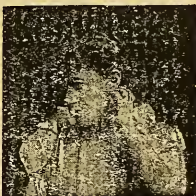
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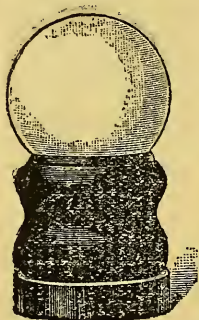
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