

lectures you will learn the structure of human body with the help of the microscope and embryology. The molecular genetics and chromosomal chromosome can be seen by light microscope but genes can not be seen with any method you have to just depend on indirect method.

2. Anatomical Position & Planes (General Anatomy)

Prof.G.P Pal

Today is the first lecture on anatomical terminology. The term means word and throughout the world the medical professionals they use some special terms or words which is not used by the general public. Most of the these terms they have come from the european countries like greek and latin. These terms are used for in the medical sciences when you become a clinician you will be using these terms. Anatomy transforms the vocabulary or the language of the medical science so in other words what we are going to learn today is the. language of medical science. anatomical position is an important position which will be form your basis of all those terms. There are some terms which are not used by the common people okay only the medical people will use it for example arm or arm. The term arm is where and medical terminology arm is between the shoulder joint and the elbow joint it forms the arm so never confuse arm as a whole upper limb it is a spatial part of the upper limb.

anatomical position is an imaginary position in which body is considered to be always erect or in static say for example in this diagram the person is standing in anatomical position. The first condition in imaging and anatomical position should be this condition should be there. That is it should be the body is standing upright absolutely not leaning forward or backward. The third condition is that upper limb should be hanging by the side. The first lesson which you have learned today is what is anatomical position and how to stand in anatomical position. Both the lower limbs should be parallel to each other and feet are directed anteriorly their feet should be directed. The palm should look forward that means we have already learned that this surface is called of the hand is called as palmar surface or palm. anatomical position is accepted worldwide to describe the anatomical relations in catapols or the patient's okay in relations in categories or as i have already described anatomical positions should always be imagined even if cadaver or patient is lying down on table with face upward that means when a patient is on the table and if his face is looking towards the roof that position is called as supine position and when if body categor or dead body is on table that is when the face is. looking downward that means his back is looking at the roof but his face. is looking. towards downwards that is. called as the prone position. and what is anatomical position. These planes are passing through the body in different position as

There are four planes and these three planes pass at different levels at different positions in body. The median plane divides the body in two equal halves. The societal plane is not shown in this diagram but i will explain to you in other so now you know that there are three planes. the first plane which we will run will be the our median plane. These planes are planes are exactly parallel to median so they are either on right side or they are on the left side of the median plane okay so you can cut so many median planes here okay just if i will put this here you can see that this may be and another celital plane on the one side of this. This may be an another sagittal plane or a societal plane and there may be many sagittal planes. These planes will divide the body into an upper and lower part. These planes are perpendicular to the long axis of the body. Oblique plane is easy to define that because it has no rules any other plane. The median plane is the median plane the sagittal plane then the coronal plane and the transverse plane. i think i should stop here and

The skeletal muscle is responsible for the production of movements in body. the contraction of muscle moves the bones at a joint, and this helps the various movement, for example the sitting running, running, jumping, walking or and working with your hands.. There are three types of the muscles out of which skeletal muscles are most abundant. are the cardiac and the smooth muscle. The skeletal muscles are also known as the striated muscle.. These muscles are supplied by the somatic nerve so magic now means those nerves which take origin from the brain in the form of the cranial nerve... The skeletal muscle is also called as the voluntary muscle. skeletal muscles constitute up to 40 to 50 percent of body weight, that means it is half of the body is made up of the skeletal muscle.. Some skeletal muscles are also attached on to the viscera at least. one end of that is attached to the wall, for example,. we will learn about the smooth and cardiac muscle now in the histology classes only..

A muscle can use a muscle usually exhibit two ends. The upper end that is called as the proximal end, which is more towards the root of the limb and then the distal end.. The distal attachment is also sometime known as the insertion of a muscle on a bone okay, but these days the origin and insertion terms are not referred. that a skeletal muscle will cross one joint. Why this rule is there and why it crosses one joint at least it may cross multiple joint two three four five joints.. the reason is that muscle is a contractile structure and when it will contract through the tendon, it will pull the distal bone on which it is attached and then will move at a joint.. This is the historic structure of the belly of the skeletal muscle fibers right let 's move to the next slide. Now after this daily or the completion of the general features of general anatomy of skeletal muscle belly we come to skeletal muscle tendon okay now skeletal muscle tendon. I have told you that it is inelastic in nature that means it can not be expanded..

Tendon is not like a rope, but it is in the form of a flattened sea and this is called as aponeurosis.. When it crosses the bony ridge tubercle or through a special arrangement pulley or trochlea. It can change its direction. the synovial sheath is a spatial arrangement to minimize friction when a tendon is moving against the bone.. bursa is also a lubricating mechanism as we have seen in the case of the synovial membrane and it also reduces the friction between bone and skin. a bursa may be either subcutaneous beneath the skin or it may be also between tendons and a fibrous band or may be between tendon and above..

19. Muscles Part-III (General Anatomy)

Prof.G.P Pal

At certain places in the body we need the contraction of muscle, which is very powerful. Okay. The powerful contraction is needed okay where you do the strenuous work is needed, but at the same time you must have noticed that some of the functions are the work say for manipulative work. The fingers work, which are there muscles which are moving the eyeball do n't need any power. the power of a muscle depends on the number of the fibers in a muscle and the diameter of the individual fiber. the diameter increases because of the repeated exercise in gym then his muscles they get more uh thicker that means thicker means okay. because of the obliquity a lot, many more fibers can be observed in a single muscle.. The force of action of a muscle depends upon the site of its attachments that means site of the proximal. attachment to which we have said that it is called as origin and the site of its attachment distal attachment. the muscle length fibers length was are short very short, but when we have read the muscles which were arranged where fibers were arranged. fibers arranged parallel to each other where the range of movement is needed..

what is the significance of this portal venous system now see in the kidney. You must have learned that there is the ultra filtrate takes place through the capillaries... These hormones are carried through this vein through the infundibular stop. Then this comes into the anterior pituitary gland where it breaks up the into another set second set of the capillary plexus. Thus, the veins which are coming in are called as portal veins.. these hormones stimulate the secretion or the inhibition of the secretion from those acidophil and basophils.. The blood starts flowing from the surface of the gland in the capsule where arteries are there then they it passes through the. cells which are present in the cortex. the blood was flowing with the speed because there was a blood pressure was there because which was generated by the systole or contraction of the ventricles and this blood was there..

There are some factors which are responsible for this venous return against the end degravity direction in the antigravity direction and we will learn those factors now So let us see what are those factors which helps the venus return Number one is venus verb. the blood is ascending. It is climbing up to the heart, which must be around three to four feet at least from the heart. walls play a very important role in the ways which have to carry the blood in antigravity direction okay then there is a second factor. It is called as musculo venous pump mechanism. this mechanism I have told you when I was teaching you the deep fascia which covers it and what lies deep to the deep facial. when air is inhaled inside the lung. The plural cavities are there and they create the negative pressure they create. negative pressure in. Thoracic cavity where heart is also situated okay. This will also create the suction that means what will create suction no heart, not the heart. I do n't mean to say that..

the deep arteries when they are running inside the deep facial also okay sometime in superficial fascia. Also right. These arteries are surrounded by a plexus of vein. Here I have shown the three veins which are surrounding and these veins. They are interconnected with each other all around this artery. There may be four veins also okay so this kind of the arrangement of the vein surrounding to an artery is called as many commitments. the blood has to flow into the antigravity direction in human beings because we are erectile persons. We are not like quadrupeds are not reptilians okay where venus drainage must be very efficient. We are standing. the blood is start pulling inside the veins, which are mostly present in the leg. Our leg..

24. Blood Vascular System Part-IV (General Anatomy)

Prof.G.P Pal

The vascular anastomosis is defined as communication between the neighboring blood vessels. when one artery communicates with a neighboring vein. This will be directly, which is not possible except at few places in our body. there may occur the union of the branches from two or more arteries supplying same organ.. When many arteries are supplying the same organ, they may interconnect with each other. most of the arterial Anastomosis are microscopic that means they are at the level of arteriole. An arterial. I told you in last lecture that they are very narrow okay. If it is less than 0.1 millimeter that is hundred micron. Then it forms the then it begins the artery. at that level. There is a lot of communication or joining of the neighboring arteries okay, so most of the time this. communication is in relation to the arterials okay which can not be. seen has it is called as microscopic. arterial anastomosis are present in our body profusely at the label of arterioles, which can not be seen by the naked eye.. arterioles are the arteries