

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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- **BODY ORGANIZATION**

- Cell, Tissue, organ, system, body.
- Which system are very important for life.
- Name other systems
- What is Systemic Anatomy and what is Regional Anatomy so which Anatomy is more practical.
- How one system is affected by other system.
- What happen after blood loss
- What happen after water loss.









Basic Anatomy

Anatomy

is the science of the structure and function of the body.

Clinical anatomy

is the study of the macroscopic structure and function of the body as it relates to the practice of medicine and other health sciences.

Basic anatomy

is the study of the minimal amount of anatomy consistent with the understanding of the overall structure and function of the body.

1. **Human anatomy** is the science of the structure of the human body
2. while physiology deals with the function of body
3. and biochemistry deals with chemistry of the body as nutrition etc.

MAJOR PARTS OF ANATOMY

Gross anatomy is the branch of anatomy which deals with structure of different parts of body which could be observed with naked eye. Gross anatomy is usually taught in regional way as upper limb, lower limb, thorax etc.

The Systemic anatomy deals with body systems which is not the usual method of teaching anatomy.

General anatomy

is considered to be part of gross anatomy.

Developmental anatomy

is the study of development of human **mainly** before birth as well as changes which could occur after birth and

Microscopic anatomy is the study of body structure visible under the microscope.

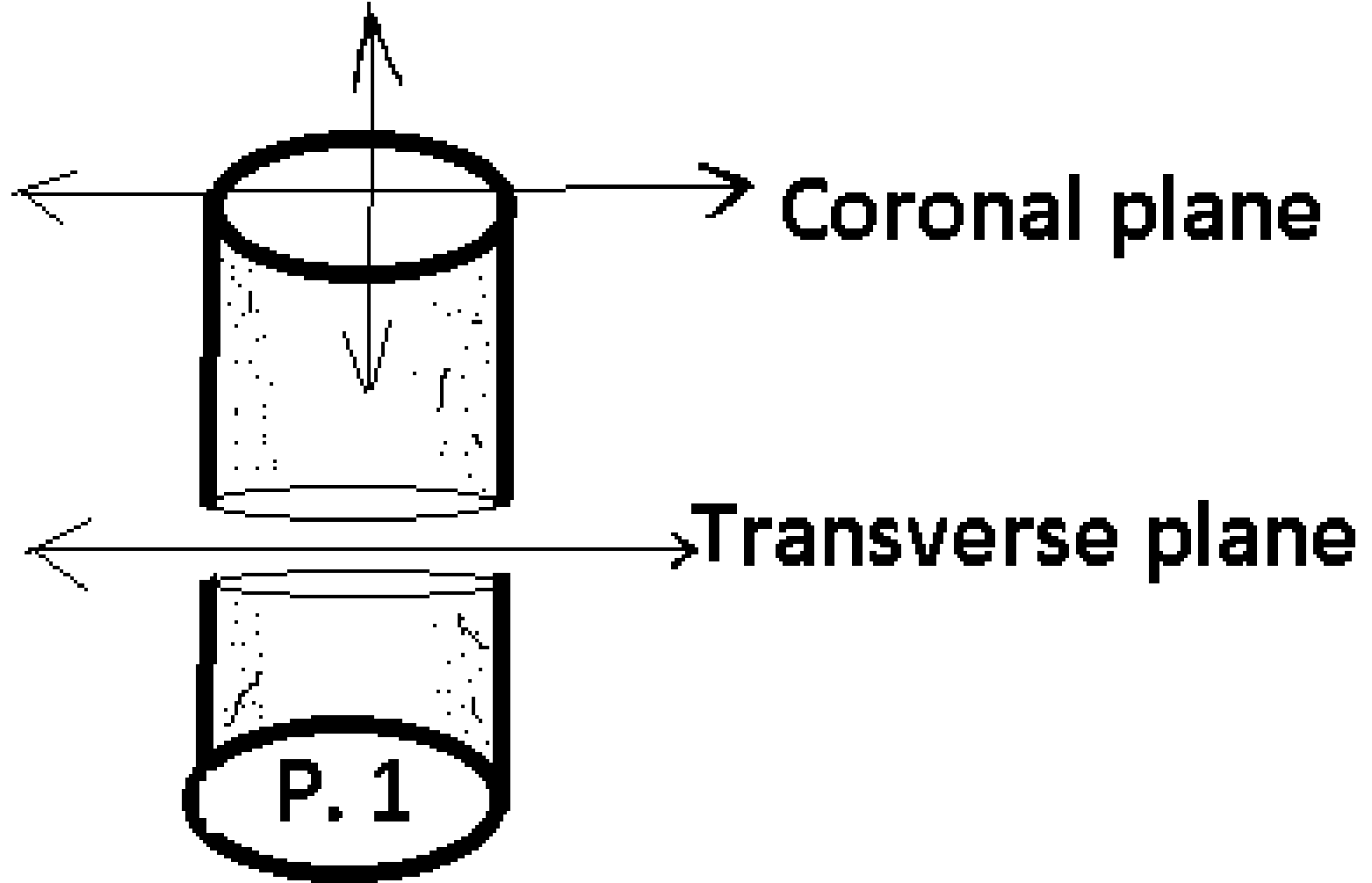
PLANES:

1. Median sagittal plane is a median vertical plane which divides the body into equal right and left halves. In this way we can also discuss the terminology of medial and lateral so that the medial most structure is close to median sagittal plane and lateral most structure is far away from median sagittal plane towards right or left side of the body.

2. The coronal plane is a vertical plane dividing the body into anterior and posterior parts at right angle to the median sagittal plane and the term coronal suture is applied to the suture in the skull which can divide the skull into anterior and posterior parts.

3. A transverse plane is the plane which divides the body into upper and lower parts or proximal and distal parts and it is interesting to note that it is perpendicular to both coronal as well as sagittal plane.

Median sagittal plane



OTHER TERMS

Anterior or ventral part of body means part toward the front and posterior or dorsal part of body means part towards the back. Medial means closer to median plane and lateral means away from median plane..

Posterior is back

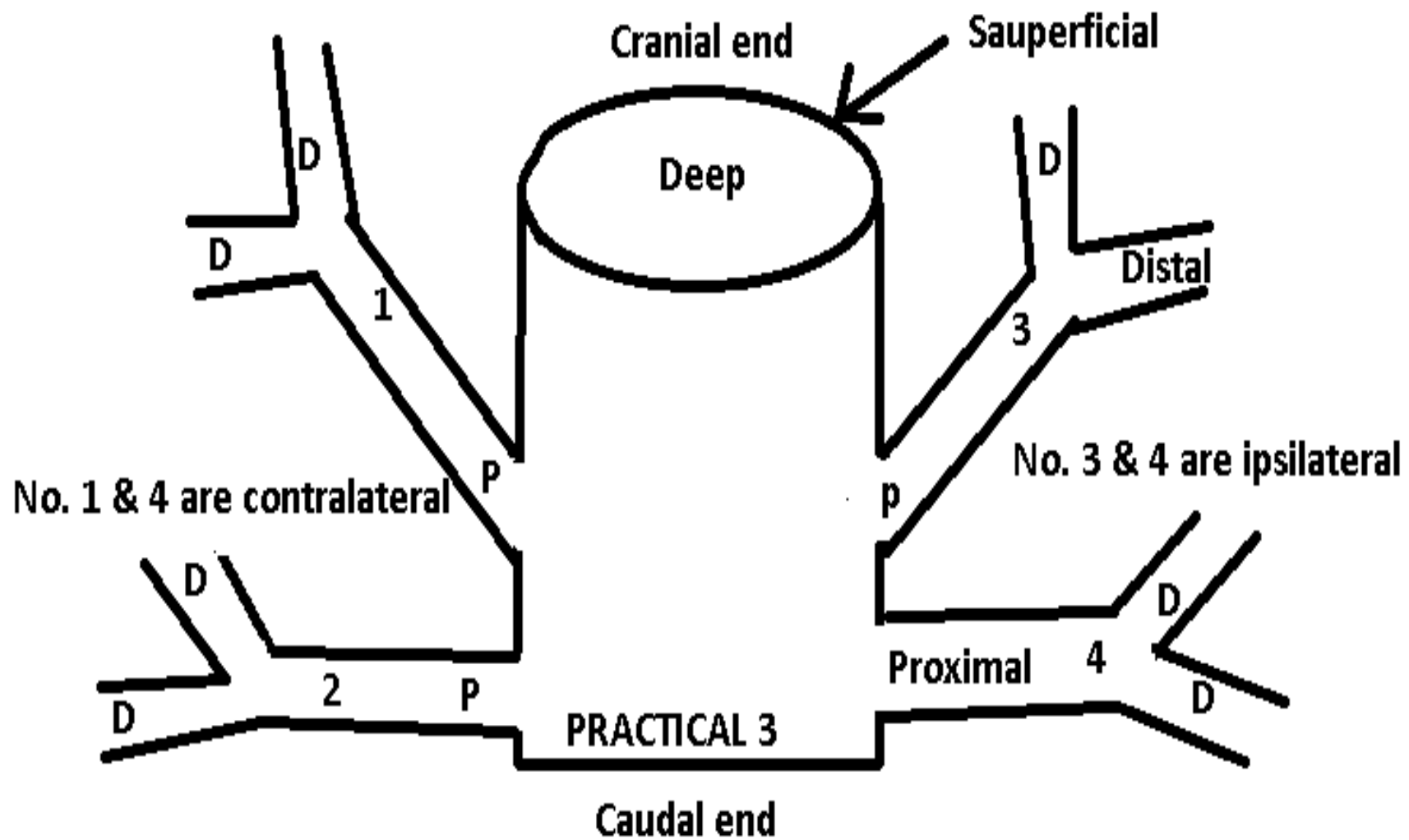
Lateral is ear



Anterior is nose

Medial is mouth

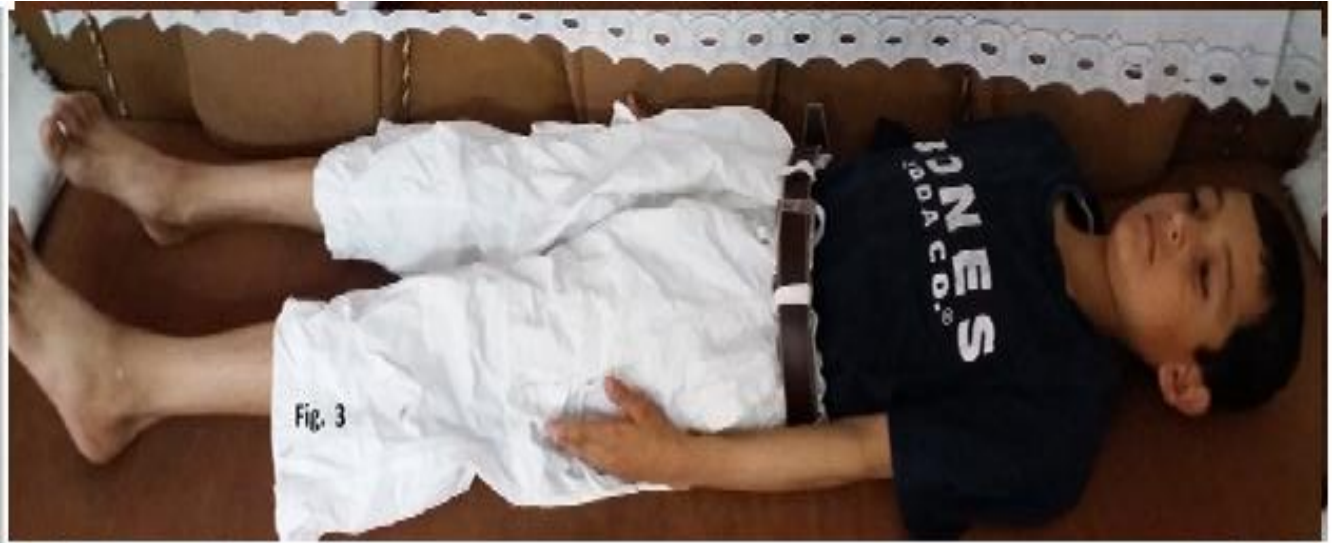
Proximal means closer to the body and distal mean away from body. The superficial is close to the skin and deep is away from body surface. The ipsilateral means the same side and contralateral means opposite side of the body. The cranial structure lies closer to the head and the caudal structure lies close to the tail.



POSITIONS

- (1) In anatomical position a person is standing with the face and palms in forward direction with the upper limb by the sides.
- (2) In prone position a person lies on his face with chest and abdomen directed downward and back upward.
- (3) In supine position a person lies on back with face up, palm facing upward with upper limbs by the sides .





TERMS RELATED TO MOVEMENT

Flexion is a movement of folding, as flexion of the elbow joint folds the upper limb by approximating the appropriate surfaces of forearm and arm.

Extension is the opposite movement of flexion which straightens the parts. Lateral flexion is folding of the trunk in the coronal plane towards right or left side of the body.



Fig. 4



Fig. 5



Fig. 6

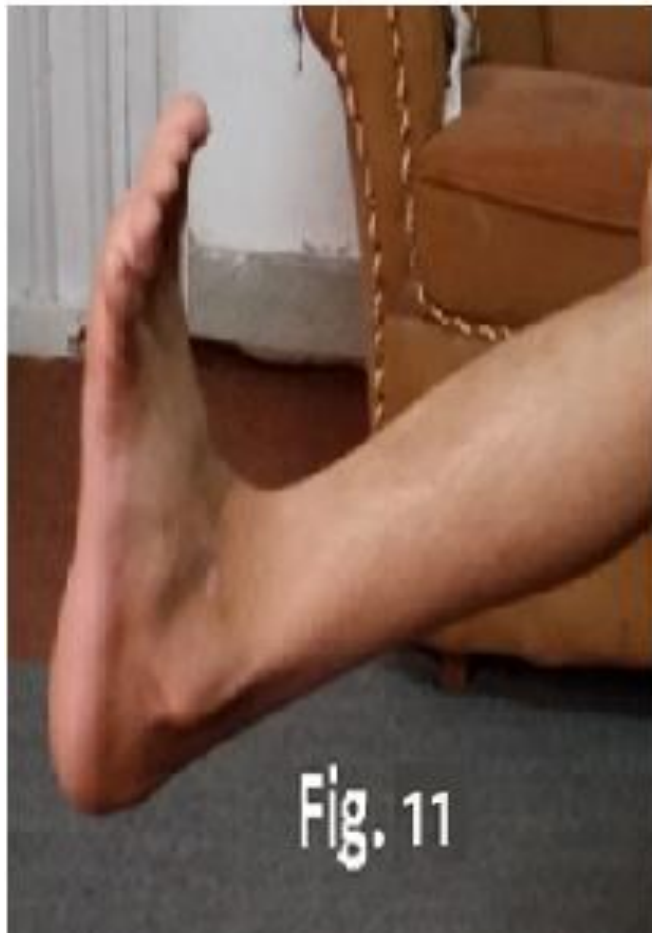


Fig. 7

Abduction is the movement of a limb away from the body and adduction is the opposite movement of abduction. Pronation of the forearm is a medial rotation of the forearm in such a way that the palm looks posteriorly and supination is opposite movement of pronation in which palm faces anteriorly.



Dorsiflexion is the folding of foot anteriorly so that you stand on heel only and plantarflexion is the reverse movement of foot so that the sole faces posteriorly, as you stand on toes only Fig. 1.11, 1.12).



The flexion of trunk is the movement of head anteriorly, in such a way that the trunk is folded on the lower limb. The extension of trunk is opposite movement of flexion.



Fig. 13



Fig. 14



Fig. 15



Fig. 16

Figure 1.18 shows extended upper limb at all the levels. Figure 1.19 shows extension at wrist and elbow joints along with fingers. All the fingers are also in adducted position. Figure 1.20 shows flexion at wrist along with extended, adducted fingers while the thumb is abducted.



Rotation is the movement of a part of the body around its long axis. In medial rotation of upper limb, the anterior surface looks medially while lateral rotation is opposite to medial rotation. Circumduction is the combination of all movements of flexion, extension, abduction, and adduction in a sequential order.

Protraction is forward and retraction is backward movement of the jaw. Inversion is the movement of the foot so that the sole faces medially and eversion is the opposite movement of the foot so that the sole looks laterally. Elevation is movement in a superior direction and depression is movement in opposite direction.

Practical 4:

During appendectomy the patient lie in the.....position

During surgery on back the patient lie inposition

Practically demonstrate the anatomical position.

Do the abduction, adduction, flexion, extension and circumduction at shoulder joint

Do flexion and extension at elbow and wrist joints

Do the movement of pronation, supination, medial rotation and lateral rotation of forearm.

Demonstrate the protraction and retraction of lower jaw.

THANKS