

Introduction

Anatomical Planes-

4 ANATOMICAL PLANES (MEDIAN, PARAMEDIAN, TRANSVERSE & DORSAL PLANE/)

Each plane is an imaginary “slice” through body.

1-Median plane or Mid-sagittal plane or Longitudinal median plane:

Plane that runs down centre of body lengthwise & divides it into equal left & right halves. (i.e. Plane divides body into almost two equal halves),

2-Parasagittal plane or Paramedian Plane or Sagittal plane:

Plane **parallel** to median plane (but not on median line),

A vertical plane **parallel** to mid-sagittal plane

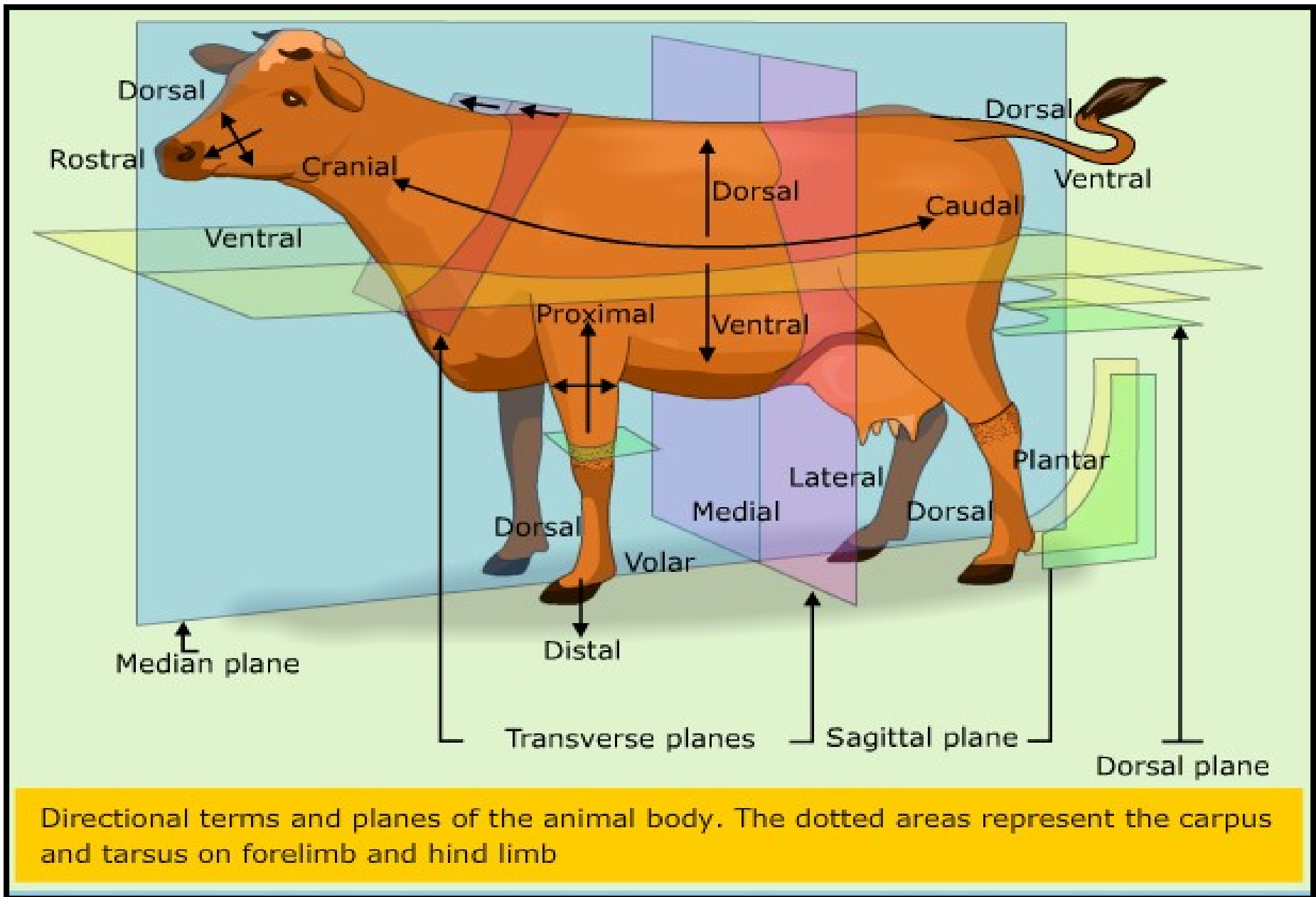
3-Transverse plane or cross sectional planes:

A plane across the body that divides the body into cranial (head-end) & caudal (tail-end) & not necessarily equal.

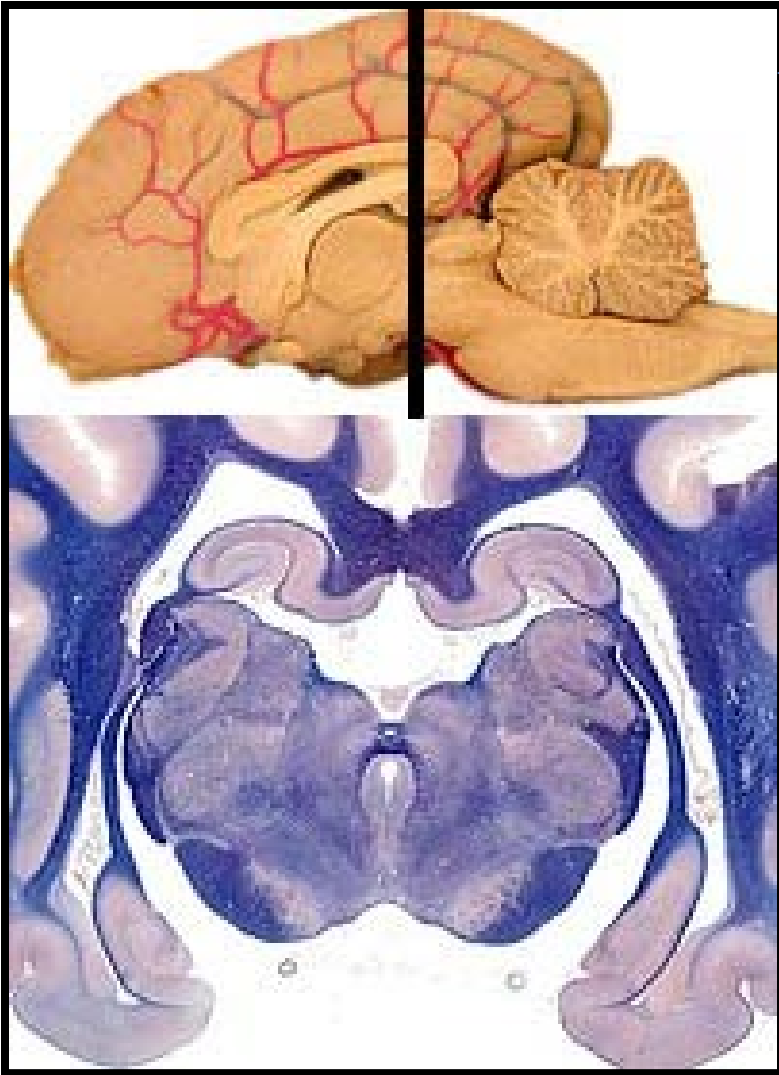
Passes through the head, trunk or limb perpendicular to the part's long axis.

4- Dorsal Plane/ cross section: divide body as upper and lower half Or A plane at right angles to the sagittal / coronal plane dividing the body into an upper and lower part.

Anatomical Planes

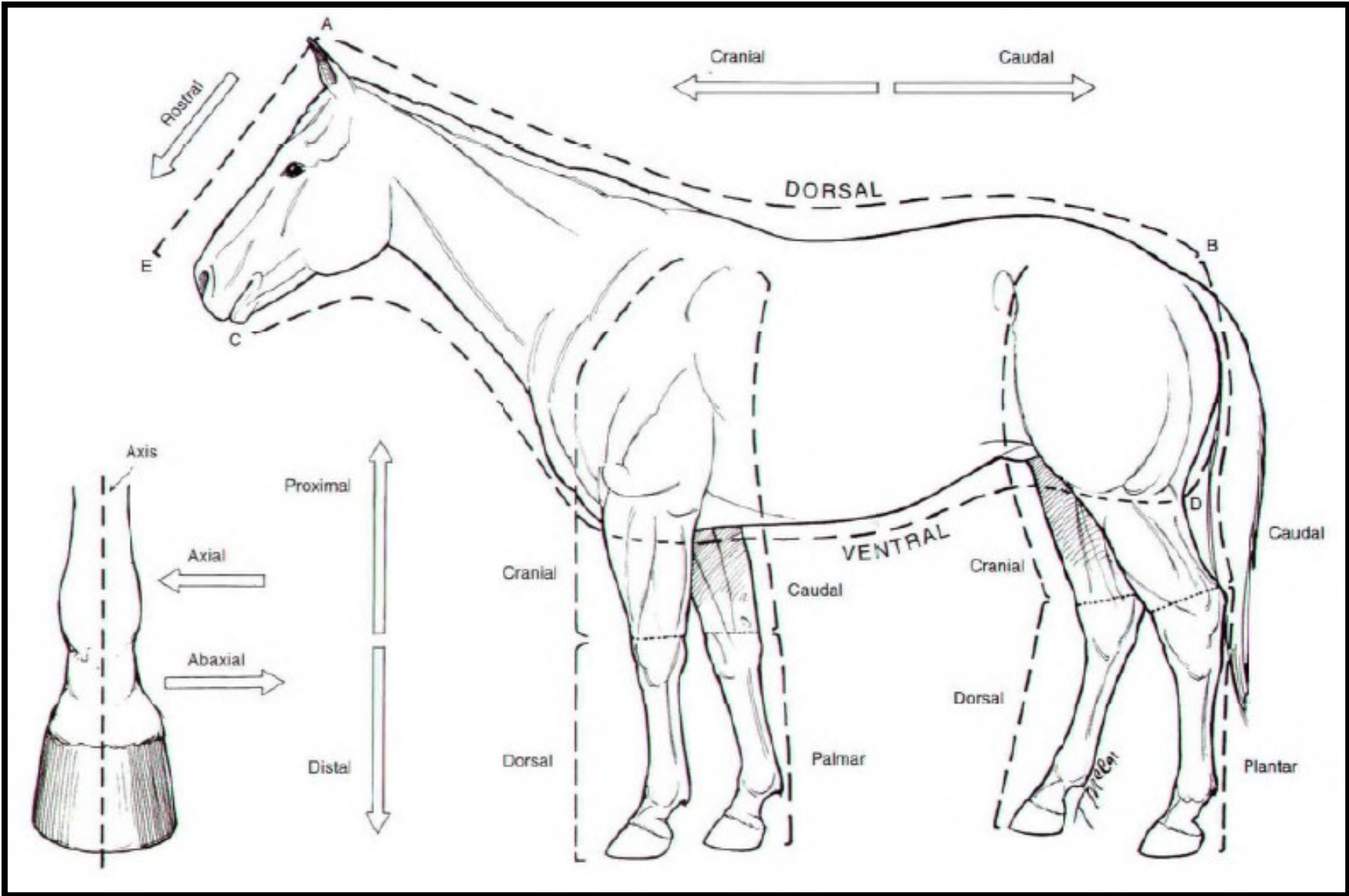


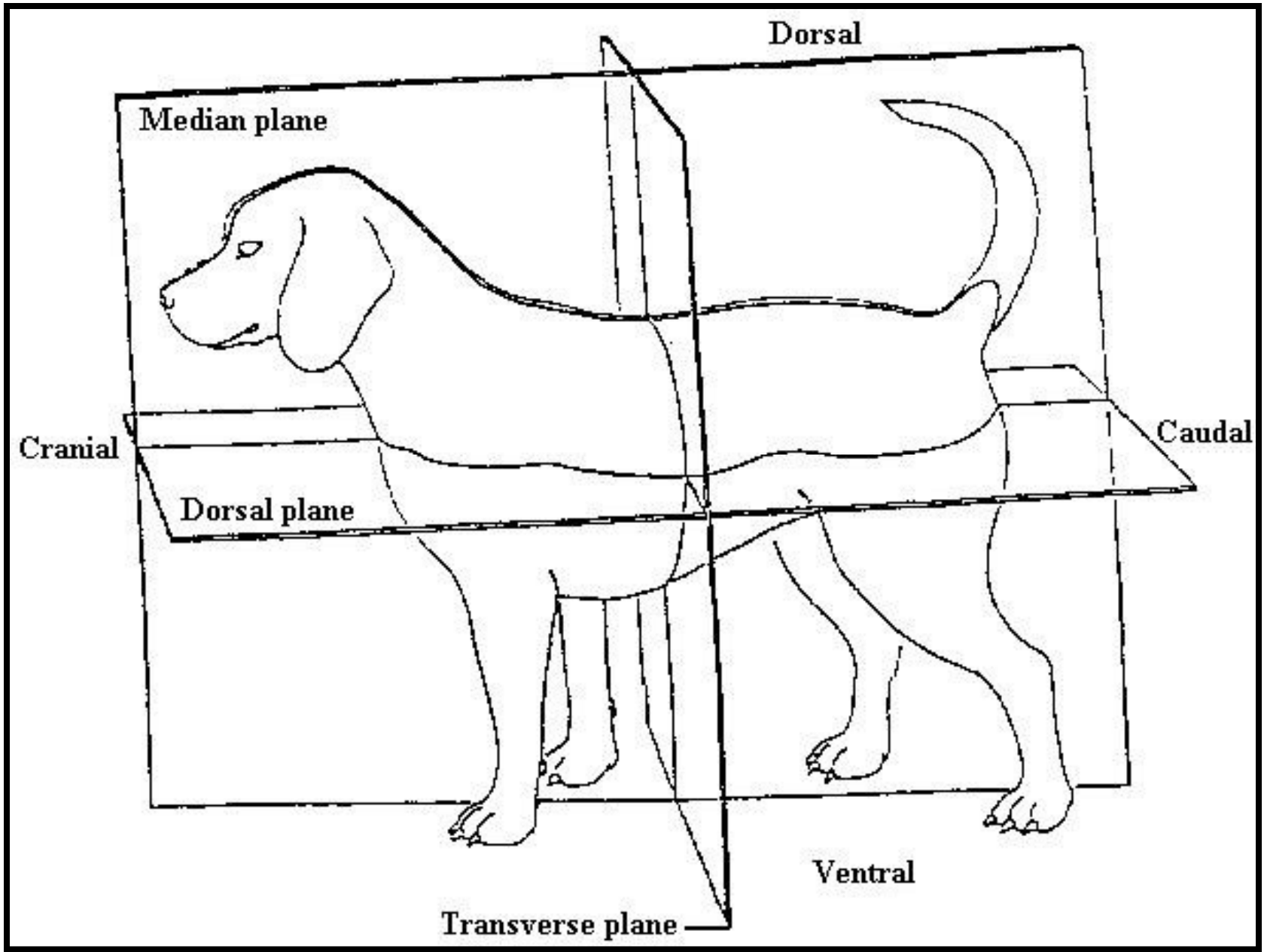
TERMS OF PLANES



CORONAL

PLANE (FRONTAL PLANE): A vertical plane which is at right angles to the median plane dividing the organ into an anterior and a posterior part.





Language of Anatomy

- **Topographic Terms:**

Those terms which are used to describe various organs or parts of body with respect to their location, directions, relations etc.

It is assumed that the quadruped animal is in ordinary standing position.

ANATOMICAL TERMS:

Anterior	:	Front
Posterior	:	Back
Lateral	:	away from the median plane
Medial	:	towards the median plane
Superior	:	above
Inferior	:	below
Superficial	:	closed to the surface
Deep	:	within the superficial
Proximal	:	upper or superior
Distal	:	lower or inferior
Cranial	:	towards head
Caudal	:	towards tail
Rostral	:	towards the nose
Axial	:	towards the axis
Abaxial	:	away from the axis

Directional terms & Anatomical Planes

Volar: Posterior face of distal part of fore limb.

Palmar: Surface of fore limb that contacts ground in standing condition.

Plantar: Contact surface of hind limb in standing condition.

Axial: Towards central line of body or any body part.

Abaxial: Away from the axis.

Oral: Structure towards head.

Aboral: Structure away from head.

Central: Part nearest the middle.

Peripheral: Part nearest the surface.

Parietal: Body wall or the wall of the cavity.

Visceral: Viscera or organ in cavity.

Somatic: Part of body other than viscera.

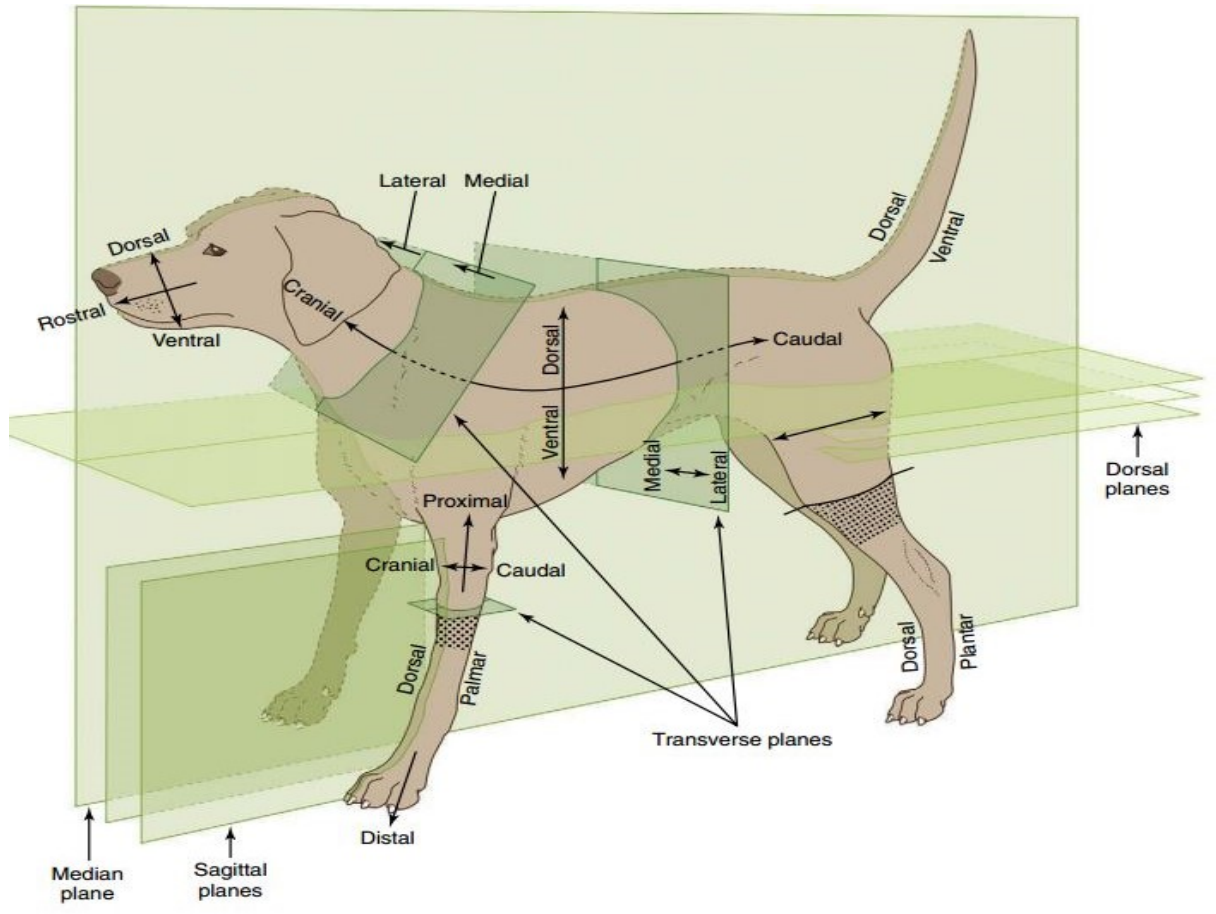
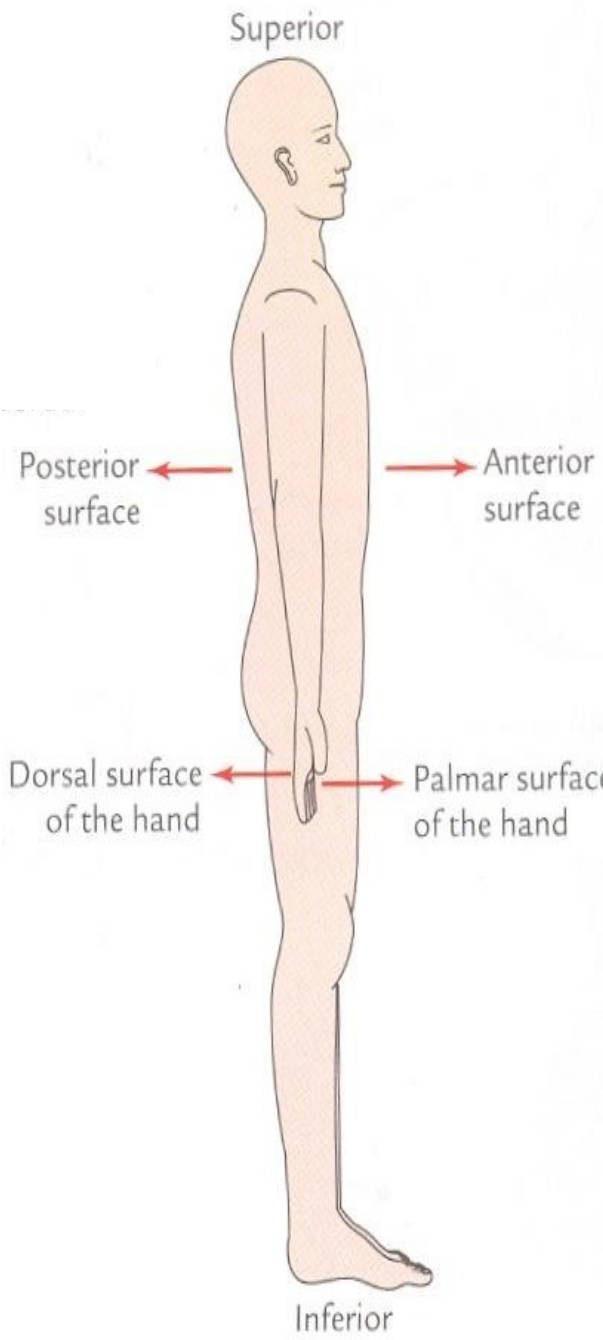
Directional Terms

- **Medial:** The structure/ surface lie structures lie toward the median plane.
 - **Lateral:** The structure lie away from the median plane.
 - **Cranial:** The structure/ surface which is nearer to the head (cranium) of the animal body.
 - **Caudal:** The structure/ surface which is nearer to the tail (caudae) of the animal body.
- Note:** Within the head, structures toward the muzzle (rostrum) are said to be rostral.

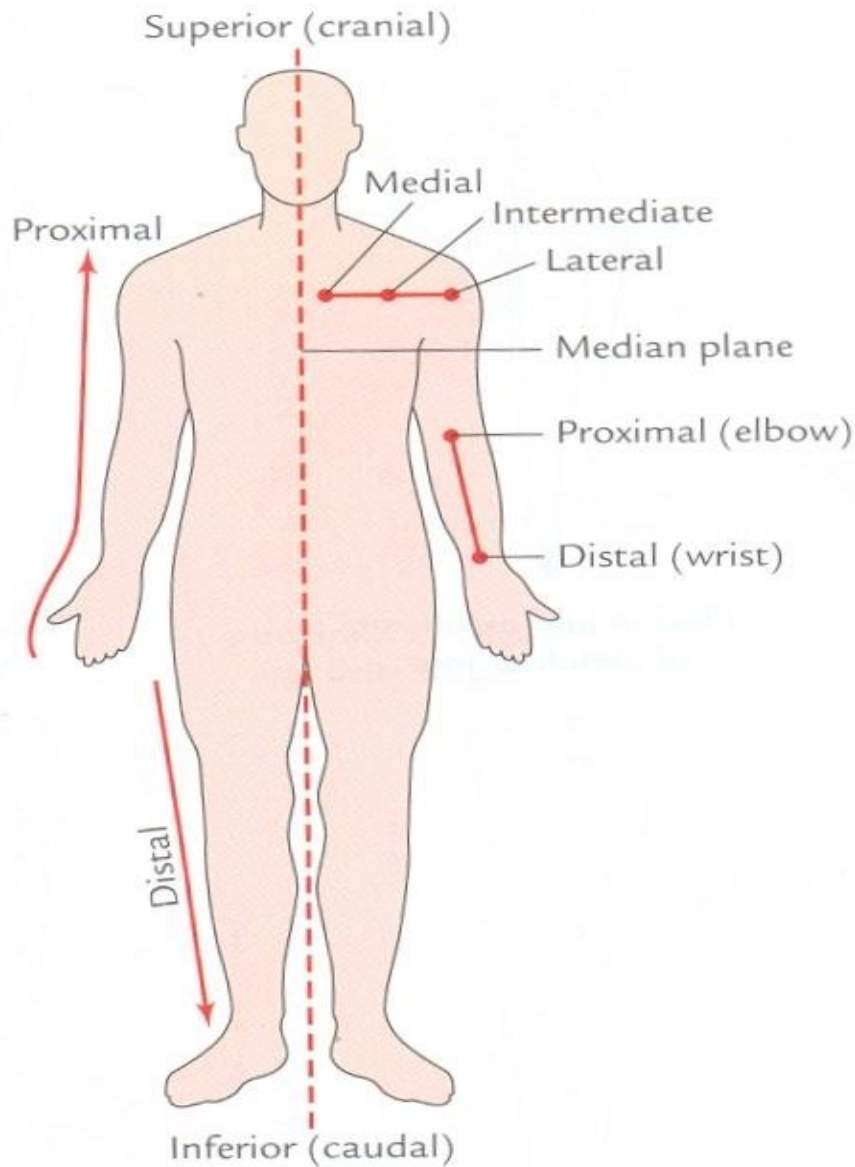
- **Dorsal** Pertaining to the back area of the quadruped or denoting a position more toward the back (upward) than some other reference point.
- **Ventral:** Pertaining to the belly or underside of a quadruped or denoting a position more toward the belly (downward) than some other reference point (body part).
- **Proximal** (Nearer to) and **distal** (farther away) are used to indicate relative distance from the long axis of body)

Modification of directional terms with respect to Limbs

- **Dorsal:** The term dorsal denotes the cranial aspect in manus (from carpal joint in forelimb to the toe) and pes (from tarsal joint in hind limbs to the toe) regions is called as dorsal surface.
- **Palmer:** The term palmer denotes the caudal aspect in manus (from carpal joint in forelimb to the toe) is known as palmer surface.
- **Planter:** The term planter denotes the caudal aspect in manus (from carpal joint in forelimb to the toe) and pes (from tarsal joint in hind limbs to the toe) regions is called as planter surface.
- **Axial** structures lie close to the axis of a central digit, close to the axis of the limb if this passes between two digits;
- **Abaxial** positions are at a distance from the reference axis.

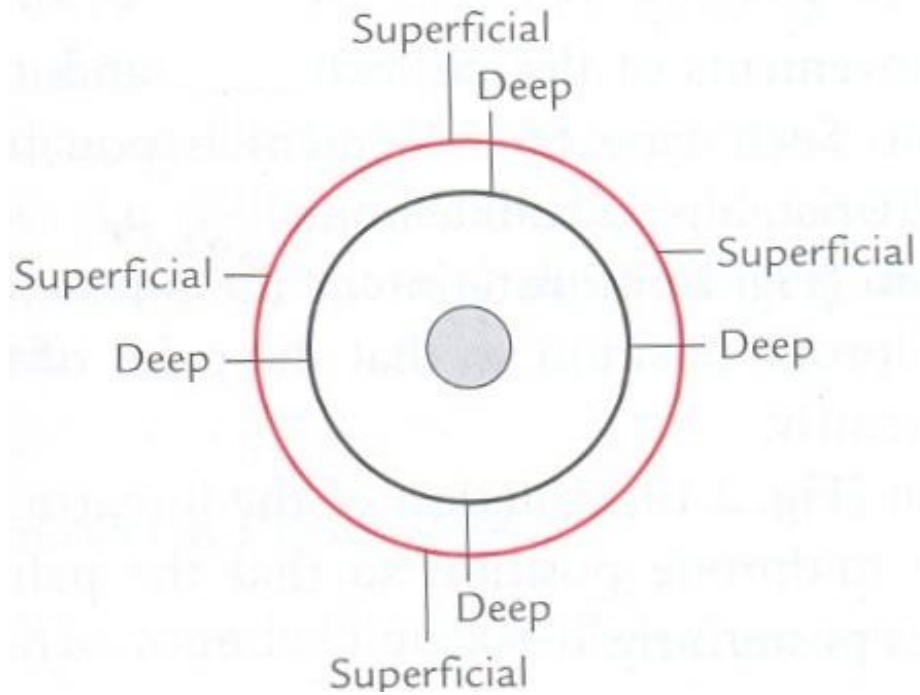


TERMS OF POSITION



- **Lateral**
- **Intermediate**
- **Medial**
- **Median**

OTHER TERMS



For solid organs:

-Superficial

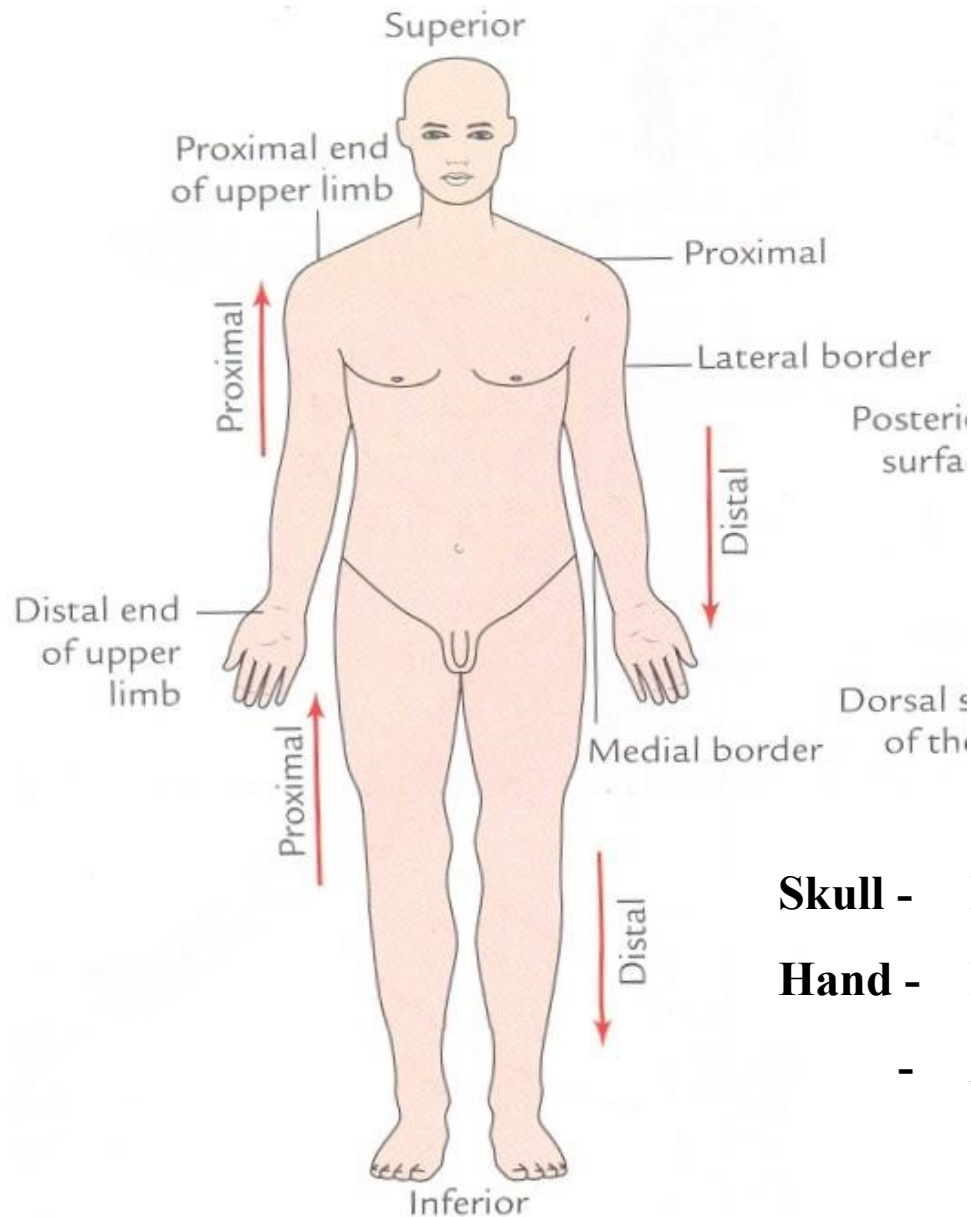
-Deep

For hollow organs:

-Interior

-Exterior

TERMS FOR LIMBS



Proximal

Distal

Radial

Ulnar

Tibial

Fibular

Preaxial border

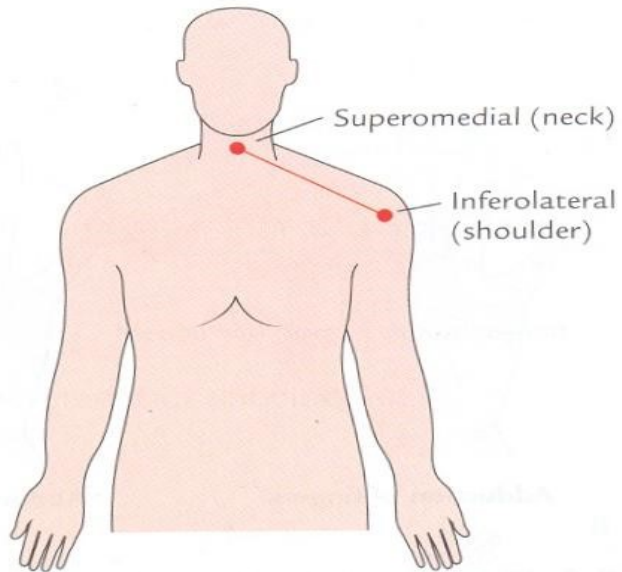
Postaxial border

Skull - Inferior surface is called as Base

Hand - Posterior surface - Dorsum of Hand

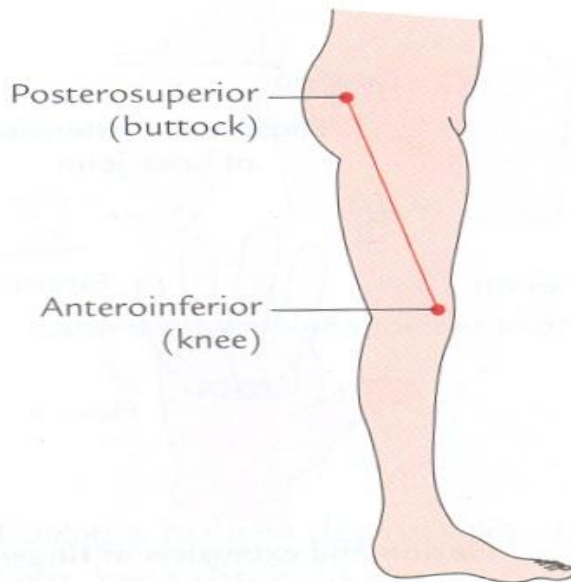
- Anterior surface - Palmar surface

TERMS OF POSITION

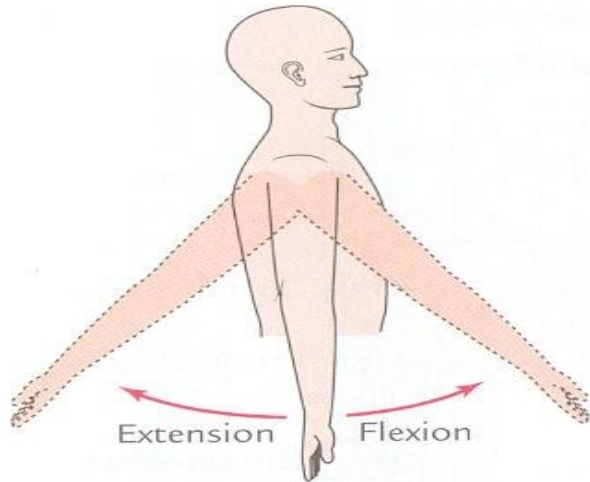


Combination of Terms:

- **Supero medial**
- **Infero lateral**
- **Postero superior**
- **Antero inferior**



TERMS OF MOVEMENT

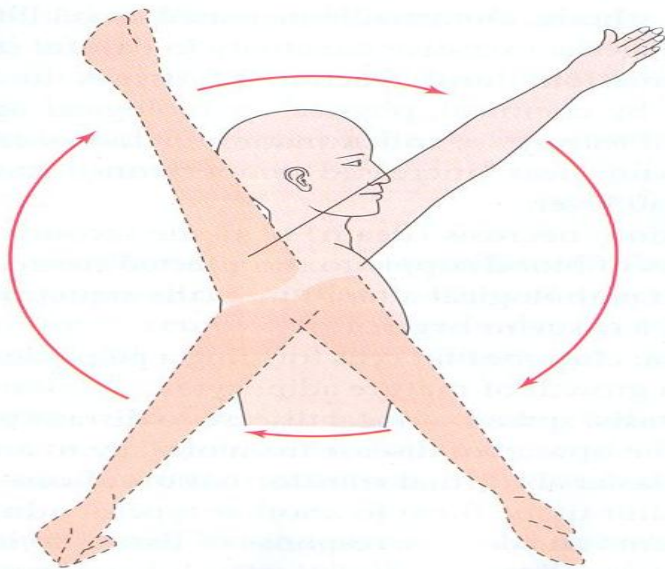


Flexion and extension of shoulder joint

Flexion: - Moving part is carried forwards
- Movement on the transverse axis

Extension- Moving part is carried backwards

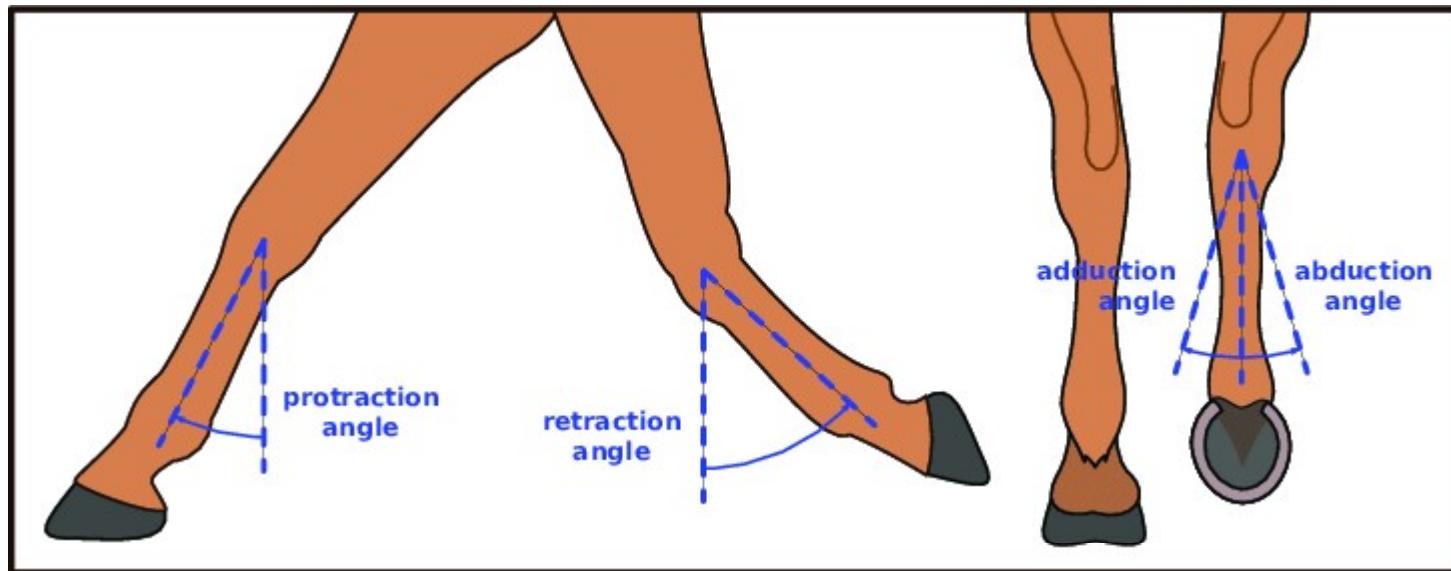
- Movement on the transverse axis.



Circumduction of shoulder joint.

Circumduction: Moving part forms the base of a cone

TERMS OF MOVEMENT



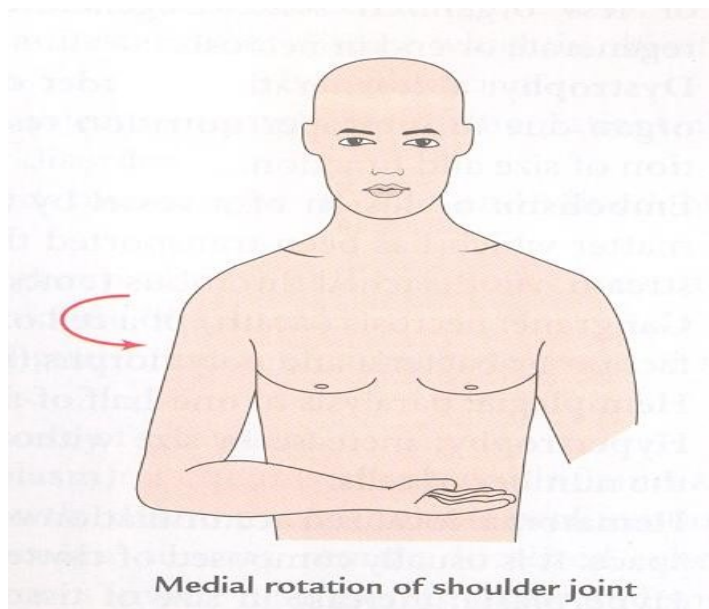
**Abduction: - Moving part is carried away from the body/
reference line.**

- Movement on antero – posterior axis.

**Adduction: - Moving part is carried towards the body /
reference line.**

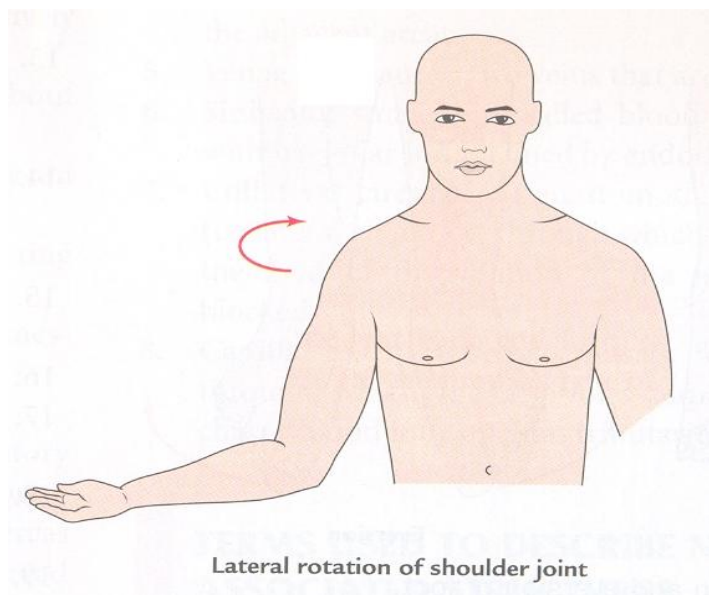
-Movement on antero -posterior axis.

TERMS OF MOVEMENT



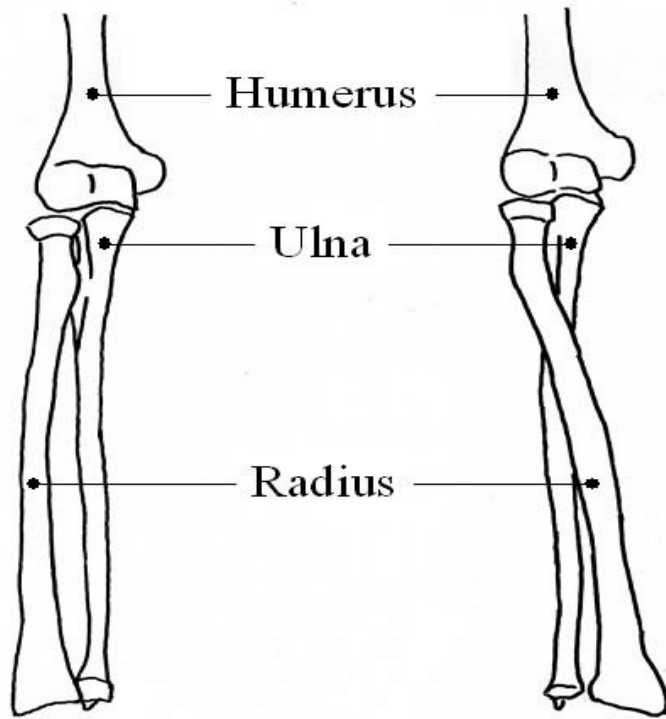
Medial Rotation –

- Moving part is rotated towards the mid line.
- Movement on vertical axis.



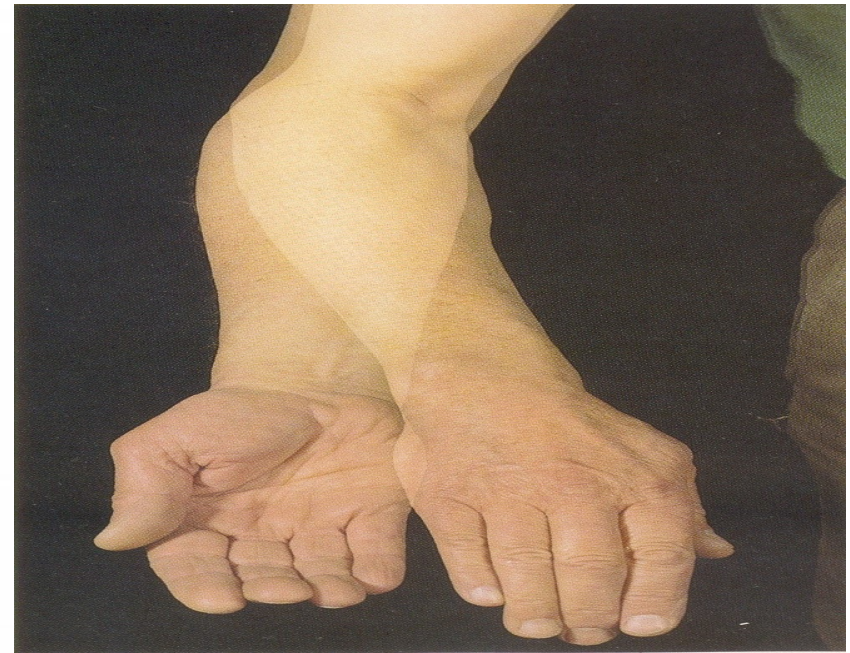
Lateral Rotation –

- Moving part is rotated away from the mid line.
- Movement on vertical axis.



Position of supination

Position of pronation



Forearm:

Pronation – Forearm is rotated that the palm faces towards ground.

Supination – Forearm is rotated that the palm faces above.

Mid Prone Position



SPECIAL TERMS OF MOVEMENT



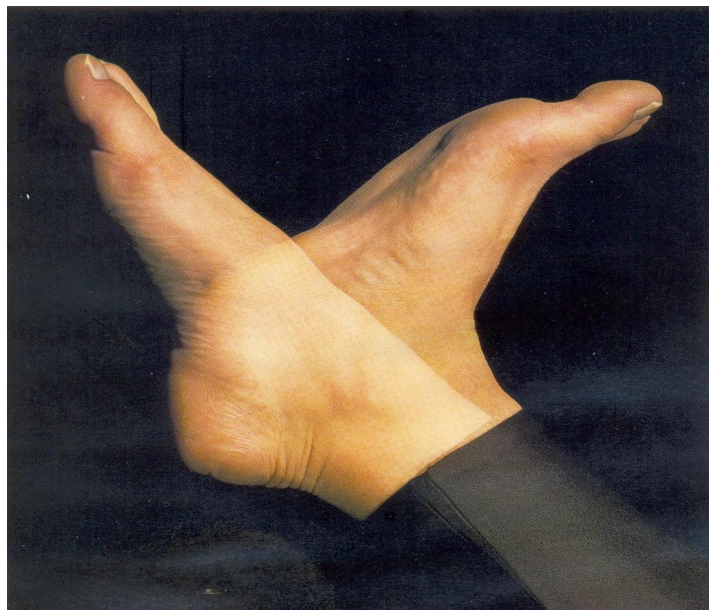
FOOT –

Inversion – Sole of the foot faces medially.

Eversion – Sole of the foot faces laterally.

Dorsiflexion – A movement of foot in which the dorsal surface of foot comes closure to the front of leg.

Plantarflexion – A movement of foot in which the dorsal surface of foot goes away from the front of leg.



MCQs

1. Who is the Father of Anatomy:

- a) Galen
- b) Herophilus
- c) Vesalius
- d) Hippocrates

MCQs

2. The meaning of term anatomy is:

- a) To analyze
- b) To observe
- c) To cut up
- d) To make

MCQs

3. The sectional plane that divides the body into anterior and posterior portions is:

- a) Transverse plane
- b) Sagittal plane
- c) Coronal plane
- d) Oblique plane

MCQs

4. Lying down position with the face directed down is called as:

- a) Supine
- b) Prone
- c) Anatomical
- d) Lithotomy

MCQs

5. During flexion of the arm, the arm moves:

- a) Upwards
- b) Downwards
- c) Medial
- d) Lateral

Thank you!