The University of Jordan
Faculty Of Medicine
Anatomy Department

Introduction To Anatomy

By

Dr.Ahmed Salman

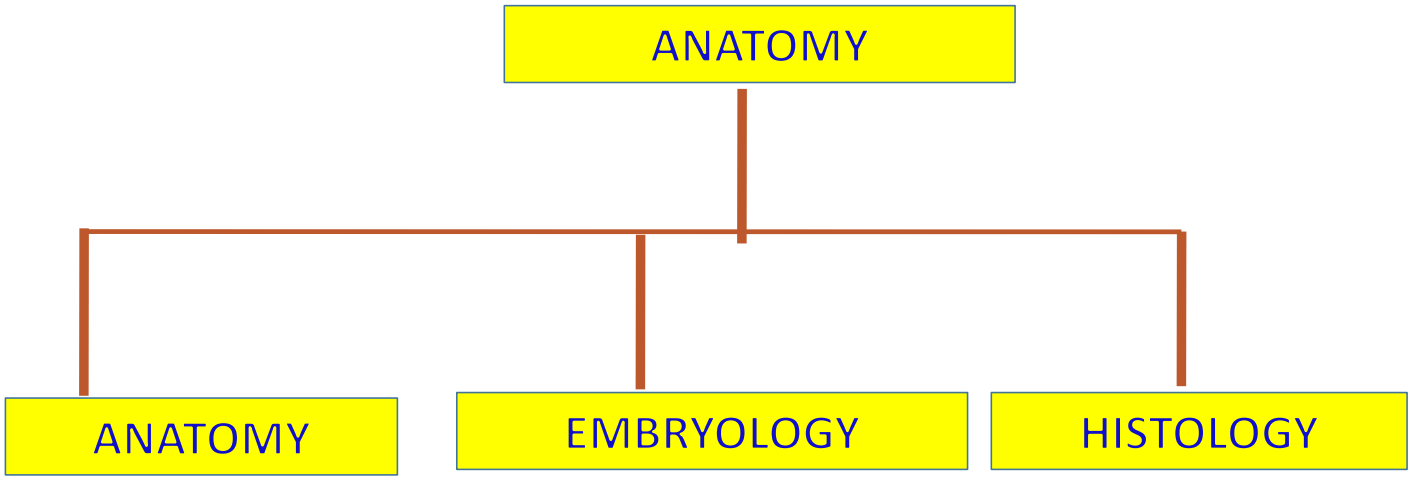
Associate Professor of Anatomy &embryology

Email: ahmed.salman@ju.edu.jo

Contact Details

Teams

Microsoft Teams


ANATOMY
ANATOMY
EMBRYOLOGY
HISTOLOGY

Anatomy

DERIVED FROM THE GREEK ἈΝΑΤΈΜΝΩ ANATEMNŌ

"I CUT UP, CUT OPEN

ANATOMY

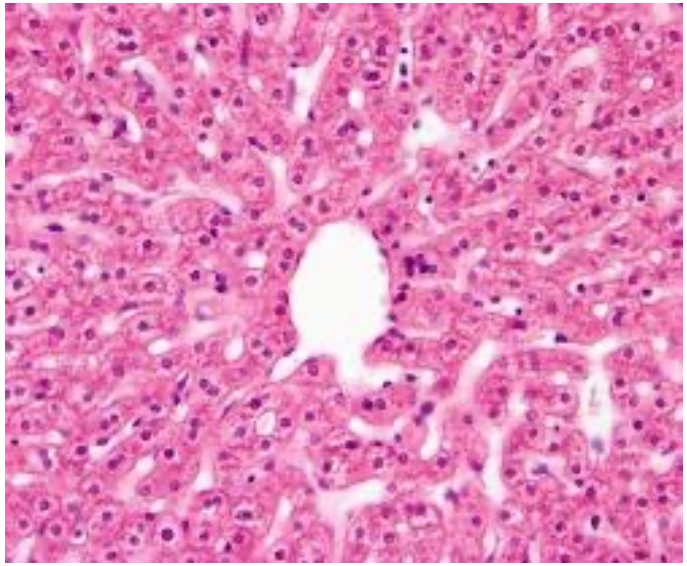
System based

1. Upper Limb
2. Lower Limb
3. Musculoskeletal system
4. Gastrointestinal system
5. Endocrine system
6. IBLS (immune/blood/lymphatic system)
7. Cardiovascular system (CVS)
8. Respiratory system
9. Nervous system
10. Urinary system
11. Reproductive system

EMBRYOLOGY

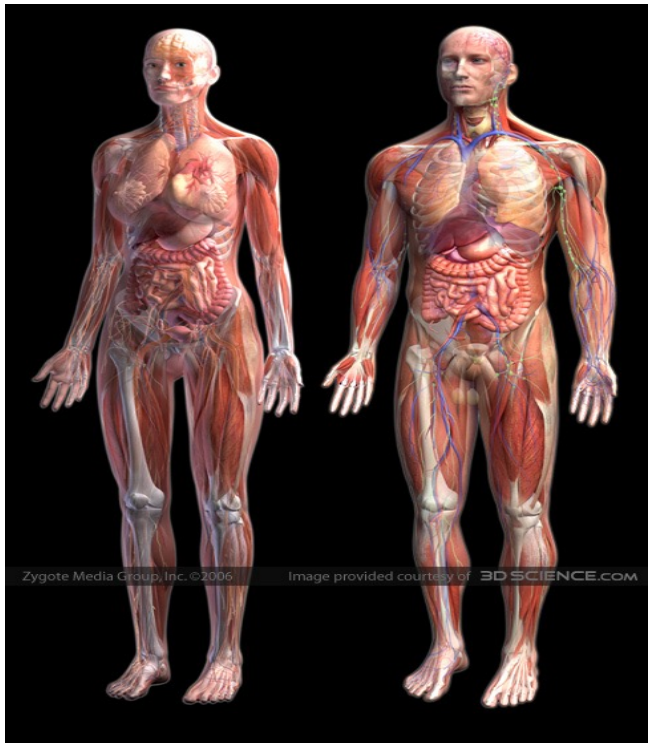
1. General
2. Special

HISTOLOGY

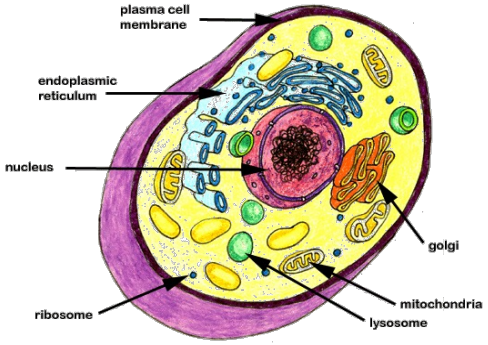


How to study anatomy

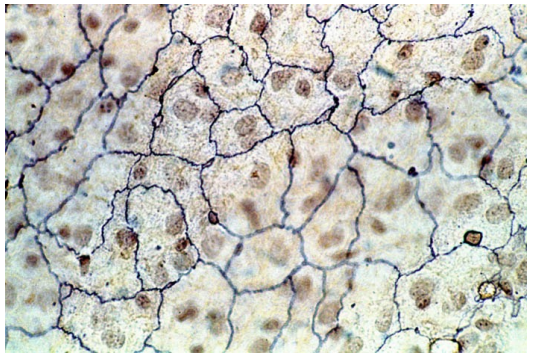
1. RESPECT the Subject
2. Make a mental picture of everything you study
3. Practical Classes
4. Talk about it. Discussion
5. Teach
6. 6-Drawing
7. Read,Read,Read,Read



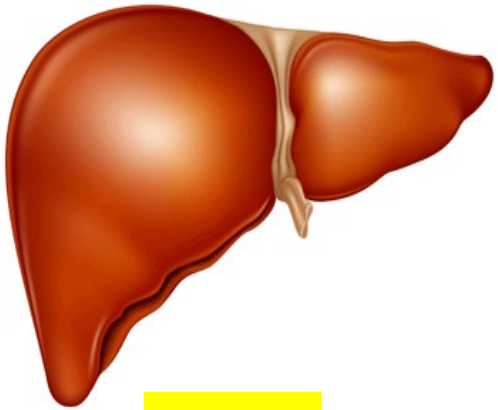
Levels of organization



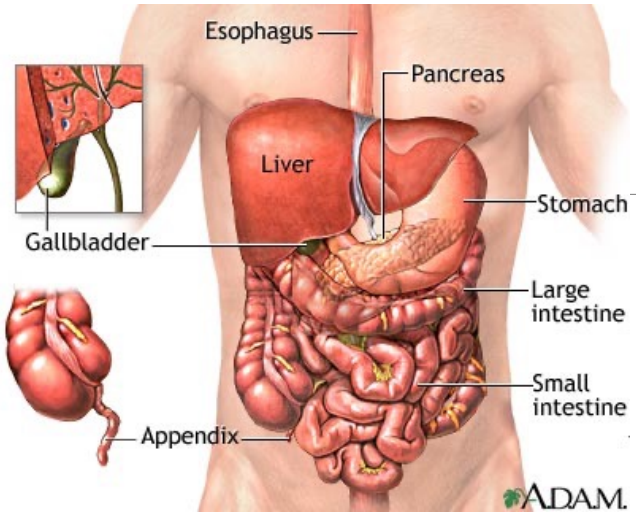
Cell



Tissue



Organ



System

Anatomical Position

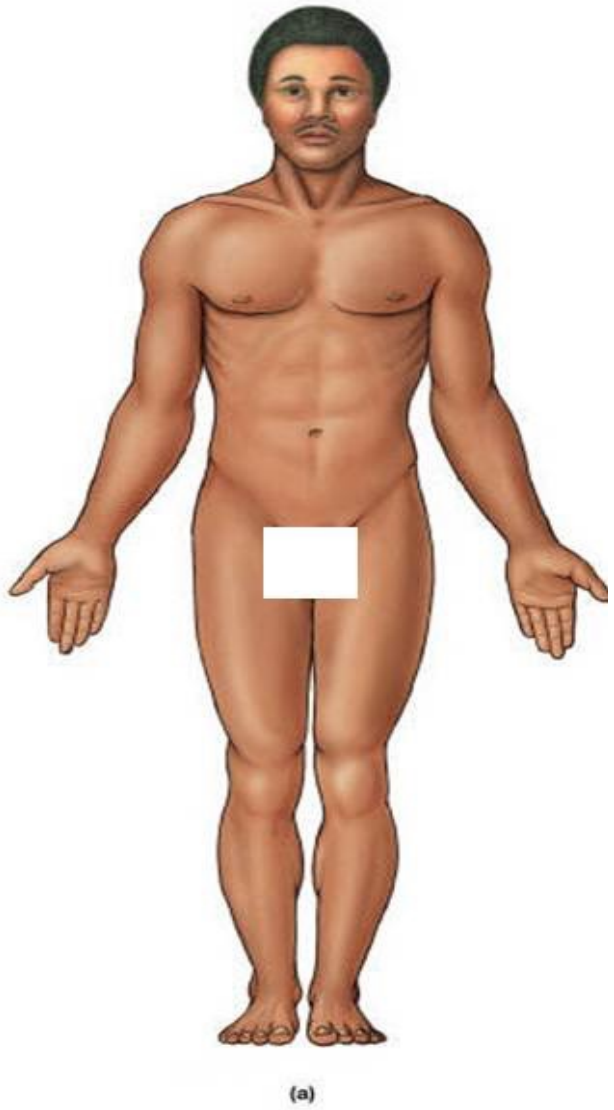
The person is:

1- Standing erect

2- The upper limbs by the sides

3- The face and palms of the hands directed forward

4-Feet by the sides



(a)

Anatomical planes

Median Sagittal Plane

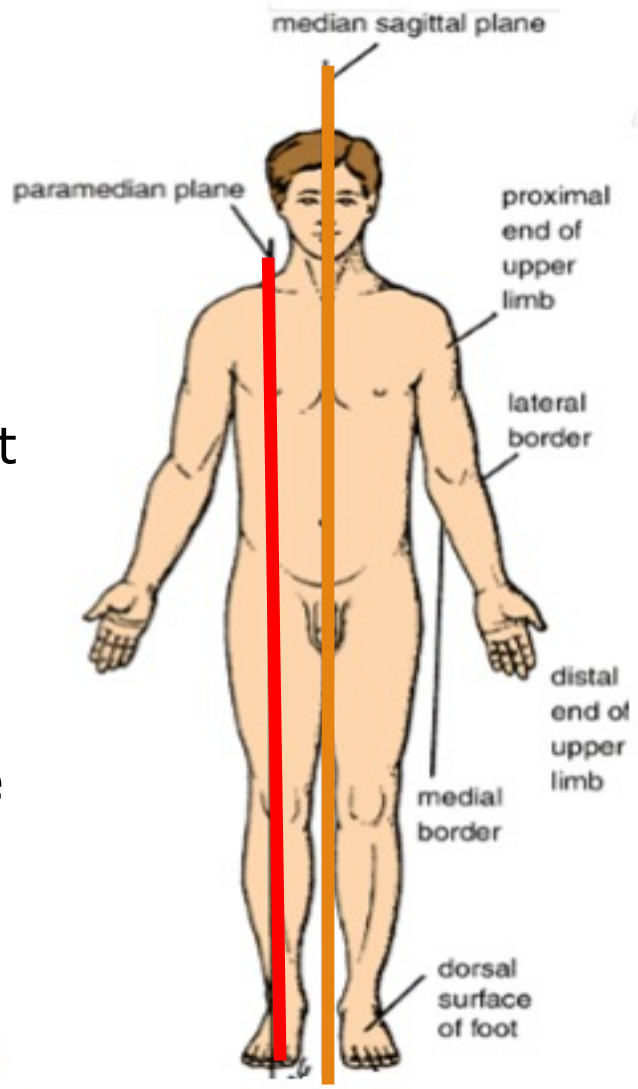
1- Is a vertical plane

2- Passes through the center of the body

3-Divids the body into equal right and left halves

Paramedian Plane

Is situated to one or the other side of the median plane and parallel to it.

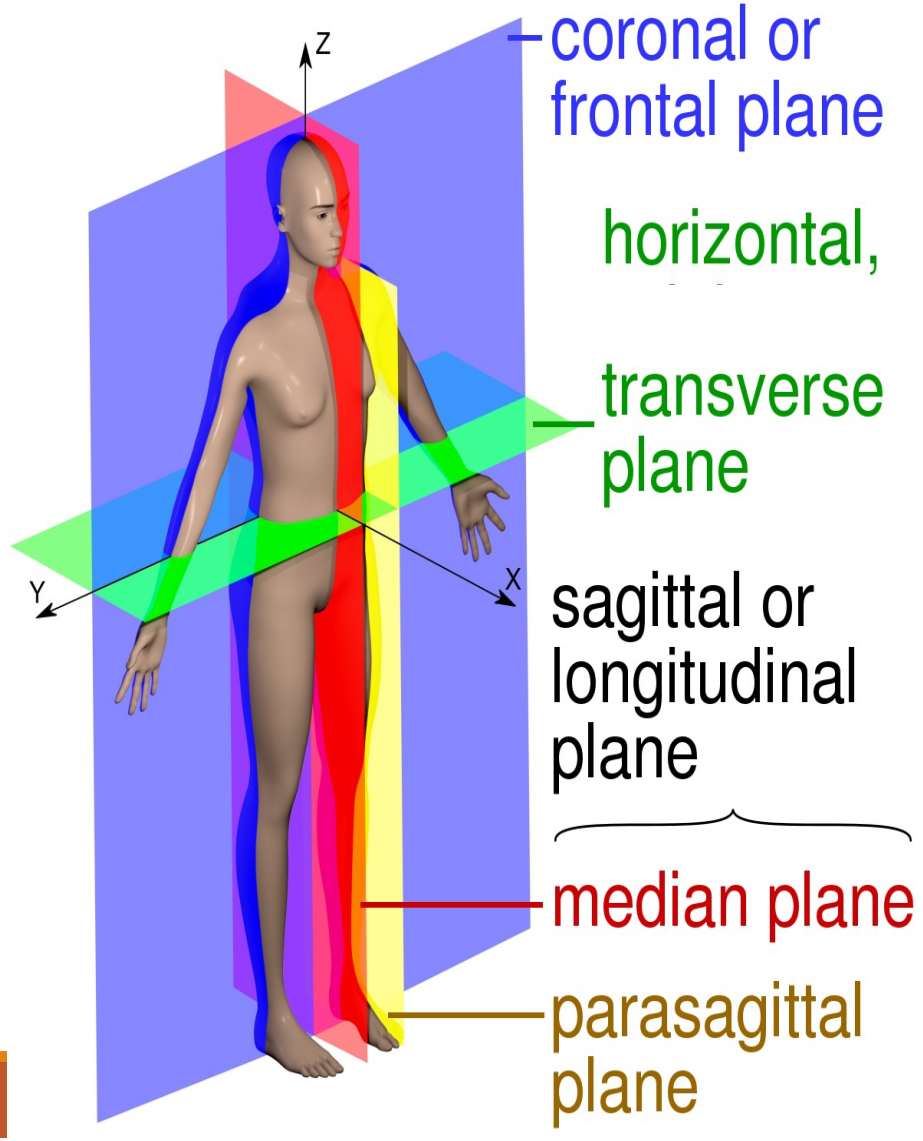


Coronal Plane

Is an imaginary vertical planes divide the body into anterior and posterior parts

Transverse, horizontal

It divide the body into superior and inferior parts



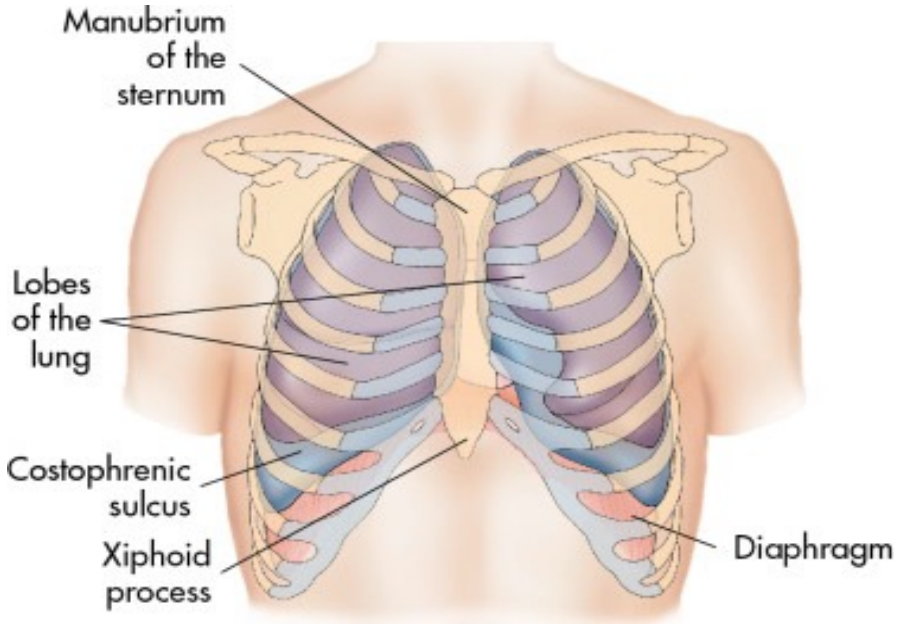
ANATOMICAL TERMINOLOGY

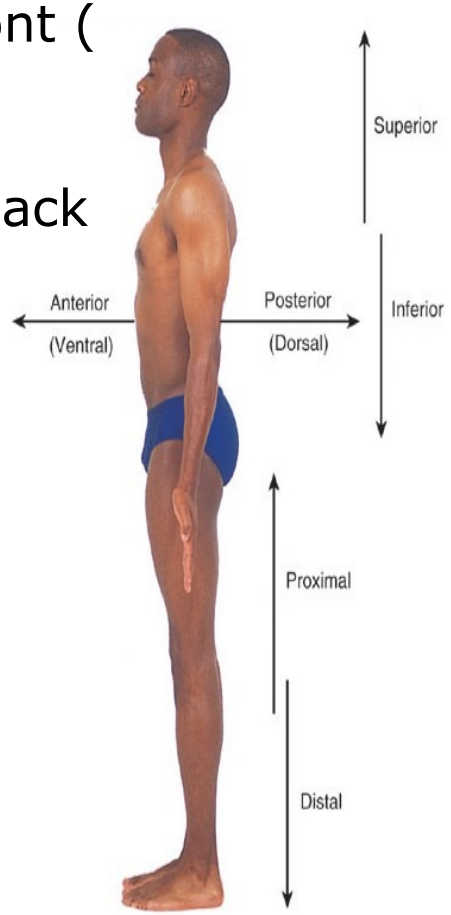
POSITIONS AND DIRECTIONS

Terms of position and direction describe the position of one body part relative to another

Anterior(Ventral) : Refers to a structure being more in front (Ribs are anterior to lungs)

Posterior (Dorsal) : Refers to a structure being more in back (lungs are posterior to Ribs)



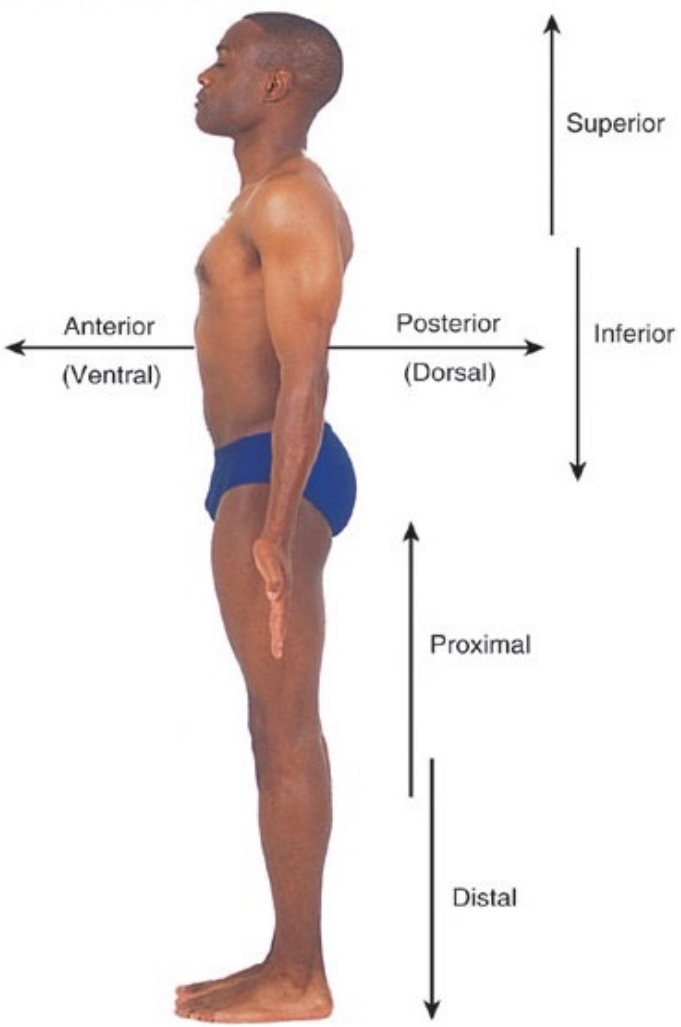


Superior : Refers to a structure being higher

Inferior : Refers to a structure being lower

✓ Head is superior to chest

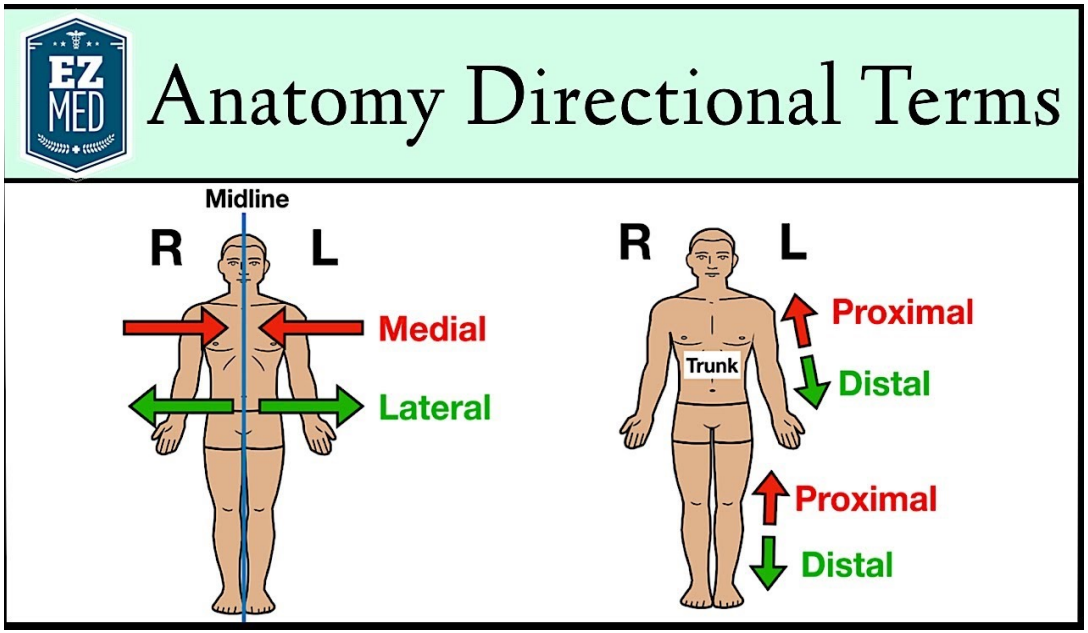
✓ Chest is inferior to Head

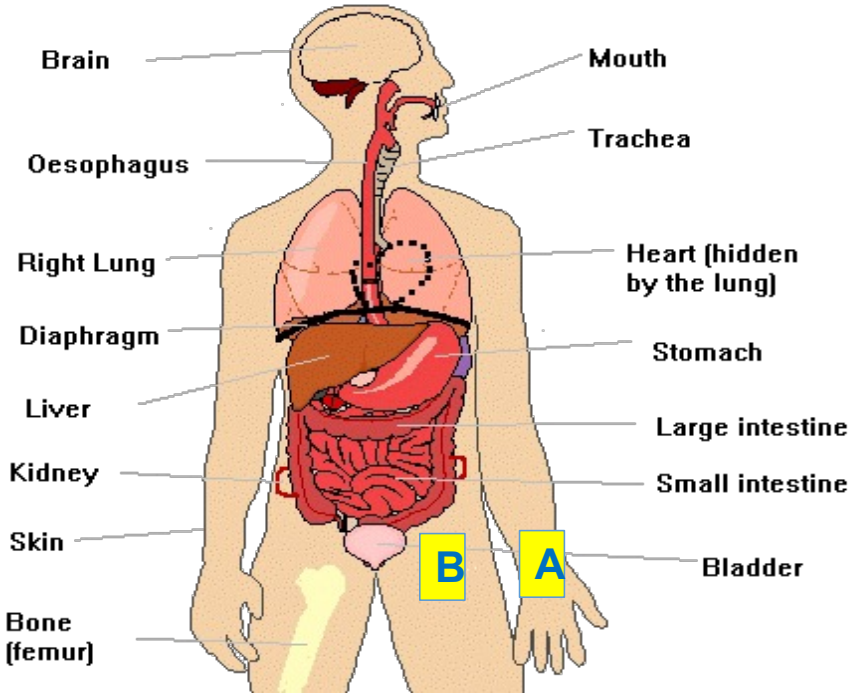


Medial : Refers to a structure being closer to the midline
Lateral : Refers to a structure being farther away from the midline

✓ The point **A** is lateral to point **B**

✓ The point **B** is medial to Point **A**





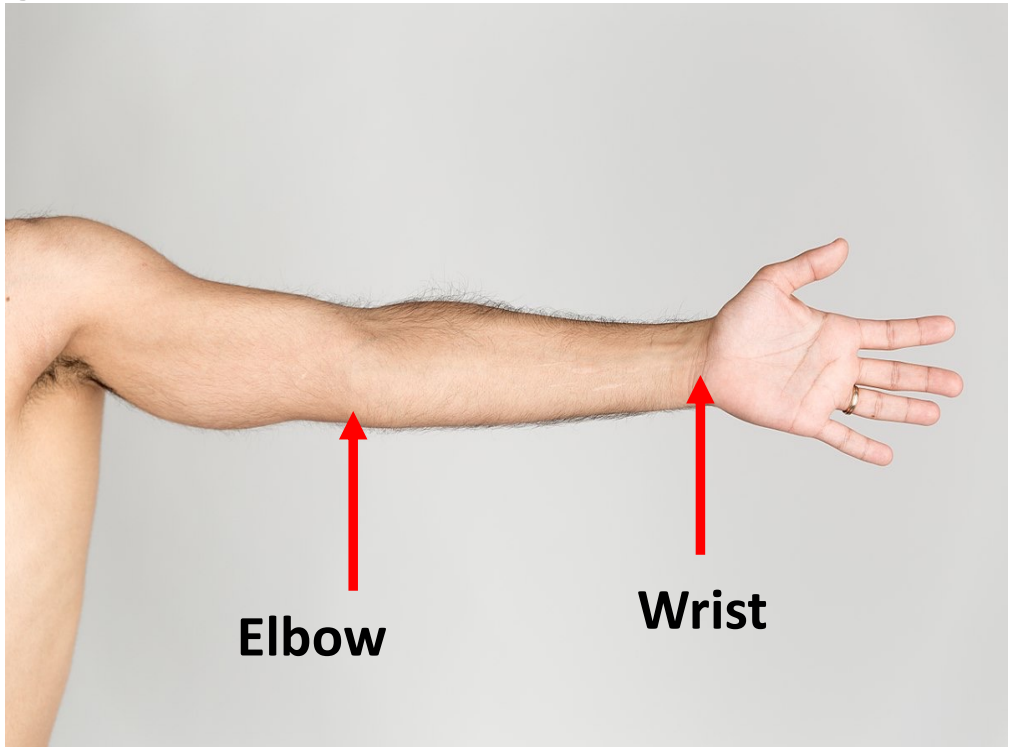
Proximal : Closer from a structure's origin

Distal : farther from a structure's origin

They used in the limbs.

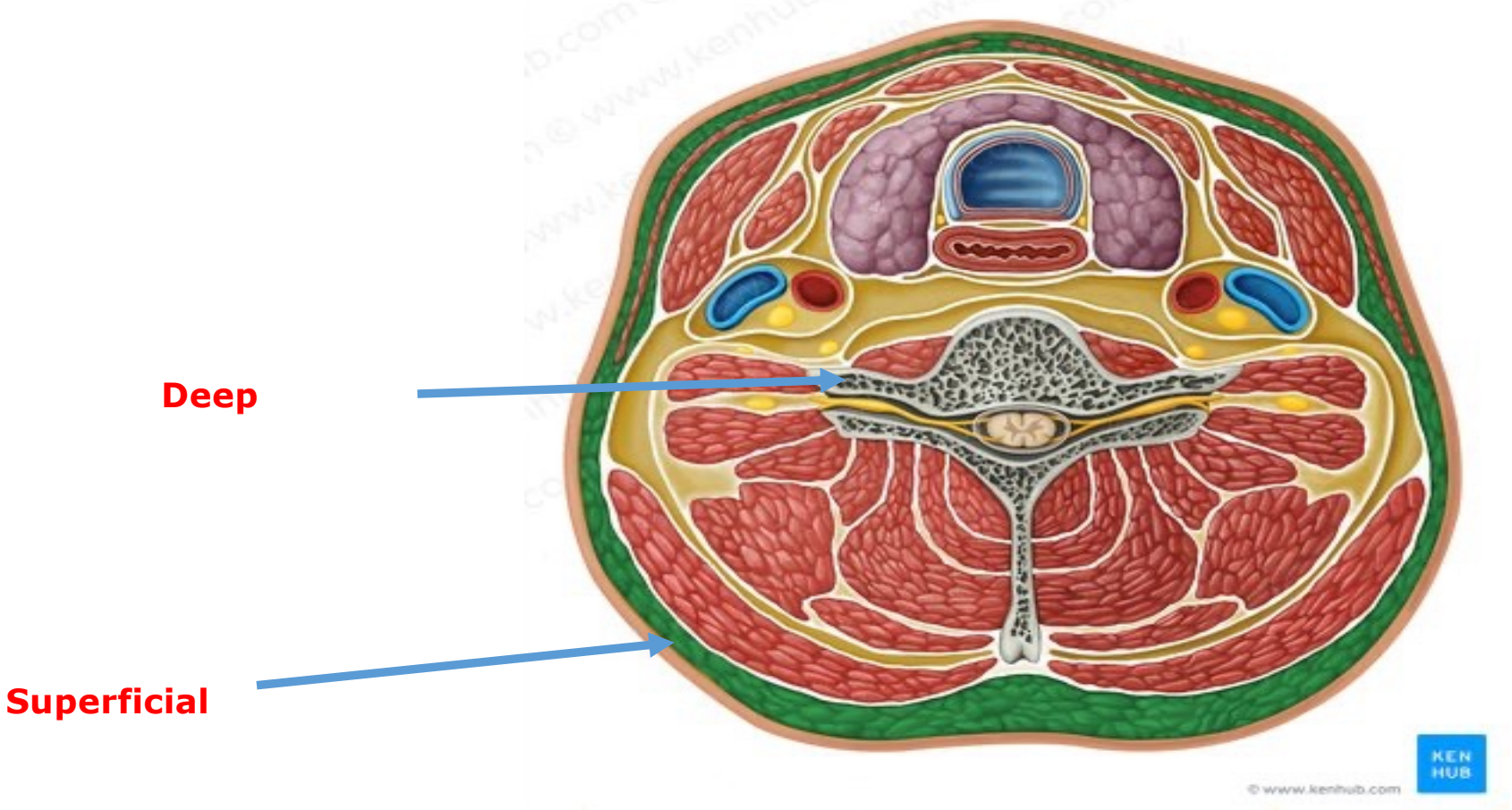
The **elbow** is proximal than **wrist**

The **wrist** is distal to **elbow**



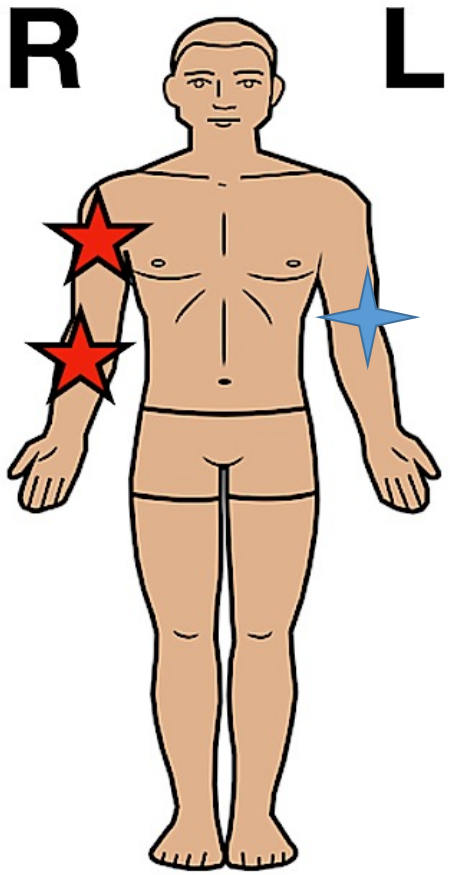
Superficial: Nearer to body surface

Deep: Away from body surface



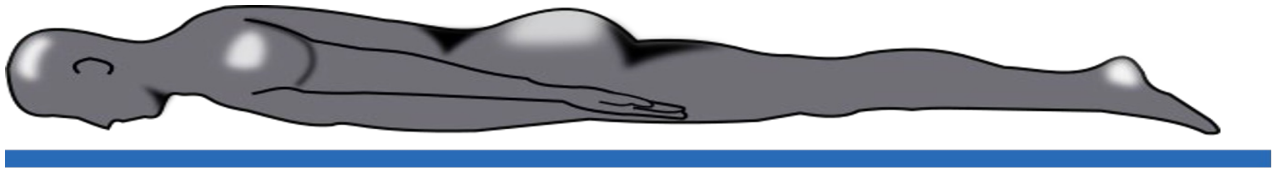
Ipsilateral : Same side

Contralateral : opposite side

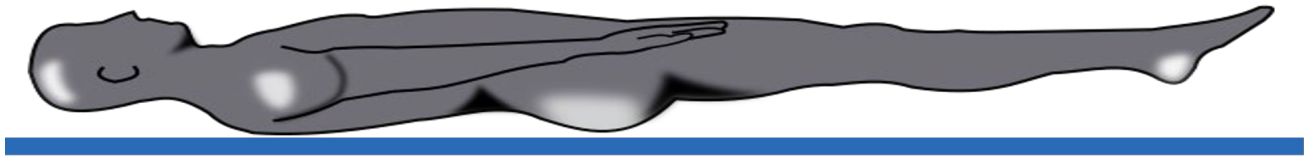


Supine : lying face up

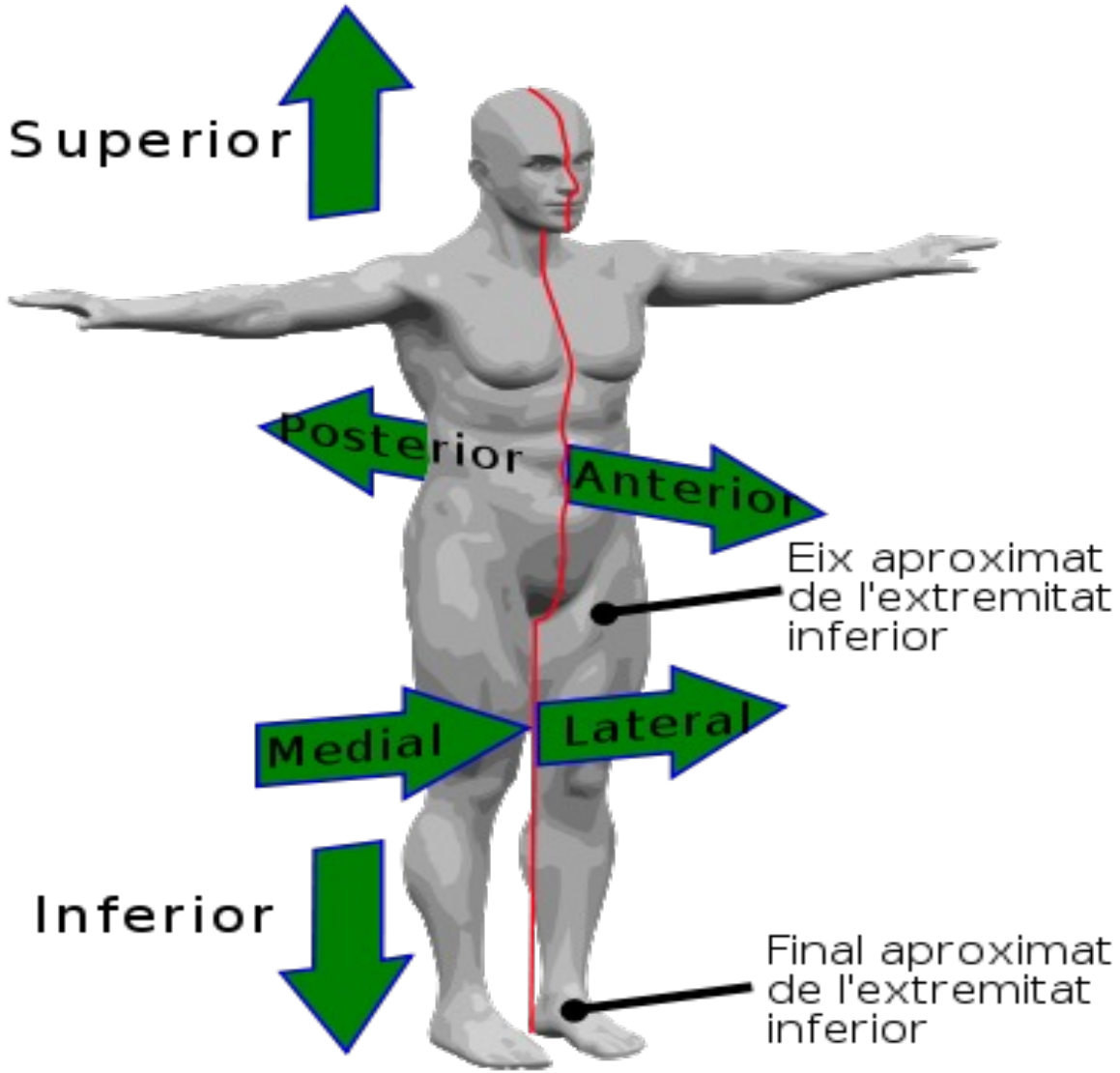
Prone : lying face down



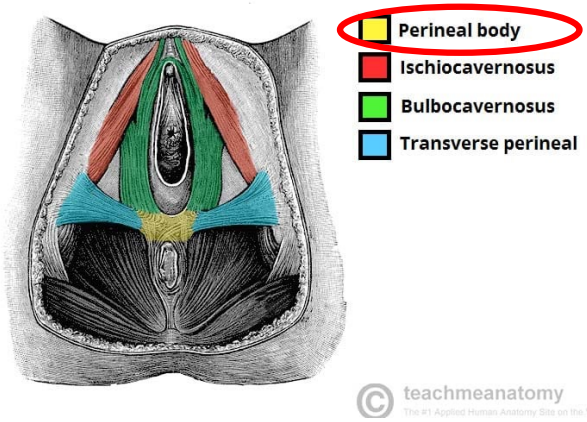
prone

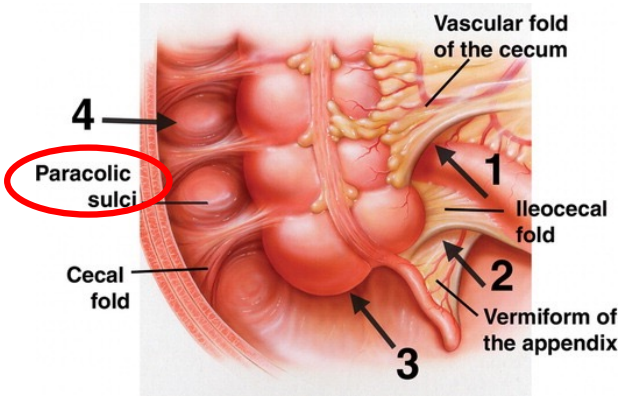


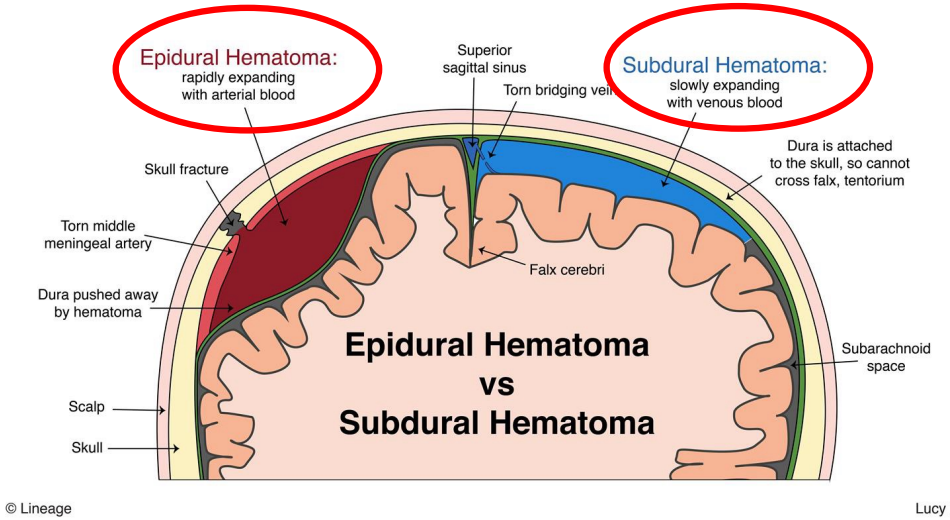
supine

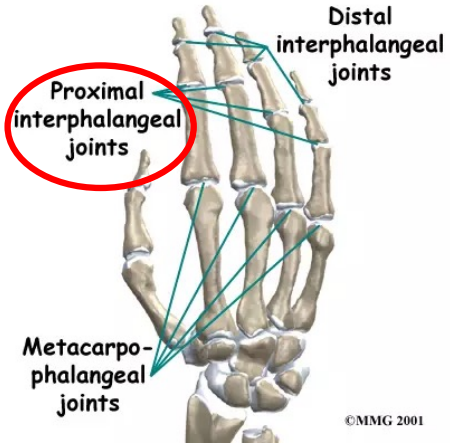

Superior
Posterior
Anterior
Eix aproximat de l'extremitat inferior
Medial
Lateral
Inferior
Final aproximat de l'extremitat inferior

- **Peri-** Around
- **Para** Beside
- **Endo** Inside
- **Inter** Between
- **Epi** Just above
- **Sub** Just below







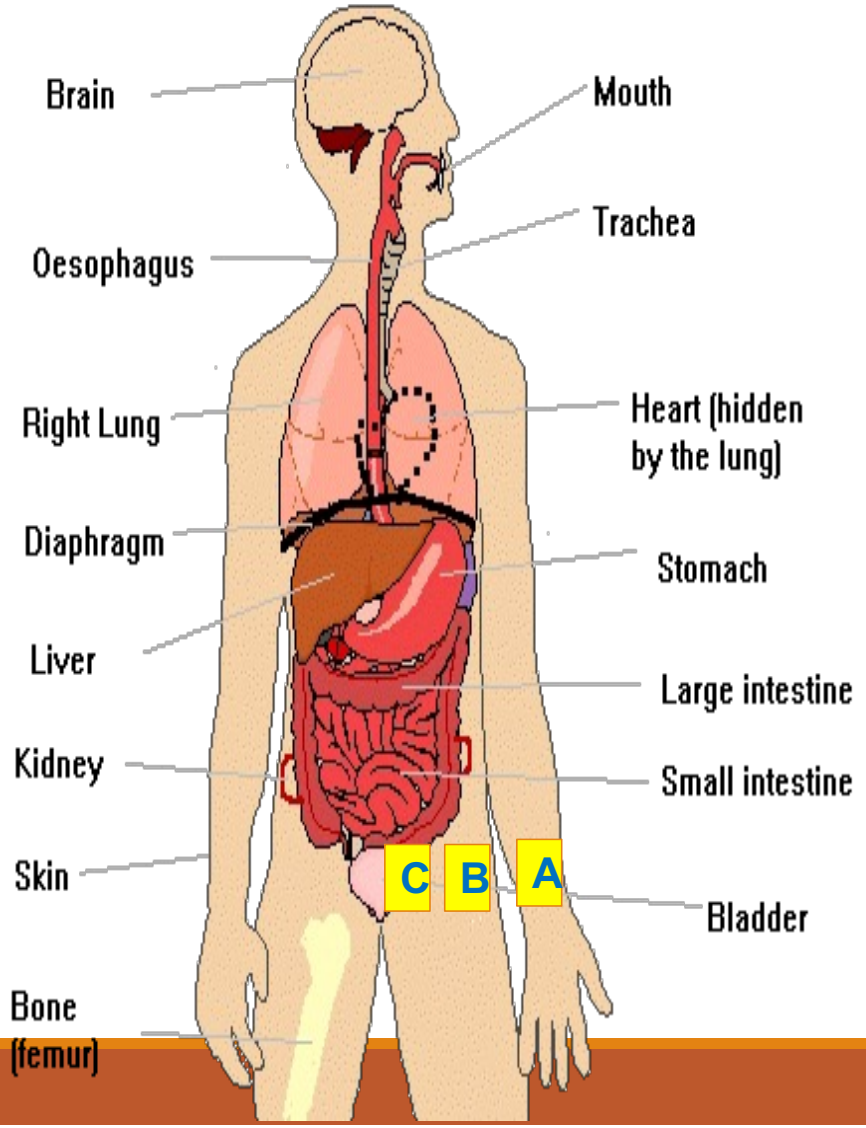


1- The stomach is ……to intestine

2- The liver is ……..to diaphragm

3- The point A is …… to point B

4- The point C is …… to point B

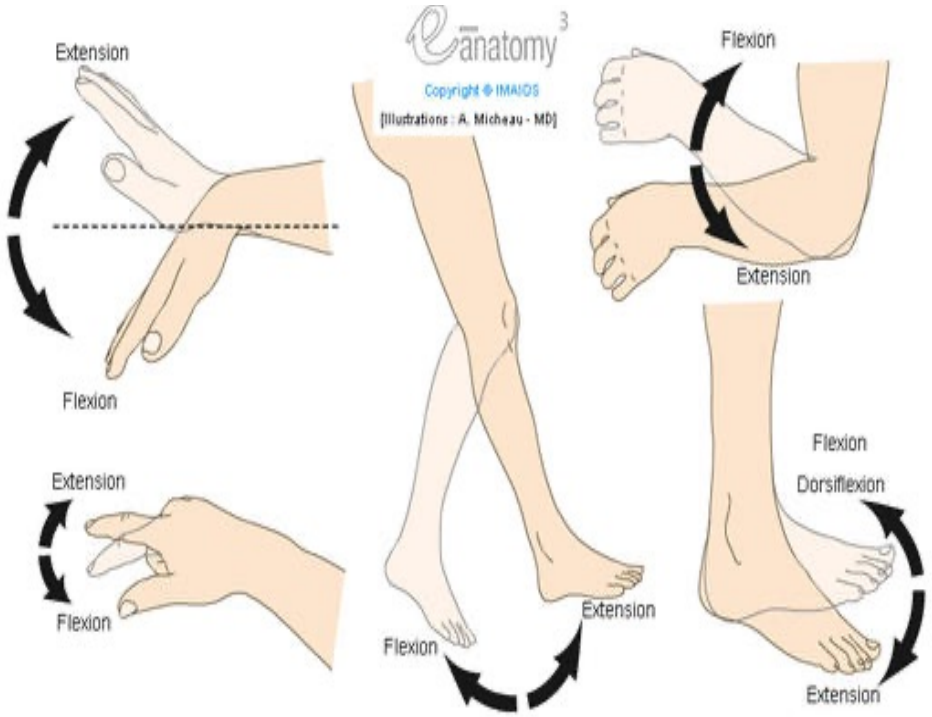


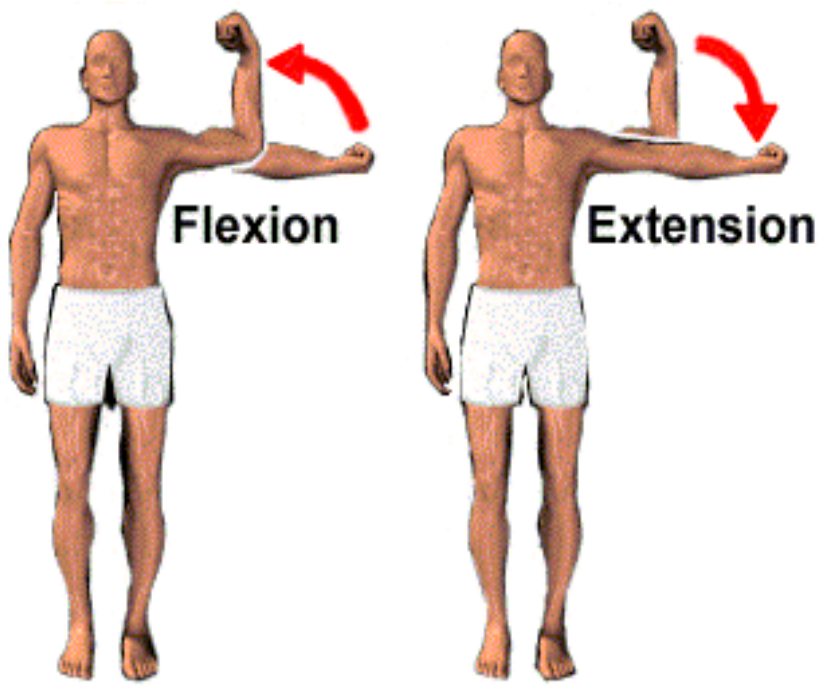
Anatomical Terminology

Movement Terms

Flexion : Bending movement

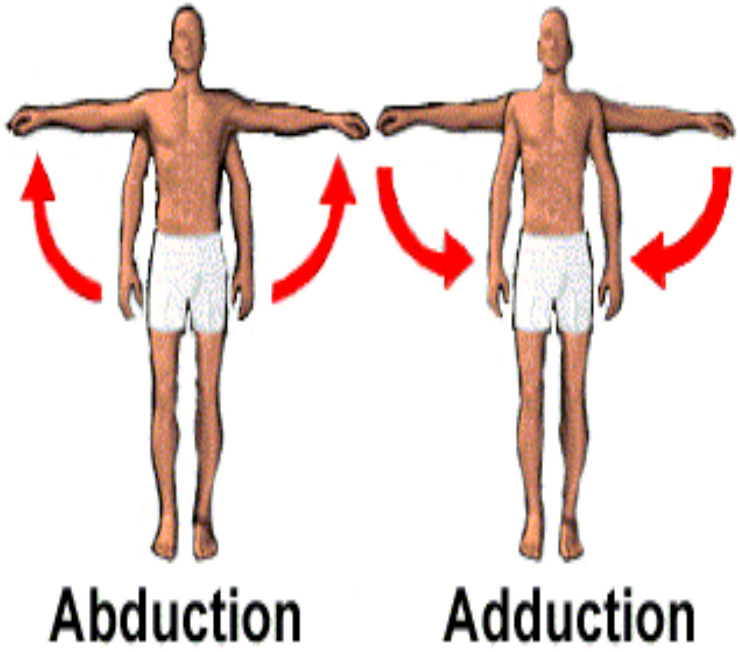
Extension : Straightening movement





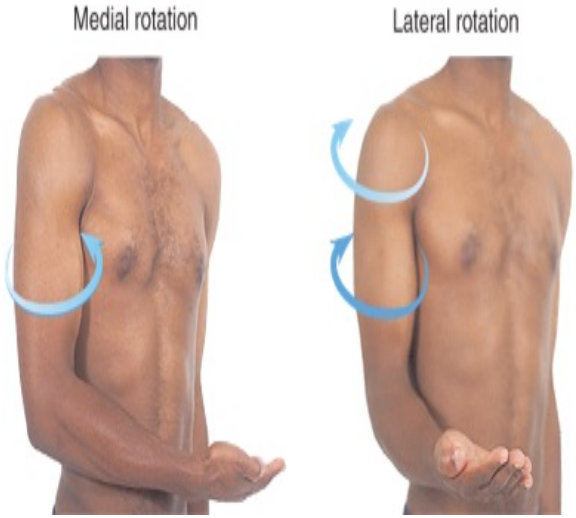
Abduction: Moving a body part away from midline

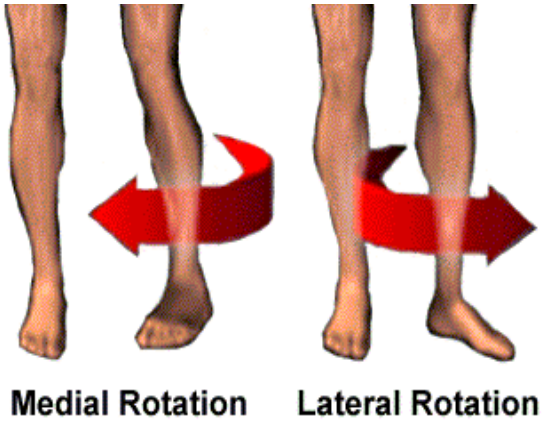
Adduction :Moving a body part toward the midline



Medial rotation : rotation towards the center of the body

Lateral rotation : rotation away the center of the body

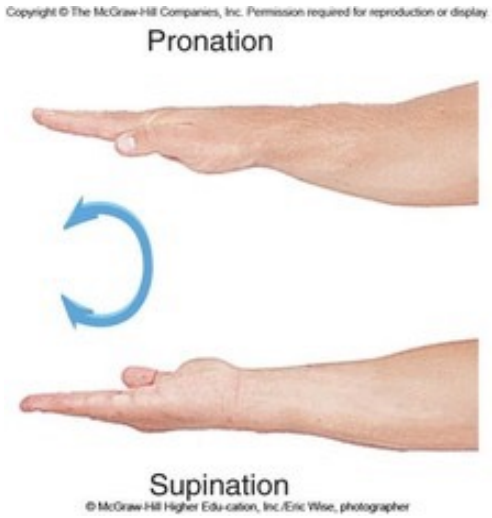




Pronation : Medial rotation of forearm

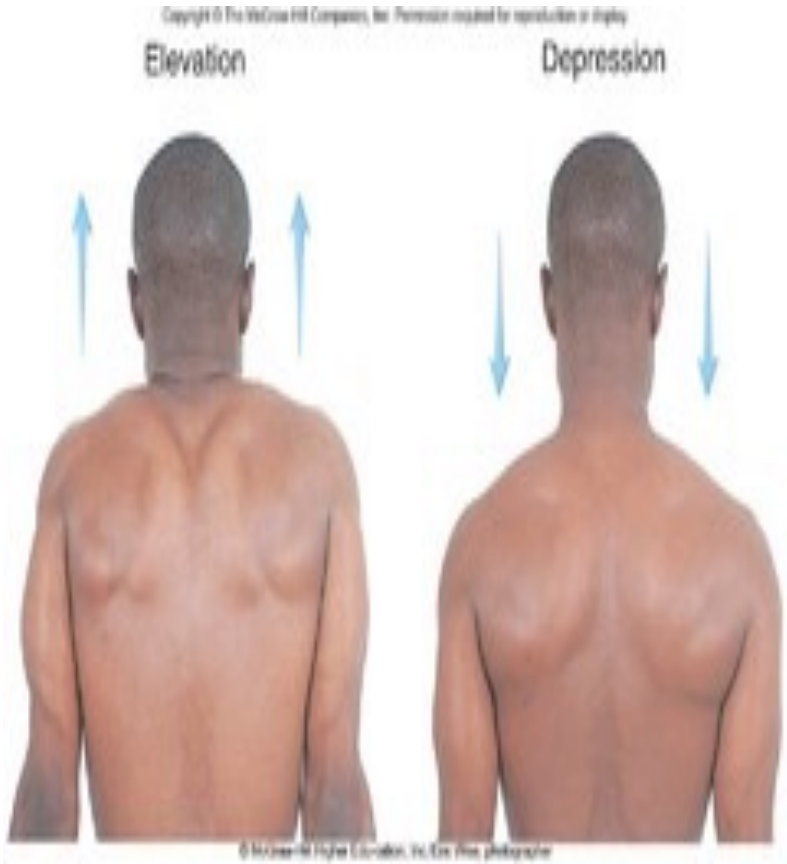
Supination : Lateral rotation of forearm

Supination



Elevation : Is movement in a superior direction

Depression : Is movement in a inferior direction



Inversion : is the movement of the sole towards the median plane

Eversion : the movement of the sole of the foot away from the median plane

(b) Inversion

(c) Eversion

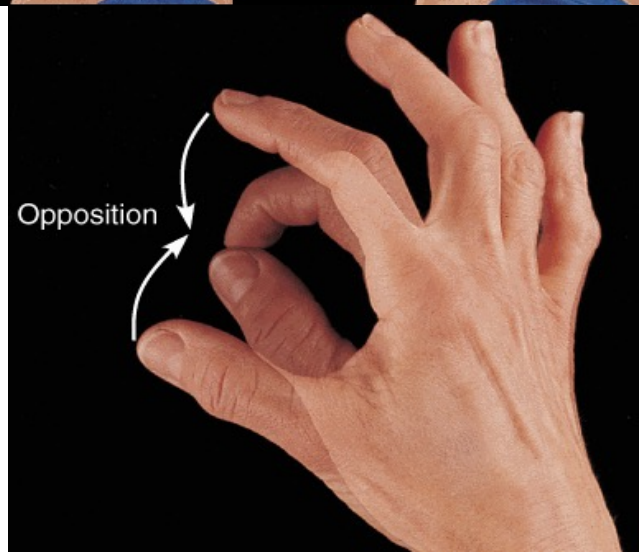
Dorsiflexion : Raising the foot upwards towards the leg

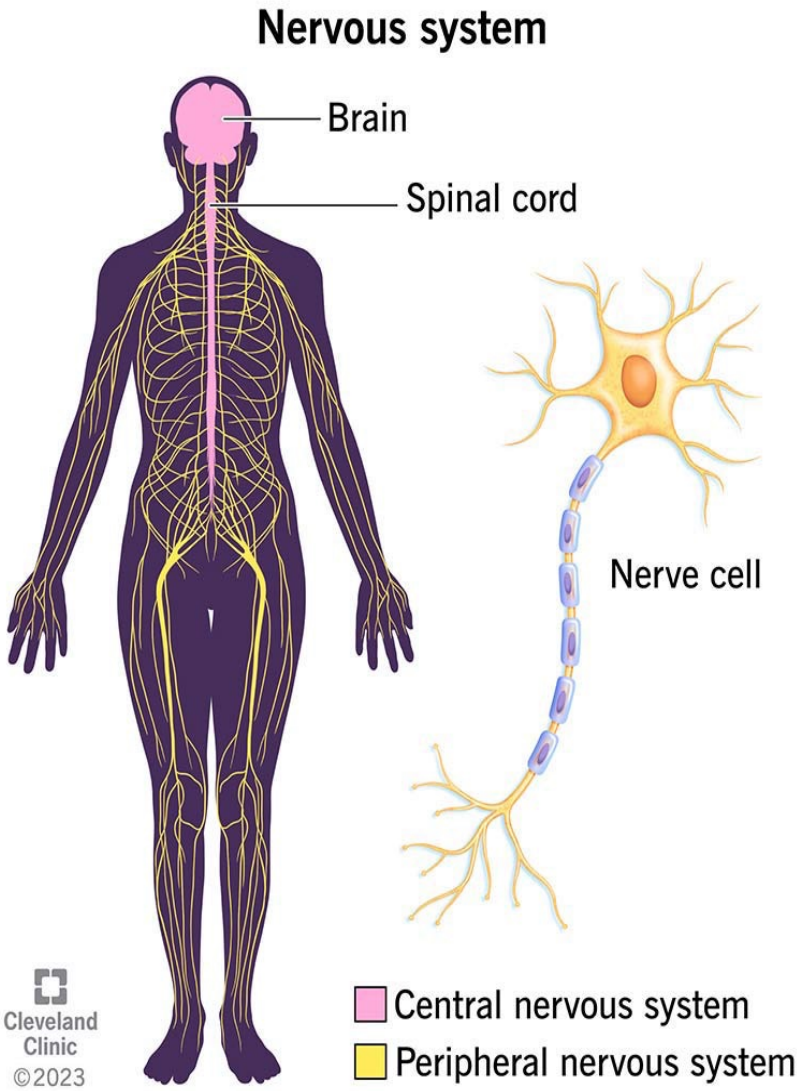
Plantarflexion : Lowering the foot downwards towards the sole

Retraction : moving a part backward

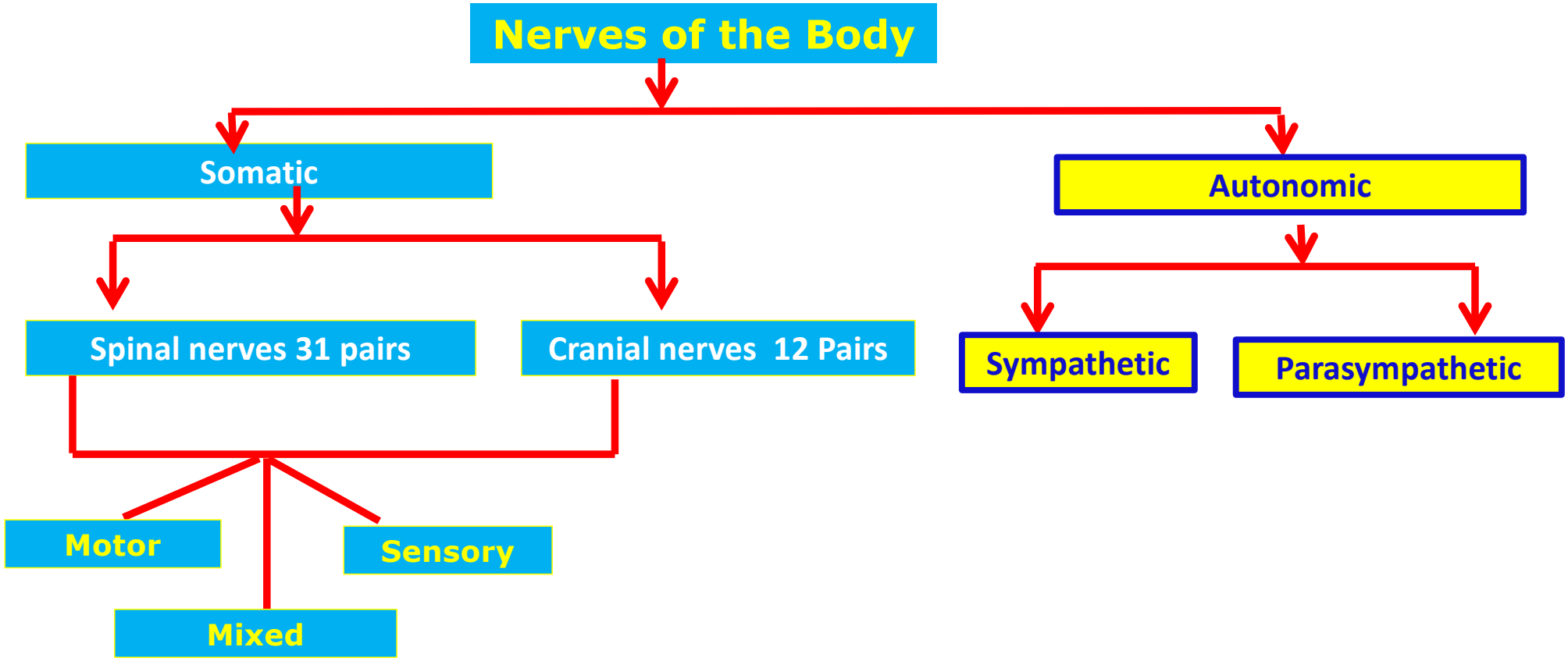
Protraction : moving a part forward

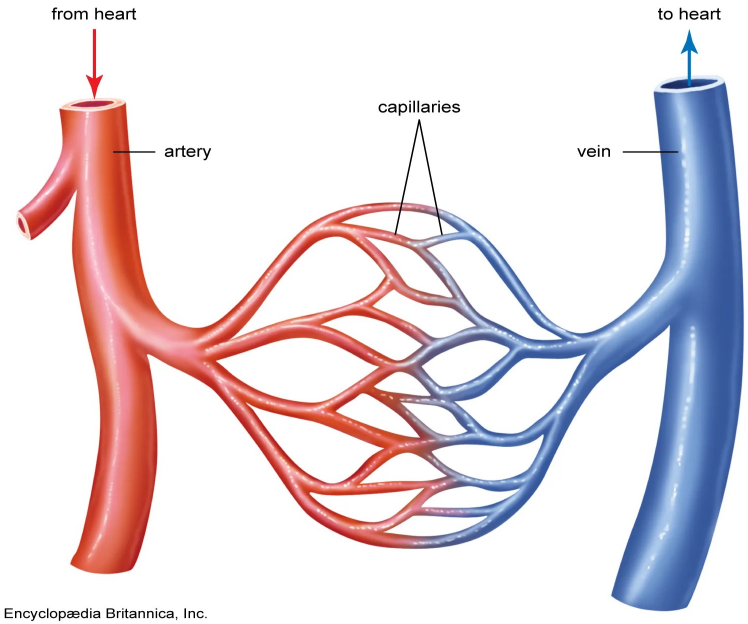
Opposition : Movement of the thumb across the palm of the hand.



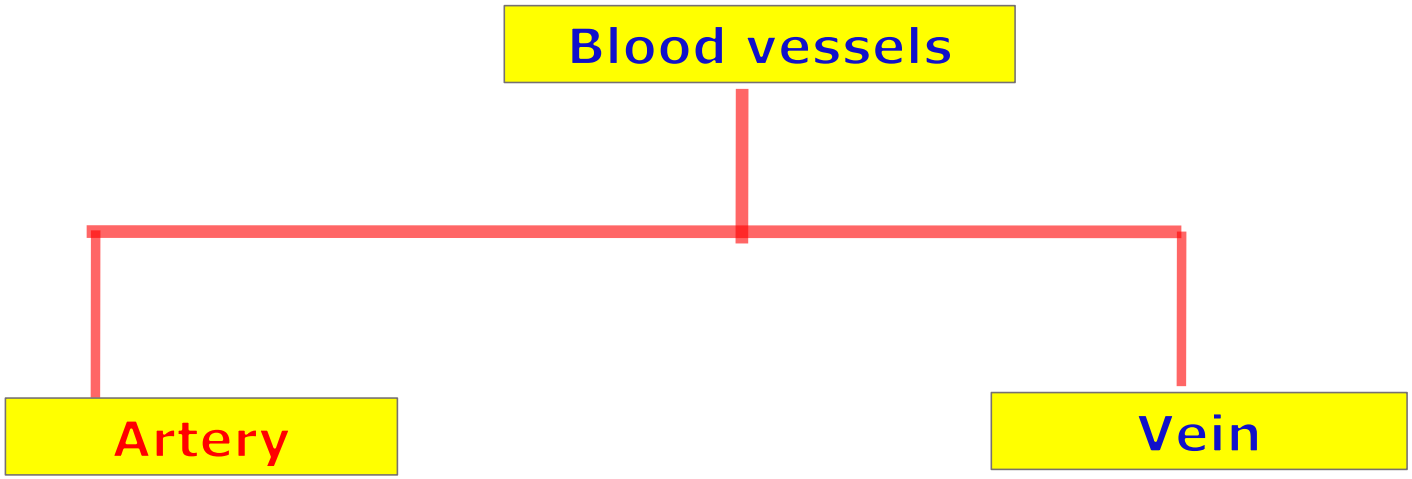

Nervous system
Brain
Spinal cord
Nerve cell
Cleveland Clinic ©2023
Central nervous system
Peripheral nervous system

Nerves


Nerves of the Body
Somatic
Autonomic
Spinal nerves 31 pairs
Cranial nerves 12 Pairs
Sympathetic
Parasympathetic
Motor
Sensory
Mixed



Blood vesseles



- It carries blood from the ventricles of the heart to the capillaries.
- It usually carries oxygenated blood **EXCEPT** pulmonary artery
- It has Branches

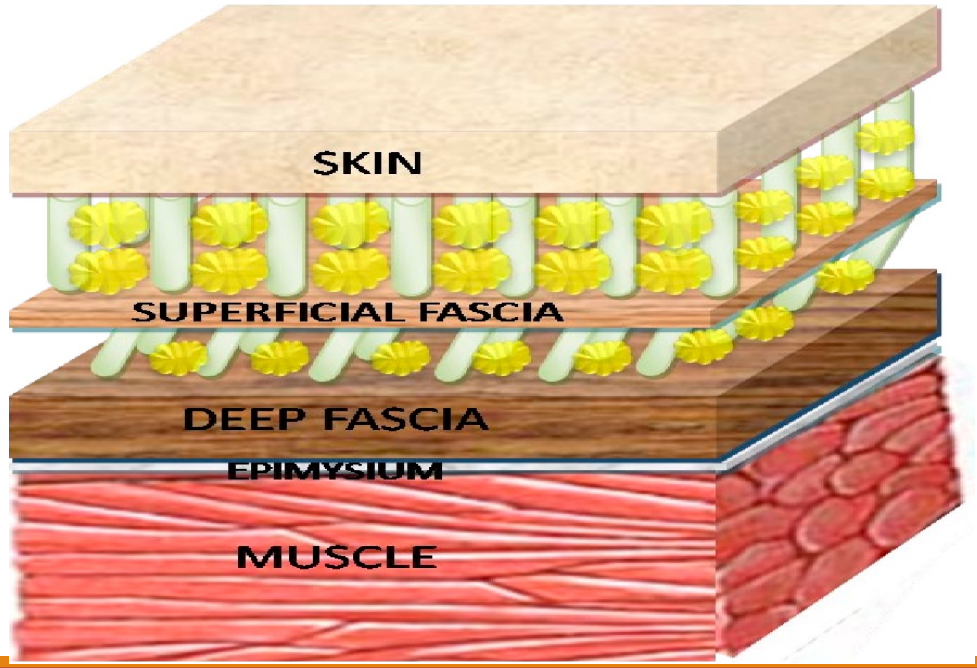
- It return blood from capillaries to the heart.
- It usually carries deoxygenated blood **EXCEPT** pulmonary veins
- It has Tributaries

Fascia

Fascia

Superficial Fascia

Deep Fascia



Superficial Fascia

It is a mixture of loose areolar and fatty tissue that unite the skin to the underlying deep fascia

Function :

1-Acts as a bad conductor to heat

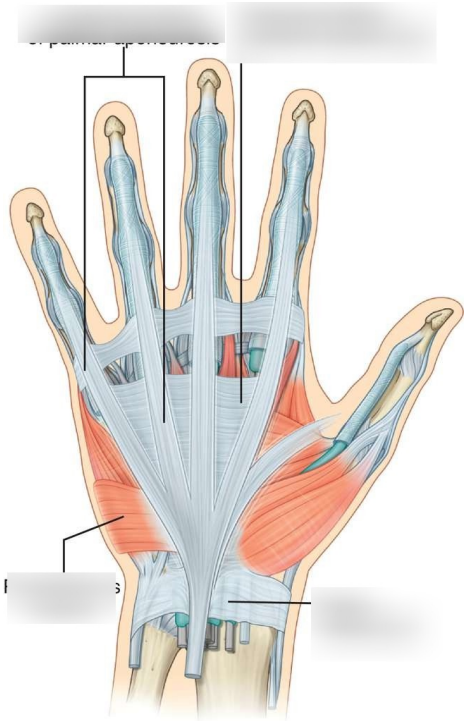
2- Fills up the hollows and rounds off the irregularities at the surface of the body

Deep Fascia

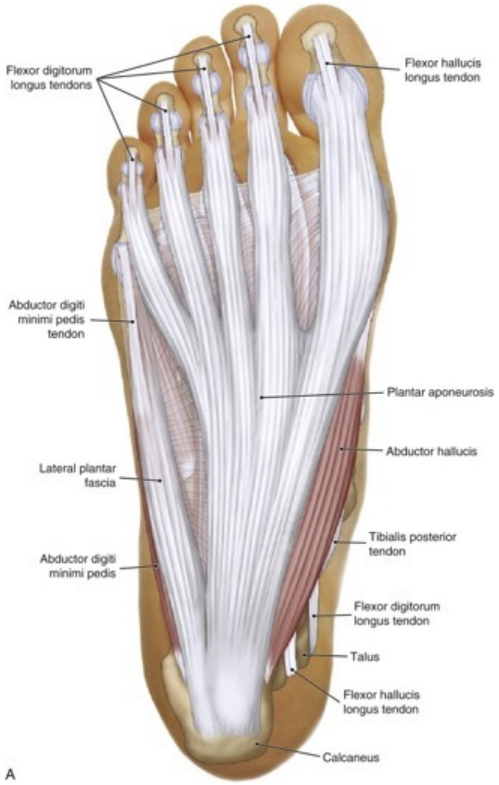
- It is membranous layer of connective tissue that invests the muscles and other deep structures.
- It is Denser than superficial fascia

Function

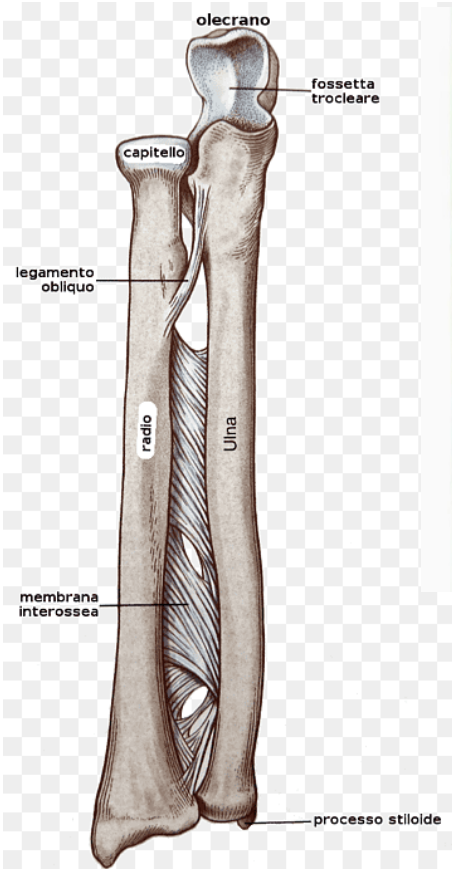
1. keep the underlying structures in position.
2. They give attachment to some muscles.
3. Formation of intermuscular septa and interosseous membranes
4. Formation of palmar aponeurosis (in palm) and plantar aponeurosis (in sole):
5. Formation of sheaths around big blood vessels (Femoral sheath)



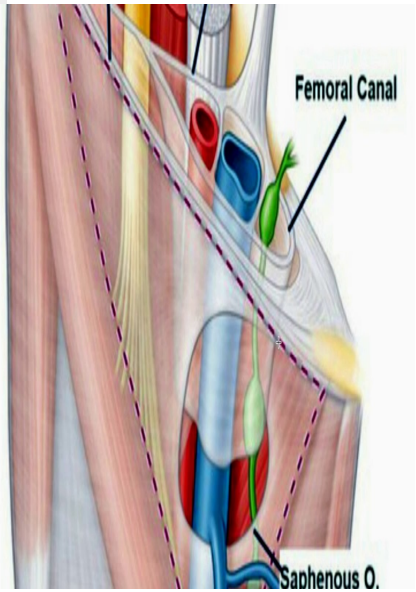
palmar aponeurosis



plantar aponeurosis



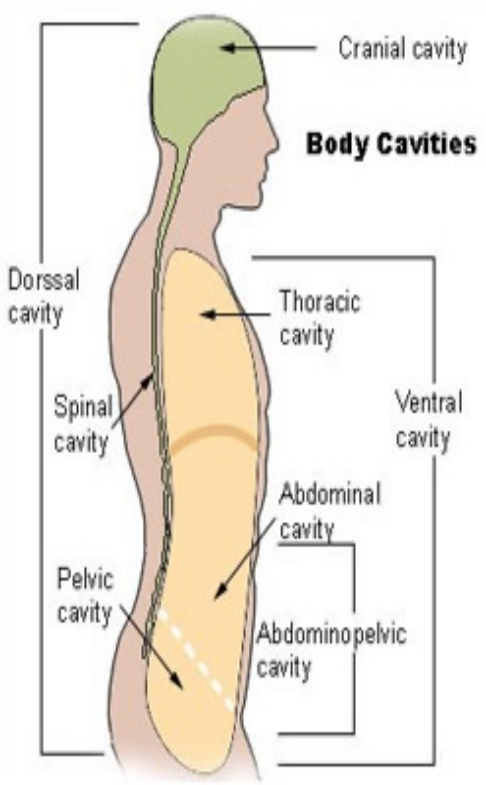
interosseous membranes



Femoral sheath

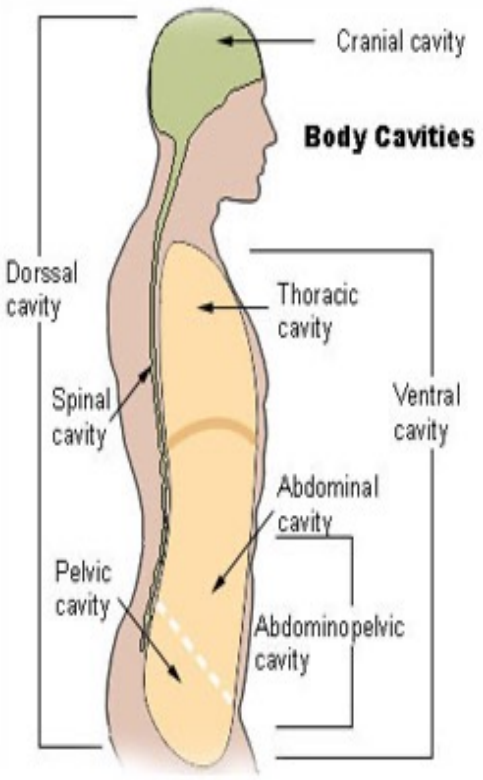
Body Cavities

- Thoracic Cavity
- Abdominal and Pelvic Cavity
- Dorsal Cavity



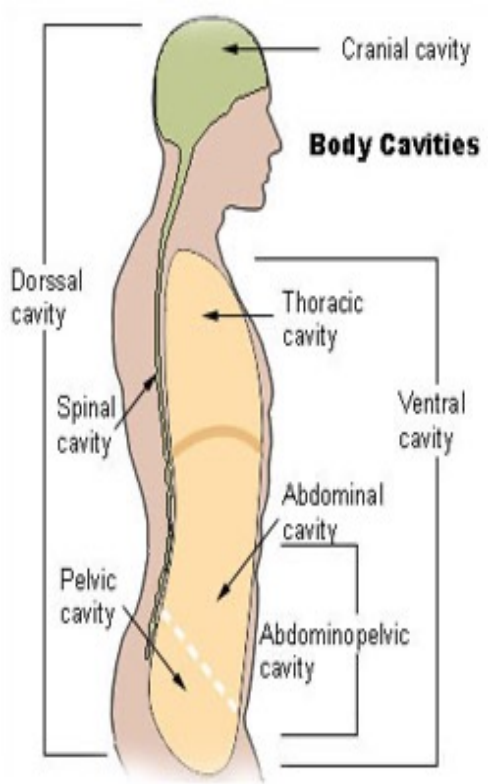
Thoracic Cavity

- Upper ventral, thoracic or chest cavity
- Contains:
  - Heart
  - Lungs
  - Trachea
  - Esophagus
  - Large blood vessels
  - Nerves
- Bound laterally by ribs and the diaphragm caudally



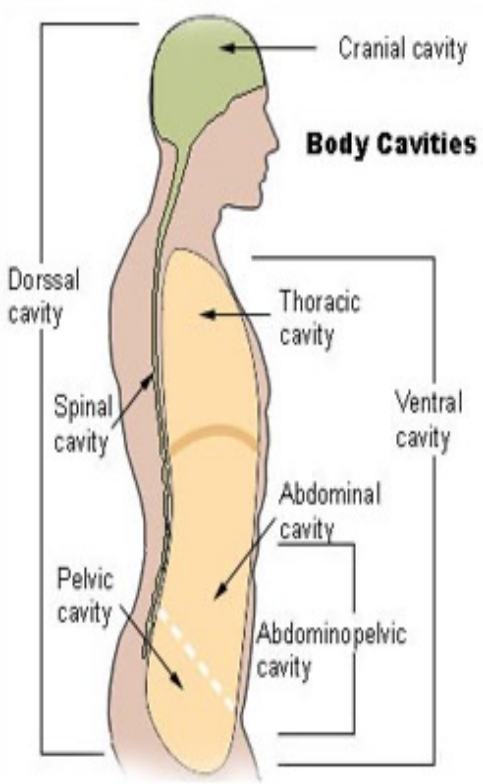
Abdominopelvic Cavity

- Lower part of ventral cavity
- Abdominal:
  - Gastrointestinal tract
  - Kidneys
  - Adrenal glands
- Pelvic:
  - Urogenital system
  - Rectum



Dorsal Cavity

- Smaller of two main cavities
- Upper portion:
  - Cranial cavity
  - Brain
- Lower portion:
  - Vertebral canal house spinal cord



THANK YOU