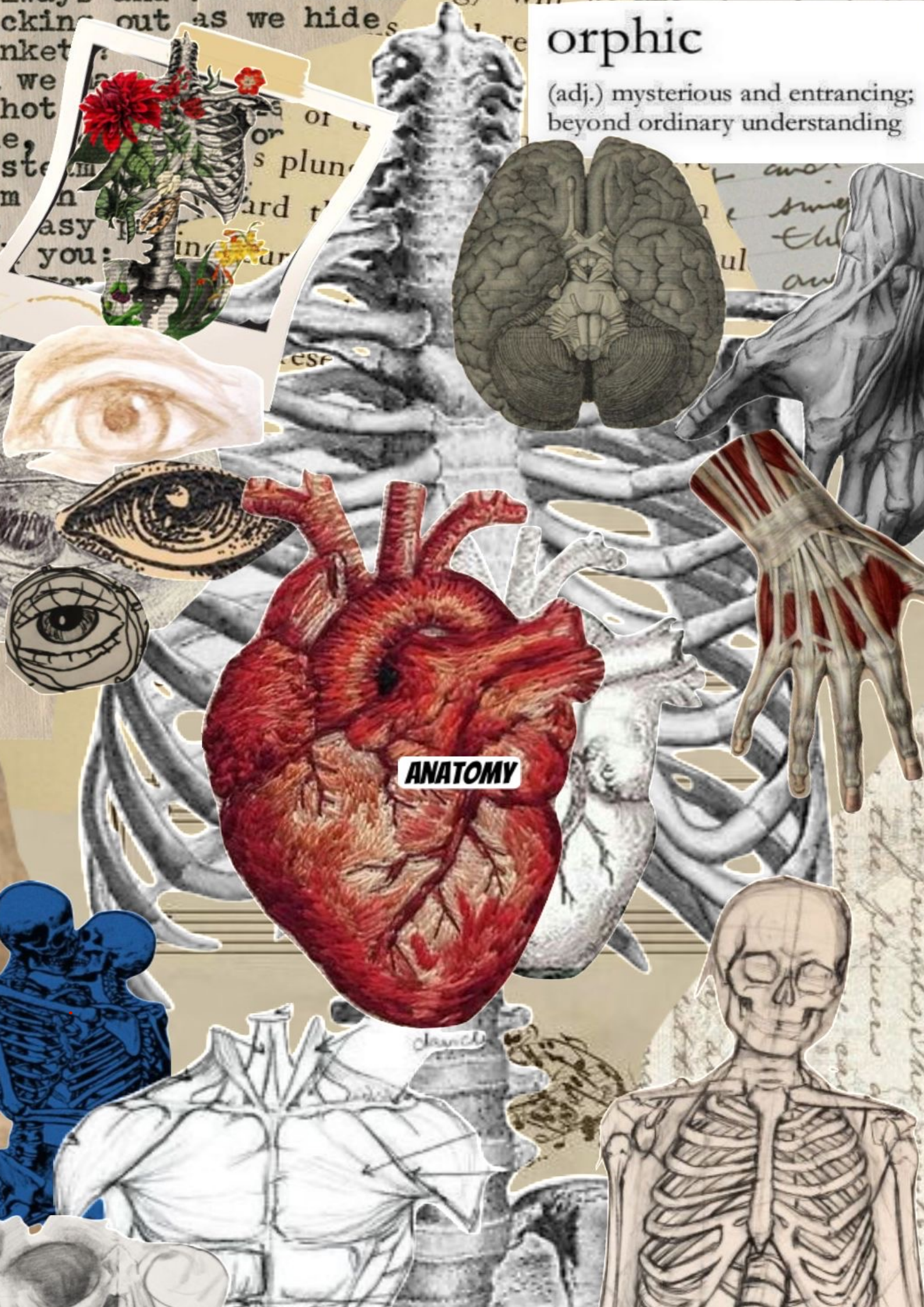
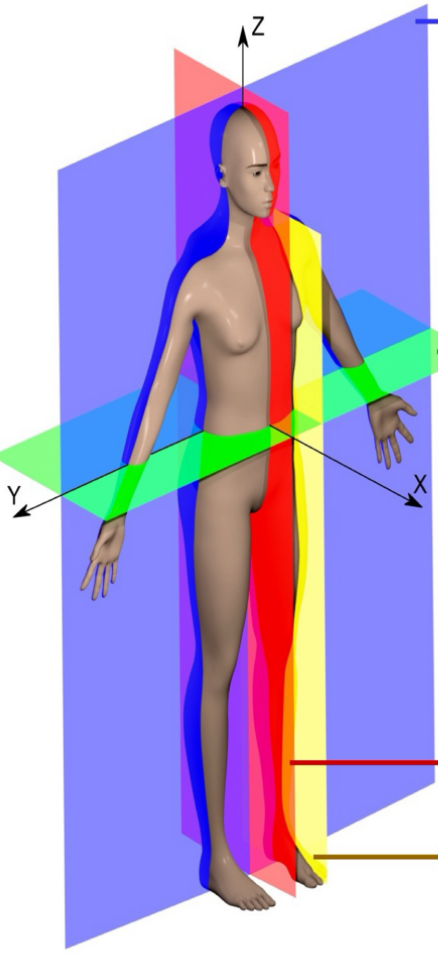

orphic
(adj.) mysterious and entrancing;
beyond ordinary understanding
ANATOMY

﴿ وَنَحْنُ أَقْرَبُ إِلَيْهِ مِنْ حَبْلِ الْوَرِيدِ ﴾

Anatomical Position

→ Standing erect
→ The upper limbs by the sides
→ The face directed and palms forward of the hands
→ Feet by the sides

Anatomical Planes



- coronal or frontal plane → divide the body into anterior and posterior parts
- horizontal, transverse plane → divide the body into superior and inferior parts
- sagittal or longitudinal plane
  - median plane → divide the body into equal right and left halves
  - parasagittal plane → parallel to median plane

Anatomical Terminology

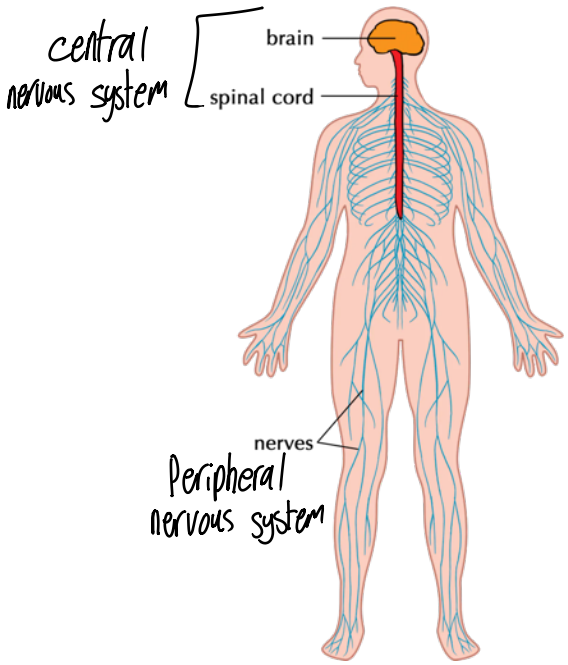
Positions and Directions
https://quizlet.com/891242322/positions-directions-flash-cards/?i=5i2w7y&x=1jqY

Movement Terms
https://quizlet.com/891243568/movement-terms-flash-cards/?i=5i2w7y&x=1jqY

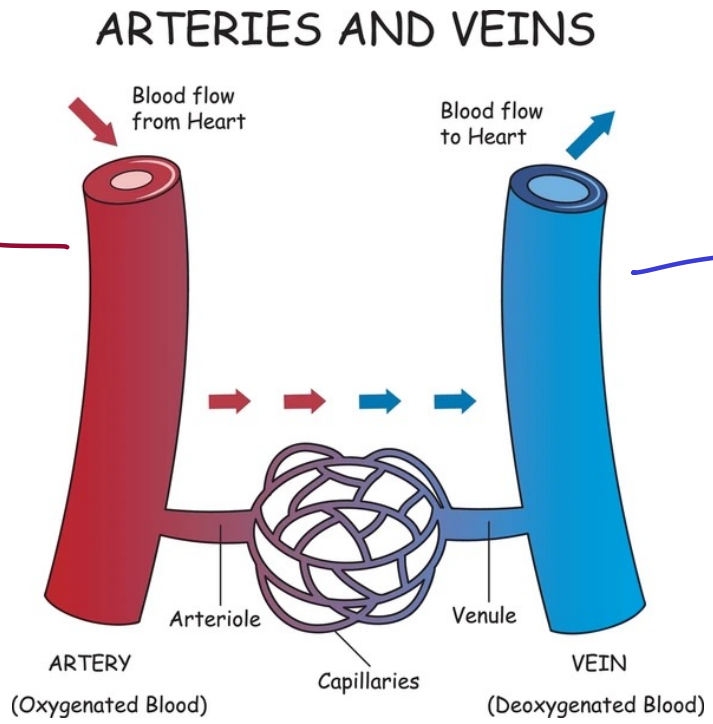
Nerves

Nervous System

Nerves of the body
- Autonomic
  - Sympathetic
  - Parasympathetic
- Somatic
  - Spinal nerves (31 pairs)
  - Cranial nerves (12 pairs)
    - Motor
    - Sensory
    - Mixed



Blood vessels



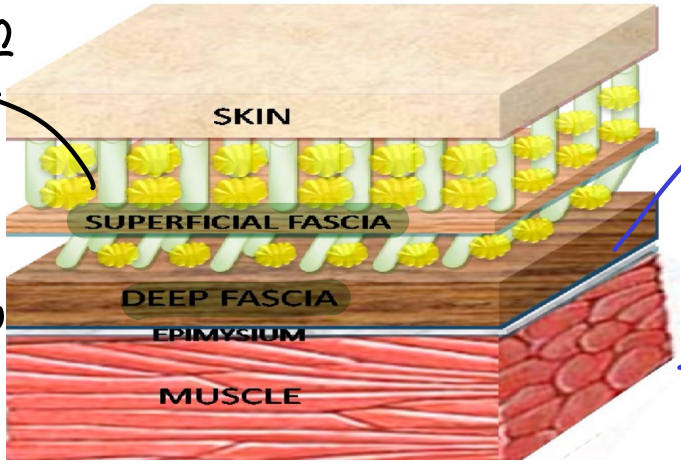
It has Branches

It has Tributaries

Except pulmonary artery & veins

Fascia

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



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

Function of superficial fascia :

1-Acts as a bad conductor to heat.

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

Function of deep fascia:

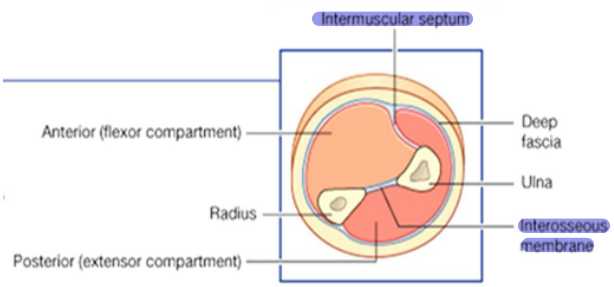
1. keep the underlying structures in position.

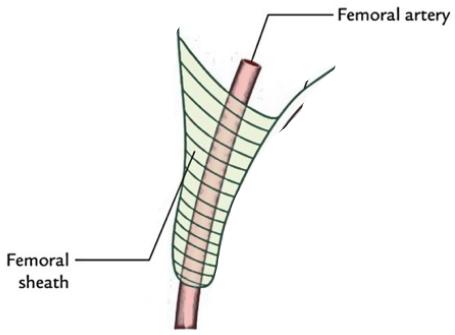
2. They give attachment to some muscles.

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).

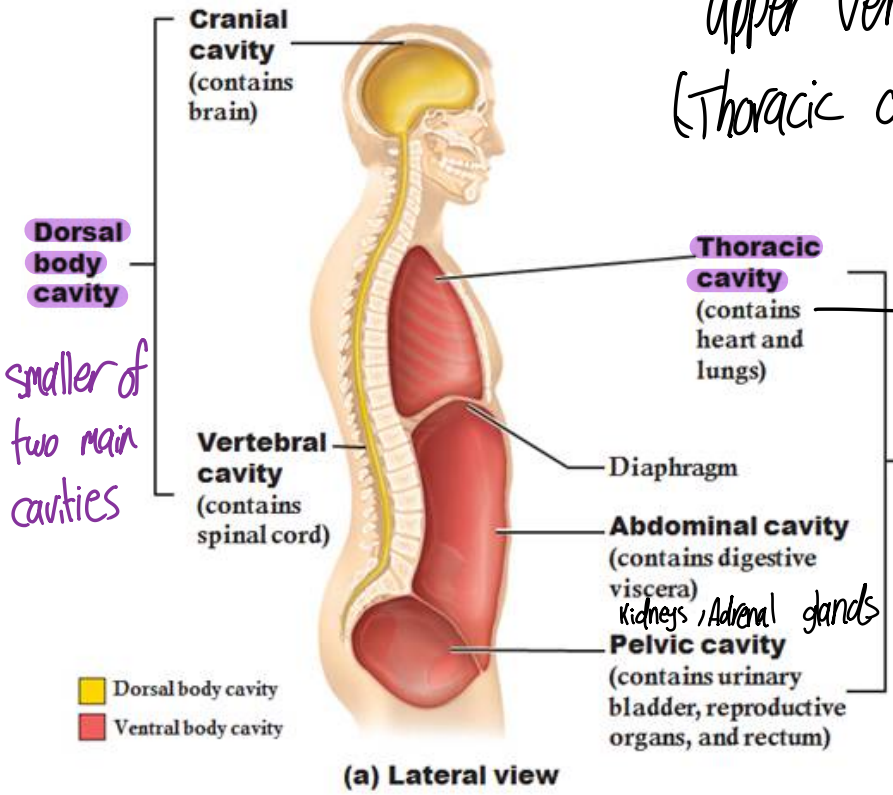




Body Cavities

- Thoracic cavity
- Dorsal cavity
- Abdominal and Pelvic cavity

https://youtu.be/8kvnPaPN6GA?feature=shared



upper ventral (Thoracic or chest cavity)

smaller of two main cavities

Trachea, Esophagus, Large blood vessels & Nerves

+Bound laterally by ribs and the diaphragm caudally

Kidneys, Adrenal glands

Abdominopelvic Cavity

(Muscoskeletal System)

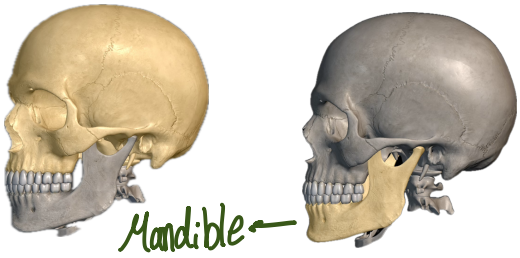
*Includes:

- Bones → 206
  - Axial skeleton
  - Appendicular skeleton
- Joints
- Muscles
- cartilages
- Ligaments

*Axial skeleton :

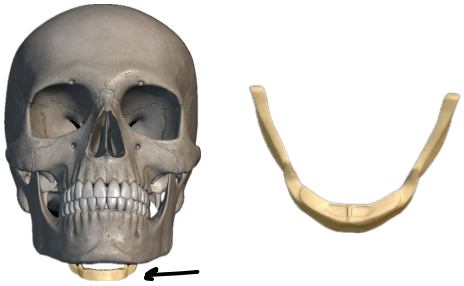
-Skull

22 bones



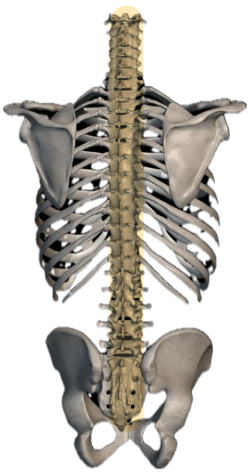
-Hyoid bone

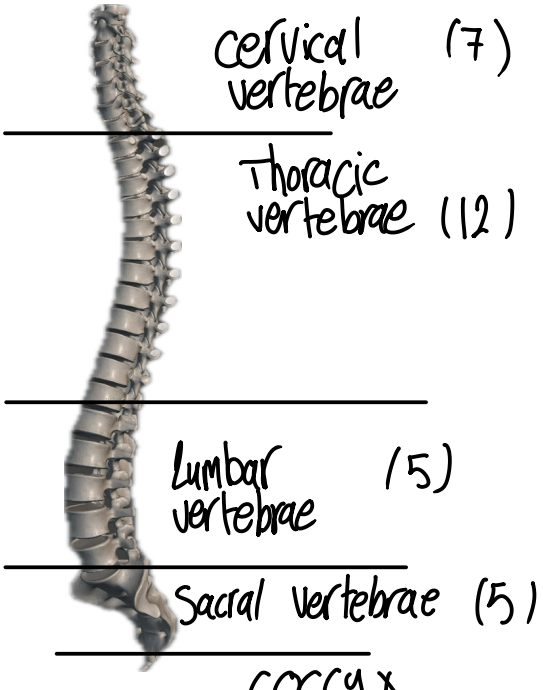
The only bone that doesn't articulate with another bone



-vertebral column

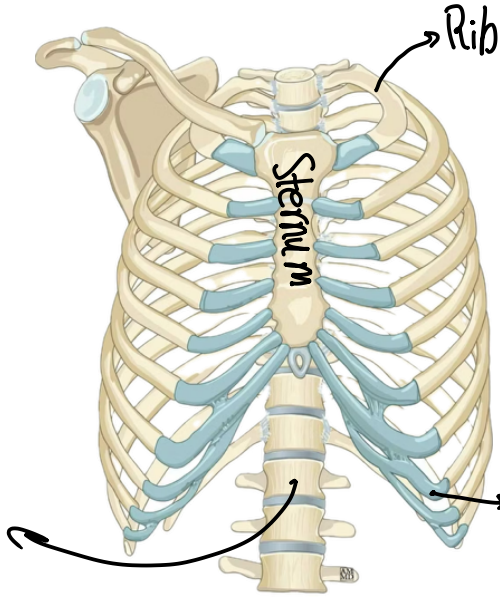
composed of 32-33 vertebrae seperated by intervertebral discs





Ribs & Sternum

*Skeleton of the thorax:



*Appendicular skeleton:

-Bones of the upper and lower limbs (will be discussed later)

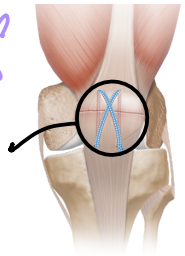
Functions of the bones

- Protection
- Support
- Movement
- Storage
- Makes blood (by Bone marrow)

Types of bone according shape:

1. Long bone
   - Femur, Humerus
2. Short bone
   - Carpal, Tarsal
3. Flat bone
   - Scapula
4. Irregular bone
   - Vertebra
5. Seasamoid bone
   - Patella

*They diminis function between tendons and underlying bones



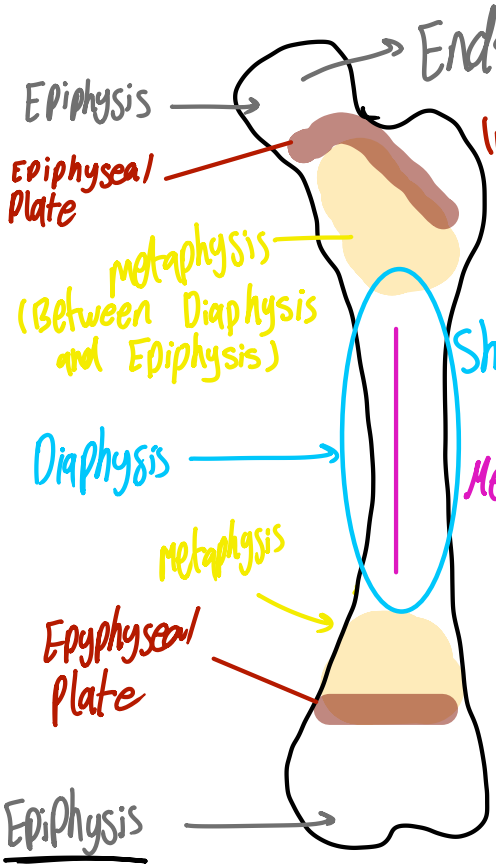
6. Pneumatic bone
   - air sinus

x They decrease the weight of skull

x They lead to resonance of voice

x They have a highly vascular mucosa to warm the inspire air

*Parts of the Long Bone :

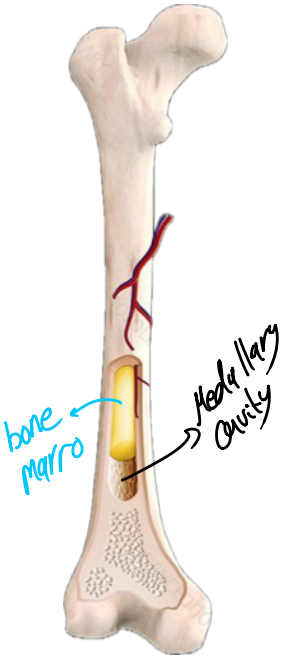


Ends of the bone

In the metaphysis at each end of a long bone
+ It is the site of bone growth

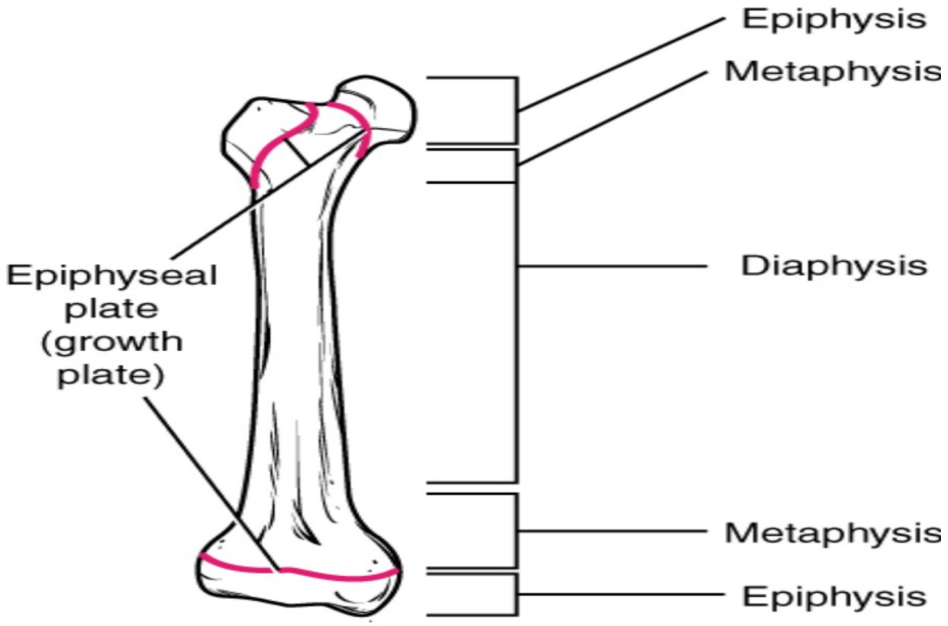
Shaft which is covered externally by periosteum

Medullary cavity : Cavity of the shaft which contains bone marrow.



Epiphysis

↳ It is used for articulation and its articular surface is covered with a layer of hyaline cartilage called articular cartilage.



*Joints: the site of articulation between bones.

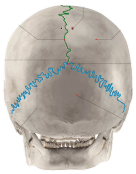
Classification of joints

- Structure
  - Fibrous
  - Cartilaginous
  - Synovial
- Movement
  - Immovable (Synarthroses)
  - Slightly Movable (Amphiarthroses)
  - Freely Movable (Diathroses)

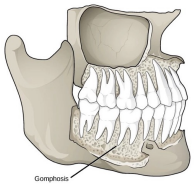
→ Fibrous Joints

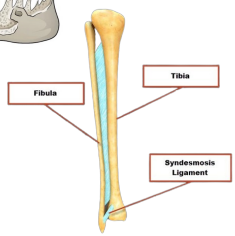
- Bones united by fibrous tissue

- Sutures



- Syndesmoses
  eg: distaly end of tibia and fibula

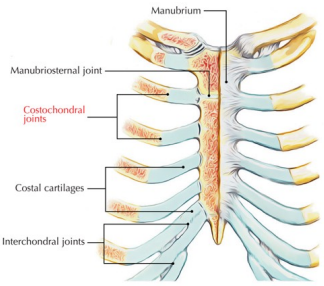


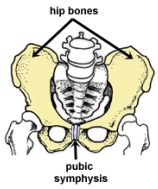


- Gomphosis

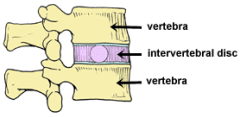
→ Cartilaginous Joints - Bones are connected by cartilage

- Primary Synchondrosis
  - Chostochondral joint
  - Epiphyseal plate of cartilage

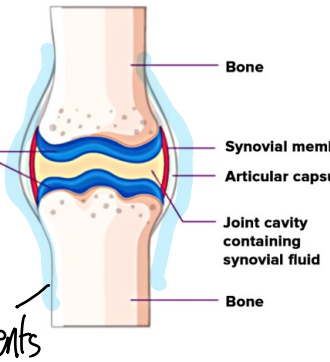




- Secondry Middle of body
  - Intervertebral disc joints
  - symphysis pubis



→ Synovial Joints - articulating bones are seperated by a joint cavity



- covers the ends of bones
- lines the joint capsule
- Joint surface are enclosed by it
- reinforce the joint

Types of synovial joint

Uniaxial

Hinge

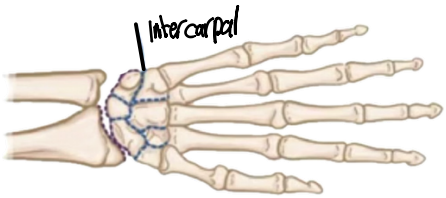
Permit flexion and extension only

- Elbow
- Ankle

Plane

The articulate surface are flat, and they allow gliding movement

- Intercarpal
- Between vertebral articular processes



Pivot

Rotation movement

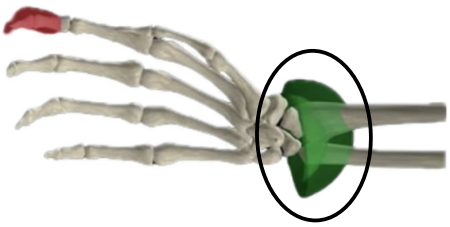
- Radioulnar
- Atlantoaxial

Biaxial

Condyloid

*Between the shallow depression of one bone and the rounded structure of another bone/bones.

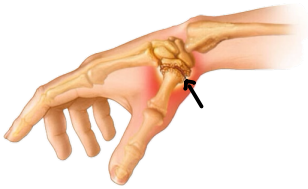
- It permits → (flexion, extension) & (abduction, adduction)
- Wrist joint



Saddle

Each articular surface has both concave & convex areas

- Carbometa carpal of thumb (CMC)



Multiaxial

Ball and socket

Spherical or hemispherical of one bone articulates with the cuplike socket of another.

- Shoulder joint

https://youtu.be/dJZz7hBoALs?feature=shared

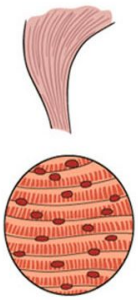
Muscles

Skeletal

Attached to and produce movement of the skeleton

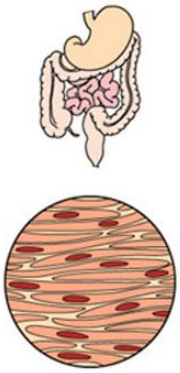
+ Voluntary muscles

+ Nerve supply: Somatic nerves



Smooth

Site: blood vessels & walls of viscera

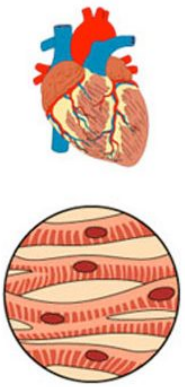


Cardiac

Site: Myocardium of the heart

- Involuntary muscles

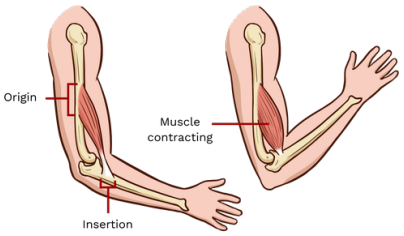
+ Nerve supply: Autonomic nerves



A muscle has two attachments
- Origin → fixed
- Insertion → mobile

When a muscles contract, its fibers shorten and the insertion moves towards the origin, thus producing movement at the related joint.

https://youtu.be/hXgMzn7KLKk?feature=shared



Action of skeletal muscles:

Prime movers (Agonists)

- responsible for initiation of a particular movement

Antagonist

- oppose the action of prime movers

Fixators (Stabilizers)

- Help the prime mover by fixing it origin or keep bones immobile when needed

Synergists

- Assist the prime mover in its role

Zeina yassin