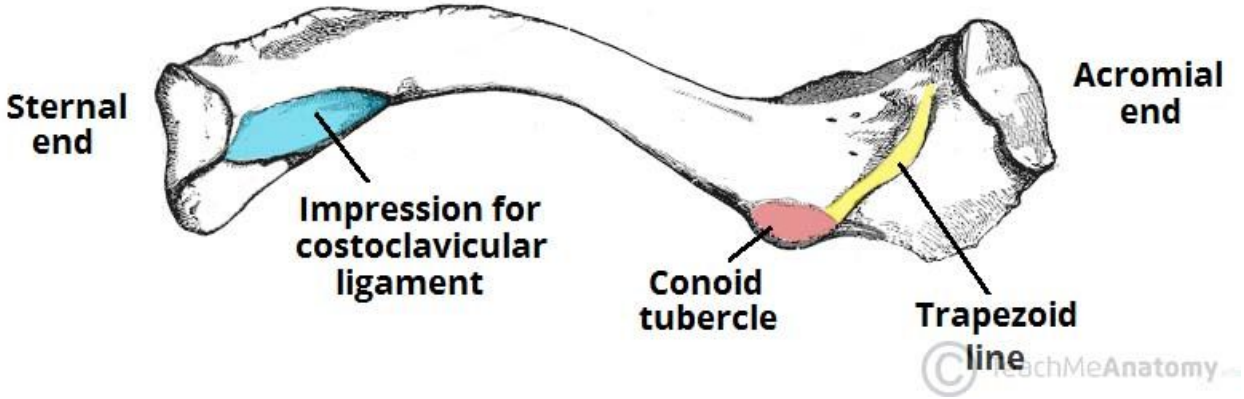
Lecture number 2.

Topic:

# APPENDICULAR SKELETON
# THE SCULL

# Clavicle | Collar Bone



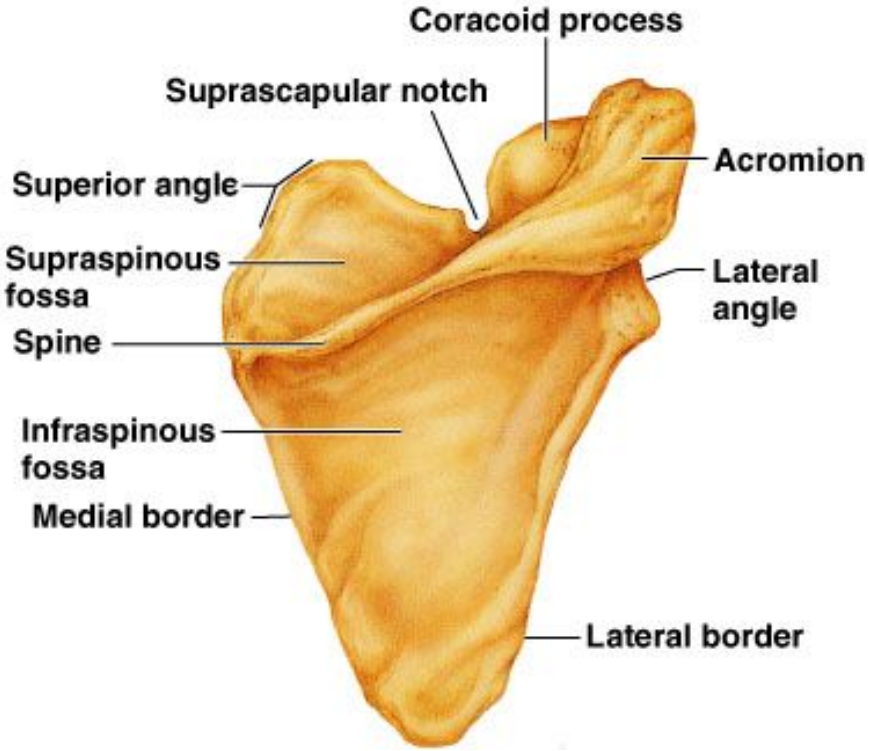

It is a modified long bone having two curves.

Medial 2/3 is convex and lateral 1/3 is concave as seen from front. Like all long bones, it has two ends: the acromial end and the sternal and, superior and inferior surfaces with conoid tubercle and trapezoid line.

# Scapula | Shoulder Blade

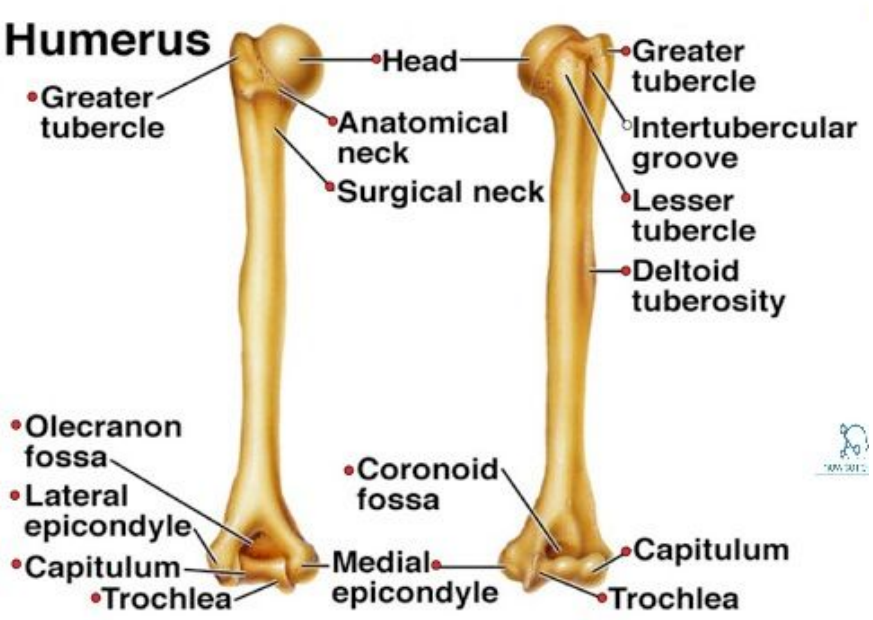
It is a flat triangular bone. It has three borders; Vertebral (medial) border, Superior border, and Axillary (lateral) border. Also it has three angles; Medial angle, Lateral angle and Inferior angle

Glenoid fossa is a pear shaped fossa that articulates with humerus to form

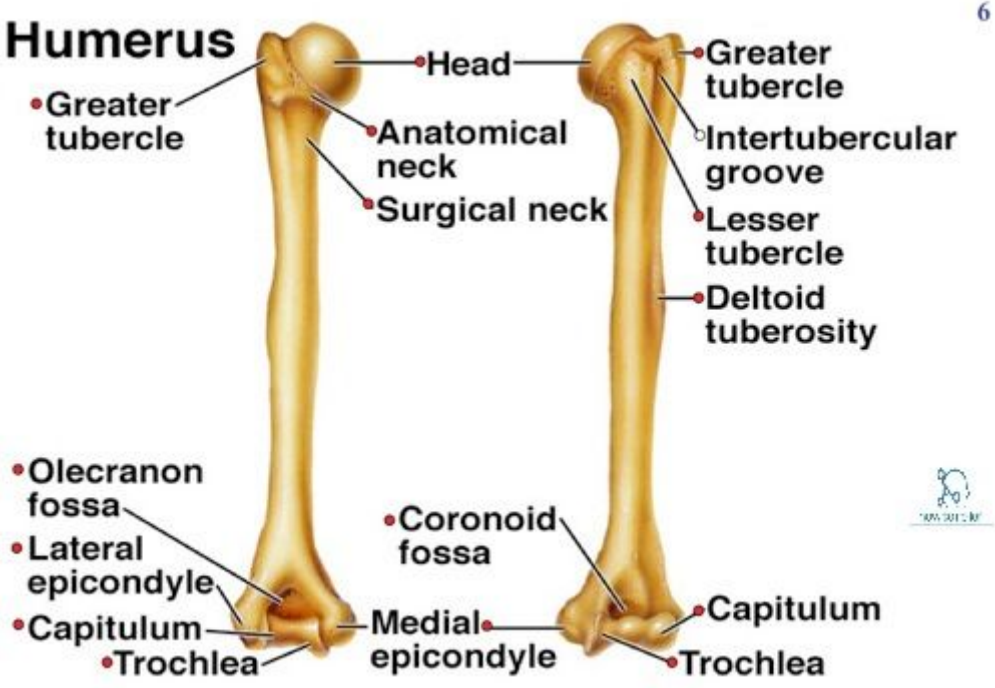


# Humerus

Humerus has three main parts: the proximal end, the shaft, the distal end. The proximal end consists of head, greater tubercle and lesser tubercle. The head is directed proxi-mally, medially, and slightly dorsally. Anatomical neck is a shallow groove, which serves for the

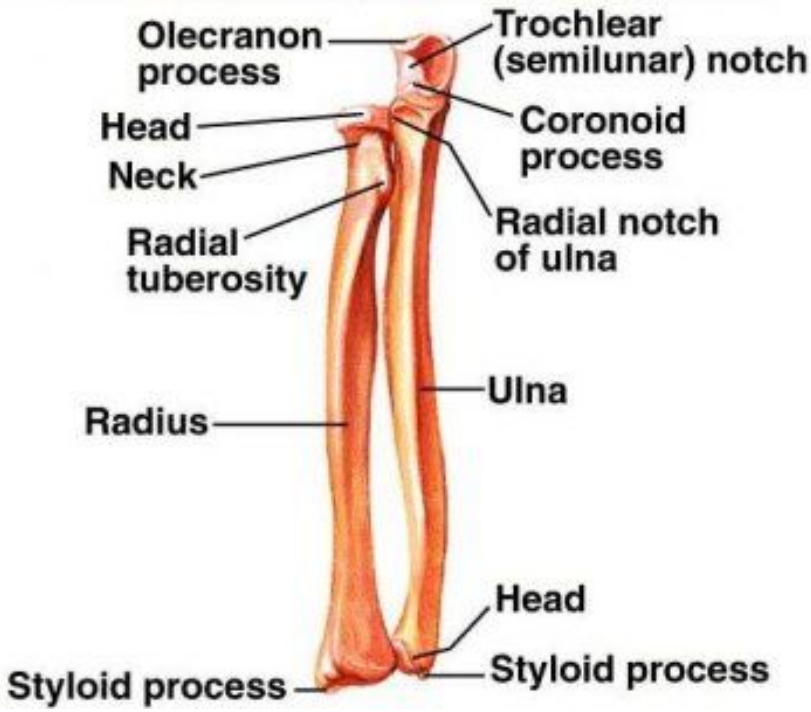


The distal end of the humerus is furnished with two articular surfaces. The lateral of these is the capitulum for the head of the radius. In front there is a shallow depression (radial fossa). The medial articular surfaces is called trochlea for ulna. On the



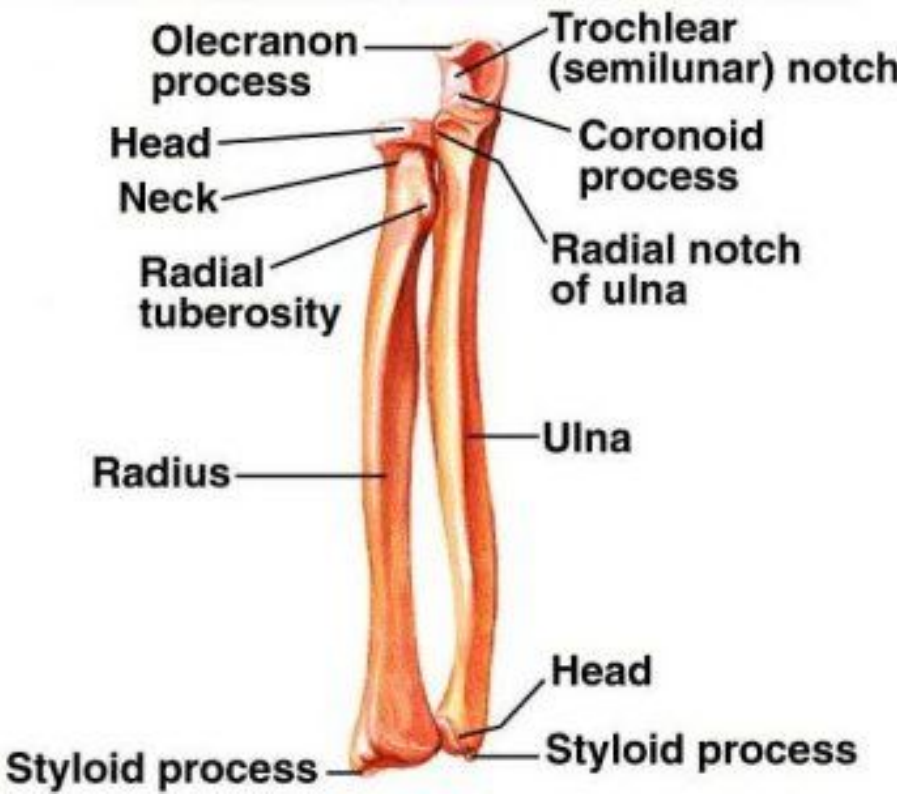
The forearm contains two bones: radius and ulna. Of the two bones of the forearm, the ulna is the longer one and is placed medially. It consists of a large proximal end supporting the olecranon and the coronoid processes, a body or shaft tapering distally, and a small rounded distal end called the head from

# Ulna



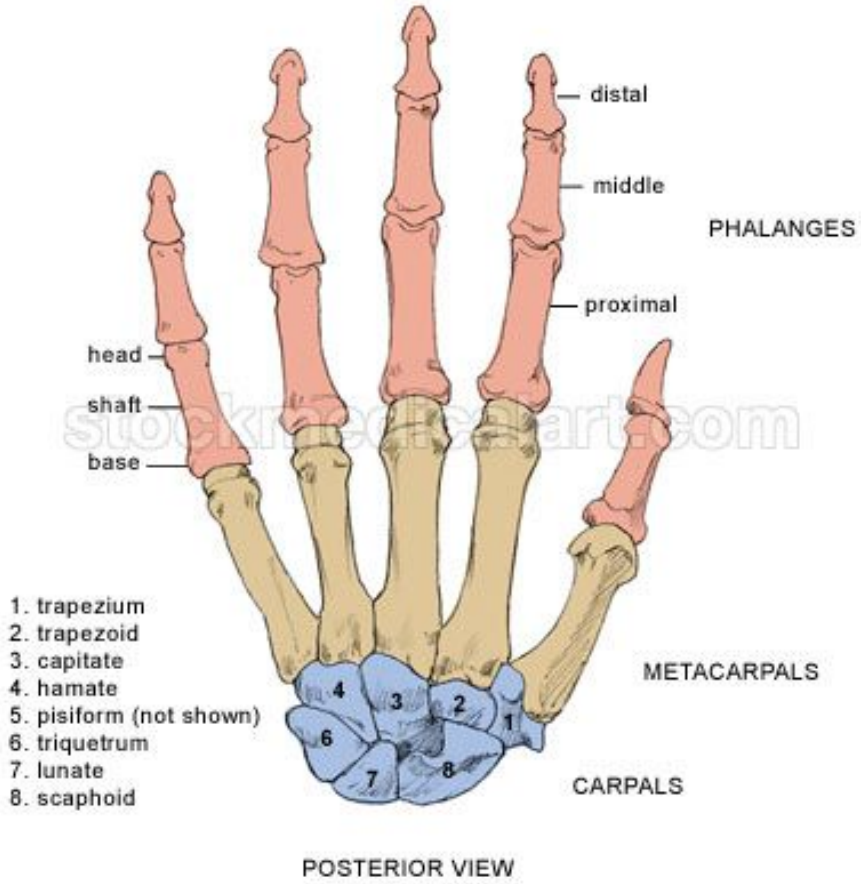
# radius

Proximal end of radius consists of head, neck and tuberosity. The head of radius provided with a shallow concave surface proximally for articulation with the capitulum of the humerus. The circumference of the head is smooth.

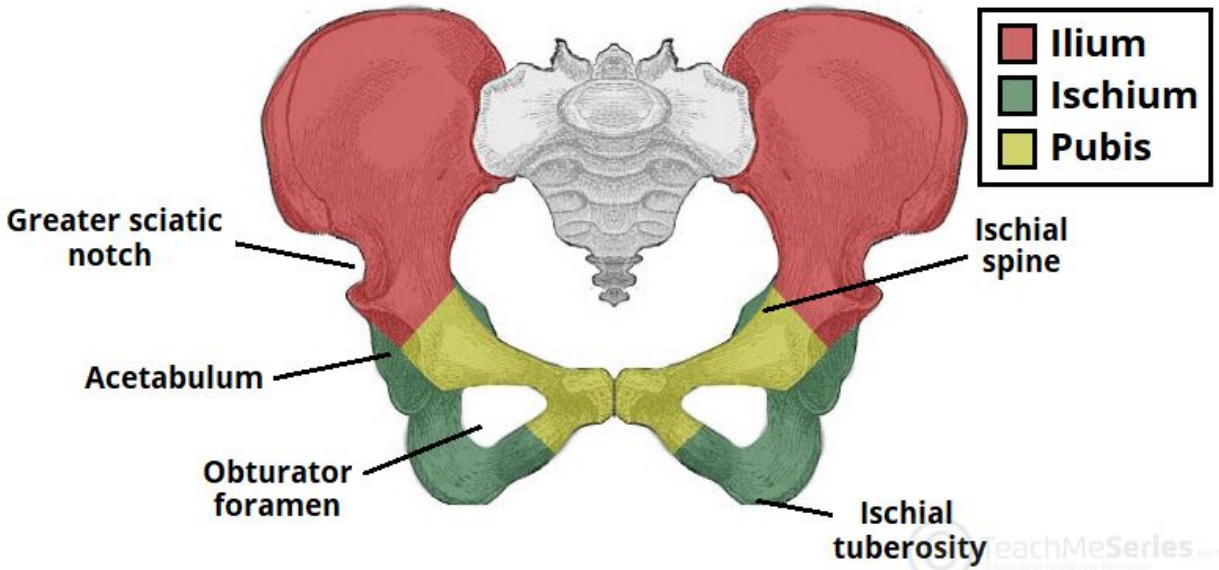


# The skeleton of the hand

The skeleton of the hand is subdivided into three segments: the carpus or wrist bones; the metacarpus or bones of the palm; and the phalanges or bones of the digits. Bones of the wrist are small bones, and are arranged in two rows. The first or proximal row is made of scaphoid, lunate,

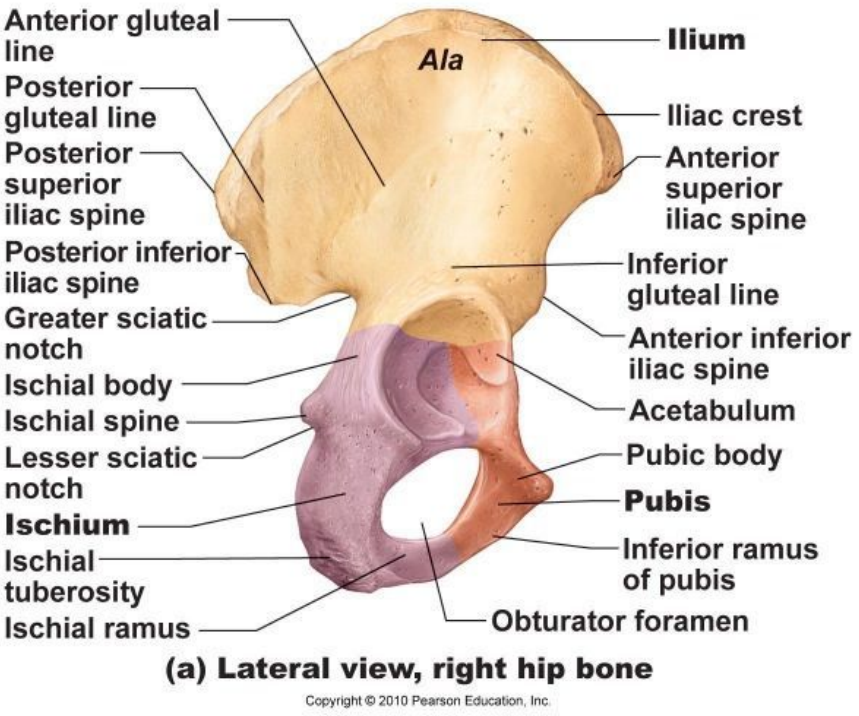


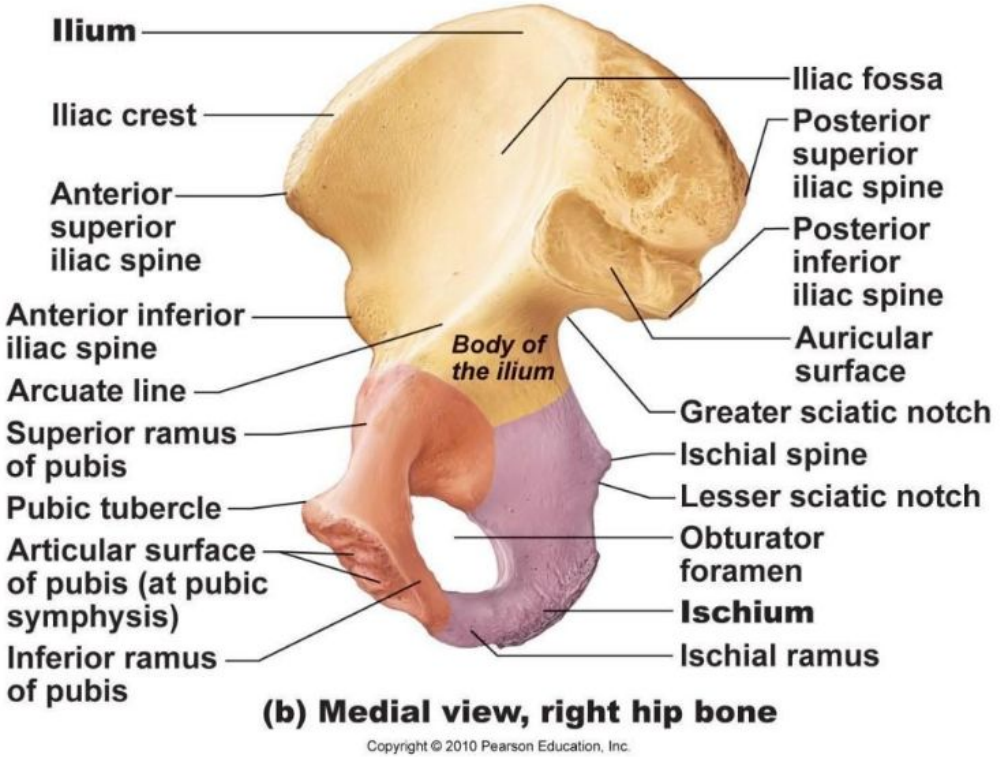
# Hip bone




Hip bone consists of three parts: Ilium, ischium and pubis. These three bones meet one another at the acetabulum. Acetabulum articulates with the head of femur to form hip joint. Inferiorly, the margin of acetabulum is deficient and is

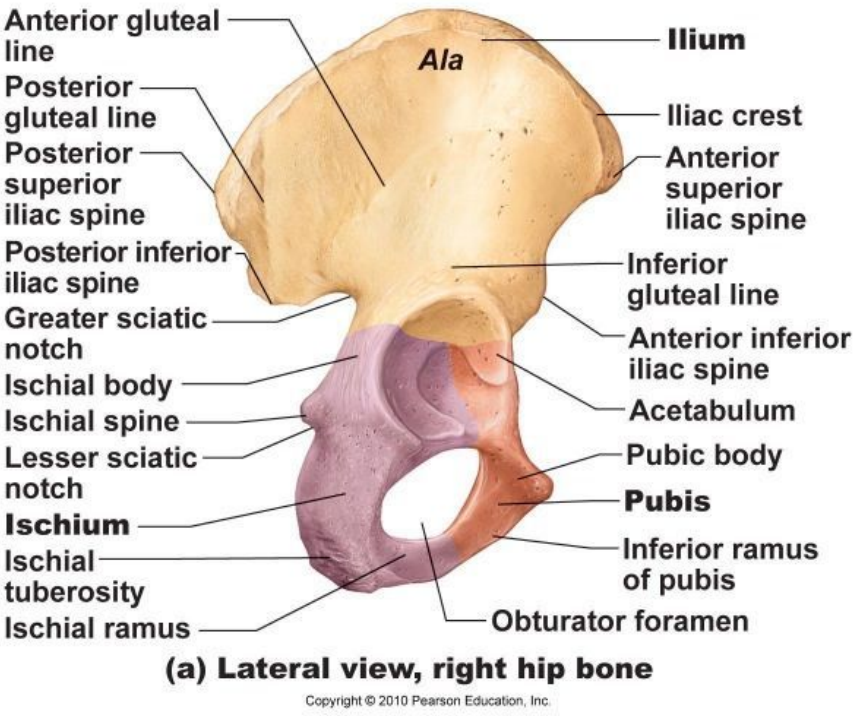
# ilium

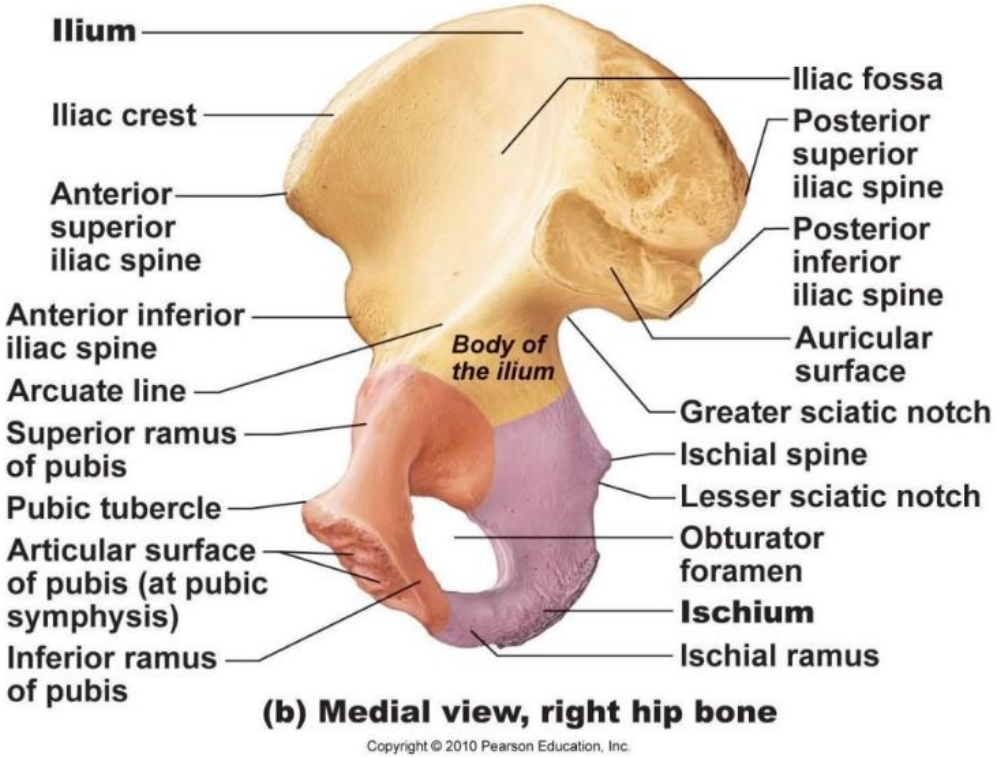



The ilium possesses a iliac crest.The crest ends in the front at the anterior superior iliac spine below which lies the anterior inferior iliac spine. Posteriorly, the crest ends at the

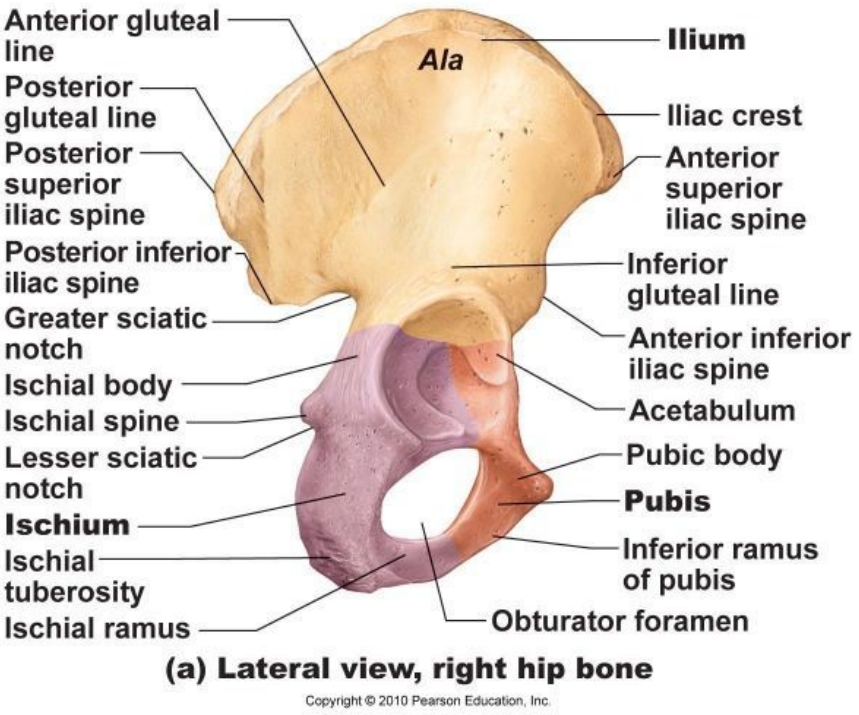
# Ischium

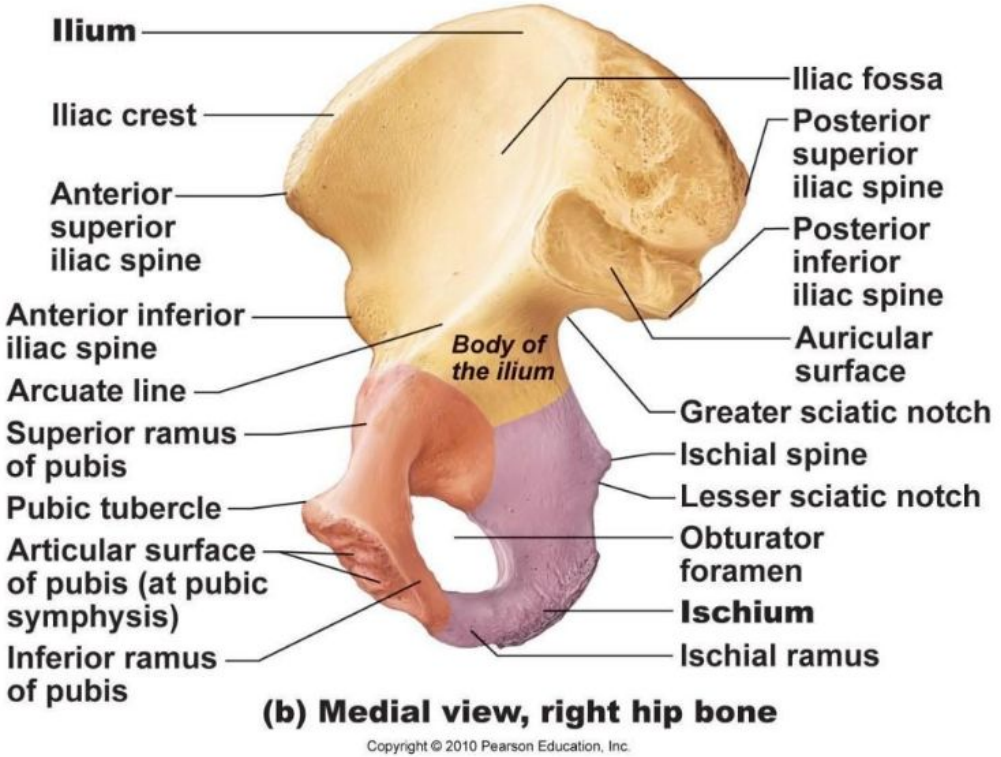



Ischium possesses the body of ischium and the ramus of ischium. The ischial spine intervenes in between the greater and lesser sciatic notches. Ischial tuberosity

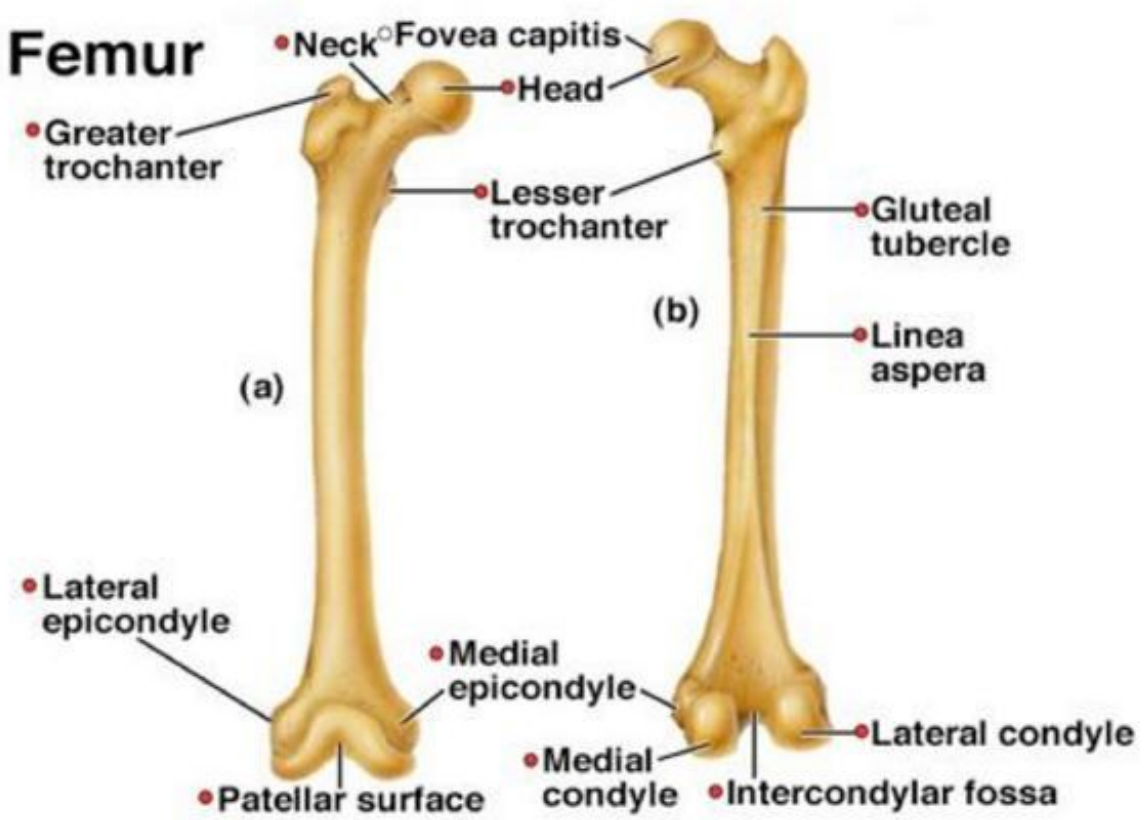
# Pubis



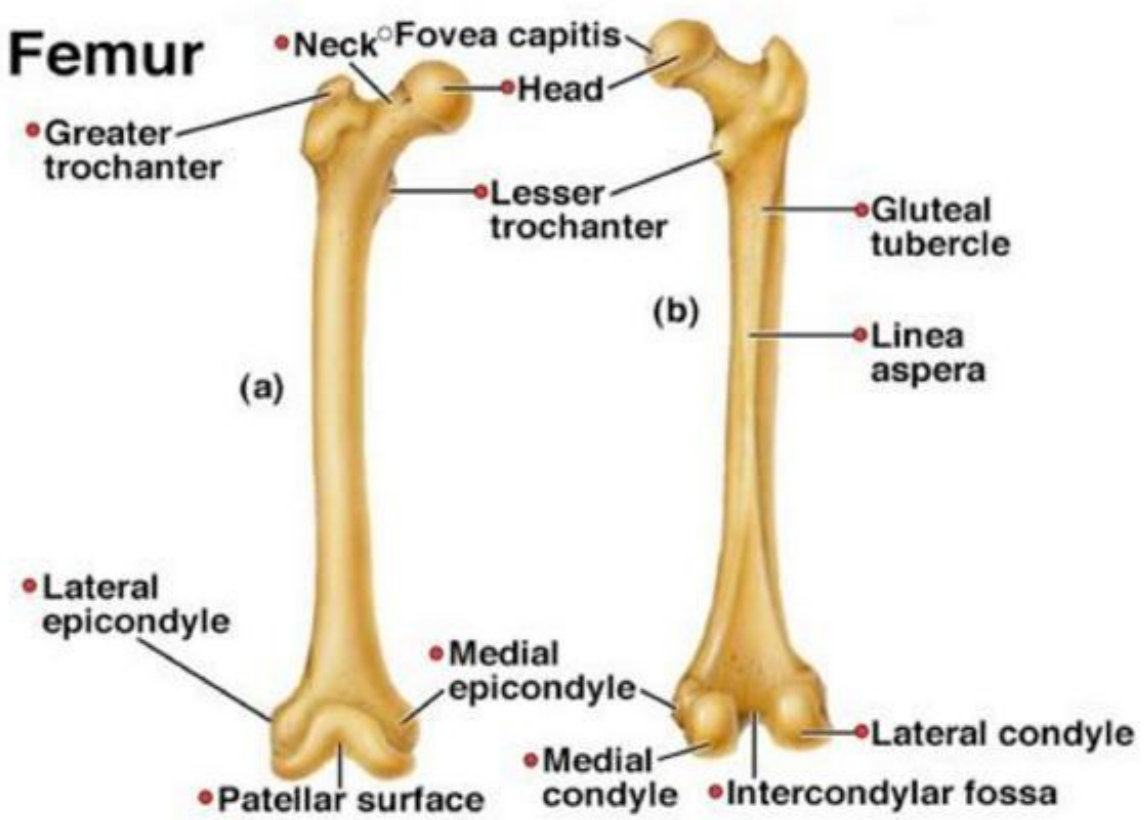




Pubis consists of three parts: the body, superior ramus and inferior ramus. Upper part of superior ramus is formed by a pubic crest with the pubic tubercle. The obturator

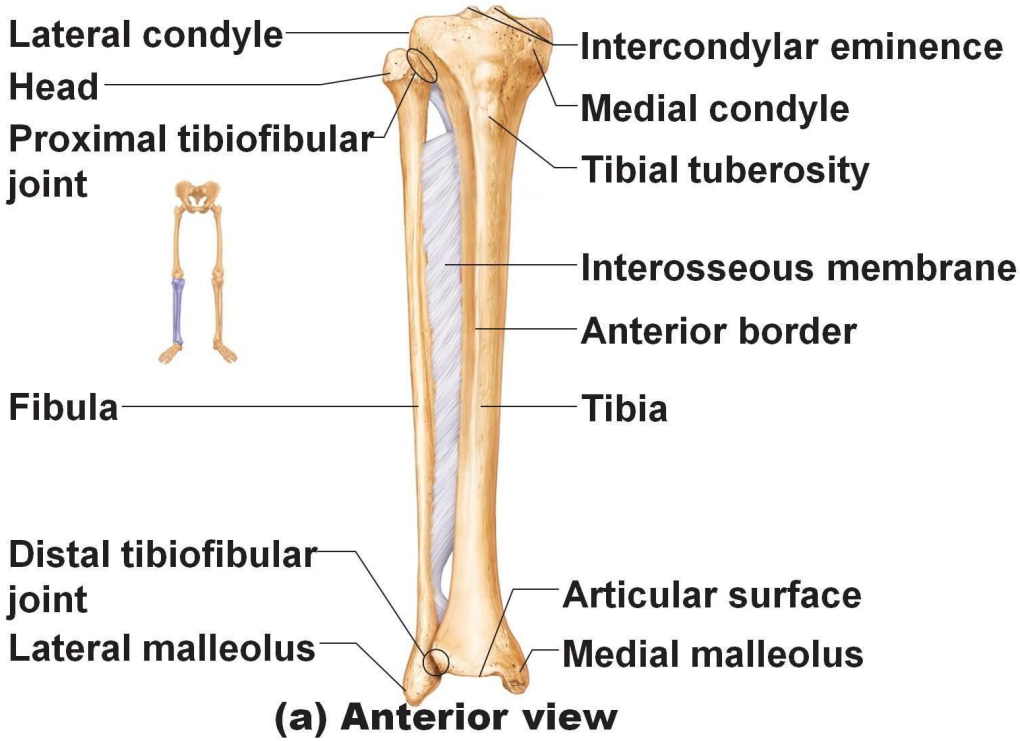
# Femur

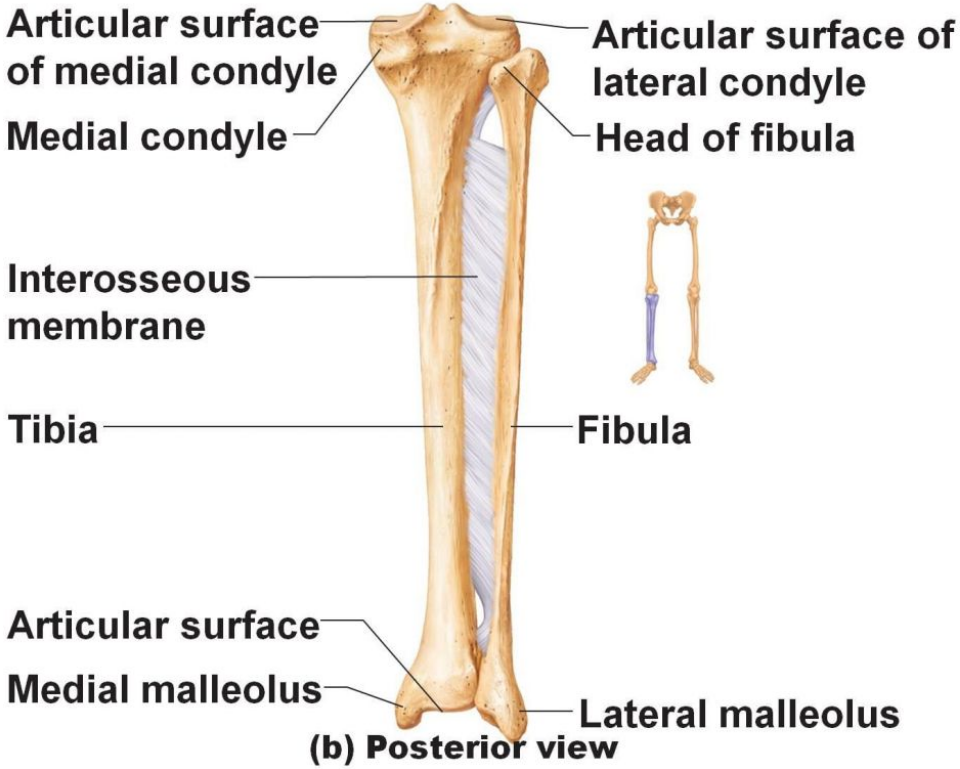



Femur is the longest bone of human body. Upper end of the femur has a head, a neck and greater and lesser trochanters. In the center of the head, there is a small fovea capitis for the ligament of the head of the femur, that made blood supply to the head. Neck



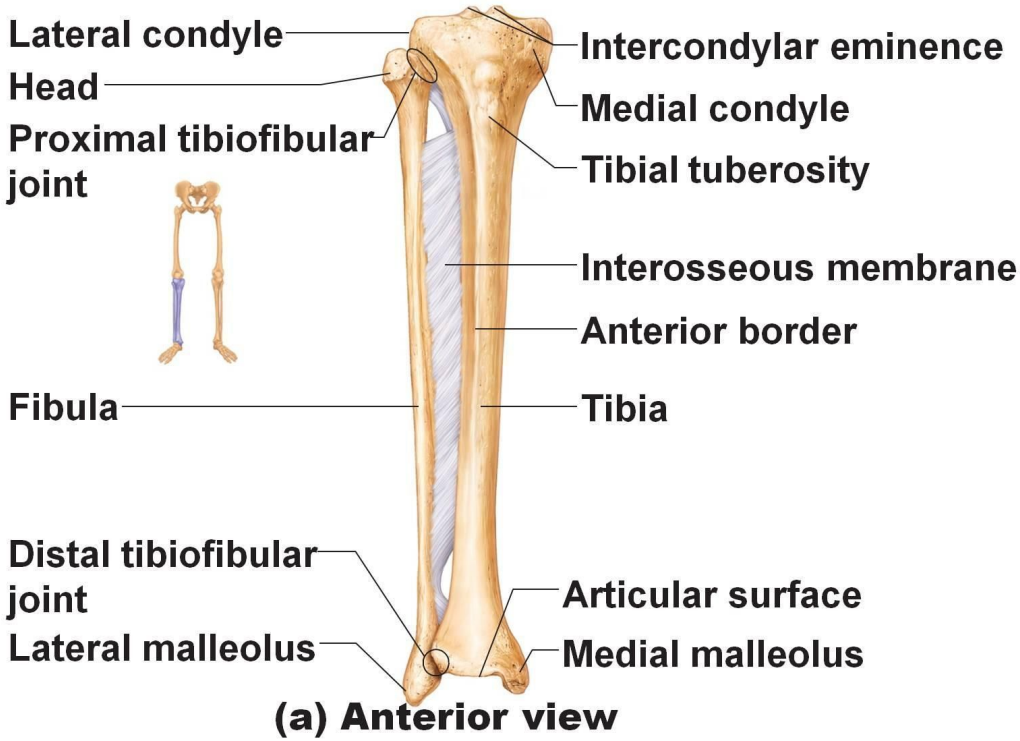

The shaft of femur has a ridge for many muscles of thigh known as linea aspera; also it has triangular area on the posterior surface known as popliteal surface. Lower end of femur consists of lateral and medial condyles, which are separated from each other posteriorly

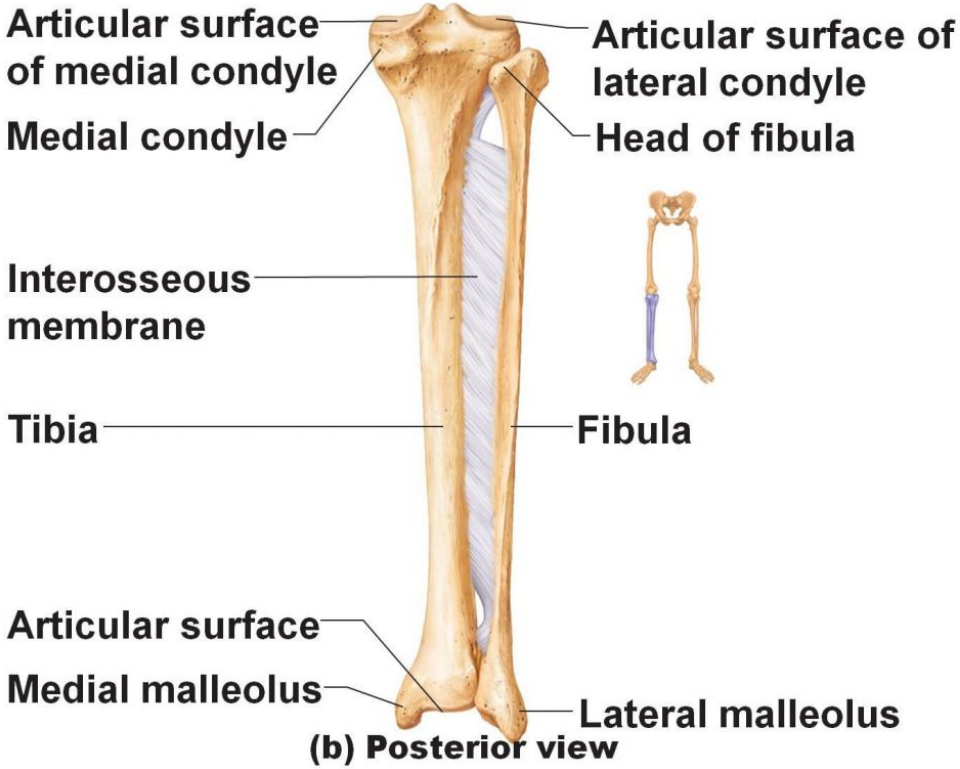



# Tibia | Shinbone

The proximal end of tibia has massive medial and lateral condyles and an intercondylar area intervening between the condyles. There is also a prominent tibial tuberosity for the patellar tendon, that in living subjects is palpable.



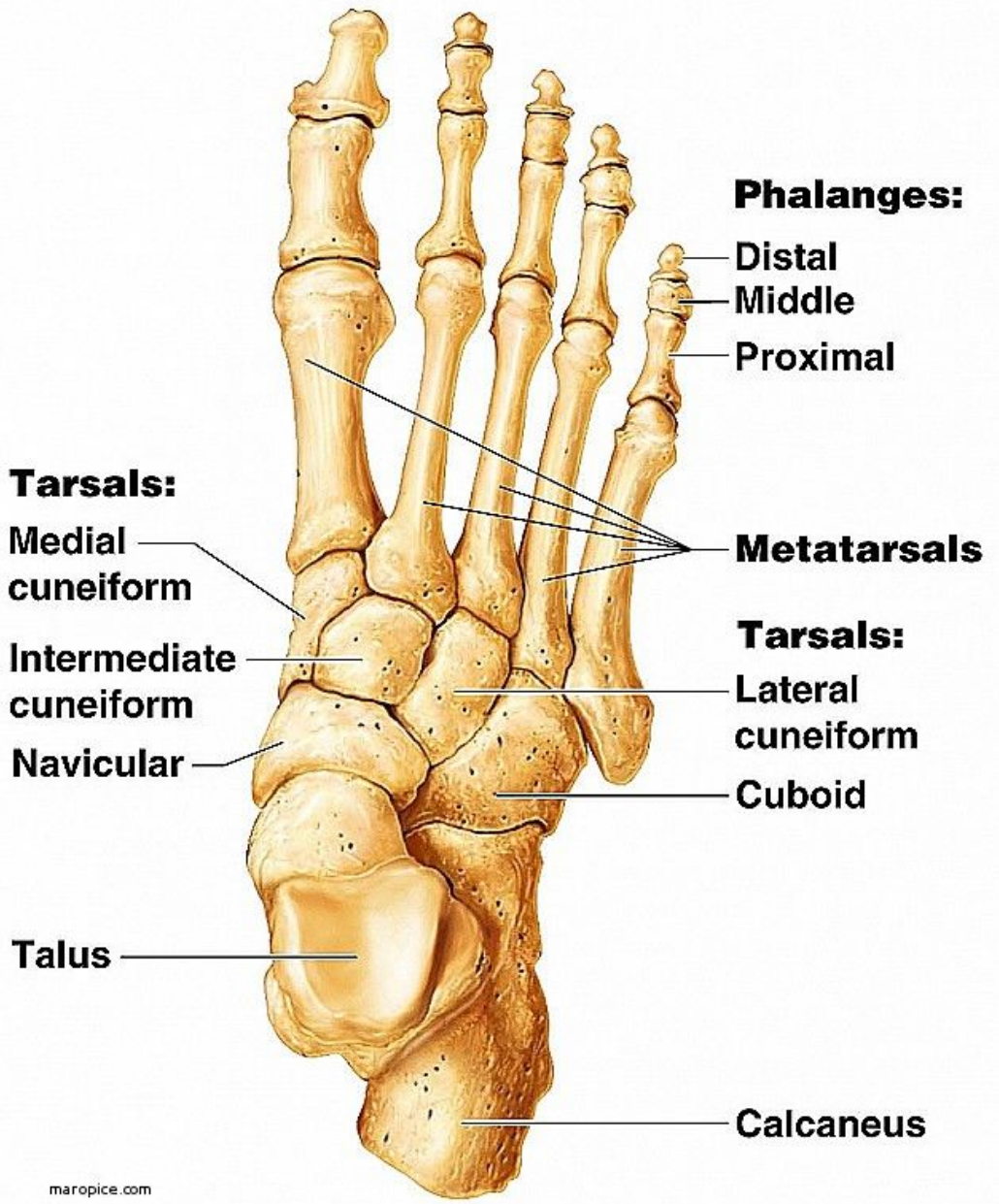

# Fibula

Fibula consists of a proximal end, a long shaft and a distal end forming lateral malleolus. It is the distal articular surface of fibula and takes part in the formation of ankle joint. Proximal end of fibula consists of head and neck. The

# foot

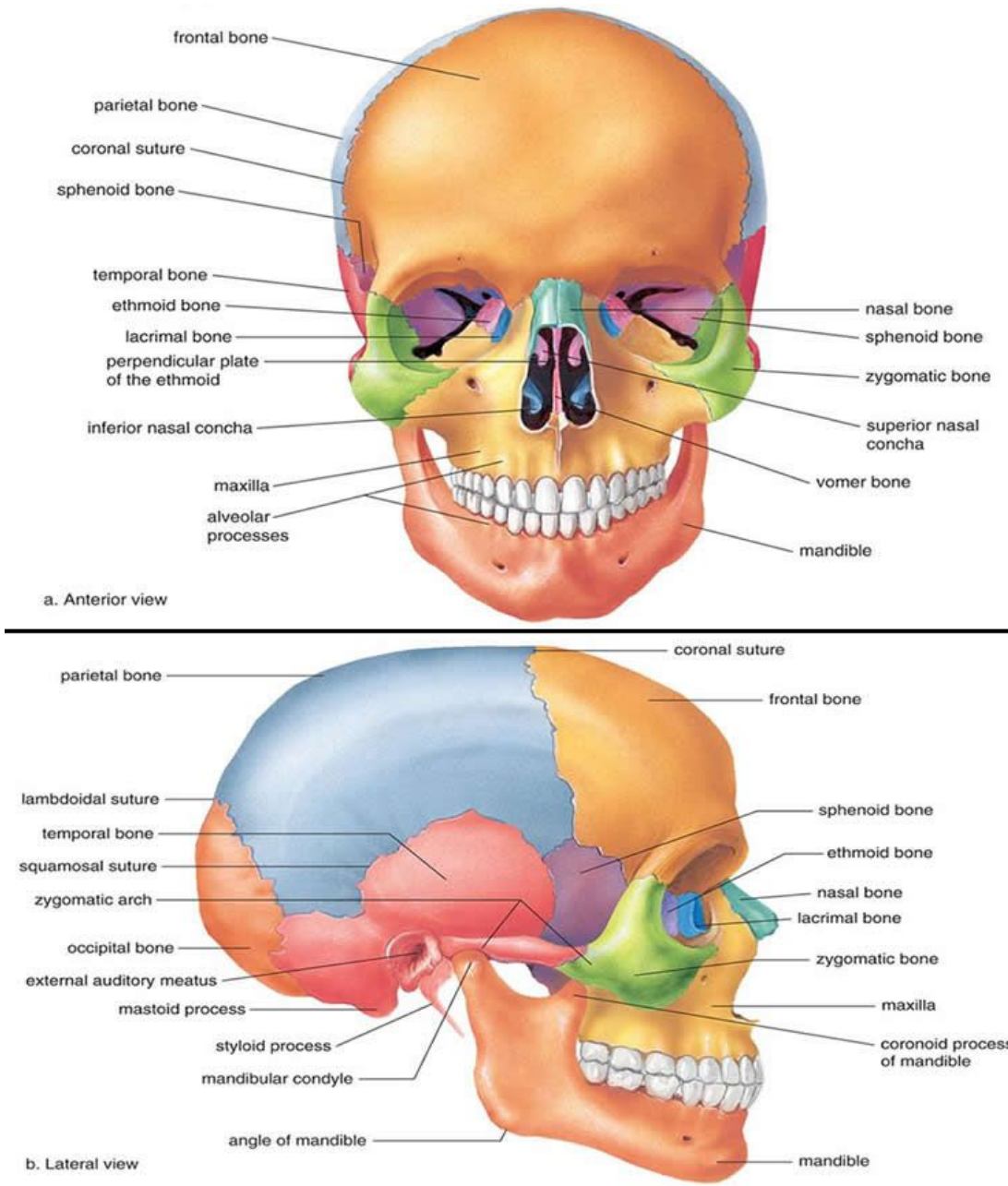
The human foot is a complex structure containing 26 bones.

The foot can be subdivided into the tarsus (7): talus, calcaneus, cunei-formes (3), cuboid, and navicular; metatarsus (5): first, second, third, fourth, and fifth



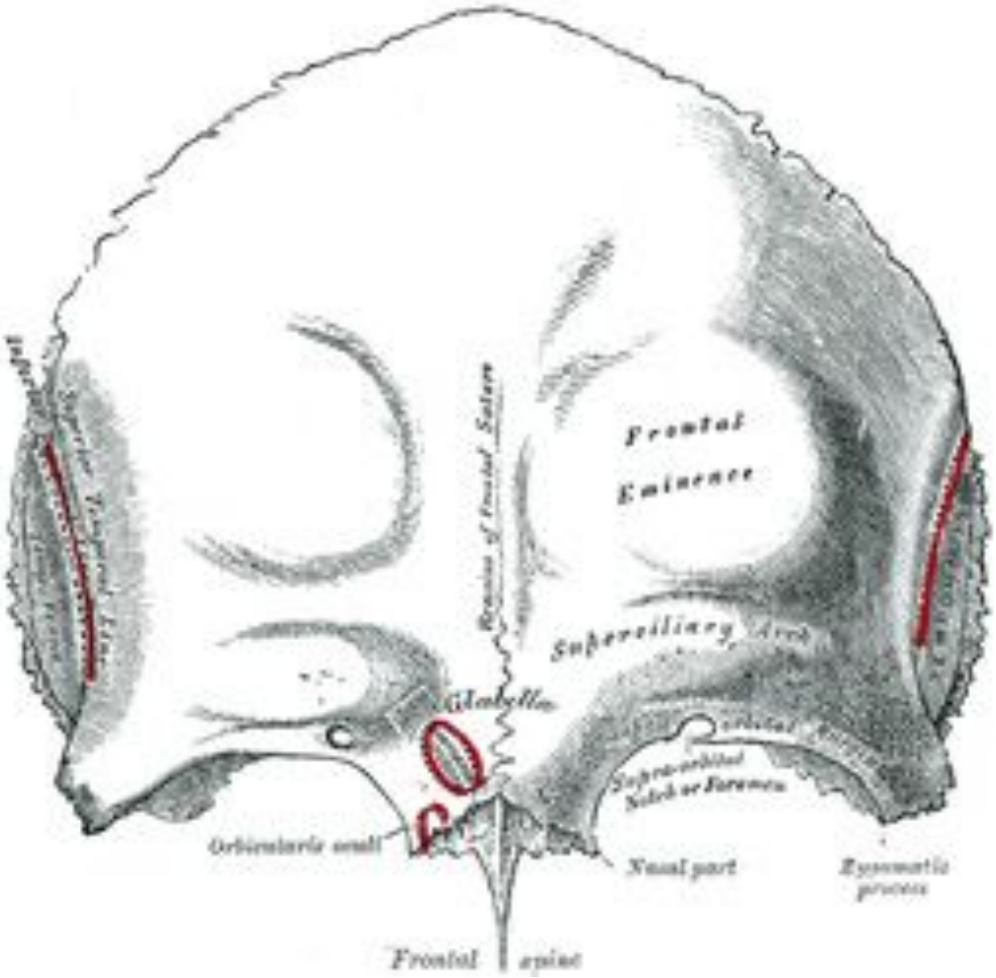
The human skull supports the structures of the face and forms a cavity for the brain, it protects the brain from injury. The skull consists of two parts: **the neurocranium and the facial skeleton** (also called the viscerocranium).

# human skull



The frontal bone consists of three portions.These are the squamous part, the orbital part, and the nasal part. There are two surfaces of the squamous part of the frontal bone: the external surface, and the internal surface. The external surface has two tubers frontale. Two arched

# frontal bone



The internal surface has small furrows for the anterior branches of the middle meningeal vessels, depressions for the convolutions of the brain. It has in the middle the sagittal sulcus, which below form the frontal crest and small notch.

The orbital part of the frontal bone (pars

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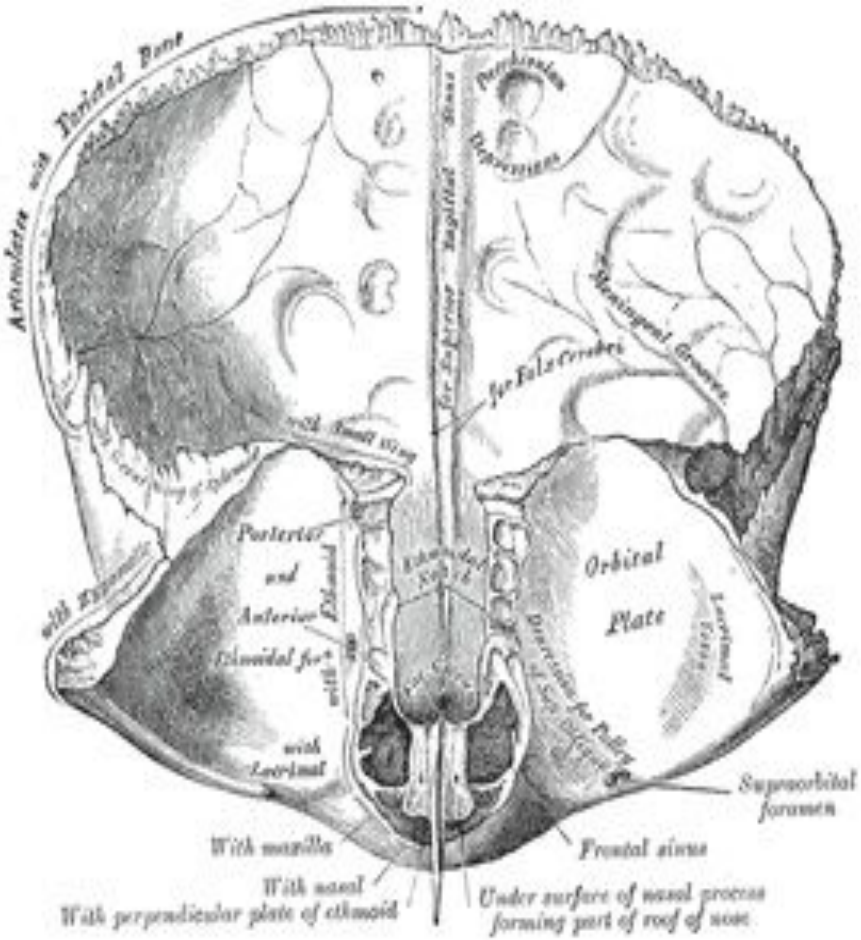
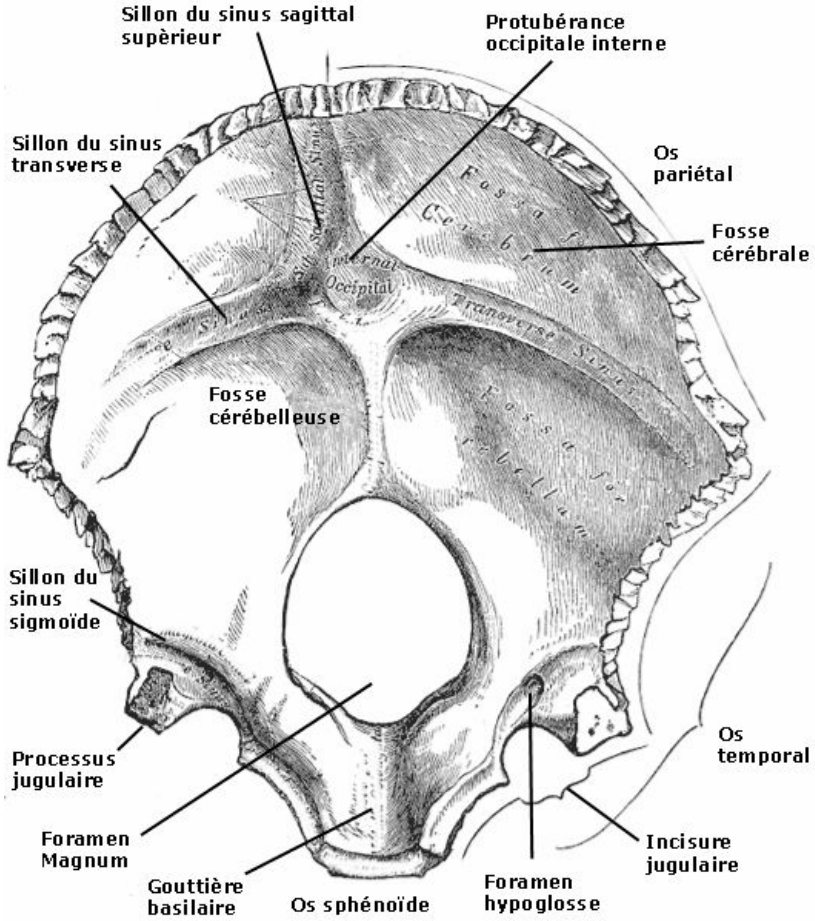


The occipital bone is the main bone of the occiput. The occipital bone, like the other cranial bones, has outer and inner plates of cortical bone tissue between which is the cancellous bone tissue known as diploë. The occipital bone has the basilar part, at the sides of the foramen magnum

# occipital bone



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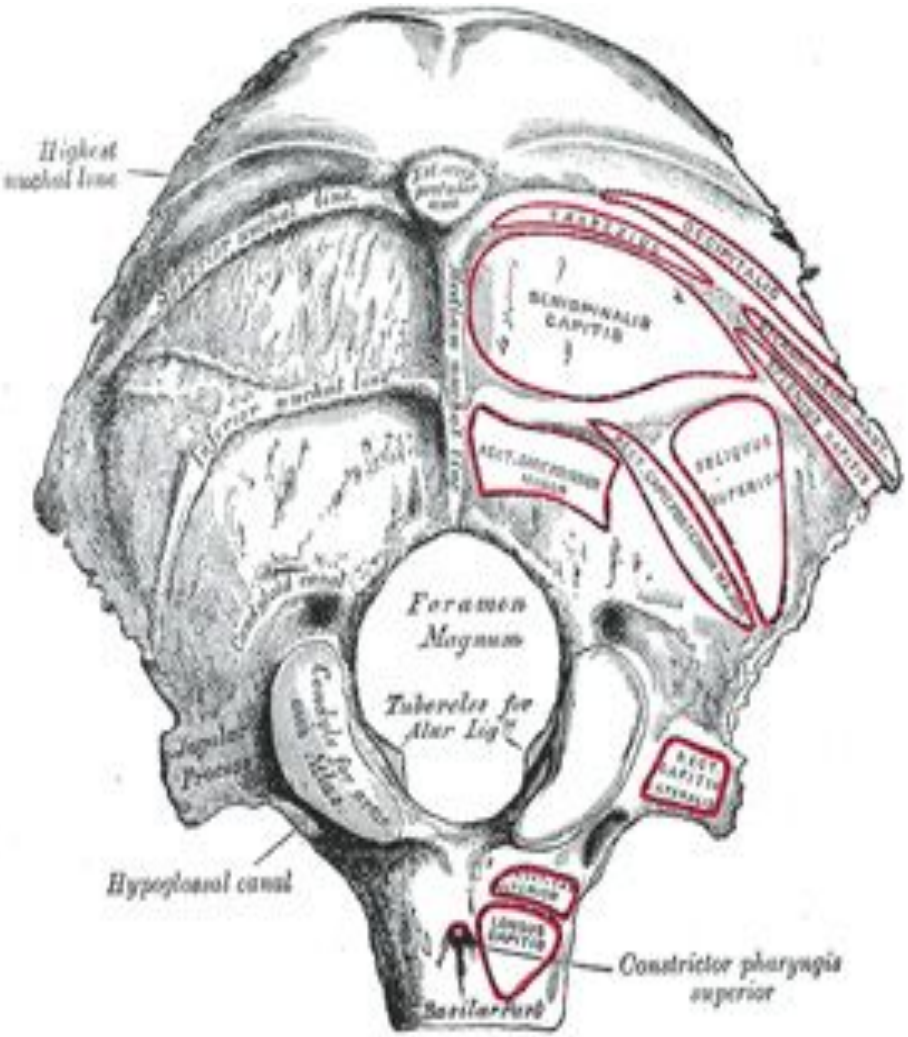
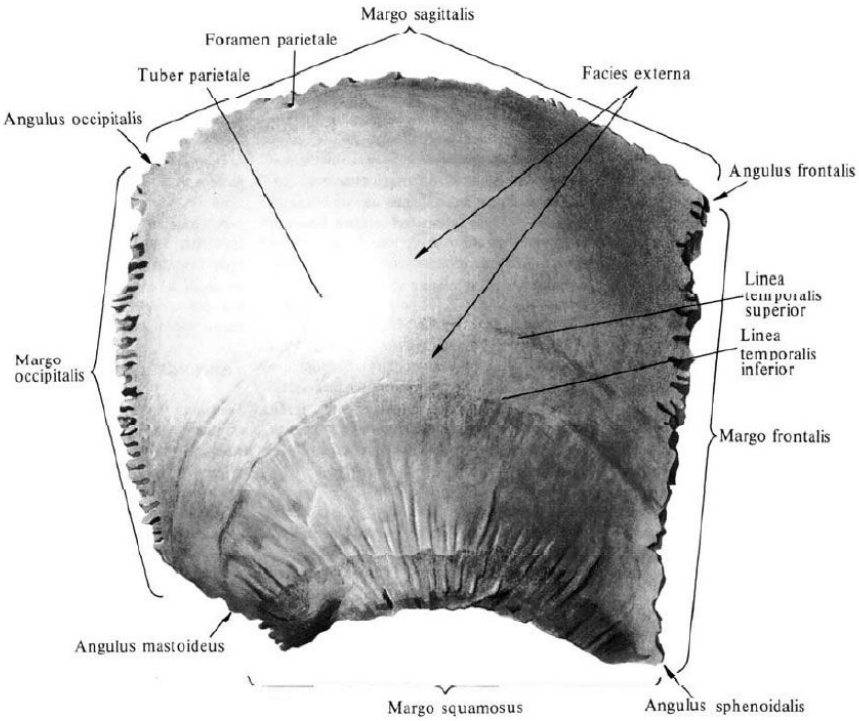
Near the middle of the outer surface of the squamous part of the occipital (the largest part) there is a prominence – the external occipital protuber-ance. Along the midline of the squamous part runs a ridge – the external occipital crest for the



# parietal bones

The parietal bones form the sides and roof of the cranium. Each bone is roughly quadrilateral in form, and has two surfaces, four borders, and four angles. Angles: the frontal angle, the sphenoidal angle, the occipital angle and the mastoid angle whih has on its inner surface a groove for



The internal surface is concave; it presents depressions corresponding to the cerebral convolutions, and numerous furrows (grooves) for the ramifications of the middle meningeal artery. Along the upper margin is a shallow groove, which, together with

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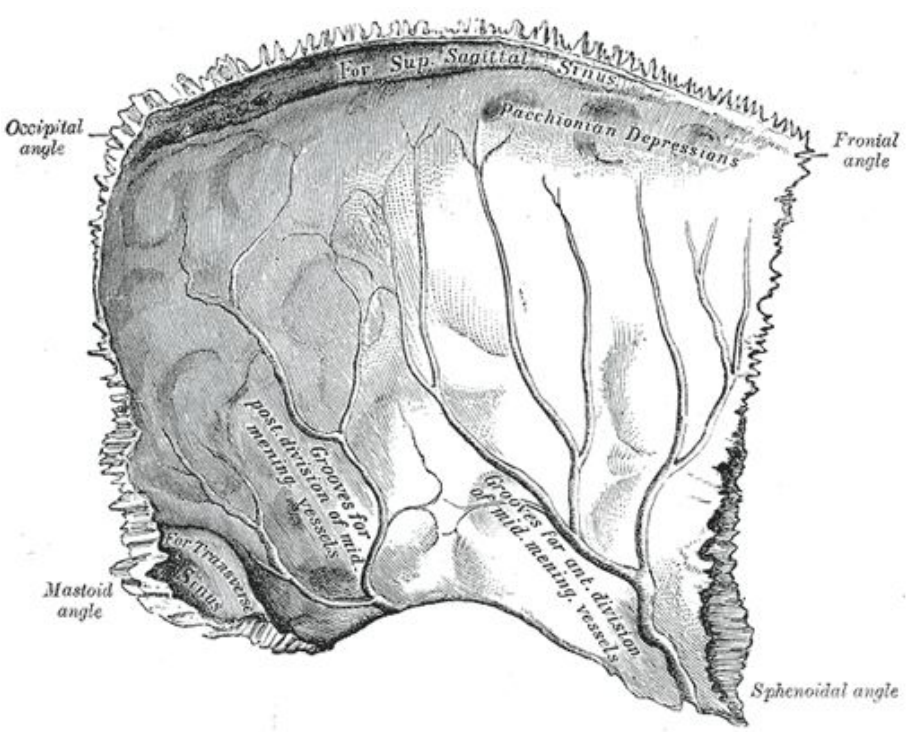
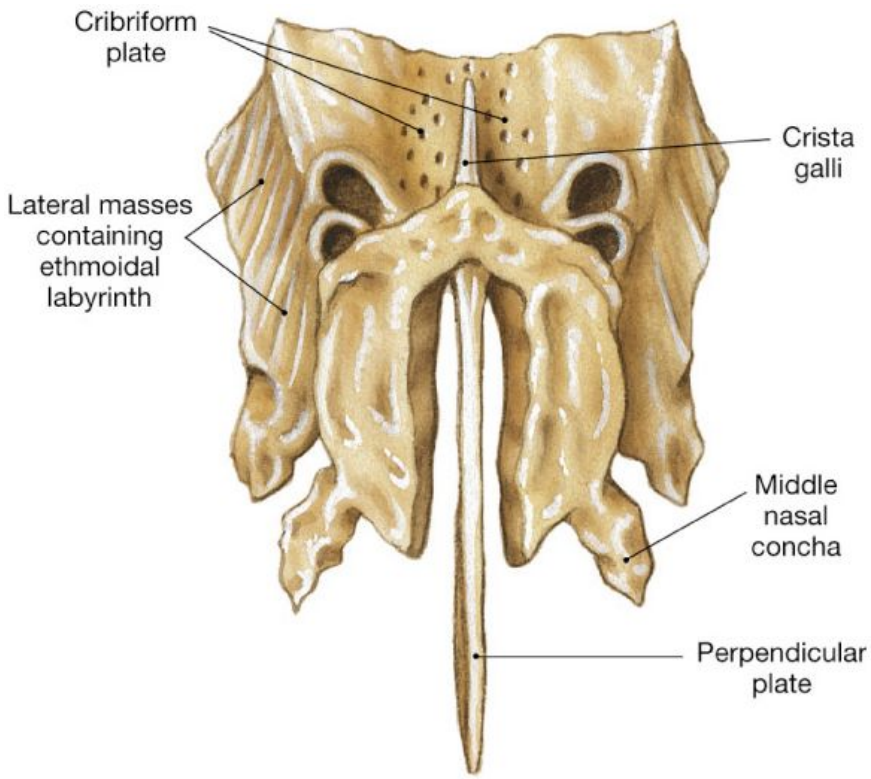


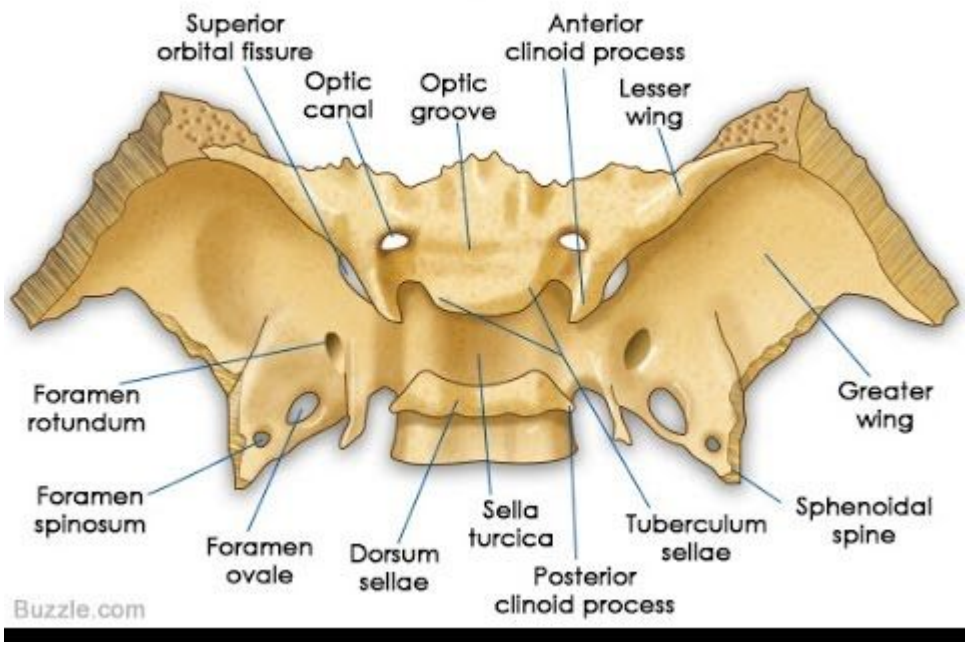
# ethmoid bone

The ethmoid bone (from Greek ethmos, "sieve") is an unpaired bone in the skull that separates the nasal cavity from the brain. It is located between the two orbits. The ethmoid has three parts: cribriform plate, ethmoidal labyrinth, and perpendicular plate. The cribriform plate has many holes




(b) Anterior view

# sphenoid bone



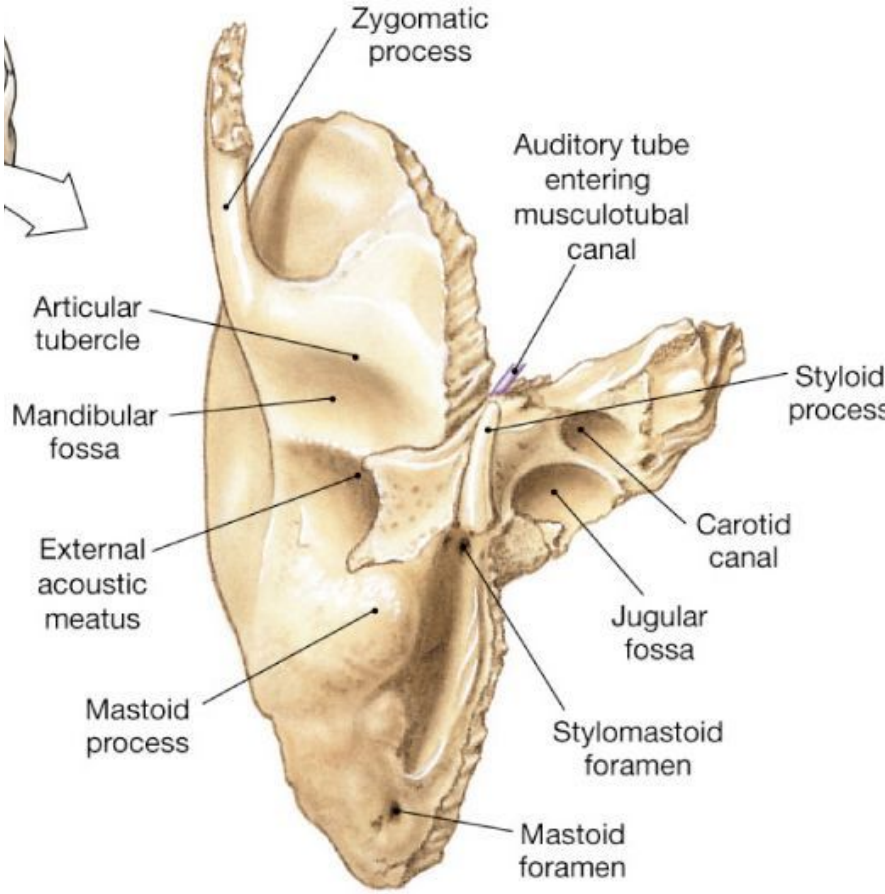

The sphenoid bone consists of a body, paired greater wings and lesser wings, and two pterygoid processes. The body lies at the centre, and it contains the sphenoidal sinuses. Anteriorly it is the sinuses open up. The superior surface contains:

1. Sella turcica with

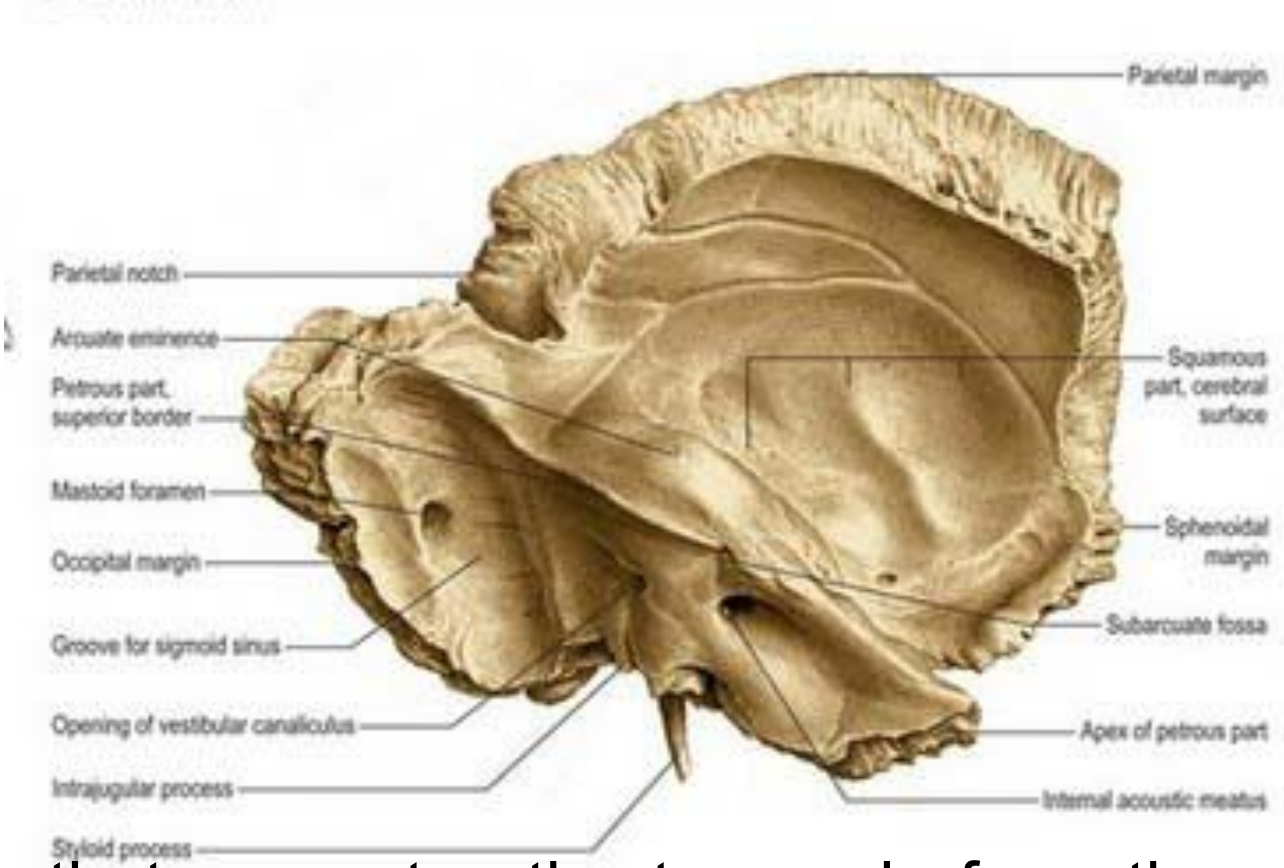
The lesser wing forms the the optic canal for optic nerve and ophthalmic artery, and the superior orbital fissure there is for 7 numerous and vessels structures. The pterygoid process consists of two parts: medial and lateral pterygoid plates.

The temporal bone consists of 3 parts— the squamous, petrous and tympanic parts. The squamous part has the zygomatic and mastoid processes.The tympanic part is relatively small. The petrous part is shaped like a pyramid. Directed medially, forward, and a little

temporal bone



The anterior surface is united with the squamous portion by the petrosquamous suture.




Also it has the arcuate eminence (eminentia arcuata) which indicates the

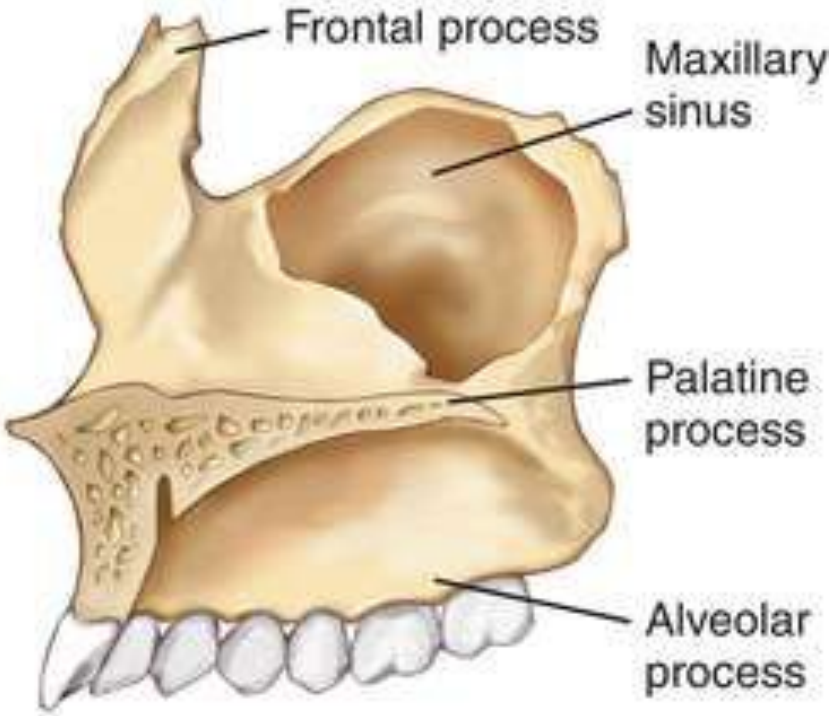
Here, the layer of bone that separates the tympanic from the cranial cavity is extremely thin. Two shallow grooves, leading to an openings, know as the hiatus for greater petrosal nerve and the small petrosal nerve. Near the apex of the bone there is the shallow trigeminal impression for the reception of the trigeminal ganglion.

The posterior surface has a large orifice, the internal acoustic opening, it transmits the facial and acoustic nerves and the internal auditory branch of the basilar artery.

The maxilla consists of the body of the maxilla and four processes:

1. The **body** of the maxilla. In the midline of the anterior surface is found the anterior nasal spine, and the nasal notch, that forms the piriform aperture. The superior surface of

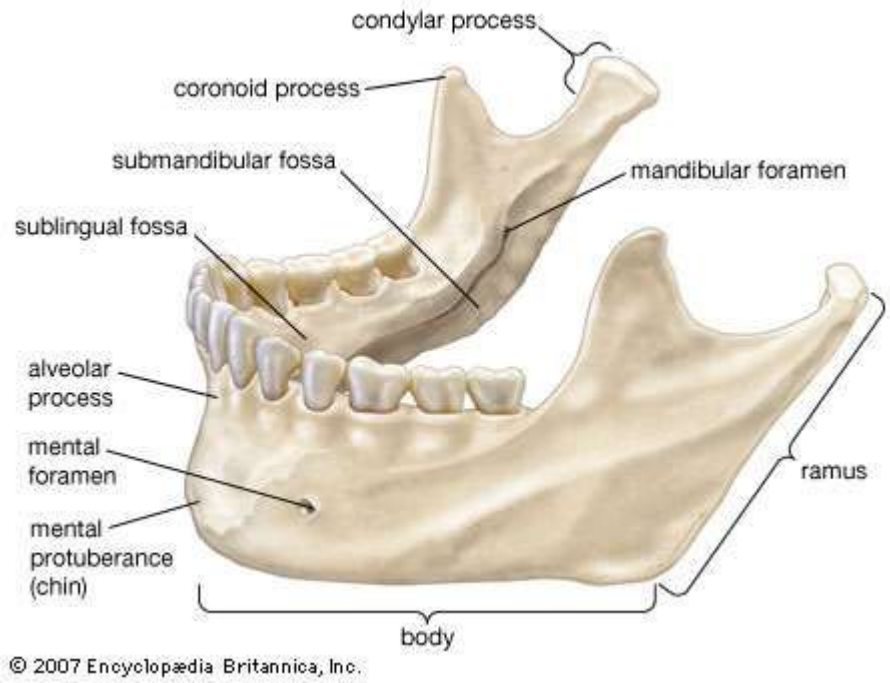
# maxilla




5. The **palatine process.** It articulate with each other in the midline and with the horizontal plate of the palatine bone posteriorly. There is the incisive canal, which transmits the nasopalatine nerve and branches of the greater palatine vessels.

# mandible

The mandible is the only mobile bone of the facial skeleton. It is composed of a body and the ramus. On the anterior region of the body are the mental protuberance, 2 mental tubercles, and 2 mental foramines that transmit the mental nerves and vessels.




The inferior alveolar nerve and blood vessels run through this aperture and mandibular canal The mandible houses the lower dentition. Interdental septi run between the dental alveoles.