

The Skull

- The skull is composed of several separate bones (22 bones) united ***at immobile*** joints called ***sutures***.
- The connective tissue between the bones is called a sutural ligament

- Only one moveable bone, the mandible which is united to the skull by the ***mobile***

Temporomandibular Joint

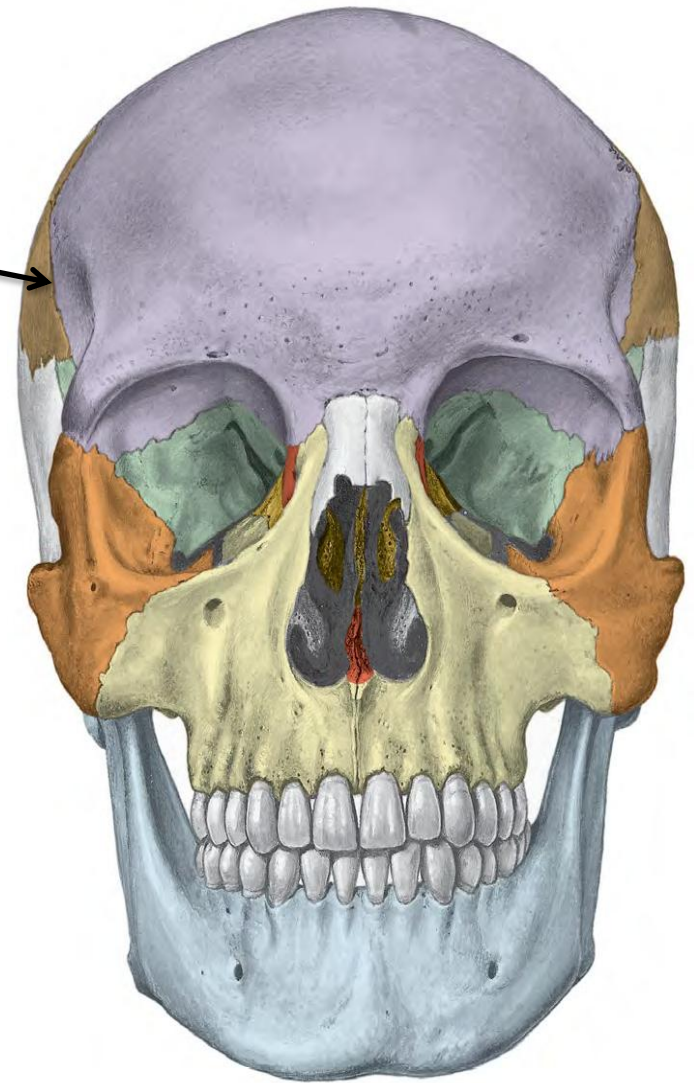
- The bones of the skull can be divided into:

1- Bones of the cranium (contain the brain)

2- Bones of the face

- The skull bones are made up of External and internal tables of **compact bone** separated by a layer of **spongy bone** called the diploic bones
- The bones are covered on the outer and inner surfaces with ***periosteum***.

- The upper part of the cranium ***is The vault***
- ***The base*** of the skull is the lowest part of the cranium



A) The cranium consists of the following bones

two of which are paired :

Frontal bone: 1

Parietal bones: 2

Occipital bone: 1

Temporal bones: 2

Sphenoid bone: 1

Ethmoid bone: 1

B) The facial bones consist of the following

two of which are single:

Zygomatic bones: 2

Maxillae: 2

Nasal bones: 2

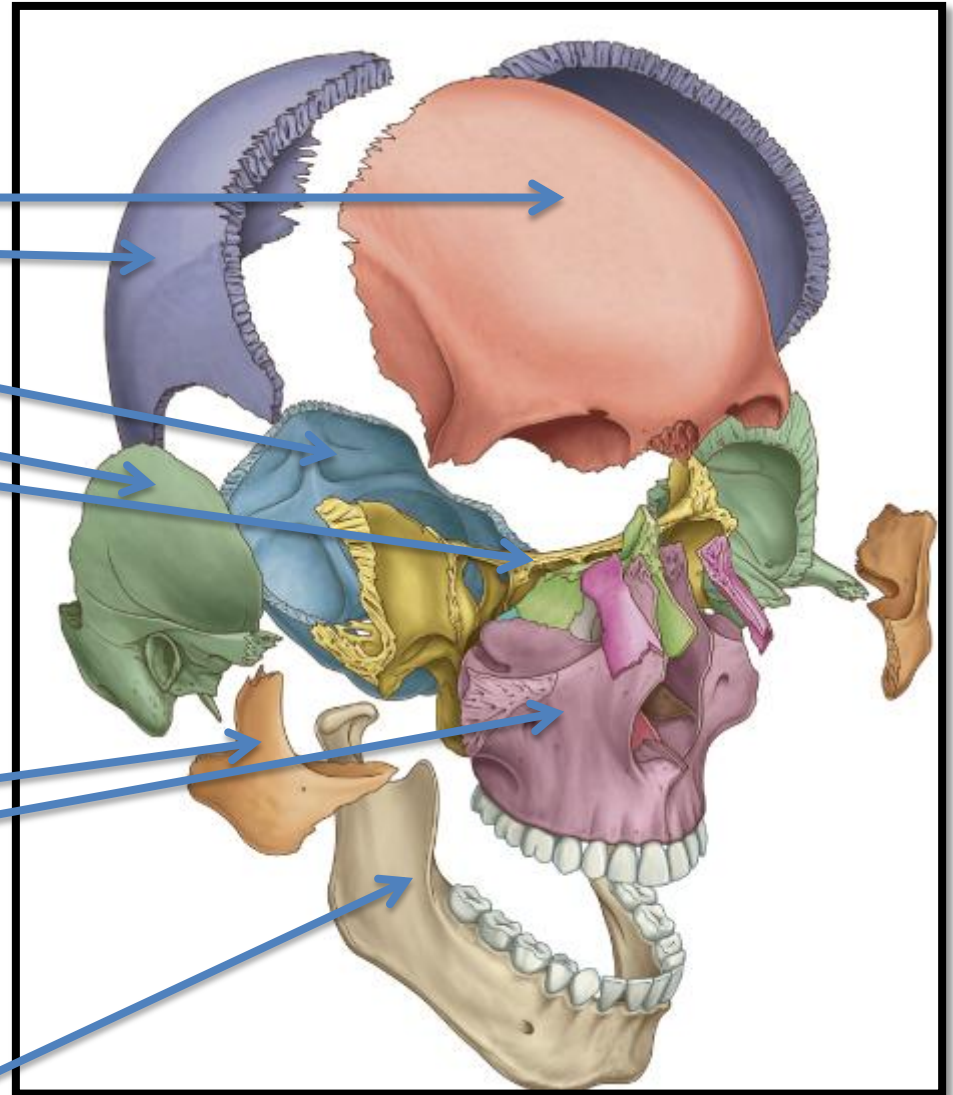
Lacrimal bones: 2

Vomer: 1

Palatine bones: 2

Inferior conchae: 2

Mandible: 1



Norma Frontalis

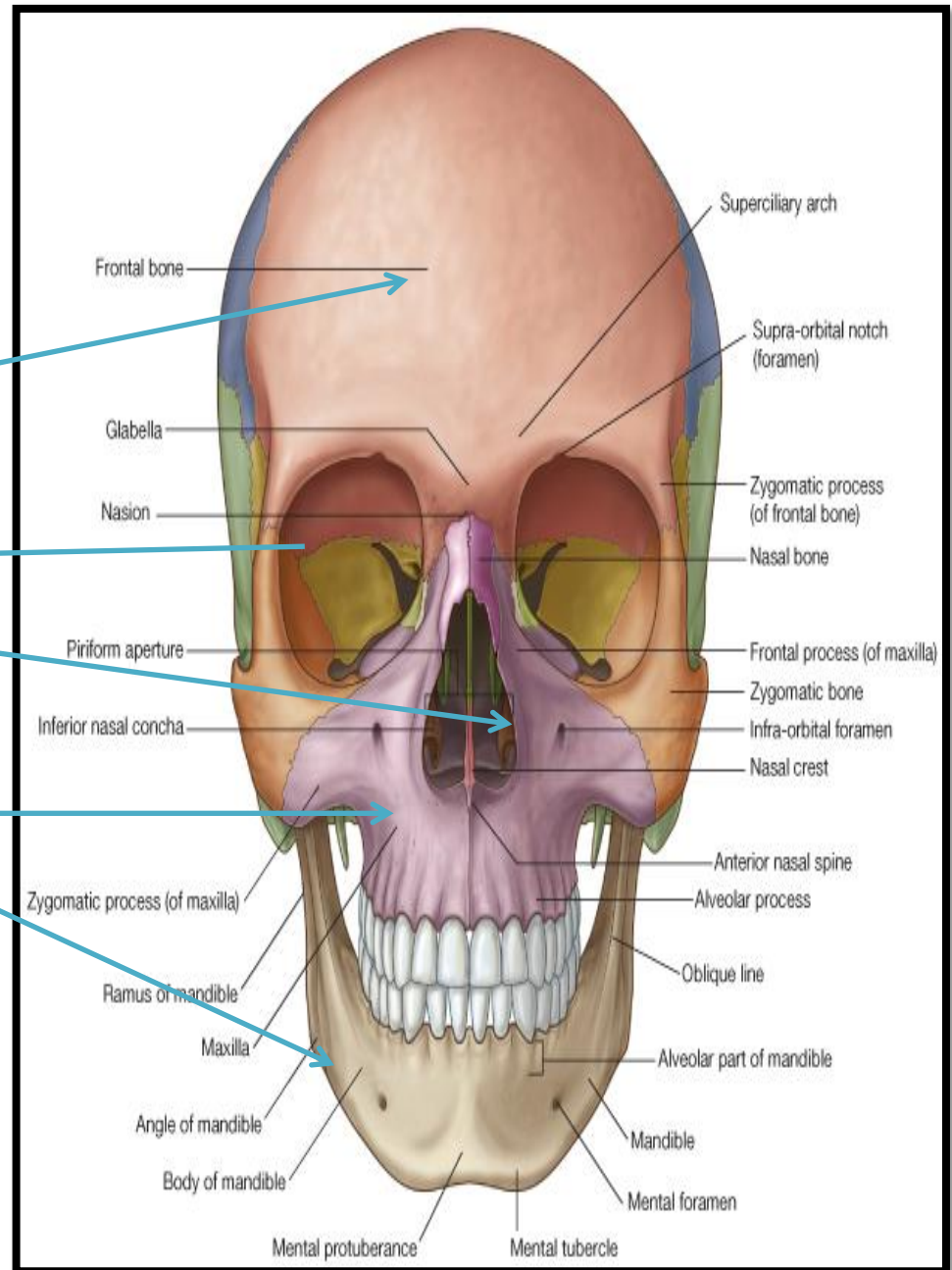
➤ It is the anterior aspect of the skull

Made of three parts

1-Upper part: Forehead; made of the frontal bone

2-Middle part: contains 3 cavities; 2 orbital & 1 nasal

3-Lower part: formed by the upper & lower jaws



1- Frontal eminence: the most prominent areas on either side of the forehead

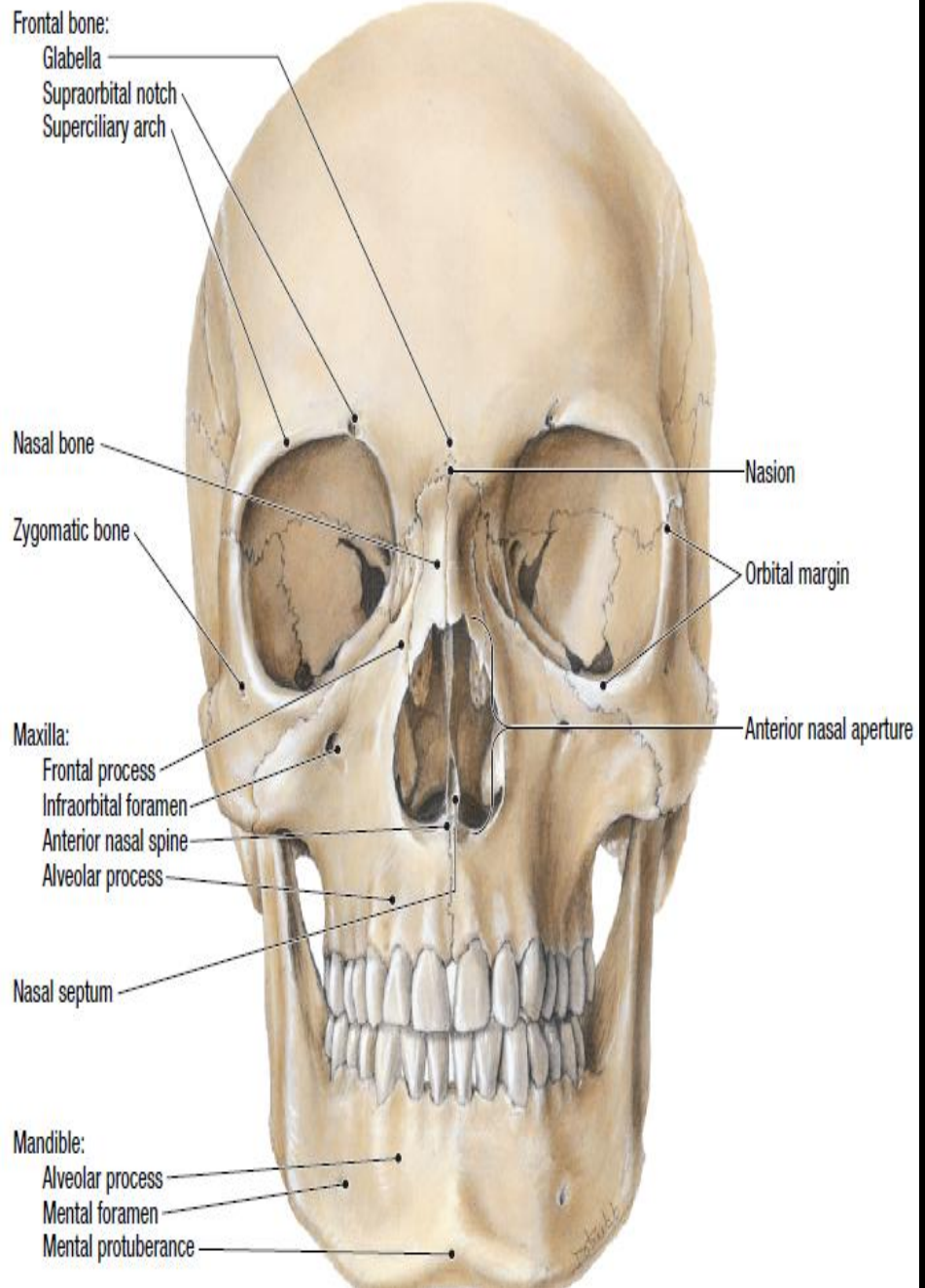
2-The superciliary arches
:Elevated ridges above the medial parts of the sup. Orbital margins

3-supraorbital notch, or foramen: located on junction between the medial 1/3 and the lateral 2/3. **transmits the supraorbital n. & vessels**

4-Glabella:an area above the root of the nose Between the 2 superciliary arches

5-Nasion:a point where the frontonasal & interanasal sutures meet

6-The nasal bones: form the roof of the nose



7-The zygomatic bones has:

a-Frontal processes: articulates with frontal bone

b-Temporal processes: articulates with zygomatic process of the temporal bone to form **the zygomatic arch**

c- maxillary processes: articulates with the maxillary bone

d- orbital plate: shears in the formation of the floor and lateral wall of the orbit

a-Frontal processes:

b-Temporal processes:

d- orbital plate

The zygomatic bone

c- maxillary processes

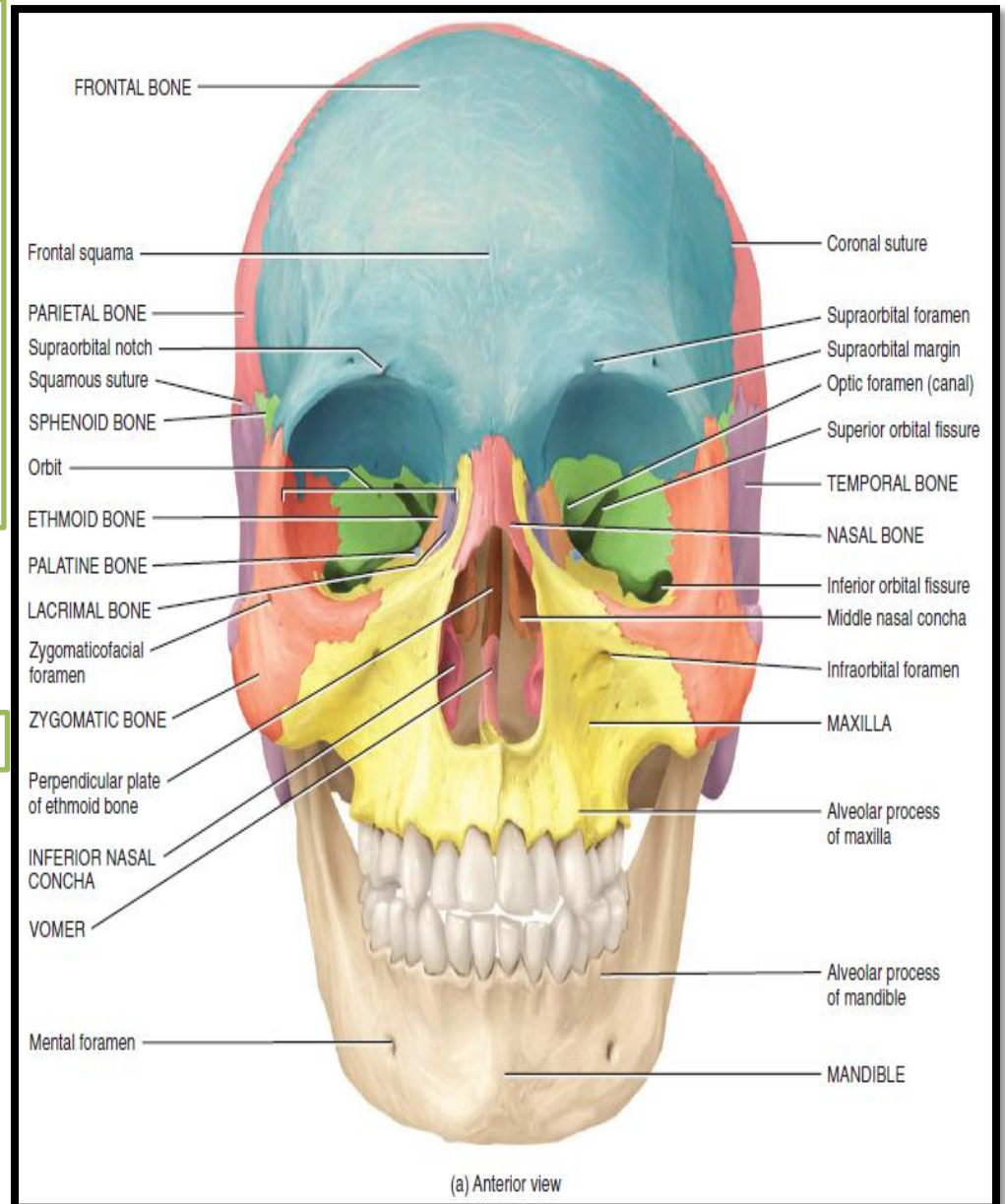
The orbital margins are bounded by:

A-The frontal bone .superiorly

B-The zygomatic bone .laterally

C- The maxilla: inferiorly

D-The processes of the maxilla and frontal bone .medially



Norma lateralis

❖ The parietal bones form *the sides and roof of the cranium*.
The skull is completed at the side by the

1-Squamous part of the occipital bone

2-Parts of the temporal bone

The squamous

Tympanic

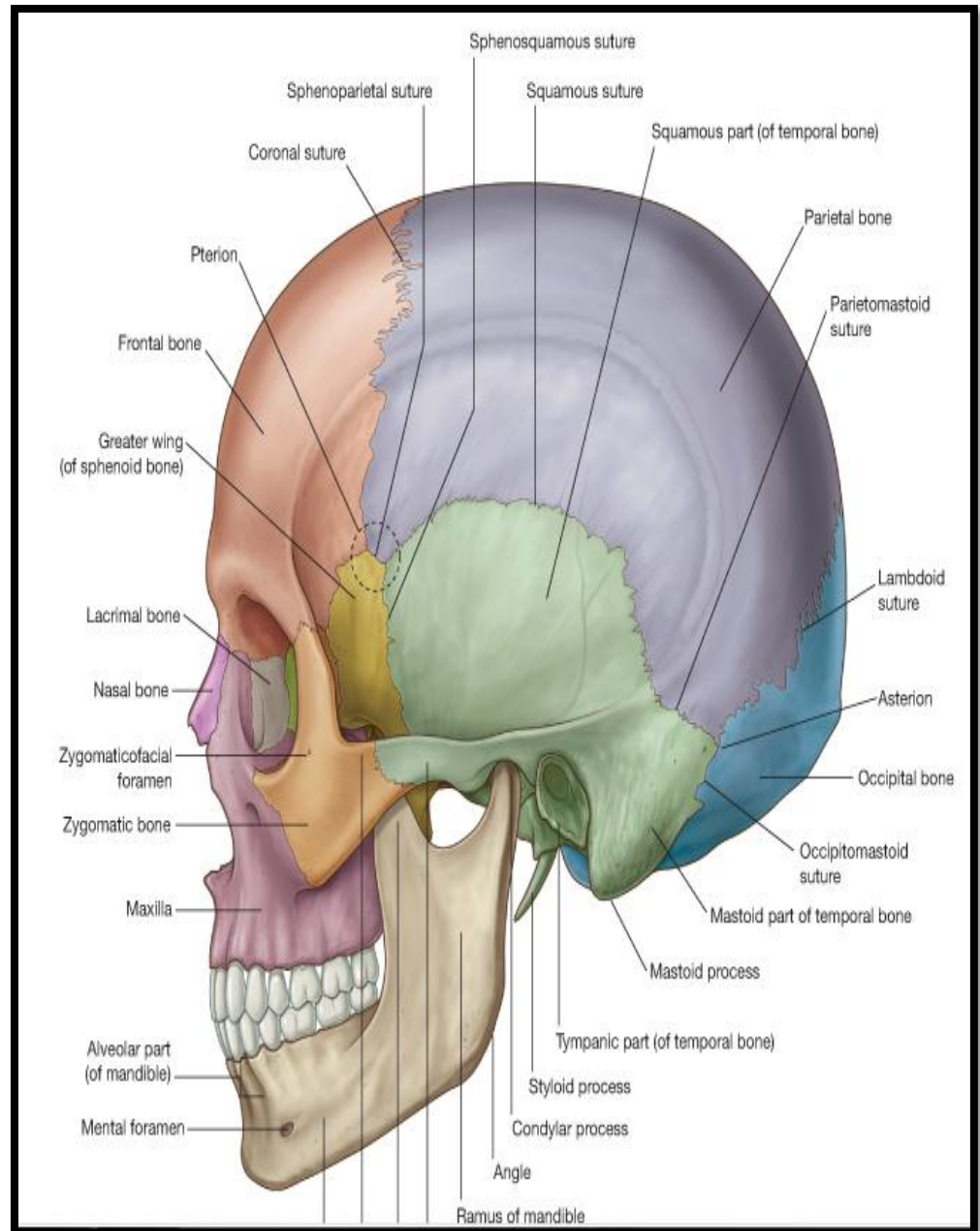
Mastoid process

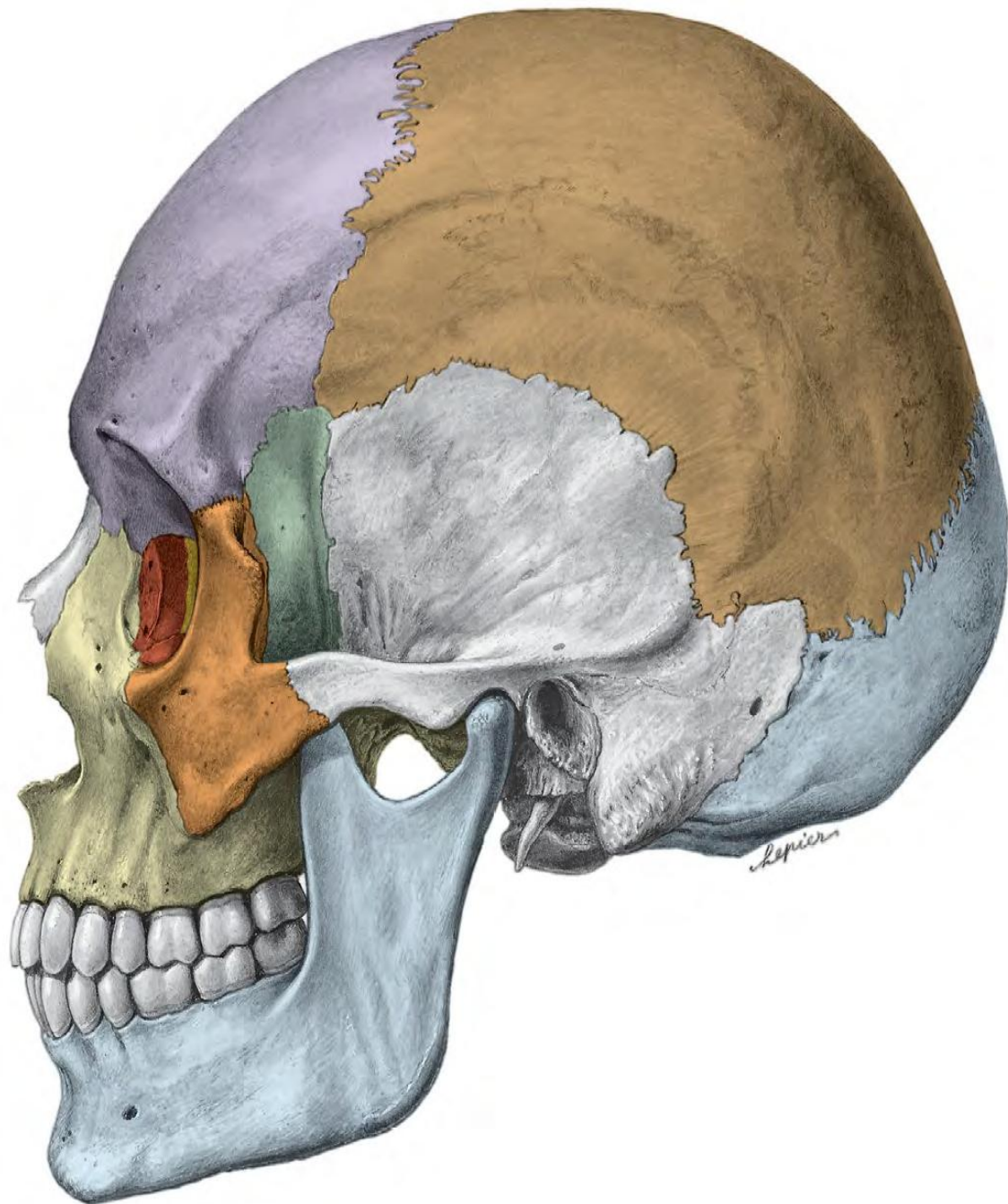
Styloid process

3-Zygomatic process

4- The greater wing of the sphenoid
Note the position of the external auditory meatus.

The ramus and body of the mandible lie inferiorly.





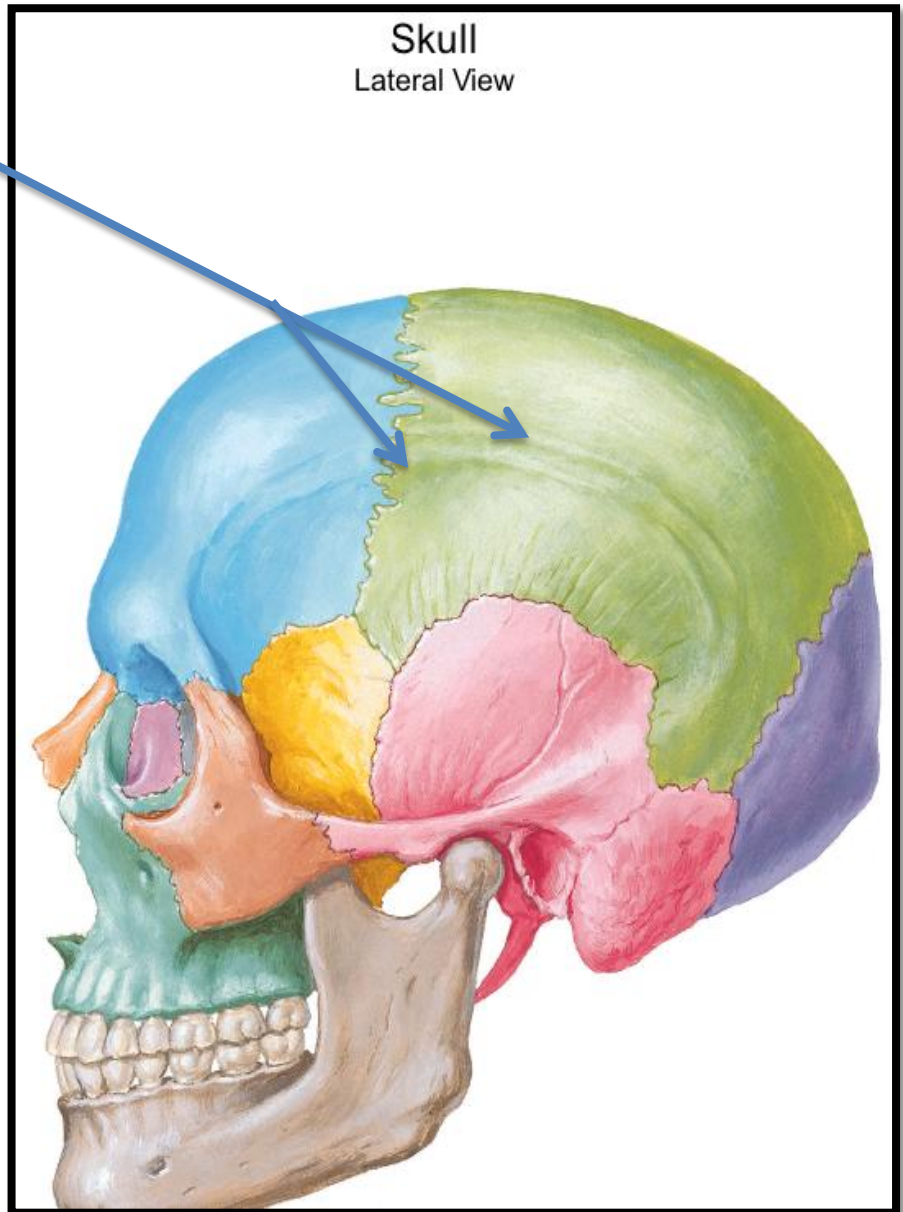
Identify

the superior and inferior temporal lines, which begin as a single line from the posterior margin of the zygomatic process of the frontal bone and diverge as they arch backward.

- ❖ The upper temporal line gives attachment for the temporal fascia
- ❖ The lower temporal line is for the attachment of temporalis muscle

The supramastoid crest

The zygomatic arch: formed of the temporal process of the zygomatic bone and the zygomatic process of the temporal bone (its lower border). And its inner surface gives attachment to the masseter muscle.



Pterion: is an area located on the floor of the temporal fossa
Where 4 bones meet at an H-shaped structure

The 4 bones are

1-frontal

2- parietal

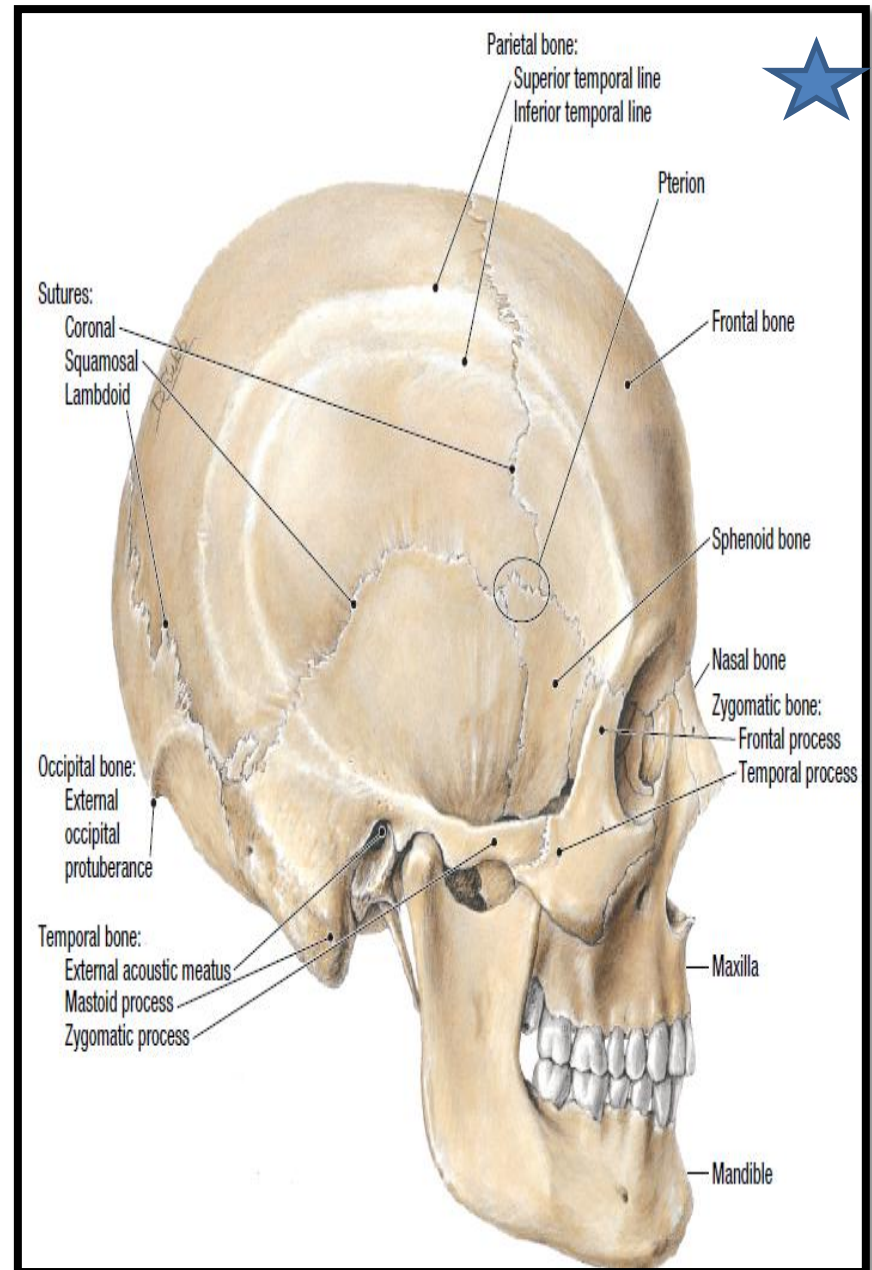
3-squamous part of temporal bone

4-greater wing of sphenoid

The pterion is the thinnest part of the lateral wall of the skull. it overlies the anterior division of
The middle meningeal artery and vein



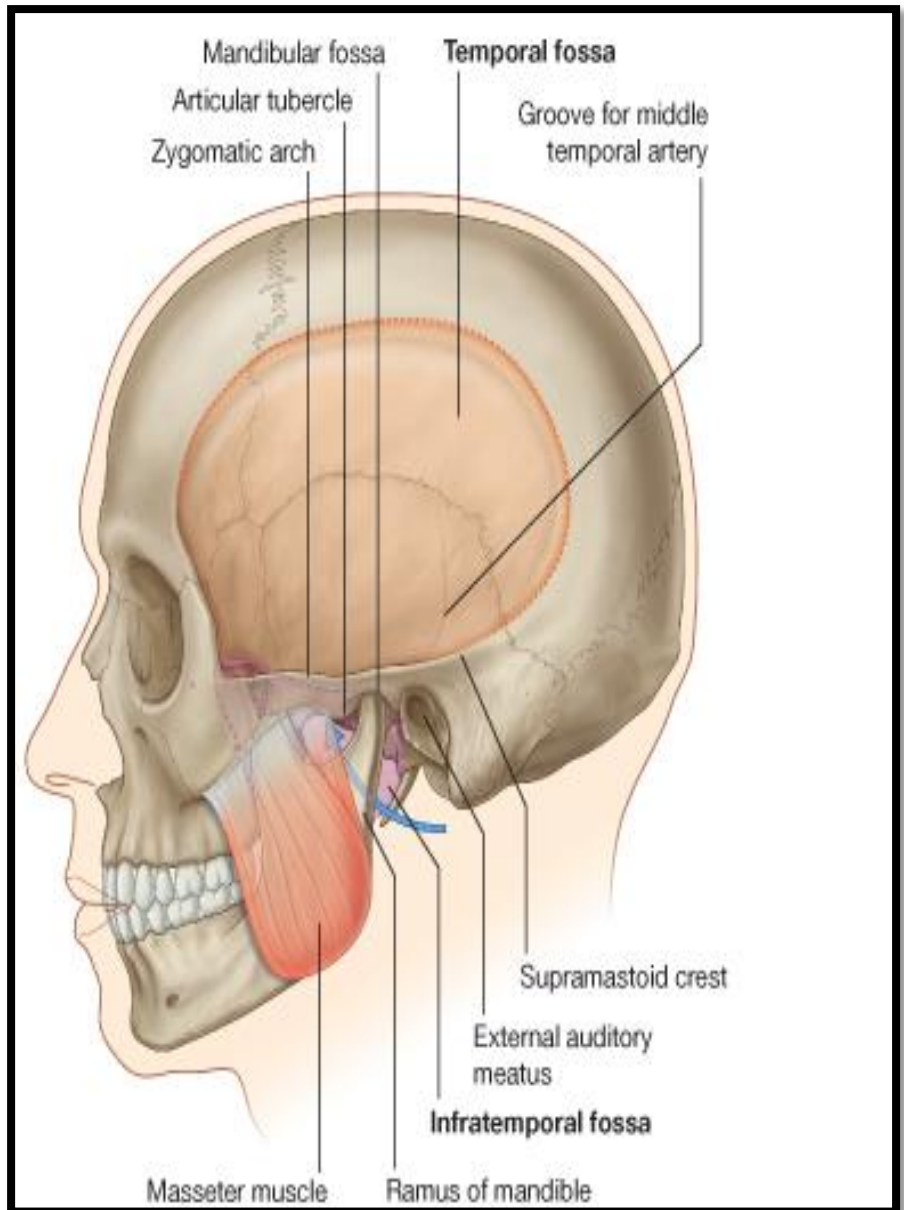
Epidural bleeding



The temporal fossa lies below the inferior temporal line

The zygomatic arch divides the lateral side of the Skull into
The temporal fossa & The infratemporal fossa

❖ **The infratemporal fossa**
lies below the infratemporal crest on the greater wing of the sphenoid



The temporal fossa

Boundries

Above and behind: the superior temporal line

Below: The zygomatic arch

Anteriorly: the frontal process of zygomatic bone

Infratemporal fossa

Anterior wall: back of the maxilla

Medial wall: lateral pterygoid plate

Roof: infratemporal surface of the greater wing Of sphenoid bone

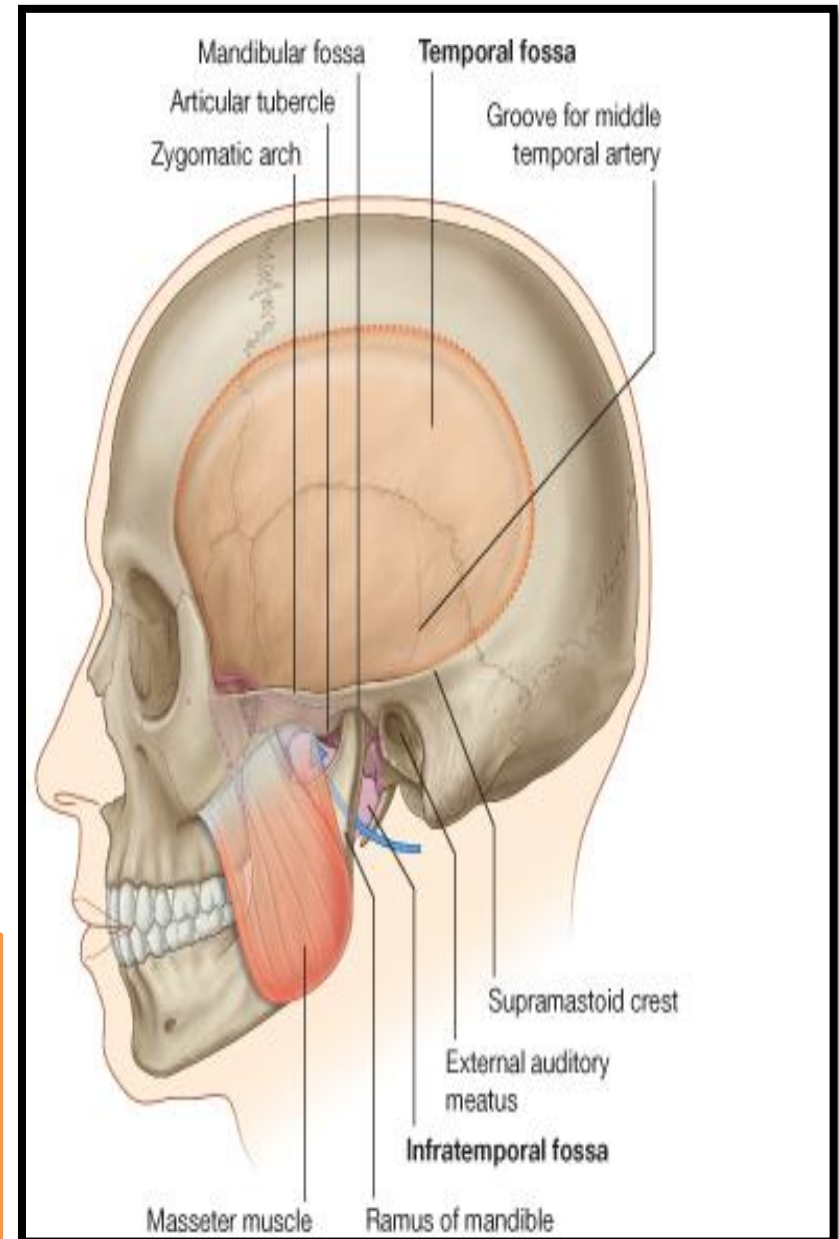
Lateral wall: ramus of mandible

Communications

Temporal fossa: through the gap deep to the zygomatic arch

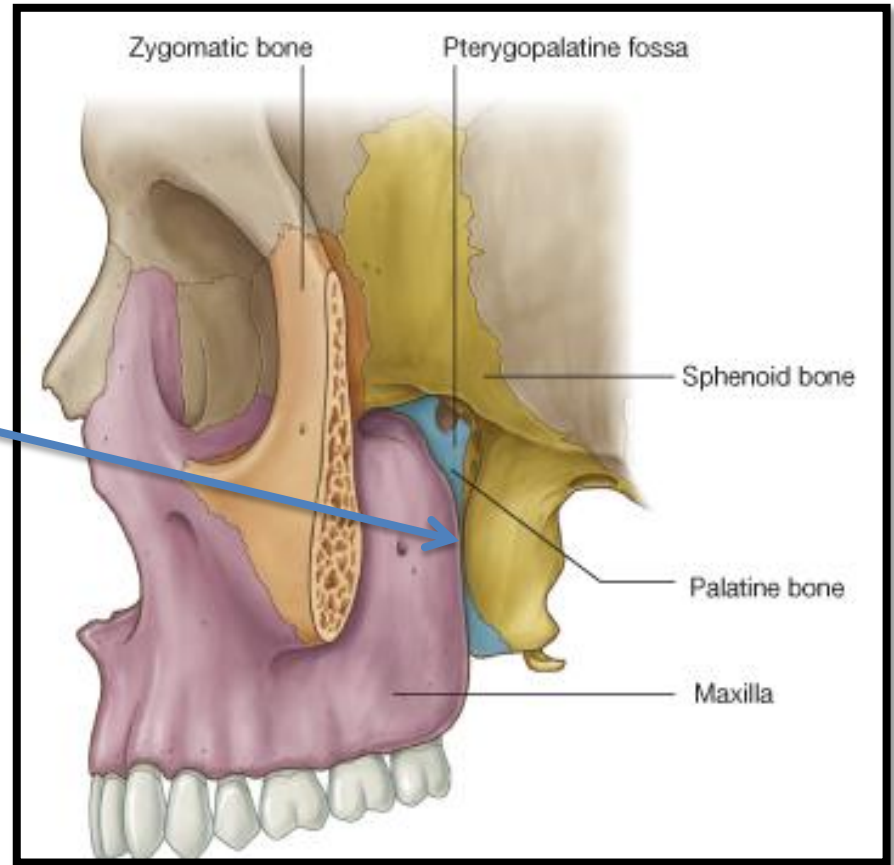
Orbit: through the inferior orbital fissure

Pterygo-polatine fossa : through the pterygo-maxillary fissure



❖ **The pterygomaxillary fissure** is a vertical fissure that lies within the fossa between the pterygoid process of the sphenoid bone and back of the maxilla. It leads medially into the pterygopalatine fossa.

❖ **The inferior orbital fissure** is a horizontal fissure between the greater wing of the sphenoid bone and the maxilla. It leads forward into the orbit.



The pterygopalatine fossa

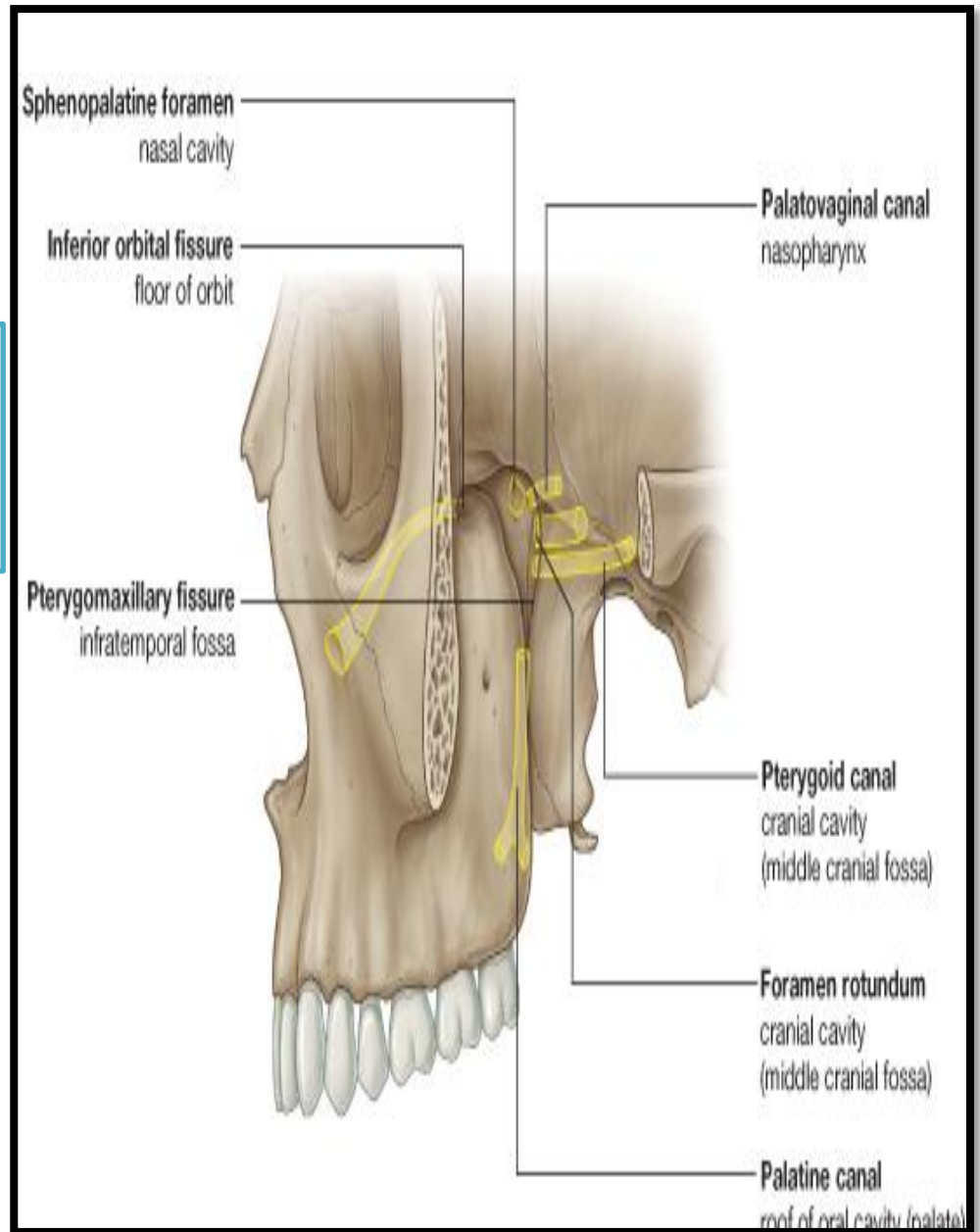
Is a small space behind and below the orbital cavity.

It communicates
laterally :with the infratemporal fossa through the pterygomaxillary fissure

Medially: with the nasal cavity through the sphenopalatine foramen

superiorly :with the skull through the foramen rotundum

anteriorly :with the orbit through the inferior orbital fissure



Superior View of the Skull (Norma Verticalis)

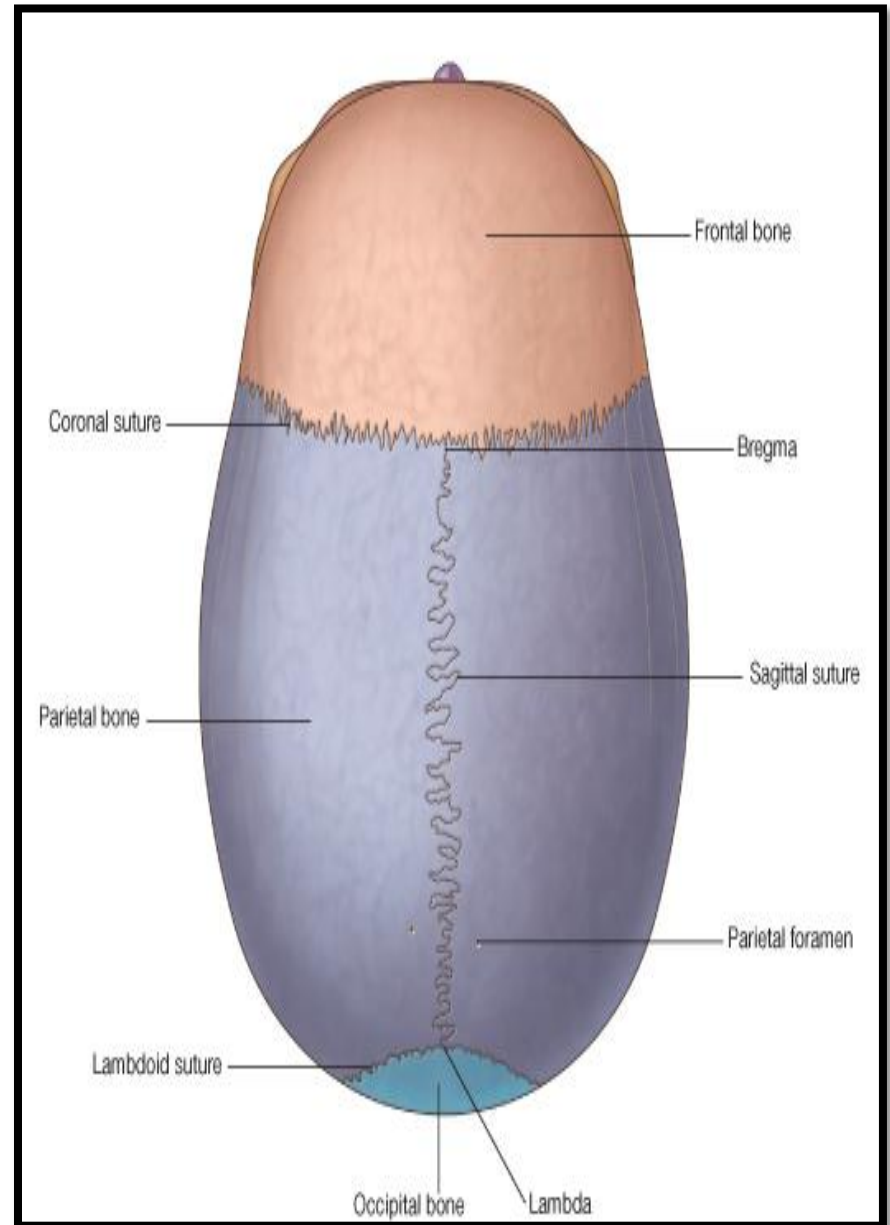
Anteriorly
the frontal bone articulates with the
two parietal bones

AT THE CORONAL SUTURE

The two parietal bones articulate in
the midline

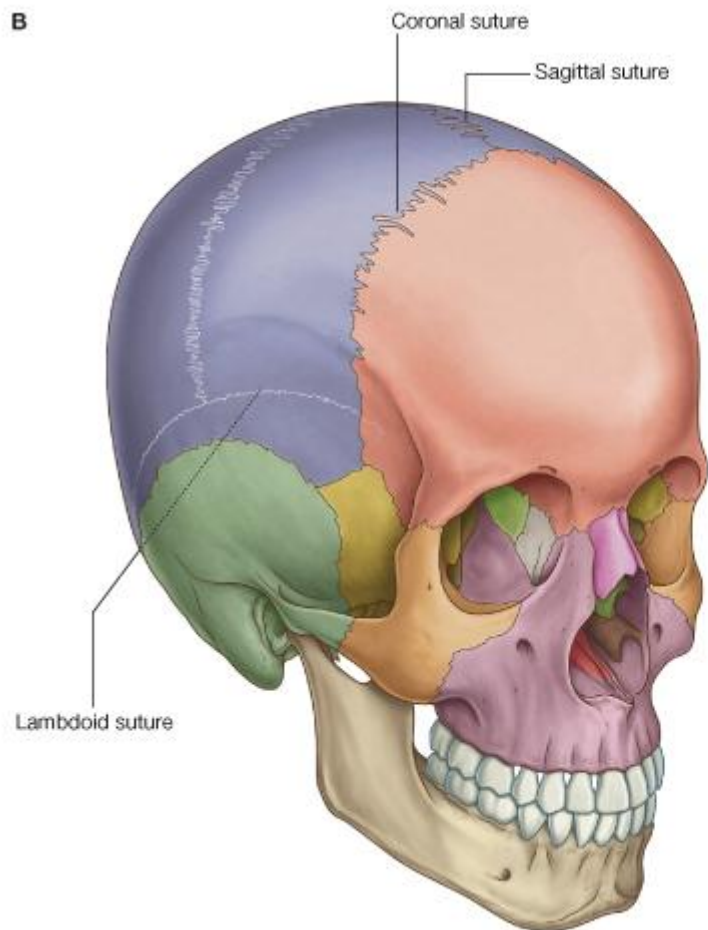
AT THE SAGITTAL SUTURE

lambdoid
sutures

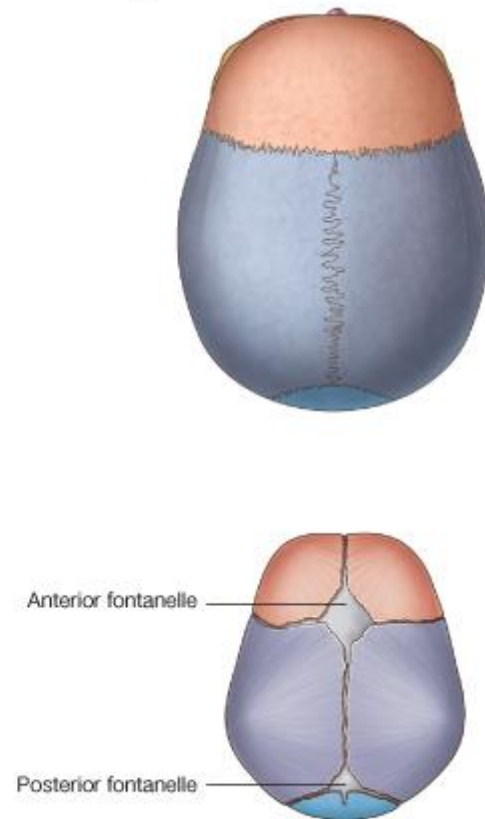




B



C



Posterior View of the Skull

Above

The posterior parts of the two Parietal bones with the intervening sagittal suture

Below,

the parietal bones articulate with the squamous part of the occipital bone **at the lambdoid suture.**

On each side the occipital bone articulates with the temporal bone.

In the midline of the occipital bone is a roughened elevation called

The external occipital protuberance which gives attachment to muscles and the **ligamentum nuchae**

On either side of the protuberance the **superior nuchal lines** extend laterally toward the temporal bone.

