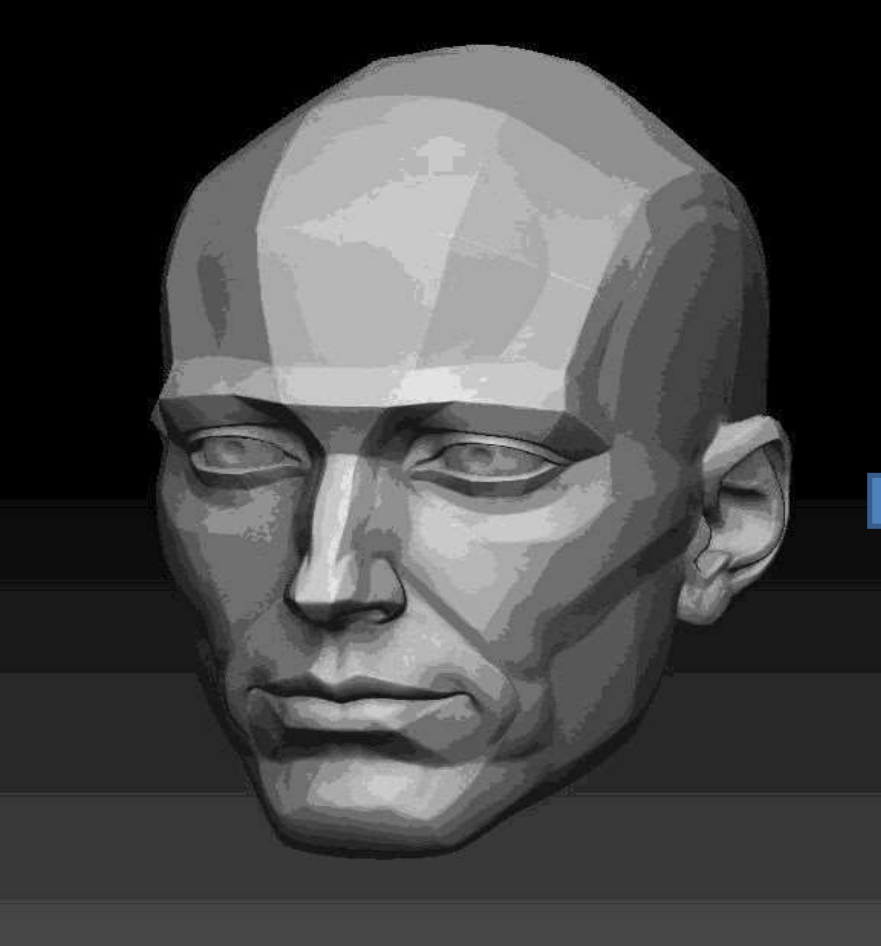




Introduction To Skull

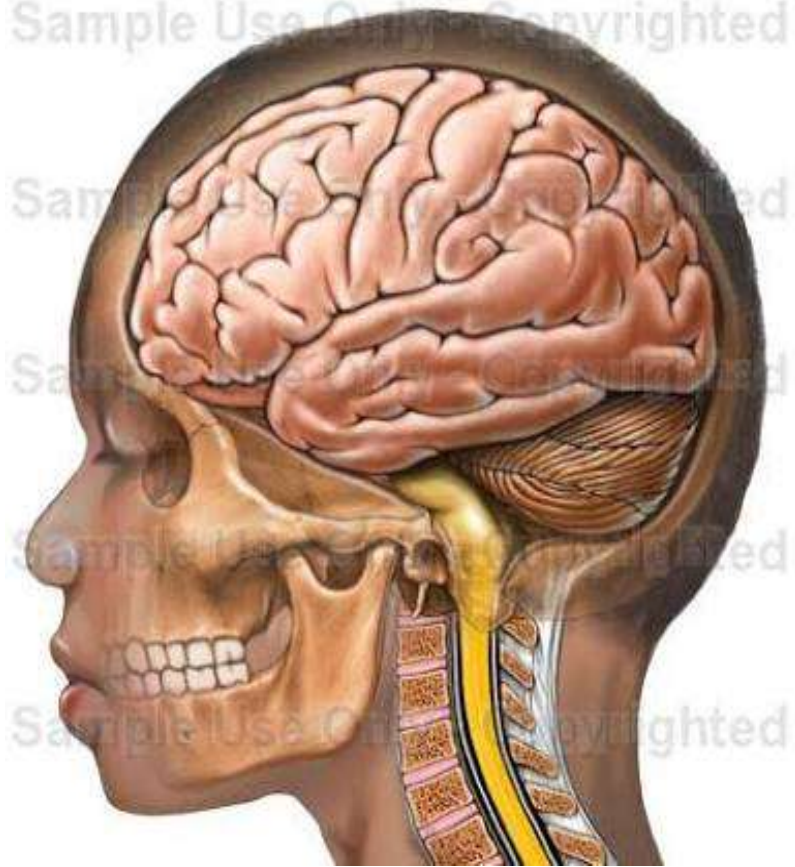
Skull

- Skeleton of head is known as Skull
- It is a highly modified region of axial skeleton
- It is of mesenchymal origin
- It consists of 22 bones.

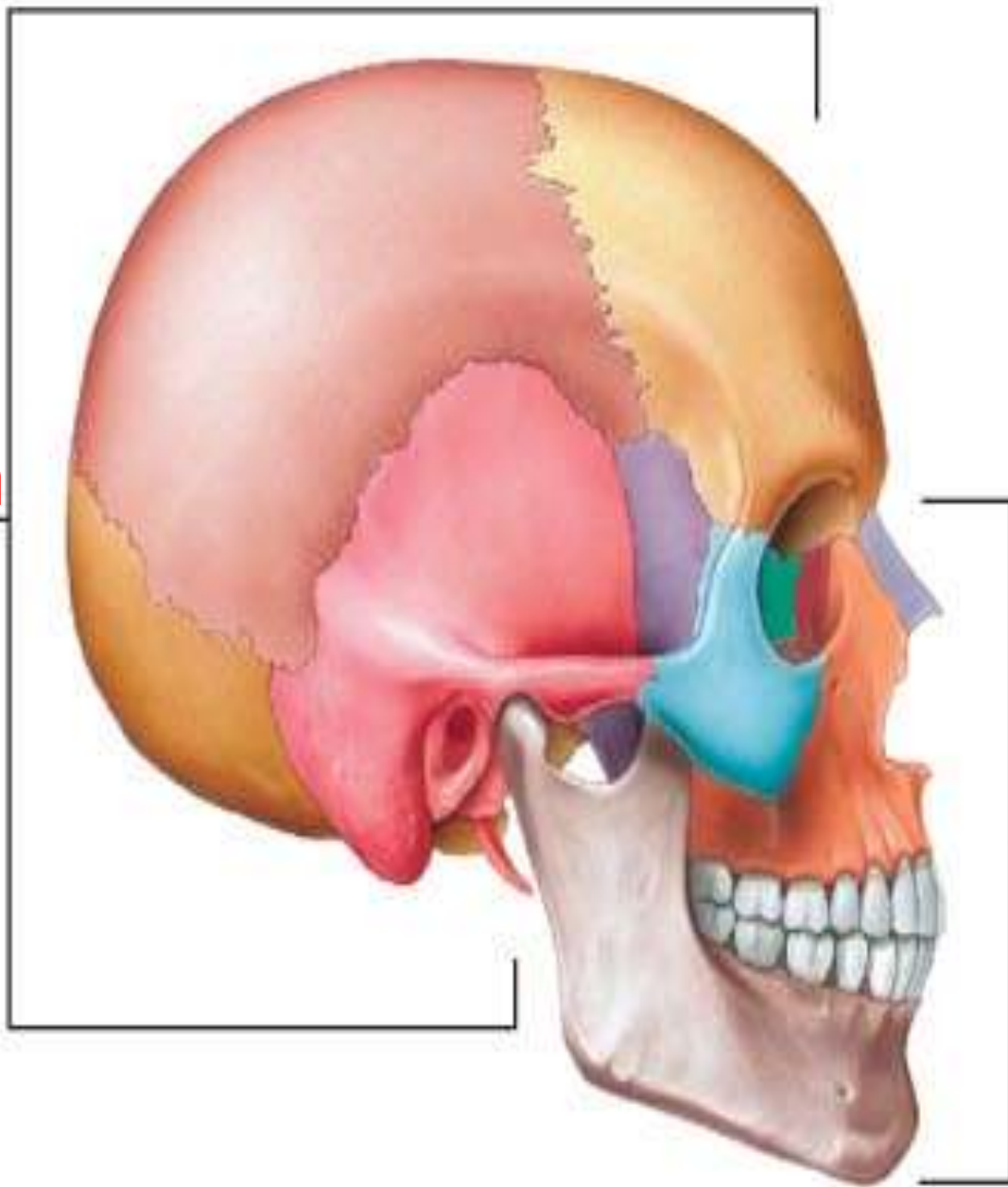


Function

- Protection and housing of brain
- Acts as rigid barrier between brain and impact produced by masticatory and axial musculature
- Forms passage for entry to respiratory and digestive system



Calvaria



**Facial
skeleton**

Calvaria

Also known as Brain box

Consist of 8 bones

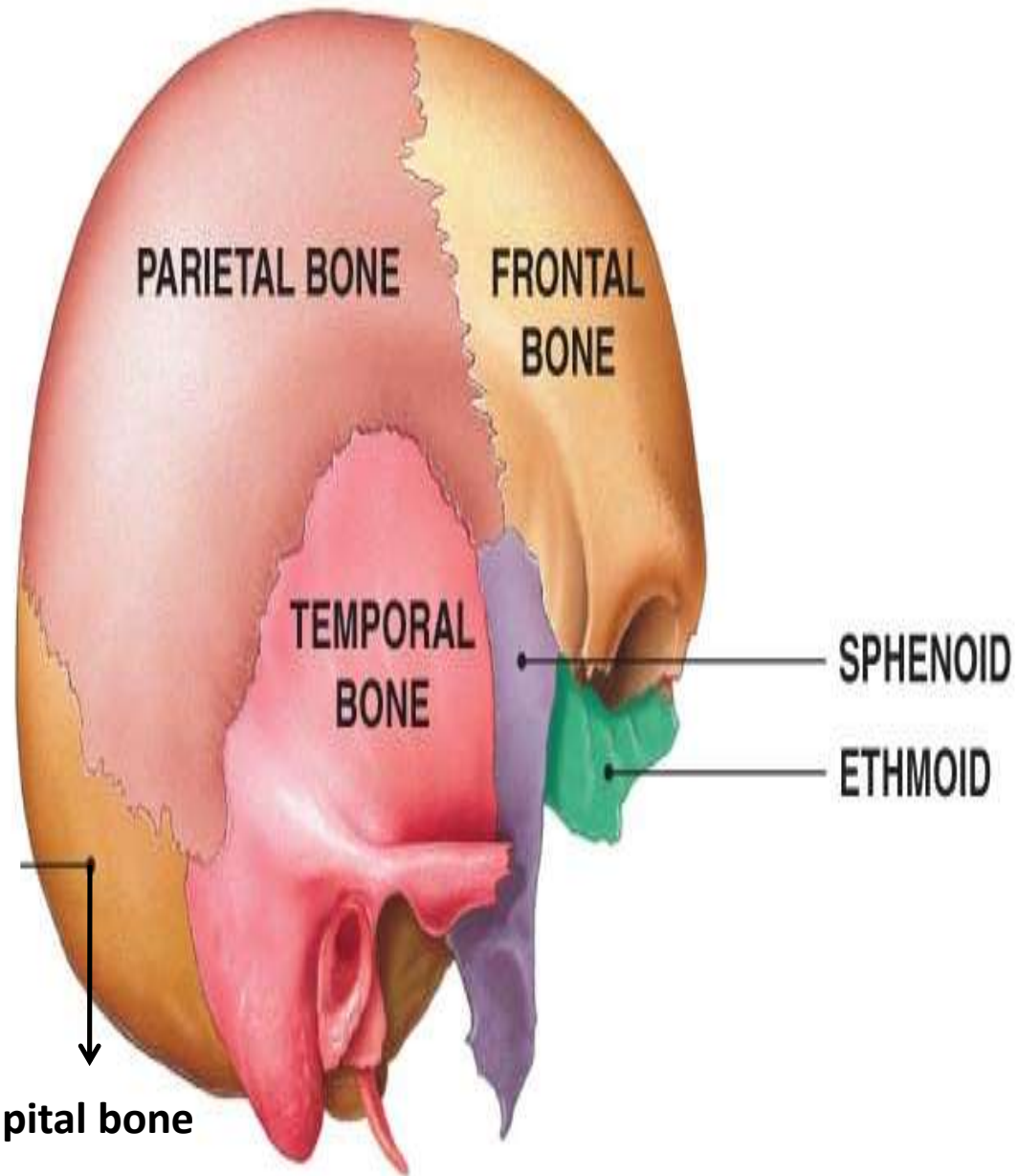
Paired

Parietal
Temporal

Unpaired

Frontal
Occipital
Sphenoid
Ethmoid

Occipital bone



Facial Skeleton

It constitutes the rest of the skull including Mandible

It consists of 14 bones

Paired

Maxilla

Zygomatic

Nasal

Lacrimal

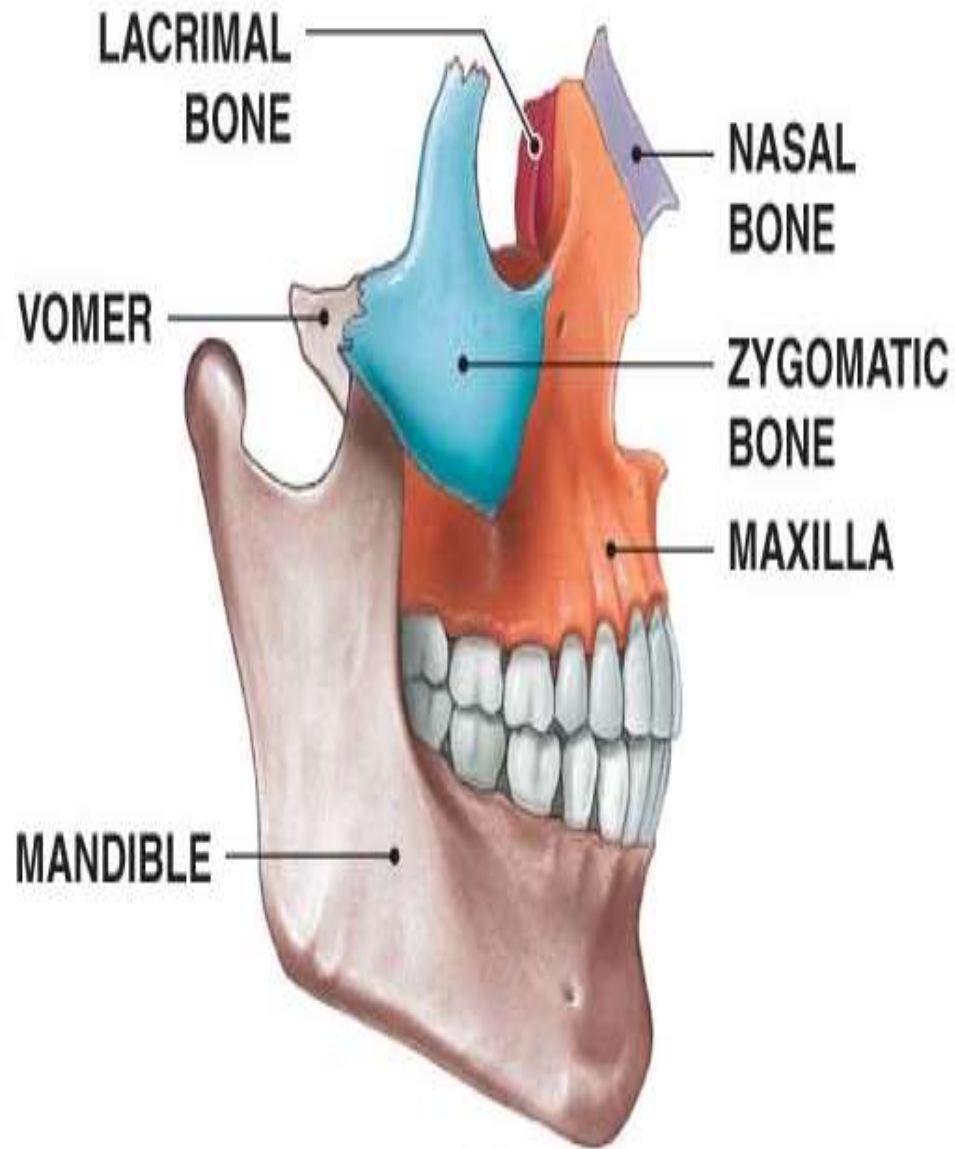
Palatine

Inferior nasal concha

Unpaired

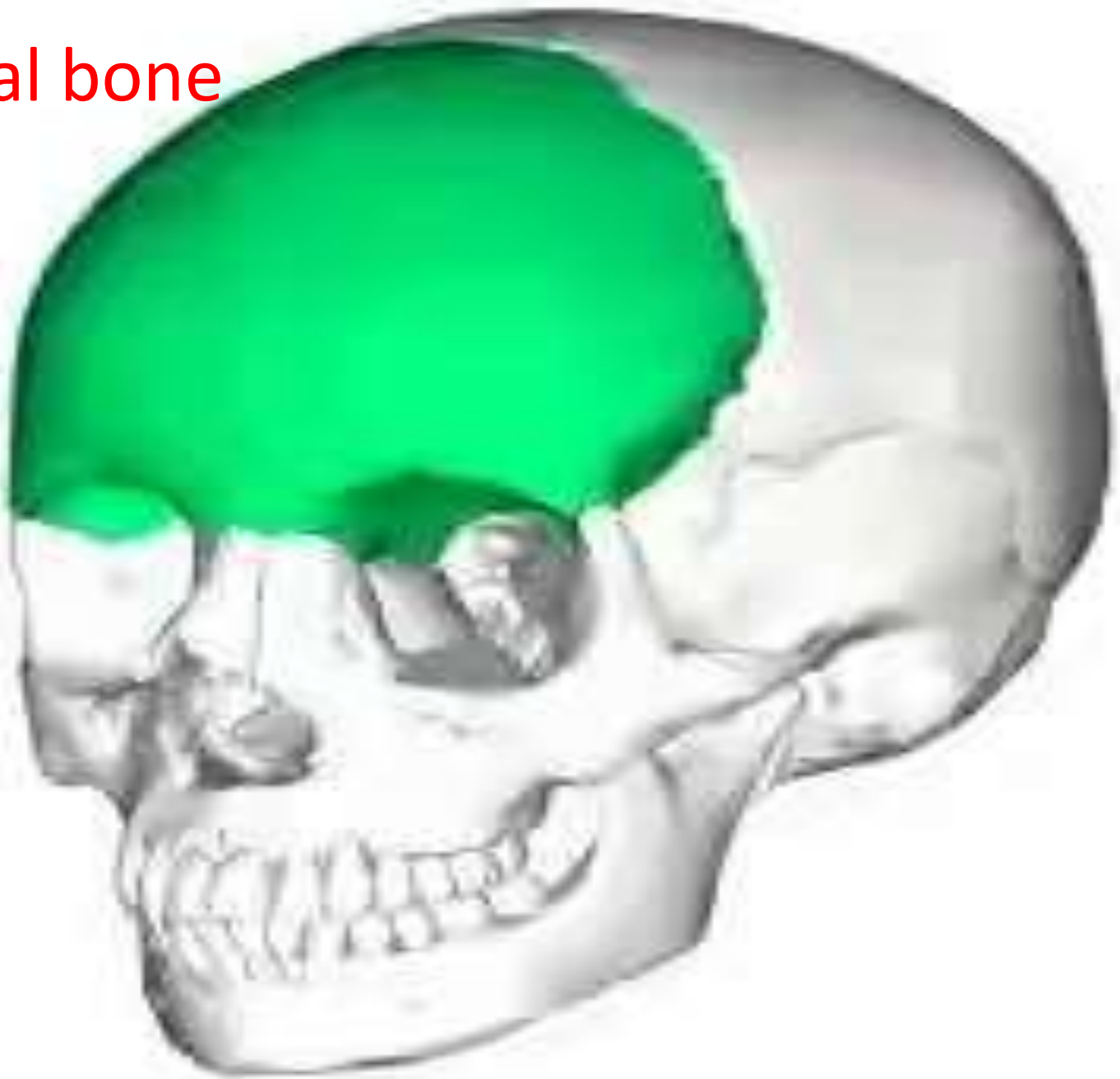
Mandible

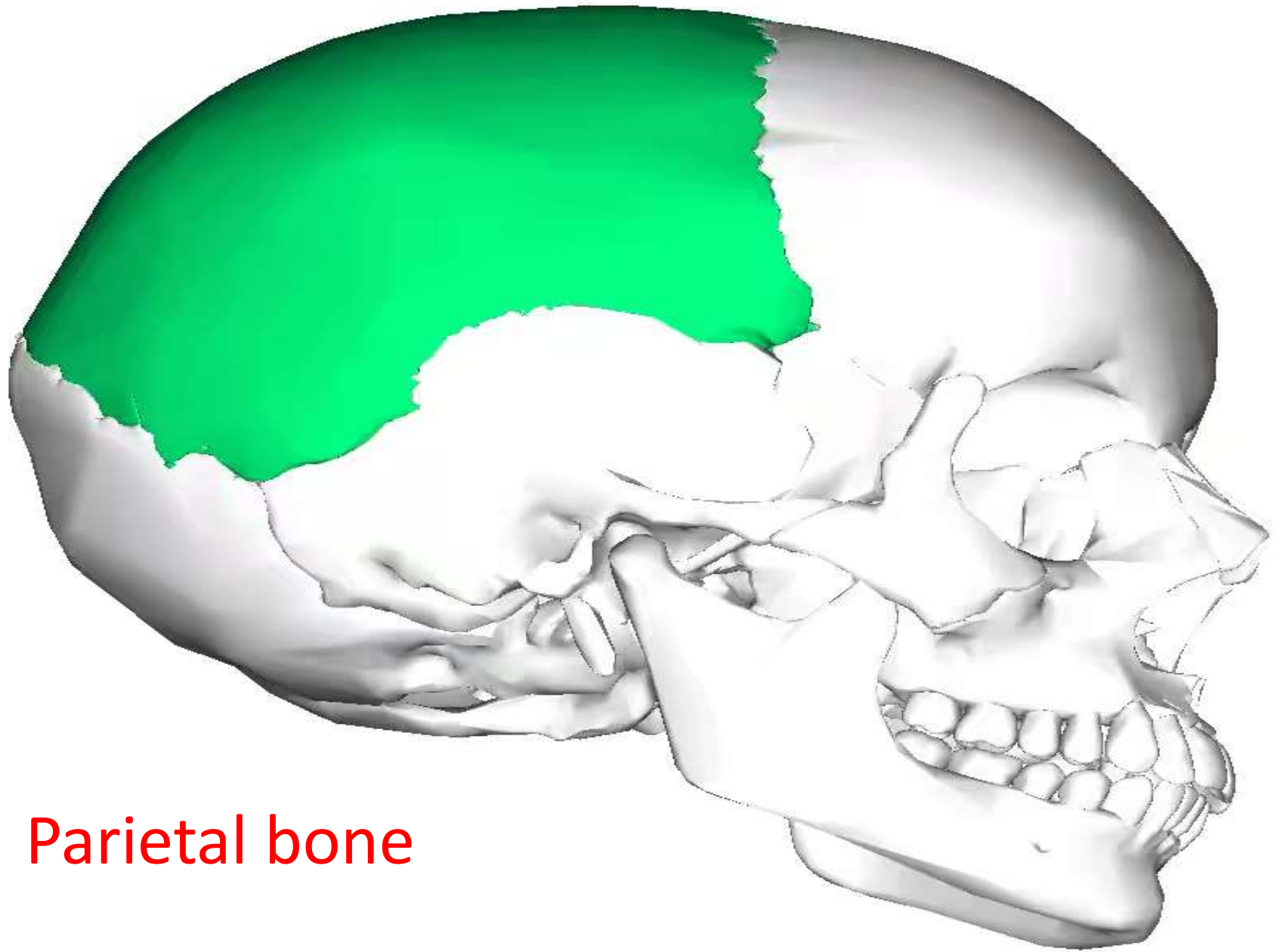
Vomer



Facial bones

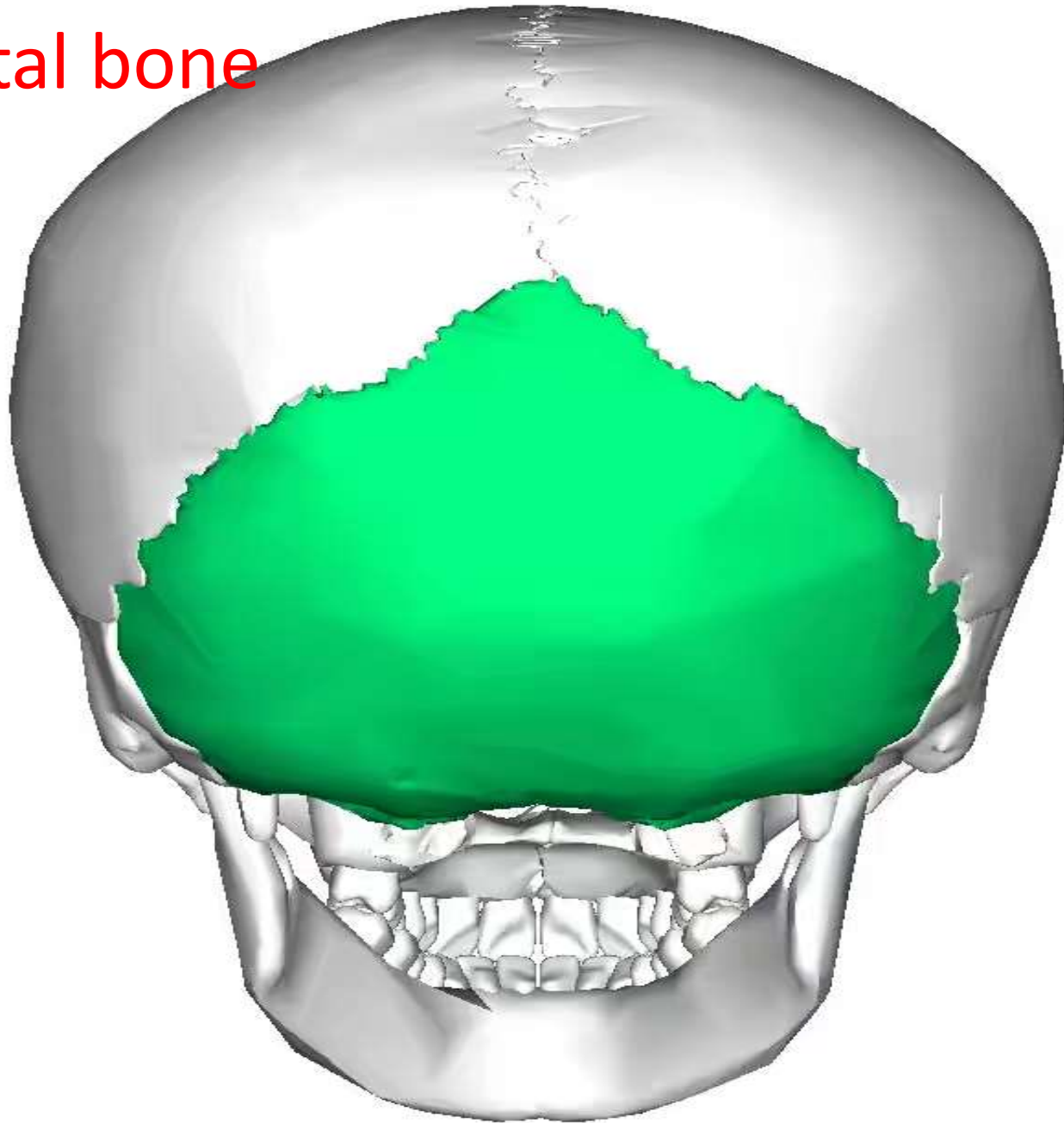
Frontal bone



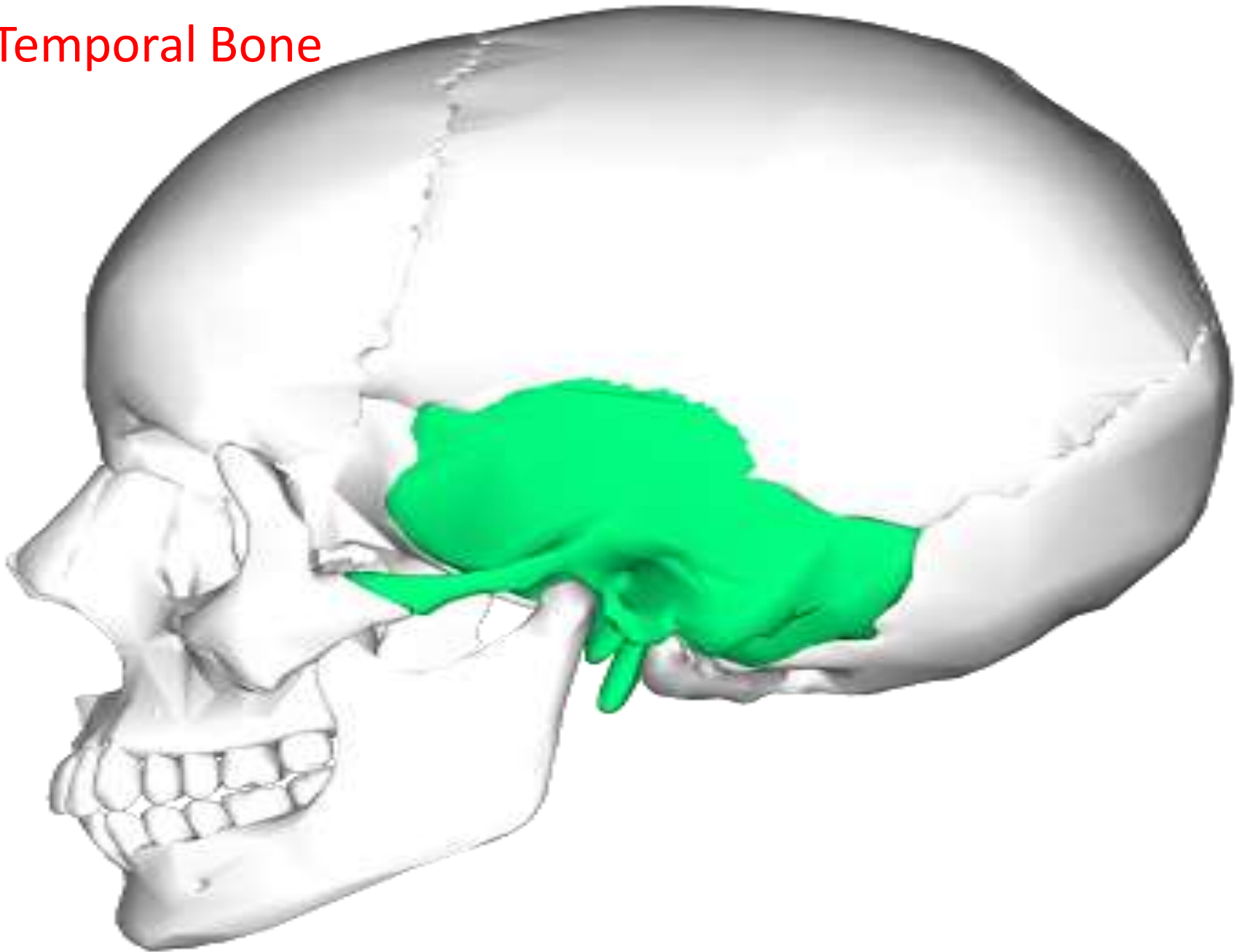


Parietal bone

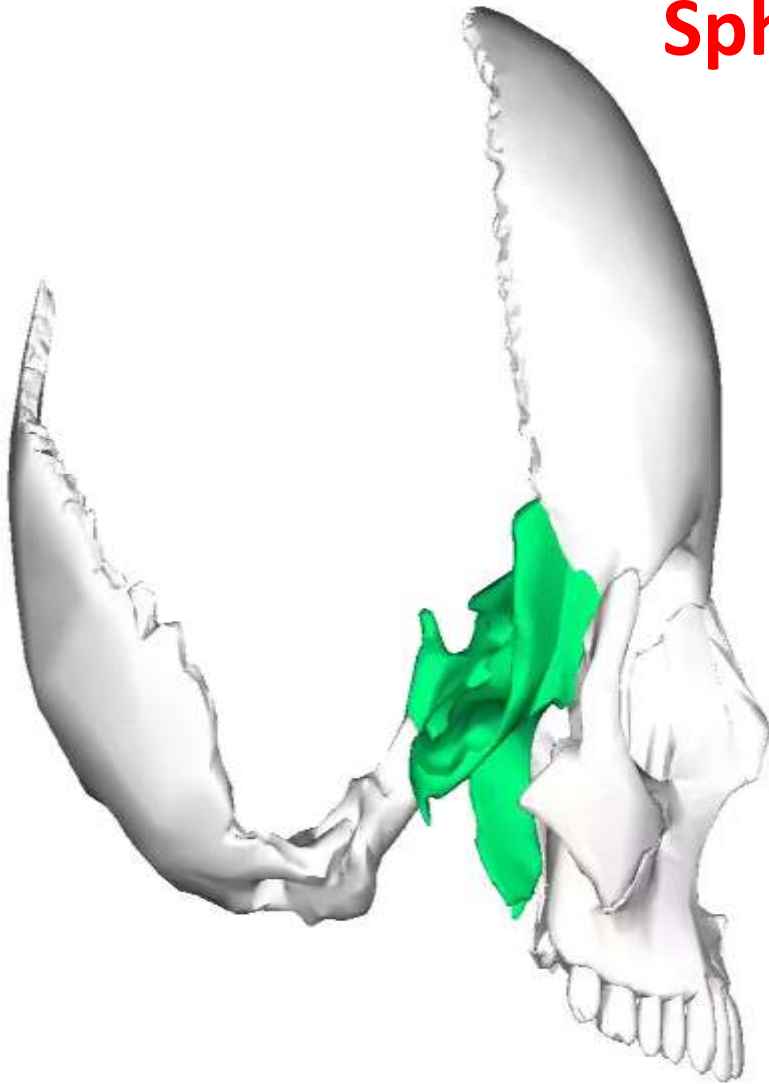
Occipital bone



Temporal Bone



Sphenoid bone

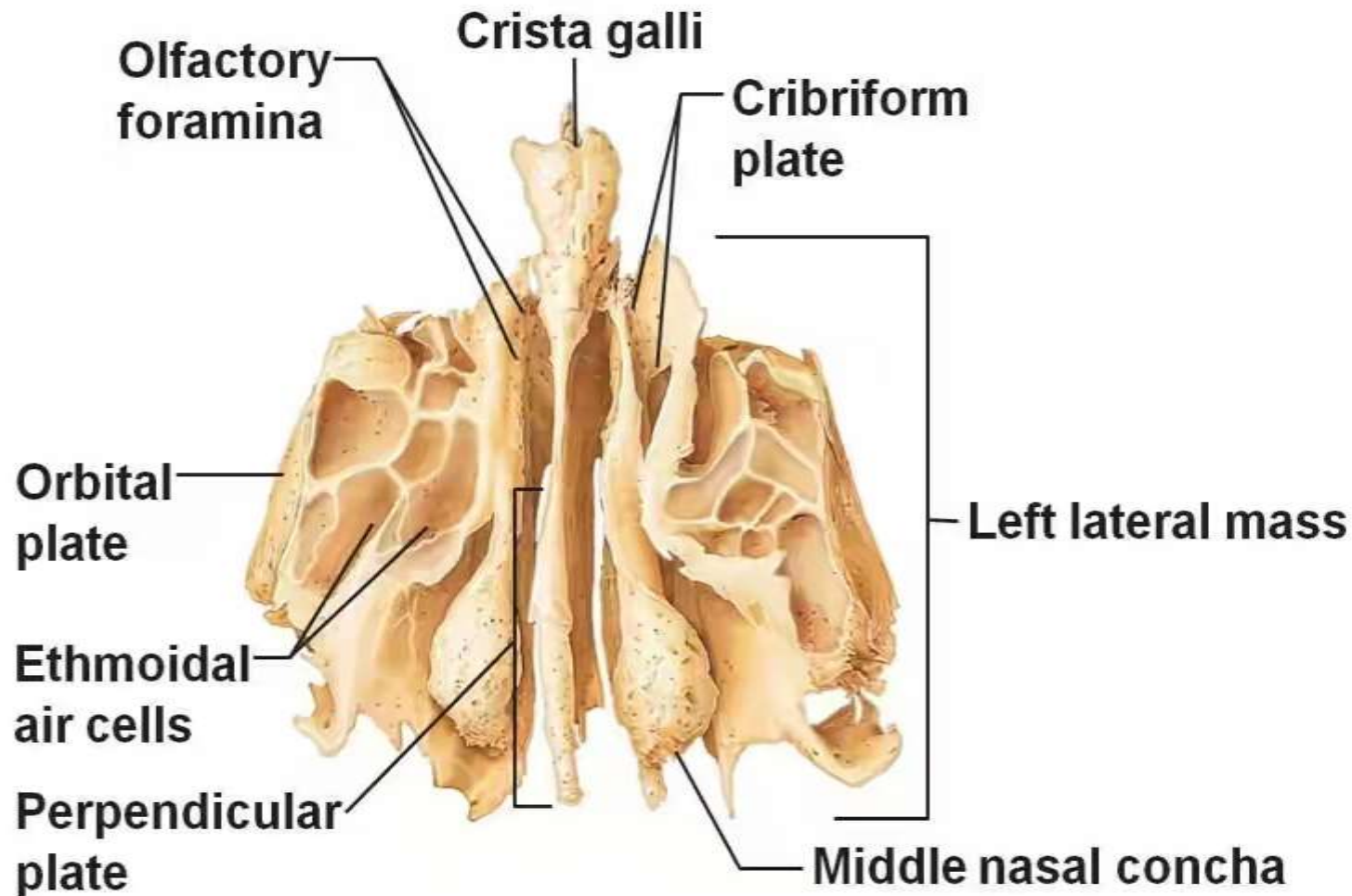


Lateral view

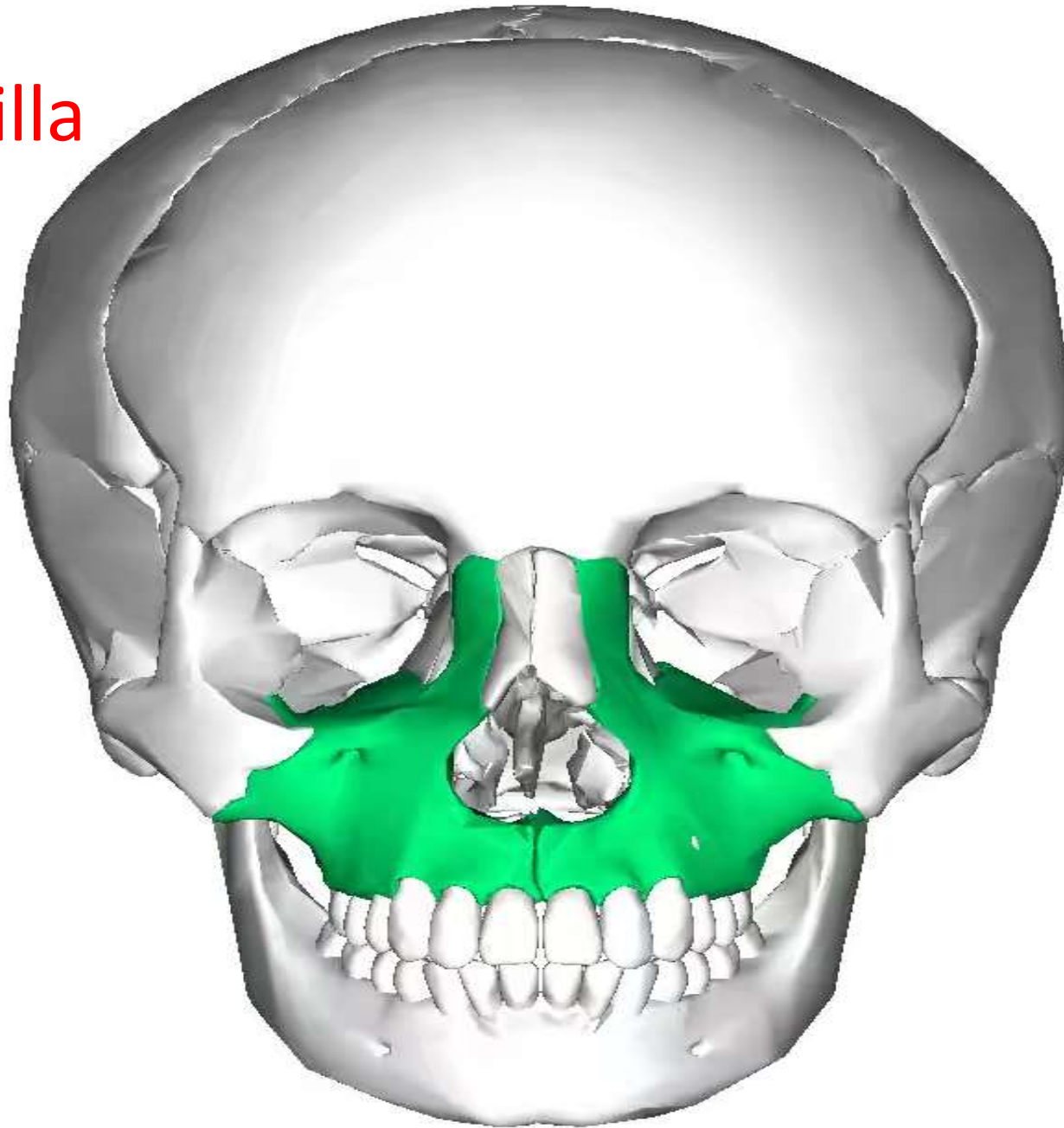


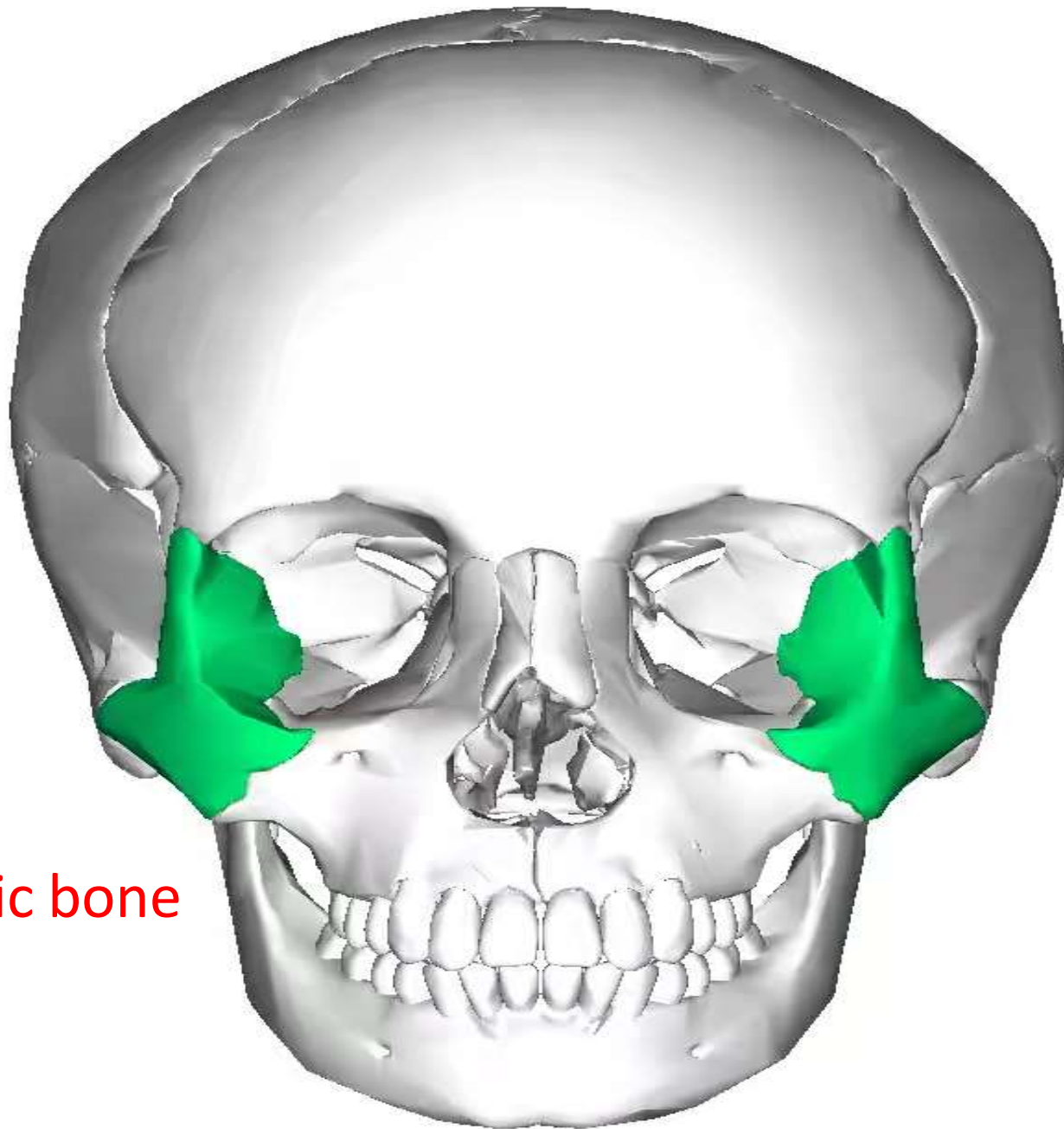


Ethmoid bone



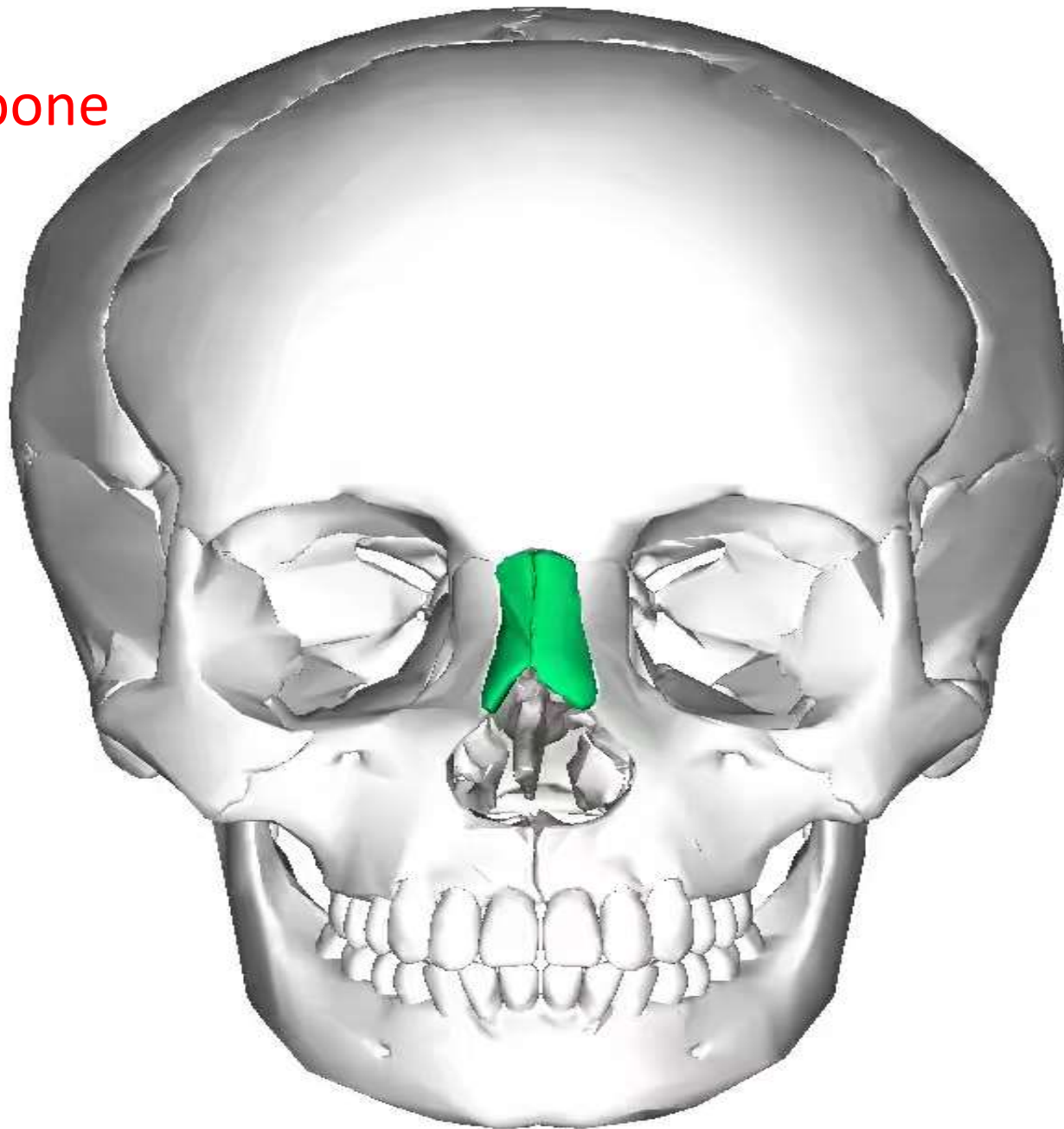
Maxilla

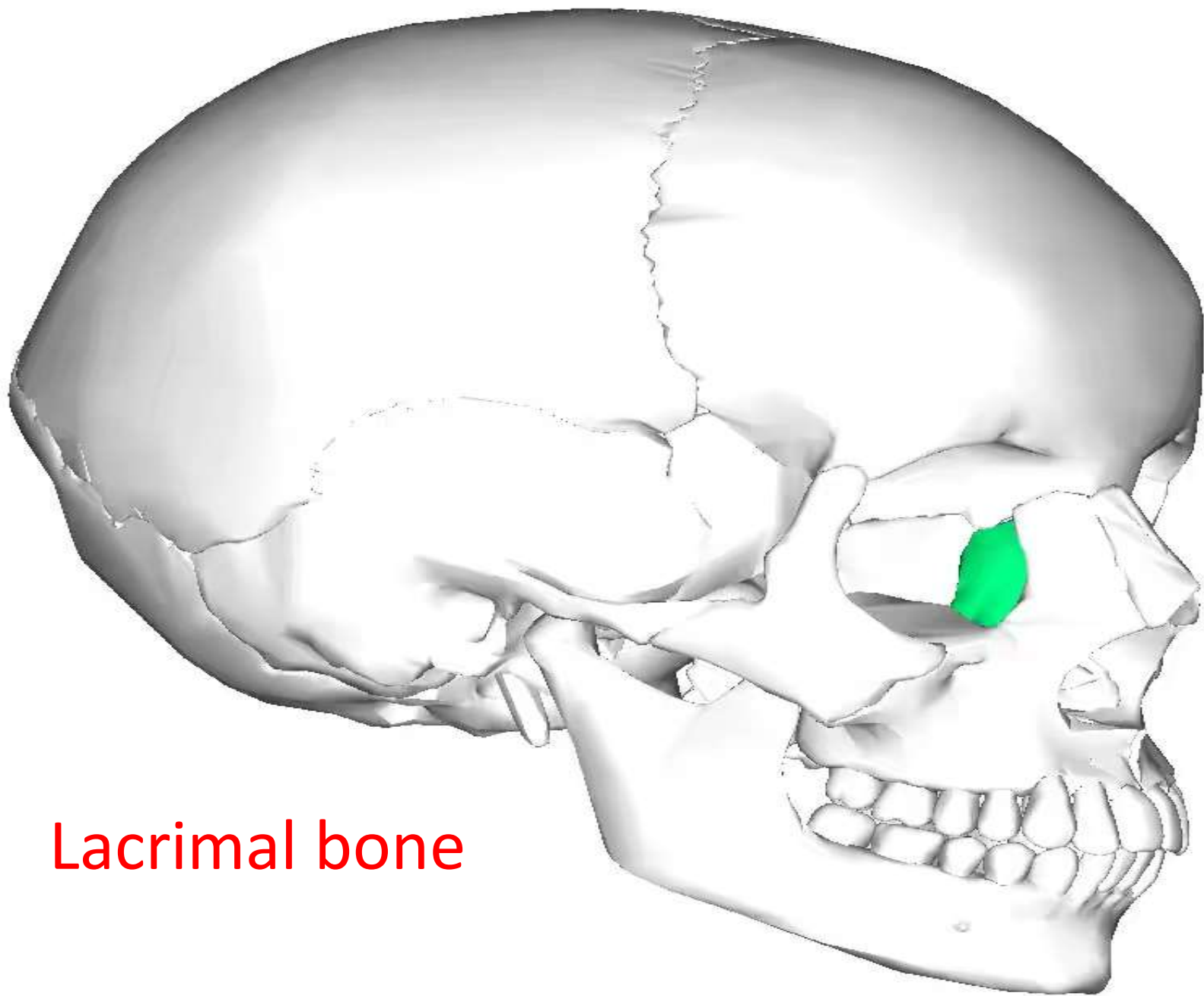




Zygomatic bone

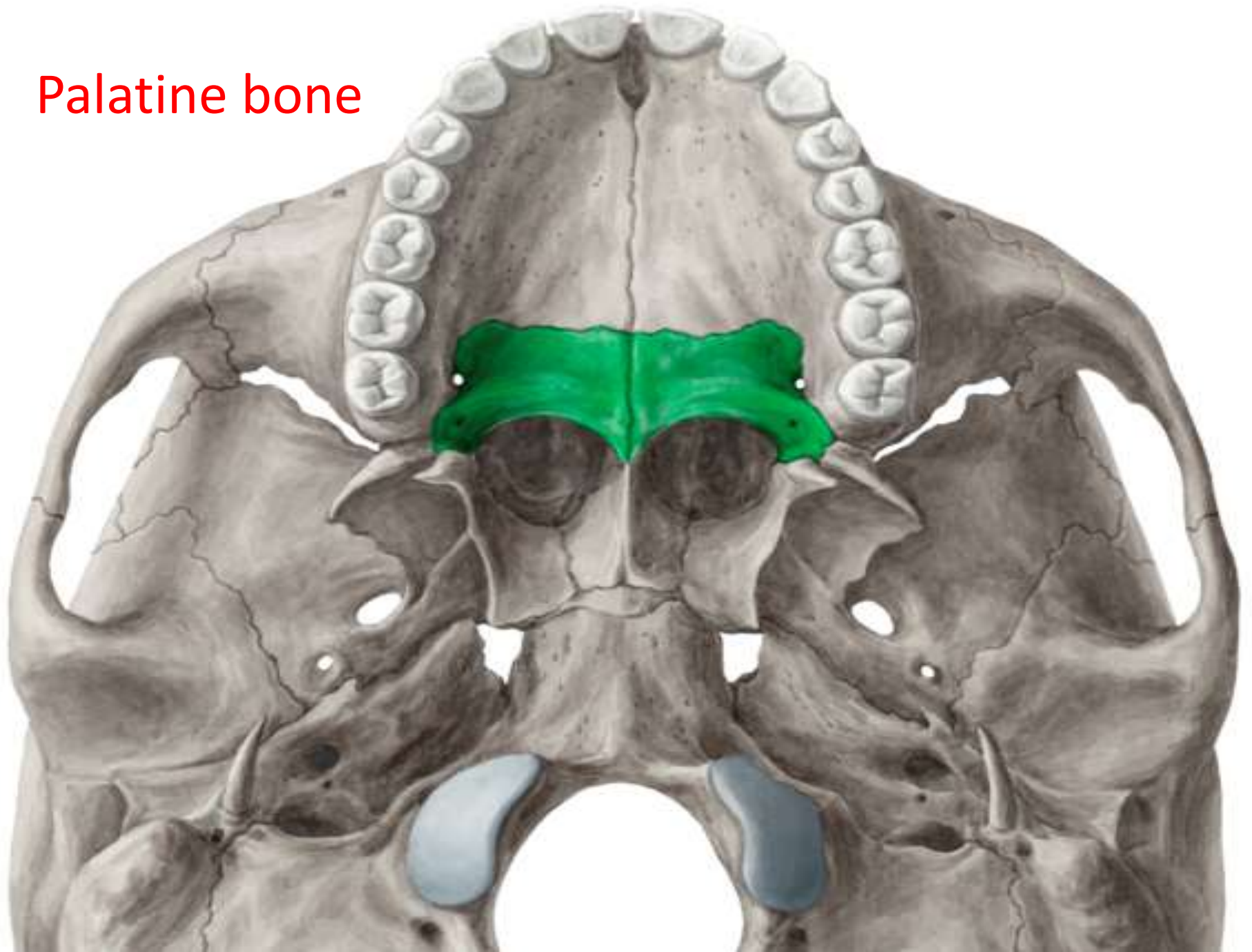
Nasal bone

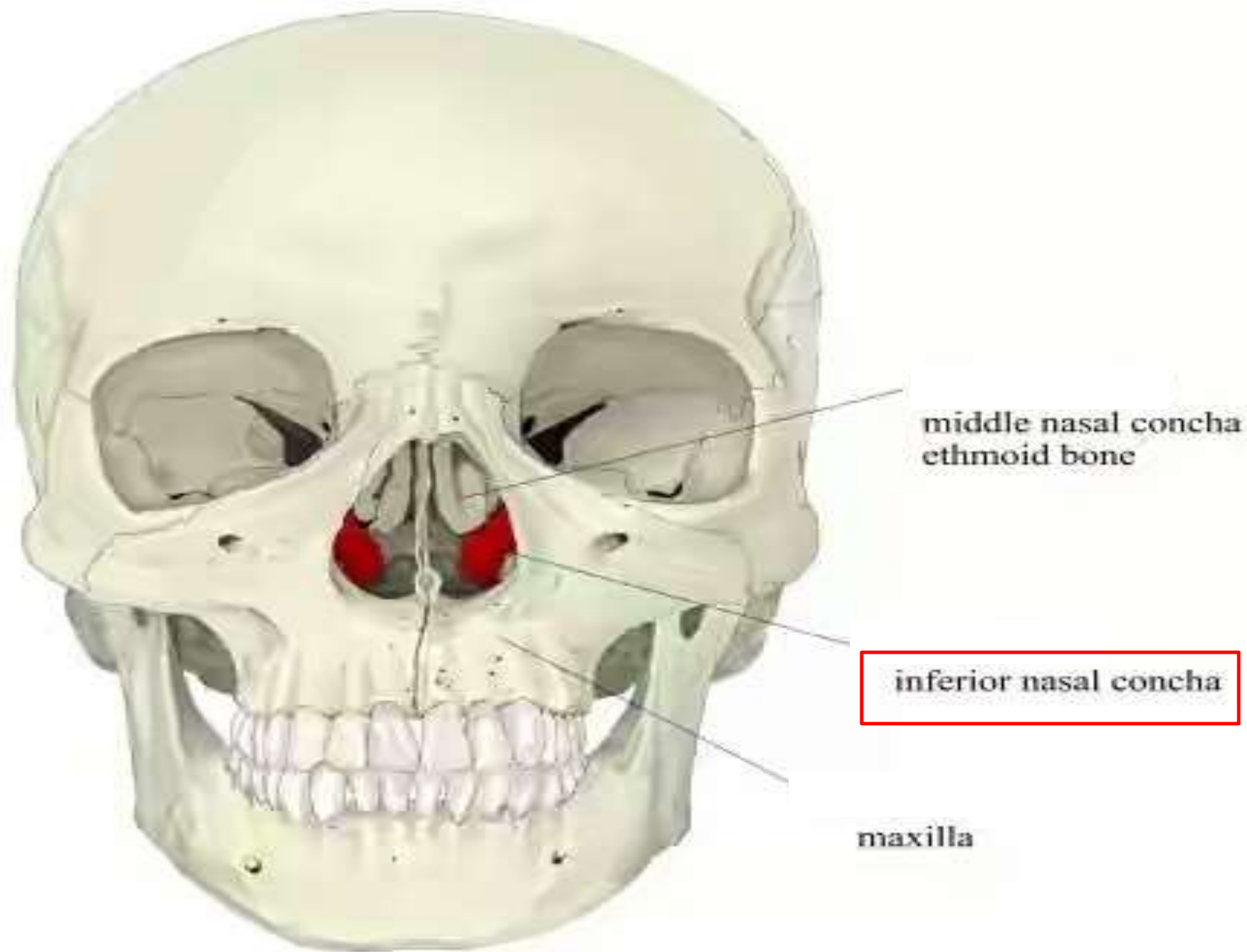


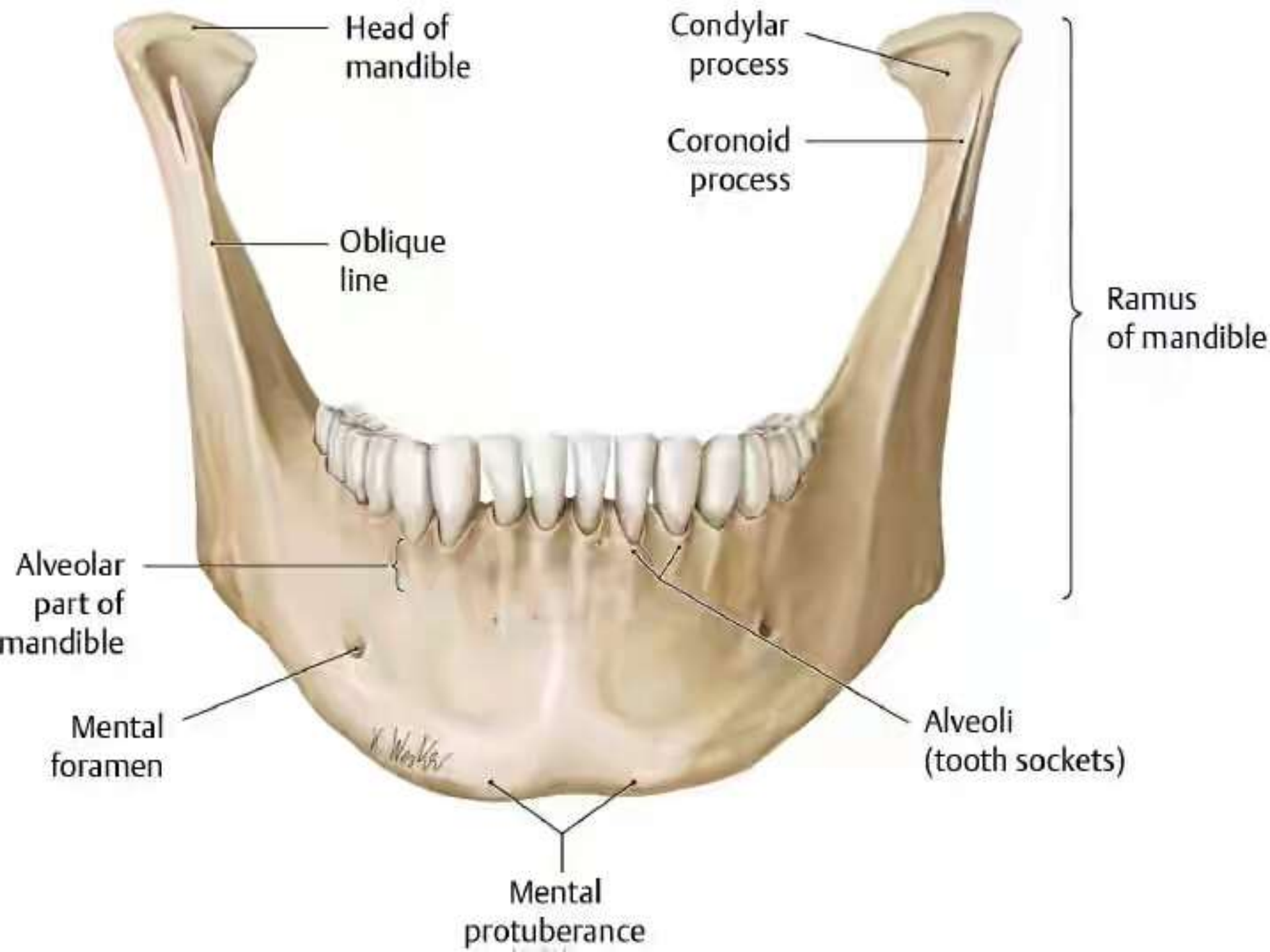


Lacrimal bone

Palatine bone



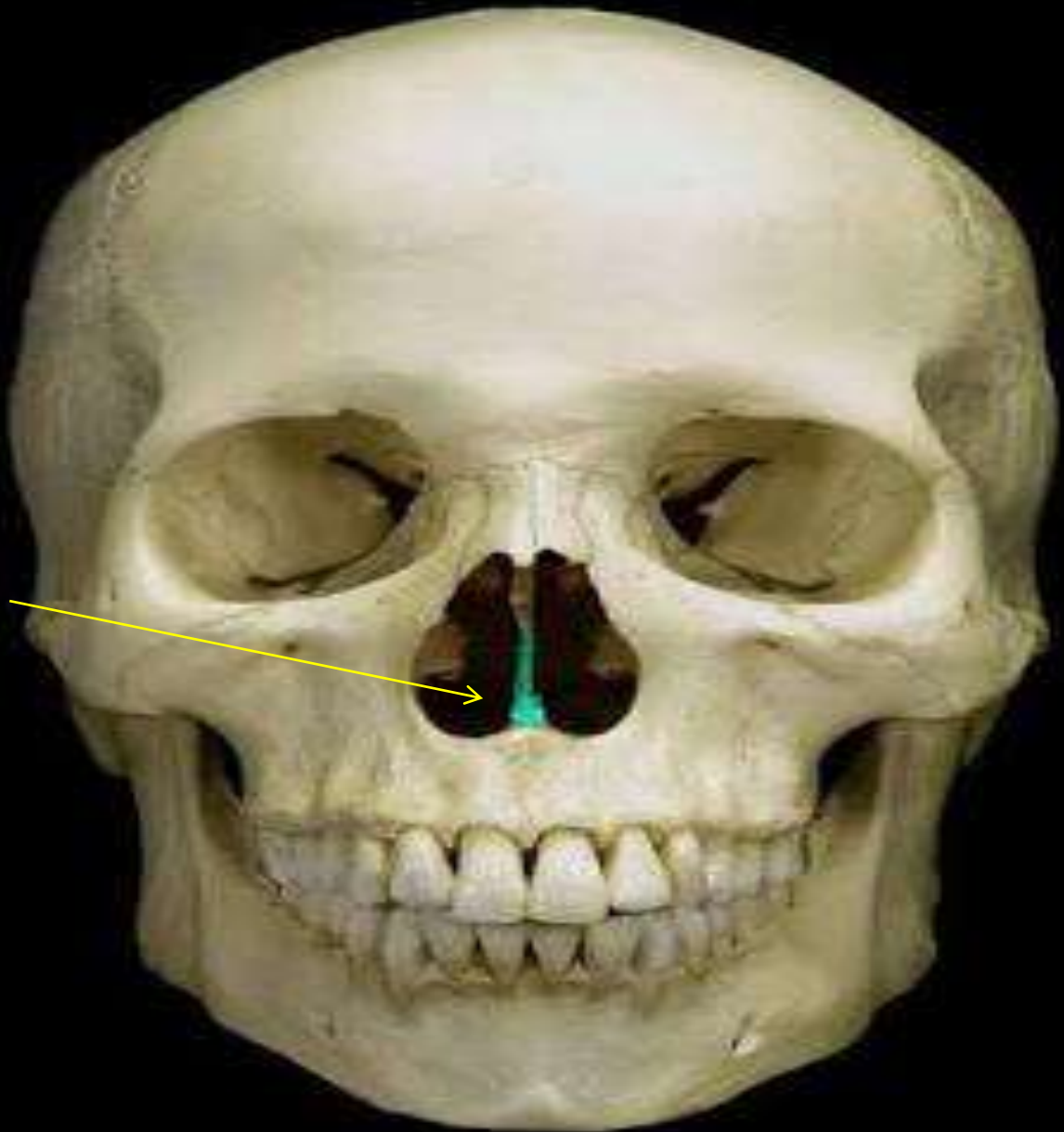






Skull

Vomer bone

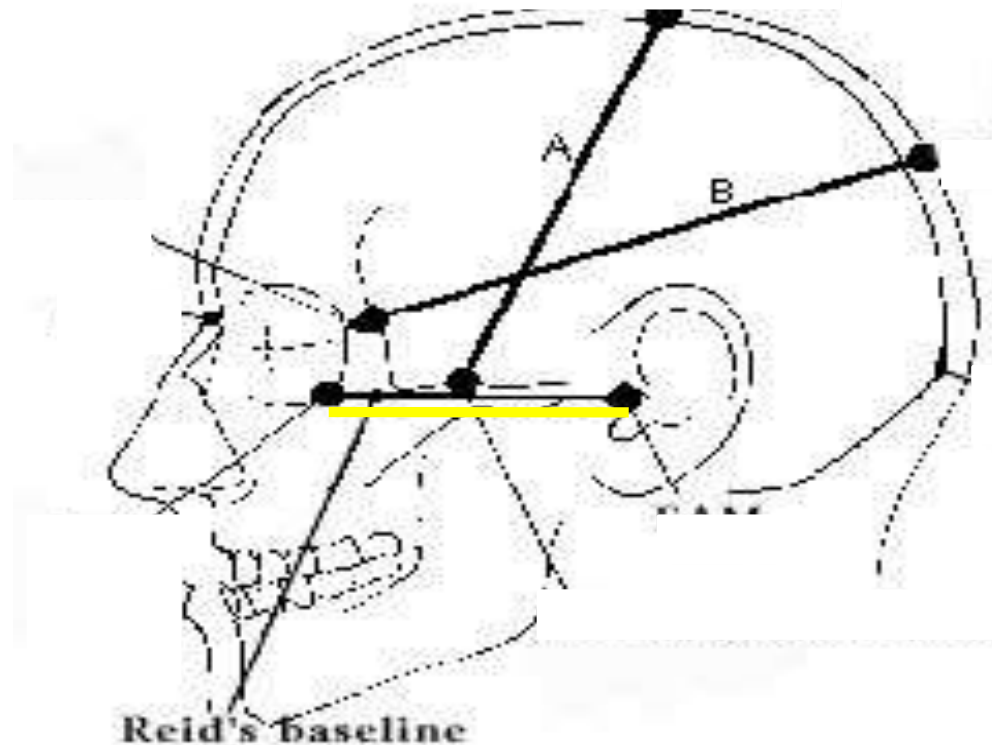


Anterior view

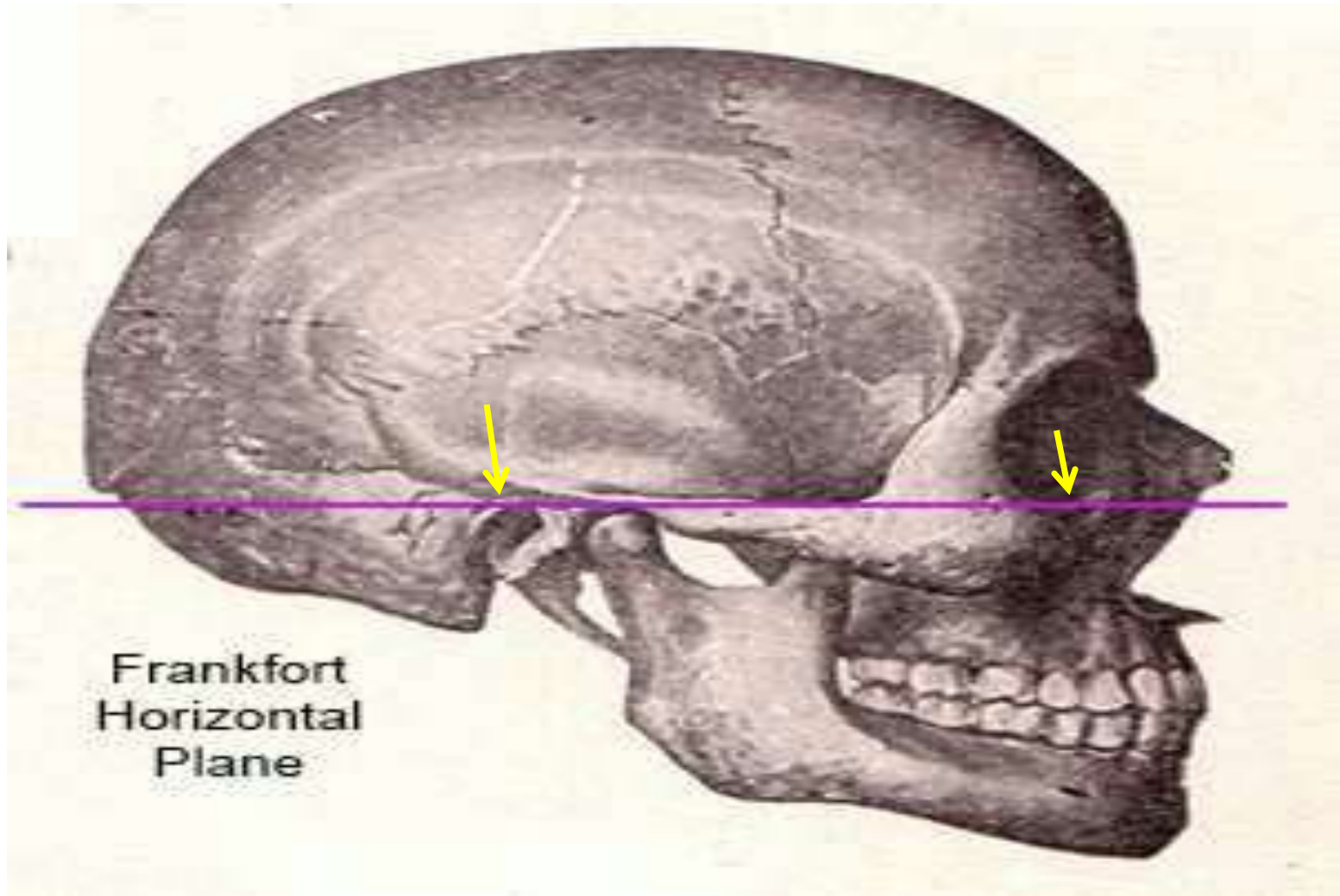
Anatomical position of skull

Planes for orientation includes:

- **Reids's Base line** – horizontal line joining infraorbital margin to **centre** of external acoustic meatus.



Frankfort Horizontal plane – obtained by joining the infraorbital margin to **upper** margin of external acoustic meatus.



Methods of Study

1. For the purpose of examination skull may be viewed externally :
 - From Front- Norma Frontalis
 - From Behind – Norma occipitalis
 - From the Sides – Norma Lateralis
 - From Above – Norma Verticalis
 - From Below – Norma Basalis
2. Interior of Skull - it is divided into anterior, middle and posterior cranial fossa.
3. Study of individual bone.

Norma Verticalis

Shape : oval, wider posteriorly

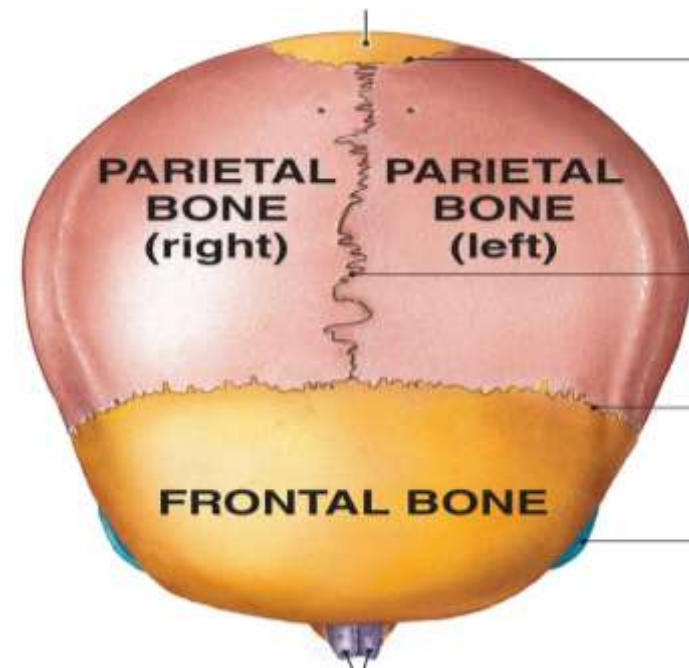
Bones seen:

Anteriorly - upper part of frontal bone

Posteriorly – uppermost part of occipital bone

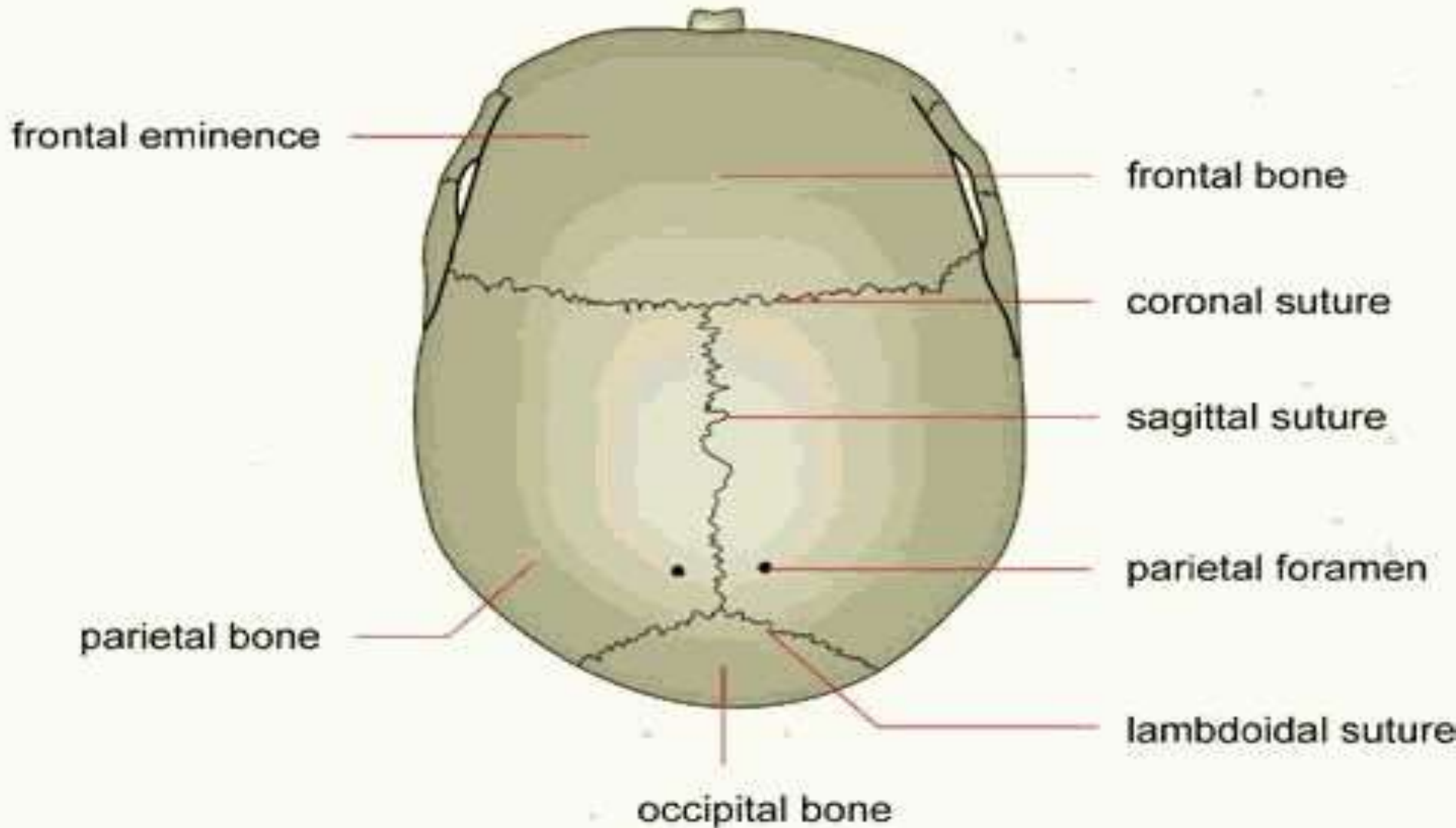
Side – parietal bone on each side

Sutures – Coronal
Sagittal
Lambdoid
Metopic



Sutures of CRANIUM

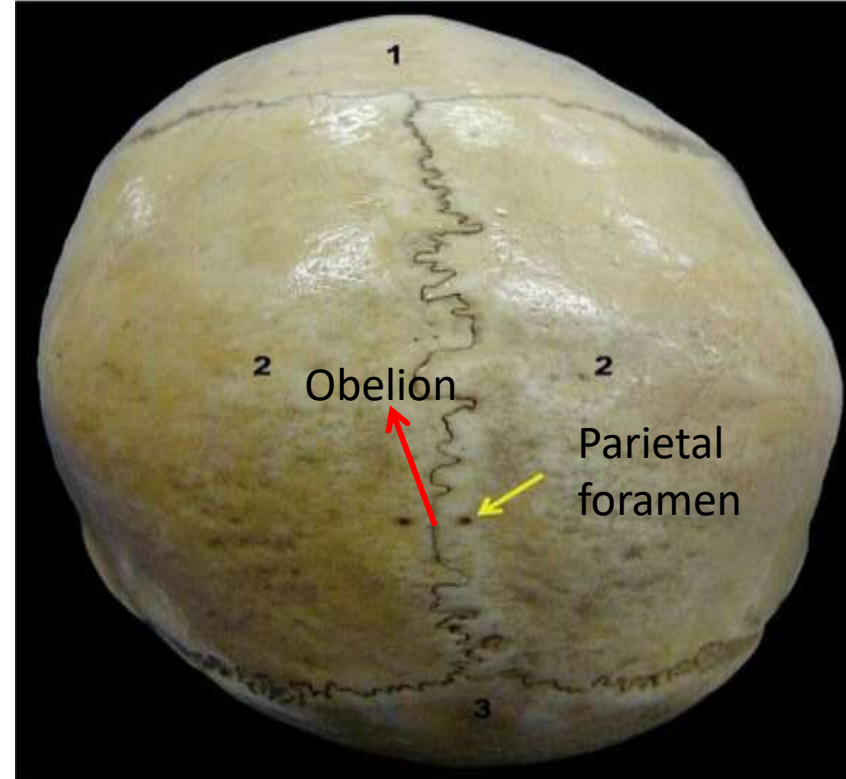
SKULL (upper view)



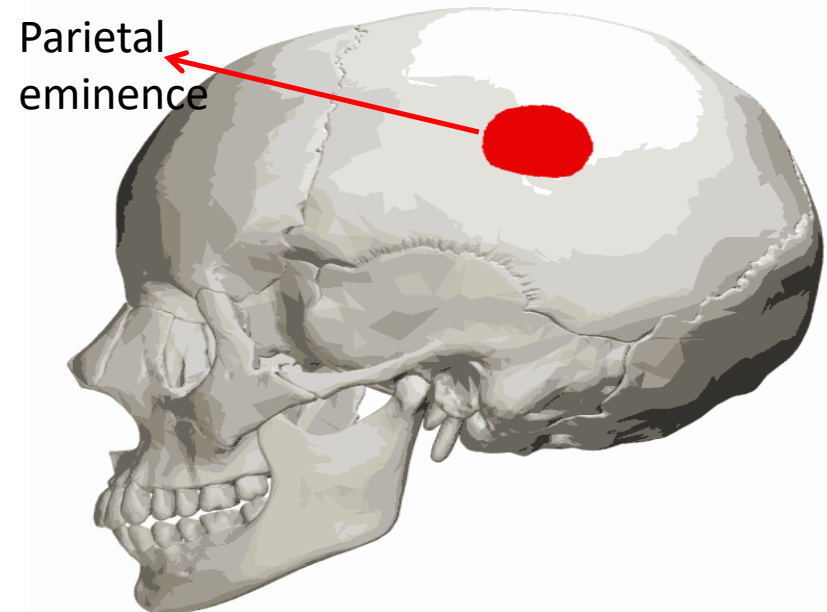
Other features

- **Bregma** : it is meeting point between coronal & sagittal suture.
- **Lambda** : it is meeting point between the sagittal & lambdoid suture.
- **Vertex** : it is highest point on sagittal suture
- **Vault** : is the arched roof for the dome of the skull

Obelion – is a point on sagittal suture between two parietal foramina.

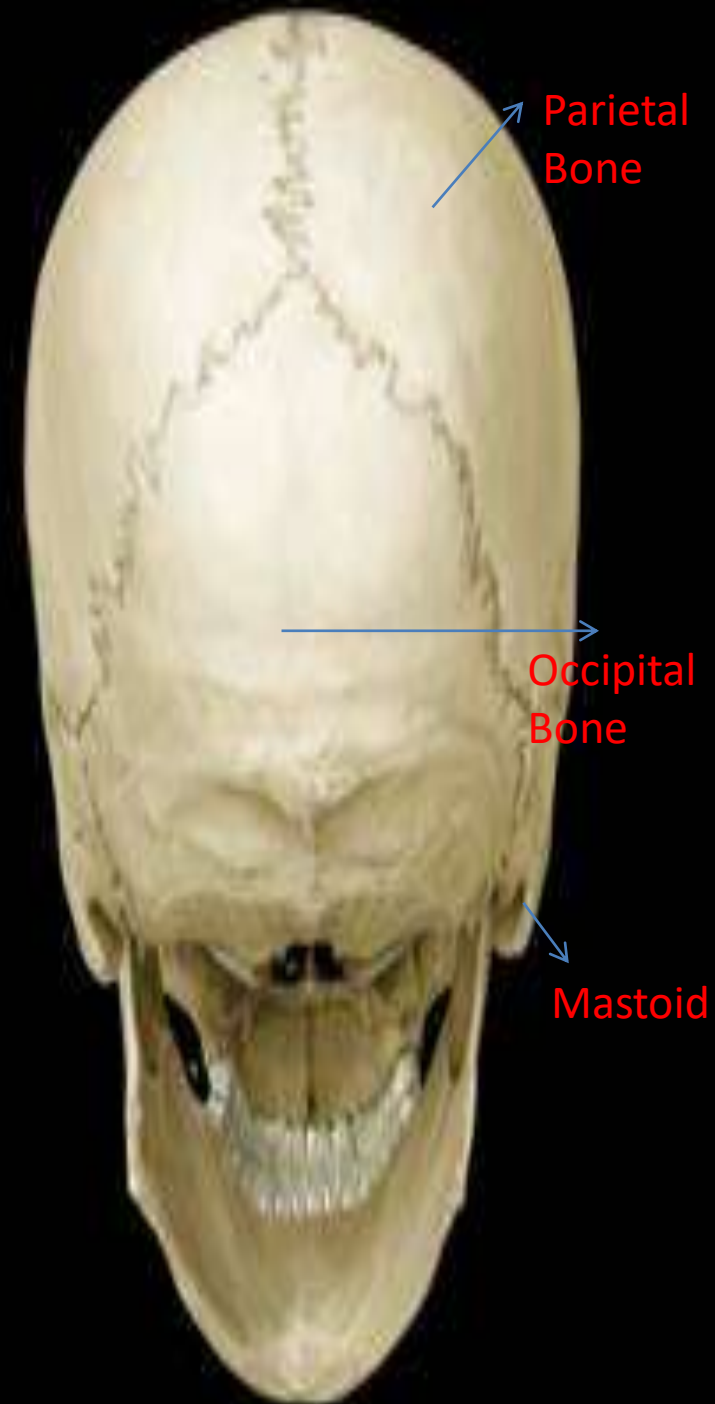


Parietal eminence – is area of maximum convexity of parietal bone.

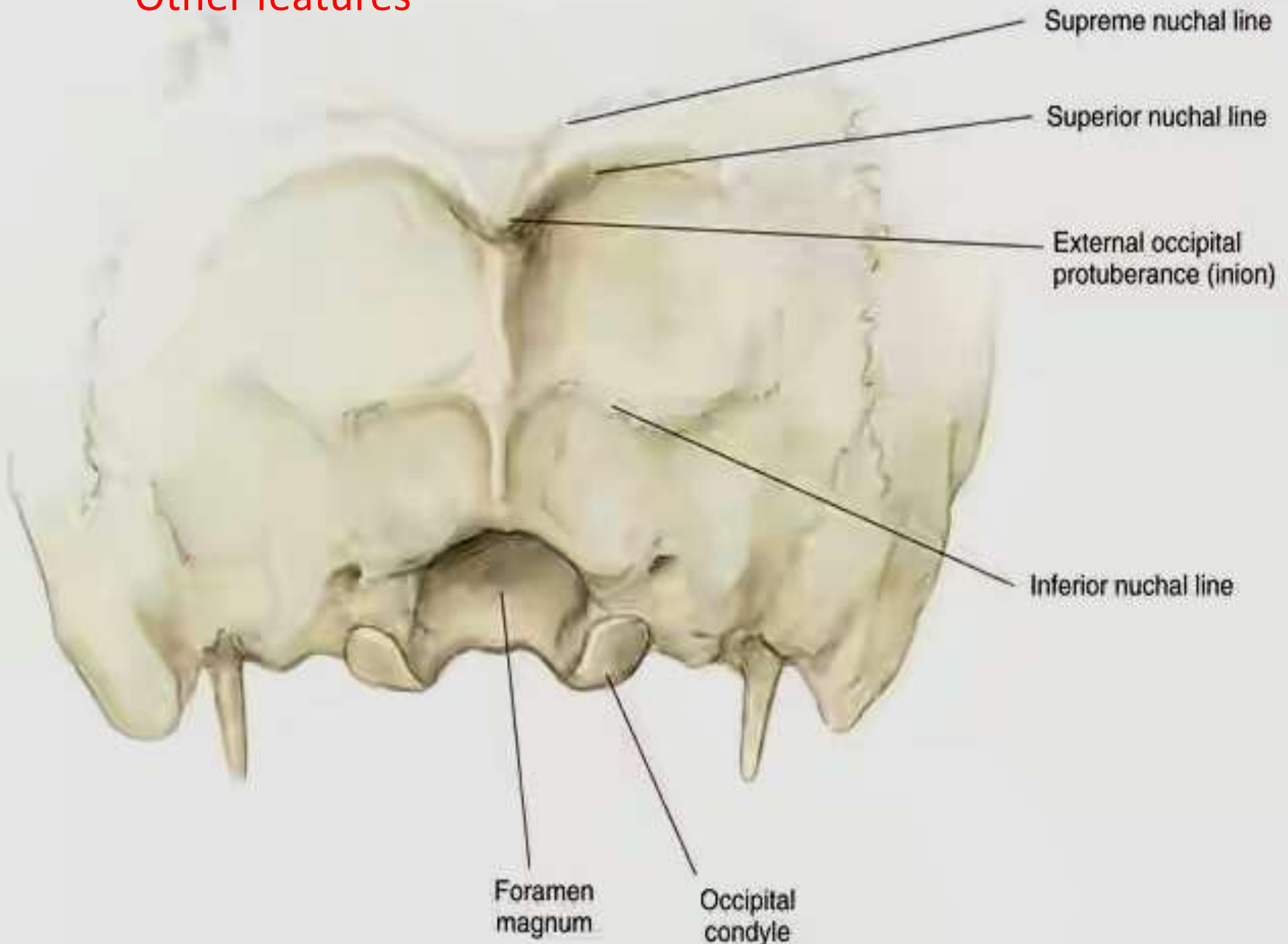


Norma occipitalis

- **Shape** – convex upward and on each side, flattened below
- **Bones seen** –
 - Above** – posterior parts of parietal bone
 - below** – upper part of squamous part of occipital bone below
 - side** – mastoid part of temporal bone on each side



Other features

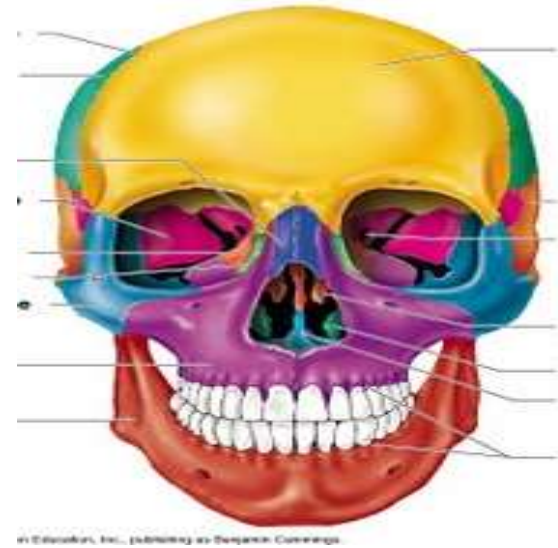


Norma Frontalis

Shape : roughly oval, being wider above than below.

Bones :

1. Frontal bone – forms the forehead
2. rt. & lt. Maxillae – forms the upper jaw
3. rt. & lt. Nasal bone – forms the bridge of nose
4. Zygomatic bone – forms the bony prominence of cheek
5. Mandible – forms the lower jaw



NORMA FRONTALIS

Orbits

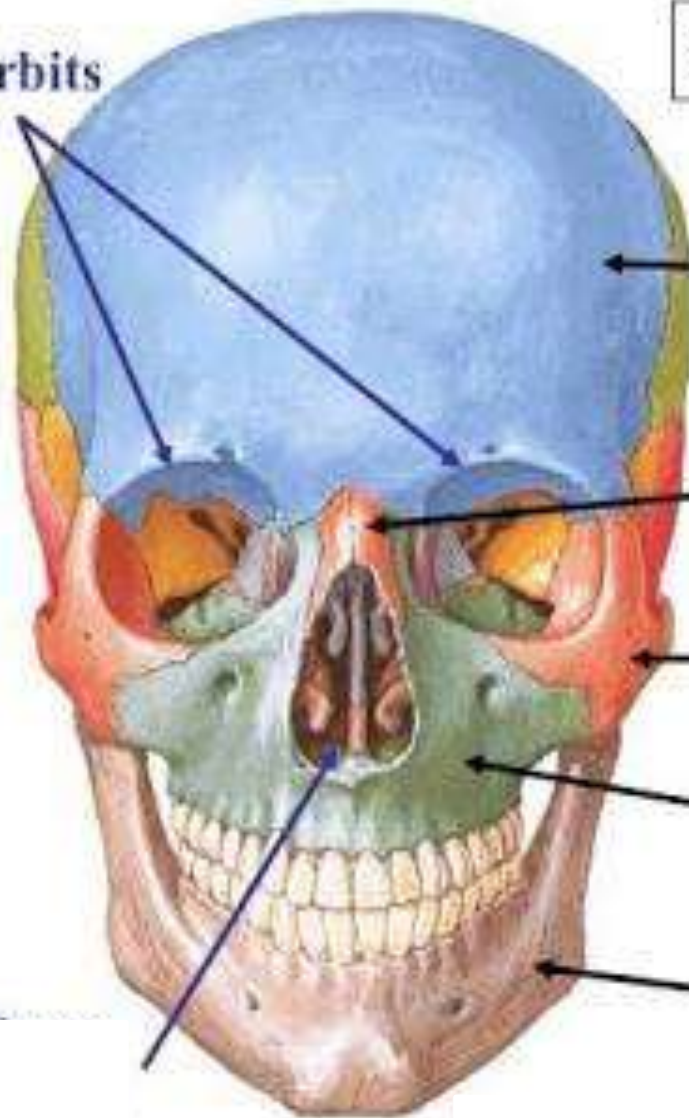
Frontal

Nasal

Zygomatic

Maxillary

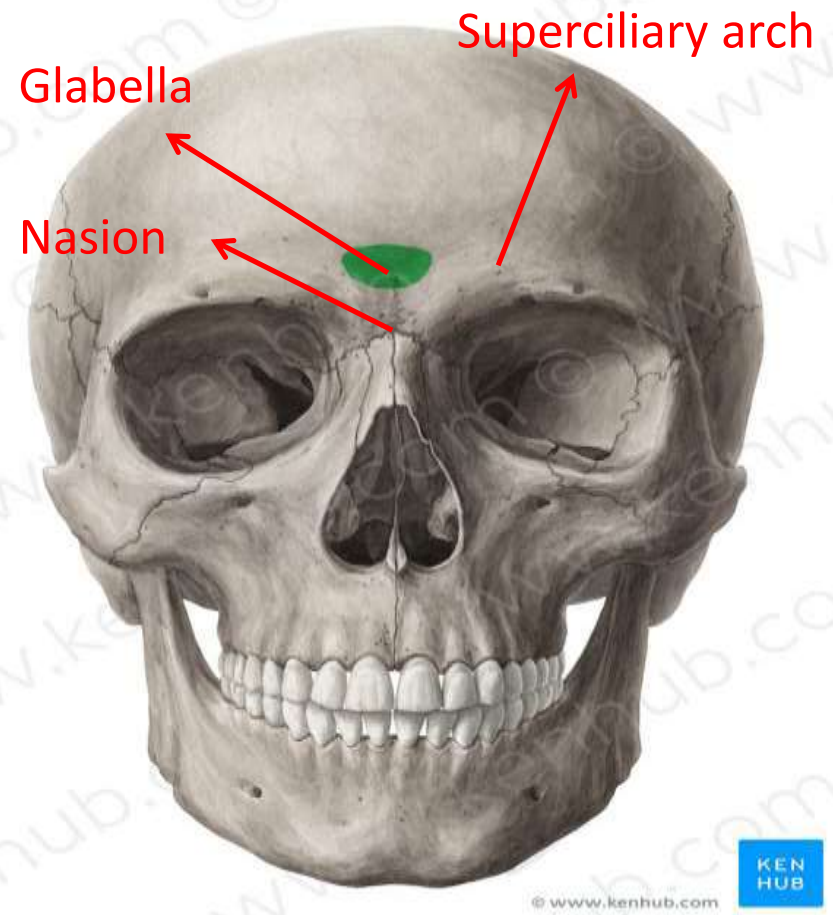
Mandible

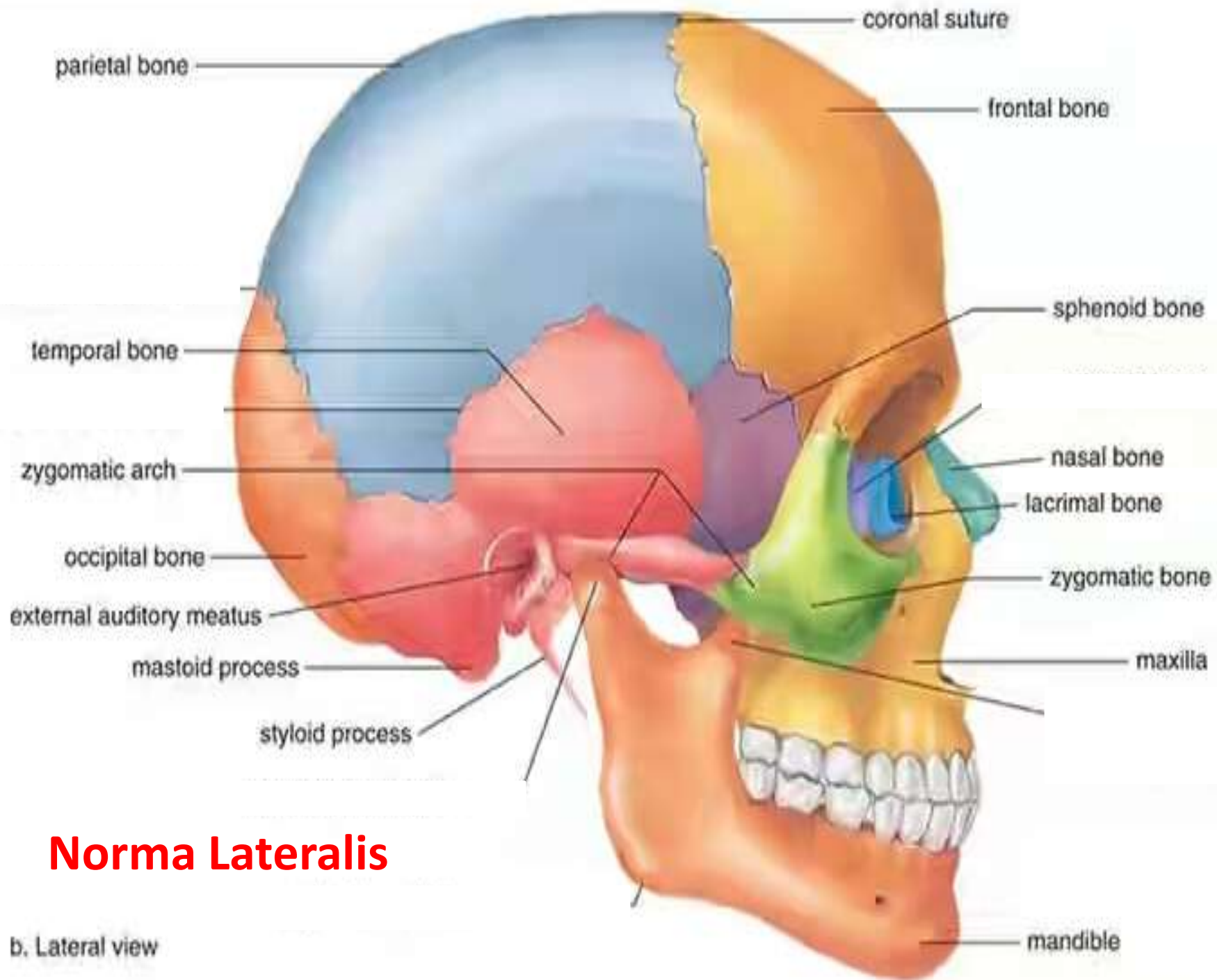


Superciliary arch – rounded, curved elevation situated just above the medial part of each orbit.

Glabella – median elevation connecting two superciliary arches

Nasion – median point at root of nose where internasal suture meets with frontonasal suture

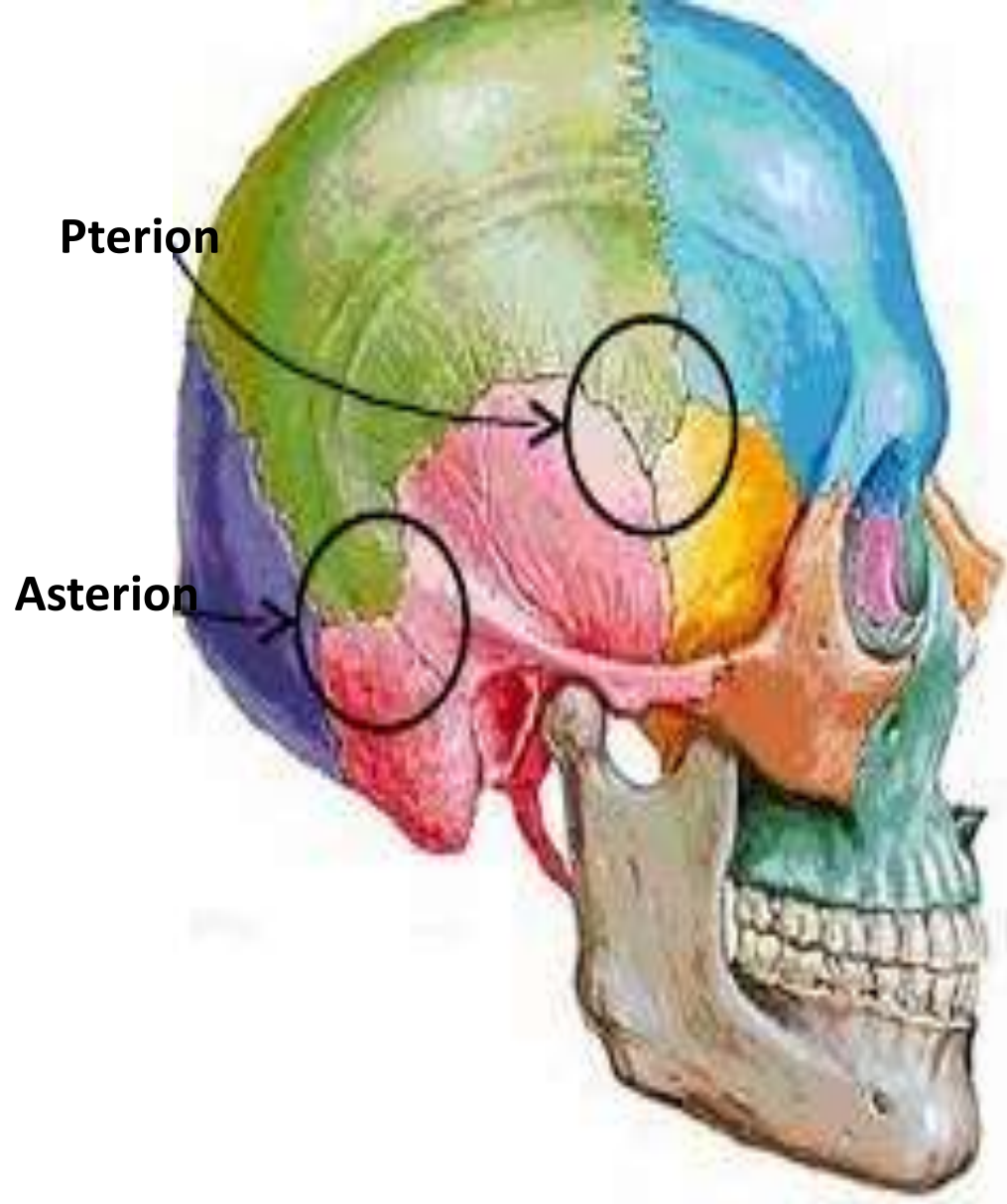




Norma Lateralis

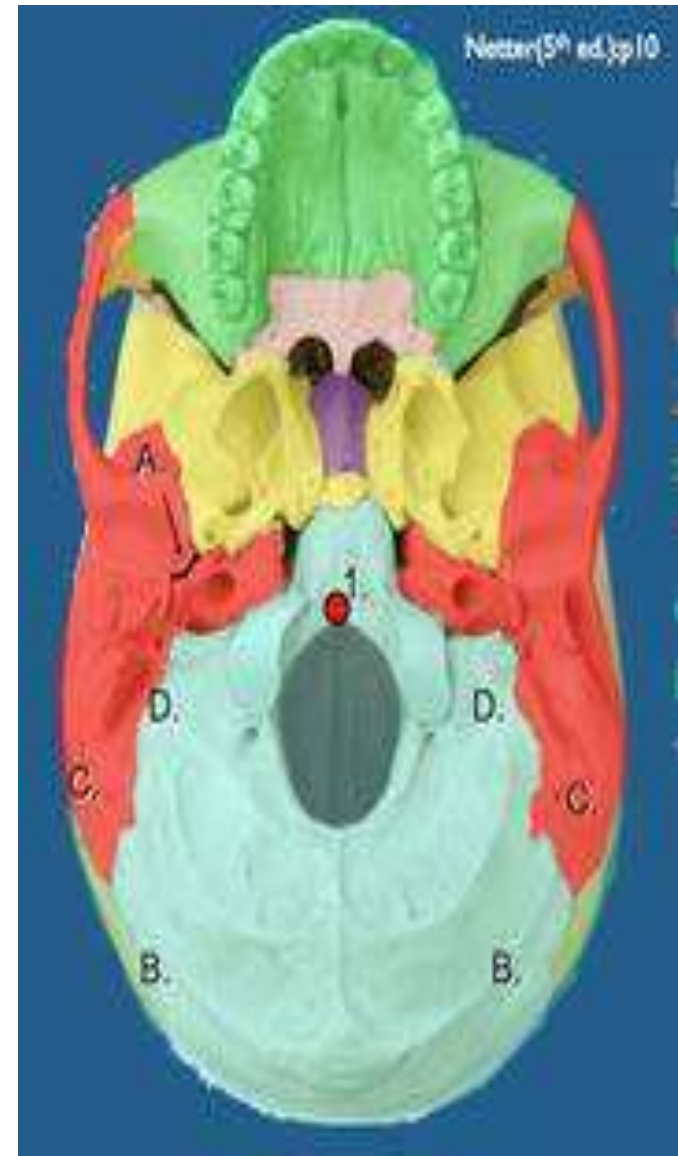
b. Lateral view

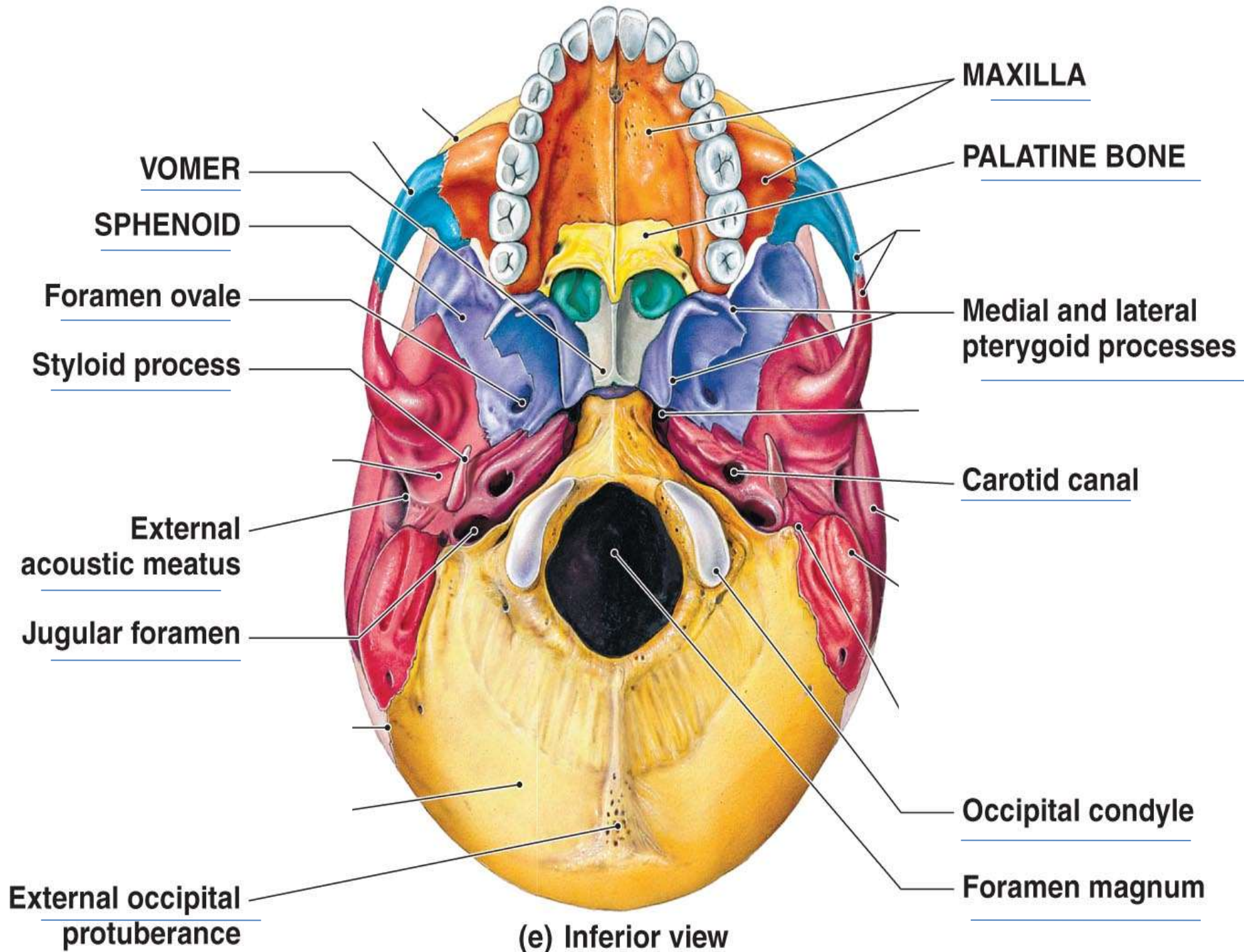
- **Asterion** : it is a point where the parietomastoid, occipitomastoid and the lambdoid suture meet.
- **Pterion** : it is a point where 4 bones i.e frontal, parietal, sphenoid and temporal meet.



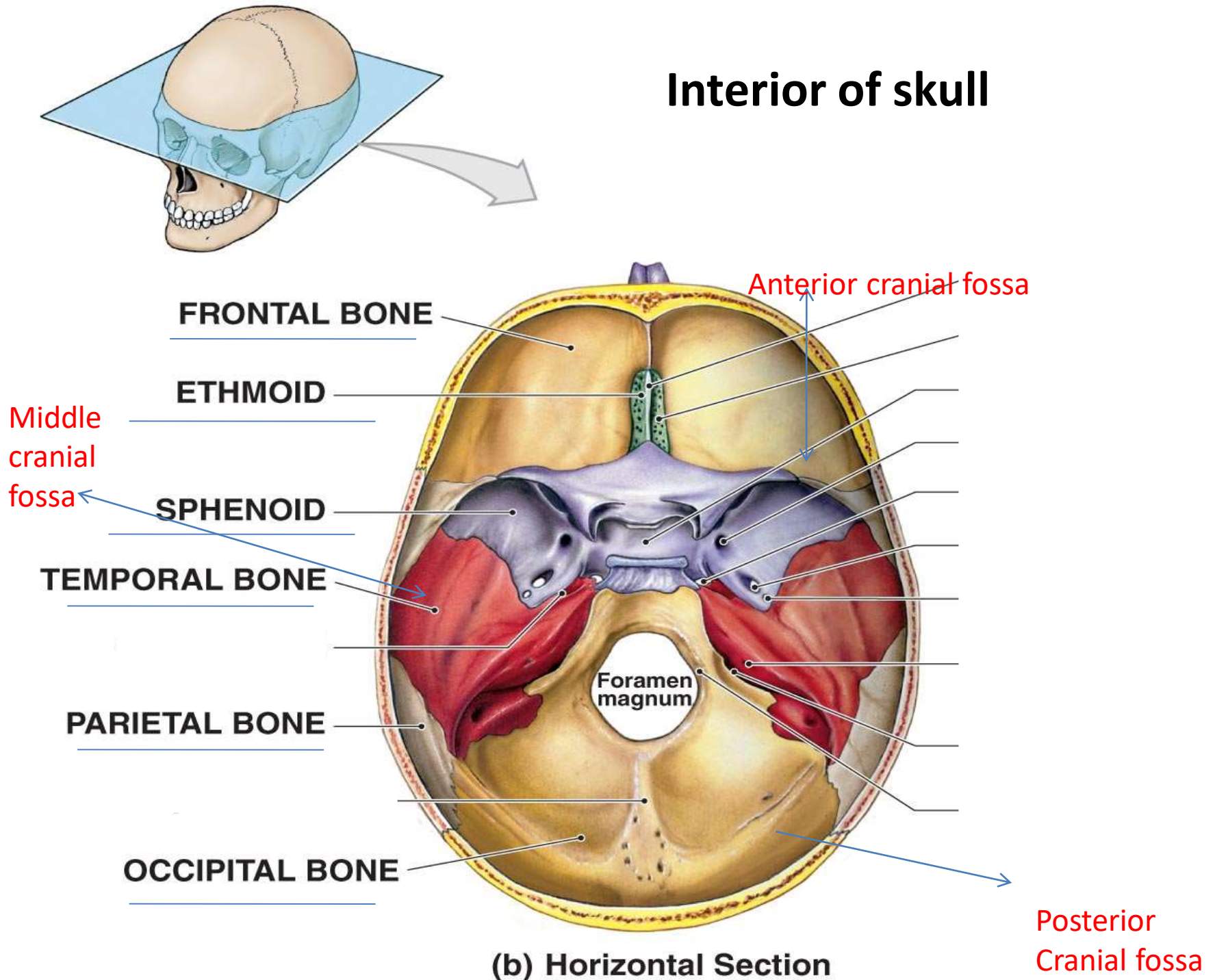
Norma Basalis

- It is divided into 3 parts:
- Anterior part : formed by hard palate and alveolar arches
- Middle and posterior part are separated by an imaginary transverse line passing through anterior margin of foramen magnum





Interior of skull



Feotal Skull

- Larger in proportion to other parts of skeleton
- The facial skeleton is $\frac{1}{8}^{\text{th}}$ of calvaria whereas it is $\frac{1}{2}$ of calvaria
- Base of skull is short & narrow
- Internal ear is of same size as in adult

Feotal skull

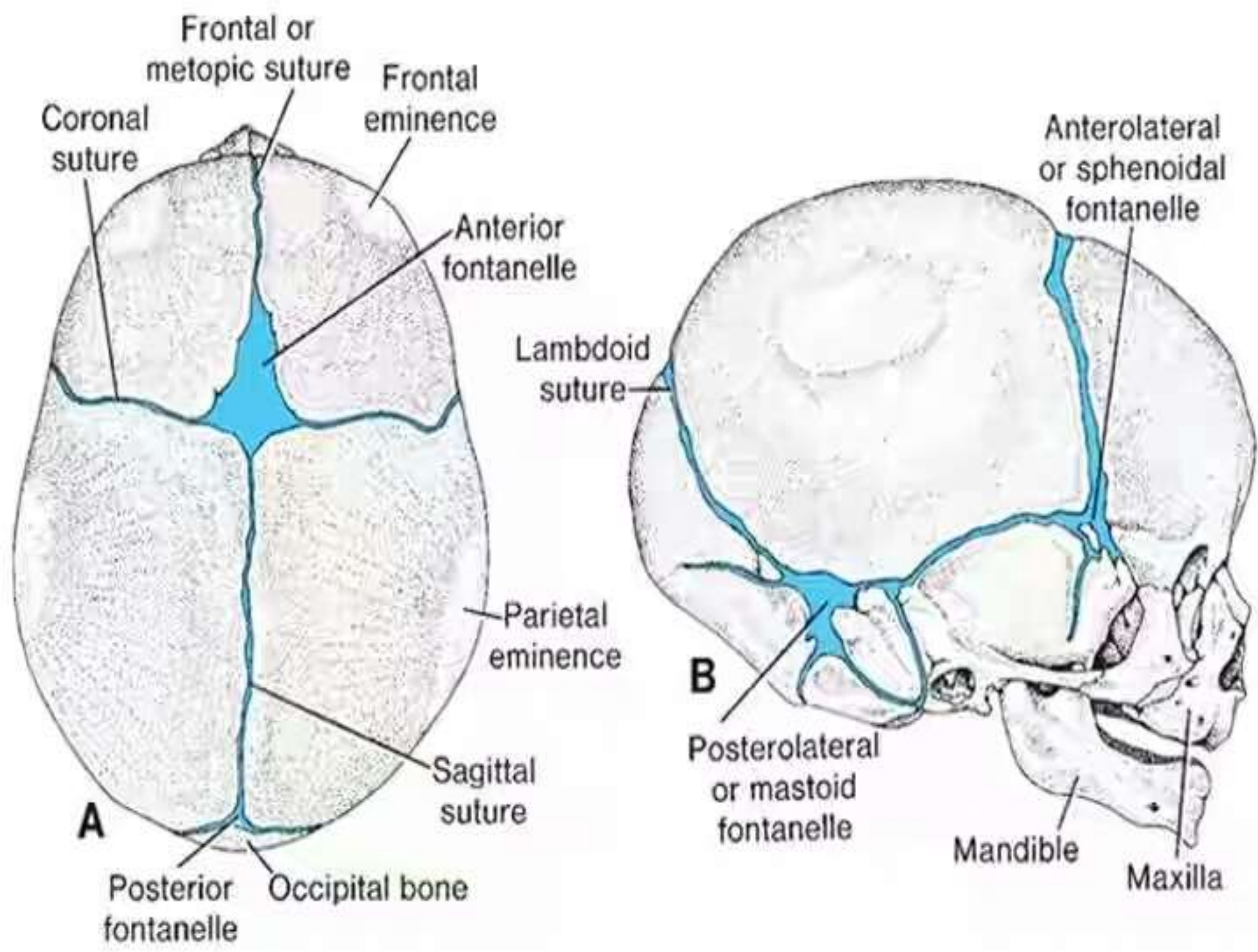


Adult skull

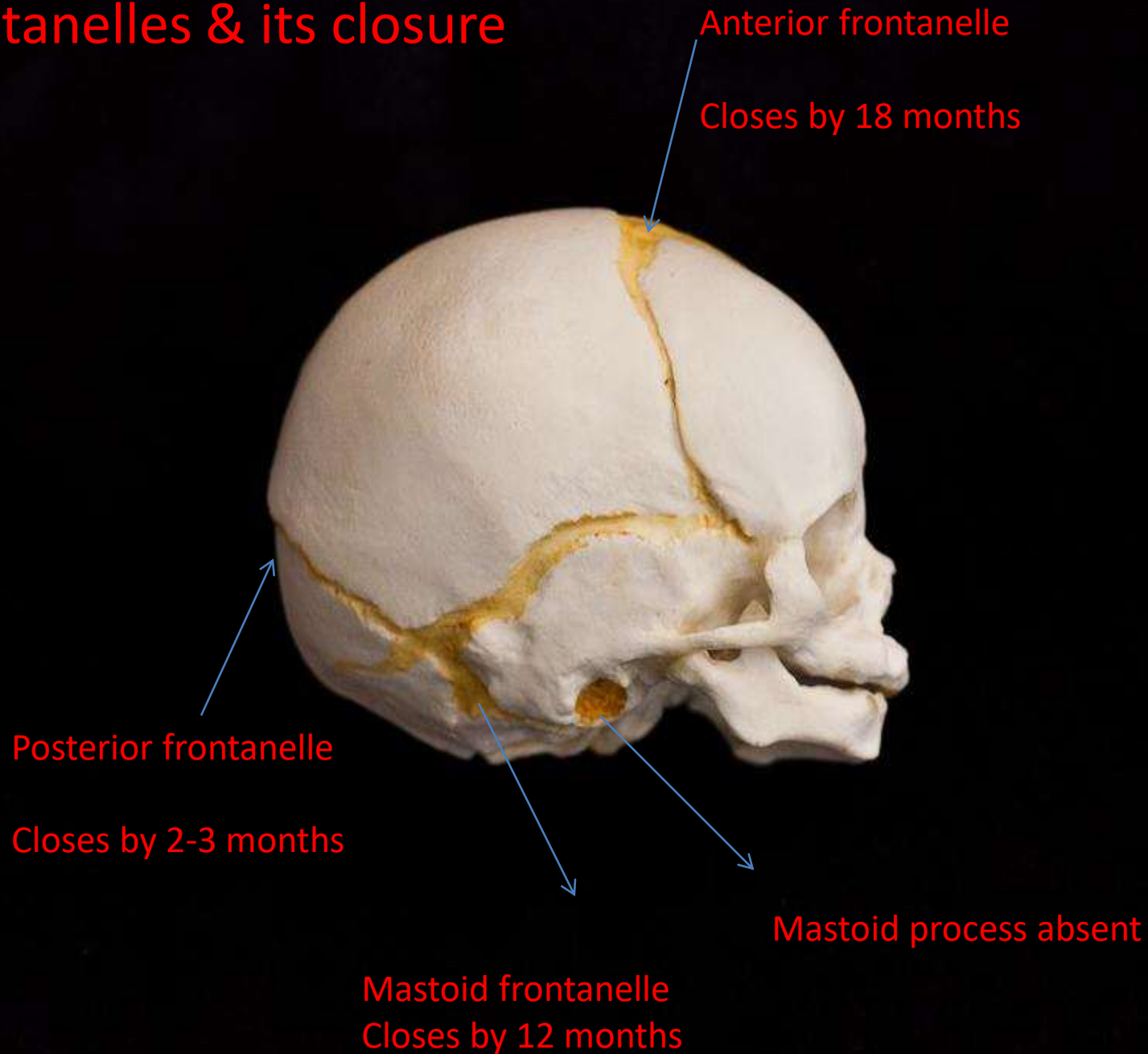
- Internal ear, tympanic cavity, tympanic antrum & ear ossicles are of adult size
- Mastoid process is absent, appears during later part of 2nd year
- External acoustic meatus is short & straight.
- Stylomastoid foramen is exposed on lateral surface of skull

Orbits

- These are large
- Germs of developing teeth lies close to orbital floor



Fontanelles & its closure



• Male and Female Skull Differences

A- The male cranial mass is more blocky and massive compared to the females which more rounder and tapers at the top.

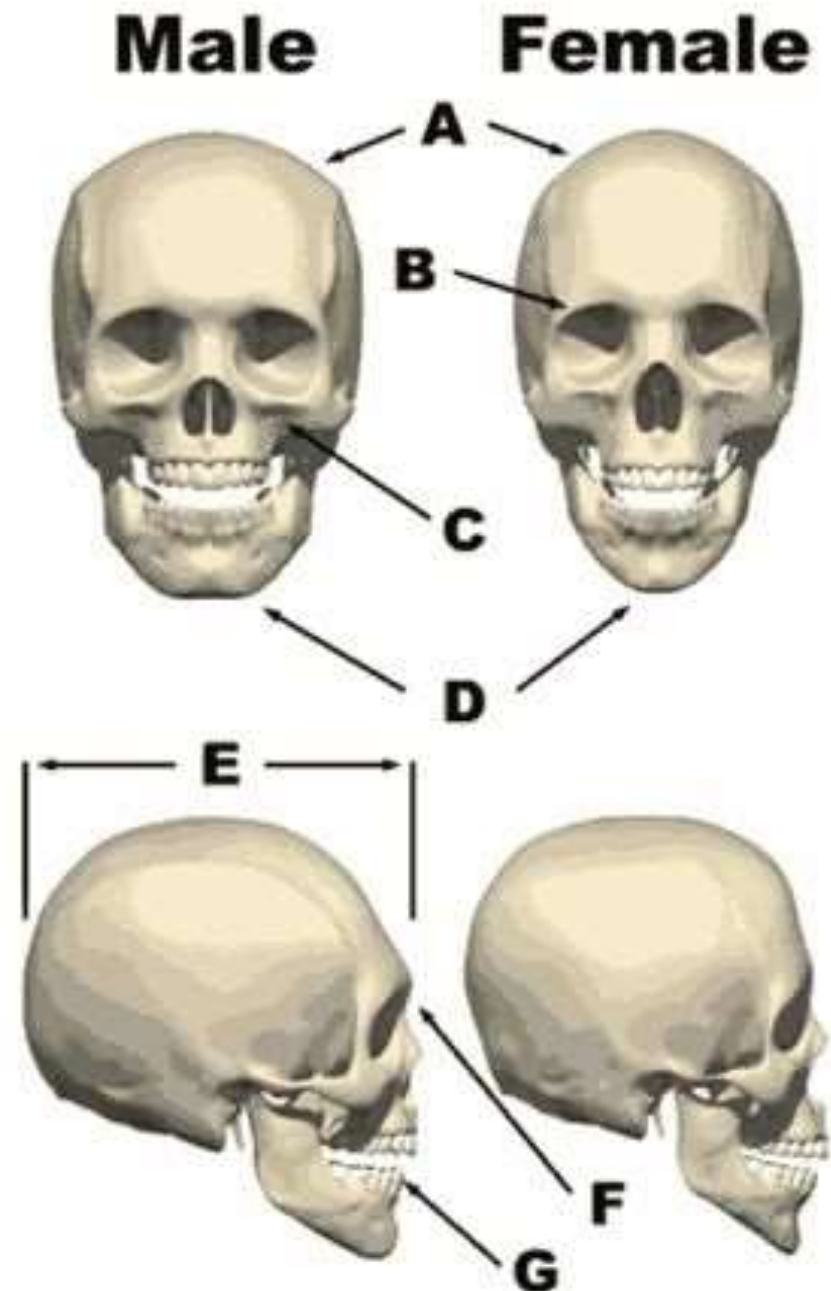
B- The females Supraorbital margin is sharper while the males is rather round and dull.

C- The Zygomatic bone is more pronounced on the male skull.

D- The Mandible of a female is more rounded while the male's is squared.

E- Males have a deeper cranial mass

F- The superciliary arch is large and pronounced in the male.



Thank You