

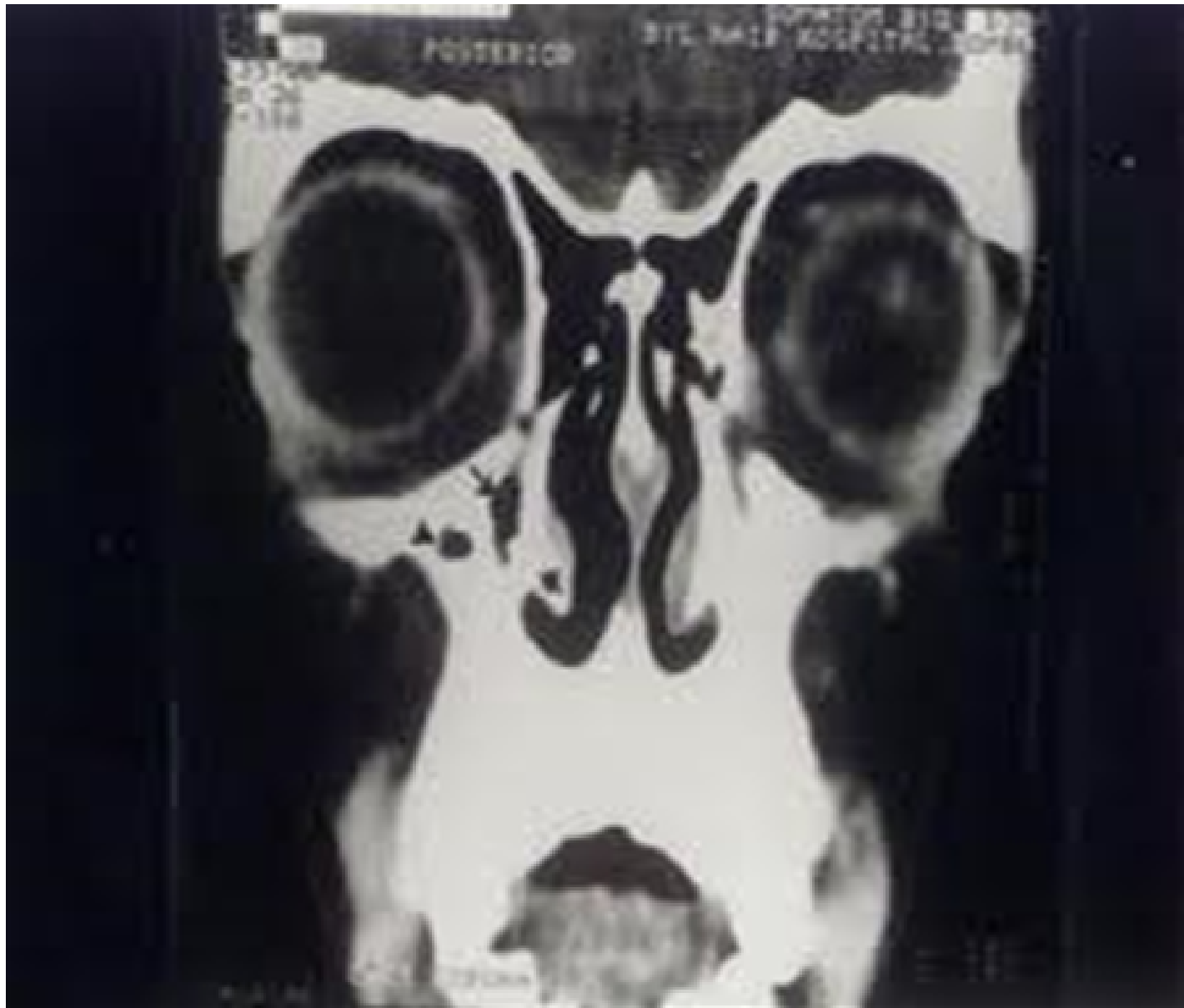
Bones of the Skull



Sinuses

- Bones contain sinuses - air spaces lined by mucous membranes, that reduce the weight of the skull and give the voice a resonant sound (there are 4 main sinuses called paranasal sinuses - around the nose; maxillary, frontal, sphenoidal, and ethmoidal)
- Sinusitis is infection or inflammation of the paranasal sinuses
- Mastoiditis - a condition that can lead to deafness (because the two mastoid sinuses drain into the middle ear)

Sinuses



Bones of the Cranium

- Cranium protects the brain
- Composed of 8 bones
- Bones are separated from each other by immovable joints called sutures
- Newborns have membranous regions called fontanelles that permit the bones of the skull to shift during birth (THANK GOD!!!!) AKA 'soft spots'

Bones of the Cranium Cont.

- Frontal Bone - One frontal bone forms the forehead, a portion of the nose, and the superior portions of the orbits (bony sockets of the eyes)

Frontal Bone



Bones of the Cranium Cont.

- Parietal Bones - two, just posterior to the frontal bone, form the roof of the cranium and also help form its sides

Parietal Bone



Bones of the Cranium Cont.

- Occipital Bones - one forms most of the posterior part of the skull and the base of the cranium, the spinal cord joins the brain by passing through a large opening called the foramen magnum (occipital condyle - rounded processes on either side of the foramen magnum)

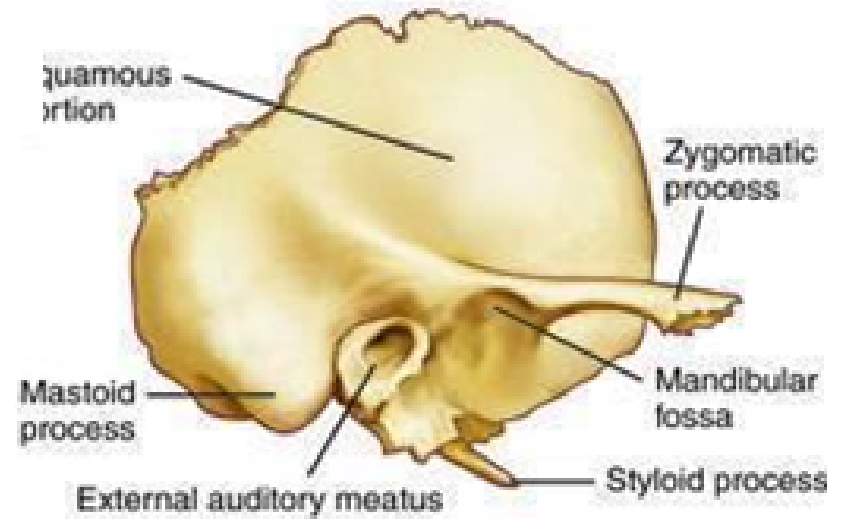
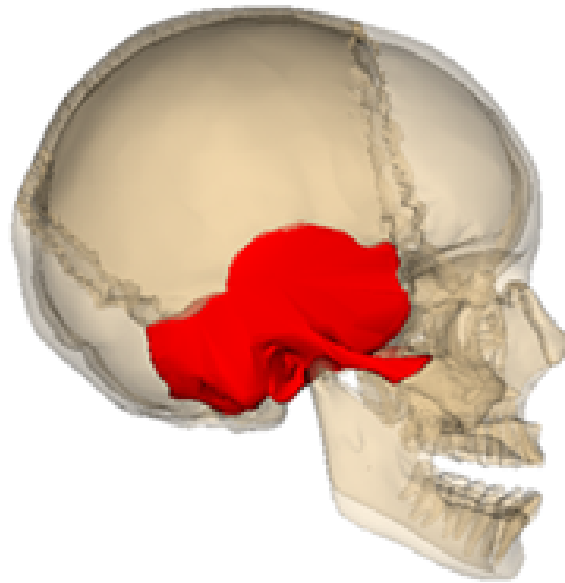
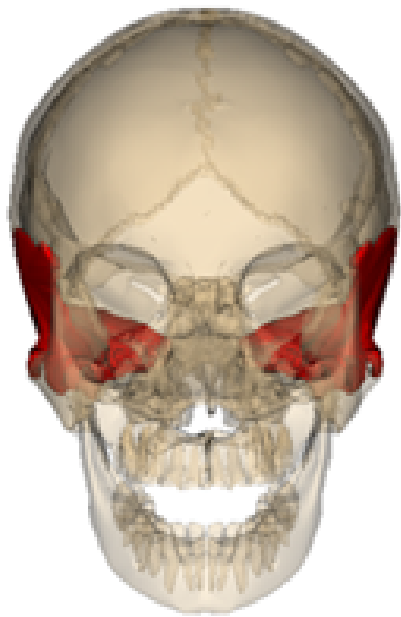
Occipital Bone



Bones of the Cranium Cont.

- Temporal Bones - two are just inferior to the parietal bones on the sides of the cranium they also help form the base of the cranium

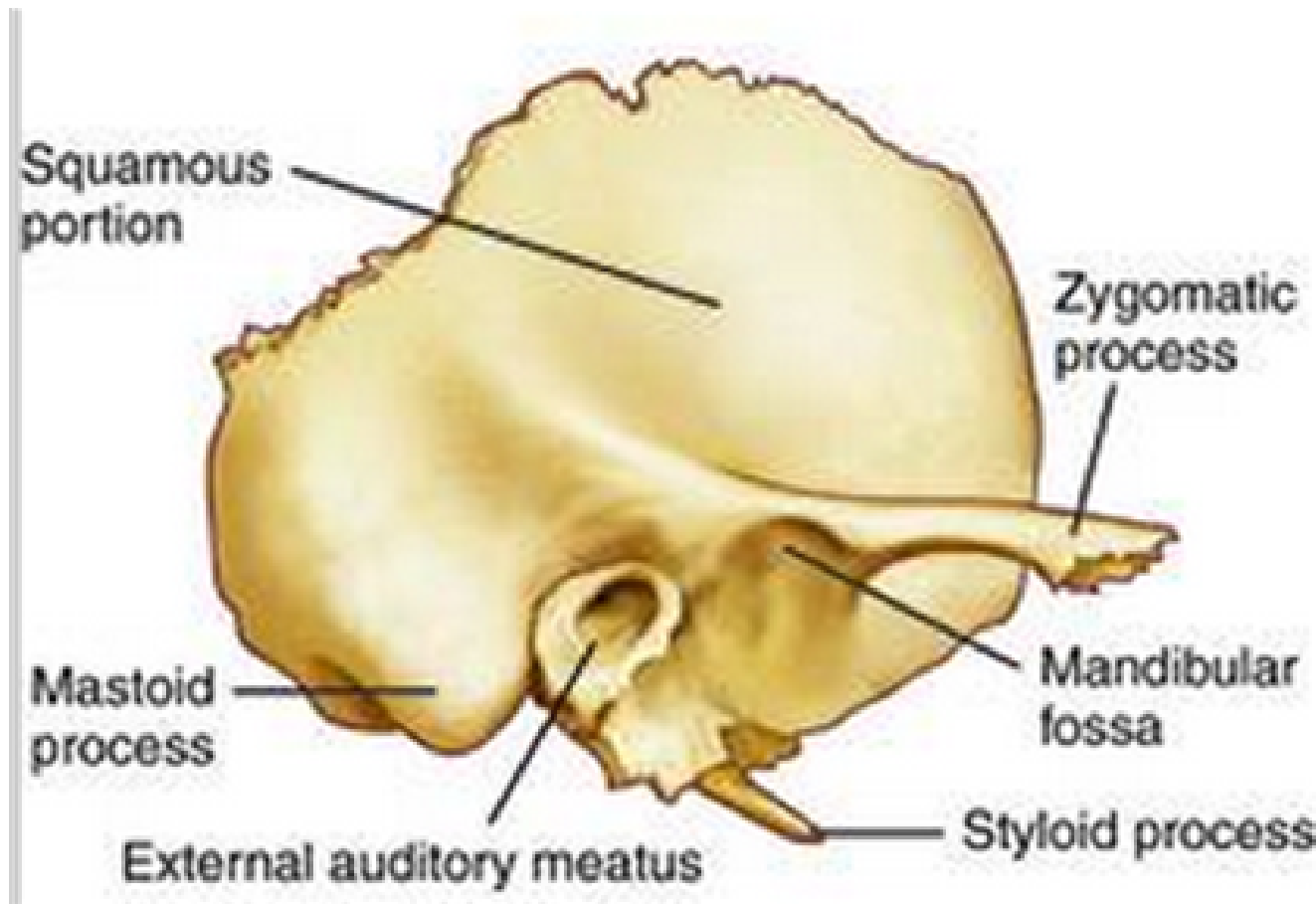
Temporal Bones



Each Temporal Bone Has...

- External Auditory Meatus - canal that leads to middle ear
- Mandibular Fossa - articulates with the mandible
- Mastoid Process - provides a place for attachment of certain neck muscles
- Styloid Process - provides attachment for muscles associated with tongue and larynx
- Zygomatic Process - projects anteriorly and helps form the cheekbone

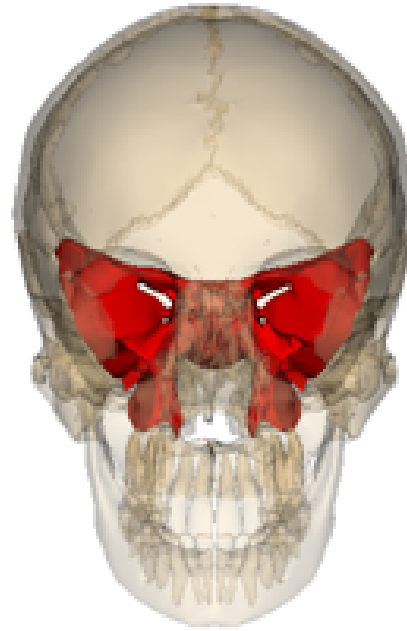
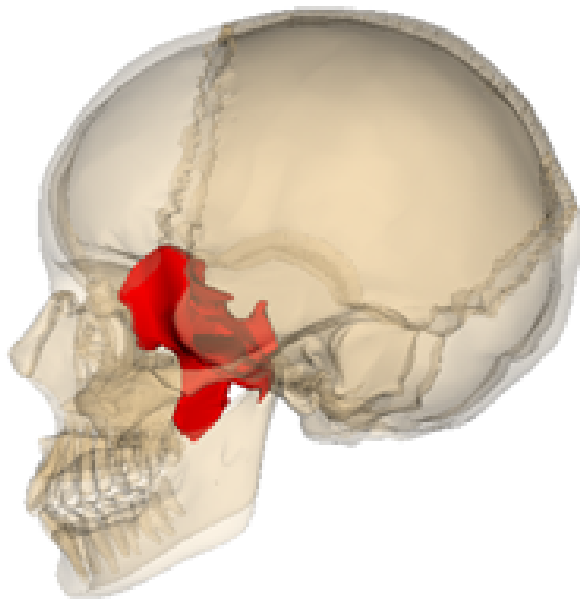
Temporal Bones cont.



Bones of the Cranium Cont.

- Sphenoid Bone - forms the sides and the floor of the cranium and the rear wall of the orbits, has the shape of a bat, contains a saddle shaped portion called sella turcica which houses the pituitary gland

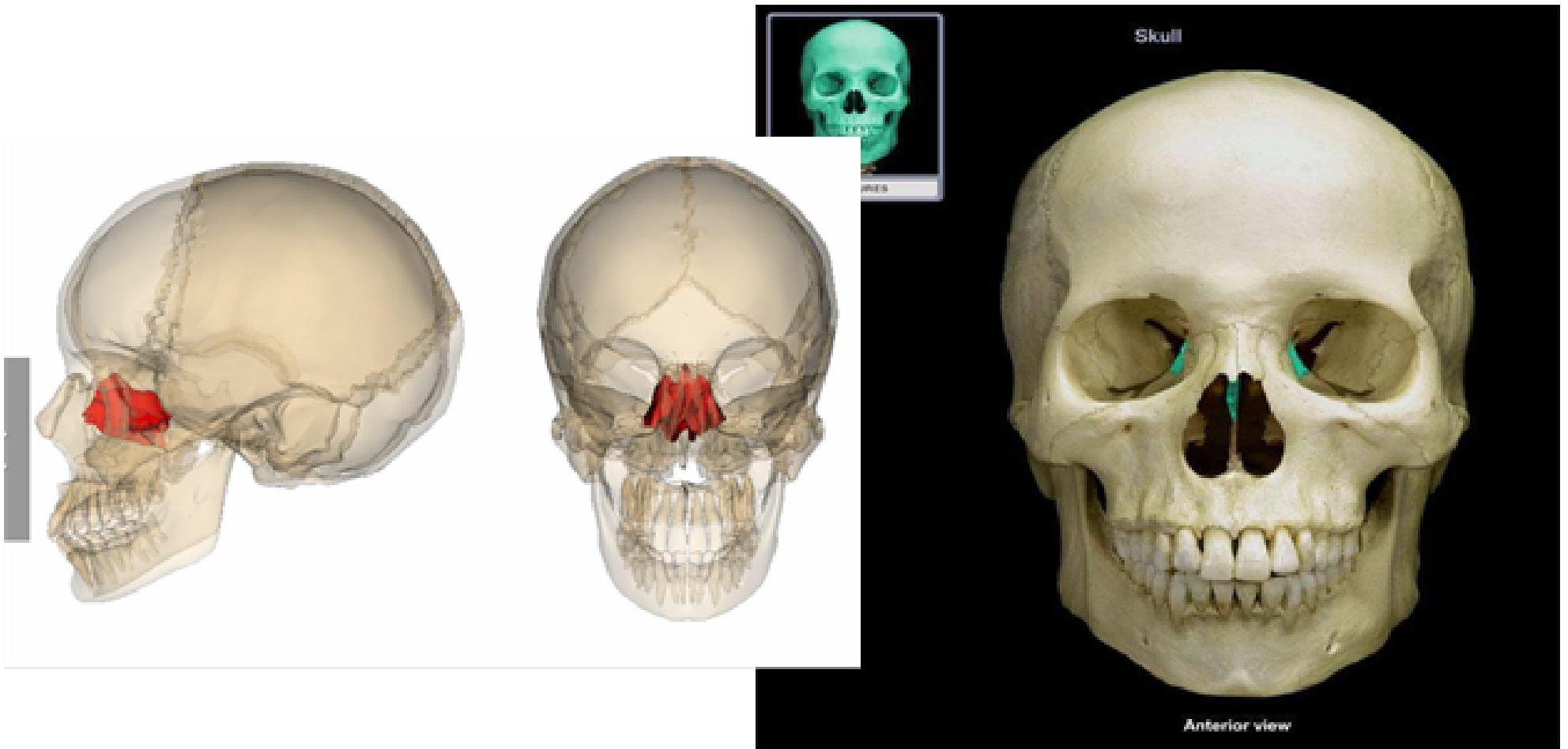
Sphenoid



Bones of the Cranium Cont.

- Ethmoid Bone - anterior to the sphenoid bone, helps form the floor of the cranium, contributes to the medial sides of the orbits and forms the roof and sides of the nasal cavity

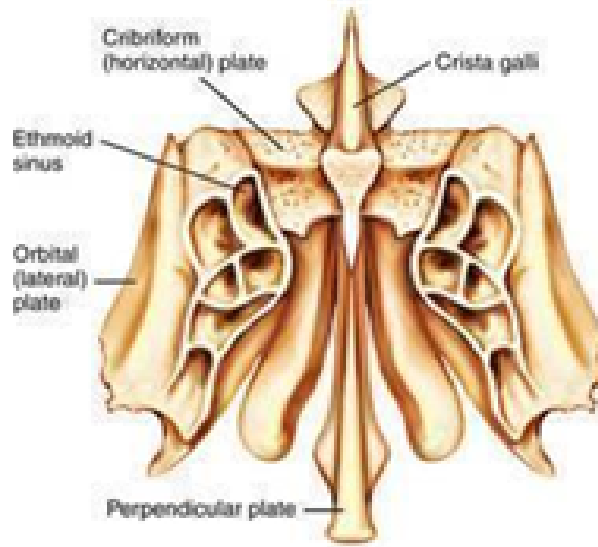
Ethmoid Bone



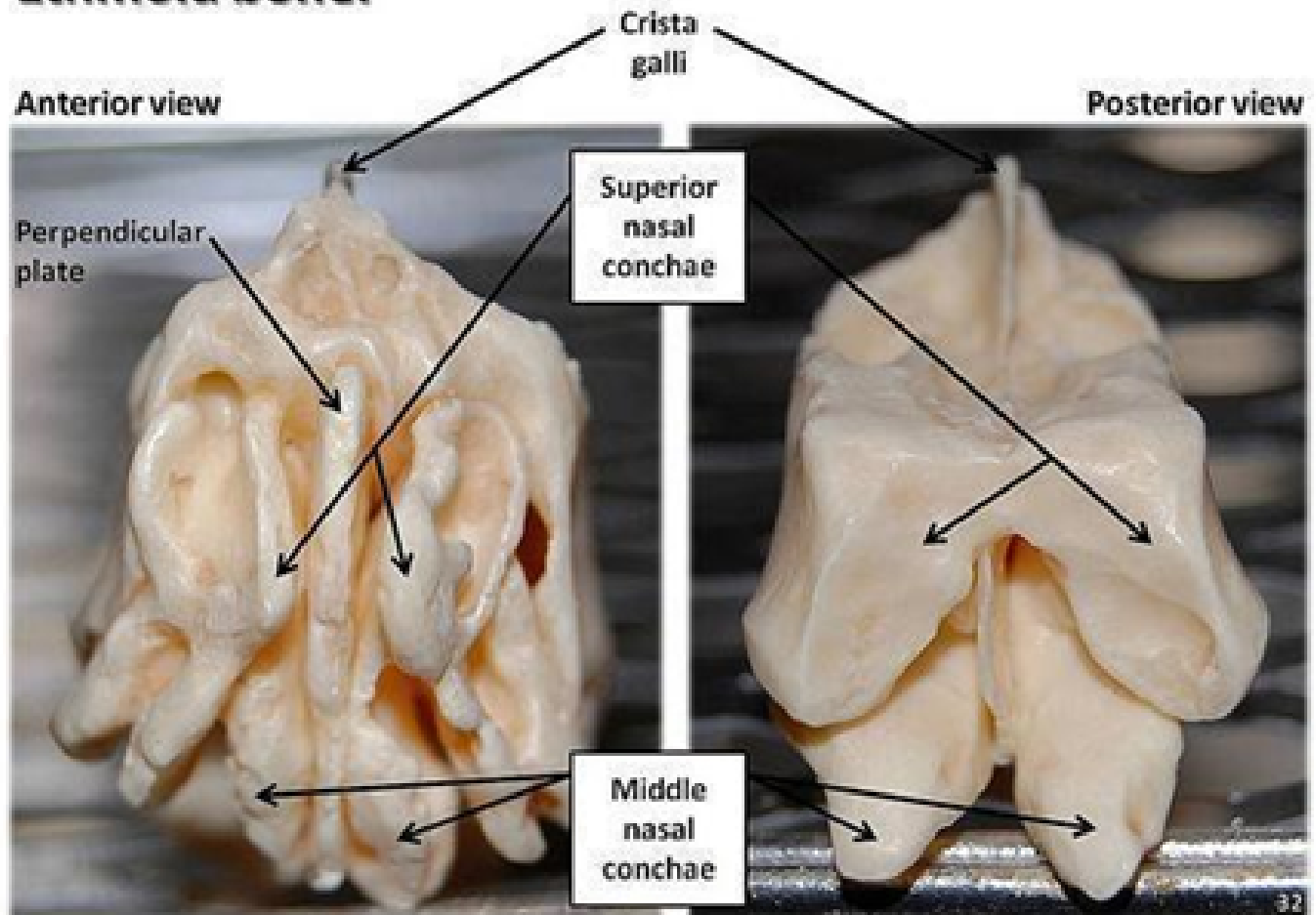
The ethmoid bone includes...

- Crista galli - a triangular process that serves as an attachment for membranes that enclose the brain
- Cribriform Plate - has tiny holes that serve as passageways for nerve fibers from the olfactory receptors
- Perpendicular Plate - projects downward to form the nasal septum
- Superior and Middle Nasal Conchae - project toward the perpendicular plate, support mucous membranes that line the nasal cavity

Ethmoid Bone cont.



Ethmoid bone.



Bones of the Face

.Maxillae - 2, form the upper jaw, contribute to the floors of the orbits and to the sides of the floor of the nasal cavity

Maxillae

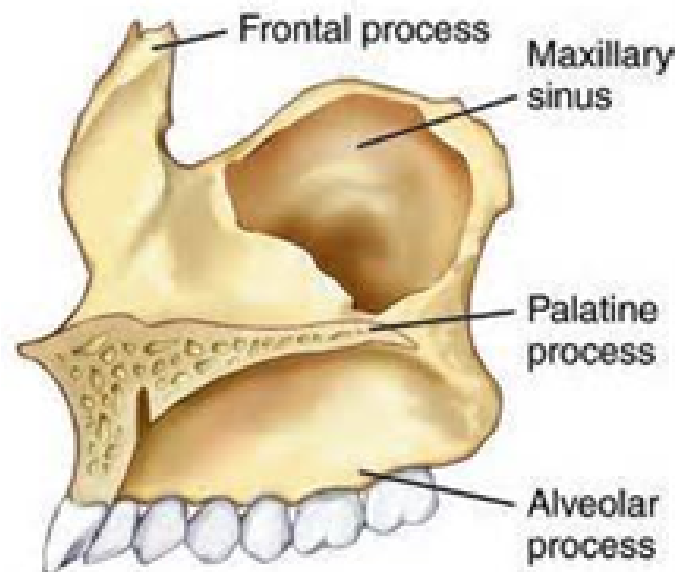
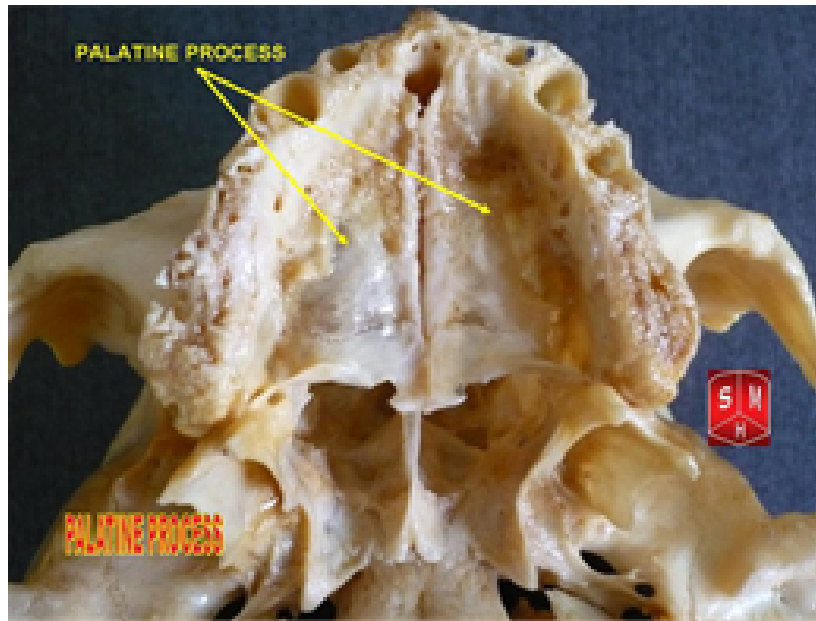


Bones of the Face

Each maxilla has the following properties..

- Alveolar Process - Contain the tooth sockets for teeth: incisors, canines, premolars and molars
- Palatine Process - The left and right processes form the anterior portion of the hard palate (roof of the mouth).

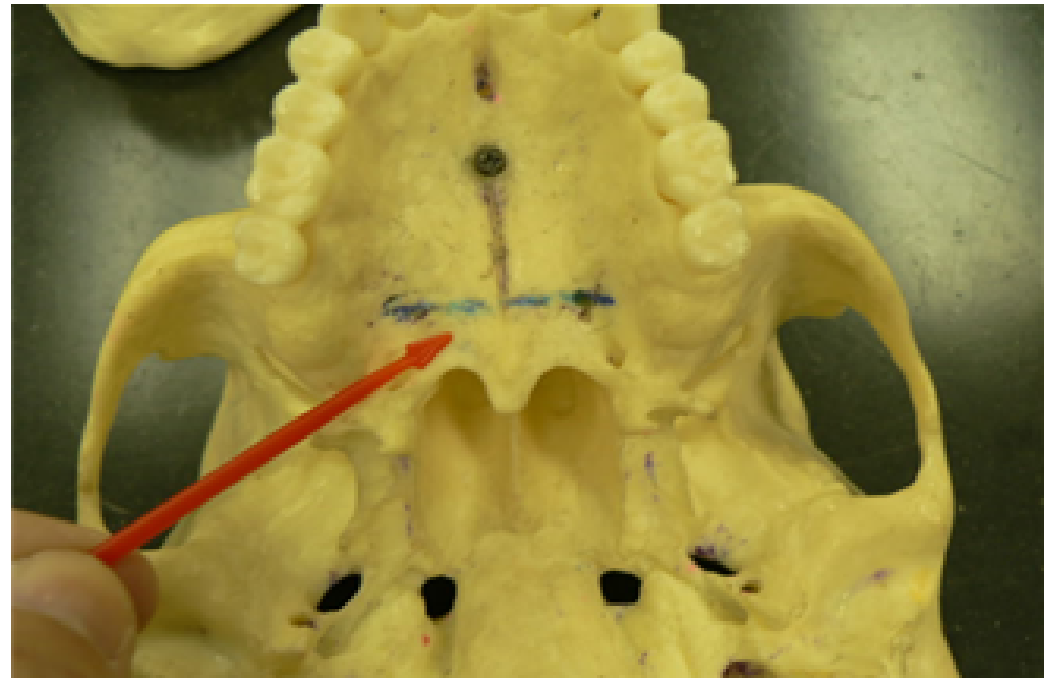
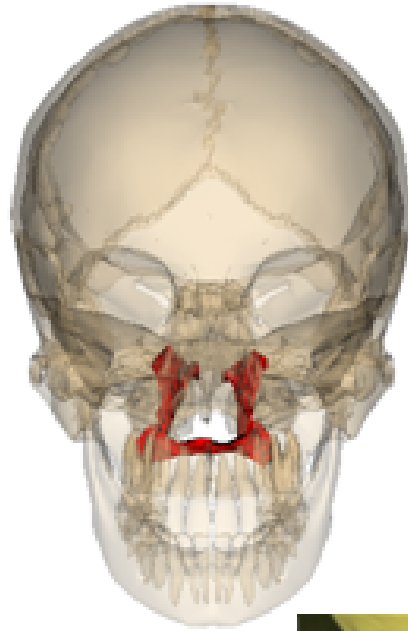
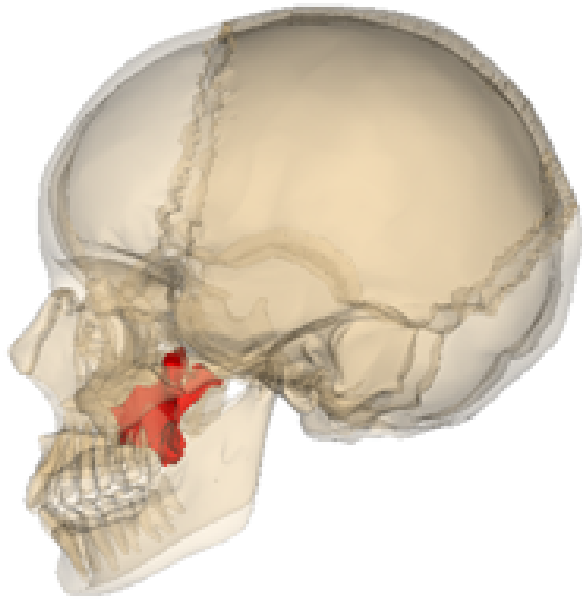
Maxillae cont.



Bones of the Face cont.

- Palatine Bones - 2, contribute to the floor and lateral wall of the nasal cavity, the horizontal plates of the palatine bones form the posterior portion of the hard palate
(Hard palate consists of portions of the maxillae and horizontal plates of the palatine bones. A cleft palate is when the bones fail to fuse.)

Palatine



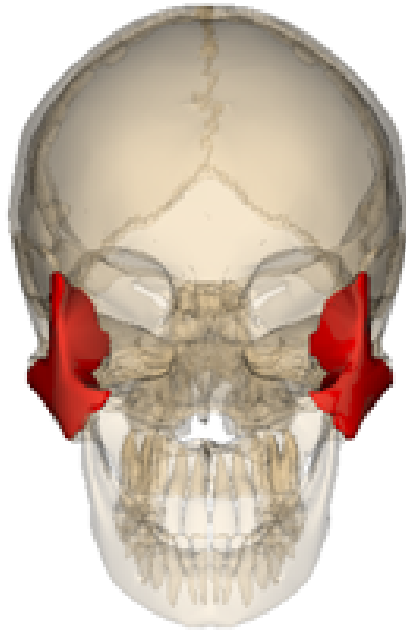
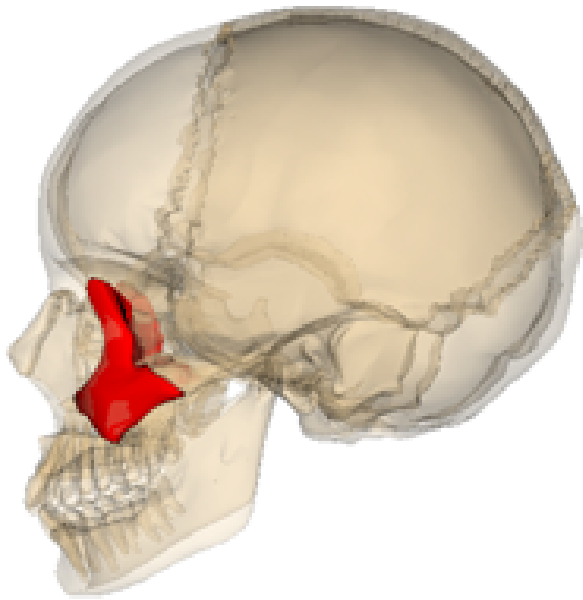
Bones of the Face cont.

- Zygomatic Bones - 2, form the sides of the orbits, contribute to the cheek bones

Each zygomatic has...

- Temporal Process and Zygomatic Arch - the most prominent feature of a cheekbone is where these connect

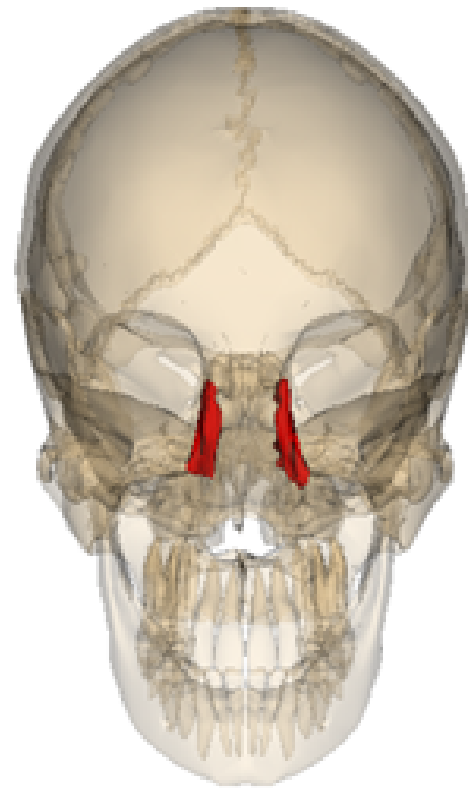
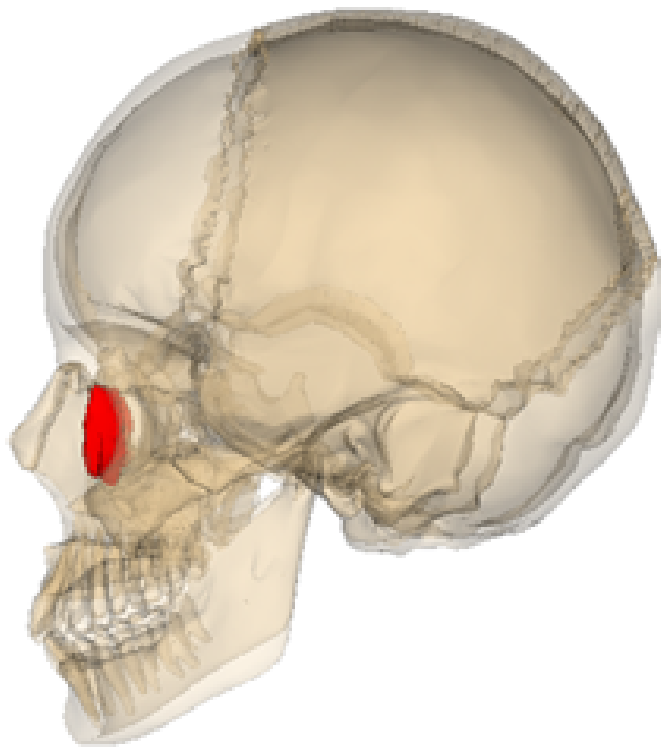
Zygomatic



Bones of the Face cont.

- Lacrimal Bones - 2, small thin bones located on the medial walls of the orbits, a small opening between the orbit and the nasal cavity serves as a pathway for a duct that carries tears from eyes to the nose

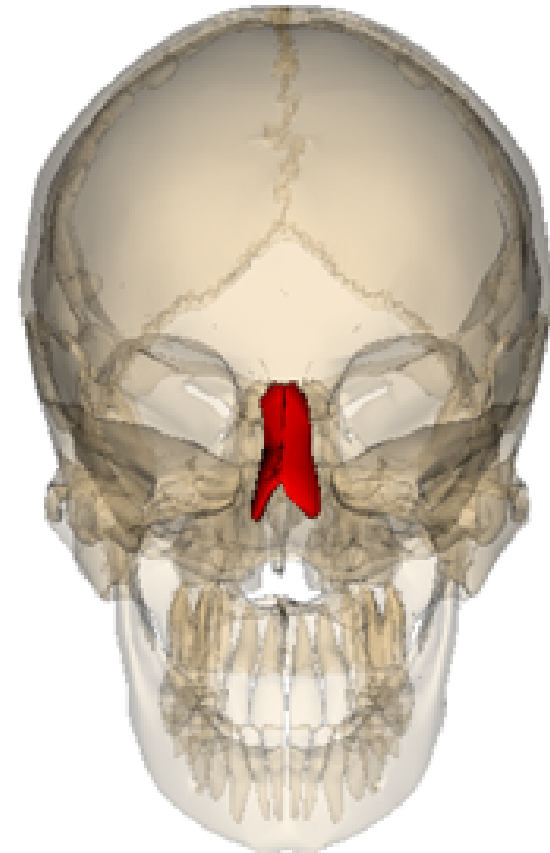
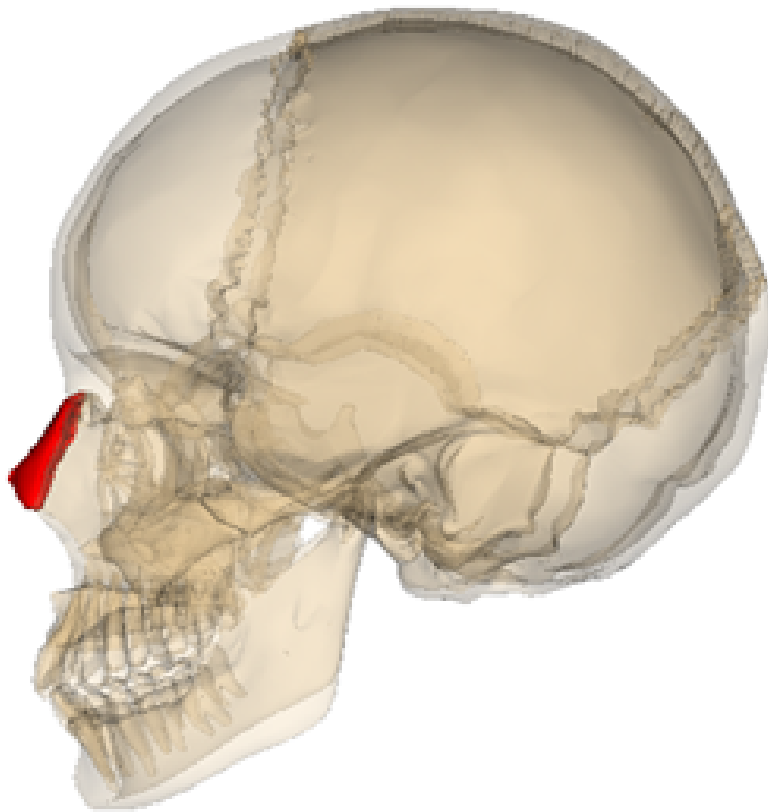
Lacrimal Bones



Bones of the Face cont.

- Nasal Bone - 2, small rectangular, form the bridge of the nose (the ventral portion of the nose is cartilage which explains why the nose is not seen on a skull)

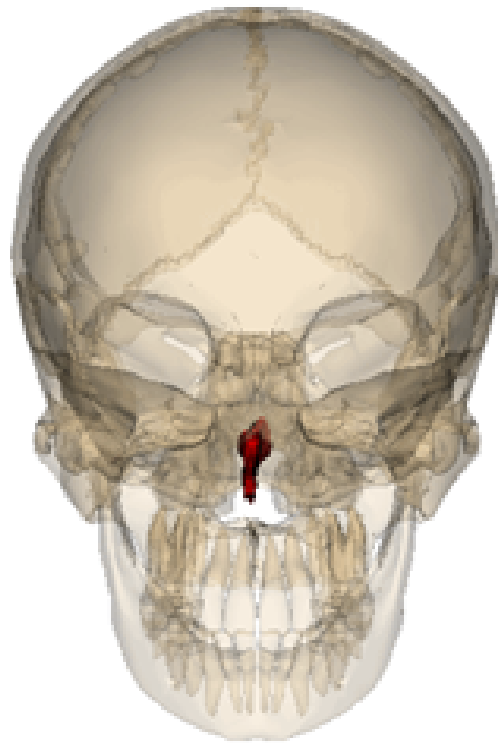
Nasal Bone



Bones of the Face cont.

- Vomer Bone - Joins with the perpendicular plate of the ethmoid bone to form the nasal septum

Vomer Bone

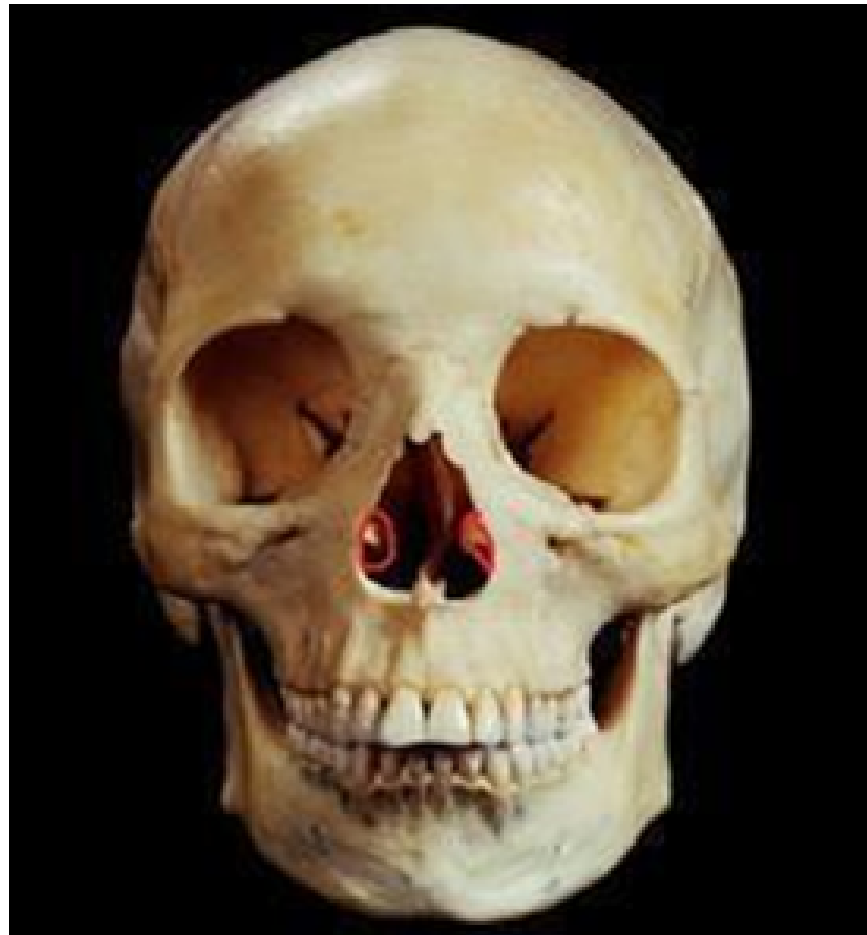


Bones of the Face

cont.

- Inferior Nasal Conchae - 2, thin curved bones that form a part of the inferior lateral wall of the nasal cavity, support mucous membranes that line the nasal cavity

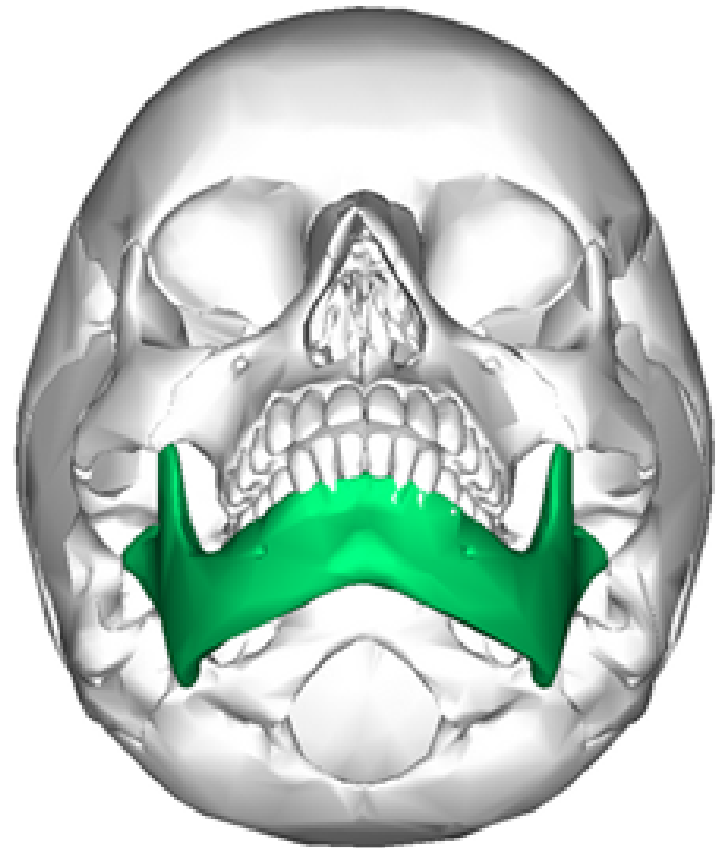
Inferior Nasal Conchae



Bones of the Face cont.

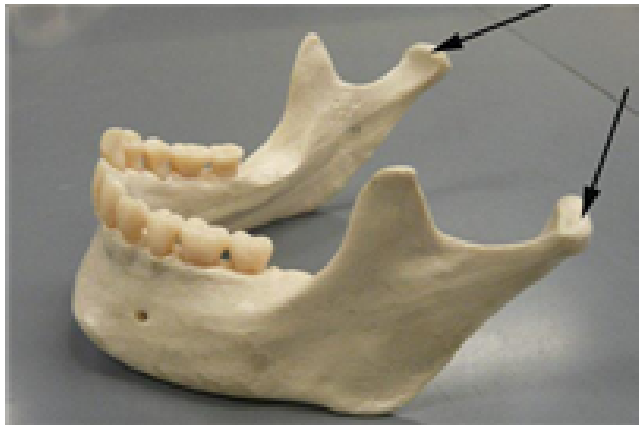
- Mandible - lower jaw, only movable portion of the skull, horseshoe shaped front and horizontal sides of the mandible referred to as the body form the chin, body has alveolar process which contains tooth sockets

Mandible

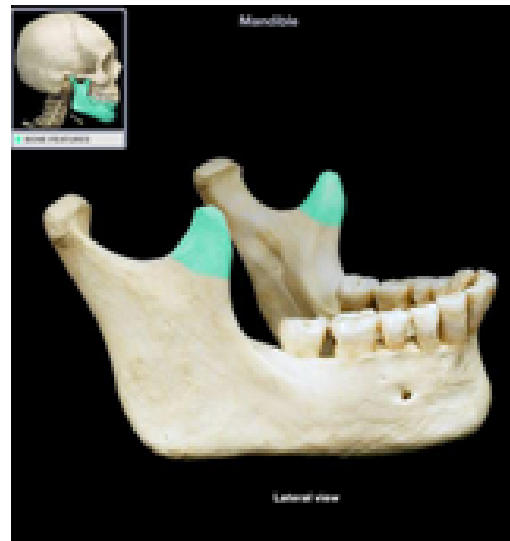
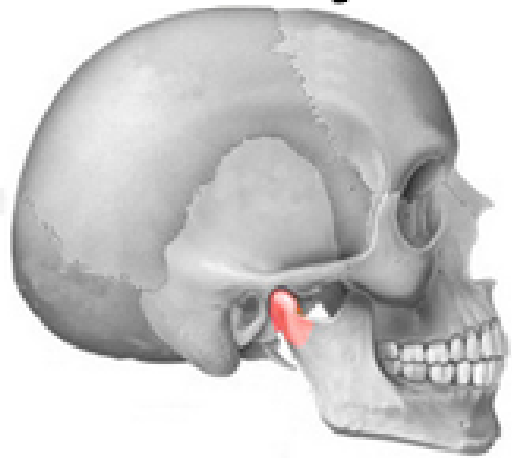


Mandible cont.

Has...mandibular condyle (articulates with temporal bone) and coronoid process (attachment for muscles used for chewing)



Mandibular
Condyle



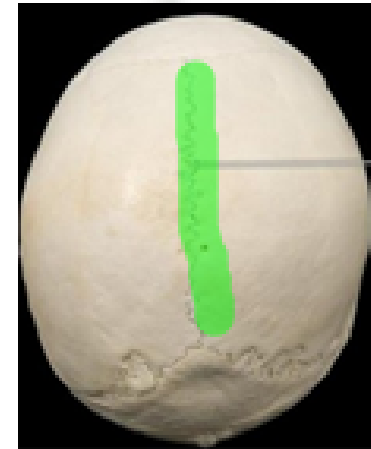
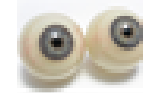
Coronoid Process

Large Sutures



Top
of
Skull

**Coronal
Suture**



Top
of
Skull

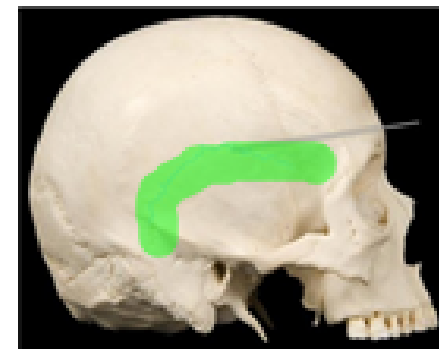
**Sagittal
Suture**



Back
of
Skull

**Lambdoidal
Suture**

Side
of
Skull



**Squamosal
Suture**