

Bony framework of the skull. Sphenoid and Ethmoid bones.

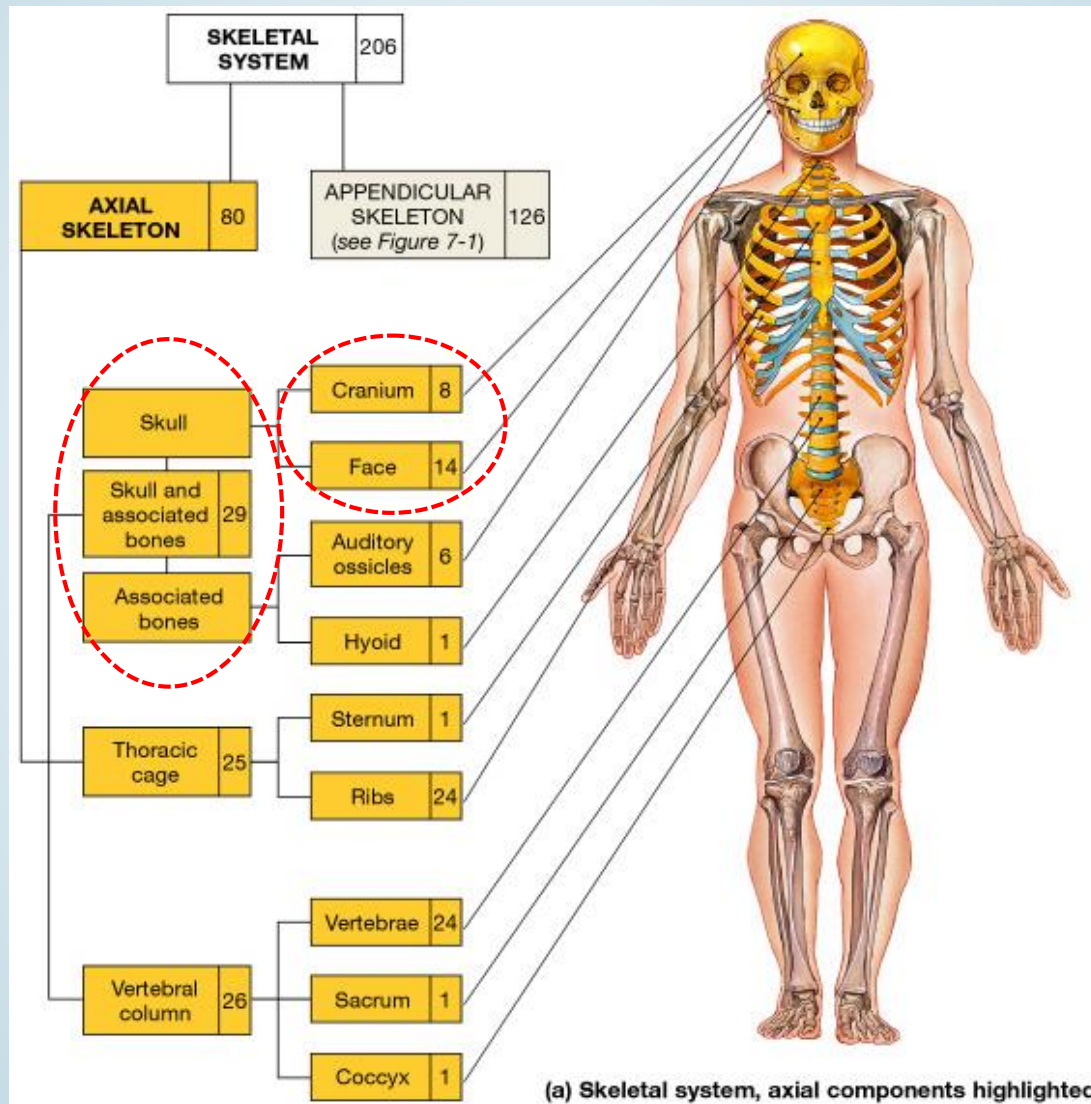


*„To be, or not to be, that is the question...“
(by: William Shakespeare
from Hamlet, spoken by Hamlet)*

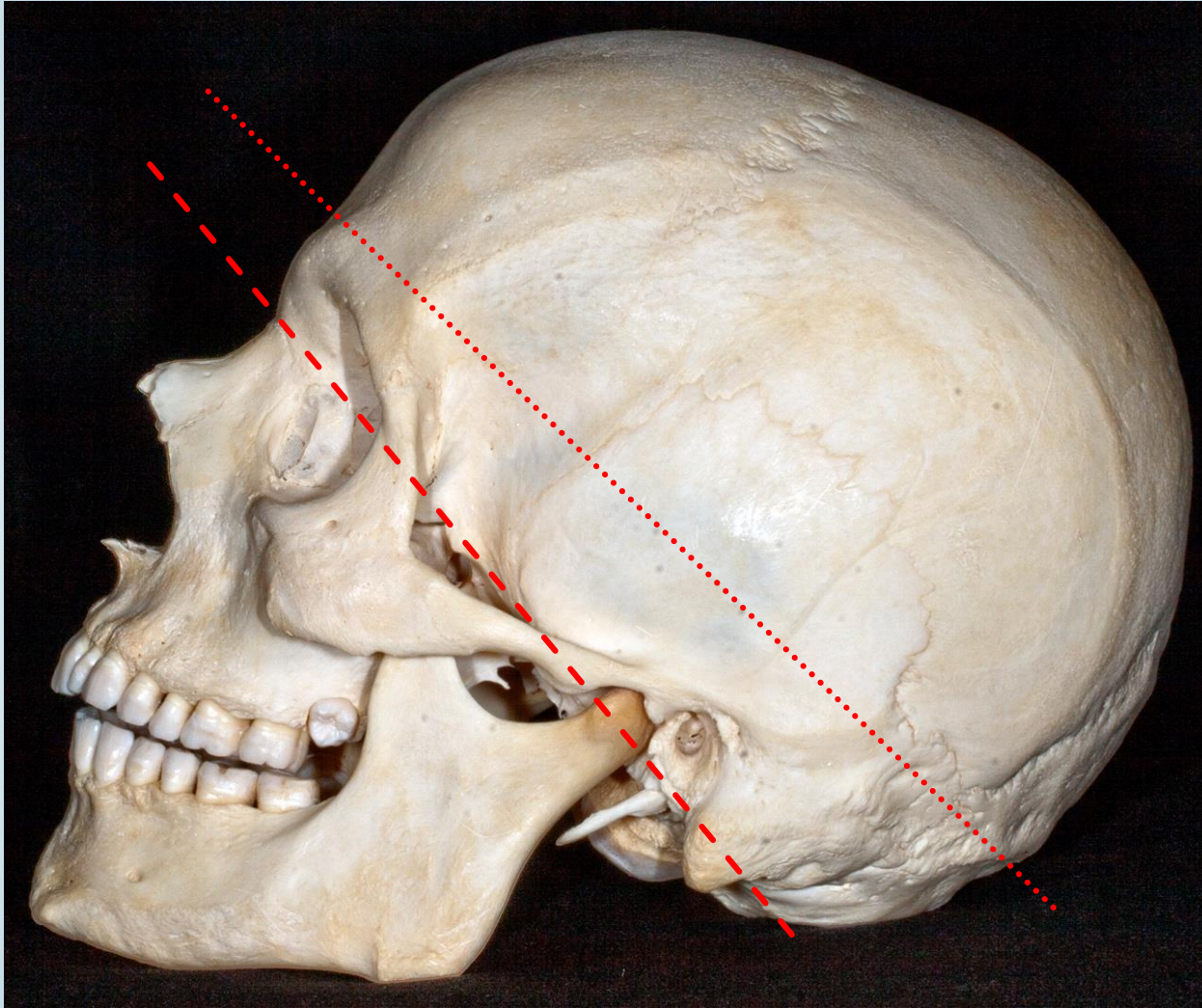
Ph.D., M.D. David Lendvai

Department of Anatomy, Histology and Embriology
Semmelweis University, Faculty of Medicine
2018.

Skeletal system



Structure of the skull



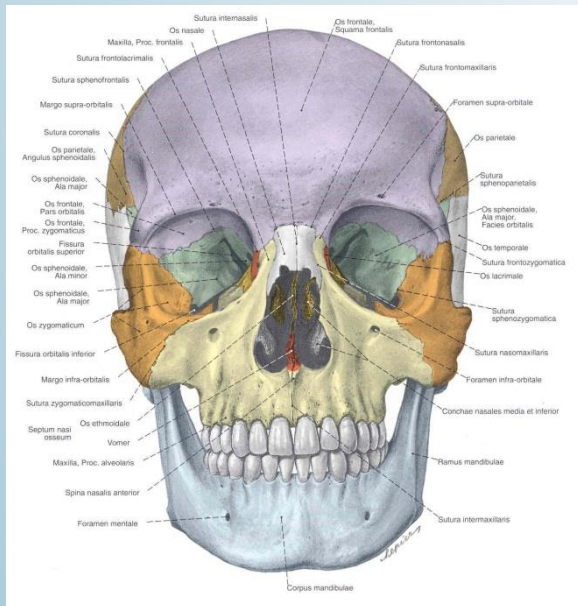
- - - - Border between viscerocranium and neurocranium

..... In the dissection room (calvaria)

MAIN PARTS OF THE SKULL

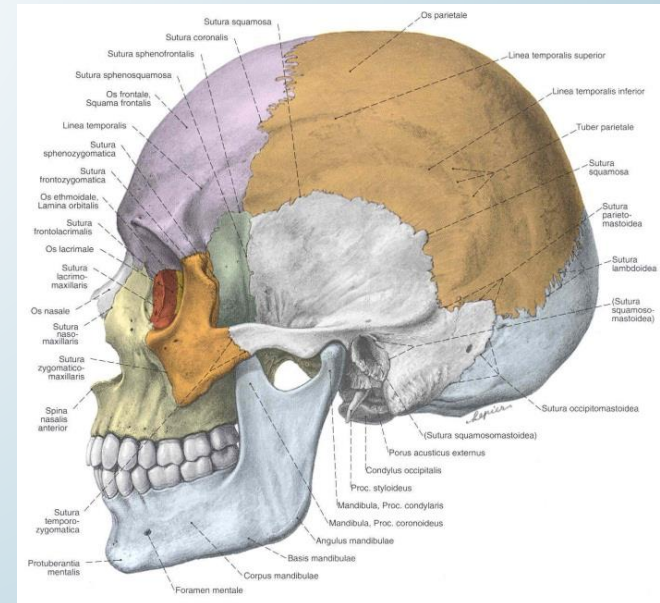
- Constitute by 22 bones:
- **neurocranium** (8) – **UNPAIRED**: frontal, occipital, sphenoid, ethmoid bones
PAIRED: temporal, parietal bones
- **viscerocranium** (14) -**UNPAIRED**: mandibule, vomer.
PAIRED: nasal, maxilla, zygomatic, lacrimal, palatine, inferior nasal concha

Their role – formation of cavities, protect viscera, voice formation, initial portions of the gastrointestinal and respiratory systems, insertion of muscles (mastication, head movements)



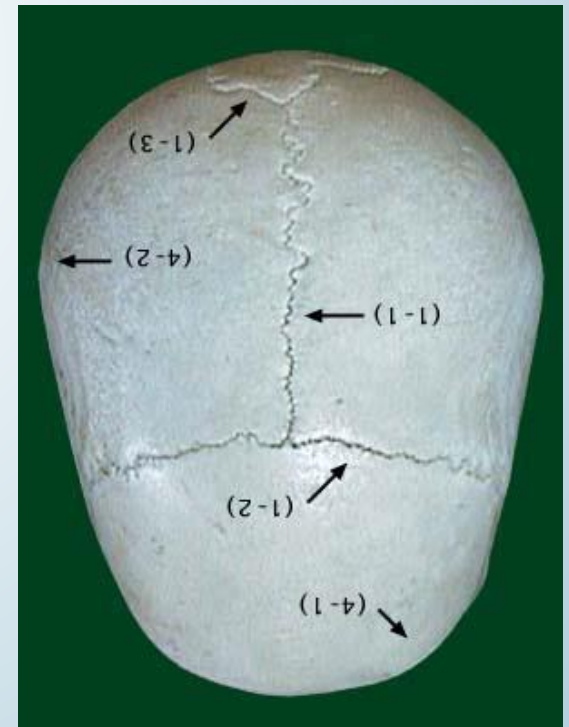
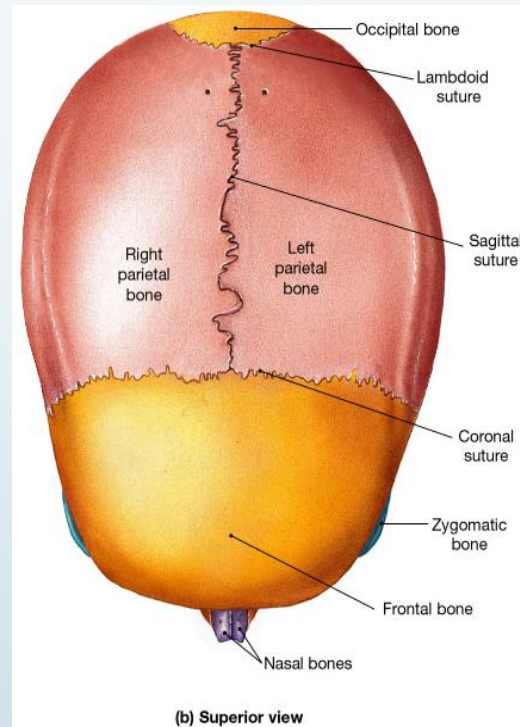
Cavities:

- *Cranial cavity,*
- *Nasal cavity,*
- *Paranasal sinuses*
- *Oral cavity,*
- *Orbit,*
- *(Tympanic cavity,*
- *Inner ear)*



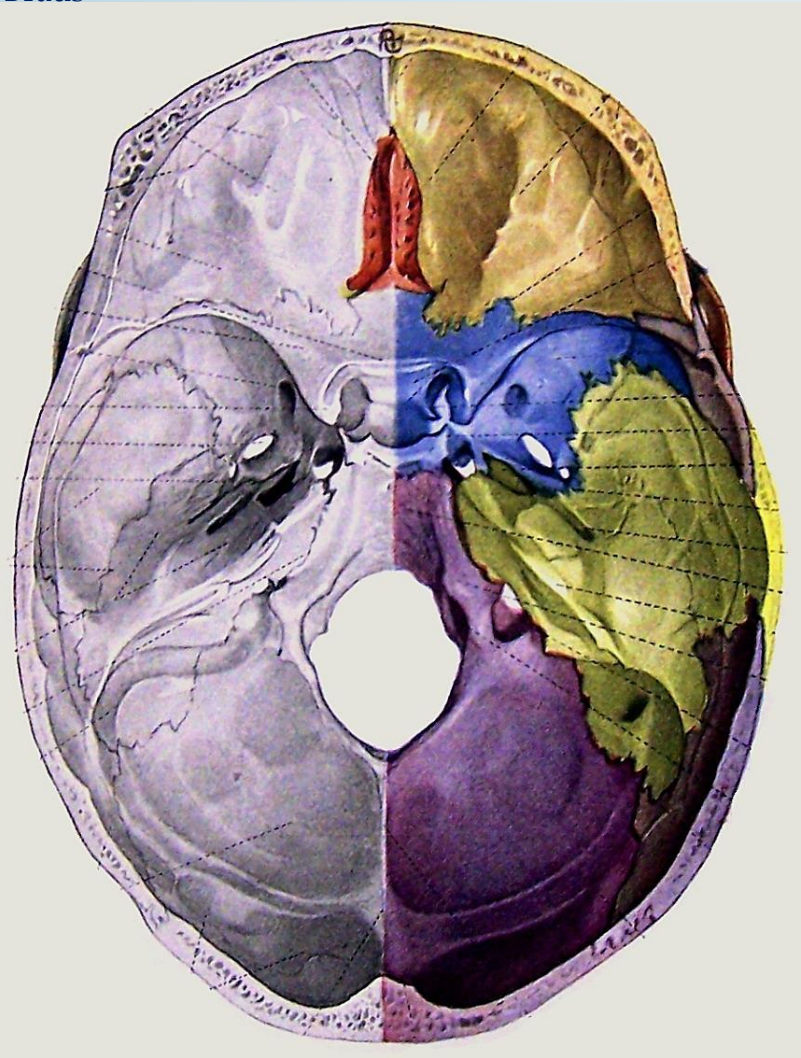
Joints between cranial bones

- ***Synchondrosis, synostosis***
(cartilagineal and bony connections)
- ***Sutures***
 - *Coronal*
 - *Sagittal*
 - *Lambdoid*



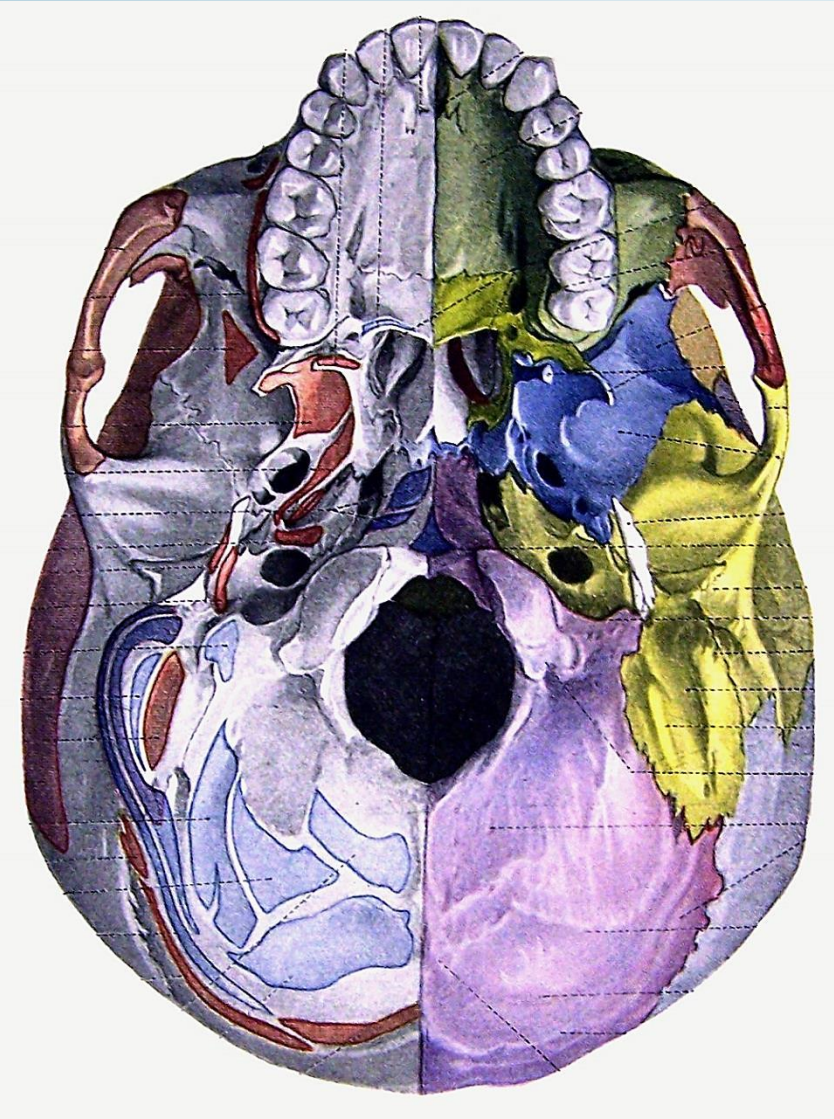
Internal skull base

Braus



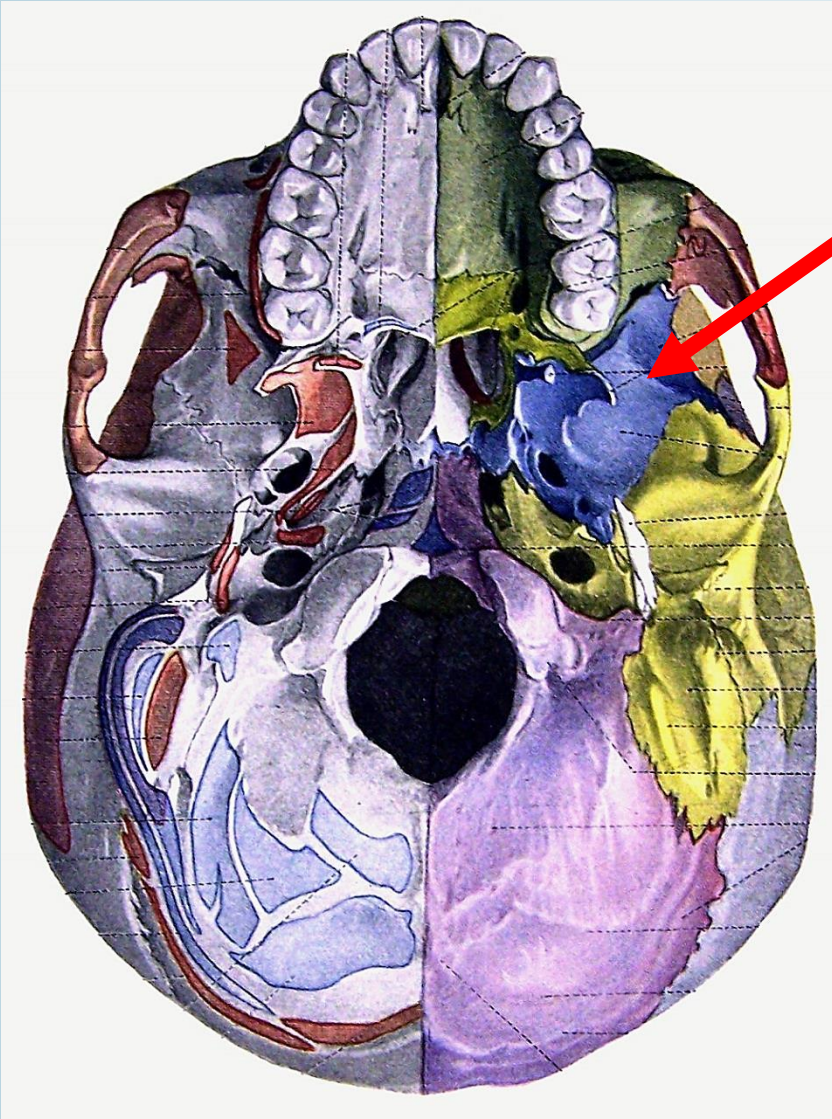
External skull base

Braus



Sphenoid bone

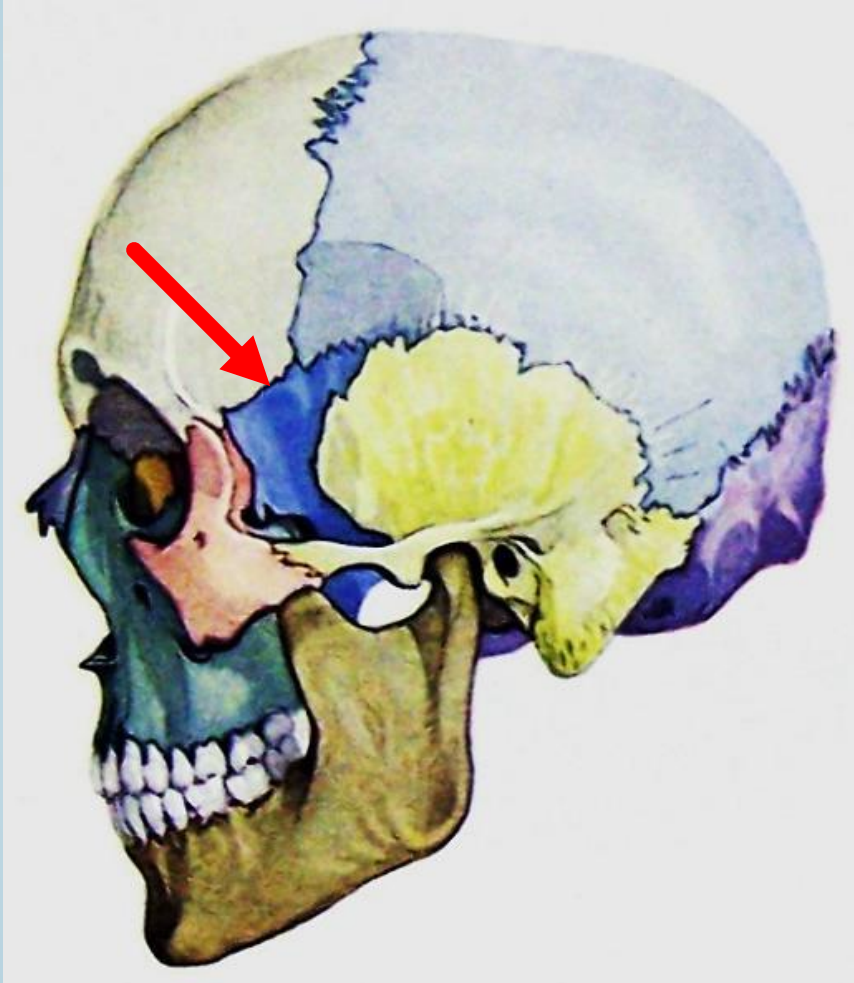
Braus



Part of the external skull base (- body (Corpus), pterygoid process, greater wing (Ala major))

Sphenoid bone

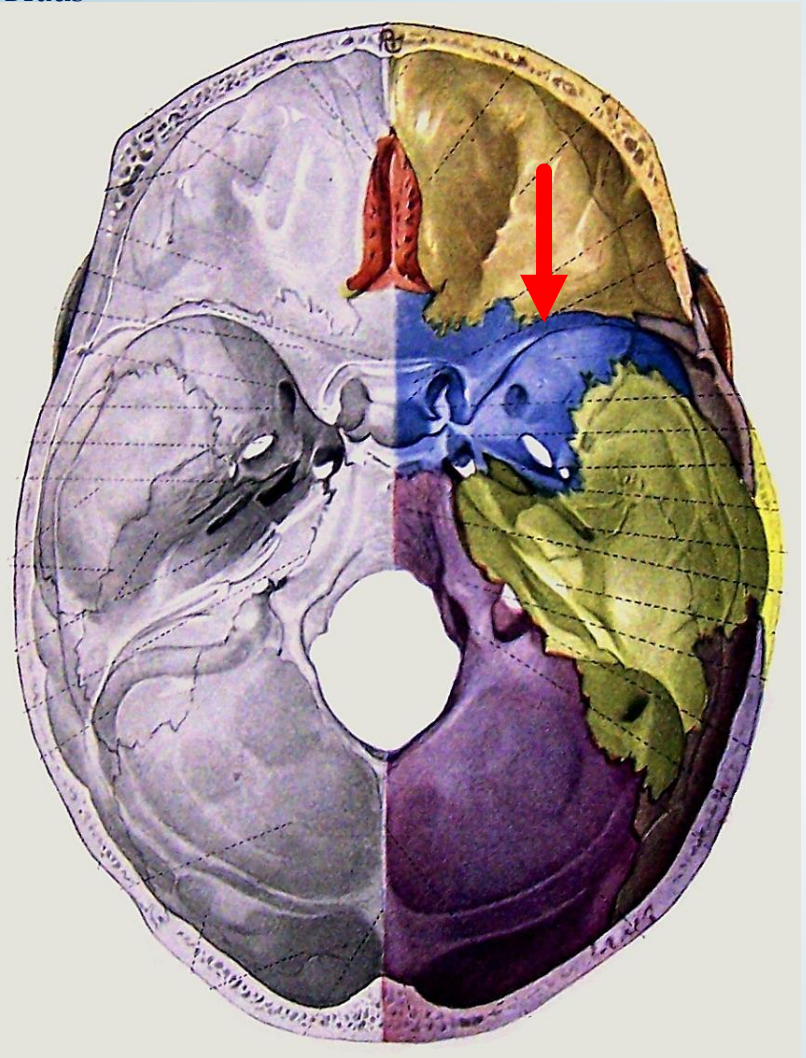
Braus



Part of the temporal fossa, greater wing (Ala major)

Sphenoid bone

Braus



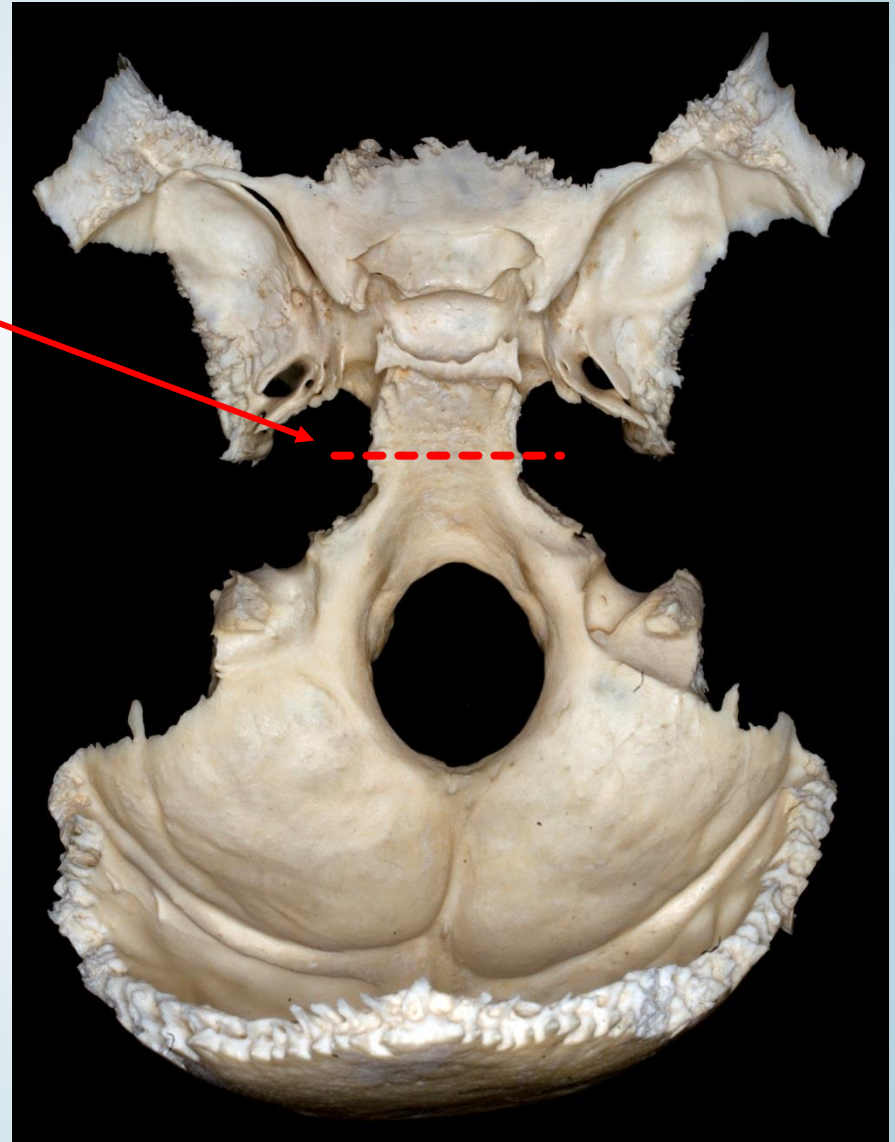
Part of the internal skull base (Corpus, Ala minor, Ala major)

Sphenoid bone

sphenooccipital synchondrosis:
ossified in the beginning
of adulthood

About the age of 18
can be the occipital bone and the
sphenoid bone no longer
separated from each other
(synostosis)

Connections to the others bones
by sutures, with the passage of
time also often ossified



Sphenoid bone

www.hrlfg.eoldal.hu



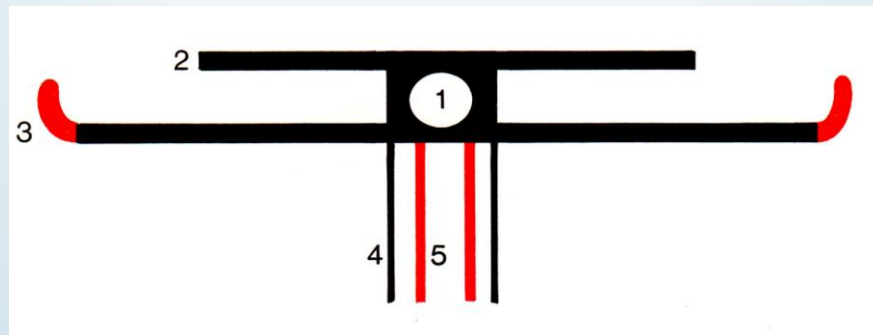
Os sphecoideum ~ Wasp ~ Os vespiforme

Os sphenoidale = cuneiform

Os cuneiforme, alatum, pterygoideum, polymorphon, carinae, colatorii, paxillare



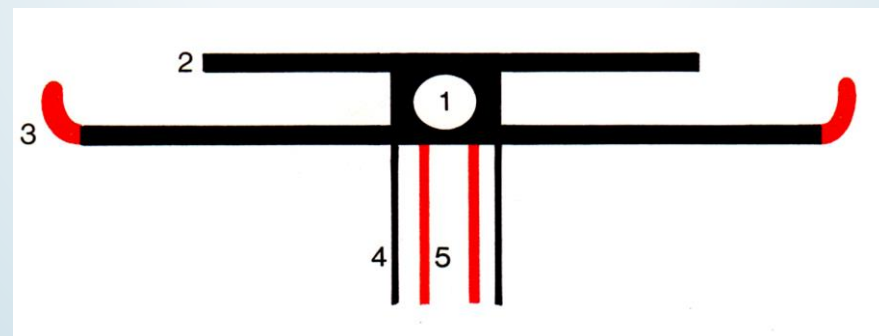
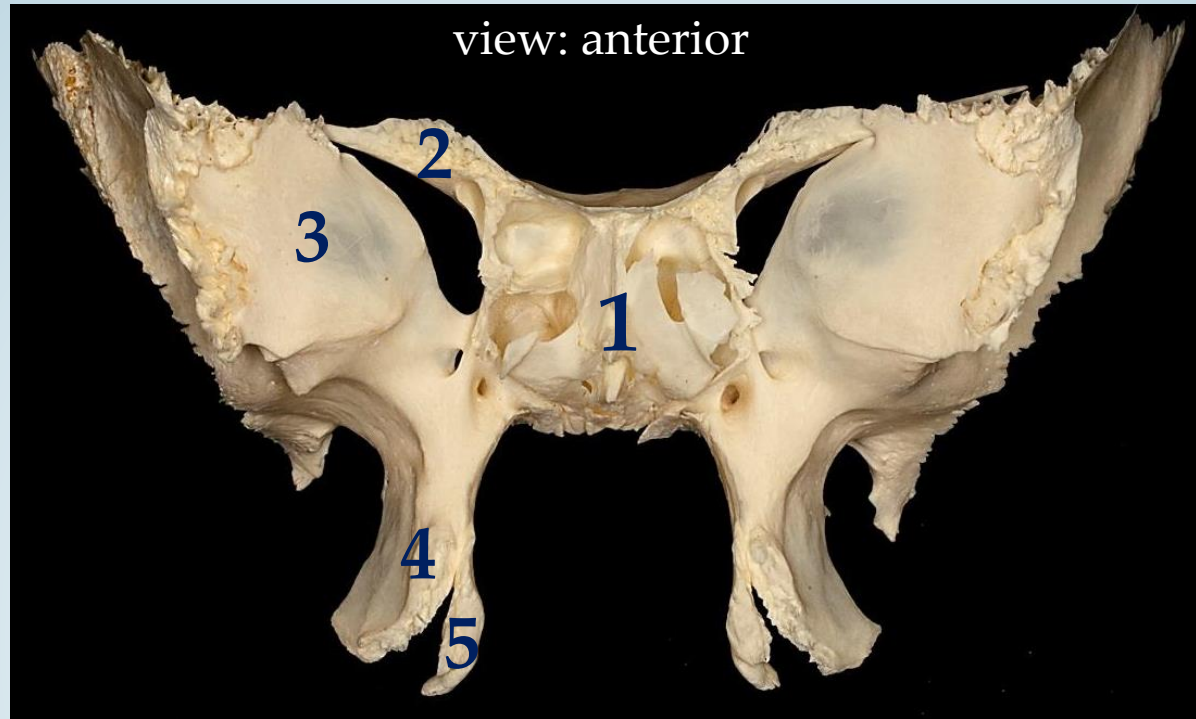
fotó: Semmelweis Egyetem ©



Faller

- 1. sphenoidal sinus
- 2. lesser wing of the sphenoid bone
- 3. greater wing of the sphenoid bone

- 4. lateral pterygoid plate
- 5. medial pterygoid plate



1. sphenoidal sinus
2. lesser wing of sphenoid bone
3. greater wing of sphenoid bone

4. lateral pterygoid plate
5. medial pterygoid plate

Sphenoid

Surfaces of the greater wing:

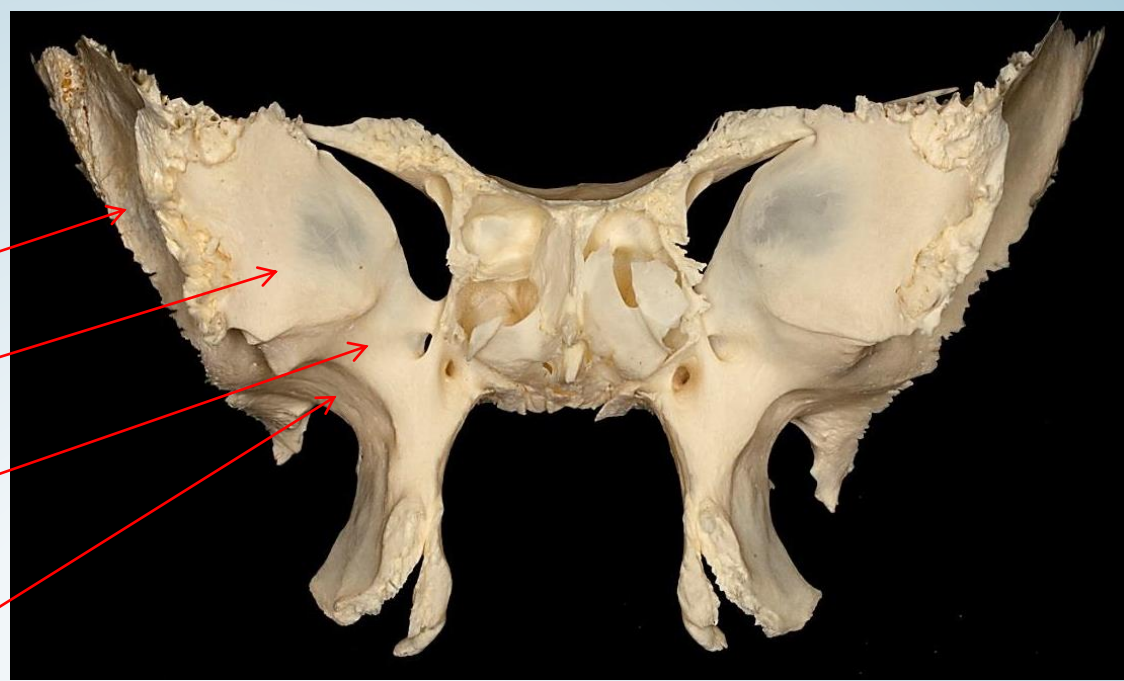
-temporal surface

- orbital surface

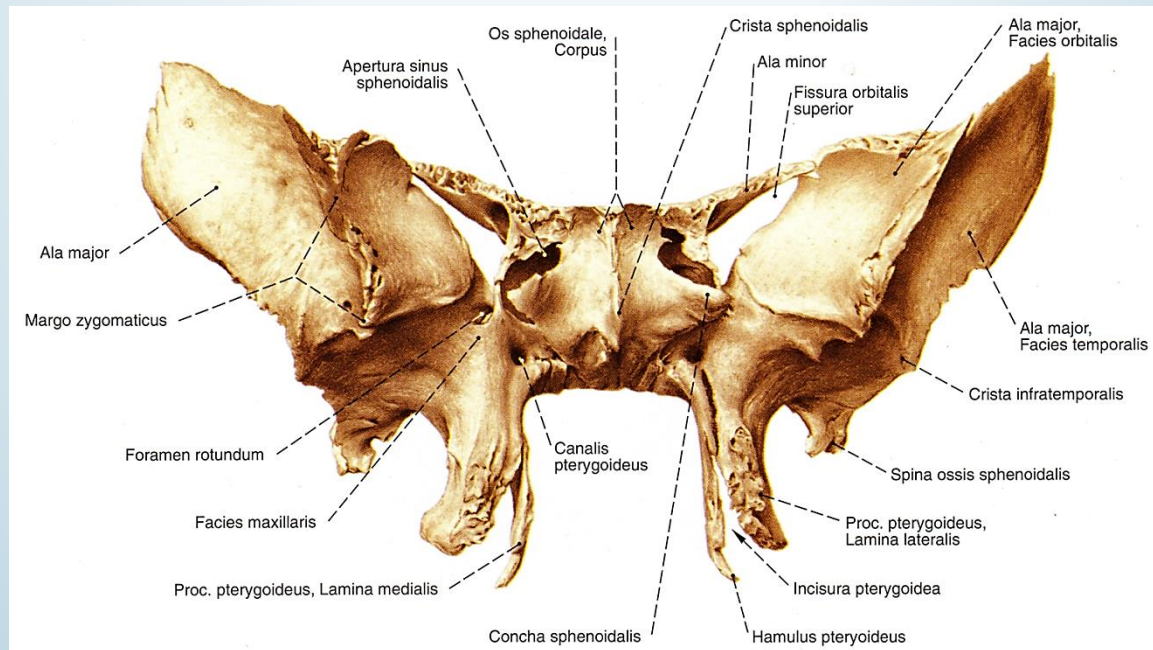
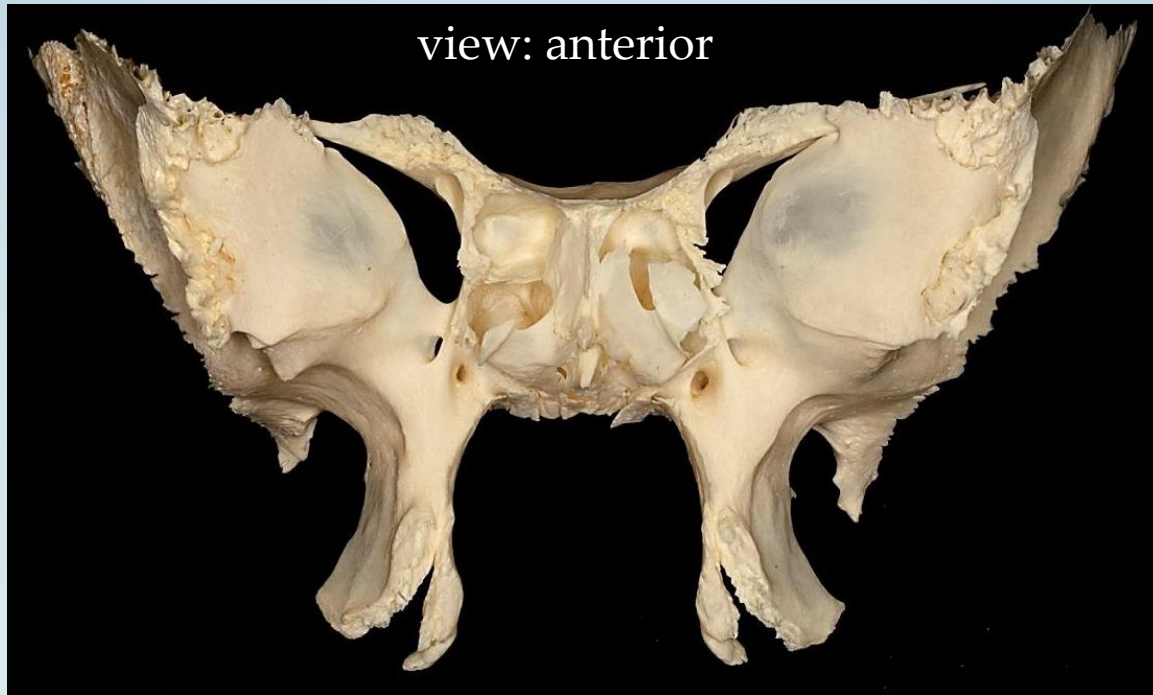
- maxillary surface
(around the foramen rotundum)

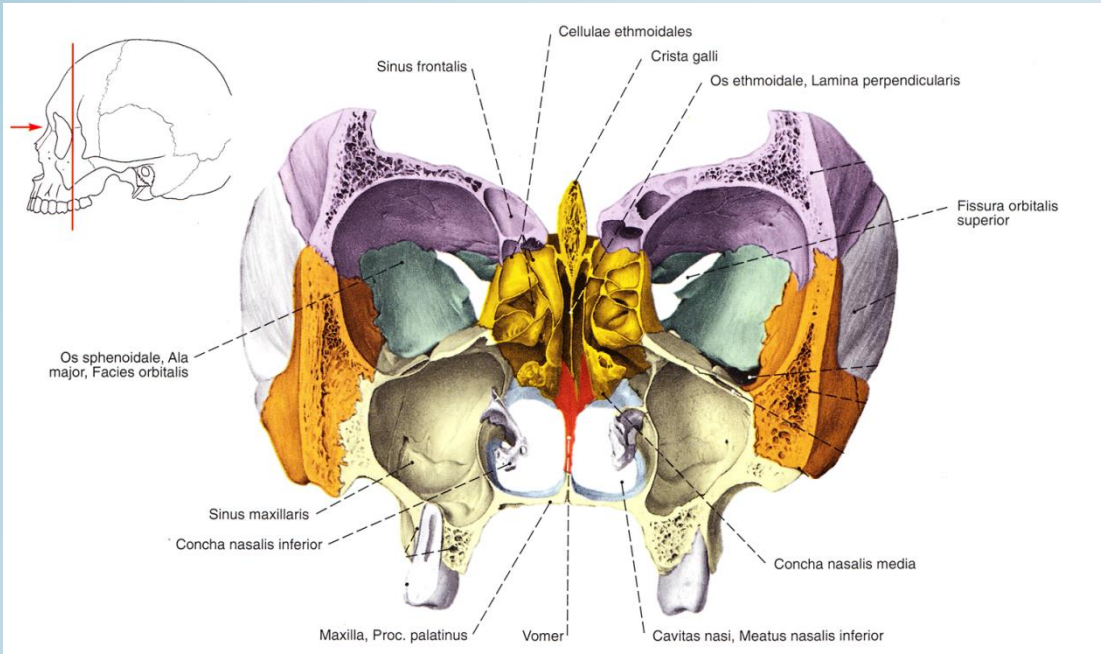
- infratemporal surface

- cerebral surface

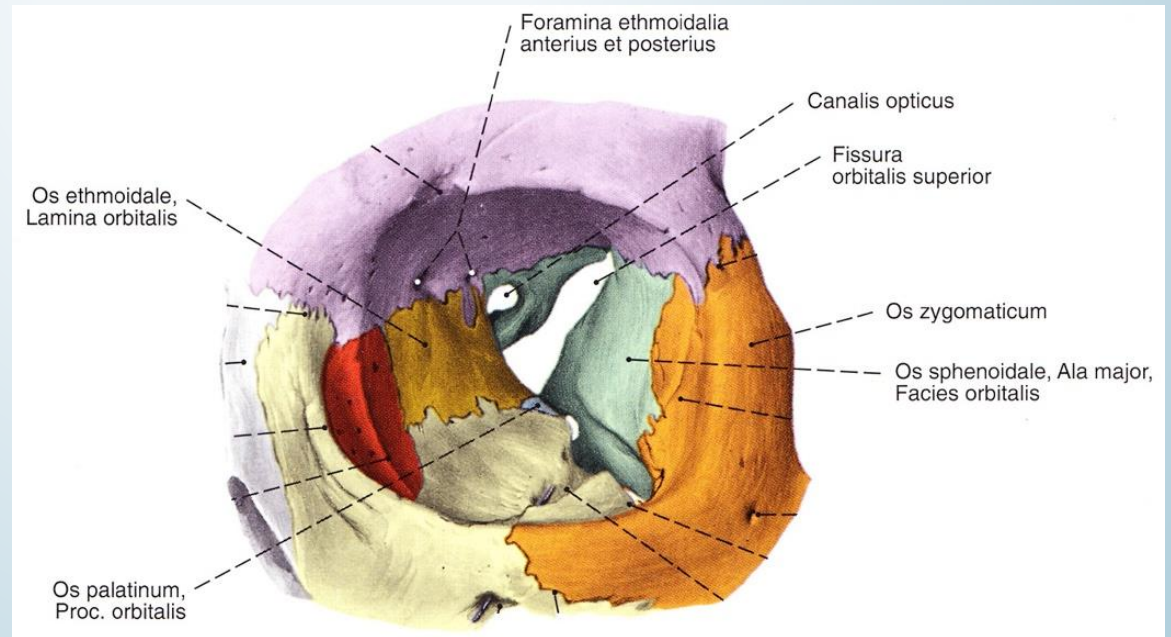


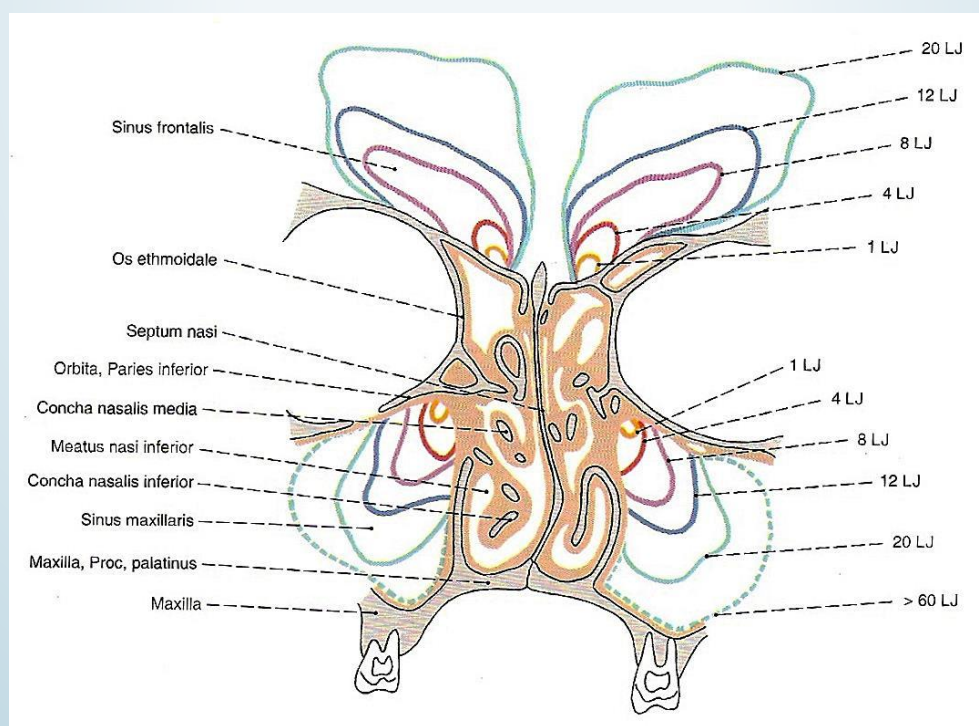
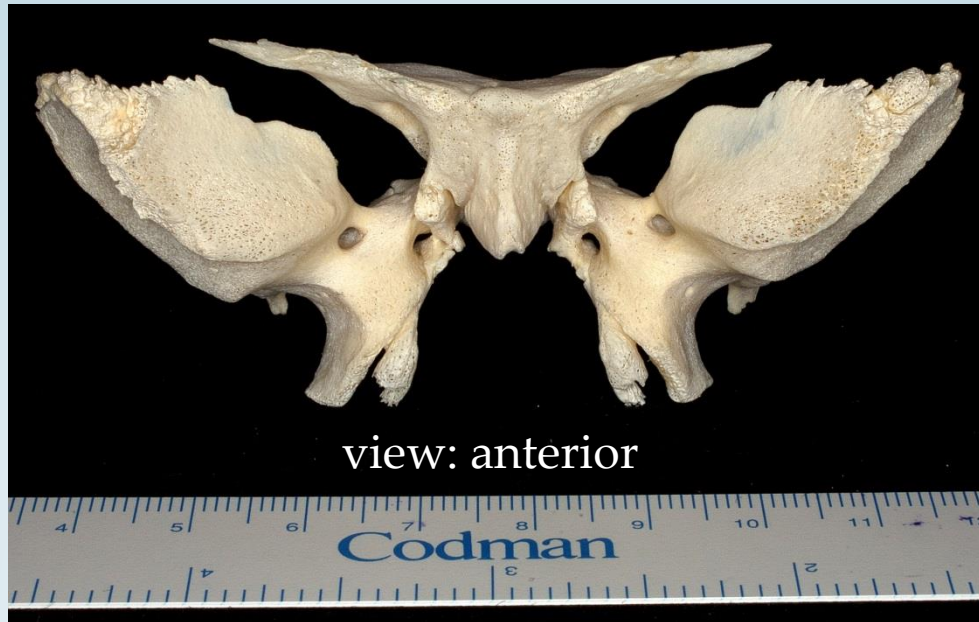
view: anterior



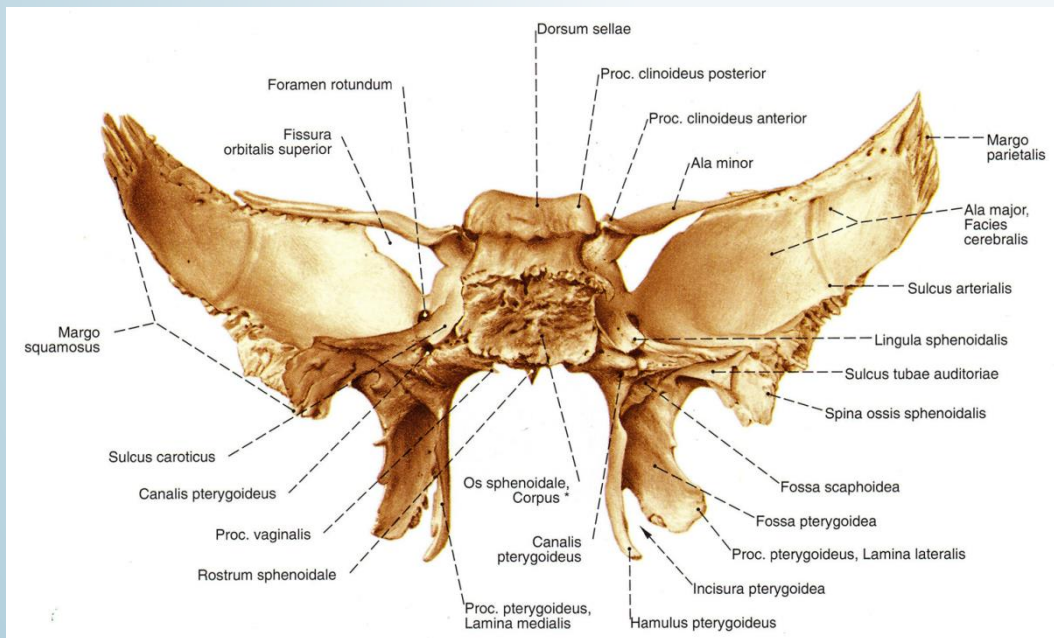
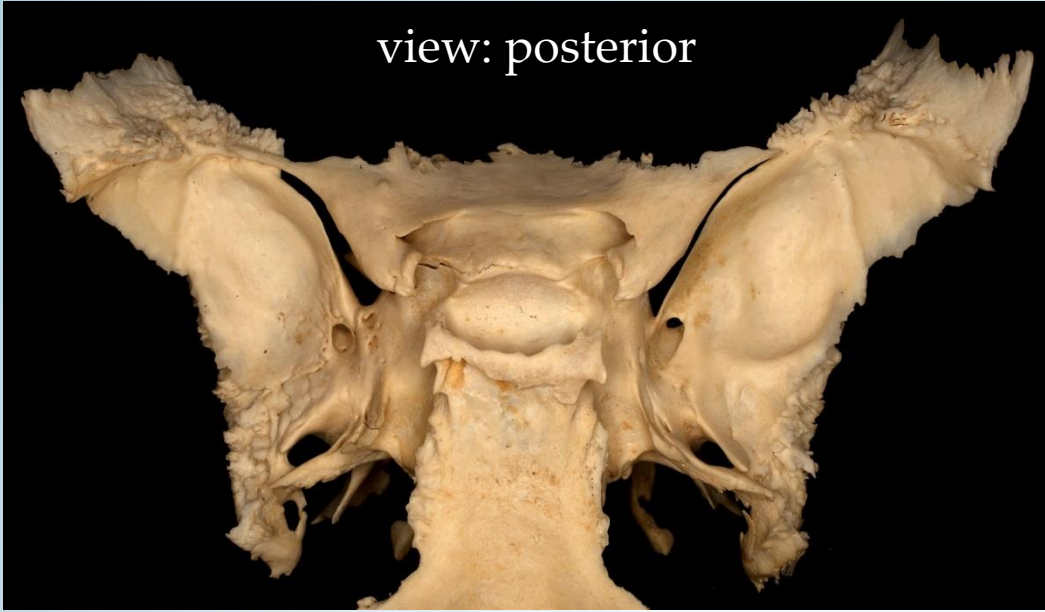


Formation of the posterior and lateral wall of the orbit





view: posterior



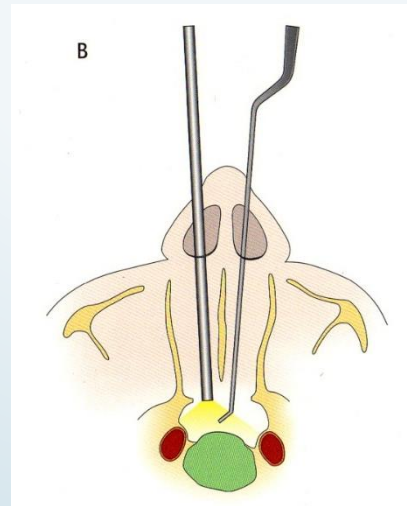
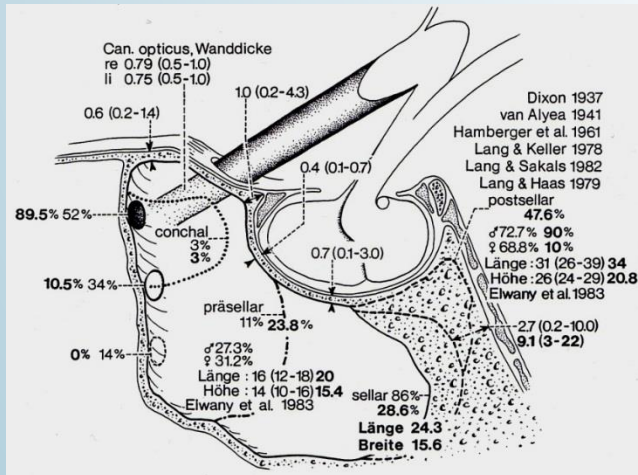
Sphenoid sinus - sinus sphenoidalis; Turkish Saddle - Sella turcica

Eördögh



Aesculap – B Braun

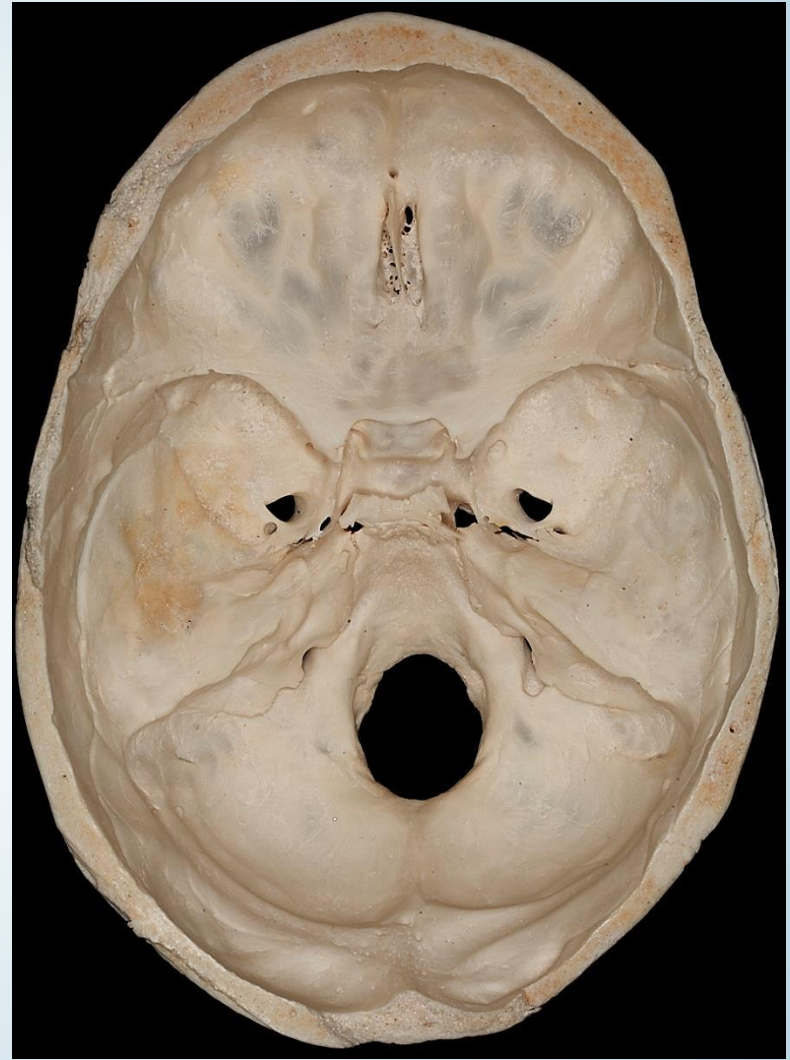
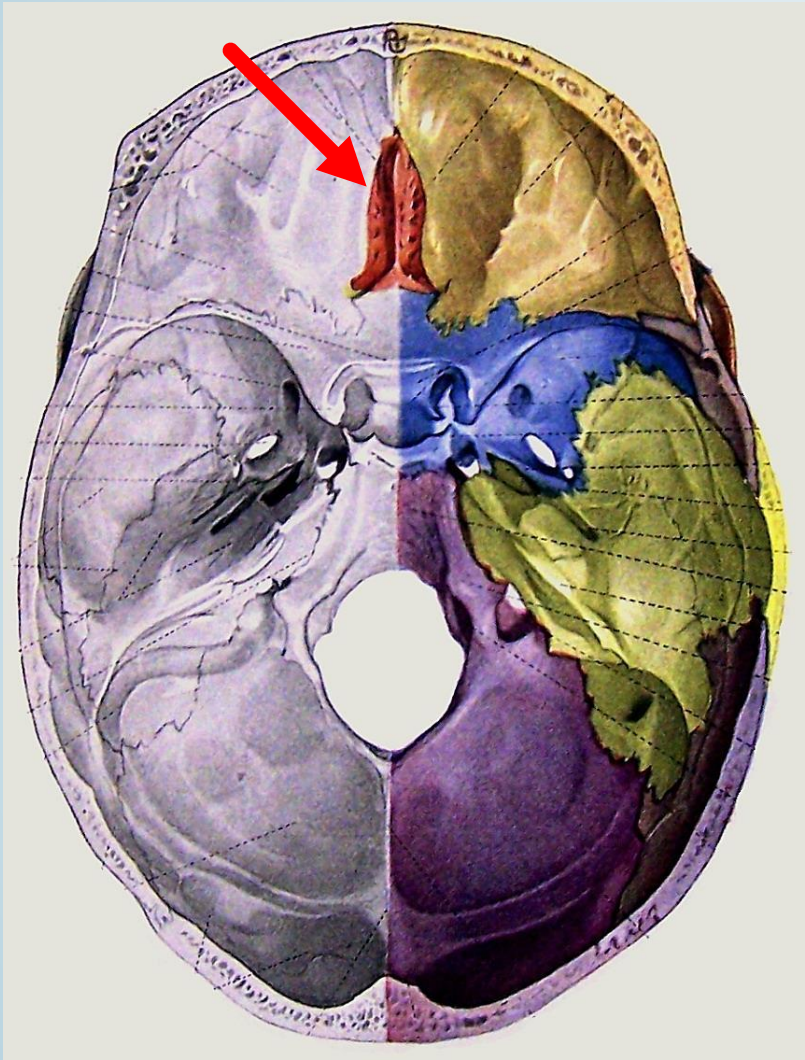
www.commonswiki.org



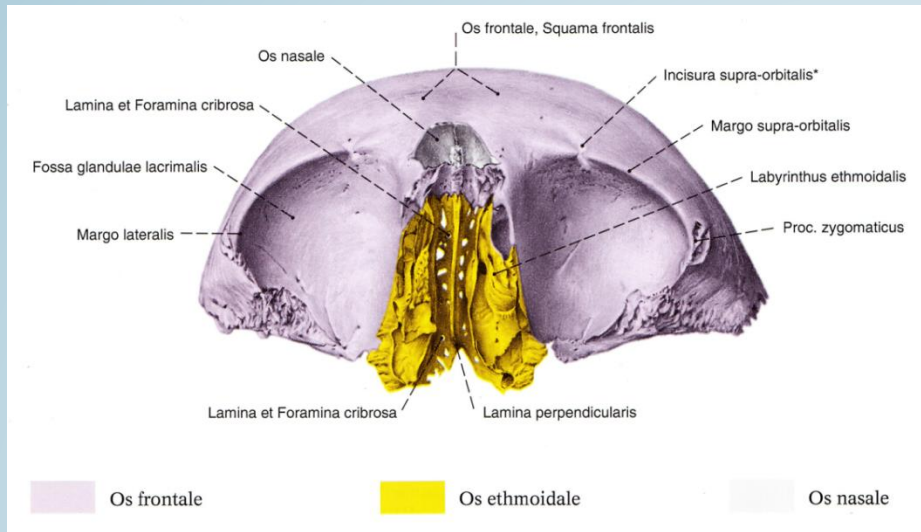
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Lang

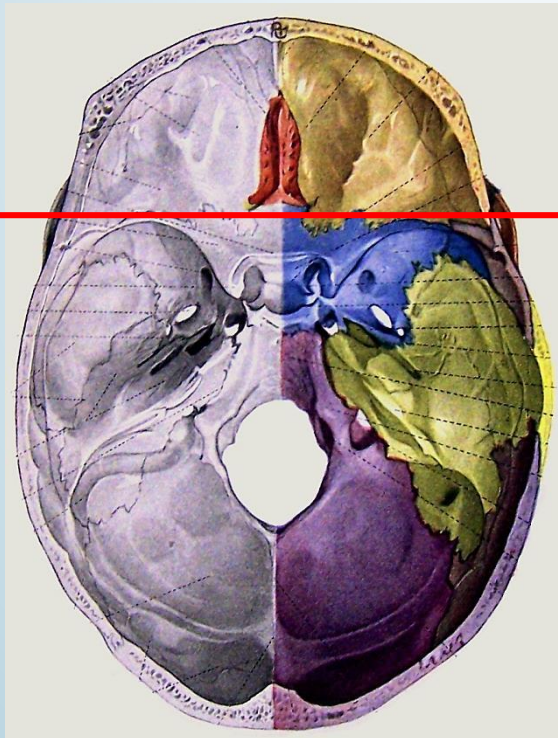
Ethmoidal bone - Os ethmoidale



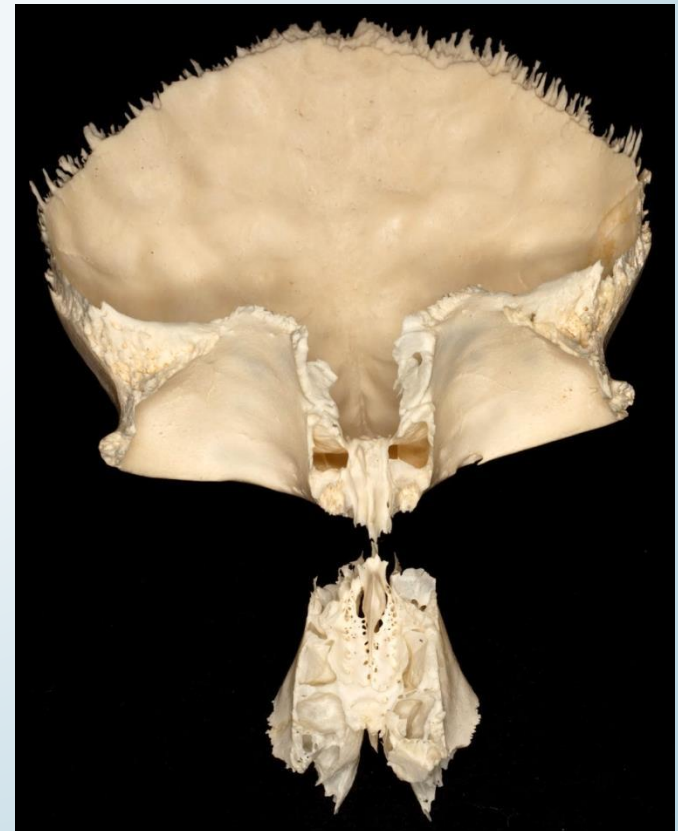
Braus

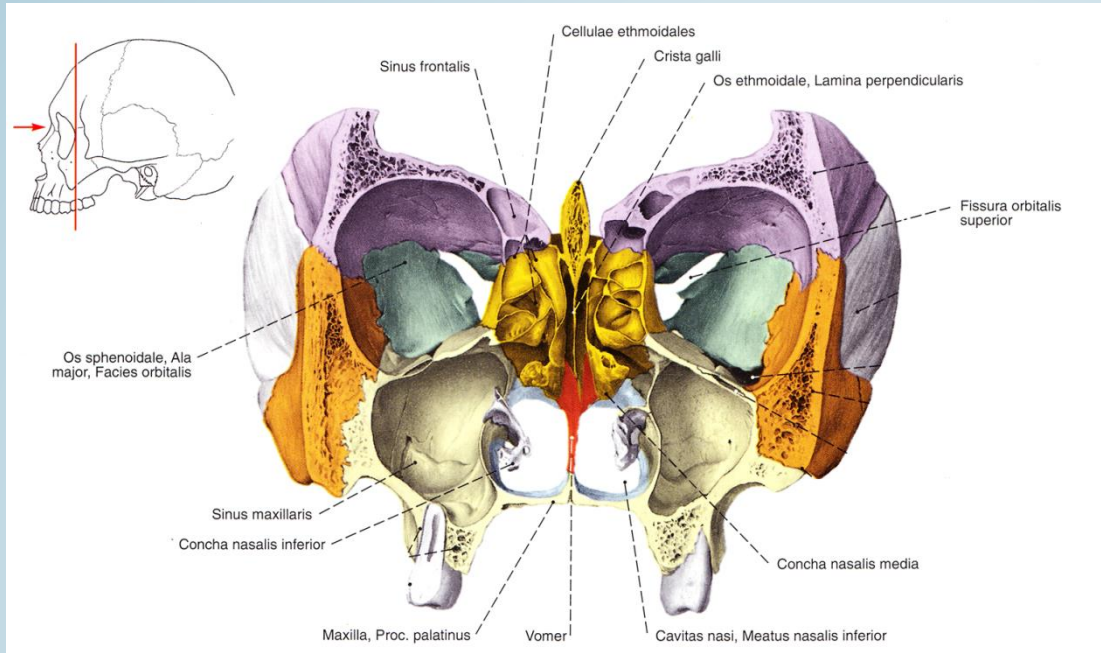


Sobotta

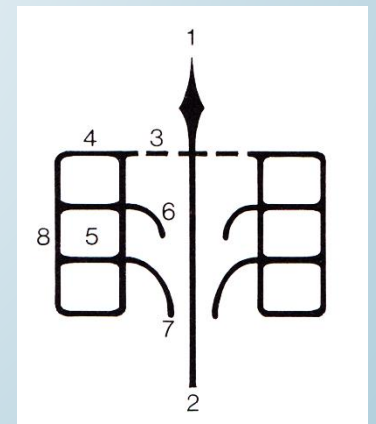


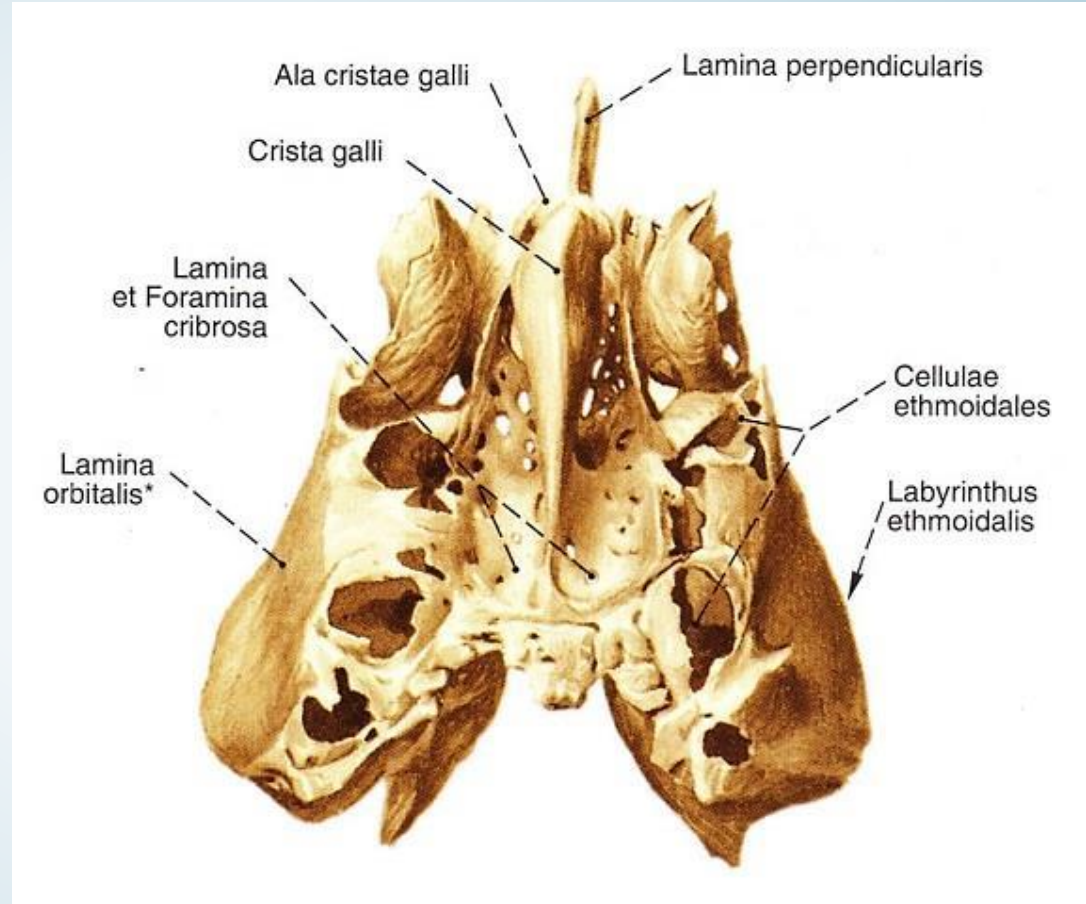
Braus

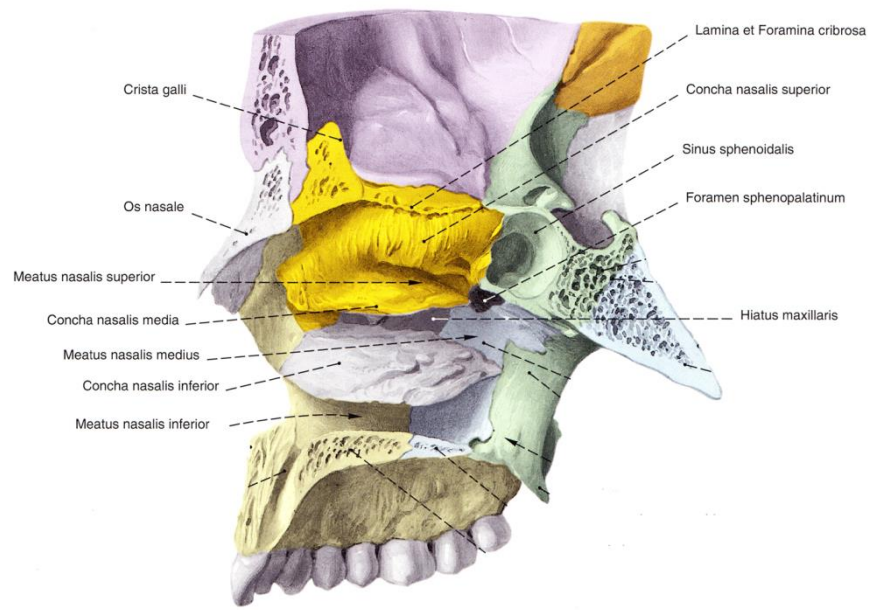




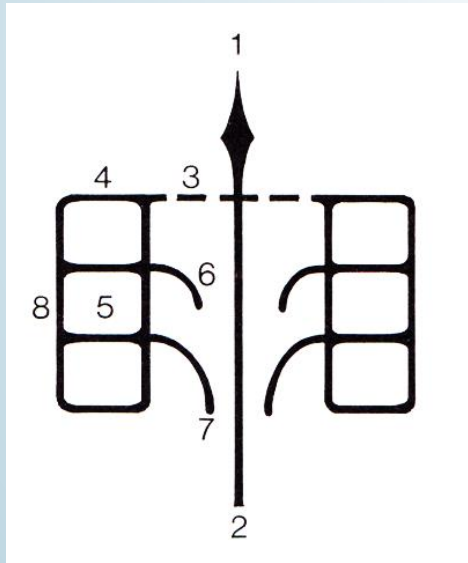
- 1 crista galli
- 2 perpendicularis plate
- 3 cribriform plate
- 4 ethmoidal labyrinth
- 5 ethmoidal cells
- 6 superior nasal concha
- 7 medial nasalis cocha
- 8 orbital lamina / papyracea







Sobotta

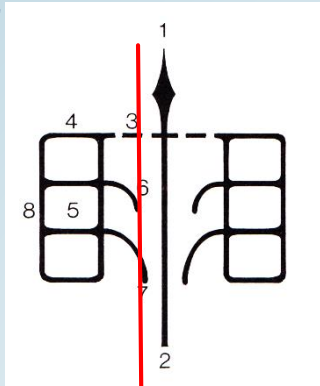


Faller



6 superior nasal concha
 7 medial nasal concha

Faller

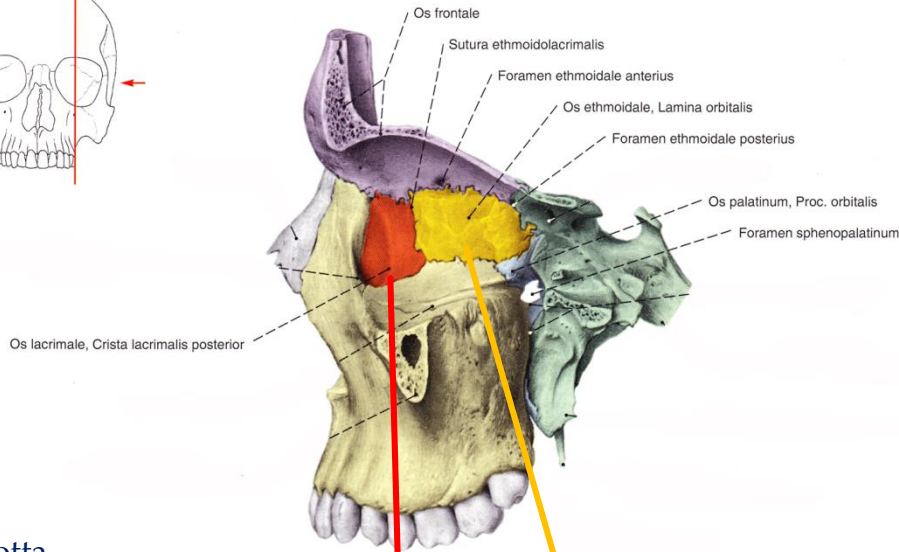
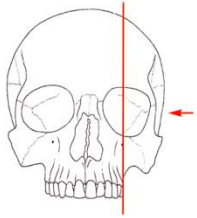


Ethmoidal cells: altogether approx. 30 (= ethmoidal labyrinth)

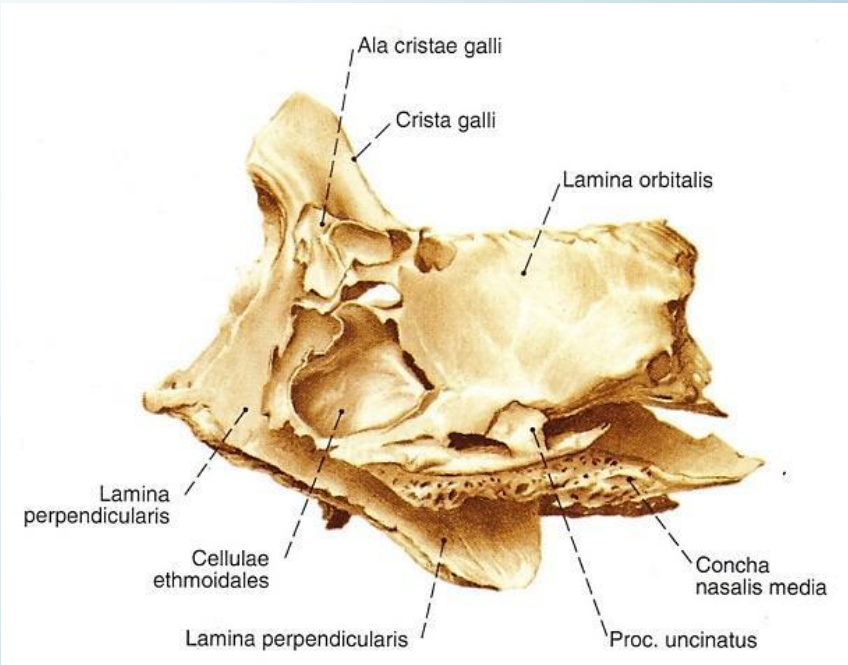
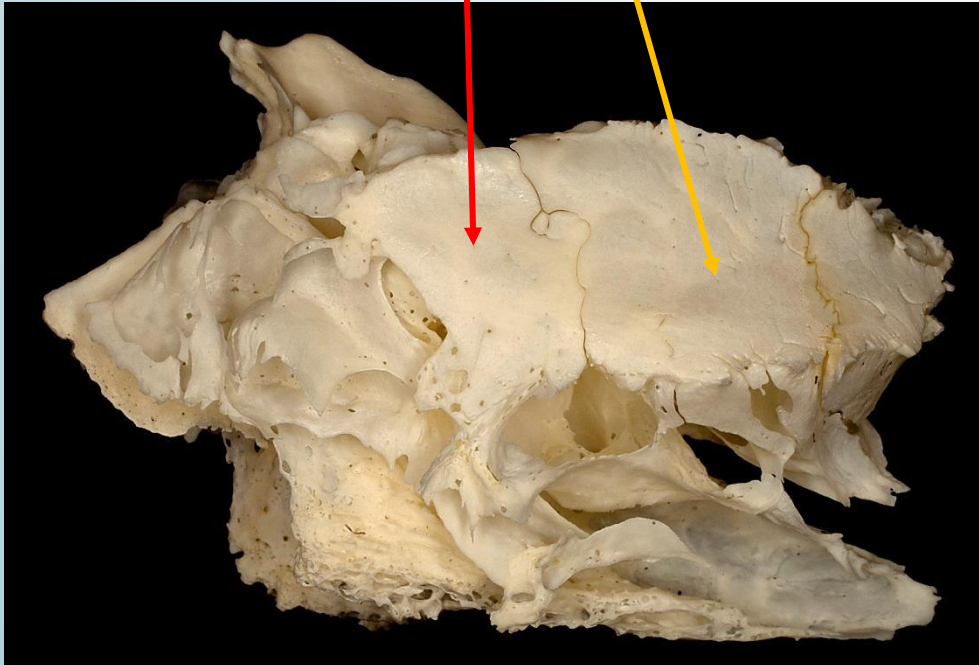
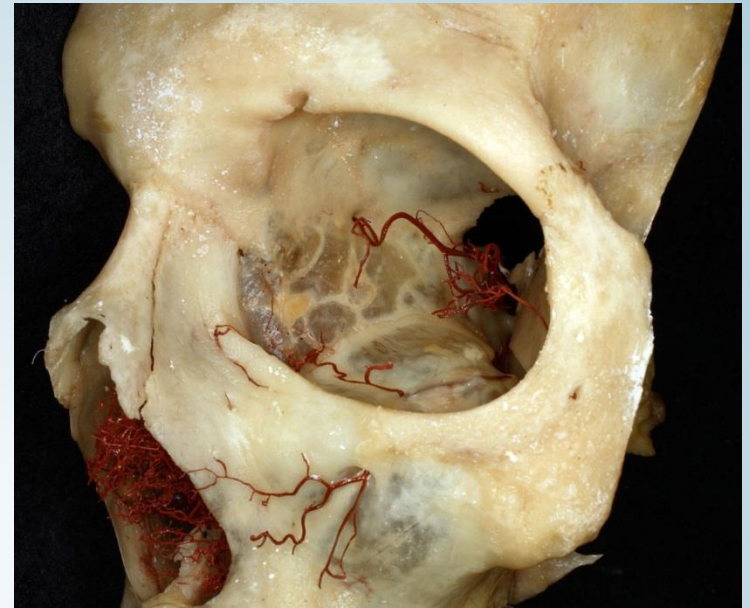
- one of the paranasal sinuses
- border between the orbit and the nasal cavity

Inflammation: possible complications in the orbit through the thin lamina papyracea



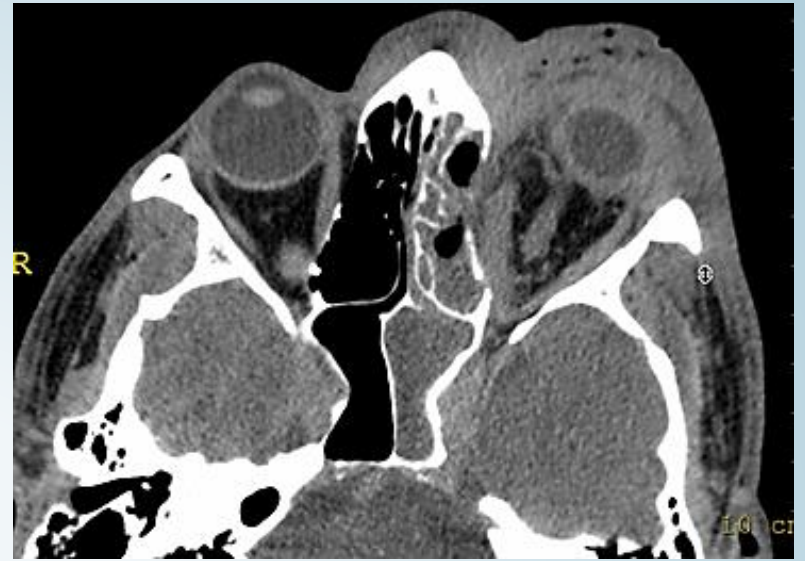
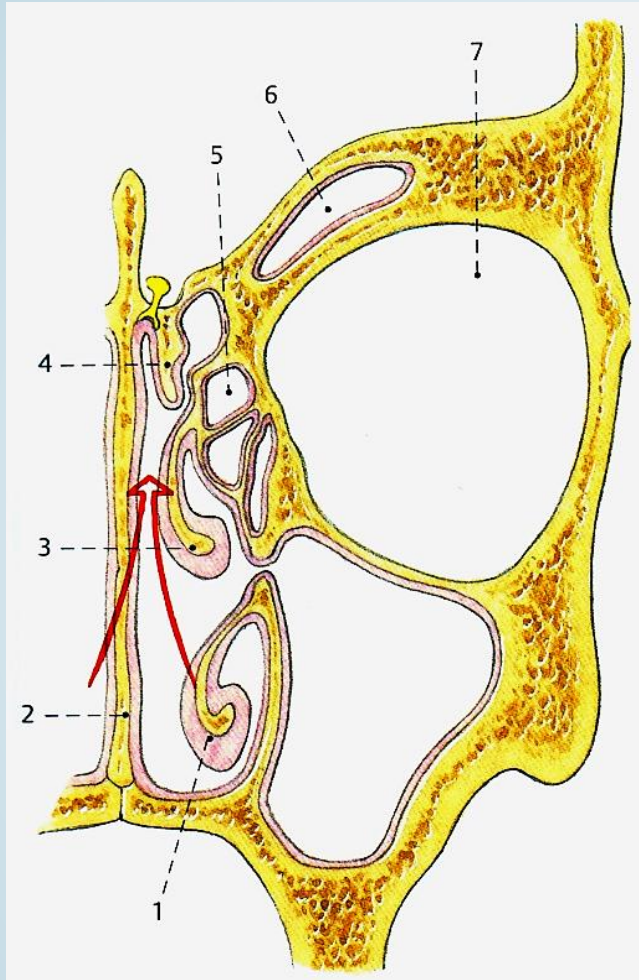


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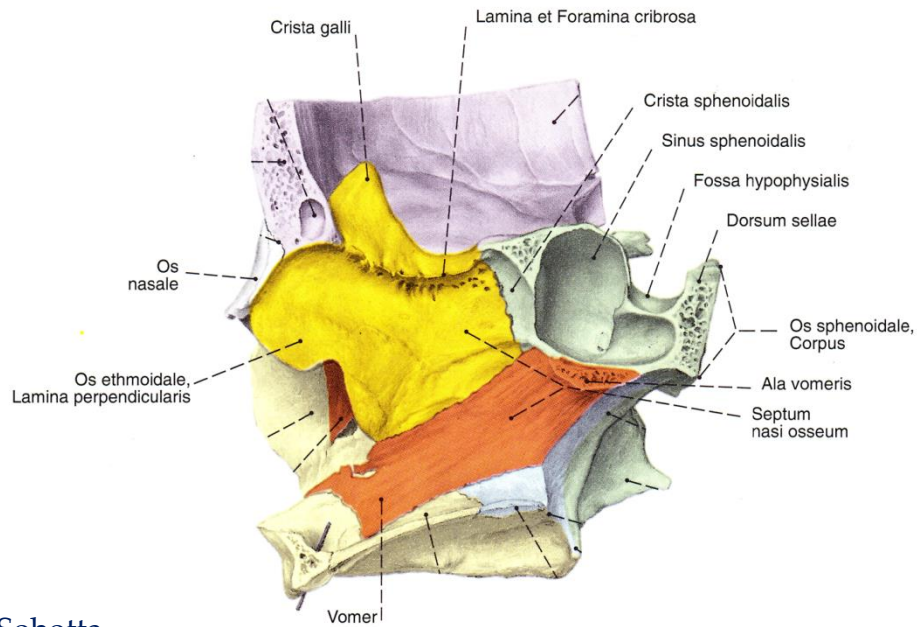
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Thumfart

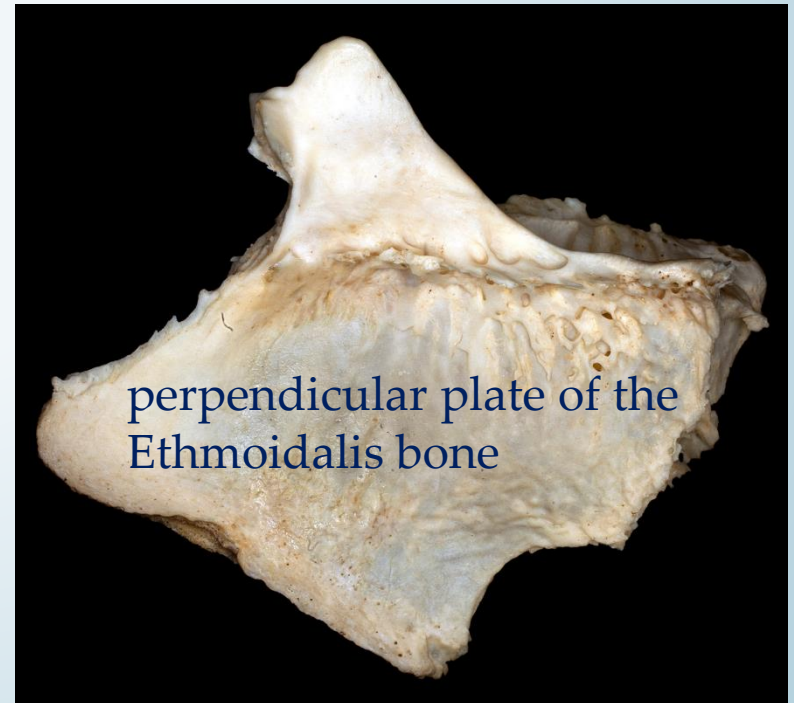
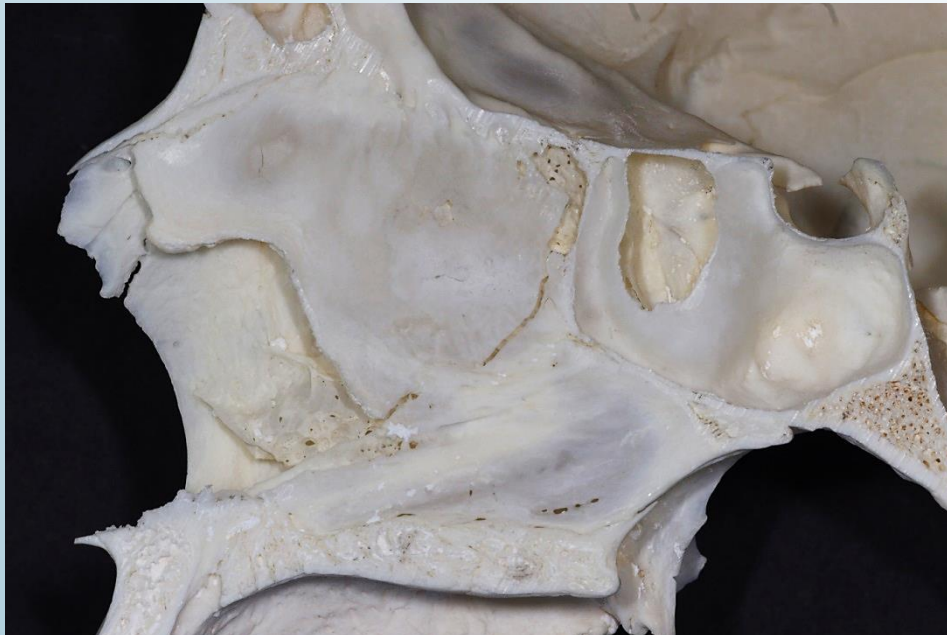


aus der Vorlesung von Hrn. Dr. Magyar Péter





Sobotta



Literature

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Faller: Anatomie in Stichworten: Ein Arbeitsbuch für Medizinstudenten und praktische Ärzte (Ferdinand Enke Verlag 1988.)

Sobotta: Az ember anatómiájának atlasza (Urban & Fischer 2000.)

Thumfart: Operative Zugangswege in der HNO-Heilkunde (Thieme 1998.)