

Lebka
(cranium)

I. Neurocranium (pouzdro kolem mozku a smyslových orgánů)

II. Splanchnocranium (obklopuje začátek trávicí a dýchací soustavy)

Hranice – od stropu očníce po zevní zvukovod

Neurocranium (Calvarium a basis cranii)

os frontale – čelní kost

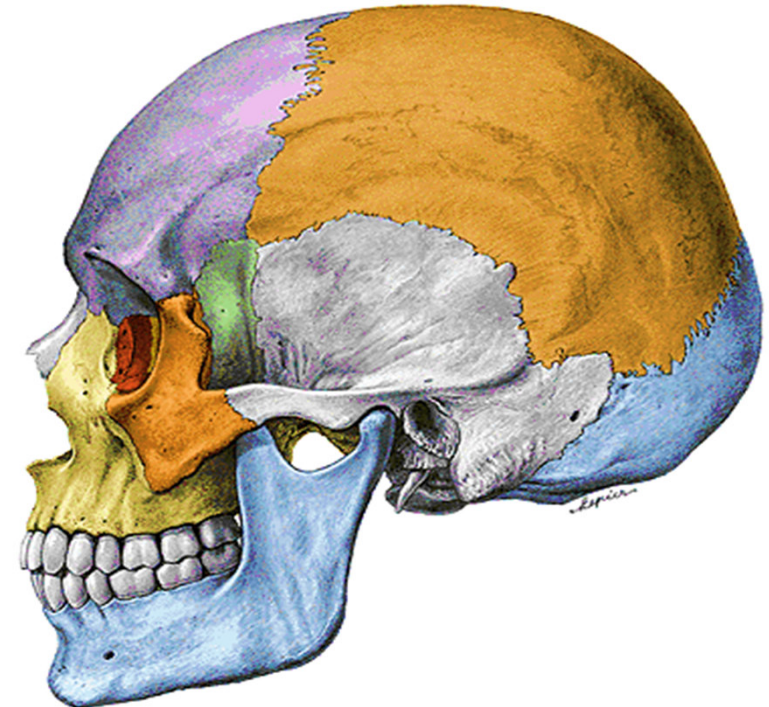
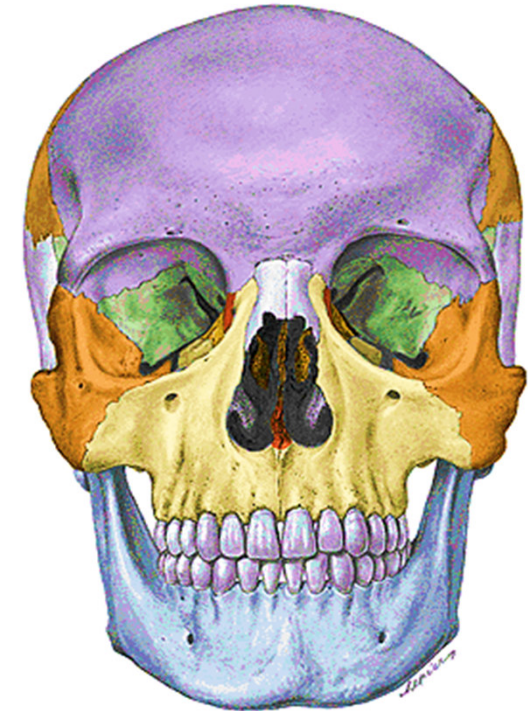
ossa parietalia – temenní kosti

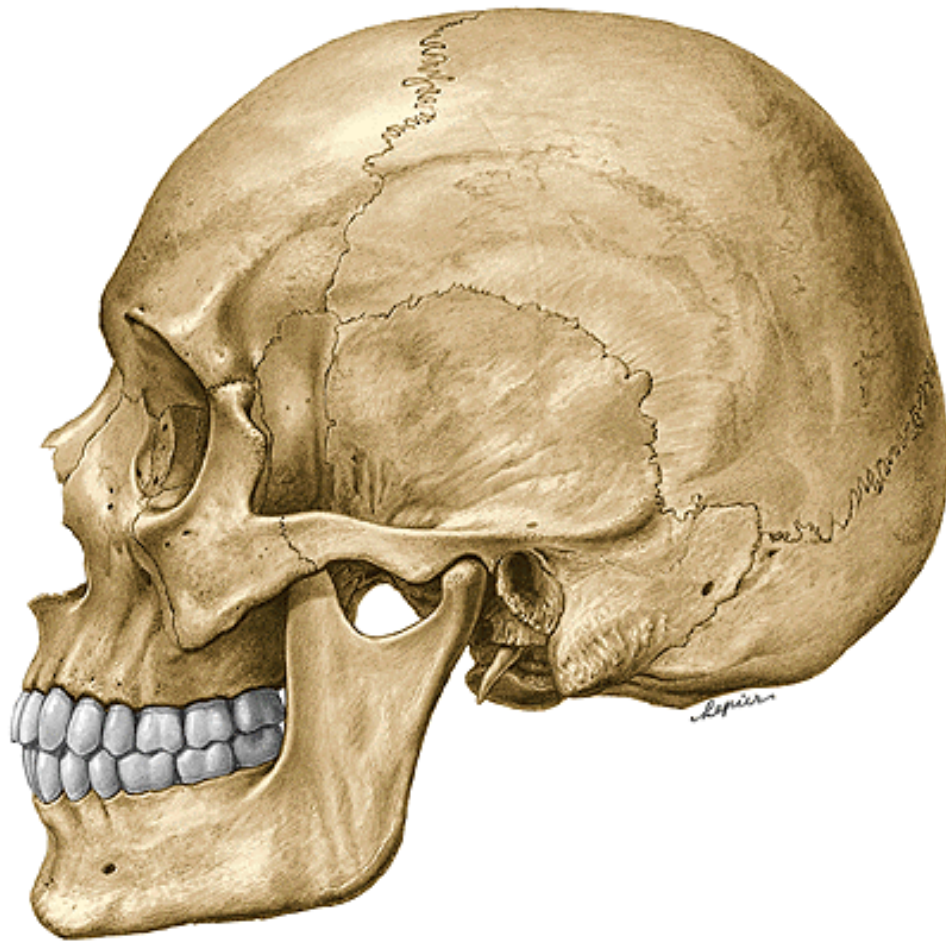
os occipitale – týlní kost

os sphenoidale – klínová kost

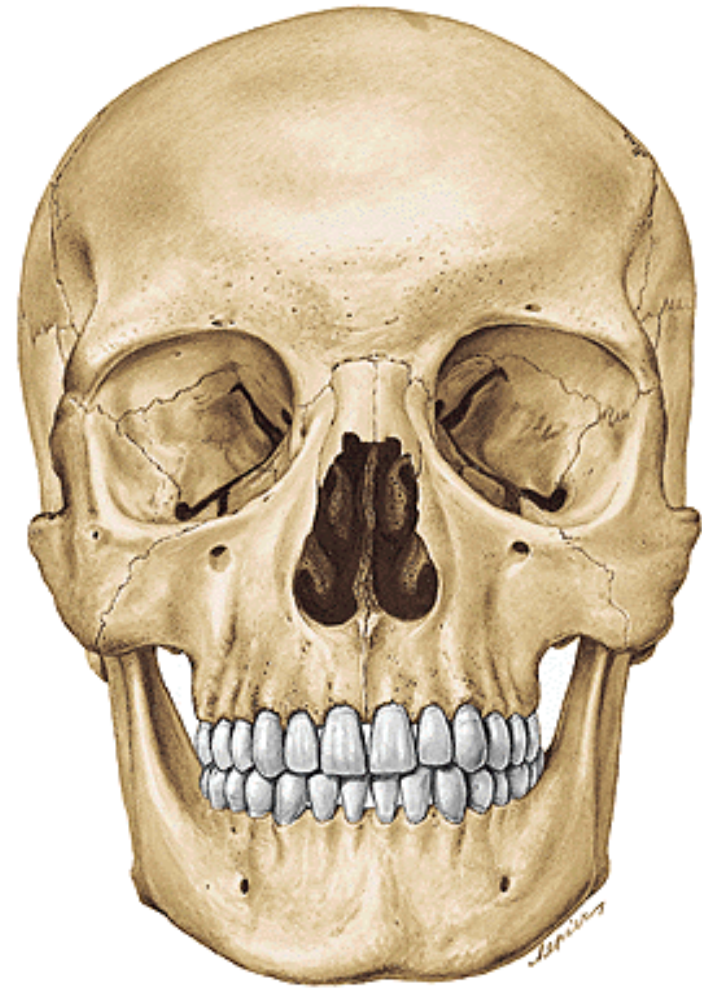
ossa temporalia – spánkové kosti

os ethmoidale – čichová kost





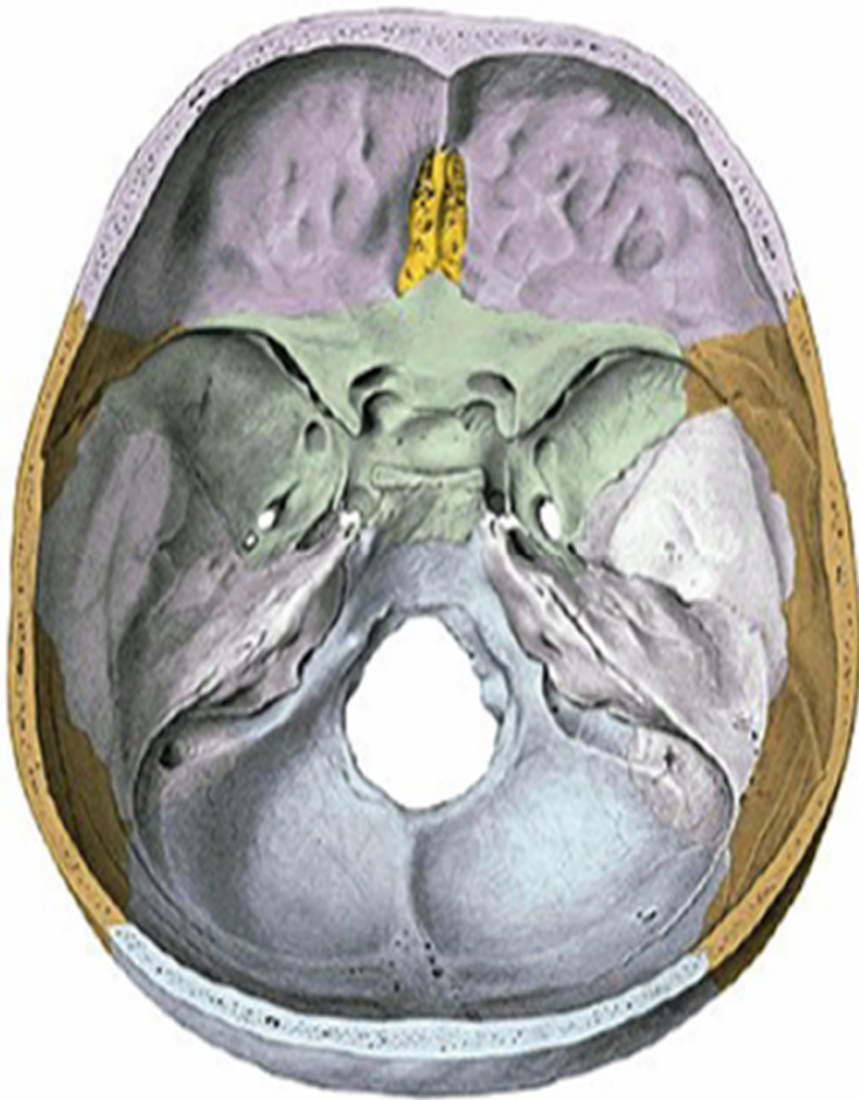
Norma lateralis



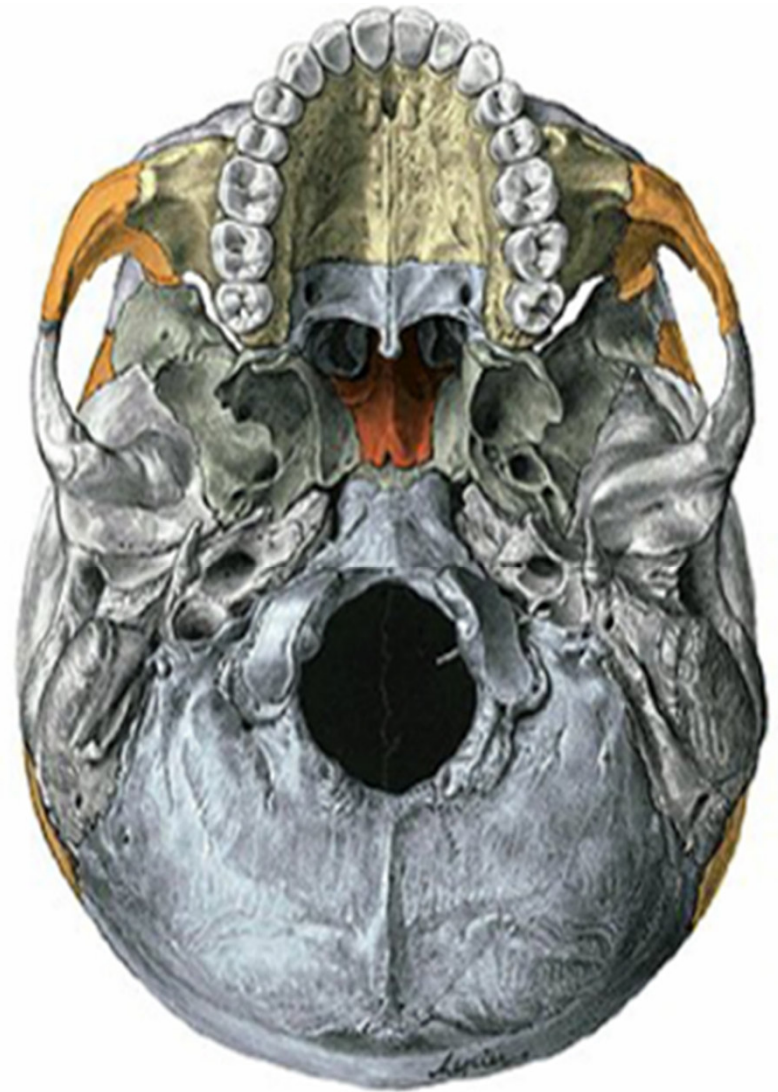
Norma frontalis



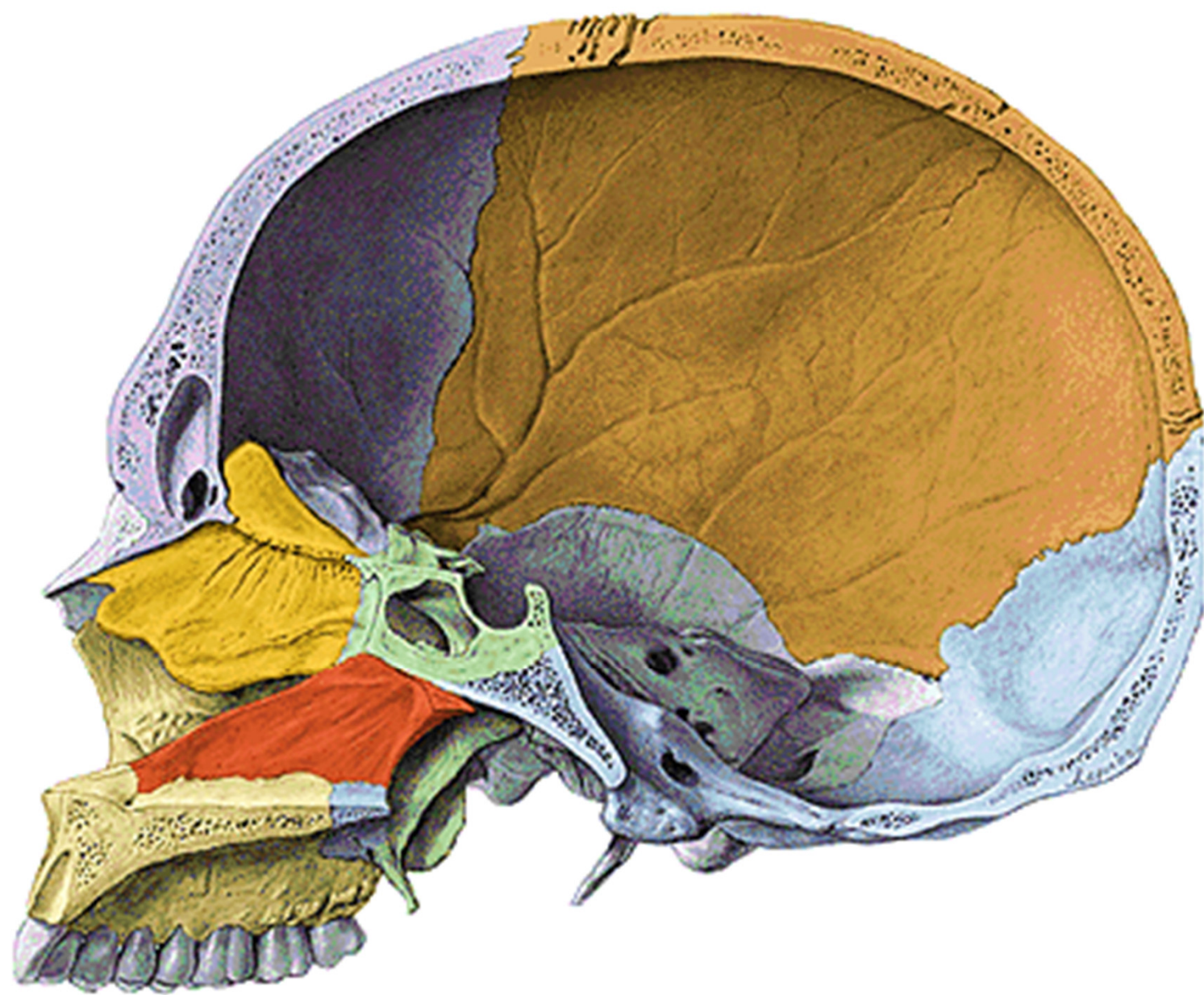
calvarium



Basis cranii interna



Basis cranii externa



Os frontale



Os frontale

Squama frontalis

sutura coronalis

tubera frontalia

margo supraorbitalis

incisura frontalis

incisura supraorbitalis

arcus superciliaris

glabella

Pars nasalis

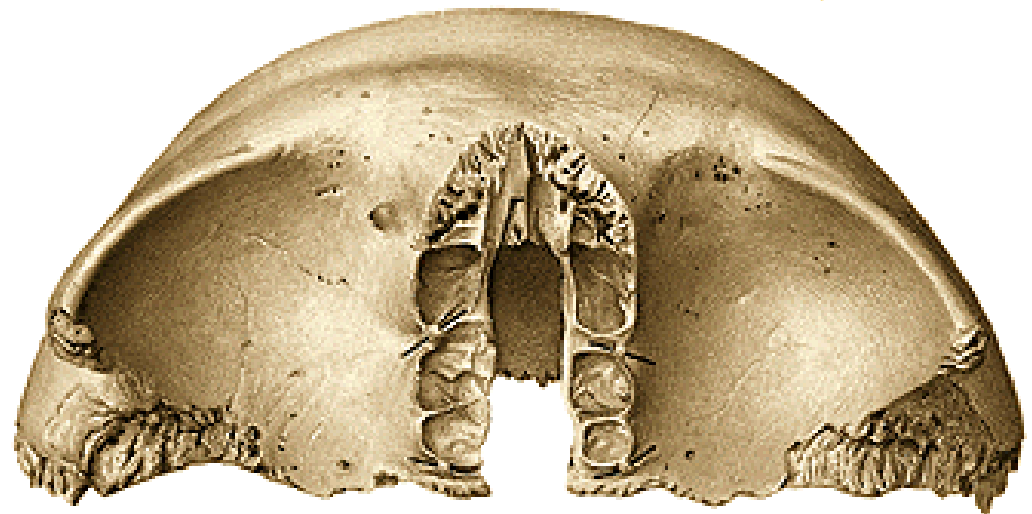
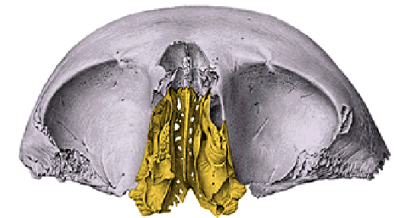
sinus frontalis

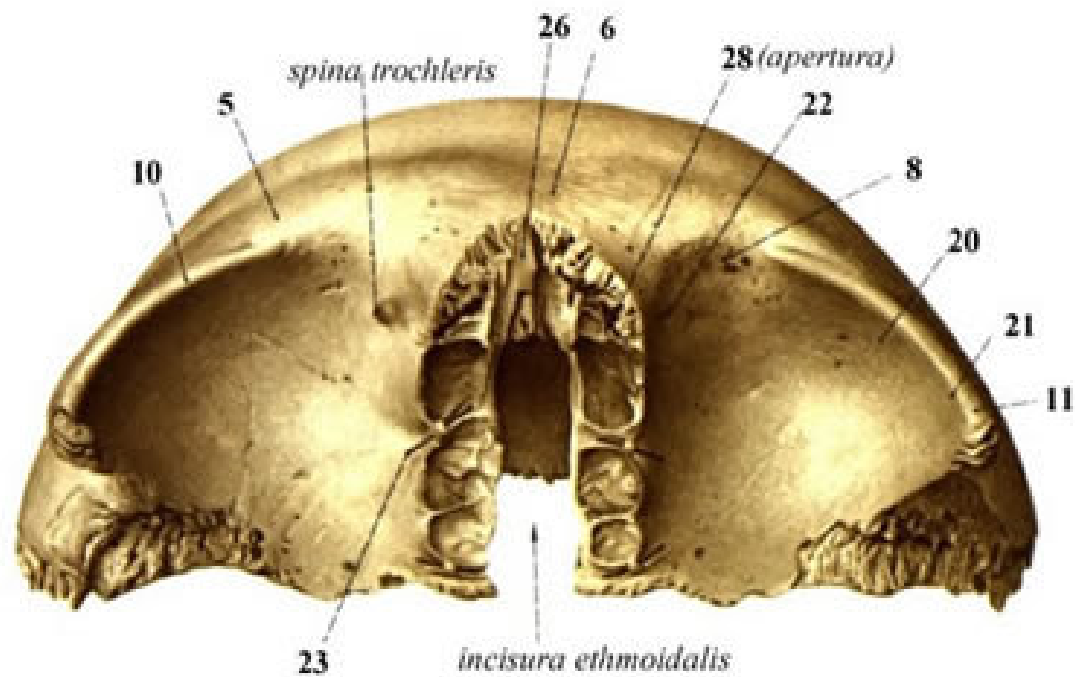
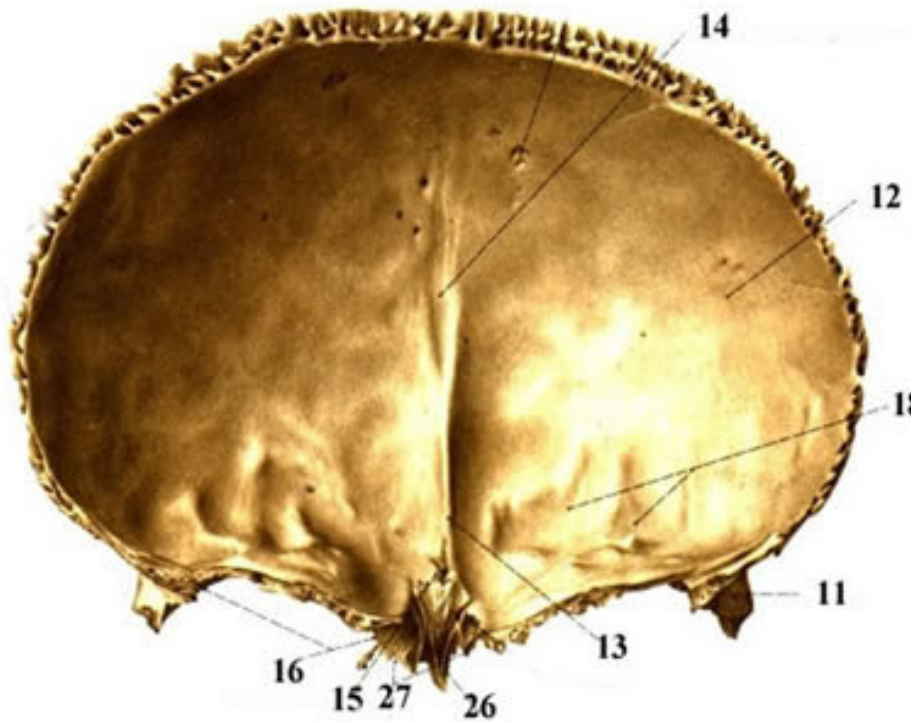
Partes orbitale

fossa glandulae lacrimalis

foramen ethmoidale anterius

et posterius





Os parietale



Ossa parietalia

sutura coronalis

sutura sagittalis

sutura lambdoidea

sutura squamosa

Angulus

frontalis, sphenoidalis, occipitalis,
mastoideus

Exokraniální plocha:

tubera parietalia

linea temporalis superior

linea temporalis inferior

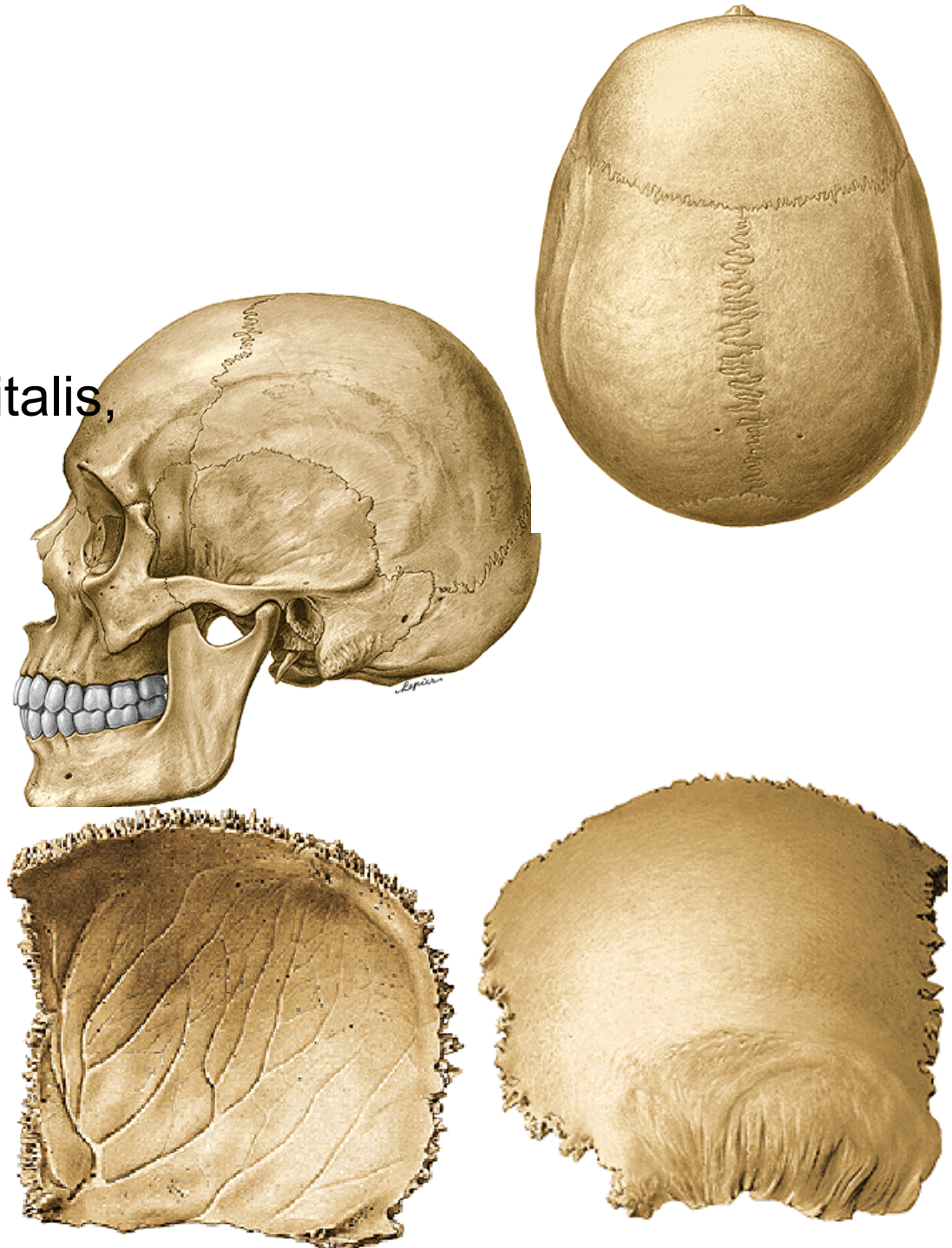
foramen parietale

Endokraniální plocha:

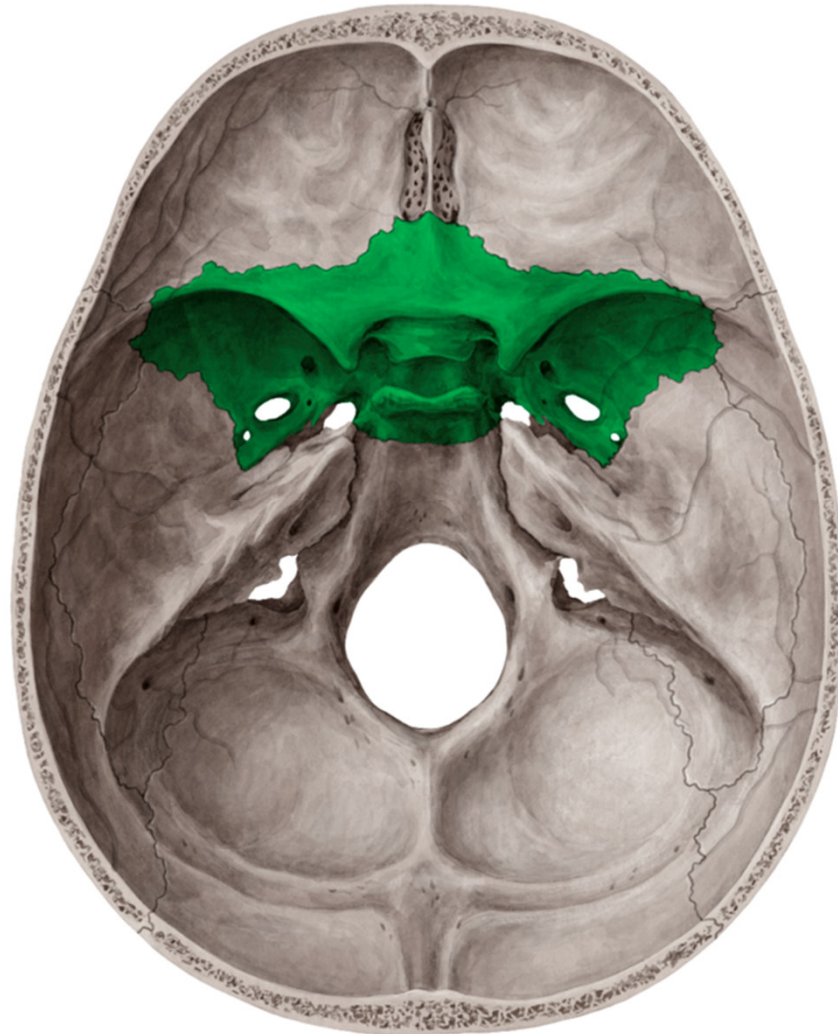
sulcus sinus sag sup

sulci arteriae meningeae

mediae



Os sphenoidale



Os sphenoidale

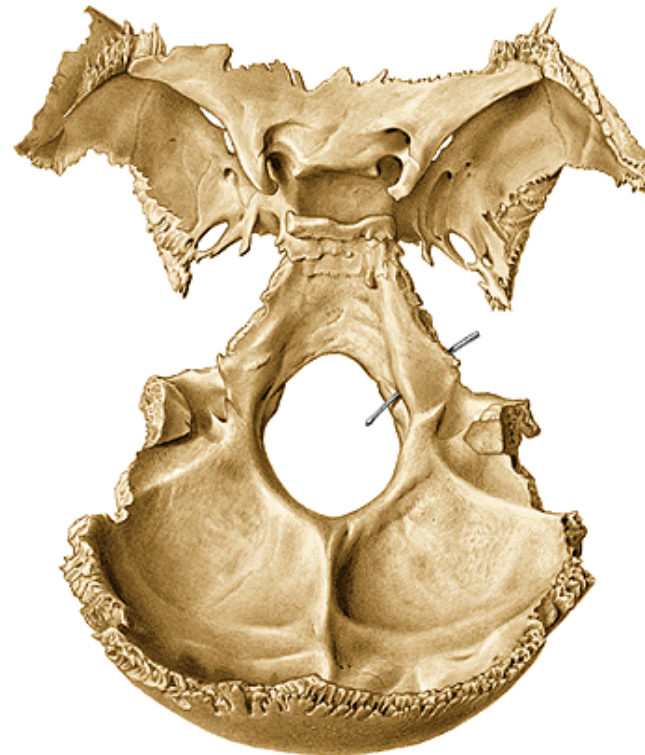
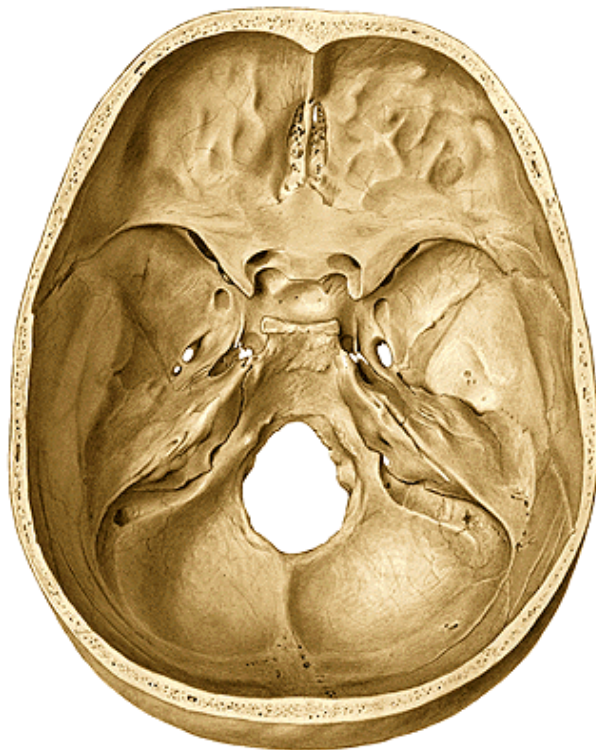


corpus

alae minores (malá křídla)

alae majores (velká křídla)

processus pterygoidei (křídlaté výběžky)



Corpus ossis sphenoidalis

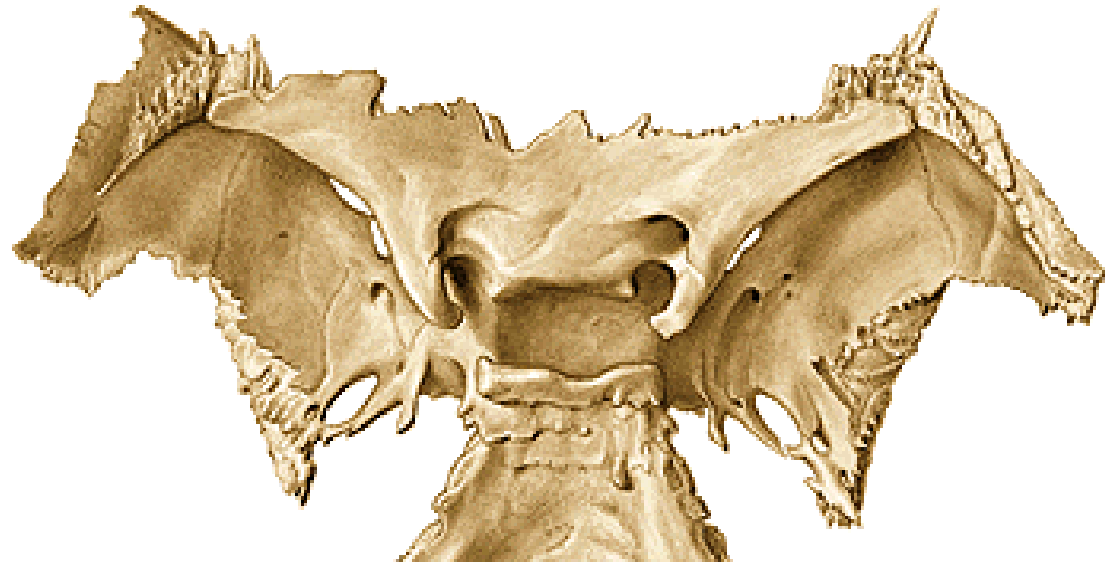
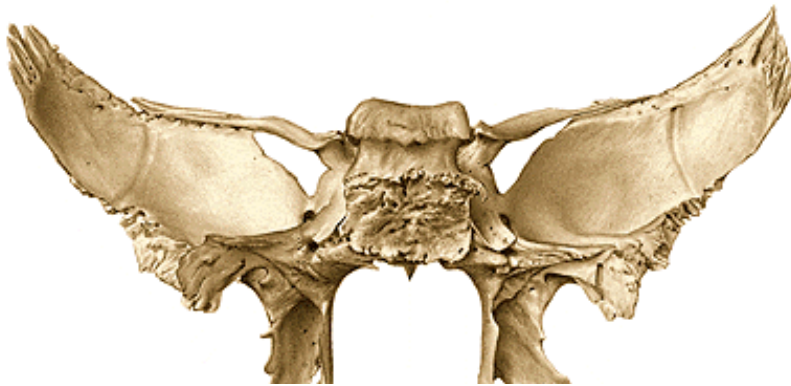
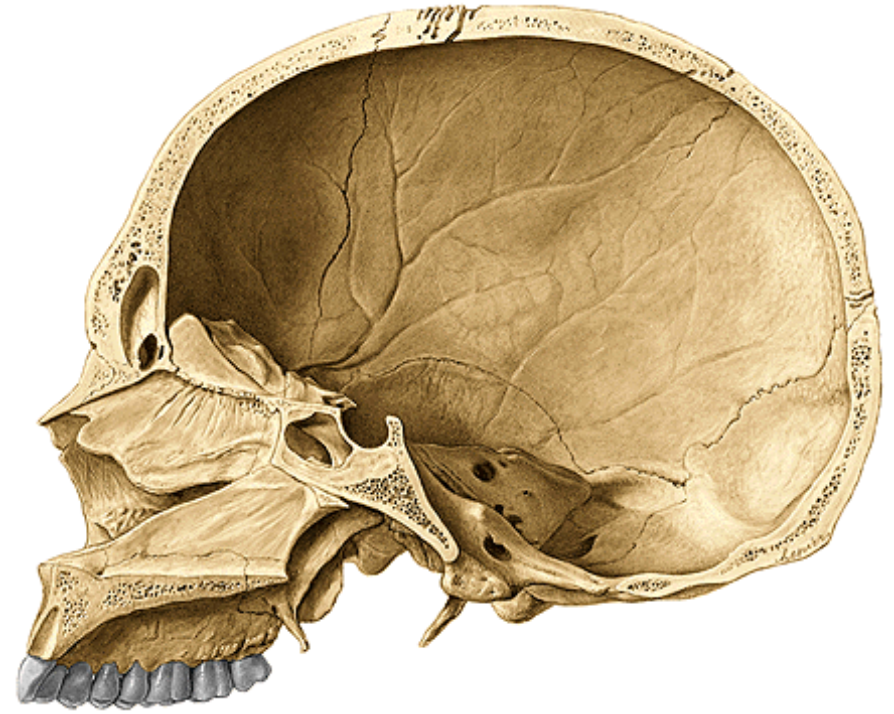
sinus sphenoidalis

sulcus praechiasmaticus

sella turcica- fossa hypophysialis

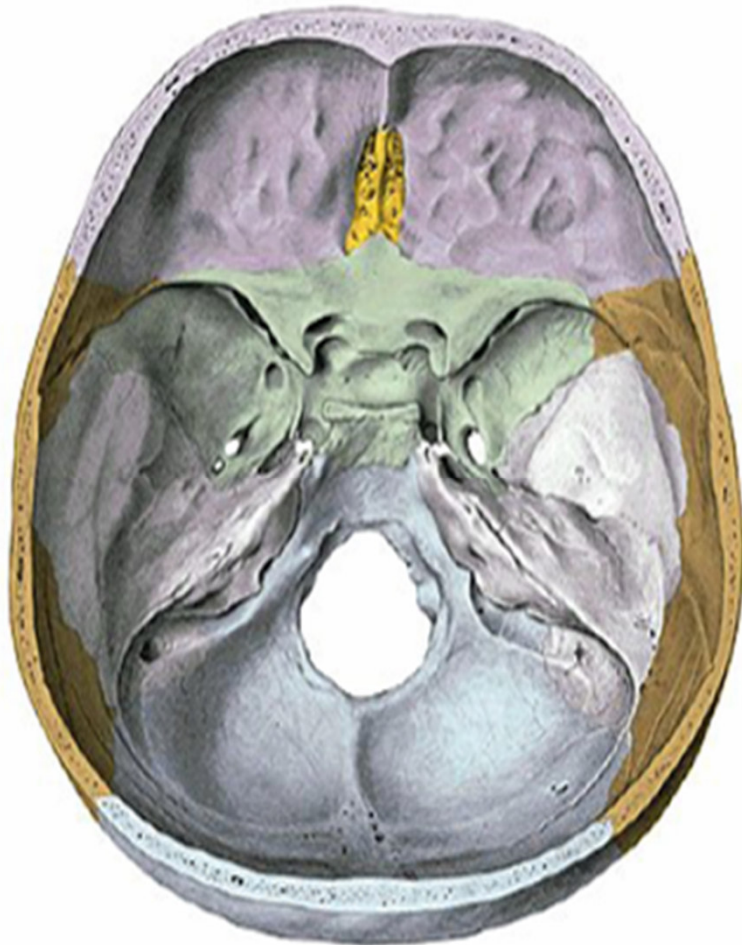
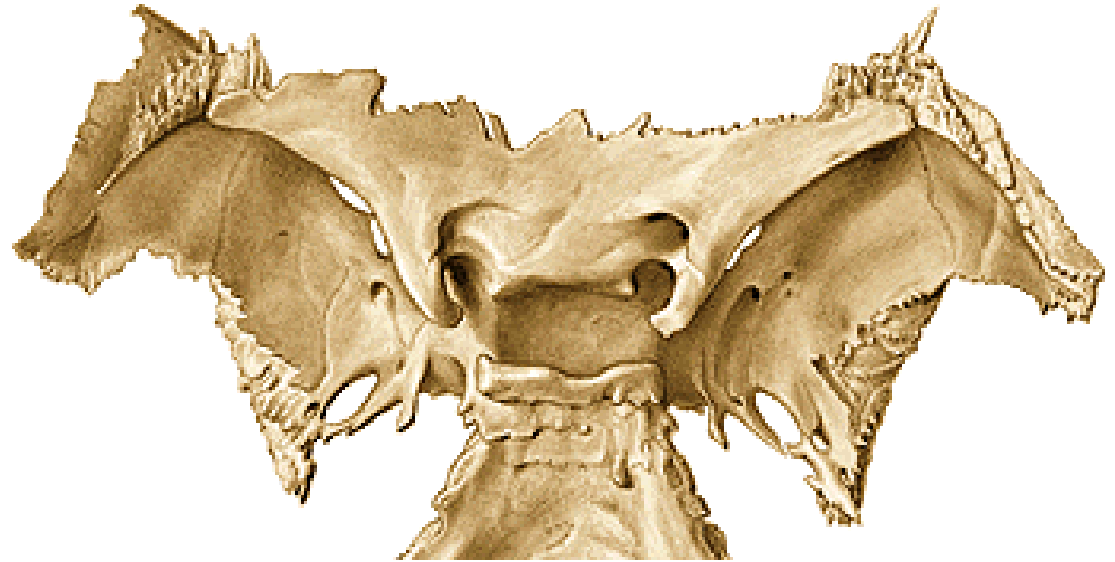
- dorsum sellae

sulcus caroticus



Alae minores

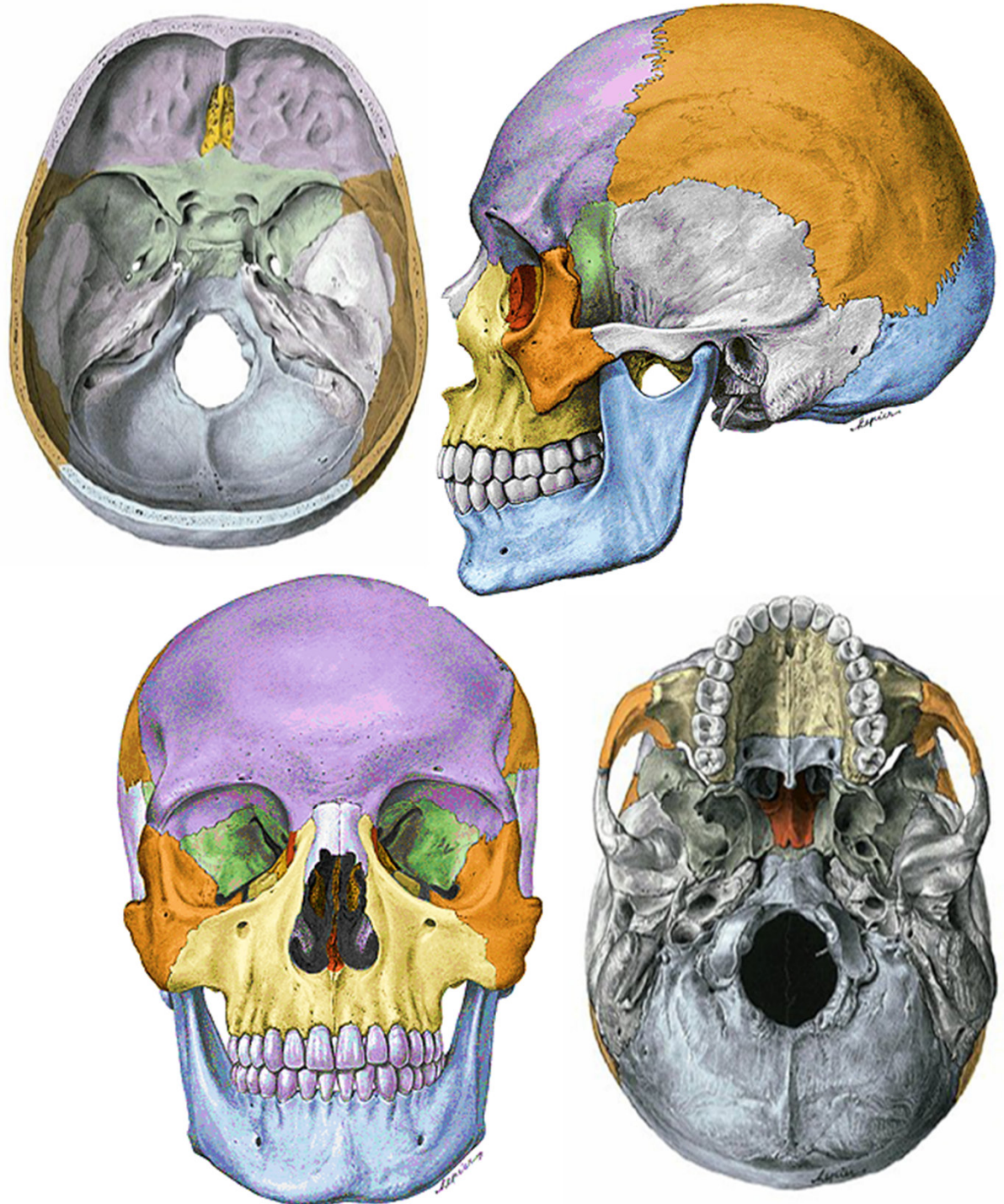
fissura orbitalis superior
canalis opticus
processus clinoidi
anteriores



Alae majores: obrací se
do: střední jámy lební
očnice
spánkové jámy
infratemporální jámy
fossa pterygopalatina

foramen rotundum
foramen ovale
foramen spinosum

fisura orbitalis superior
fisura orbitalis inferior



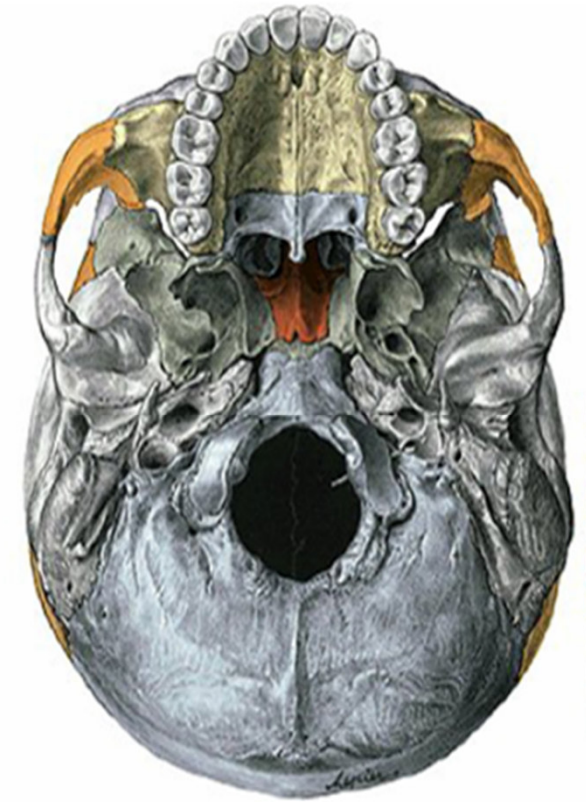
Processus pterygoidei

lamina lateralis

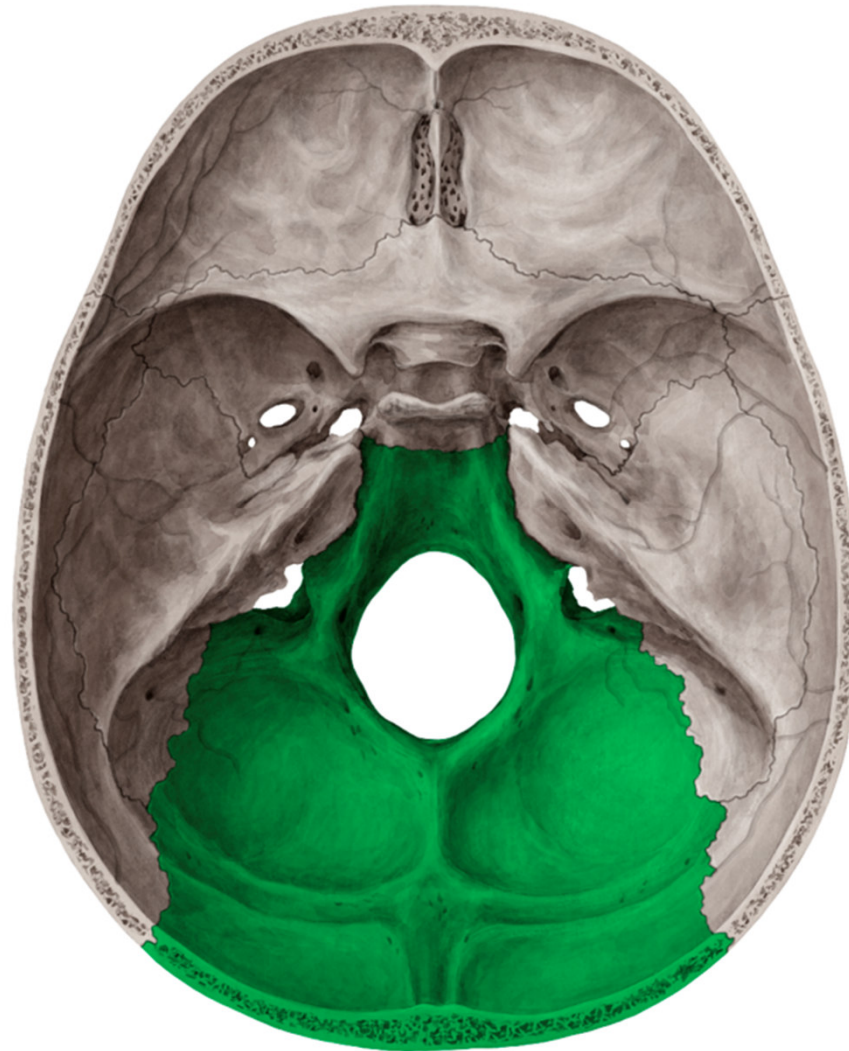
lamina medialis- hamulus

fossa pterygoidea

canalis pterygoideus



Os occipitale



Os occipitale

1. pars basilaris:

clivus

tuberculum pharyngeum

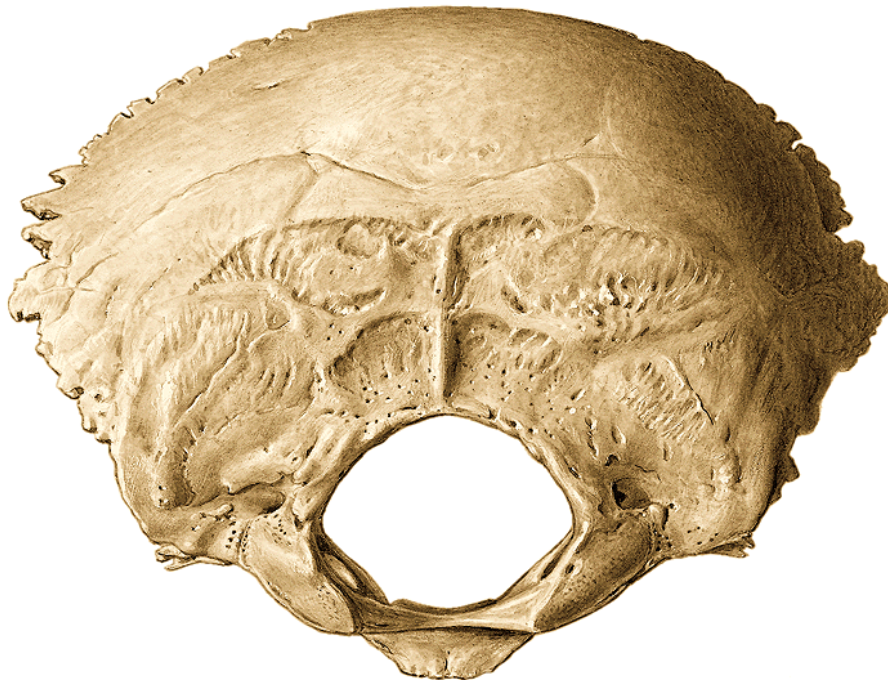
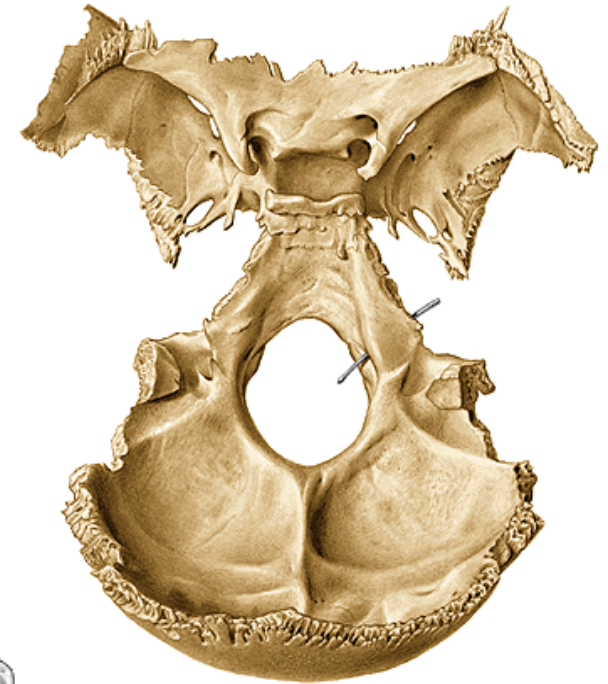
synchondrosis (synostosis) sphenoccipitalis

2. partes laterales:

condyli occipitales

incisura jugularis

canalis (nervi) hypoglossi



3. squama:

exokraniální povrch:

protuberantia occipitalis externa

crista occipitalis externa

linea nuchae suprema

linea nuchae superior

linea nuchae inferior

endokraniální povrch:

eminentia cruciformis

crista occipitalis interna

sulcus sinus sagitalis superioris

sulcus sinus transversi

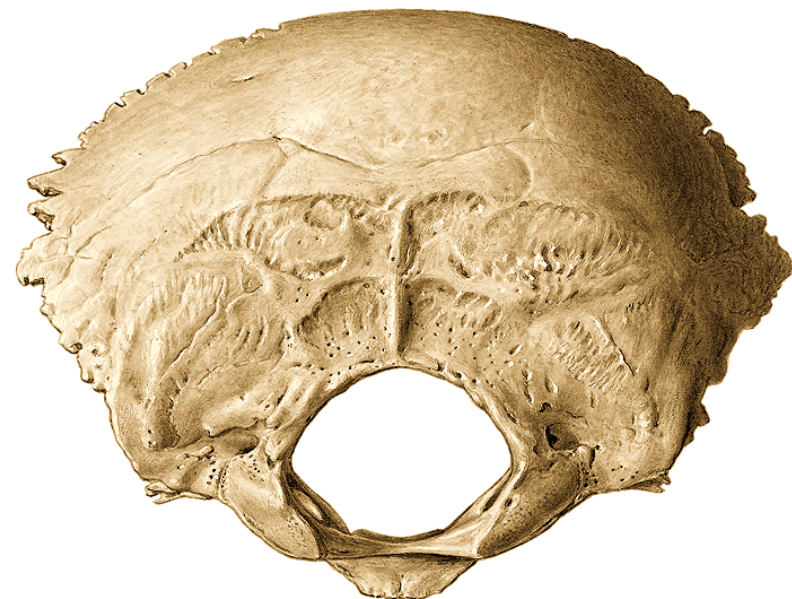
protuberantia occipitalis interna

sulcus sinus sigmoidei

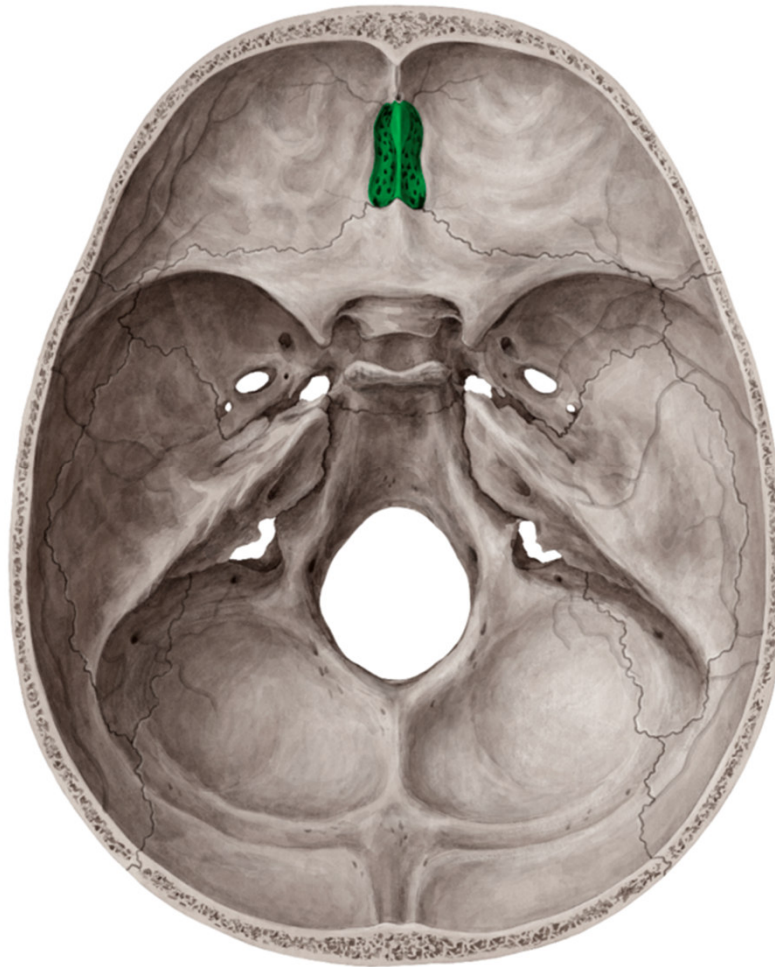
fossae cerebrales

fossae cerebellares

foramen magnum



Os ethmoidale



Os ethmoidale

lamina cribrosa

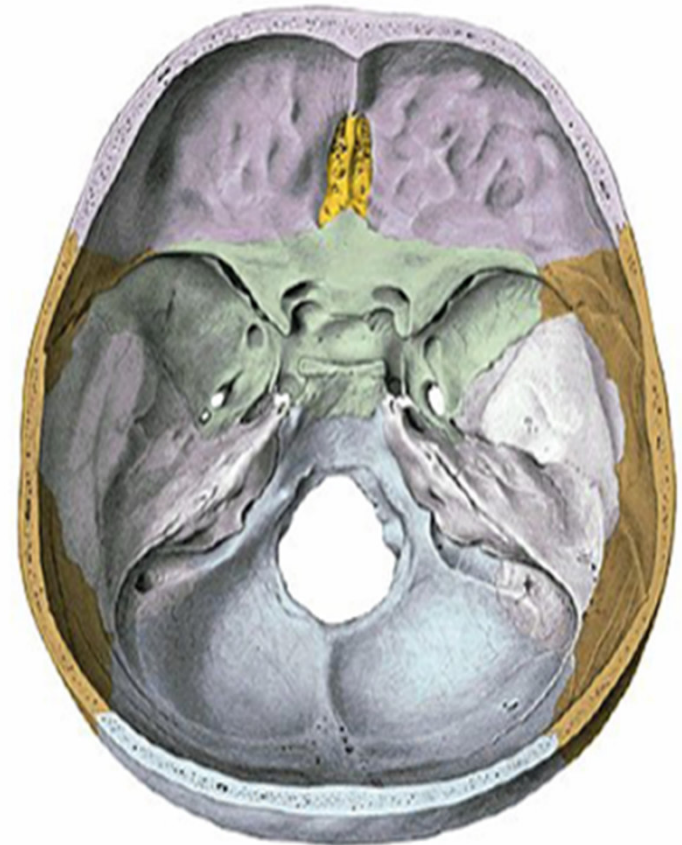
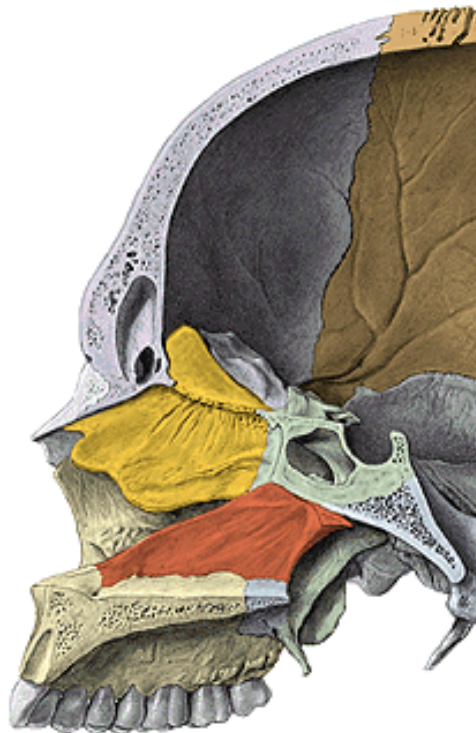
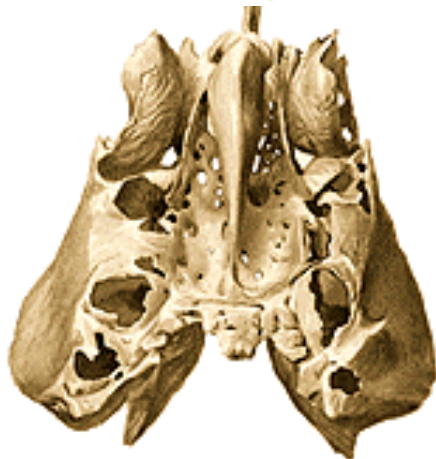
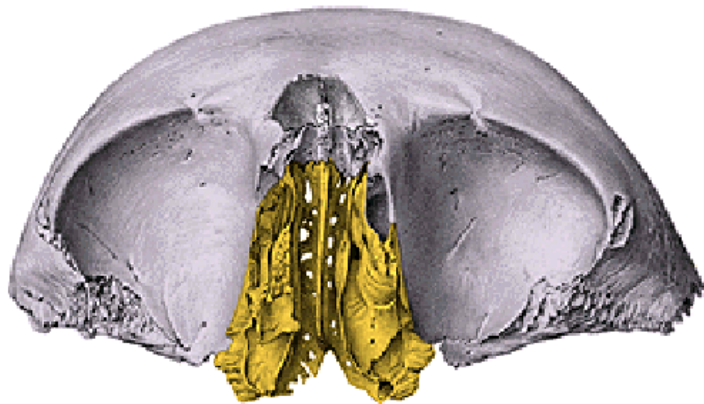
crista galli

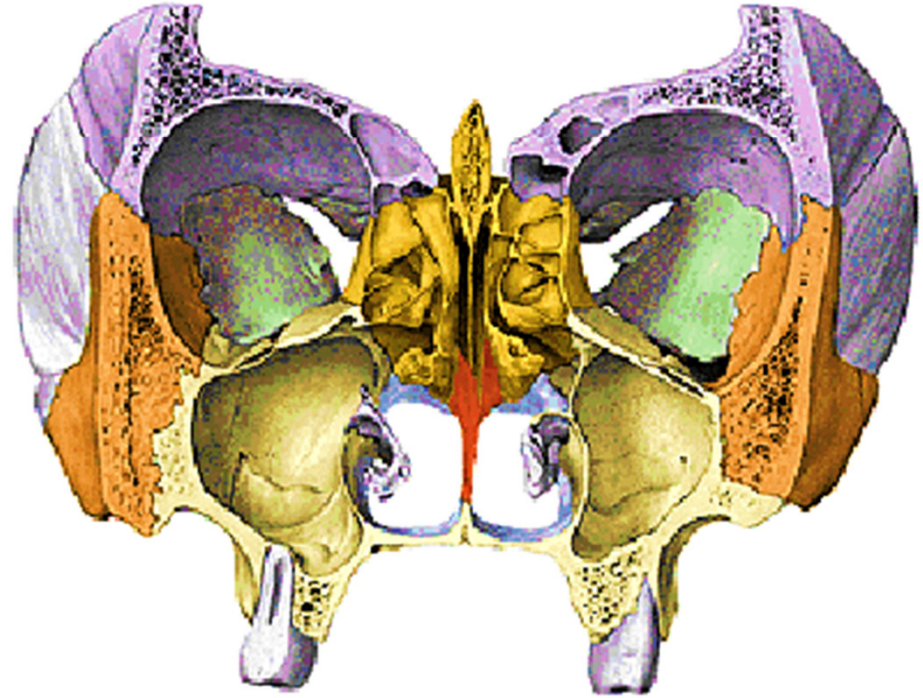
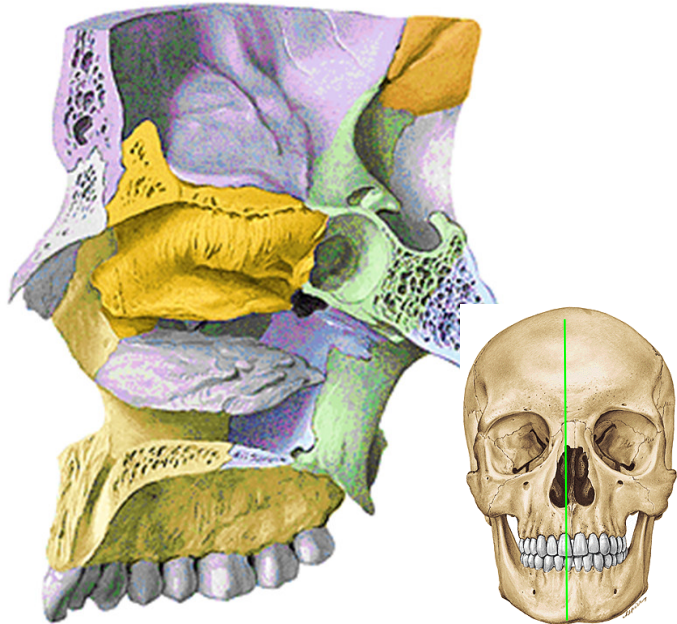
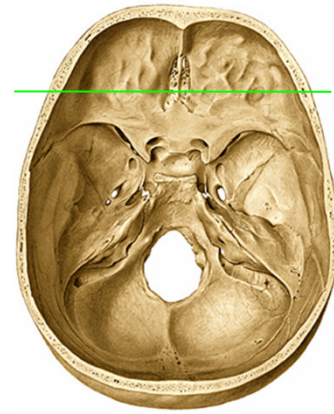
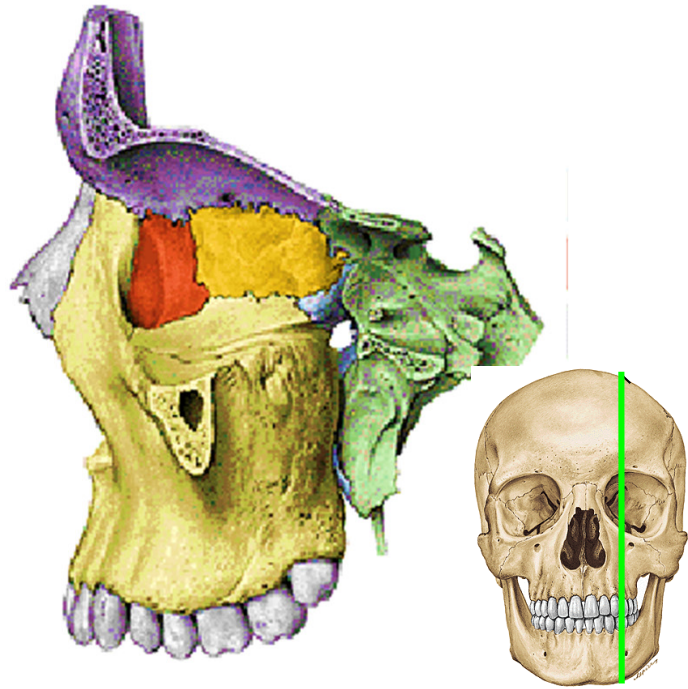
lamina perpendicularis- součást kostního nosního septa

labyrinthi ethmoidales (cellulae ethmoidales)

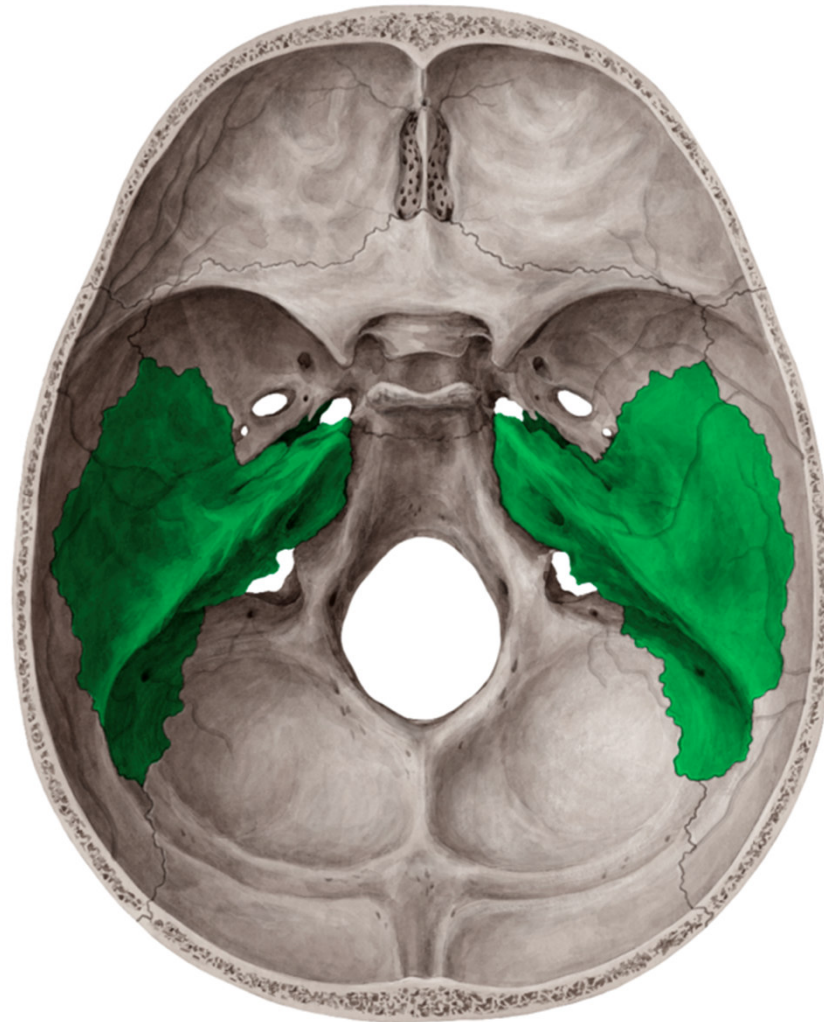
lamina orbitalis (foramen ethmoidale anterius et posterius)

concha nasalis media, superior





Os temporale



Os temporale

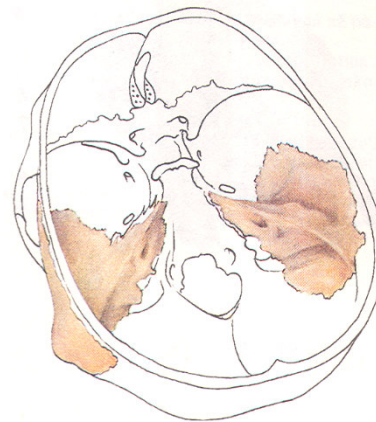
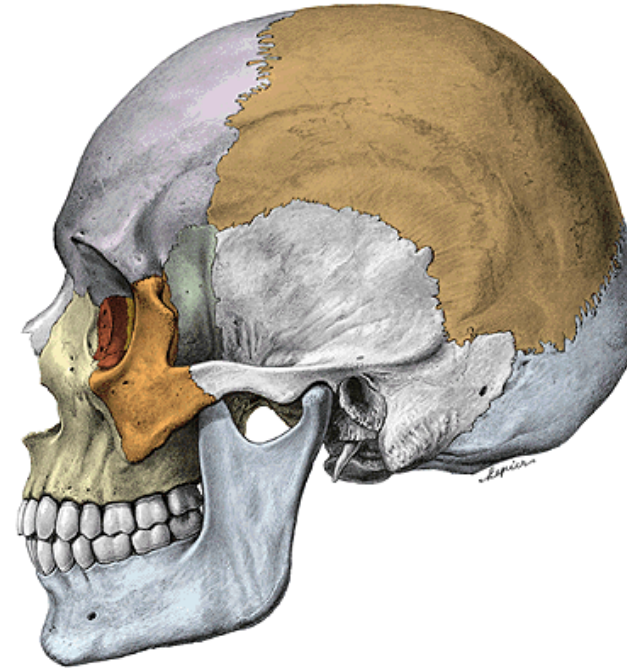
Pars squamosa

Pars petrosa (pyramis)

Pars mastoidea

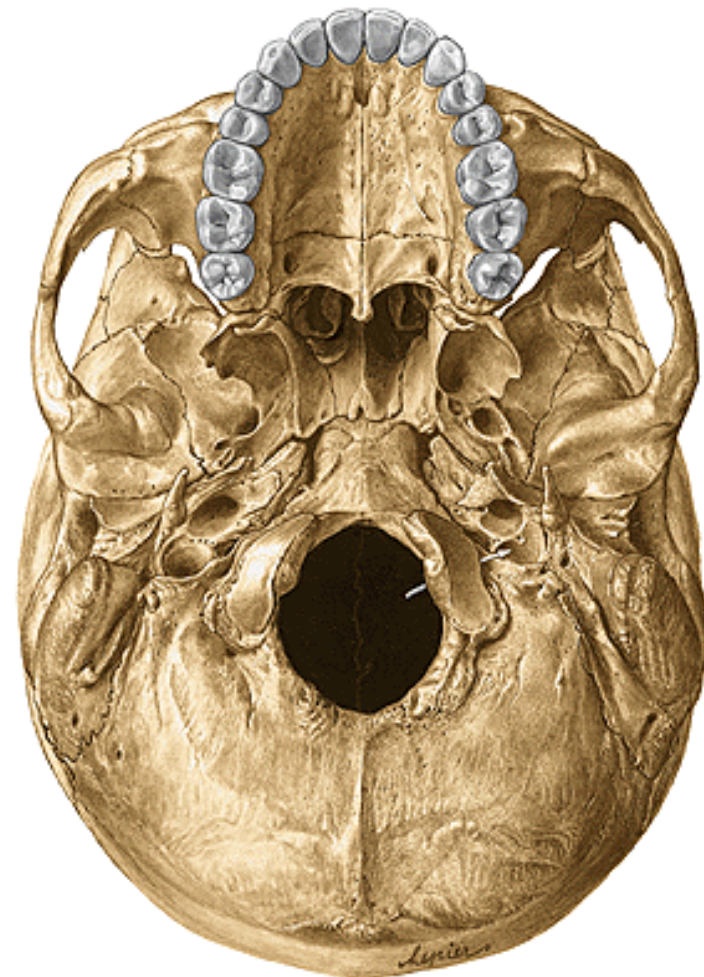
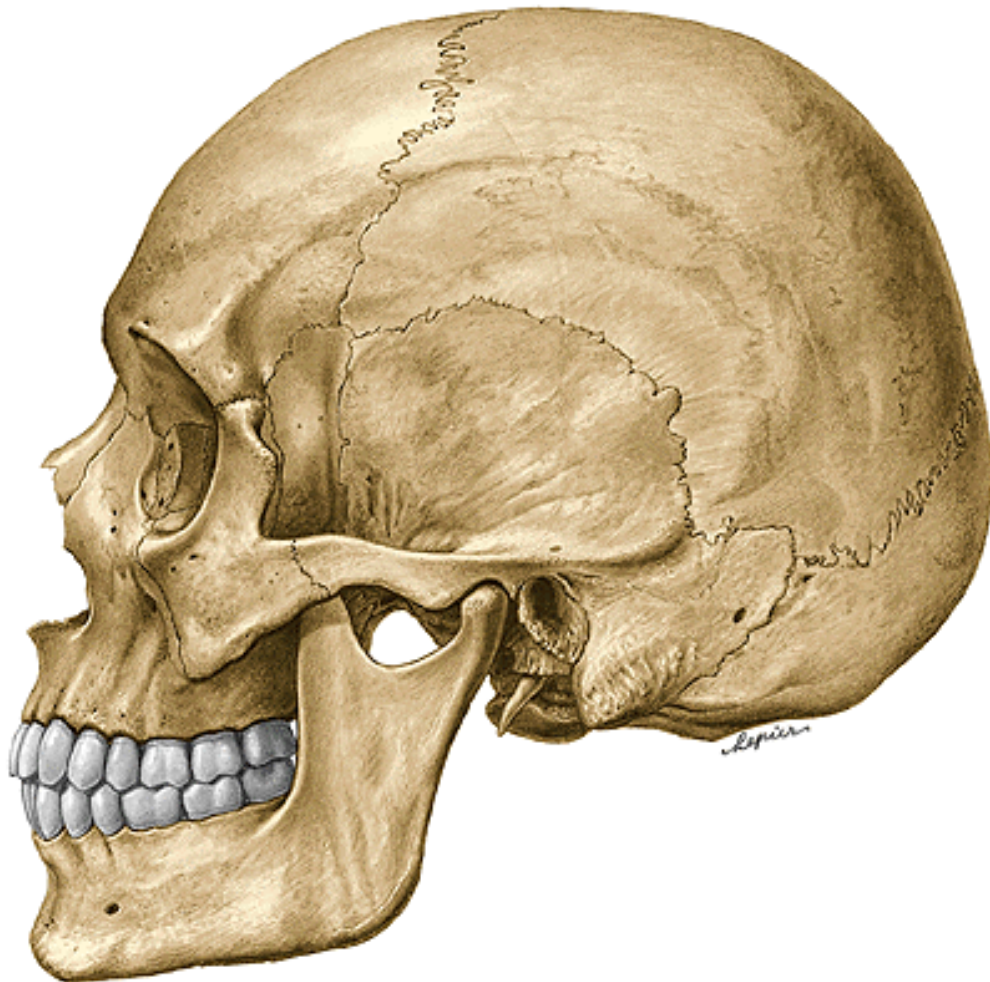
Pars tympanica

Processus styloideus



Pars squamosa:

- processus zygomaticus- arcus zygomaticus
- fossa mandibularis
- tuberculum articulare

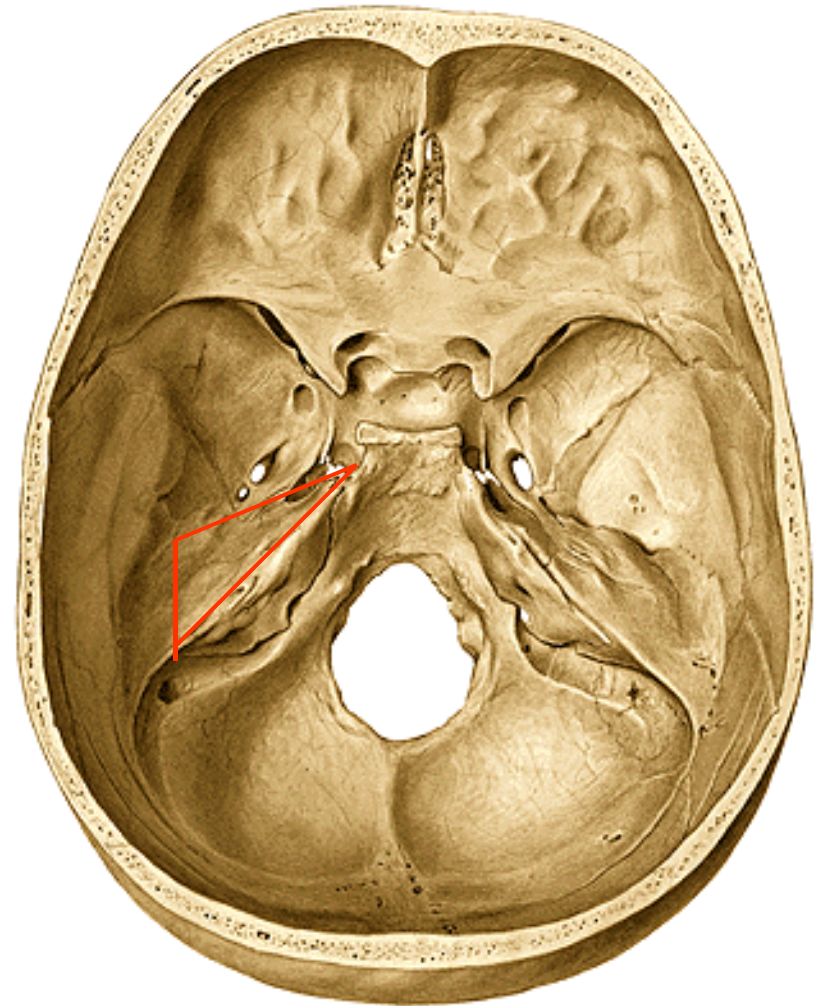


Pars petrosa (pyramis)

facies anterior pyramidis

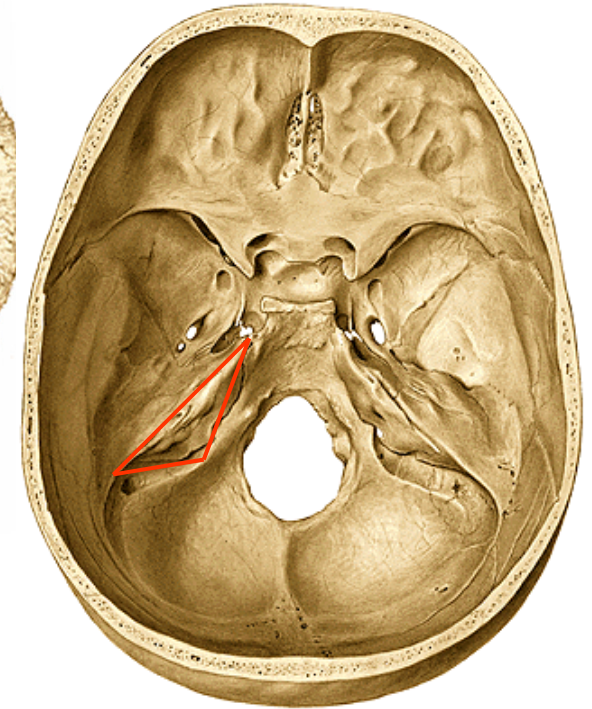
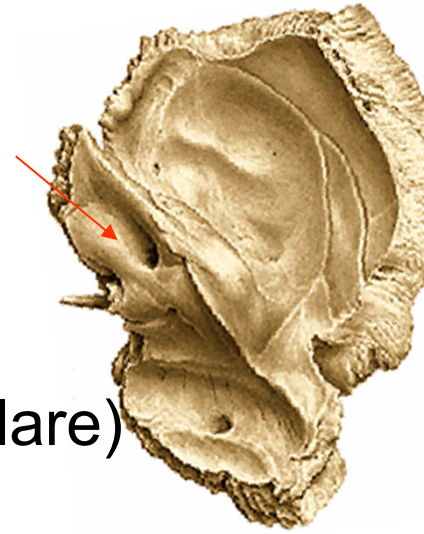
- apex pyramidis
- impressio trigeminalis

- sulcus n. petrosi majoris et minoris



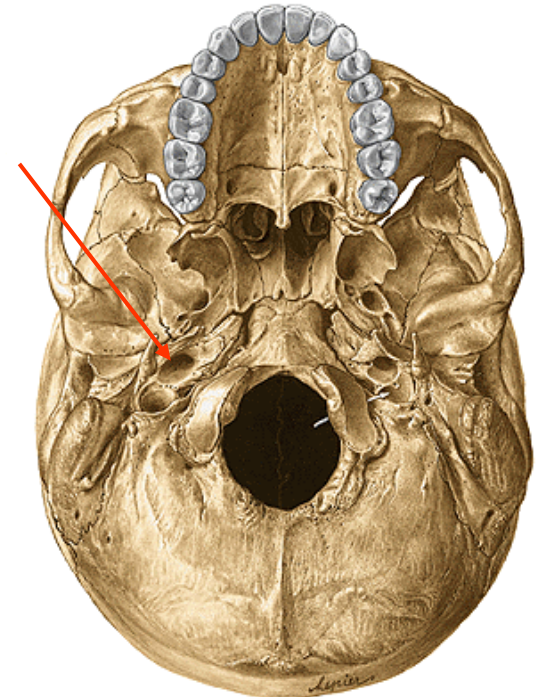
Facies posterior

- porus acusticus internus
- meatus acusticus internus
- vstup pro n. facialis
- incisura jugularis (foramen jugulare)



Facies inferior pyramidis:

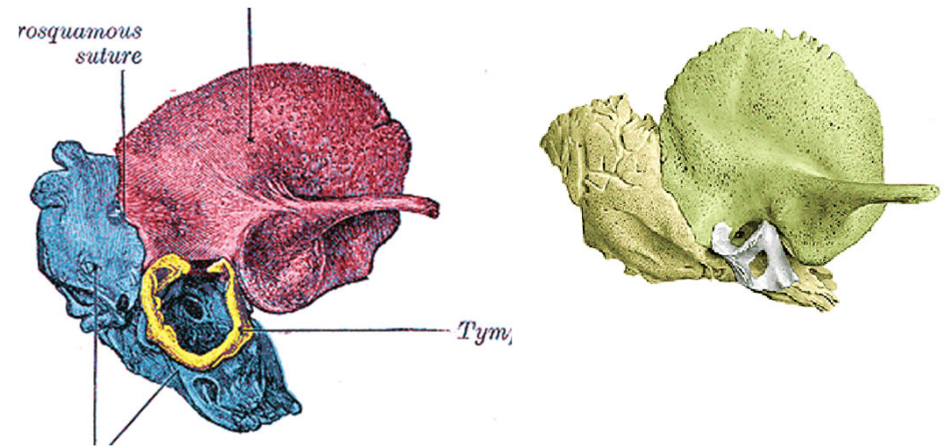
- apertura externa canalis carotici
- foramen jugulare
- canaliculus mastoideus



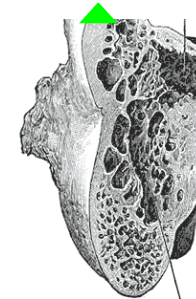
Processus styloideus

- foramen stylomastoideum

Pars tympanica:
meatus acusticus externus
porus acusticus externus



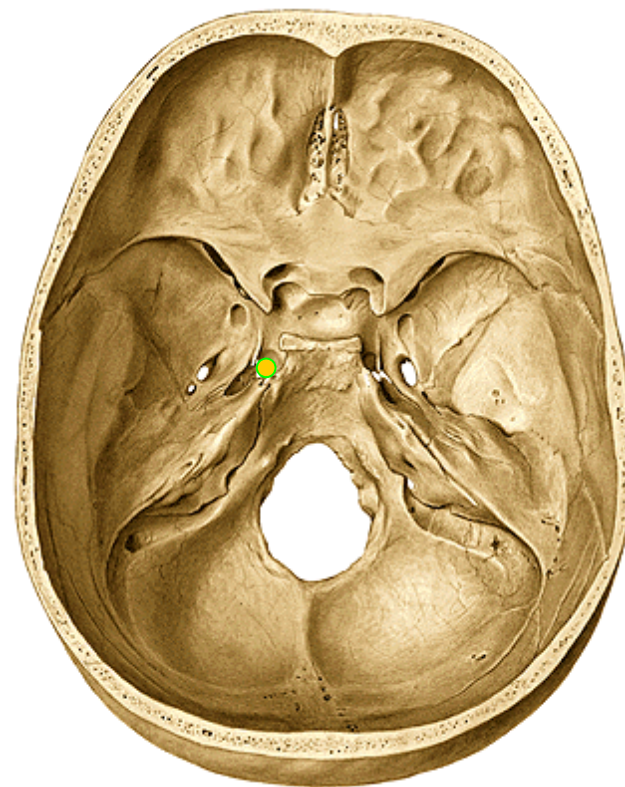
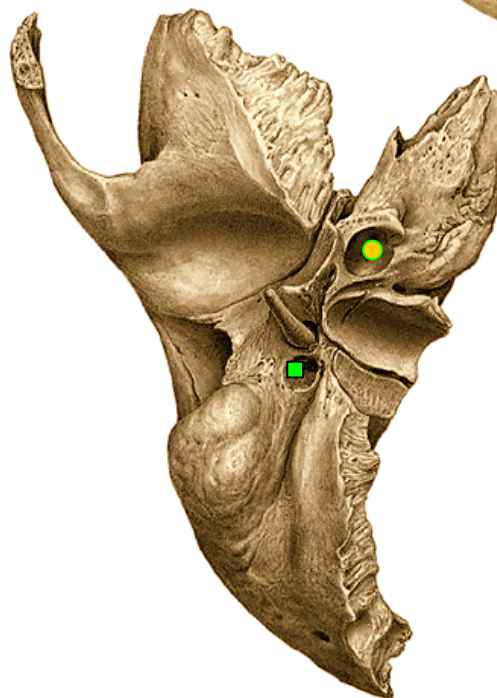
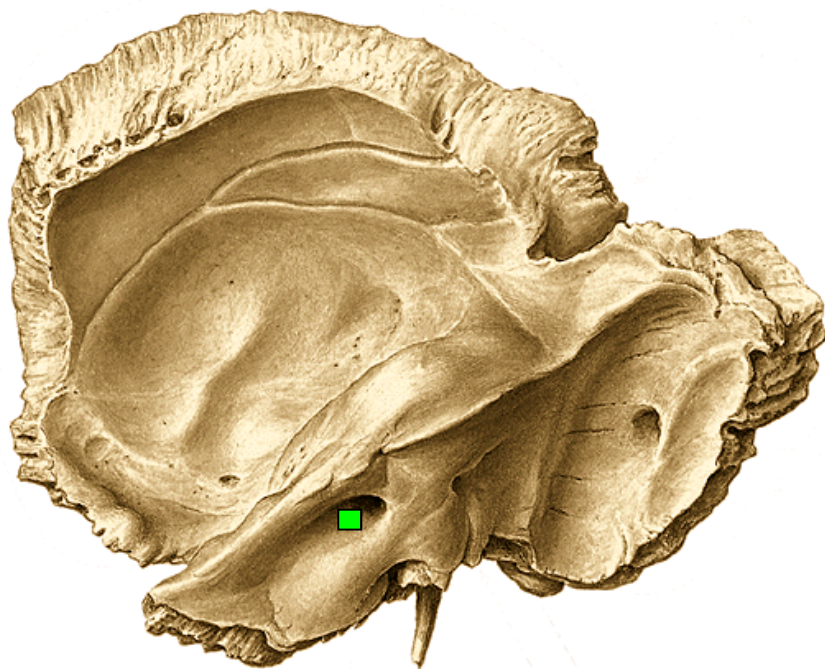
Pars mastoidea
processus mastoideus- pneumatizovaná kost-
cellulae mastoideae
incisura mastoidea, sulcus a. occipitalis



Kanálky v os temporale

Canalis caroticus ●

Canalis n. facialis ■



Splanchnocranium

Maxilla

Os nasale

Os lacrimale

Os zygomaticum

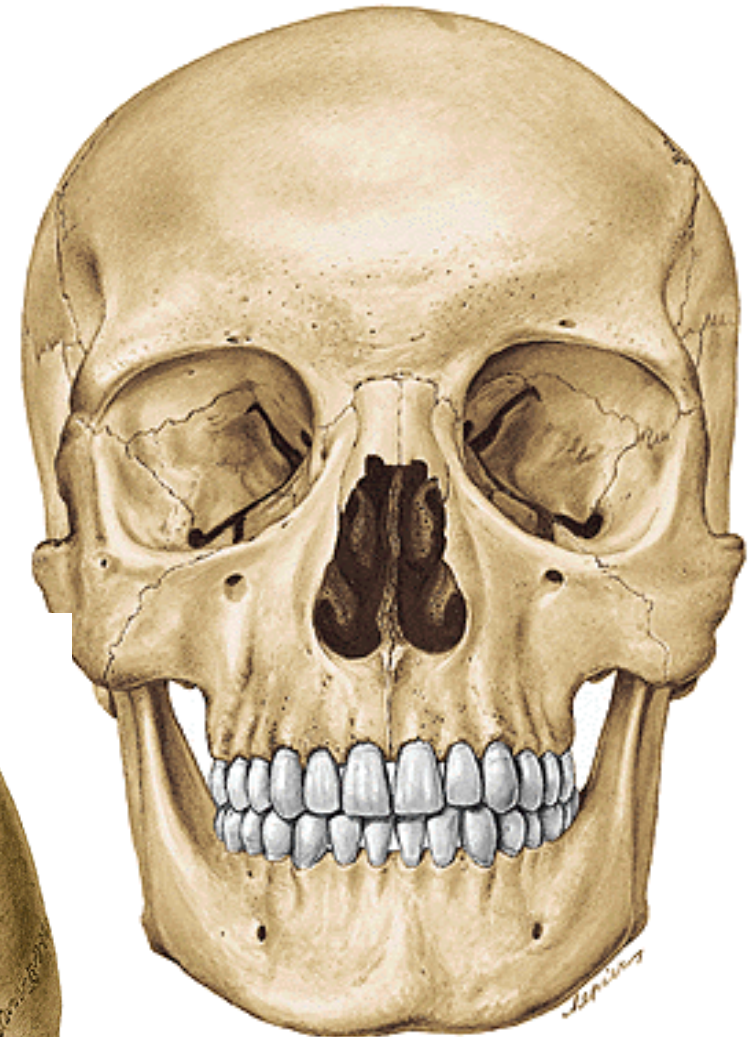
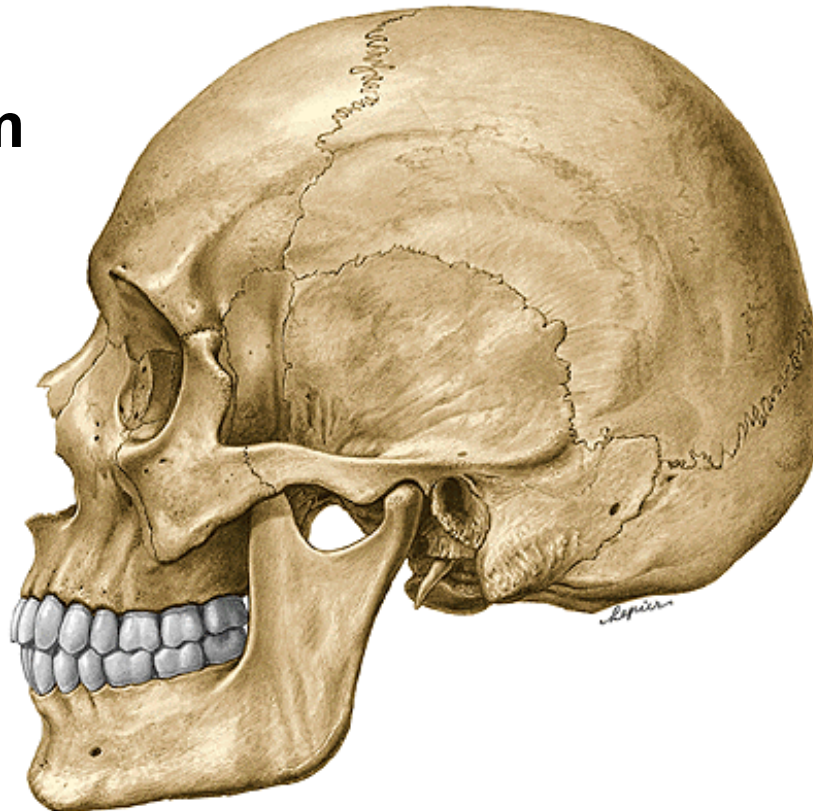
Vomer

Os palatinum

Concha nasalis inferior

Mandibula

Os hyoideum



Maxilla



Maxilla

Corpus maxillae

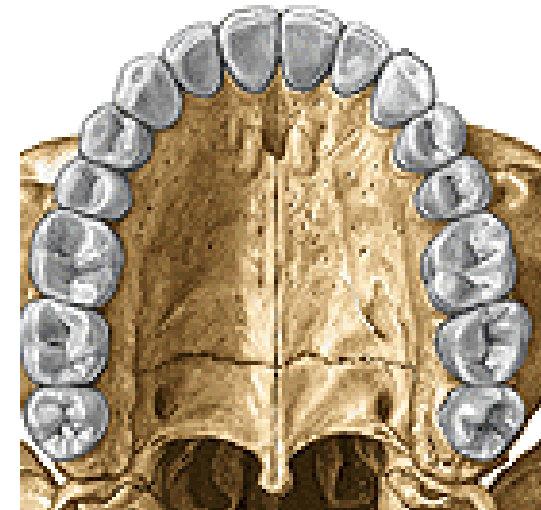
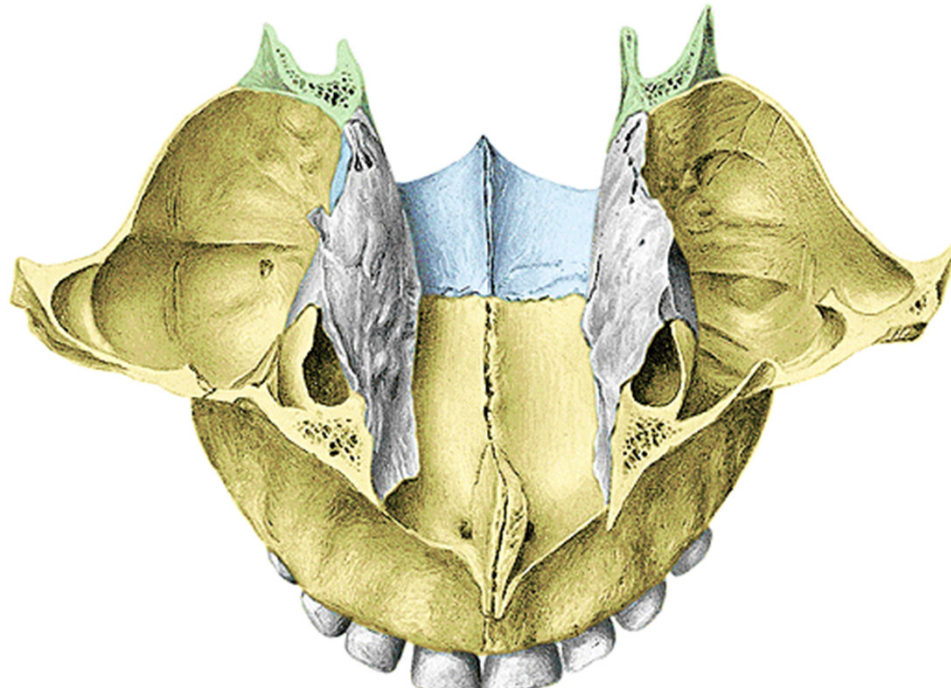
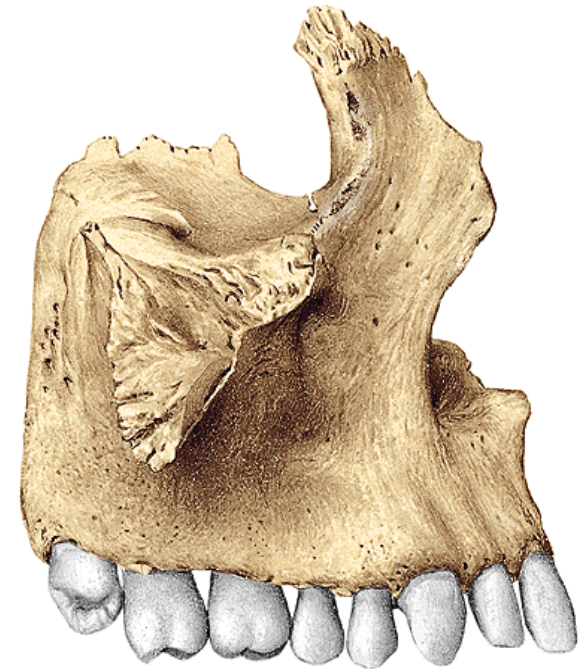
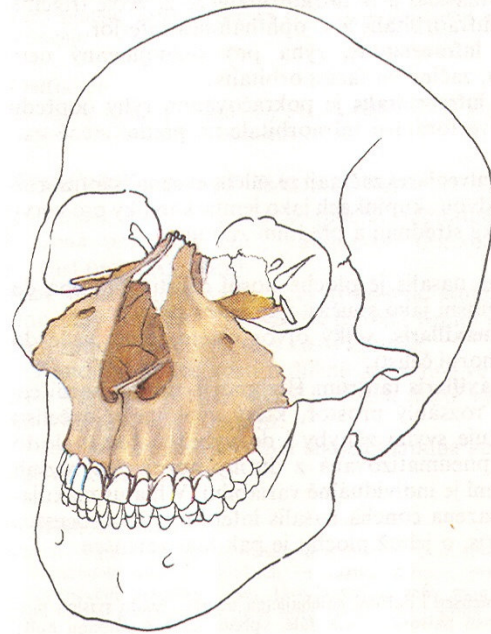
Sinus maxillaris

Processus frontalis

Processus zygomaticu

Processus alveolaris

Processus palatinus



Corpus maxillae

Facies orbitalis

margo infraorbitalis

sulcus infraorbitalis

canalis infraorbitalis

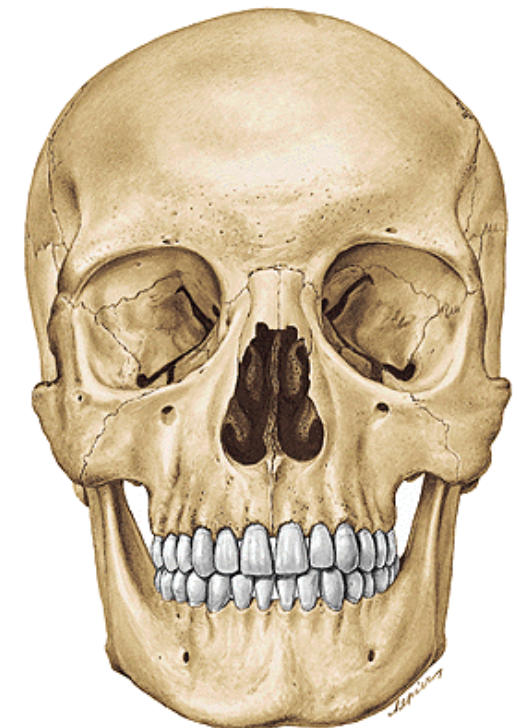
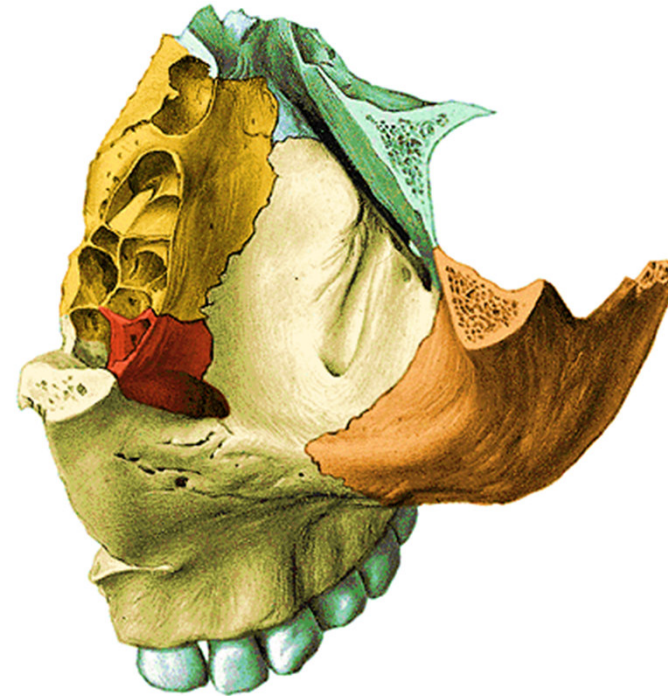
(kanálky pro cévy a nervy
k předním zubům)

Facies anterior

foramen infraorbitale

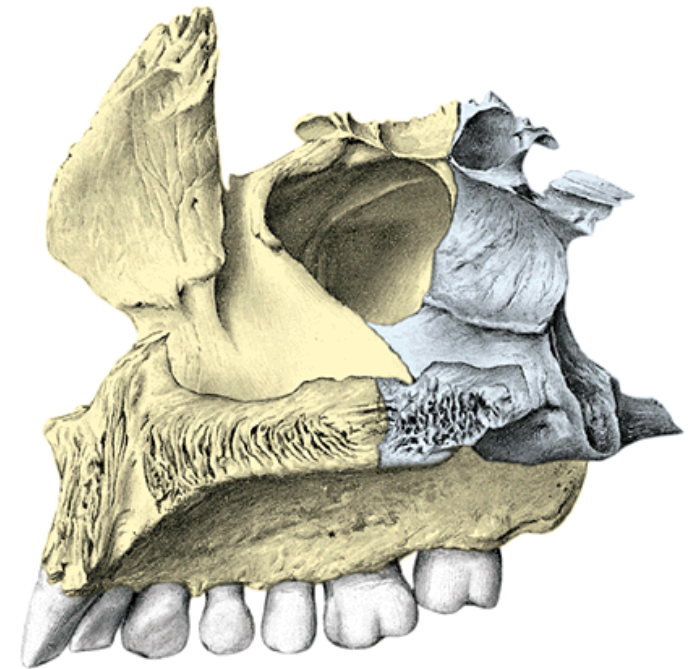
incisura nasalis

fossa canina



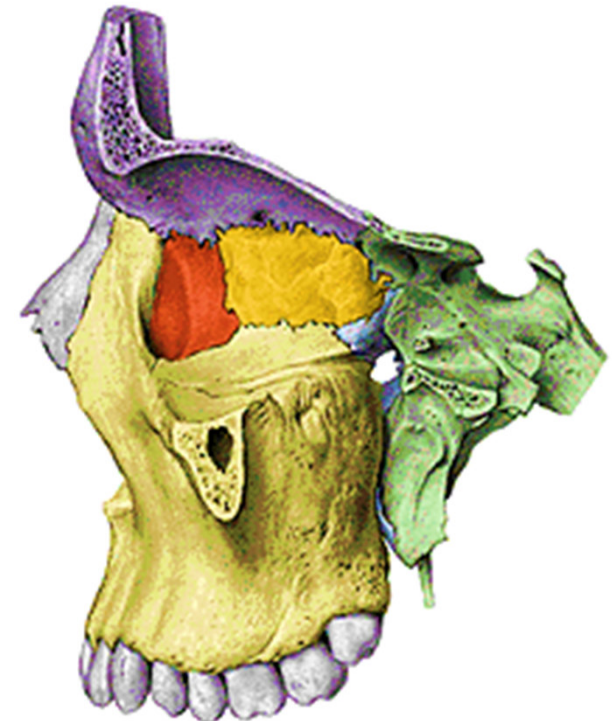
Facies nasalis

- hiatus sinus maxillaris
- sinus maxillaris



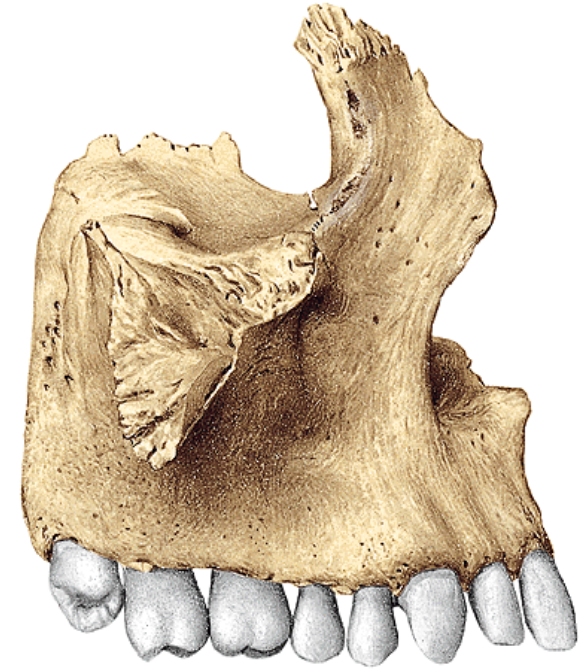
Facies infratemporalis

- tuber maxillae
(kanálky pro cévy a nervy k zadním zubům)

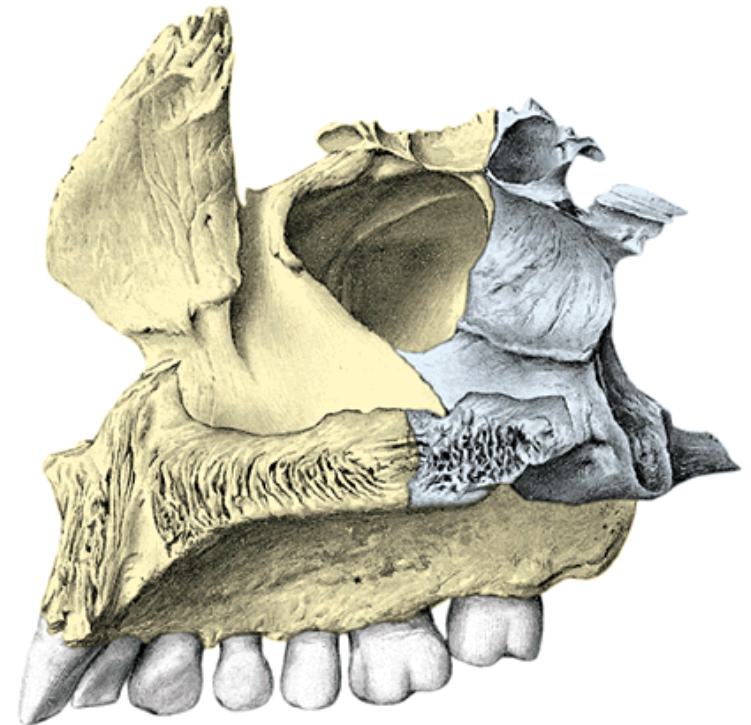
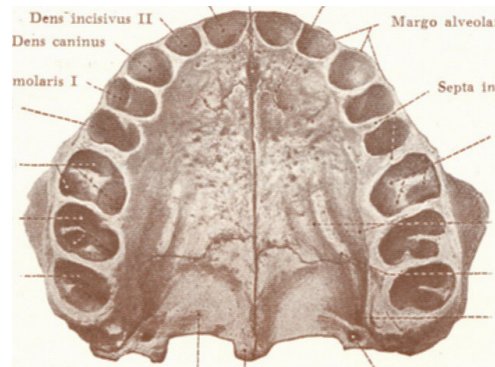


Processus frontalis maxillae

incisura nasalis (apertura piriformis)

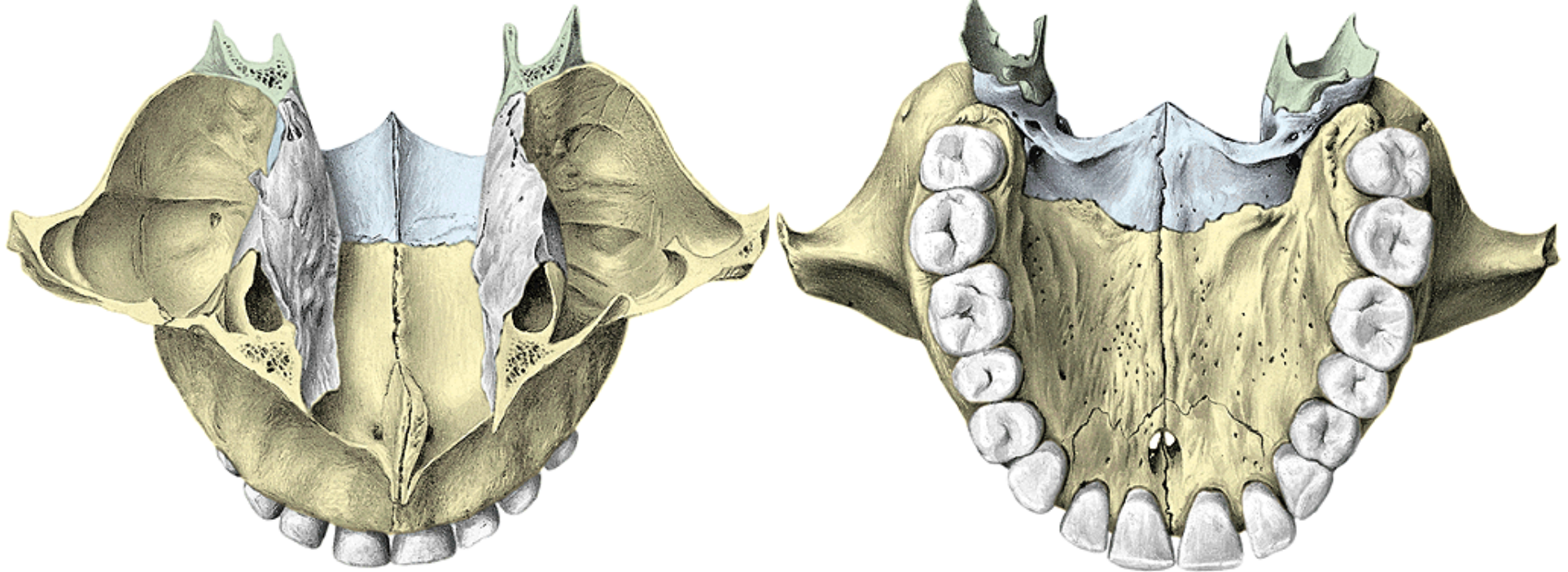


Processus alveolaris alveoli dentales

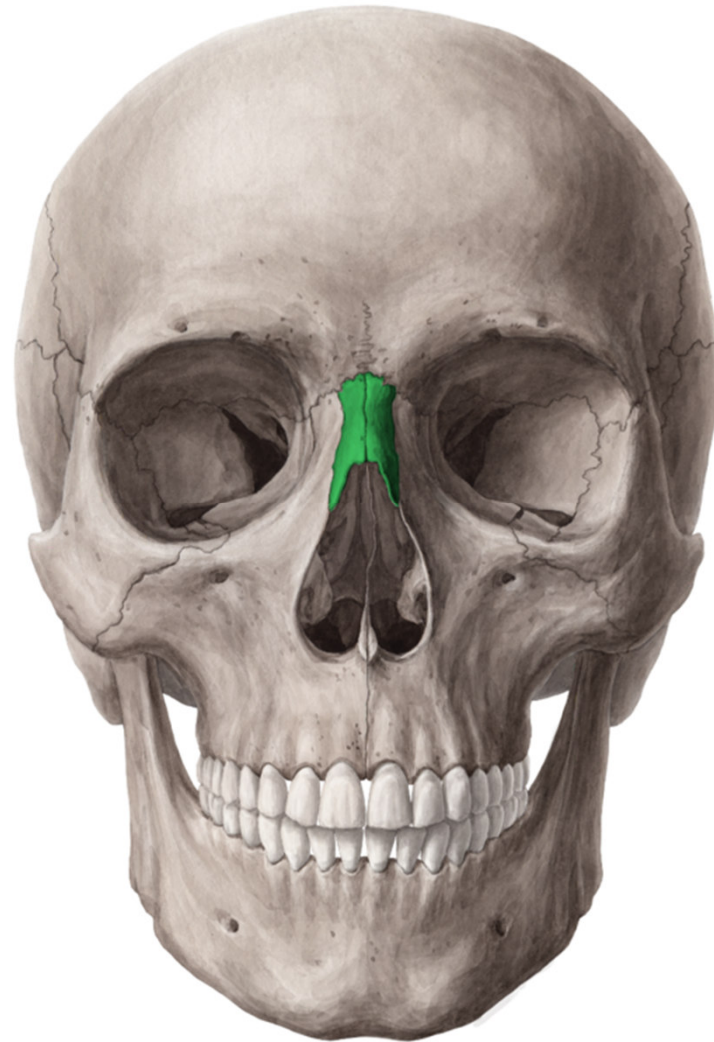


Processus zygomaticus

Processus palatinus



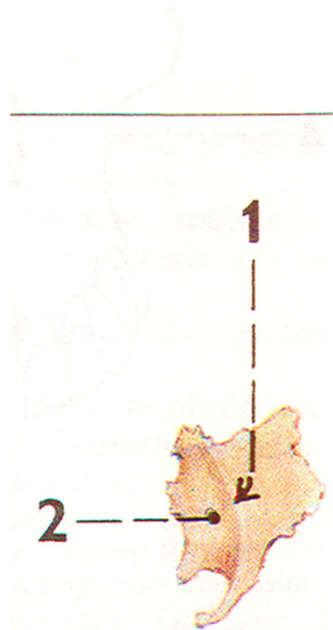
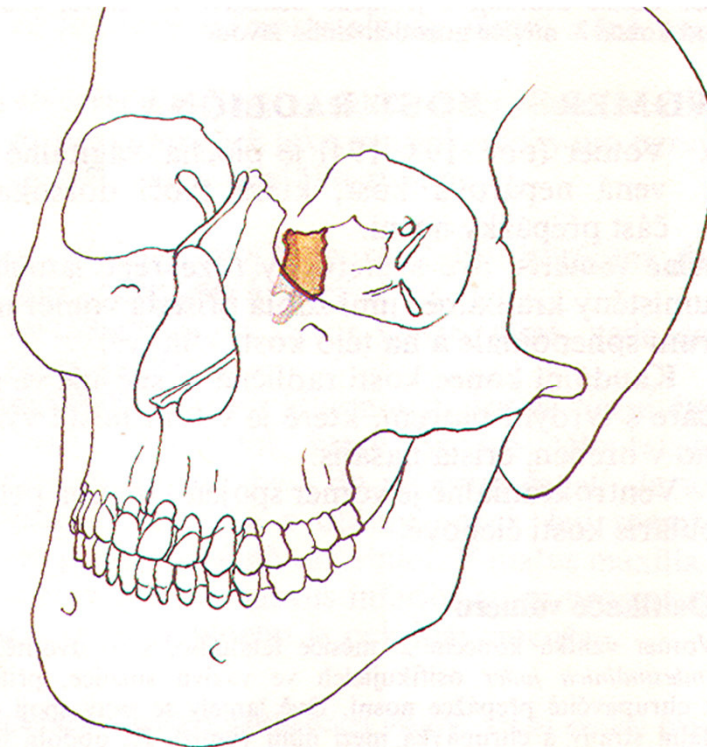
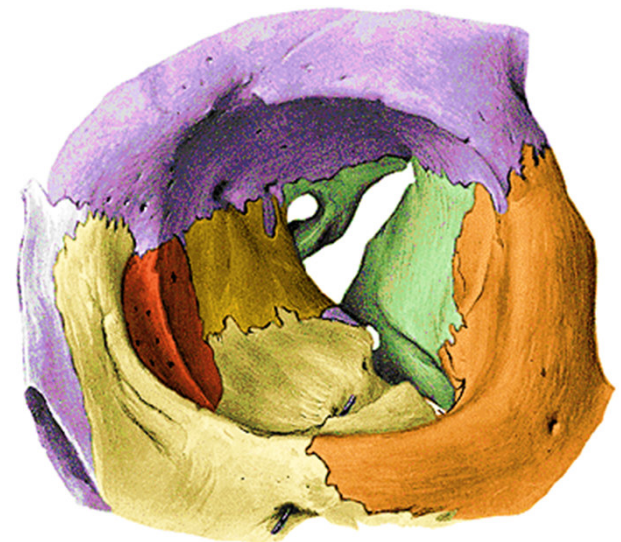
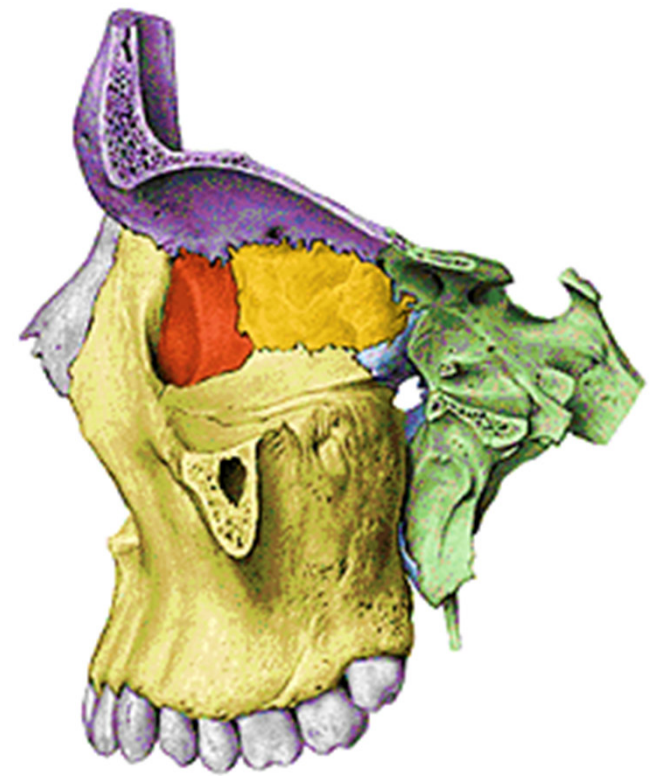
Os nasale



Os nasale
Apertura piriformis



Os lacrimale



pohled zleva zpredu

Os zygomaticum



Os zygomaticum

Corpus:

Facies lateralis

Facies orbitalis

Facies temporalis

foramen zygomaticoorbitale

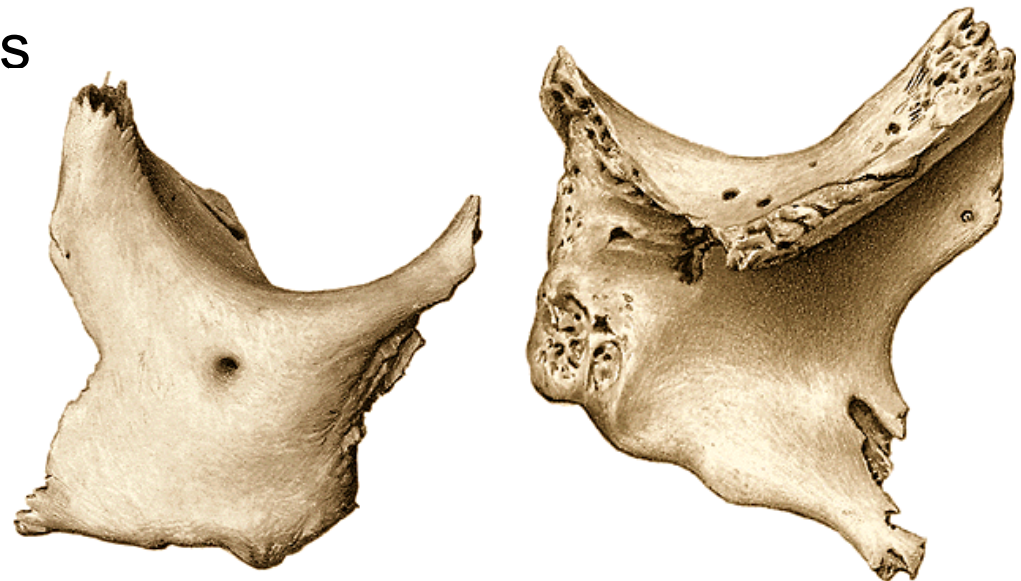
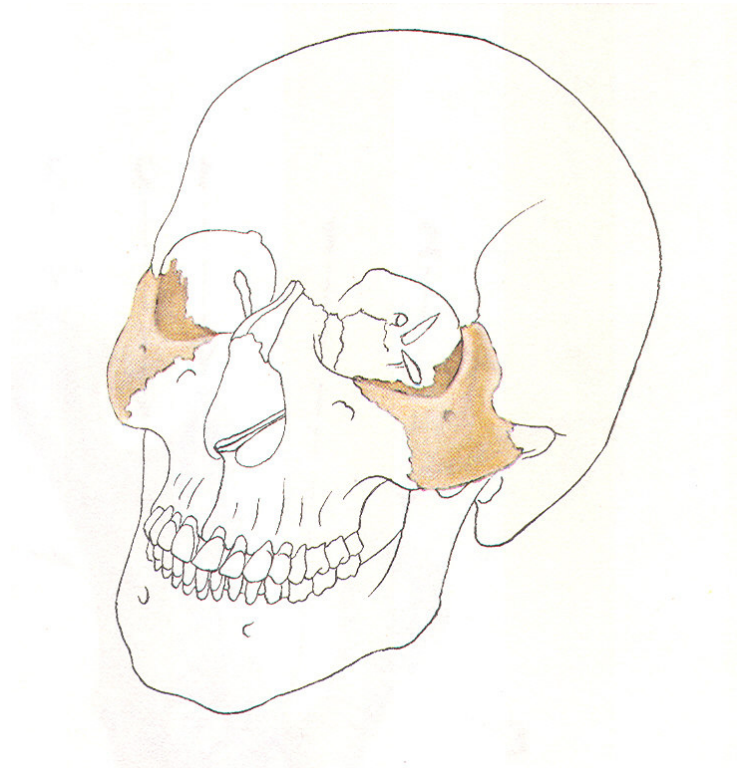
foramen zygomaticofaciale

Processus:

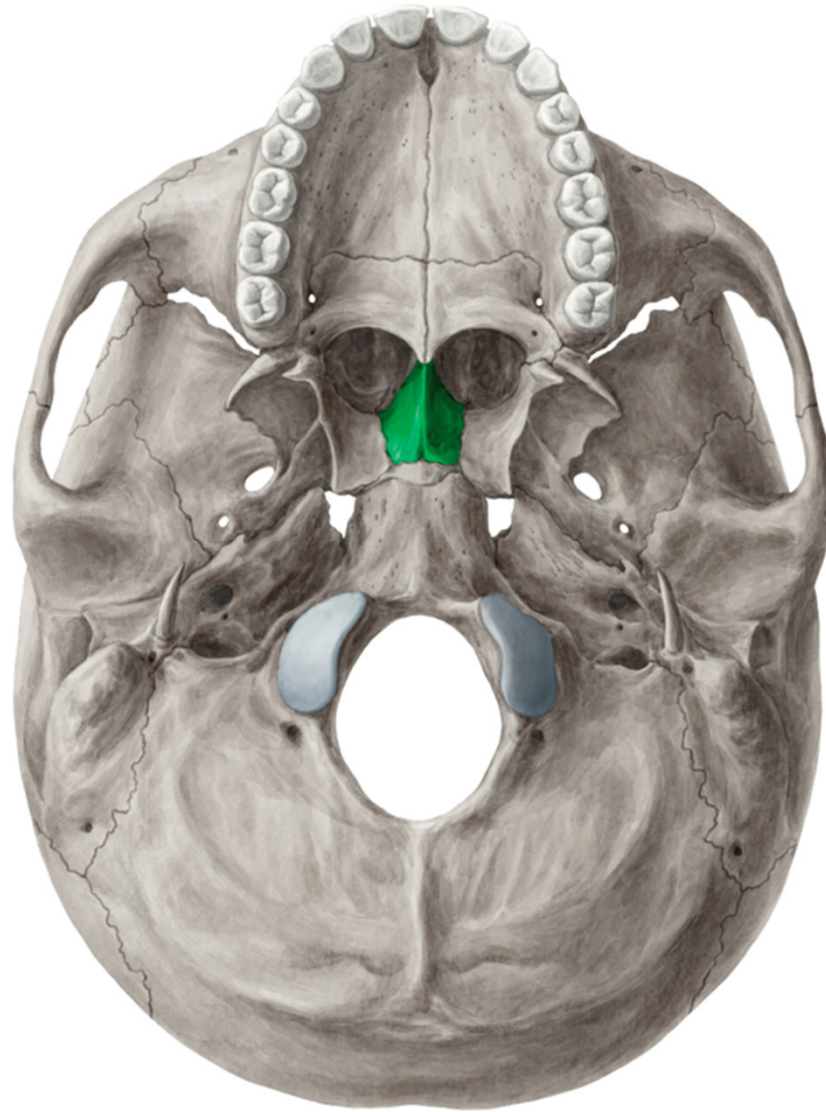
temporalis- arcus zygomaticus

frontalis

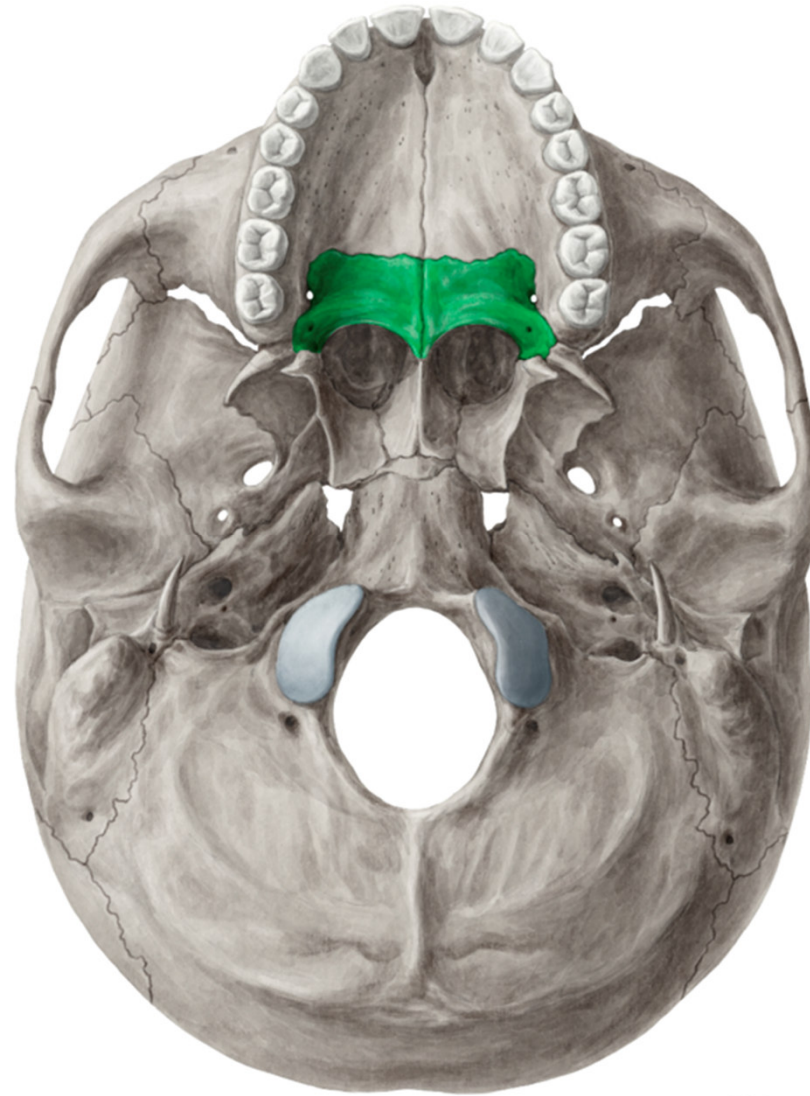
maxillaris



Vomer



Os palatinum



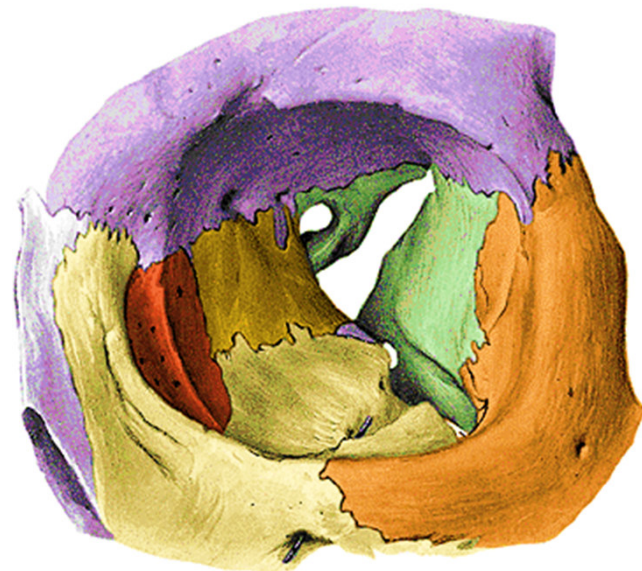
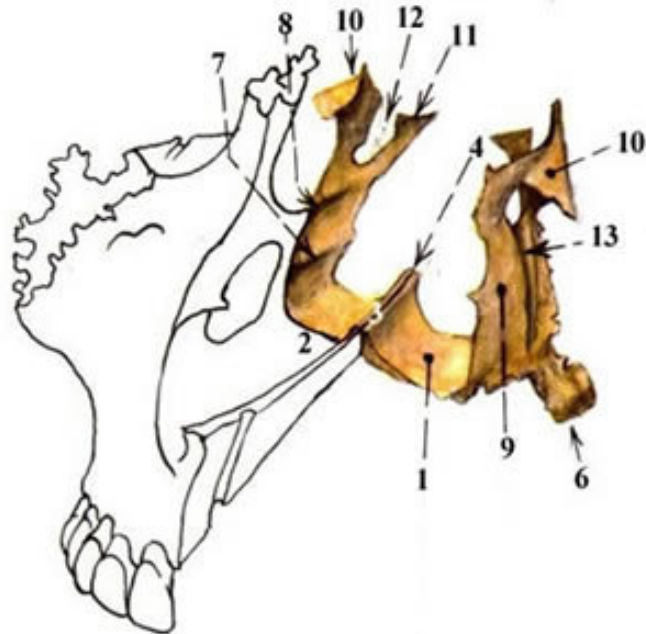
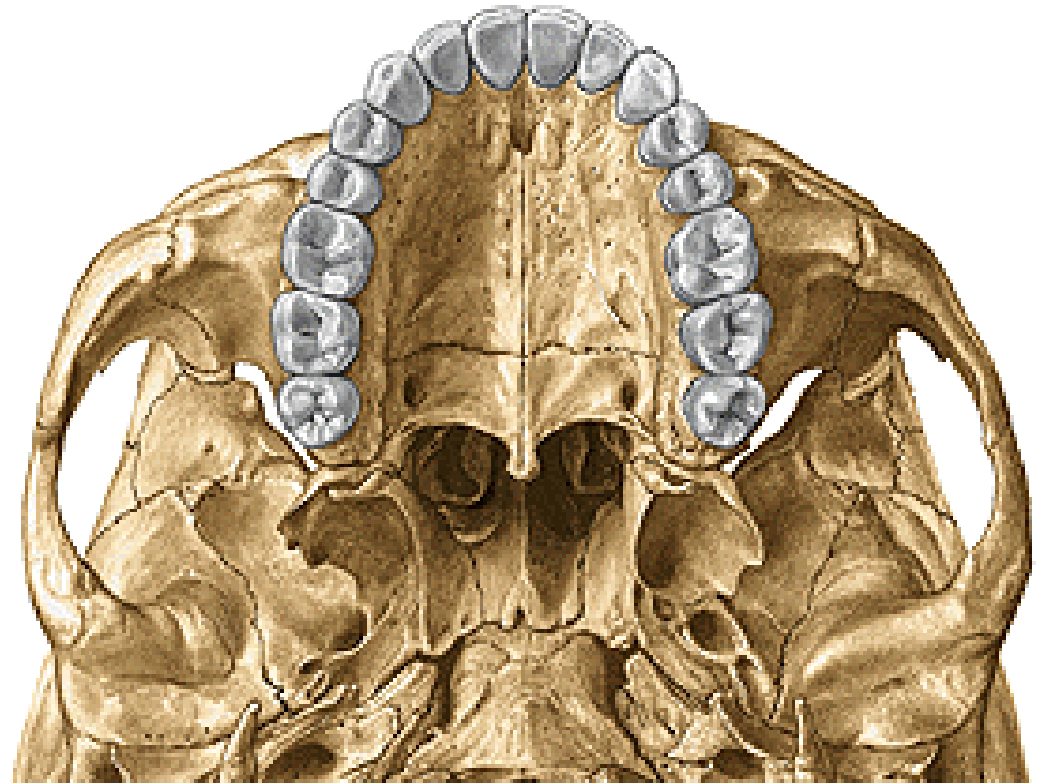
Os palatinum

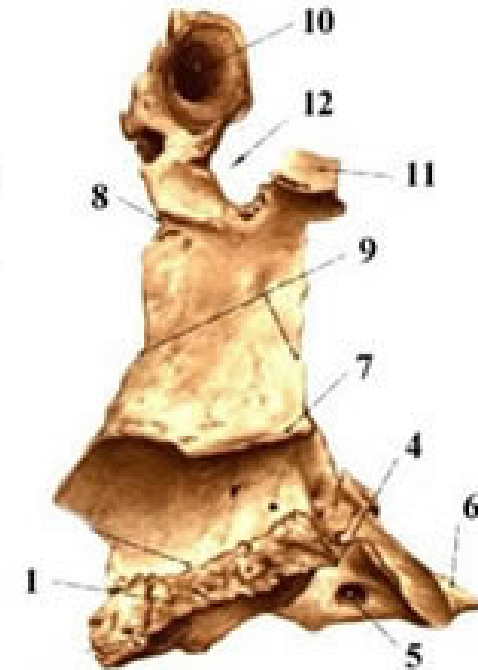
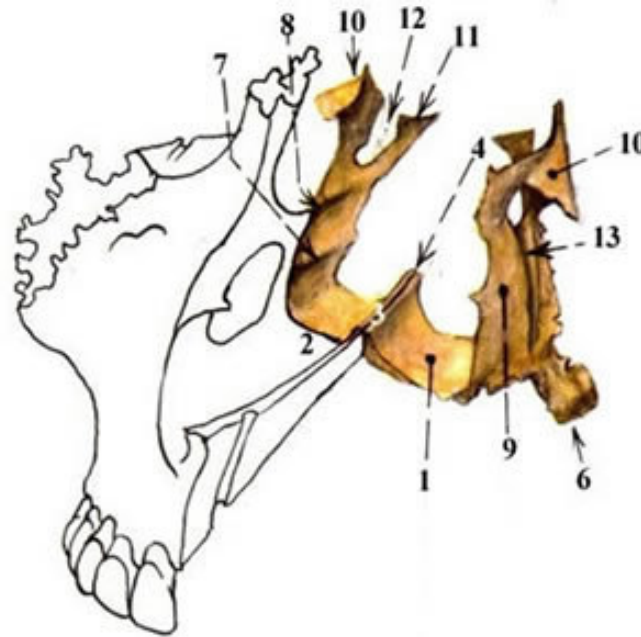
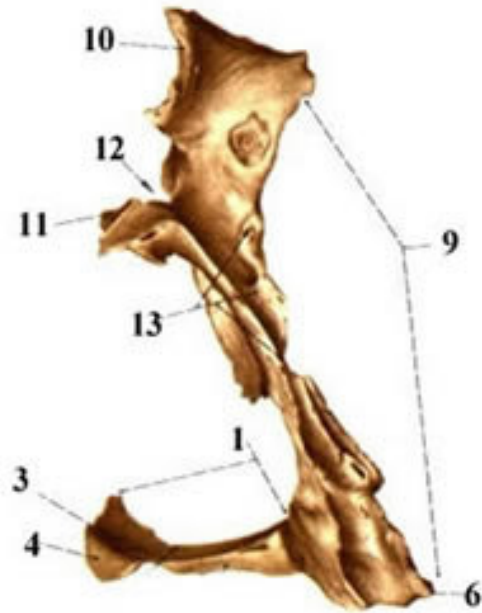
Lamina horizontalis

sutura palatina transversa

crista nasalis

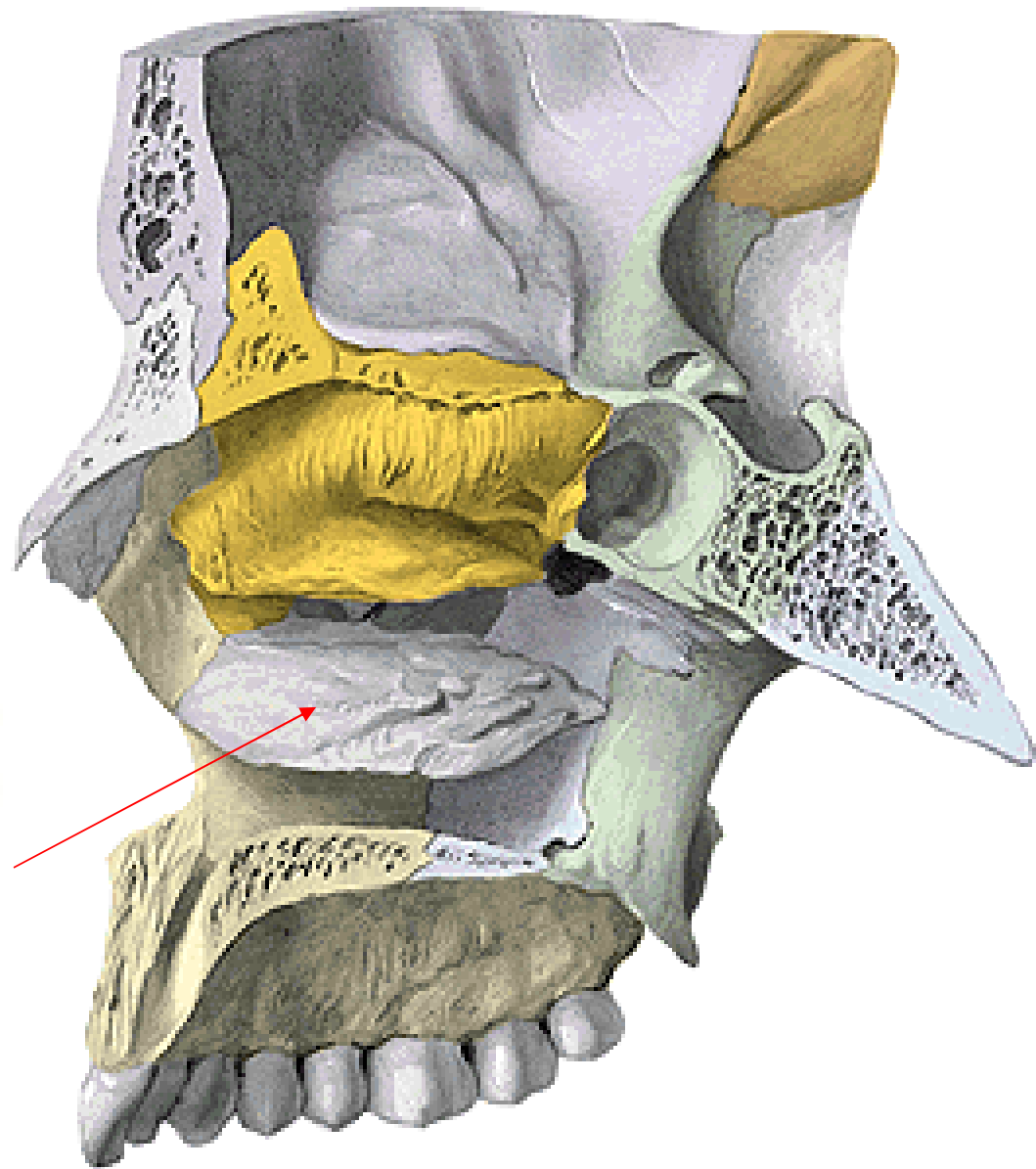
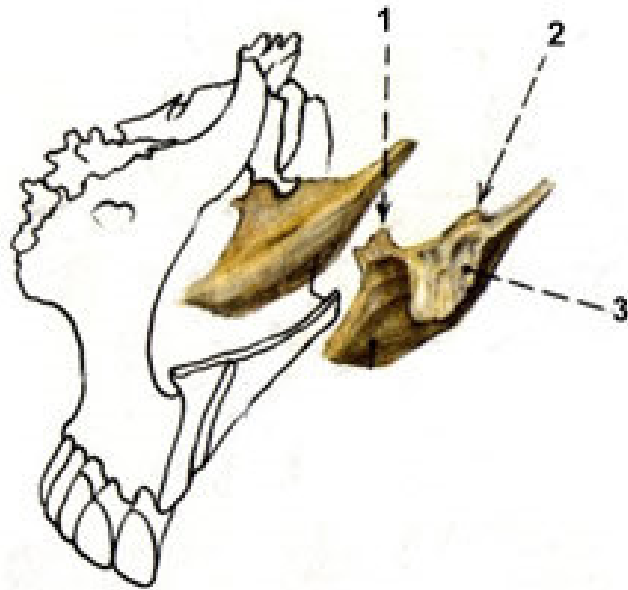
foramen palatinum majus





Lamina perpendicularis
 crista ethmoidalis et conchalis
 foramen sphenopalatinum
 processus orbitalis et sphenoidalis
Processus pyramidalis

Concha nasalis inferior



Mandibula



Mandibula

corpus

ramus mandibulae dx. et sin.

angulus mandibulae

Corpus mandibulae:

fossae digastricae

spina mentalis

linea mylohyoidea

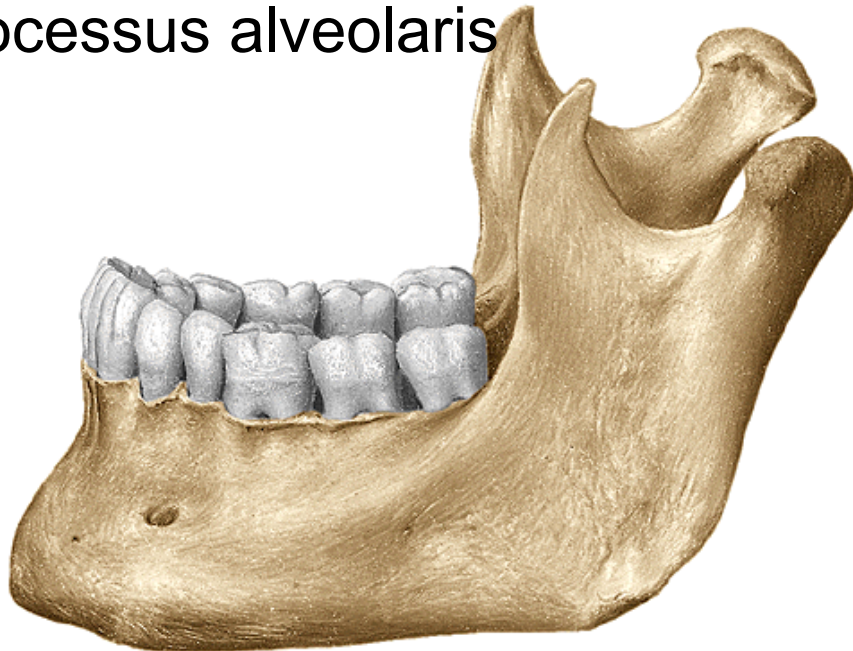
protuberantia mentalis

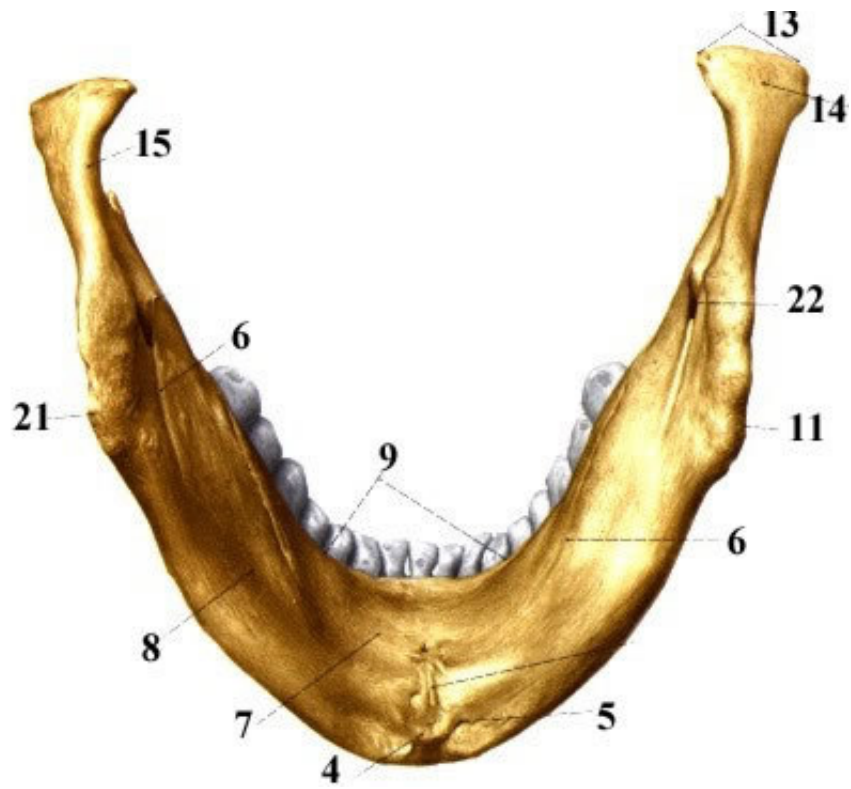
foramen mentale

processus alveolaris

fovea sublingualis

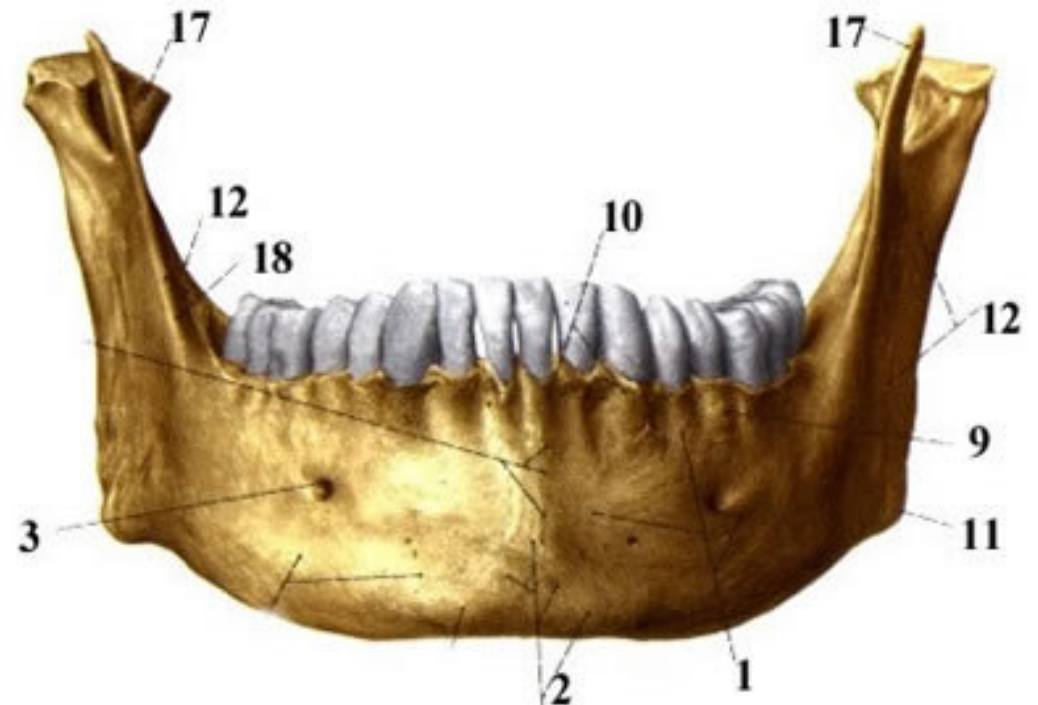
fovea submandibularis





Ramus mandibulae:

- processus condylaris
(caput, collum s fovea pterygoidea)
- processus coronoideus
- foramen mandibulae
(canalis mandibulae)
- tuberositas masseterica
- tuberositas pterygoidea

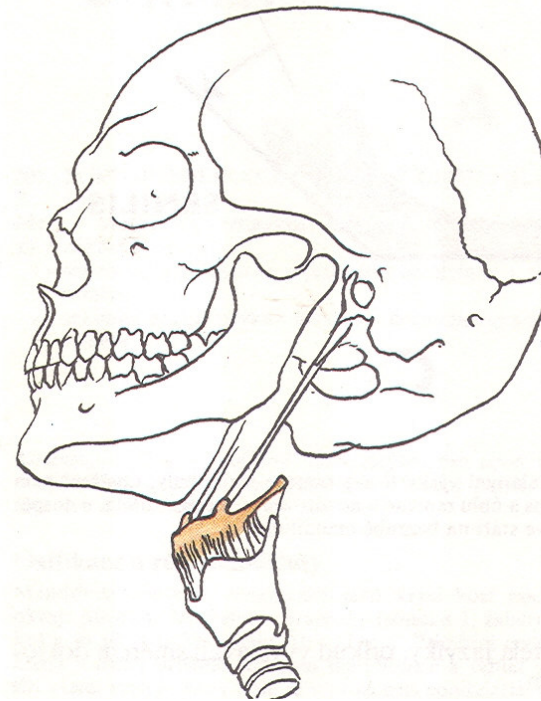
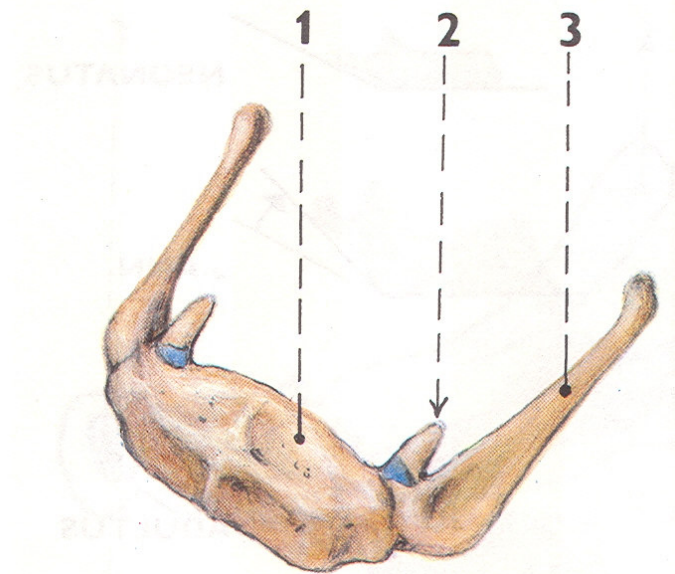


Os hyoideum

Corpus ossis hyoidei

Cornua minora ossis hyoidei

Cornua majora ossis hyoidei



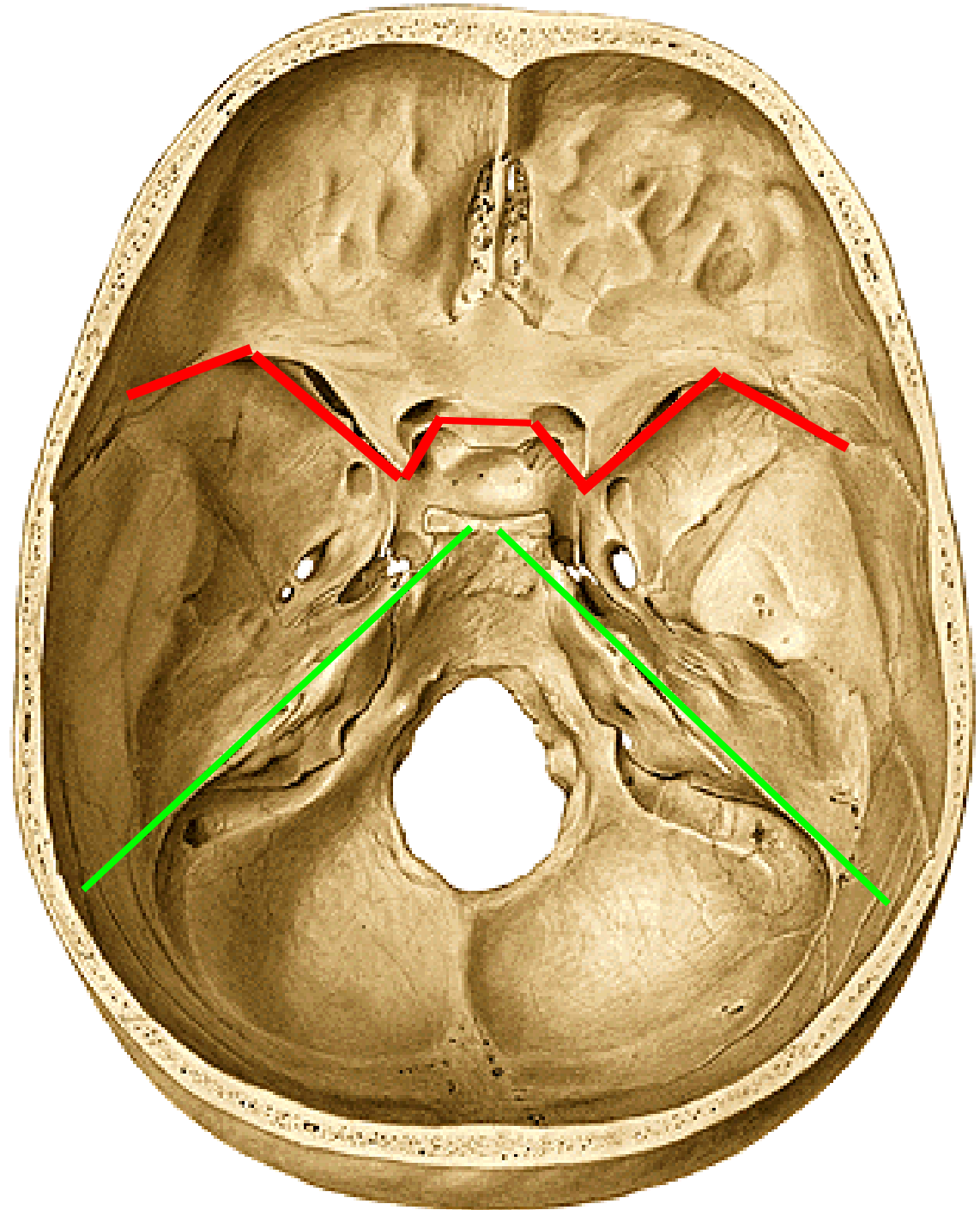
LEBKA JAKO CELEK

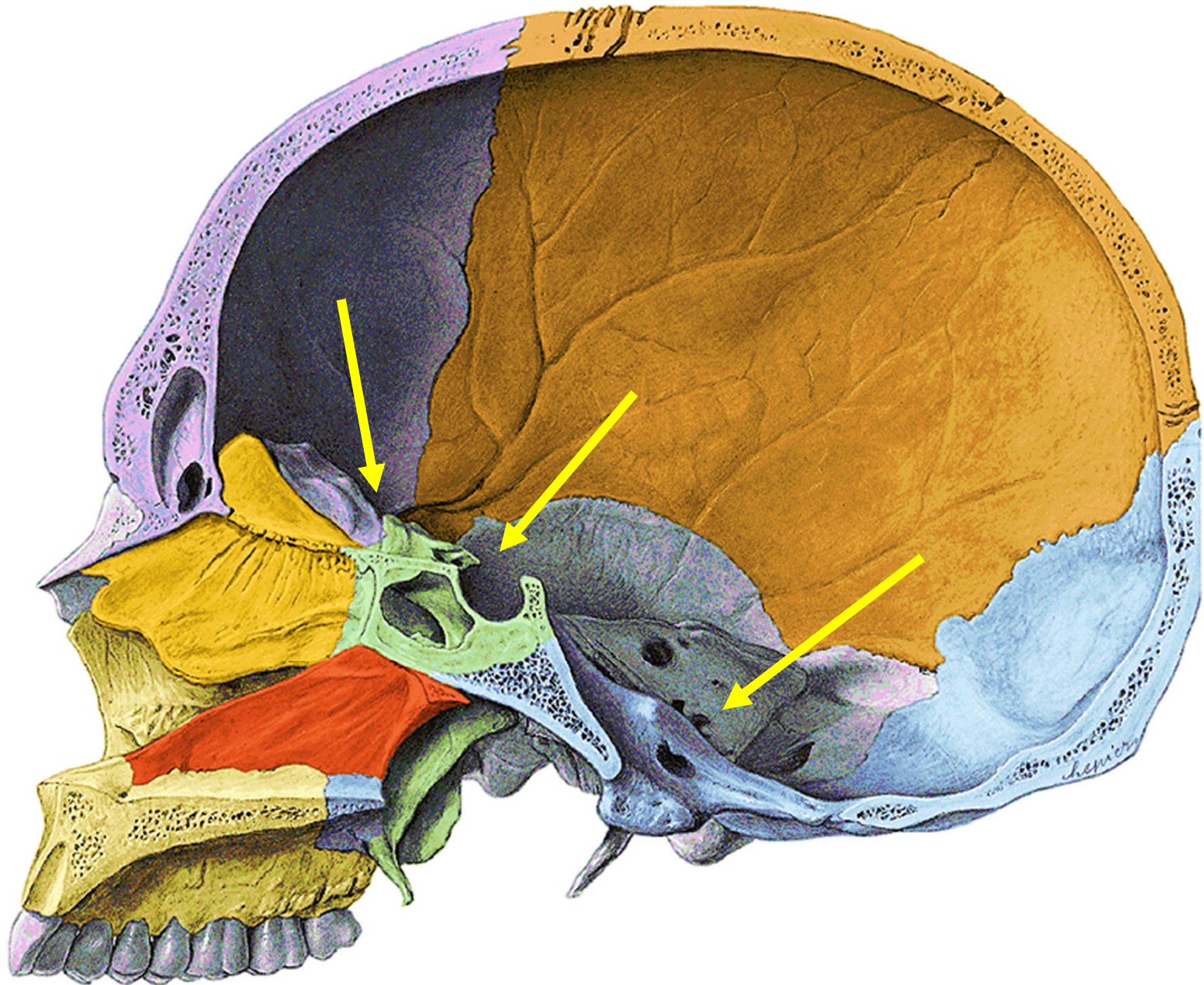
Basis cranii interna

Fossa cranii anterior

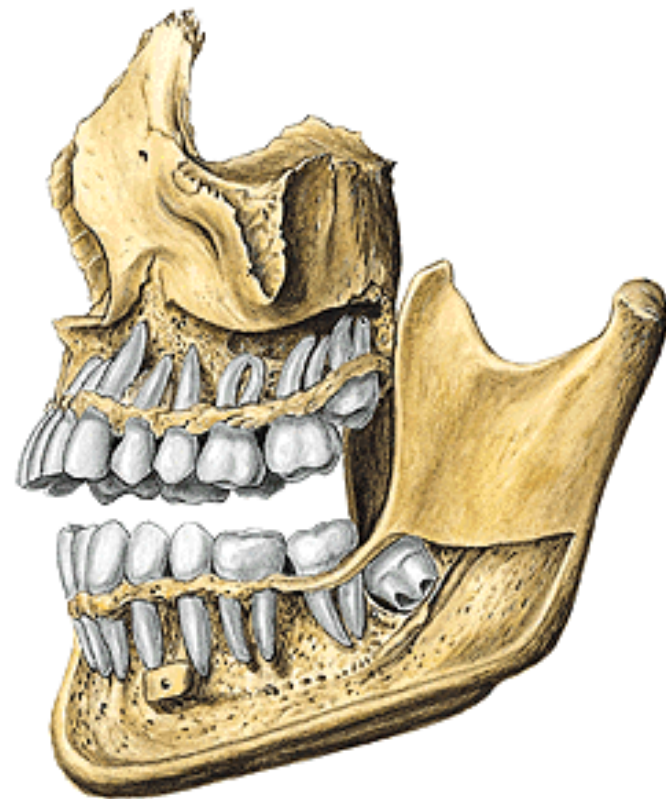
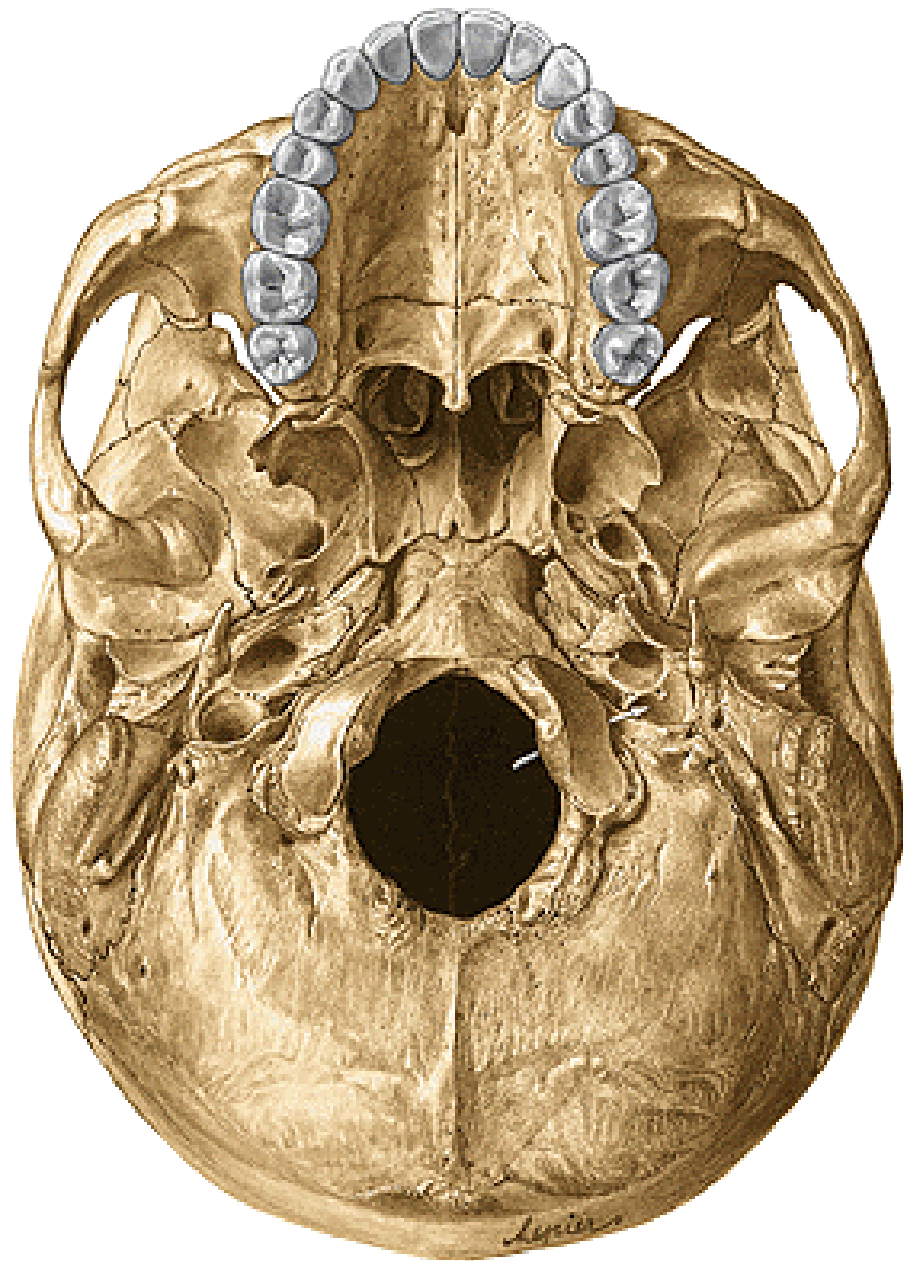
Fossa cranii media

Fossa cranii posterior





Cavum oris

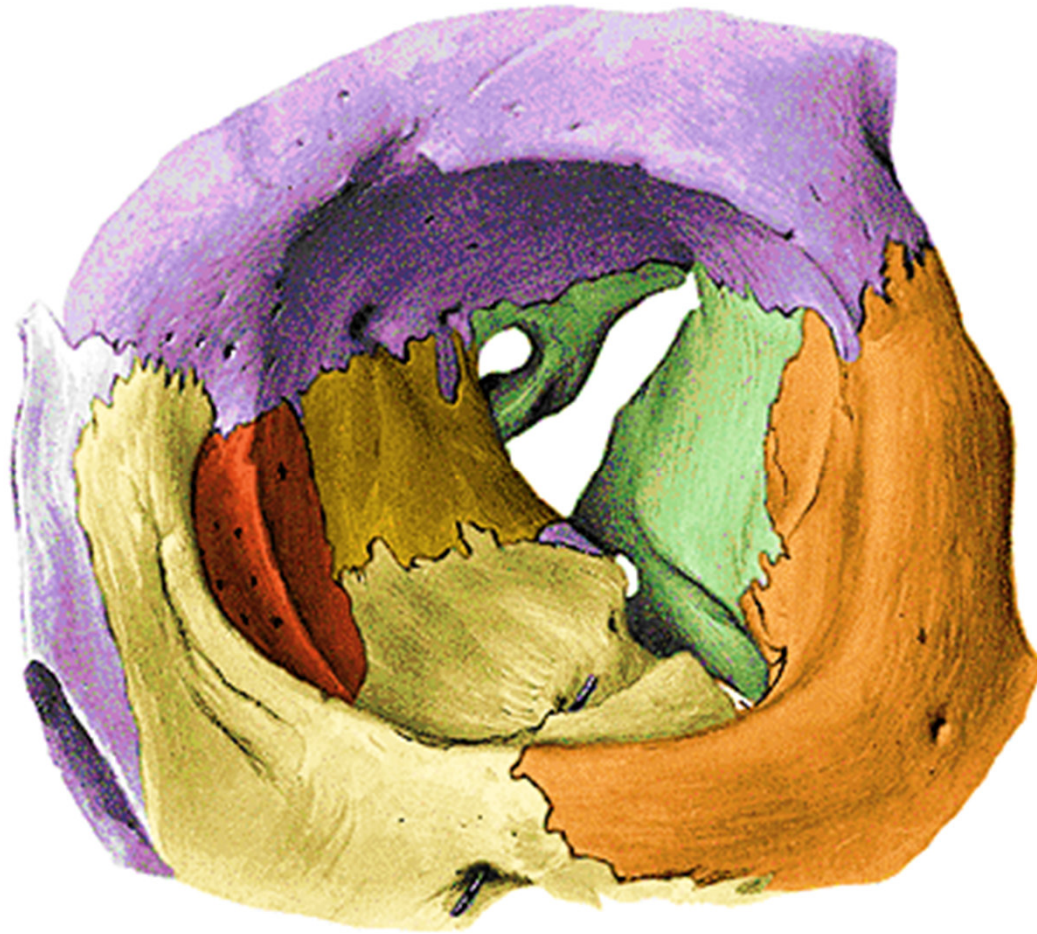


Orbita

- tvar pyramidy

Vchod-base: aditus orbitae

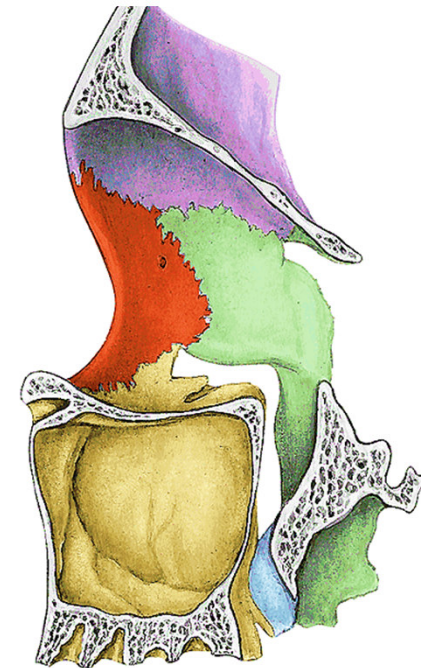
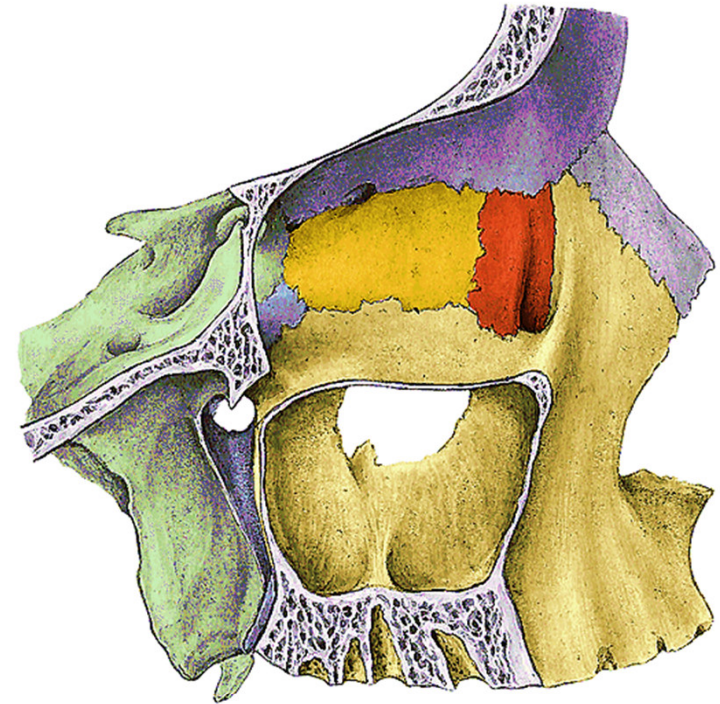
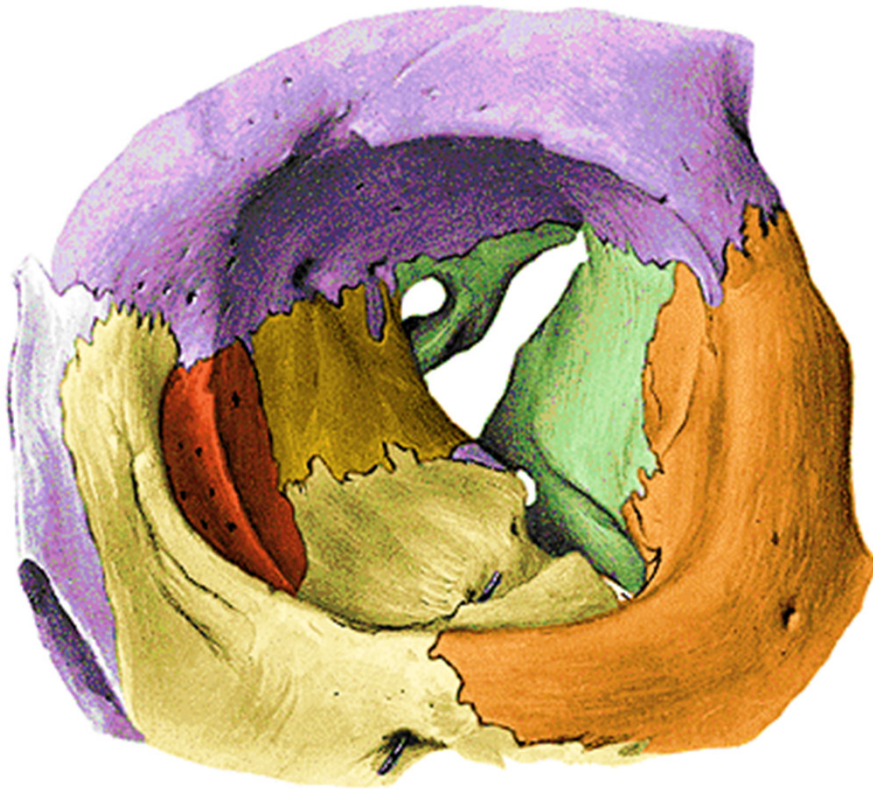
Vrchol: canalis opticus



Orbita

Otvory: foramen ethmoidale anterius
foramen ethmoidale posterius

fissura orbitalis superior
fissura orbitalis inferior



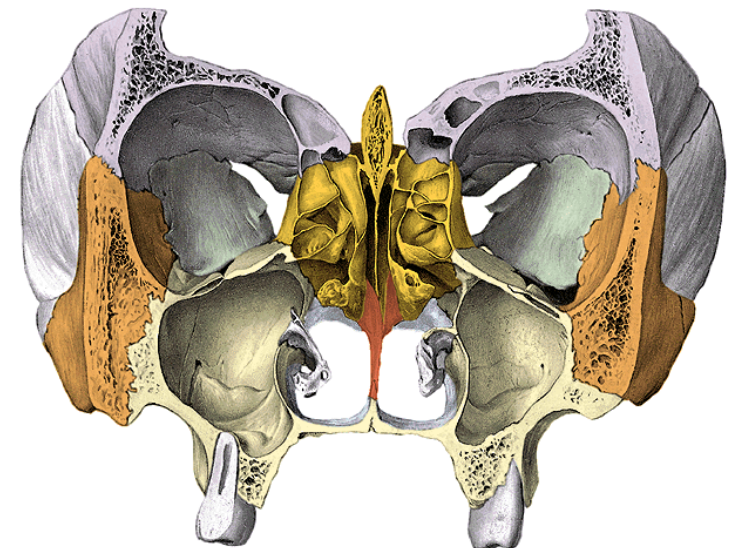
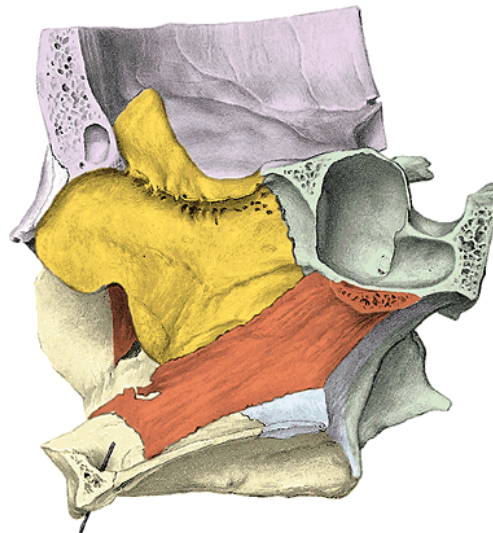
Cavitas nasi ossea:

Vchod: apertura piriformis

Východ: choanae



Septum nasi osseum



Fossa pterygopalatina:

Přední stěna:

corpus maxillae (tuber maxillae)

Horní stěna:

(facies maxillaris)

Zadní stěna:

processus pterygoideus

Medialní stěna:

lamina perpendicularis ossis palatini

Spojení:

střední jama lební– foramen rotundum

orbita–fissura orbitalis inferior

cavum oris–canalis palatinus maior

fossa infratemporalis– fissura pterygomaxillaris

canalis pterygoideus

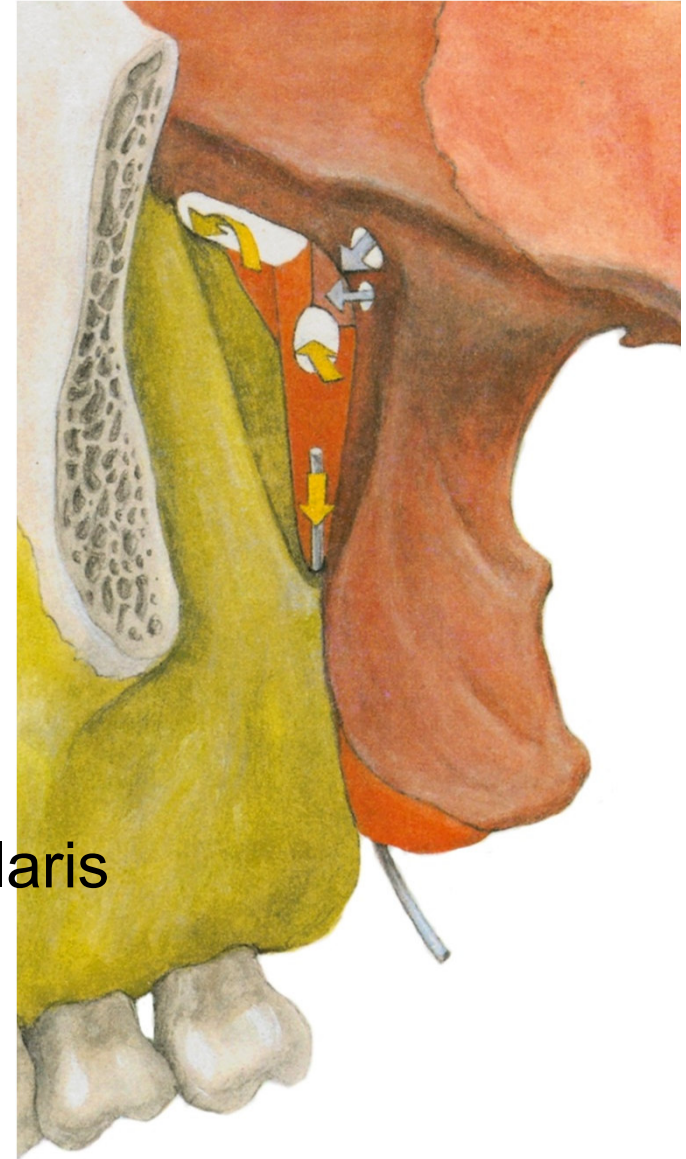
cavum nasi–foramen sphenopalatinum

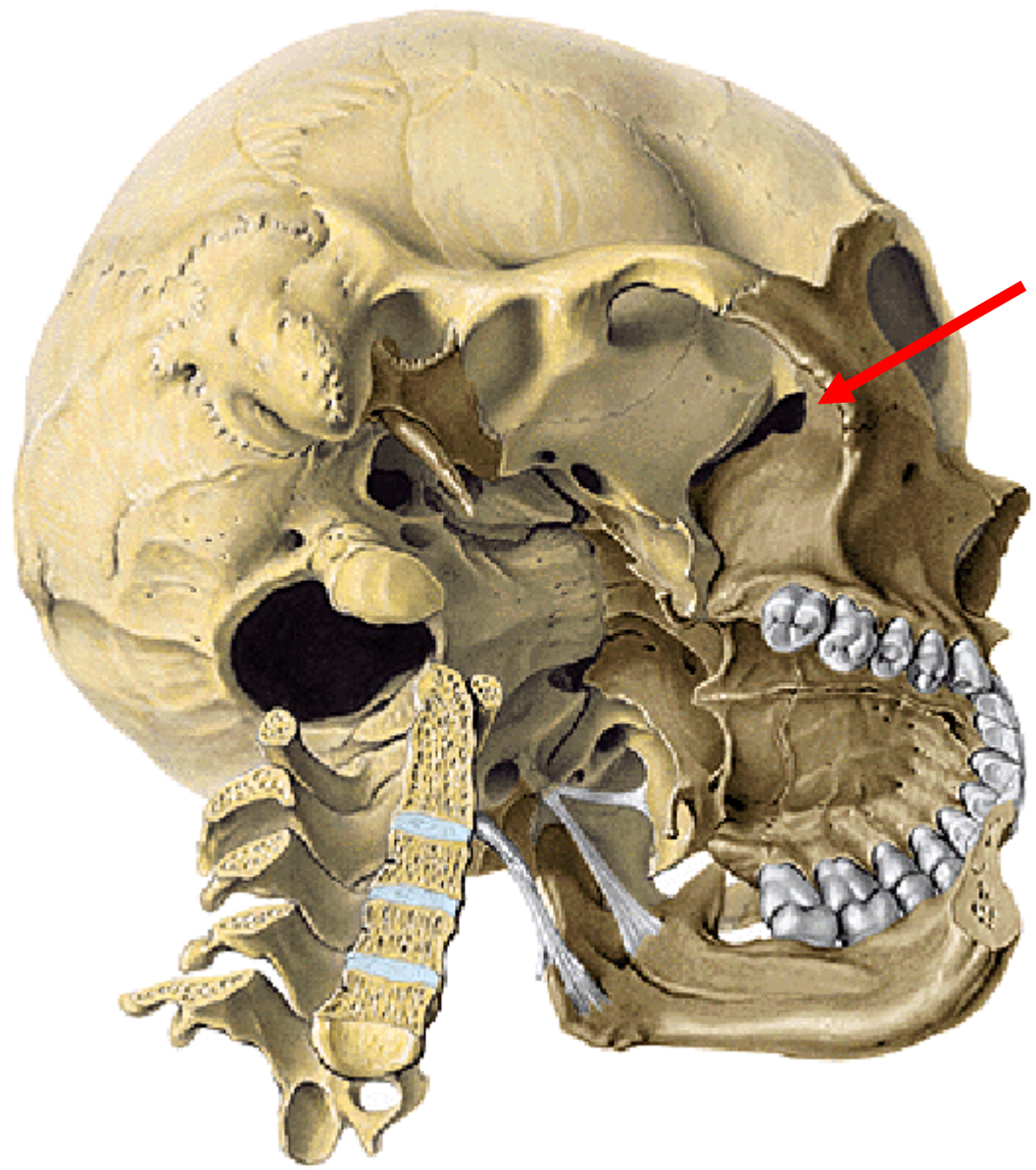
Obsah:

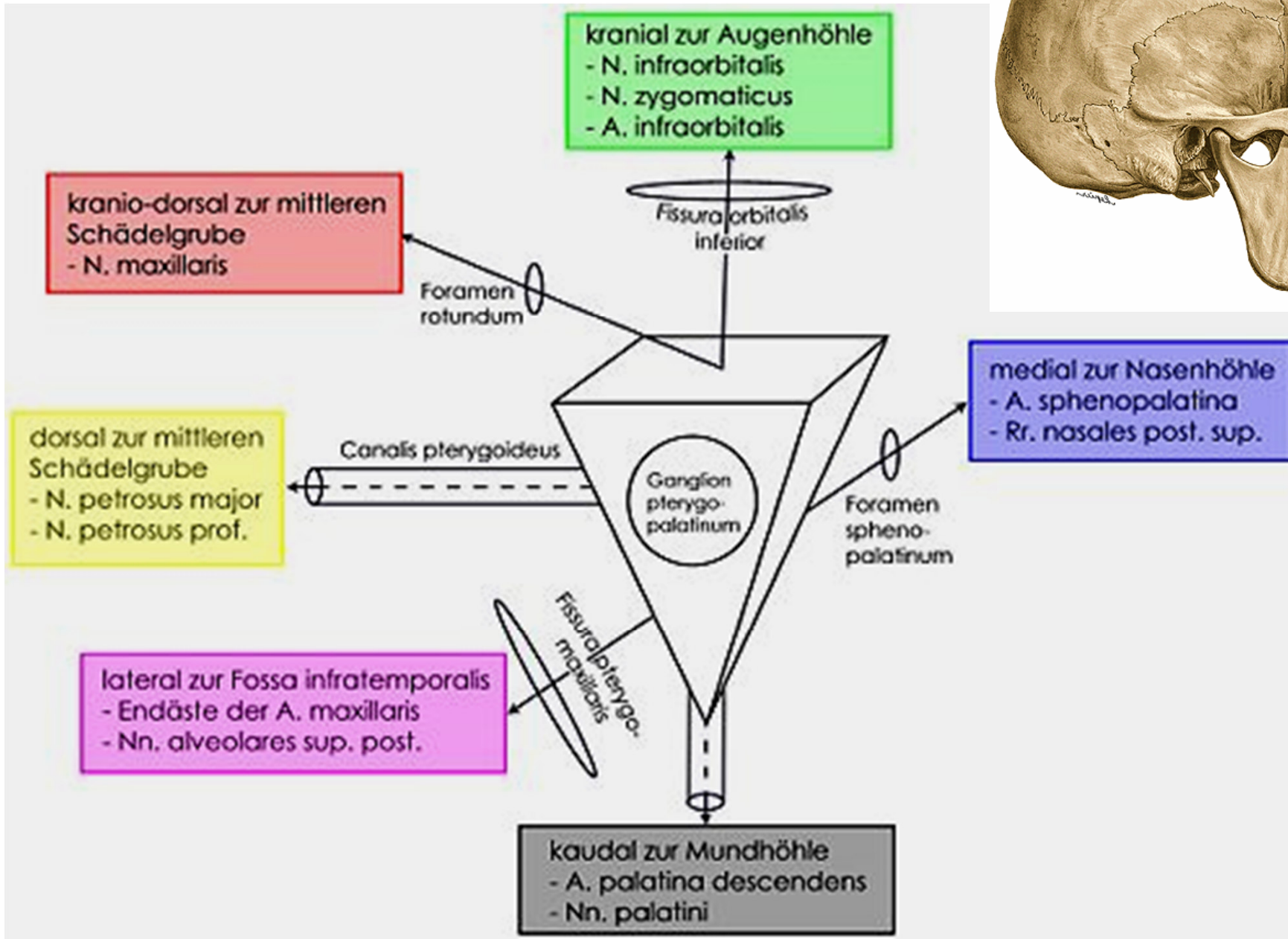
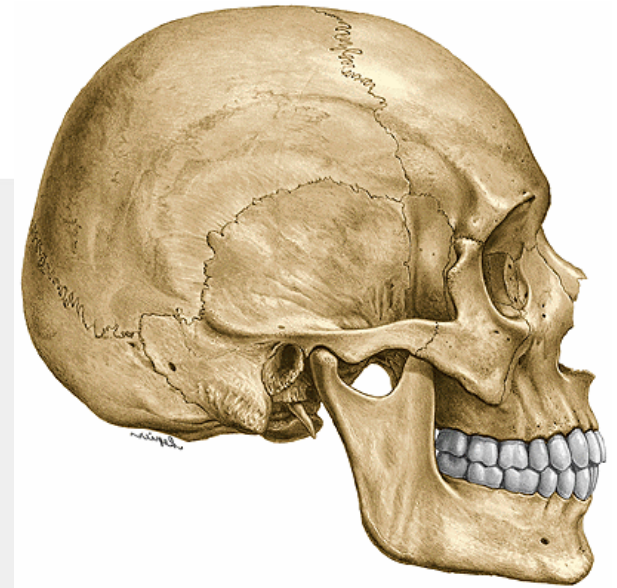
ganglion pterygopalatinum

n. maxillaris a jeho větve

a. maxillaris konečné větve







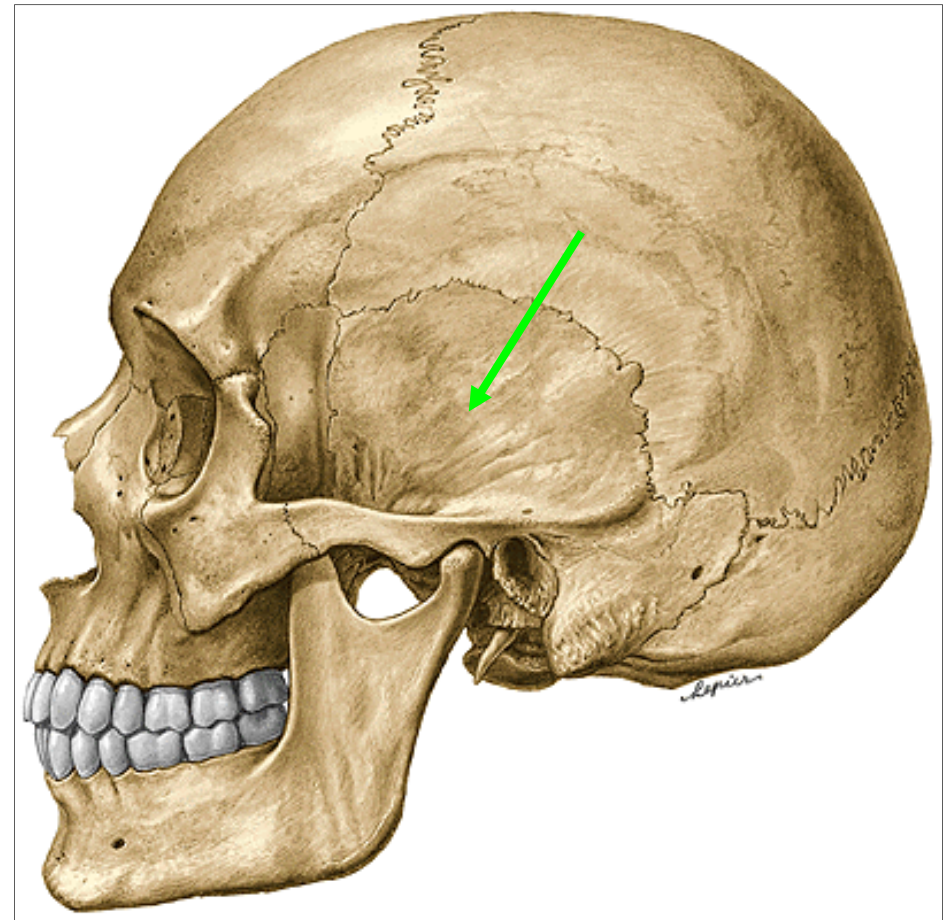
Fossa temporalis:

Spojení:

orbita - fissura orbitalis inferior
fossa infratemporalis

Obsah:

m. temporalis



Fossa infratemporalis:

-navazuje na jámu spánkovou

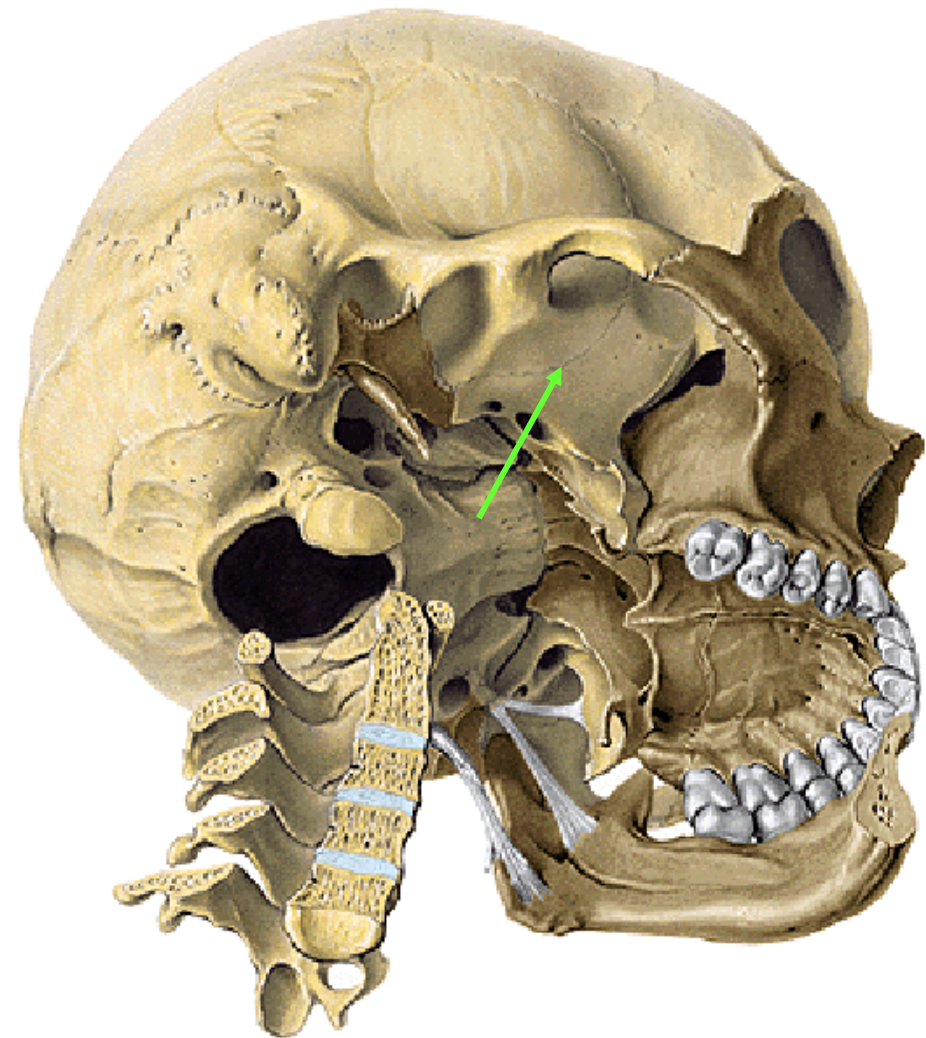
Otvory: foramen ovale

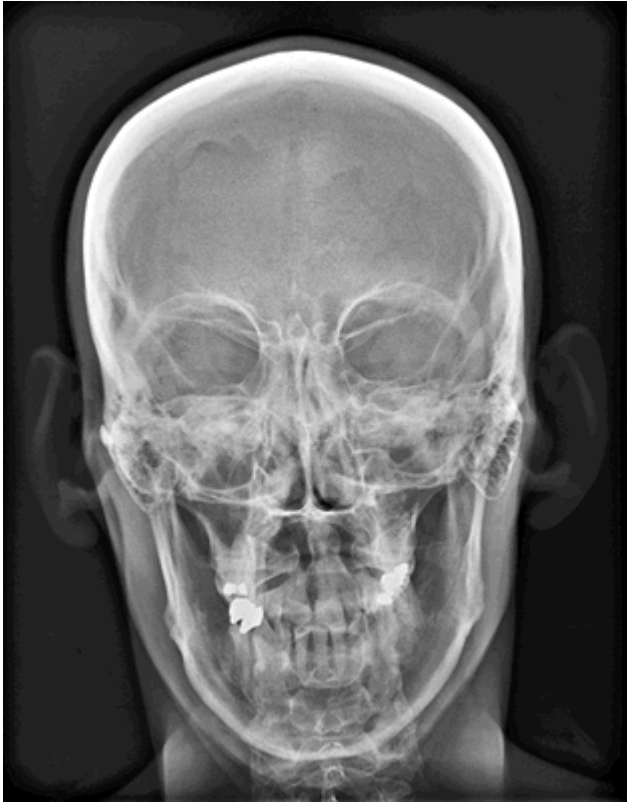
foramen spinosum

foramen mandibulare

fissura orbitalis inferior

Obsah: mm. pterygoidei



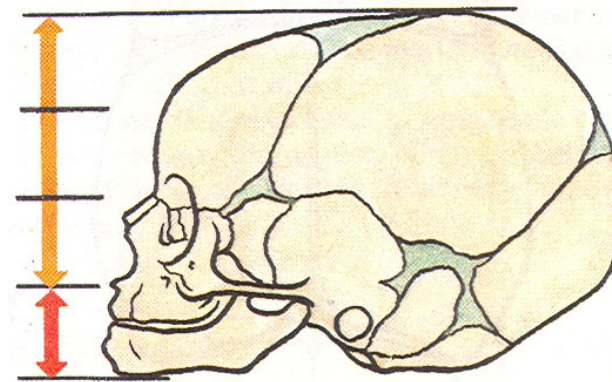
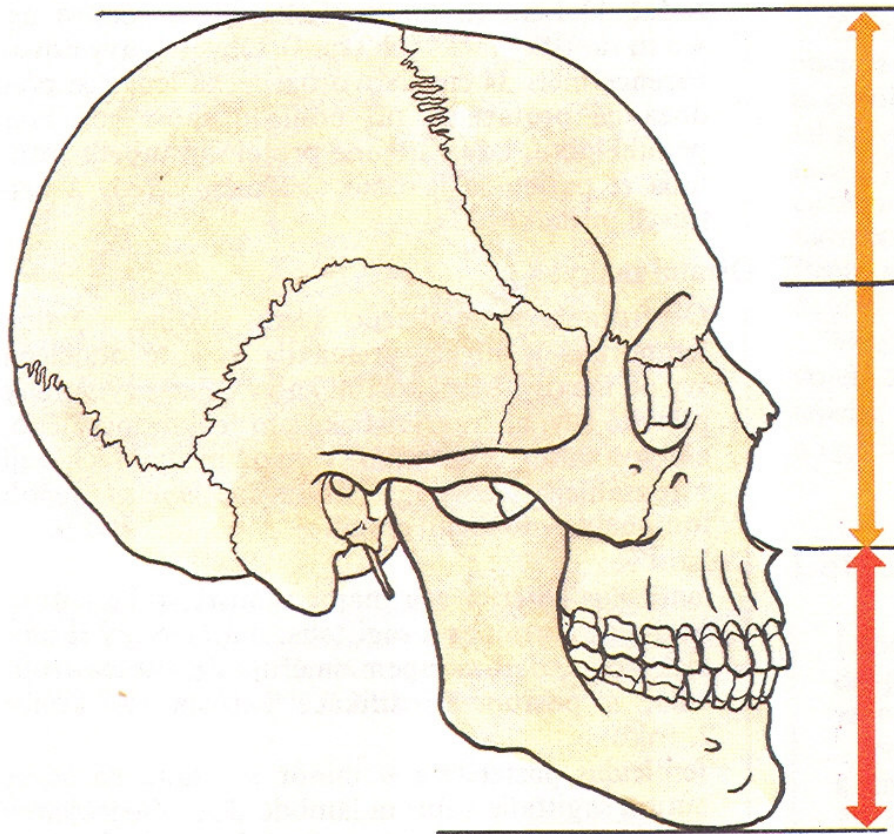


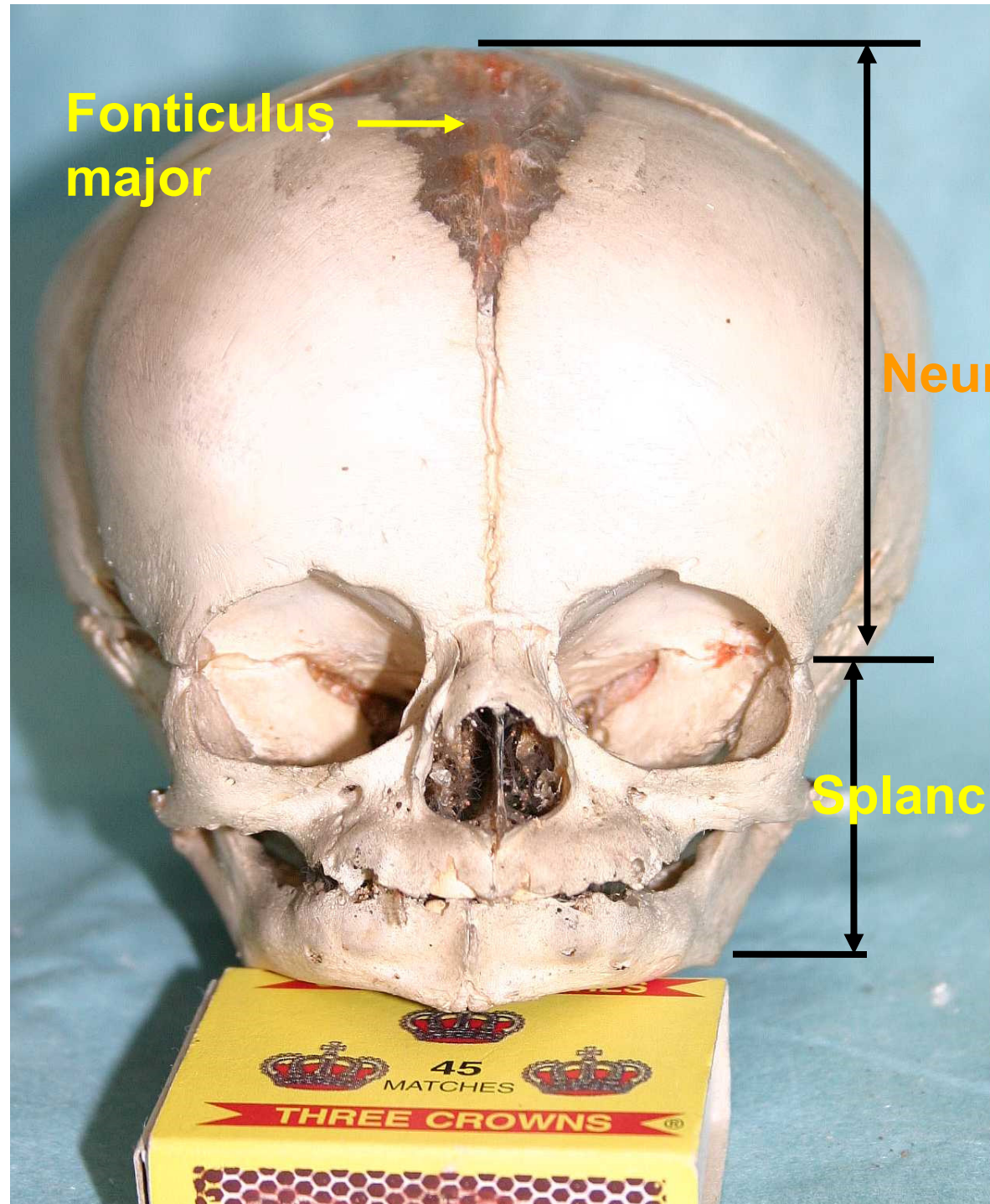
Lebka novorozenice

Pro lebku novorozence a dítěte jsou typické následující znaky:

Převaha mozkové části lebky (neurocranium) nad částí obličejovou (splanchnocranium).

(8:1)





Fonticulus
major

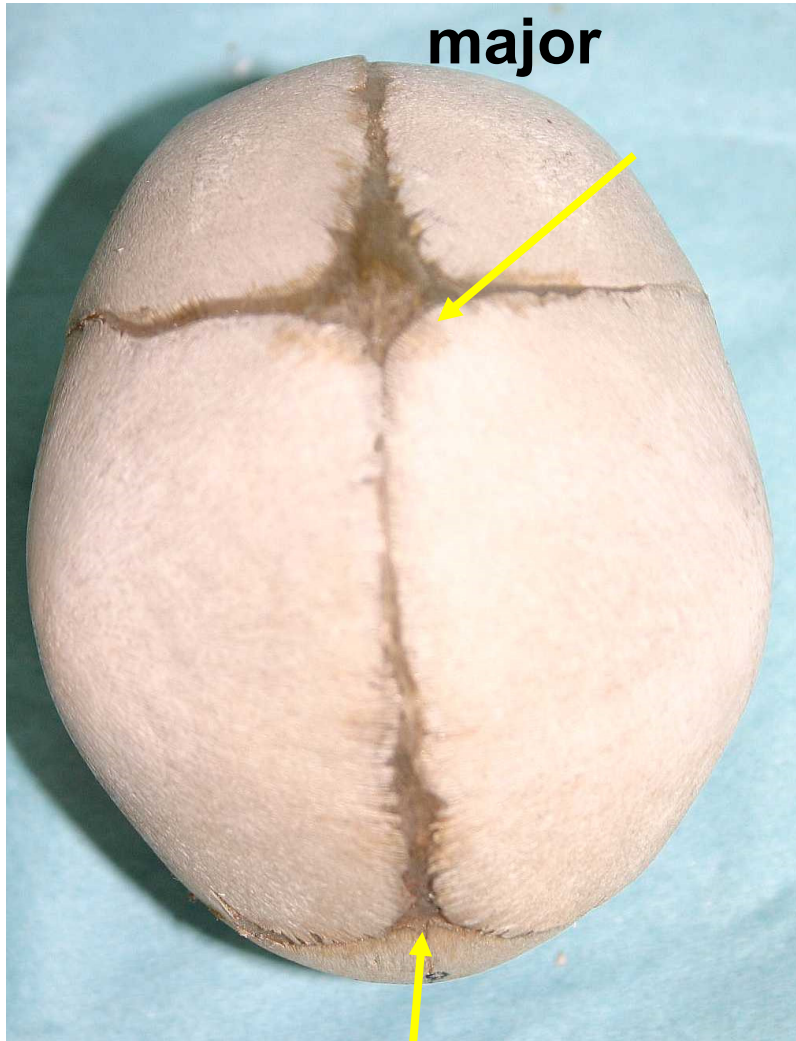
Neurokranium

Splanchnokranium

Přítomnost tzv. lupínků (fonticuli cranii):

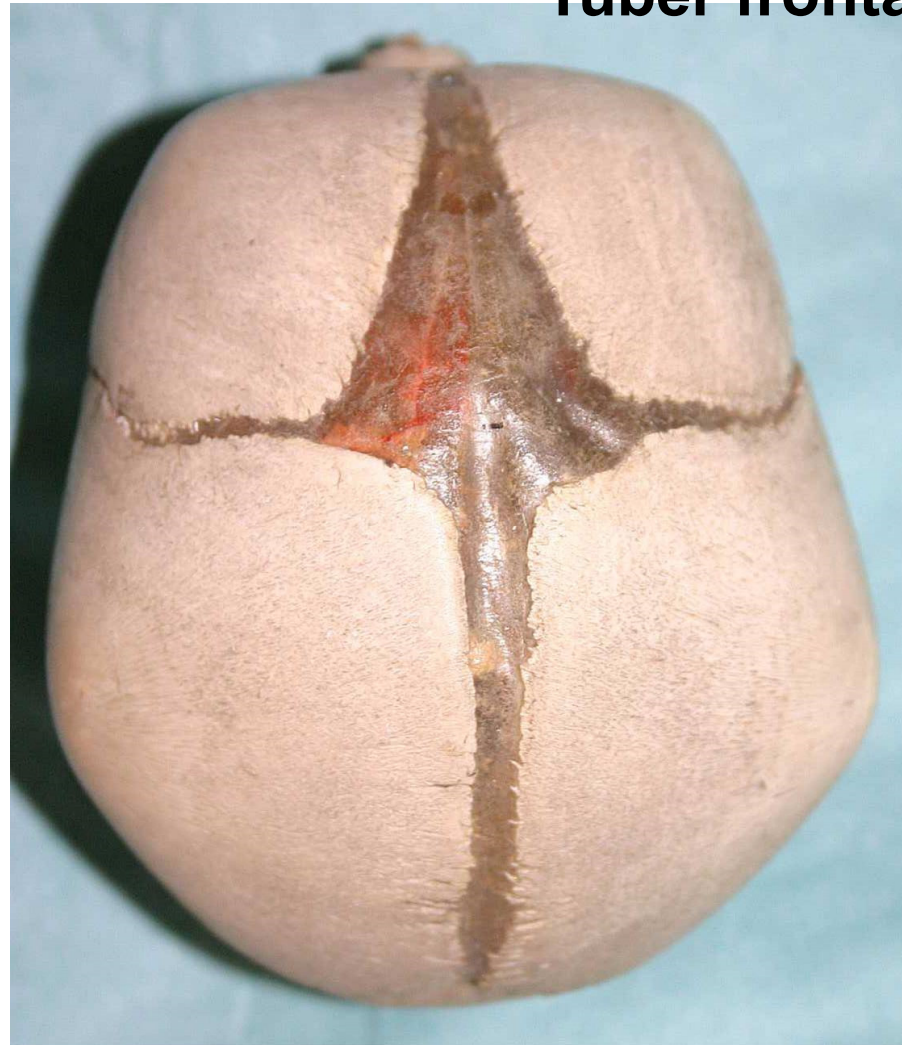
- čtyřcípý velký lupínek, **fonticulus anterior (major)** v místě styku švu šípového (sutura sagittalis), švu věnčitého (sutura coronalis) a švu mezi oběma základy šupiny čelní kosti (sutura frontalis).
- trojcípý malý lupínek **fonticulus posterior (minor)**, na styku švu lambdového (sutura lambdoidea) a švu šípového (sutura sagittalis).

**Fonticulus
major**



**Fonticulus
minor**

Tuber frontale

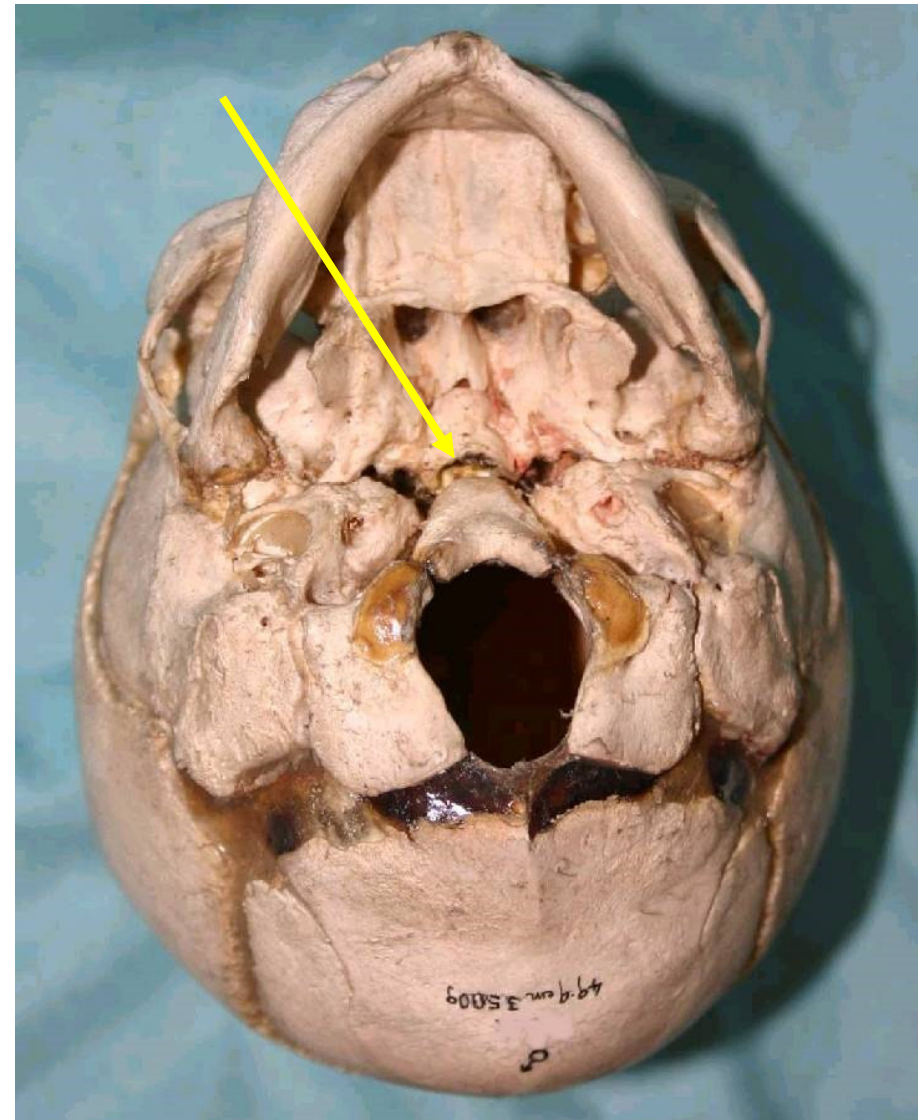


Tuber parietale

Bubínková kost (os tympanicum) má tvar prstence.

Místo typických švů (sutura), jsou pouze vazivové pásky.

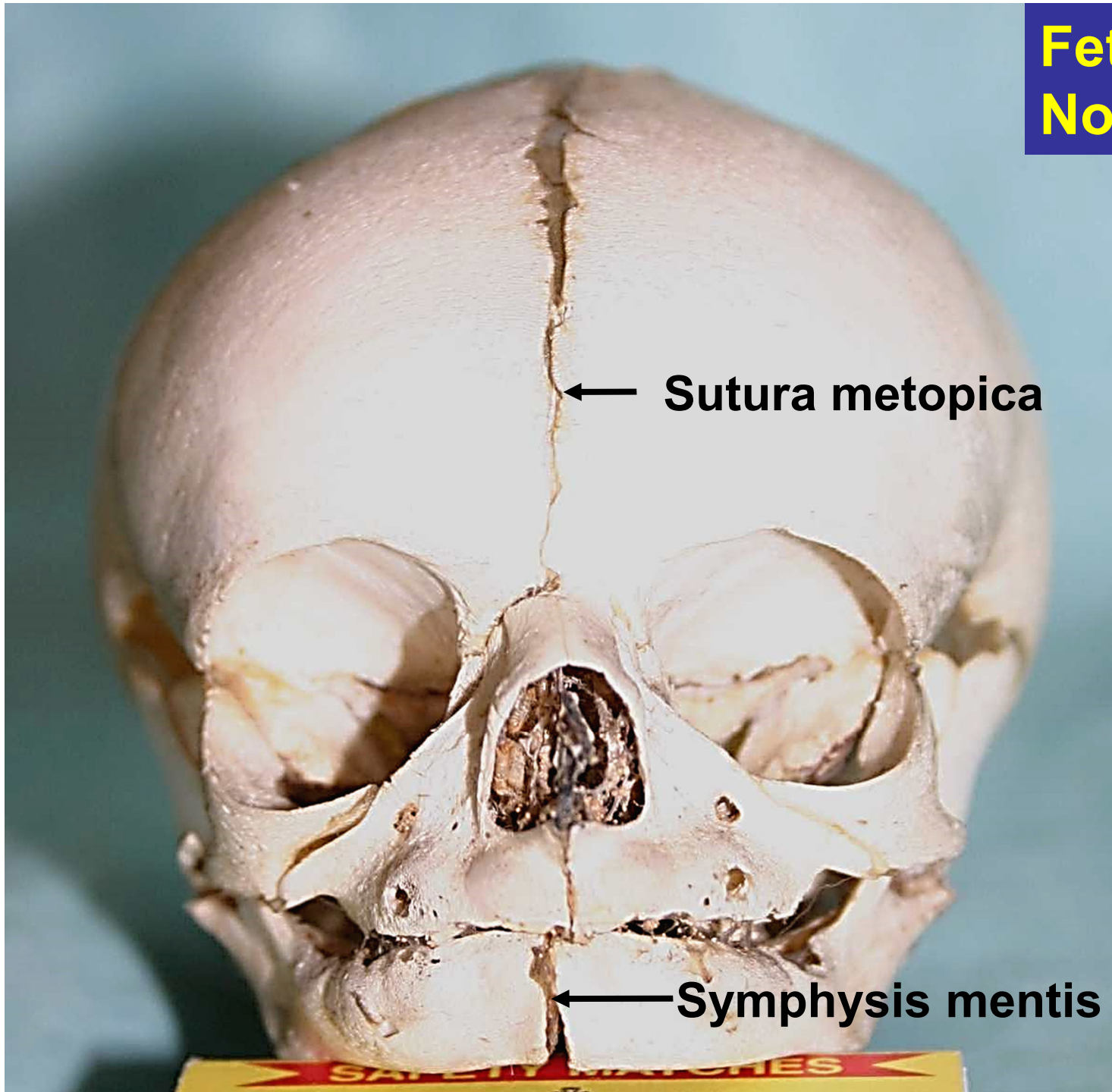
Při pohledu na lební bázi v norma inferior (basis cranii externa) jsou dobře patrné **růstové chrupavky**, především: **synchondrosis sphenoccipitalis** (mezi těly kosti klínové a týlní, zanikající až kolem dvacátého roku) a **synchondrosis intraoccipitalis anterior et posterior** (mezi jednotlivými základy týlní kosti, zanikající mezi pátým a sedmým rokem).



Fetální lebka
Norma anterior

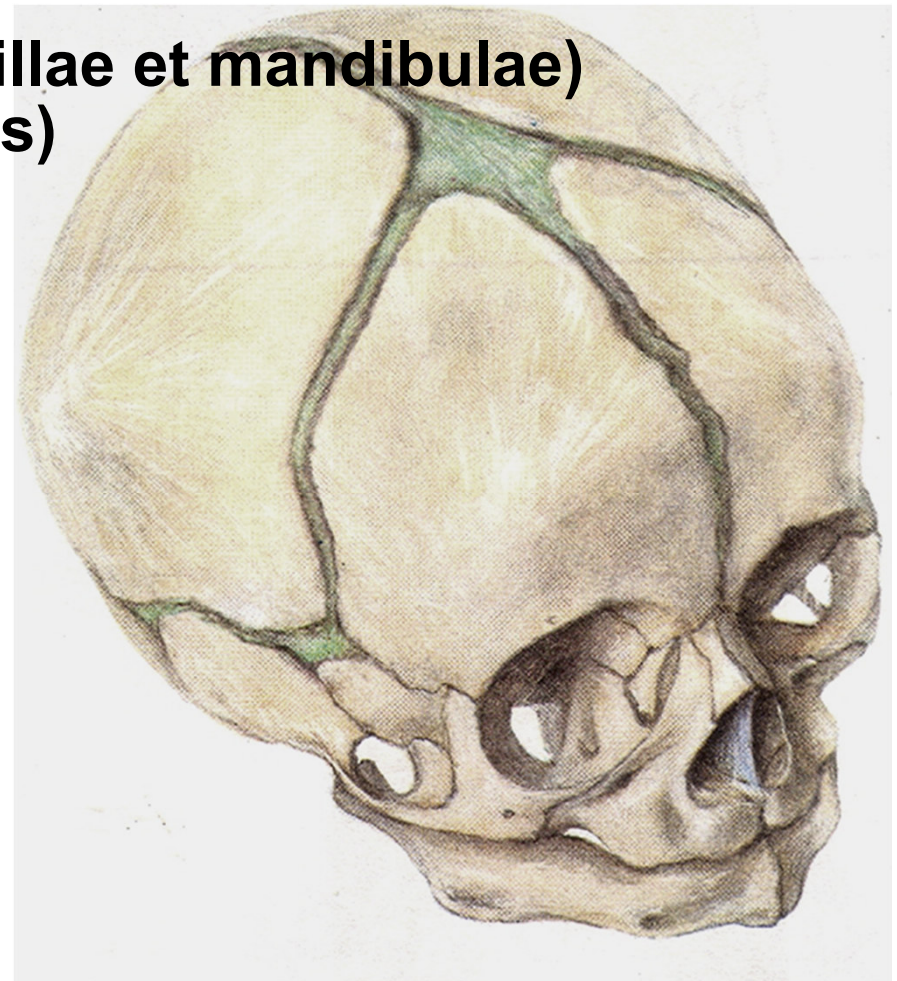
← **Sutura metopica**

← **Symphysis mentis**



Novorozenecká lebka

- kapacita okolo 370 ccm
- obvod okolo 34 cm
- délka okolo 11 cm
- velké neurocranium
- fonticuli (major, minor, sphenoidalis, mastoideus)
- nízké splanchnocranium
- bez processus alveolares (maxillae et mandibulae)
- bez paranasálních dutin (sinuses)
- sutura frontalis
- anulus tympanicus
- symphysis menti
- mandibulární úhel okolo 140°



DĚKUJI ZA
POZORNOST!