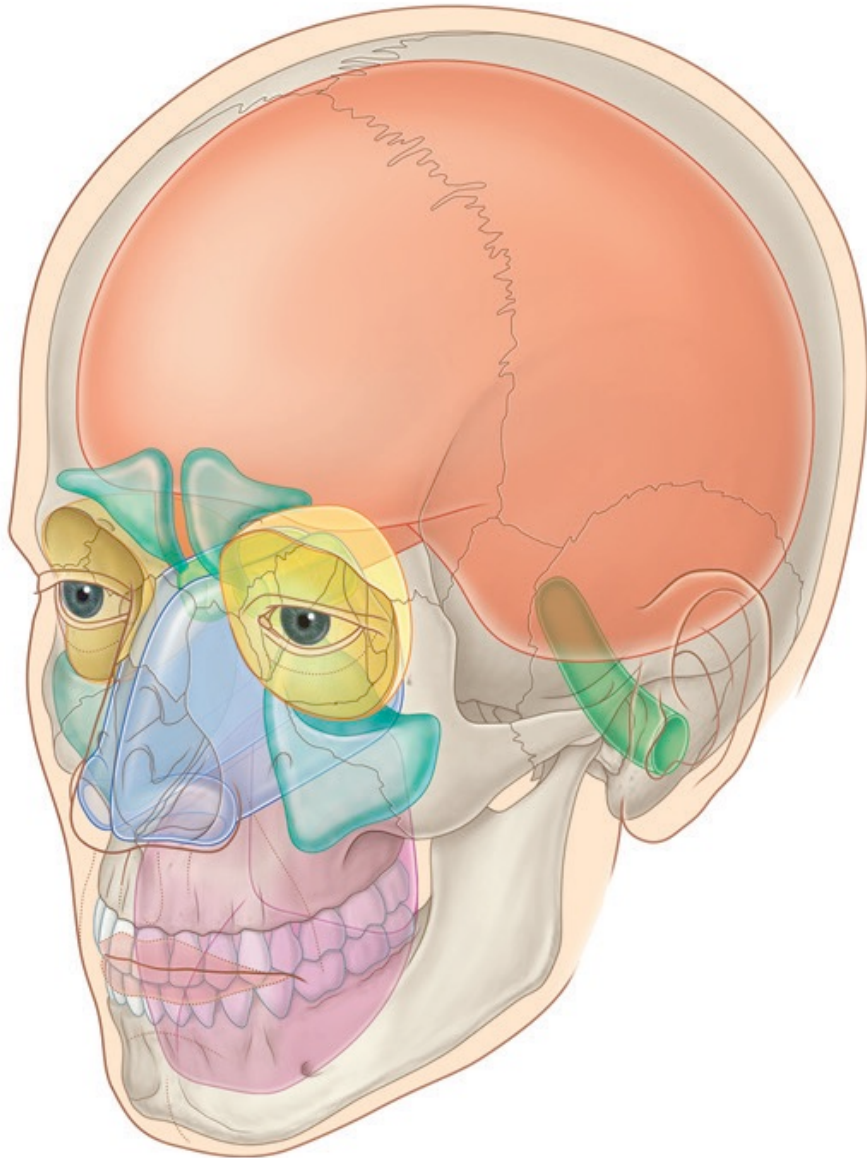


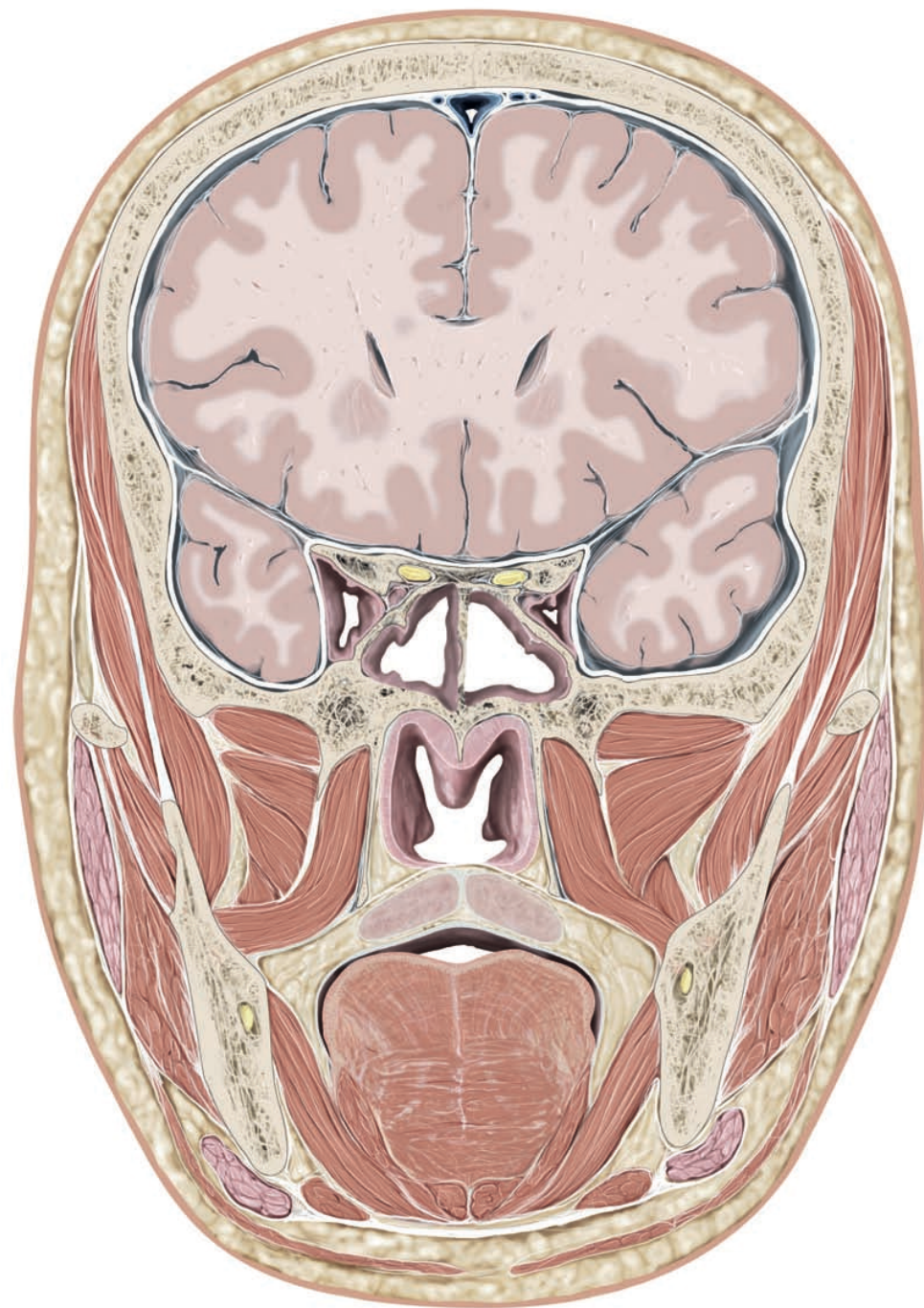
Head and neck 1

Prof. MUDr. Jiří Ferda, Ph.D.

Caput



- ♦ skull
- ♦ Cranial cavity
- ♦ Ear
- ♦ Orbit
- ♦ Nasal cavity - nares - choanae
- ♦ Paranasal sinuses
- ♦ Oral cavity- vestibulum, vlastní dutina
- ♦ Mimic muscles
- ♦ Mastication muscles
- ♦ Scalp
- ♦ Fossa pterygopalatina
- ♦ Fossa infratemporalis



Cranium – lebka - skull

♦ splanchnocranium

♦ neurocranium



Cranium – lebka - skull

♦ splanchnocranium

♦ neurocranium



splanchnocranium

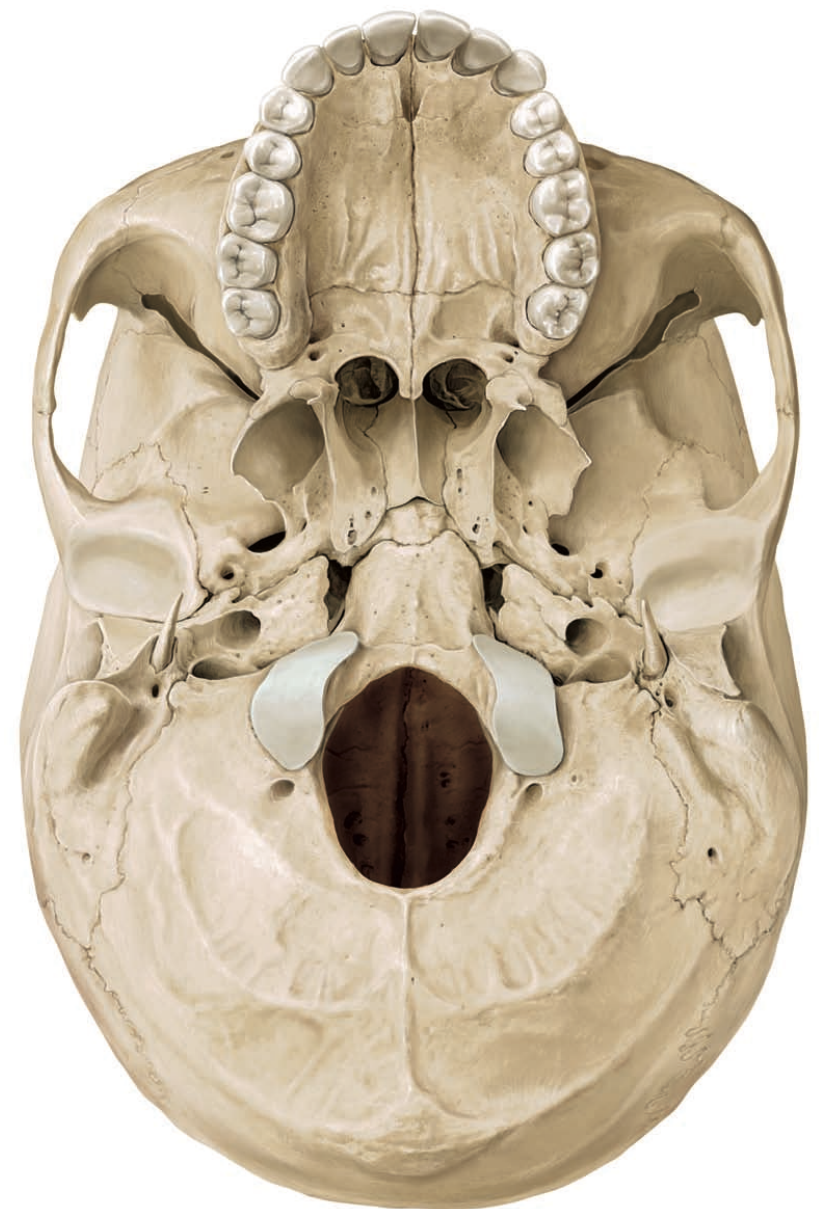
🔥 Fracturae maxiofaciales - LeFort



Cranium – lebka - skull

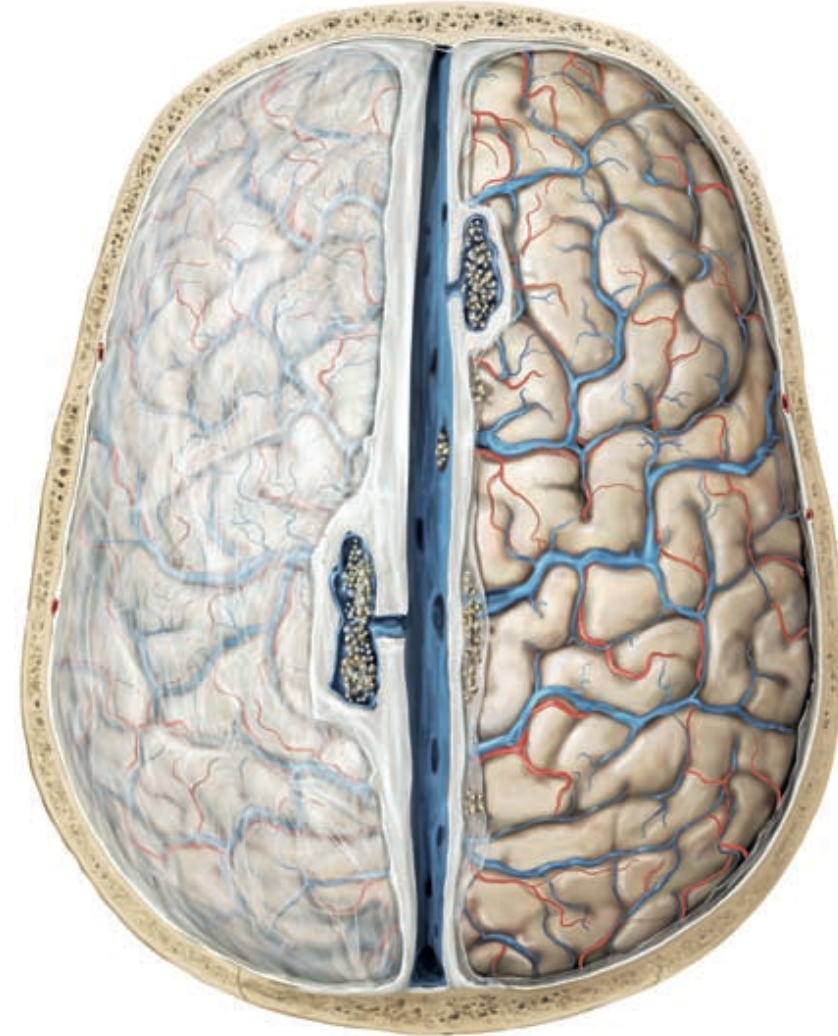
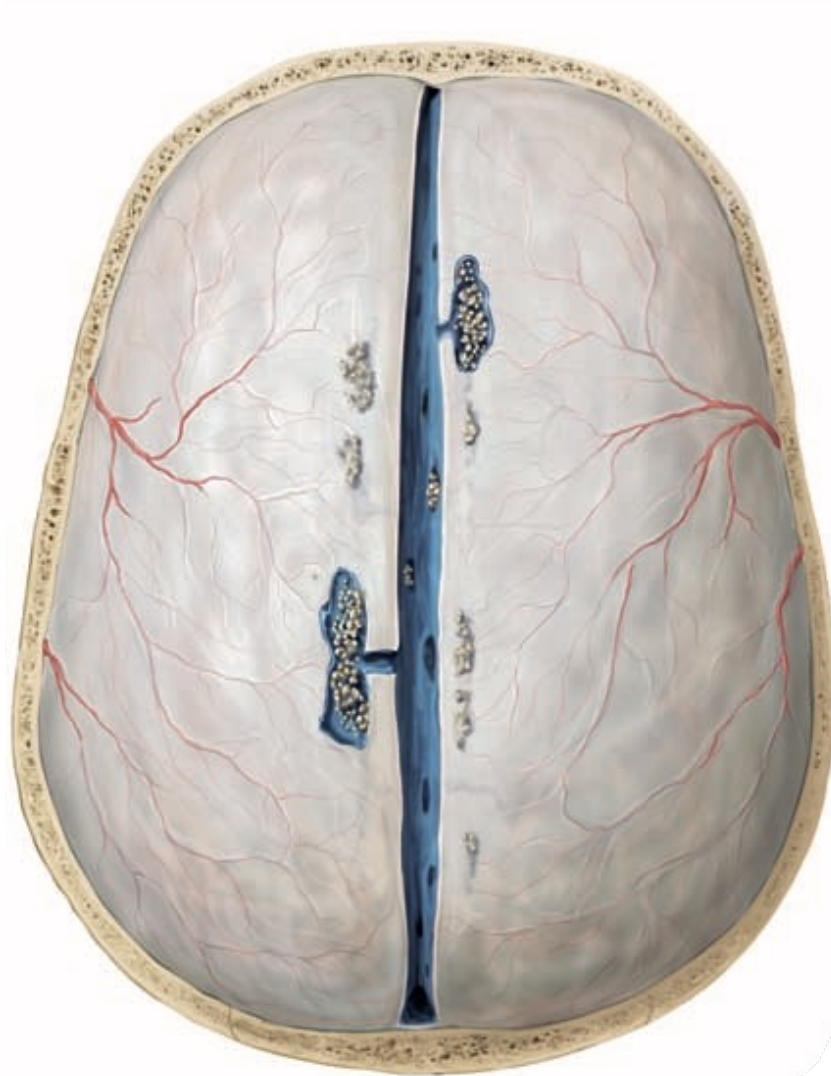
🔴 Calva - calvaria

🔴 Basis cranii



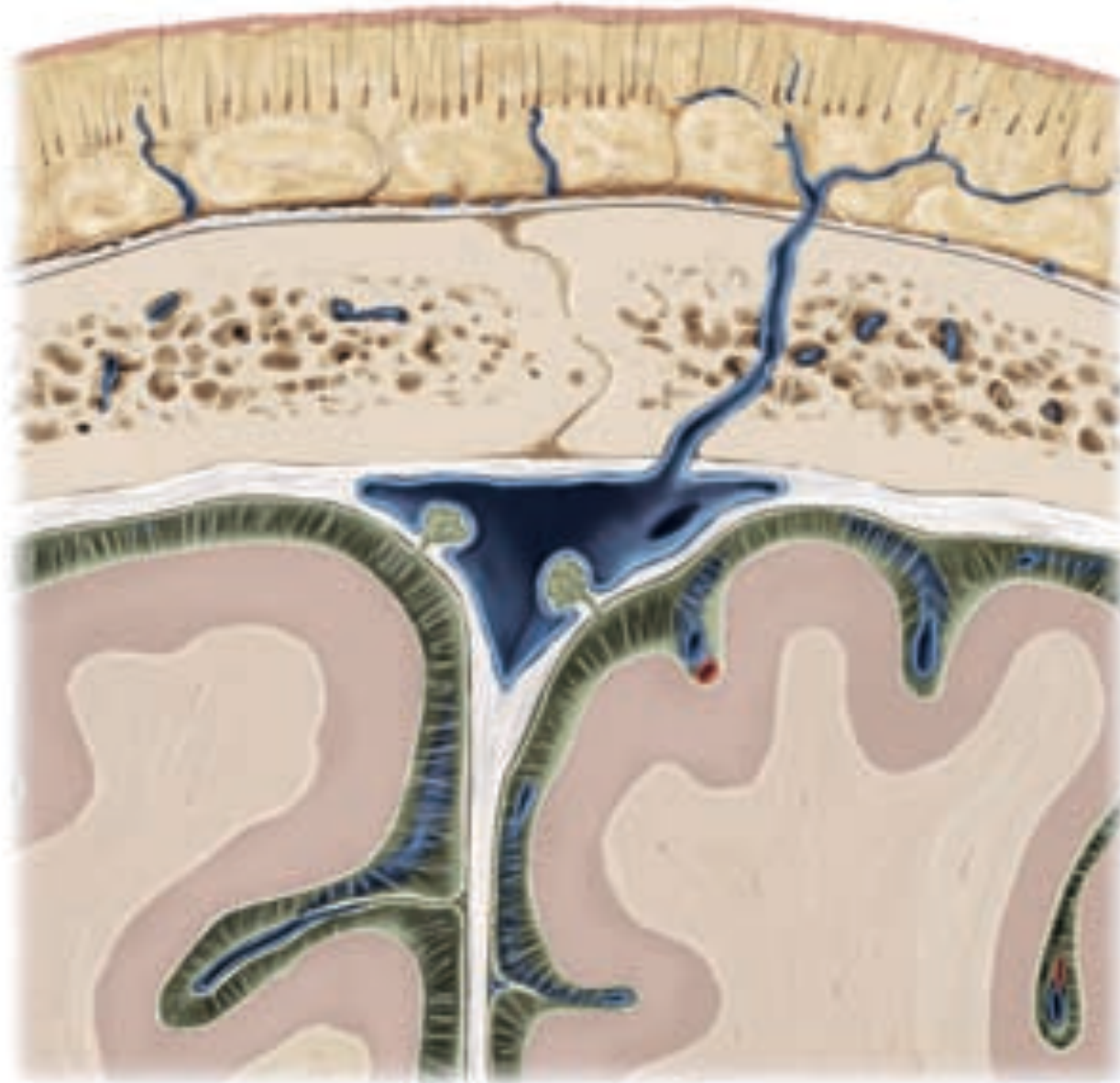
Cavitas cranii

- Meninges, vasa, cerebrum
- Liquor cerebrospinalis



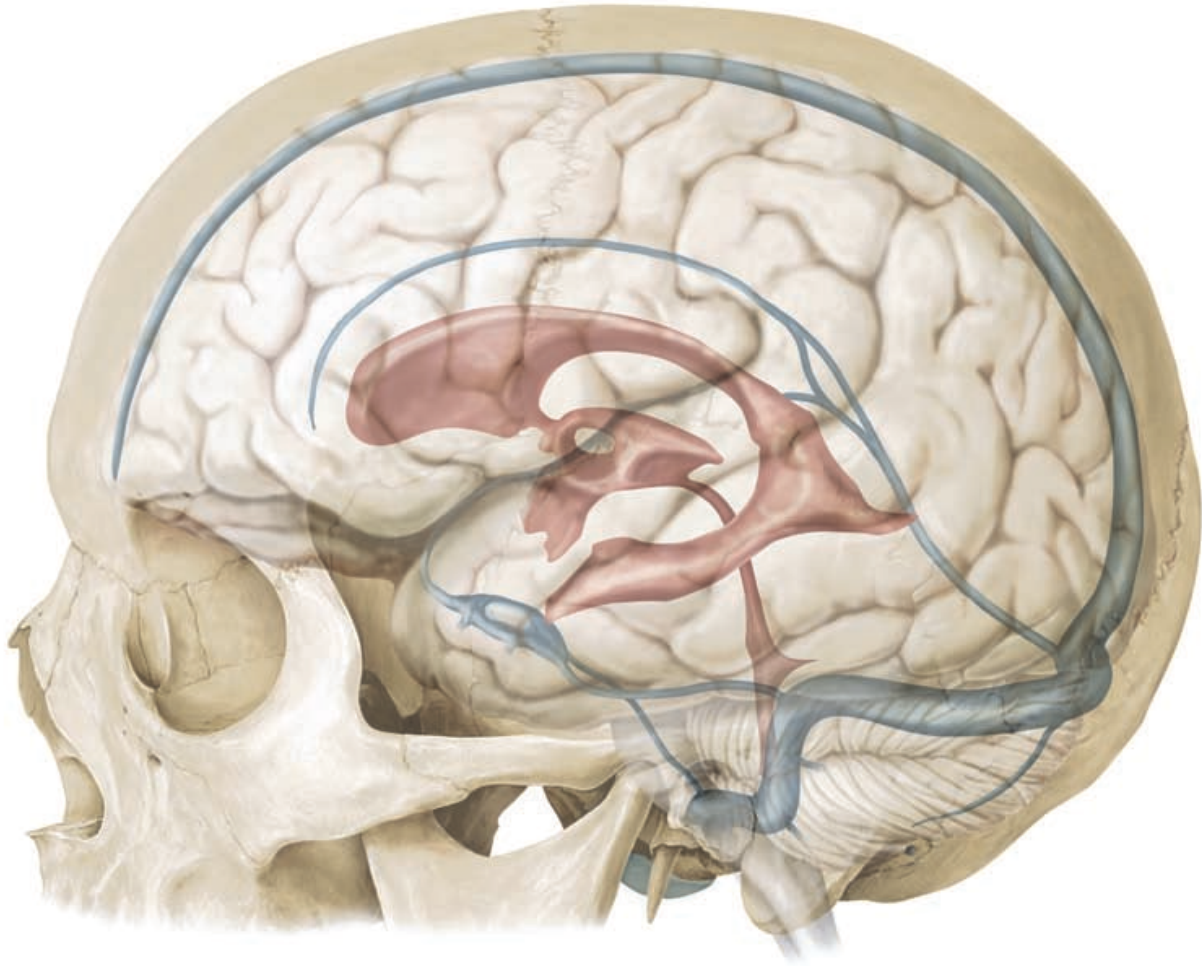
Cavitas cranii

- Meninges, vasa, cerebrum
- Liquor cerebrospinalis



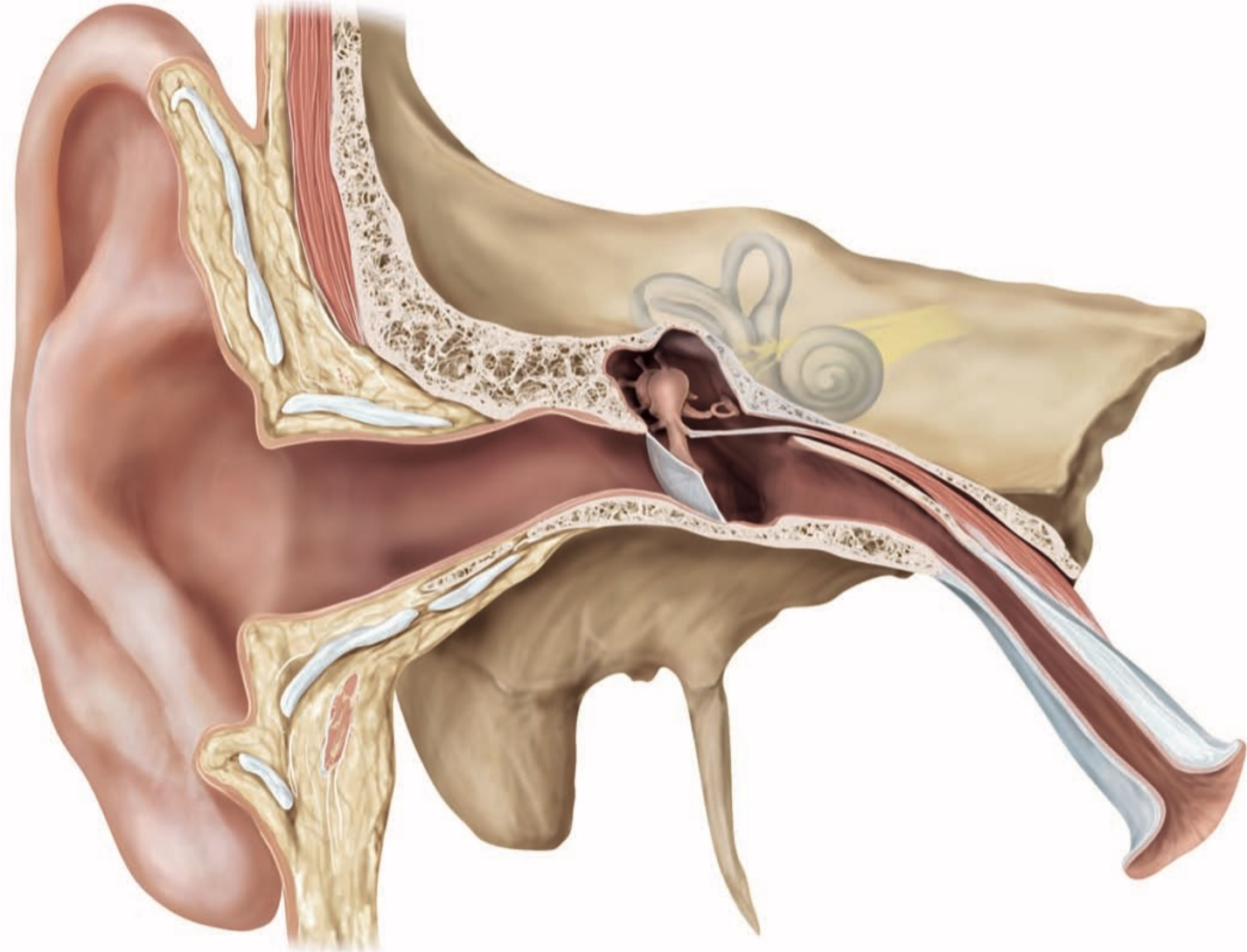
Cavitas cranii

- Meninges, vasa, cerebrum
- Liquor cerebrospinalis



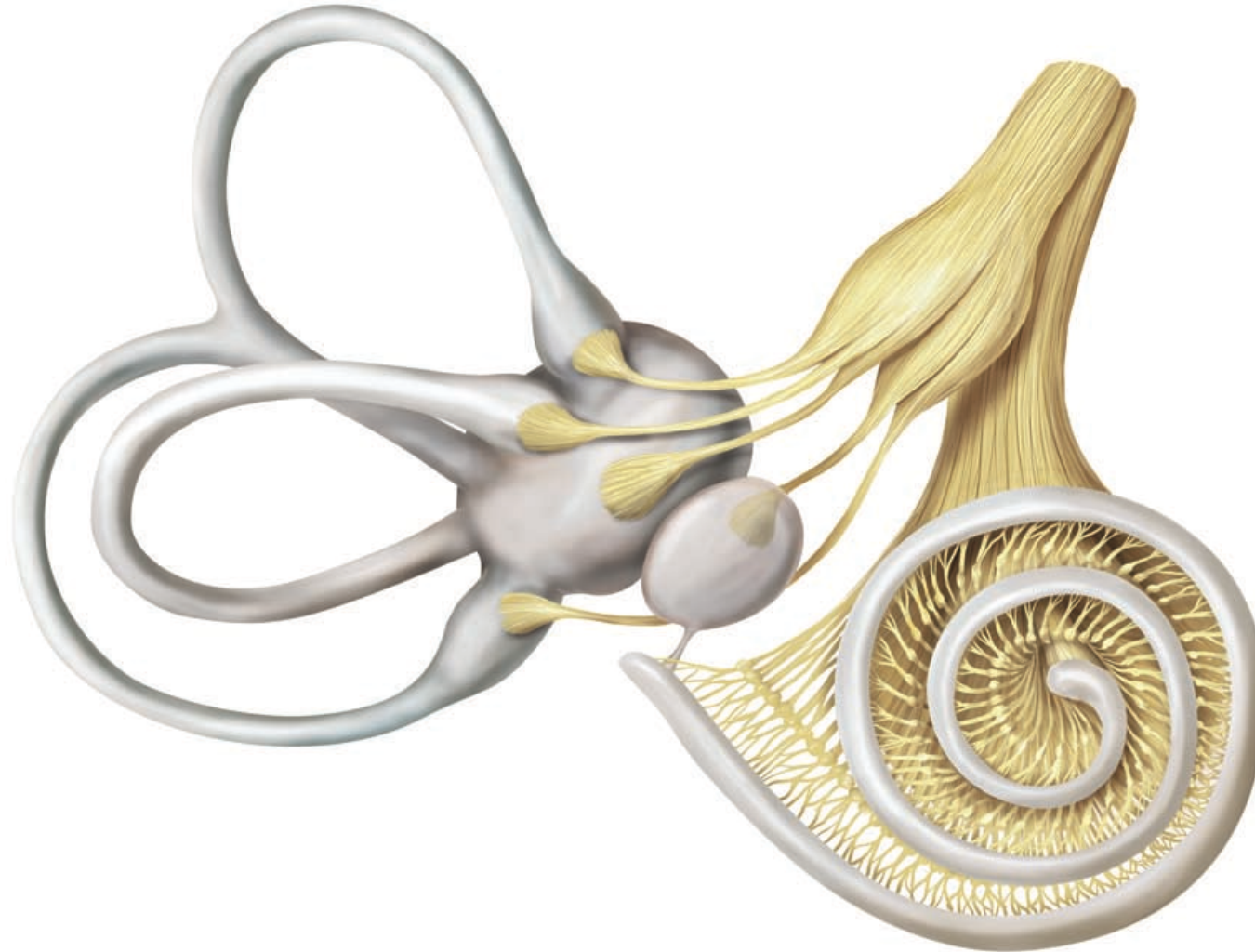
Otis – ucho – ear

- Otis externa, otis media, otis interna
- Auricula – auricle – ušní boltec



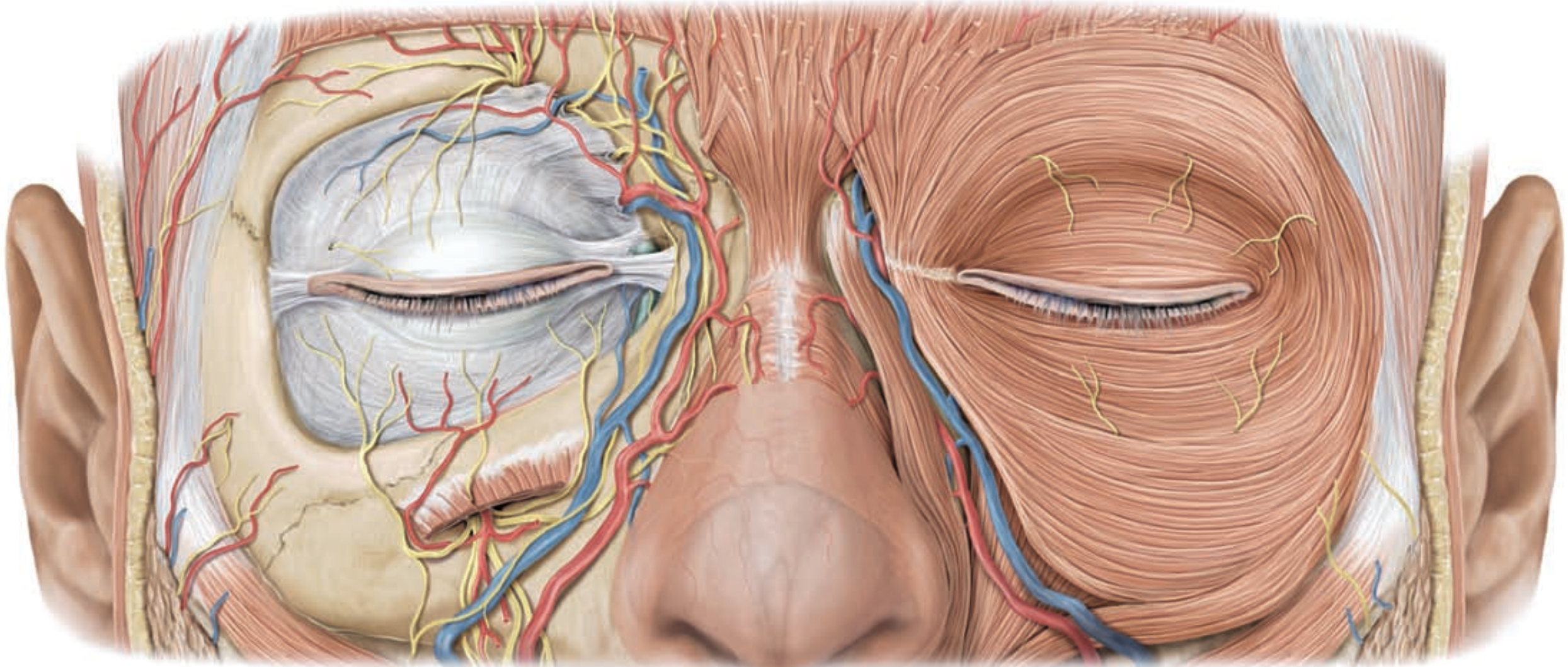
Organum statoacusticum

- 🔴 Labyrinth – canaliculi semilunares, utriculus, sacculus
- 🔴 Cochlea



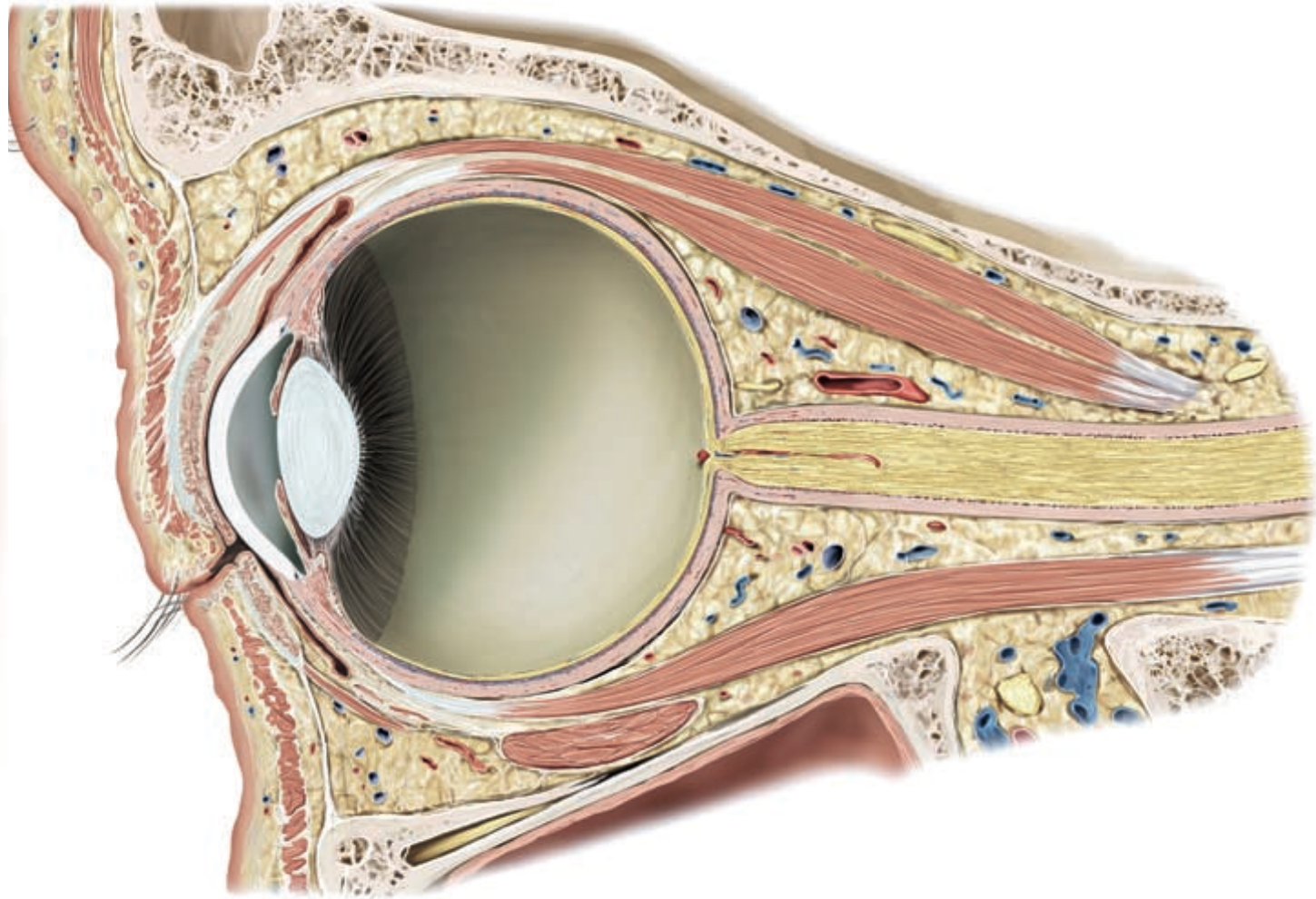
orbita

- ♦ Palpebrae, apparatus lacrimalis, musculi orbitae
- ♦ Bulbus oculi, nervus opticus, vasa et nervi orbitae



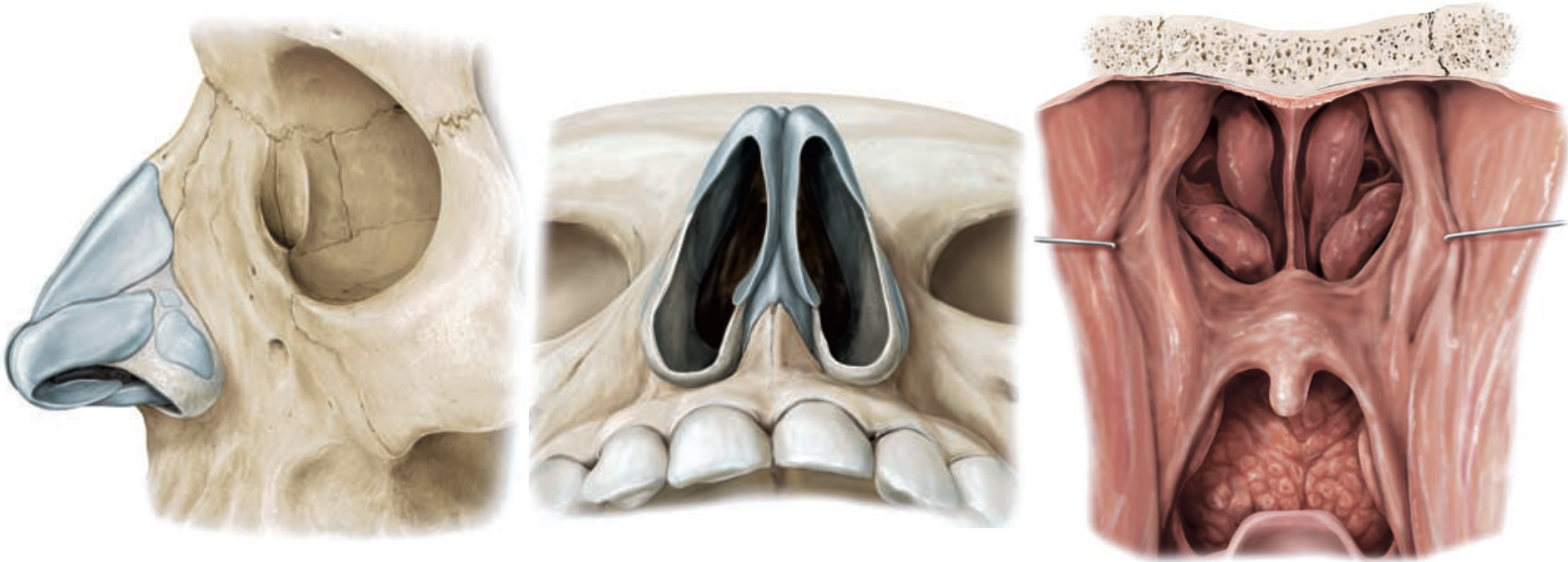
orbita

- ♦ Palpebrae, apparatus lacrimalis, musculi orbitae
- ♦ Bulbus oculi, nervus opticus, vasa et nervi orbitae



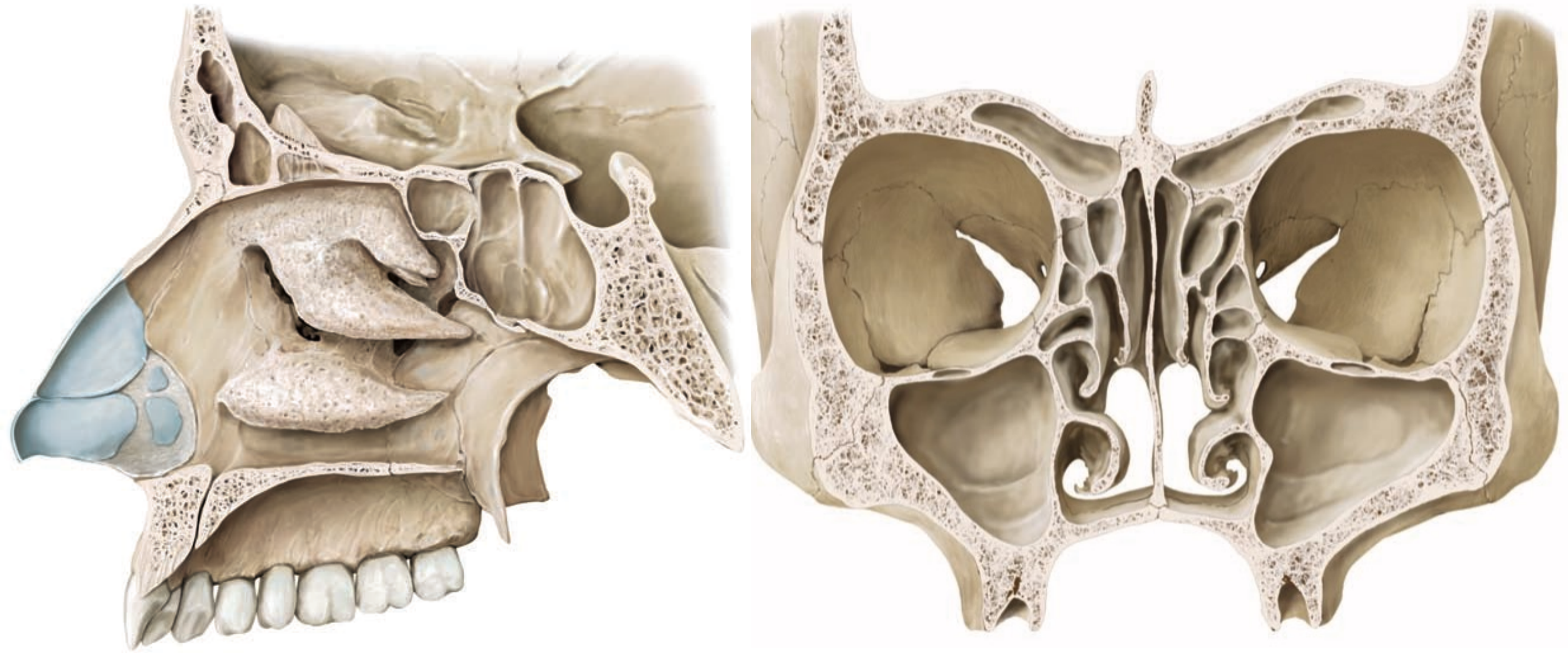
Nasus – nos - nose

🔴 Nares, cavitas nasi, choanae



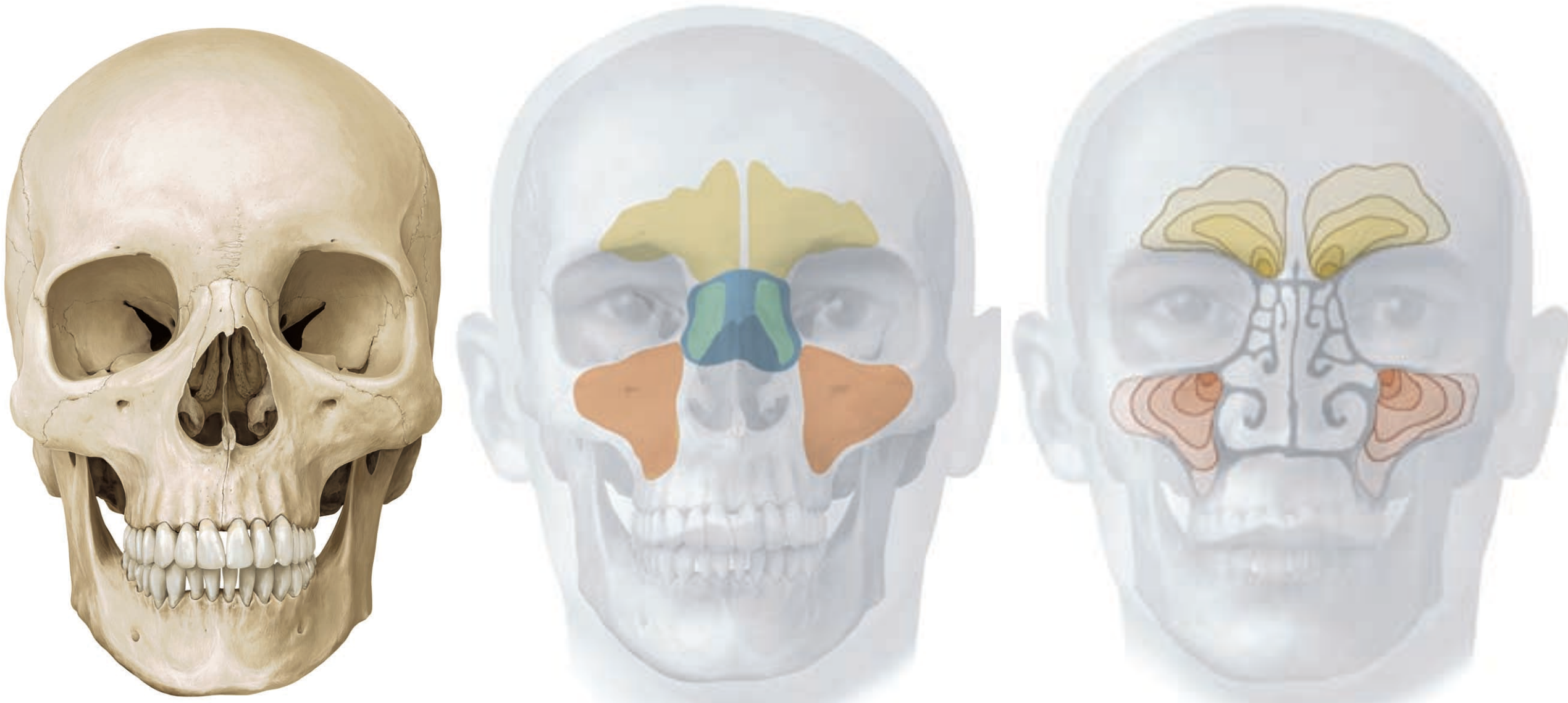
Cavitas nasi – dutina nosní – nasal cavity

- Conchae
- Sinus paranasales



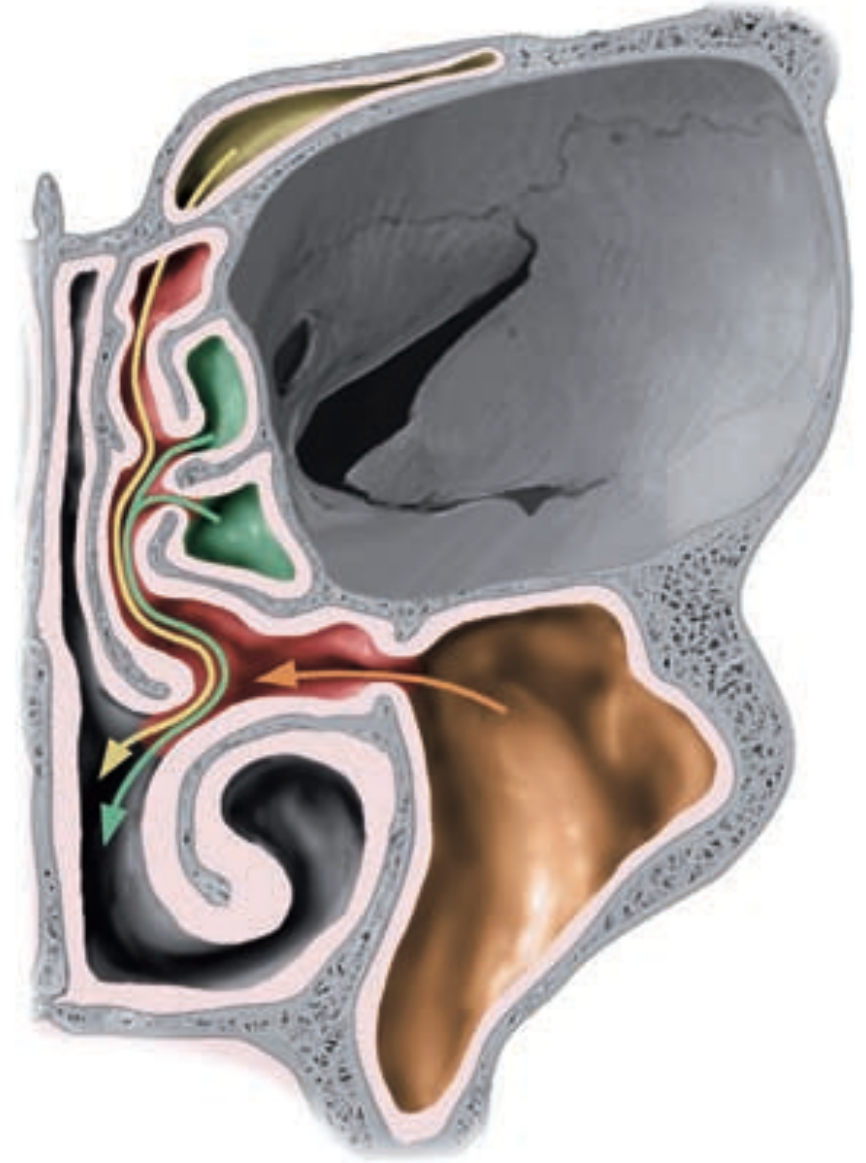
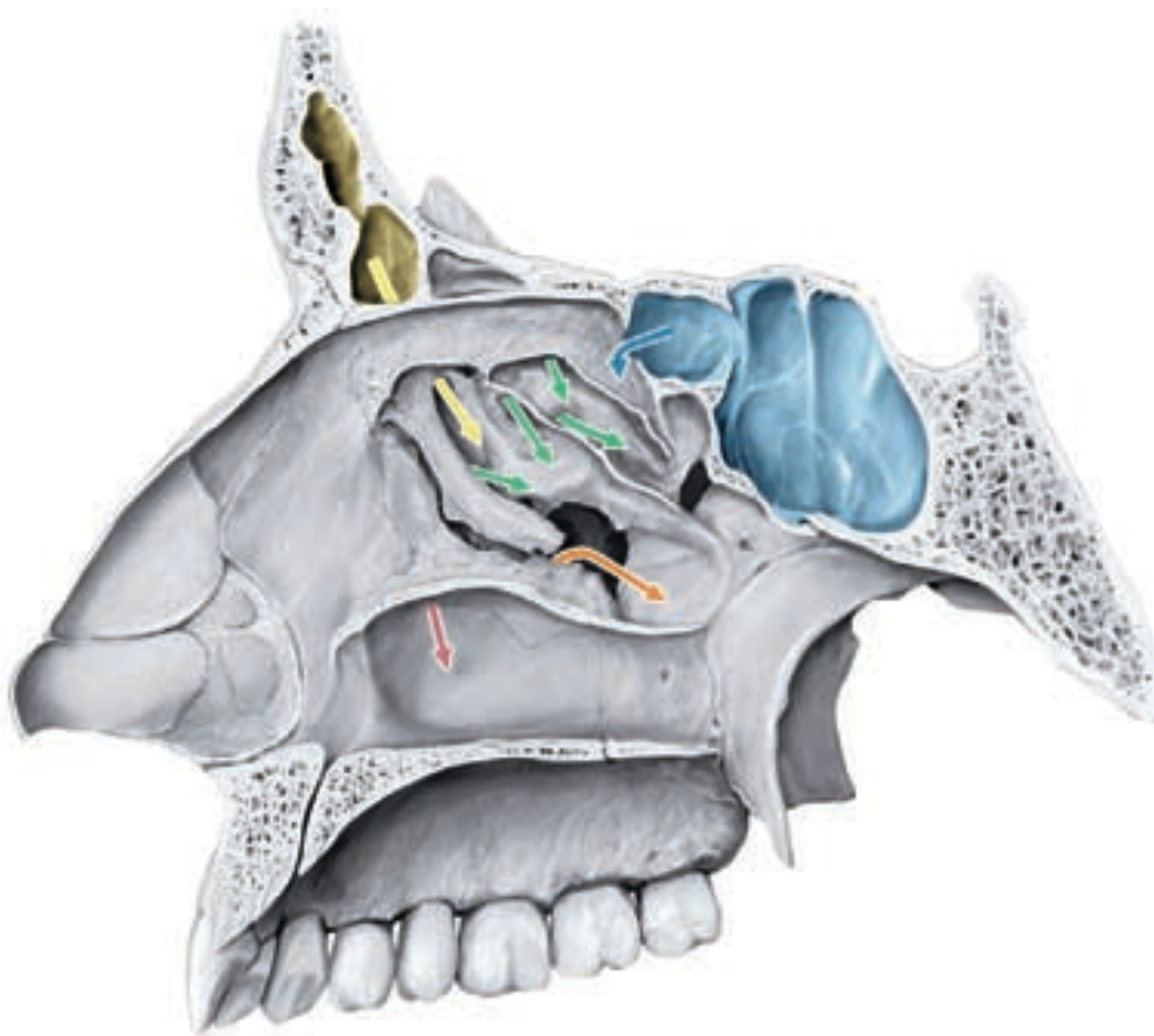
Sinus paranasales – paranasal sinuses

🔴 Sinus maxillares, sphenoidalis, frontalis, cellulae ethmoidales

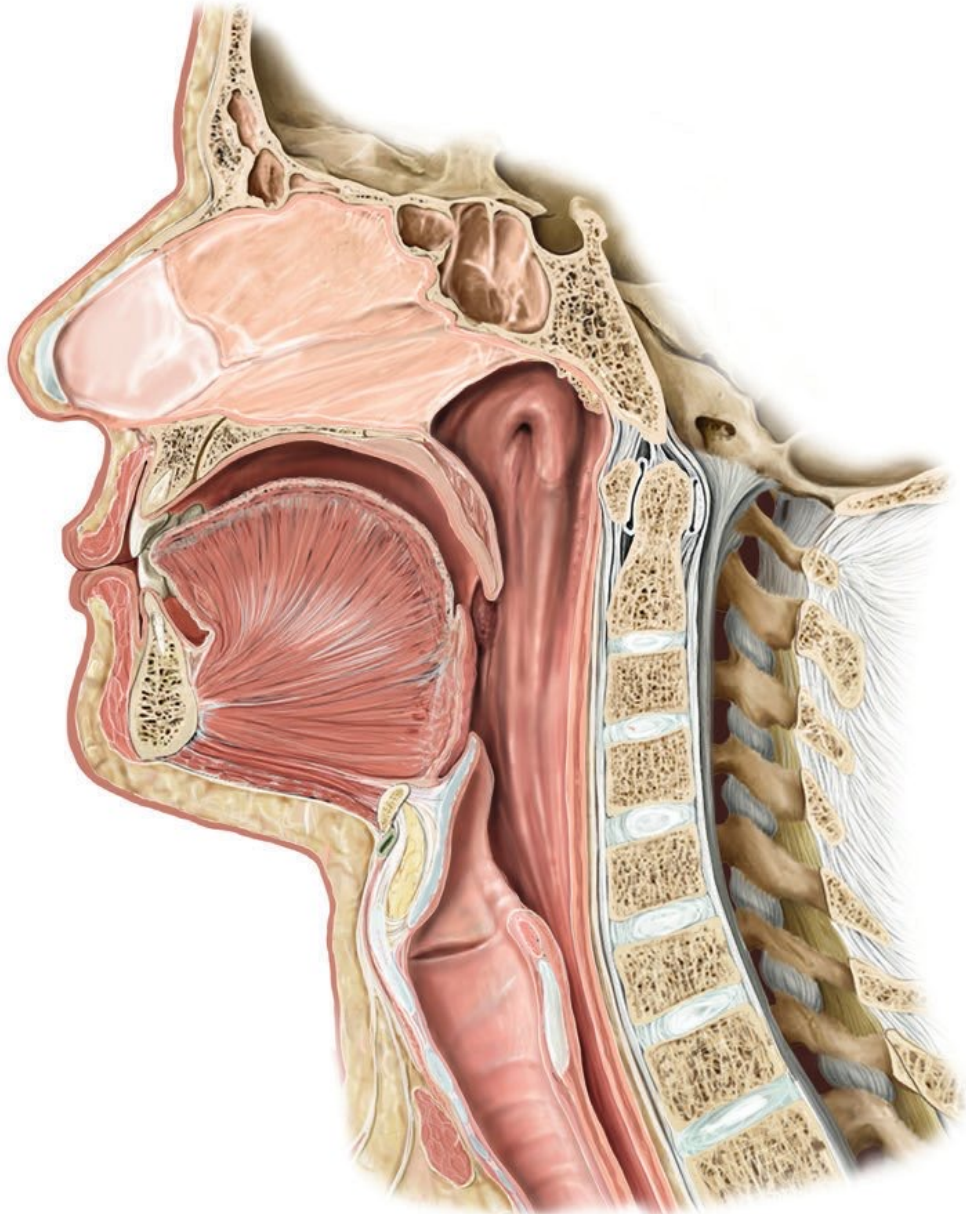


Sinus paranasales – paranasal sinuses

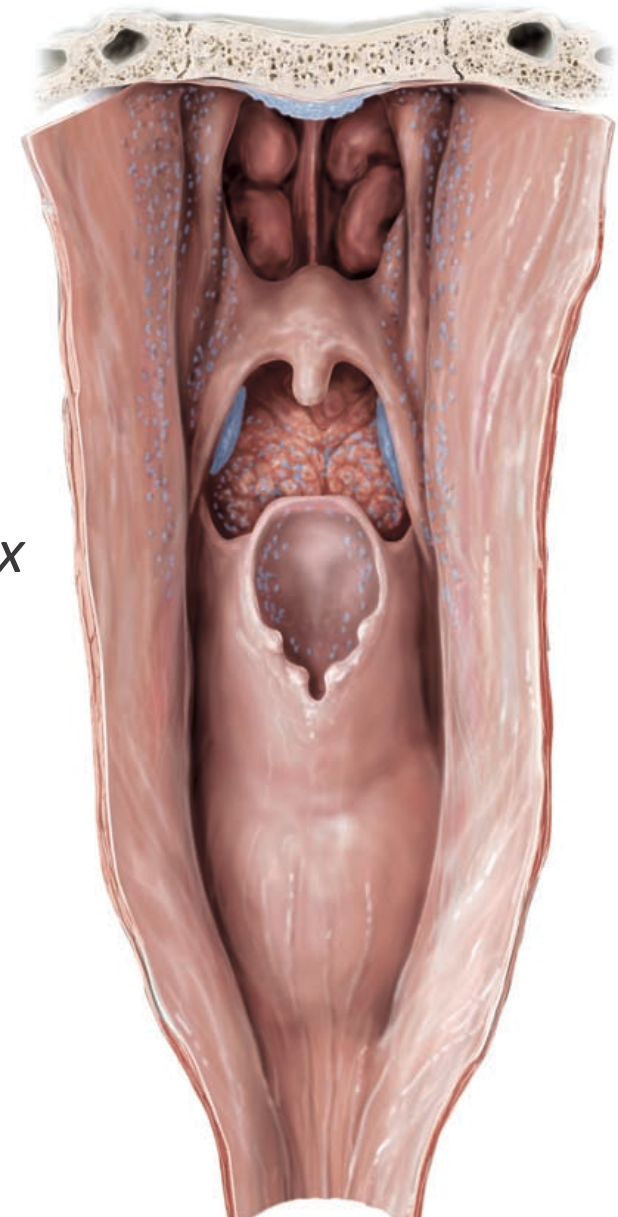
🔥 Sinus maxillares, sphenoidalis, frontalis, cellulae ethmoidales

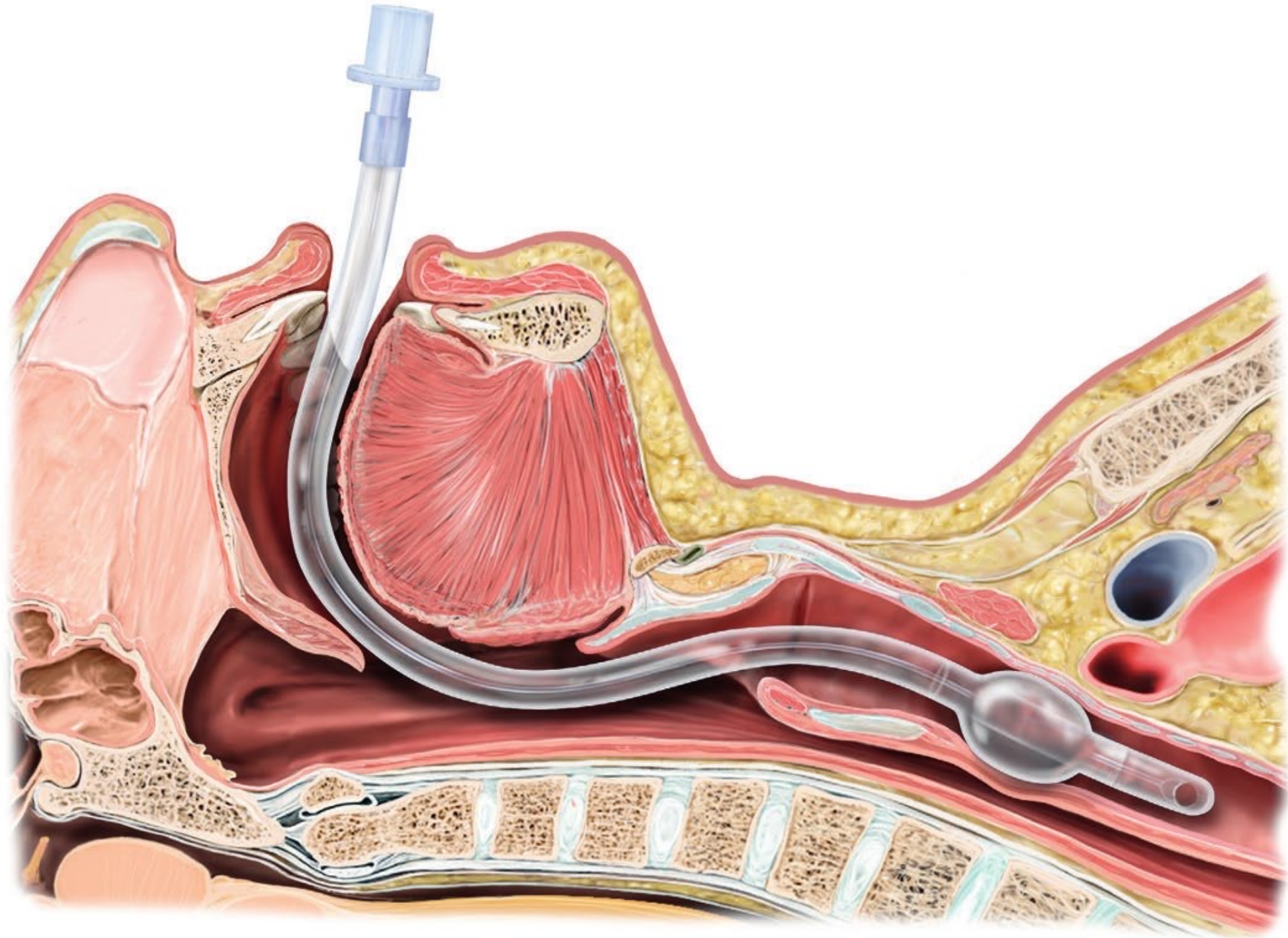


Cavitas oris, pharynx, larynx

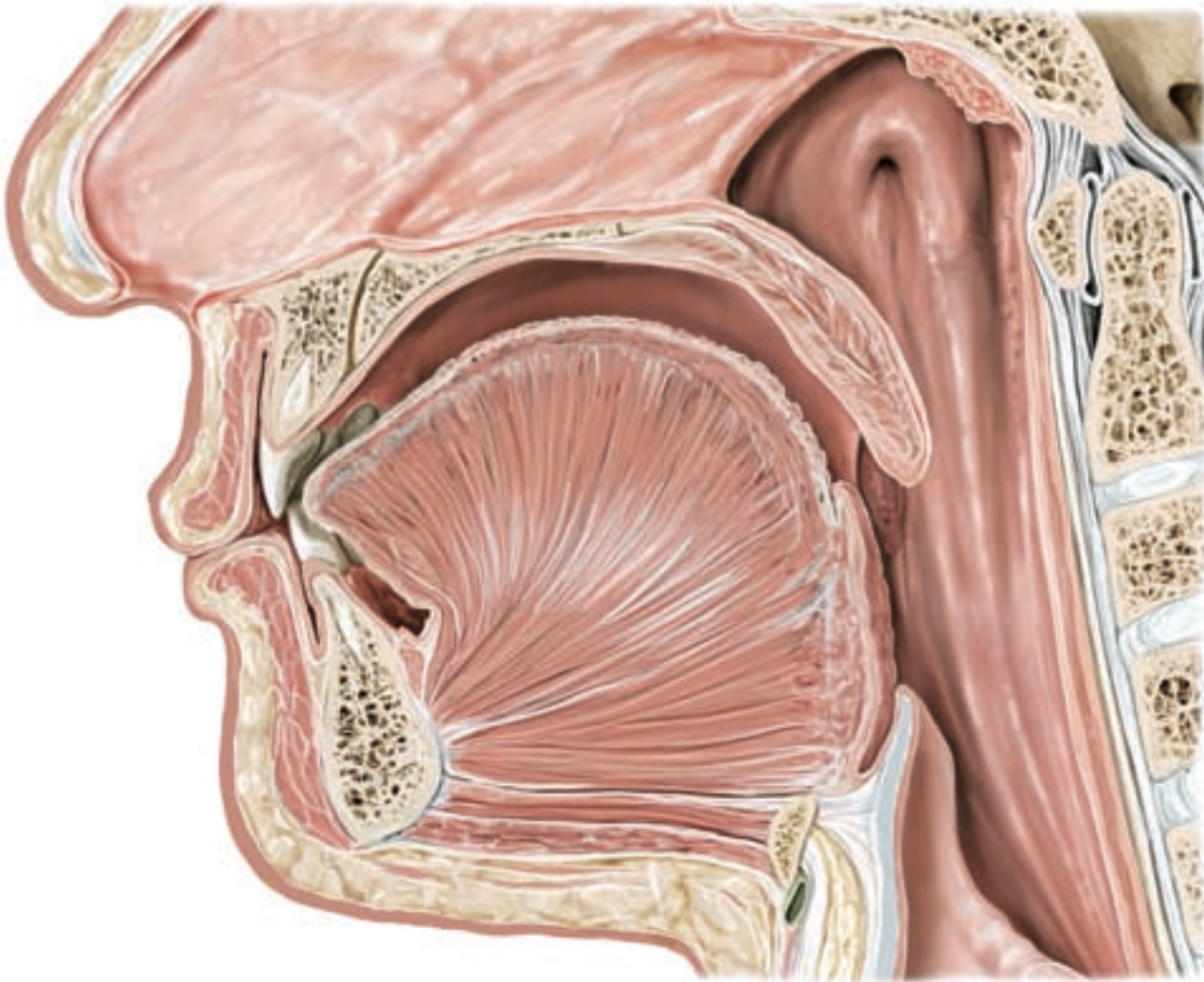


- ♦ **Vestibulum oris**
- ♦ **Cavitas oris**
- ♦ **Pharynx**
- ♦ *Nasopharynx / epipharynx*
- ♦ *Oropharynx / mesopharynx*
- ♦ *Laryngopharynx / hypopharynx*
- ♦ **Larynx**
- ♦ **Trachea**
- ♦ **Oesophagus**



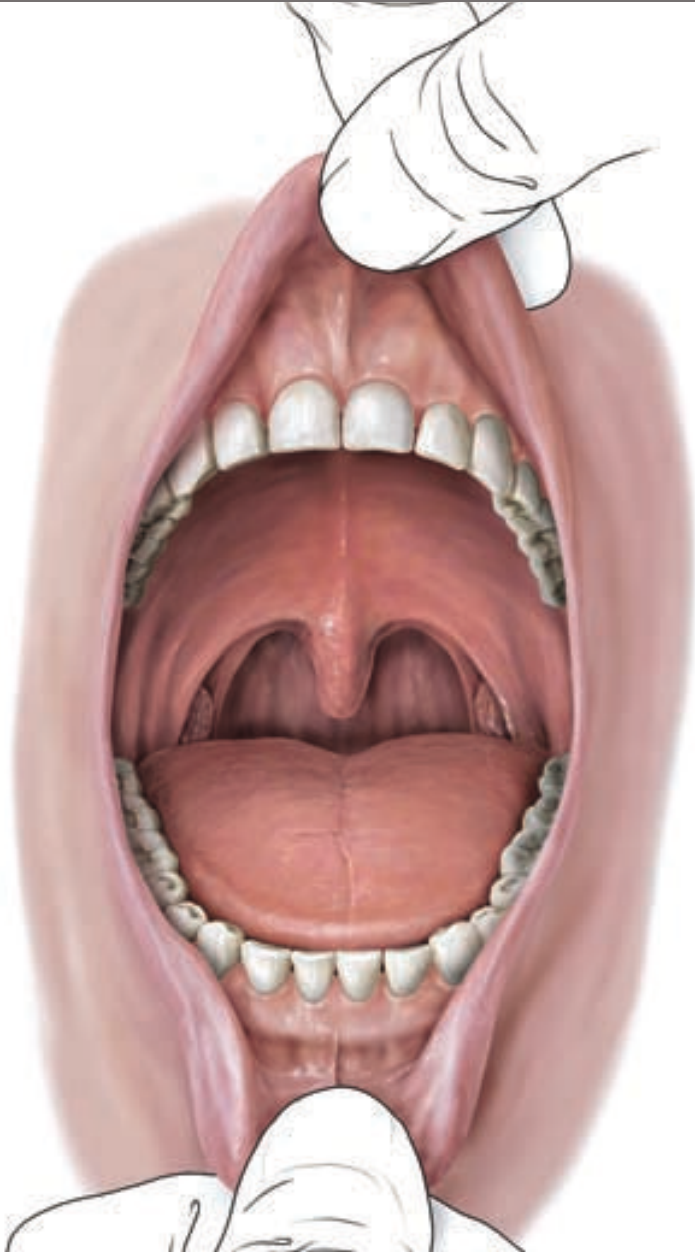


Cavitas oris – dutina ústní – oral cavity



- ♦ **Labium superius**
- ♦ **Labium inferius**
- ♦ **Vestibulum oris**
- ♦ **Cavitas oris propria**
- ♦ **Palatum durum**
- ♦ **Palatum molle**
- ♦ **Dentes**
- ♦ **Gingiva**
- ♦ **Basis oris**

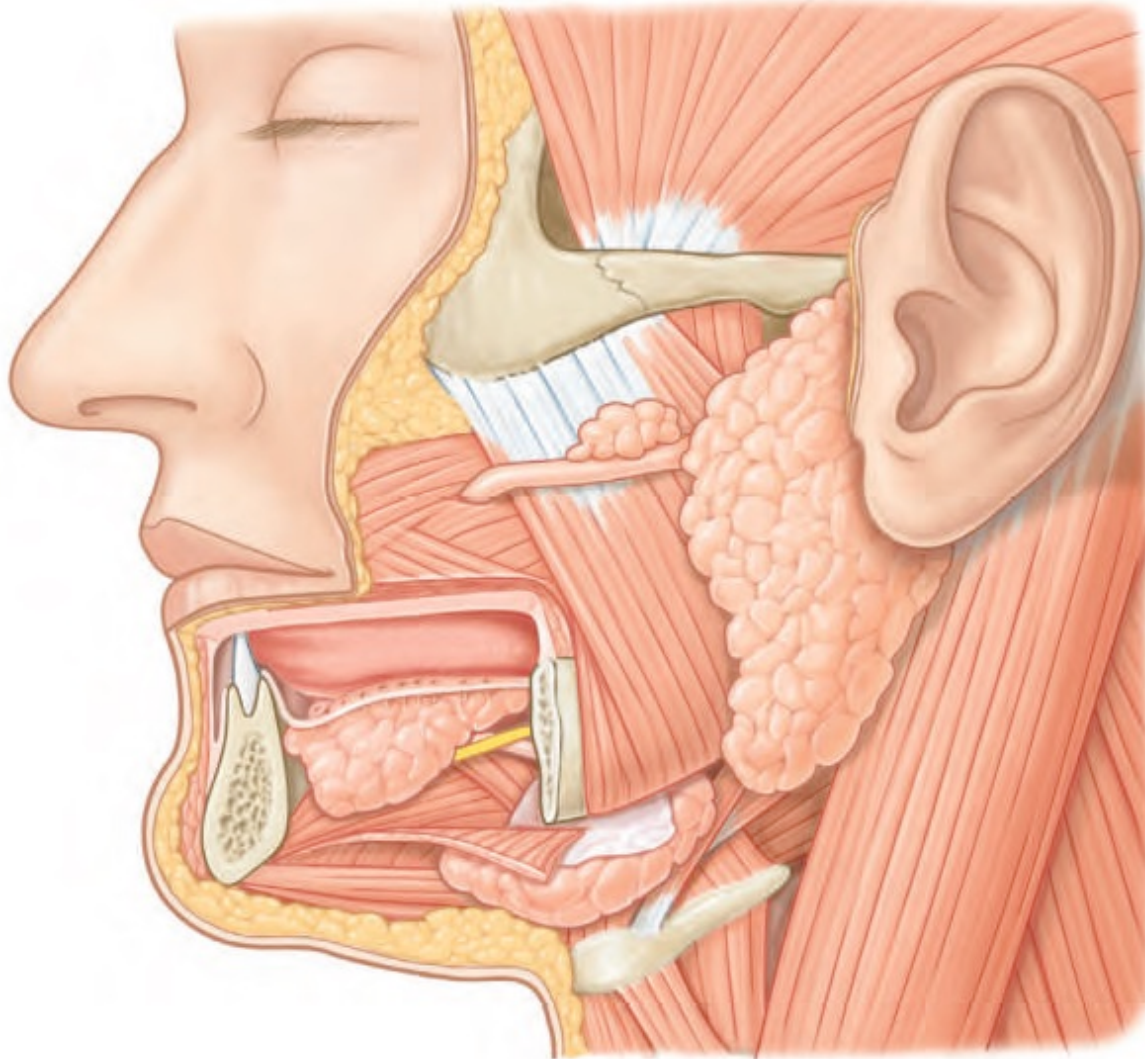
Cavitas oris – dutina ústní – oral cavity



- ♦ Labium superius
- ♦ Labium inferius
- ♦ Vestibulum oris
- ♦ Cavitas oris propria
- ♦ Palatum durum
- ♦ Palatum molle
- ♦ Dentes
- ♦ Gingiva
- ♦ Basis oris



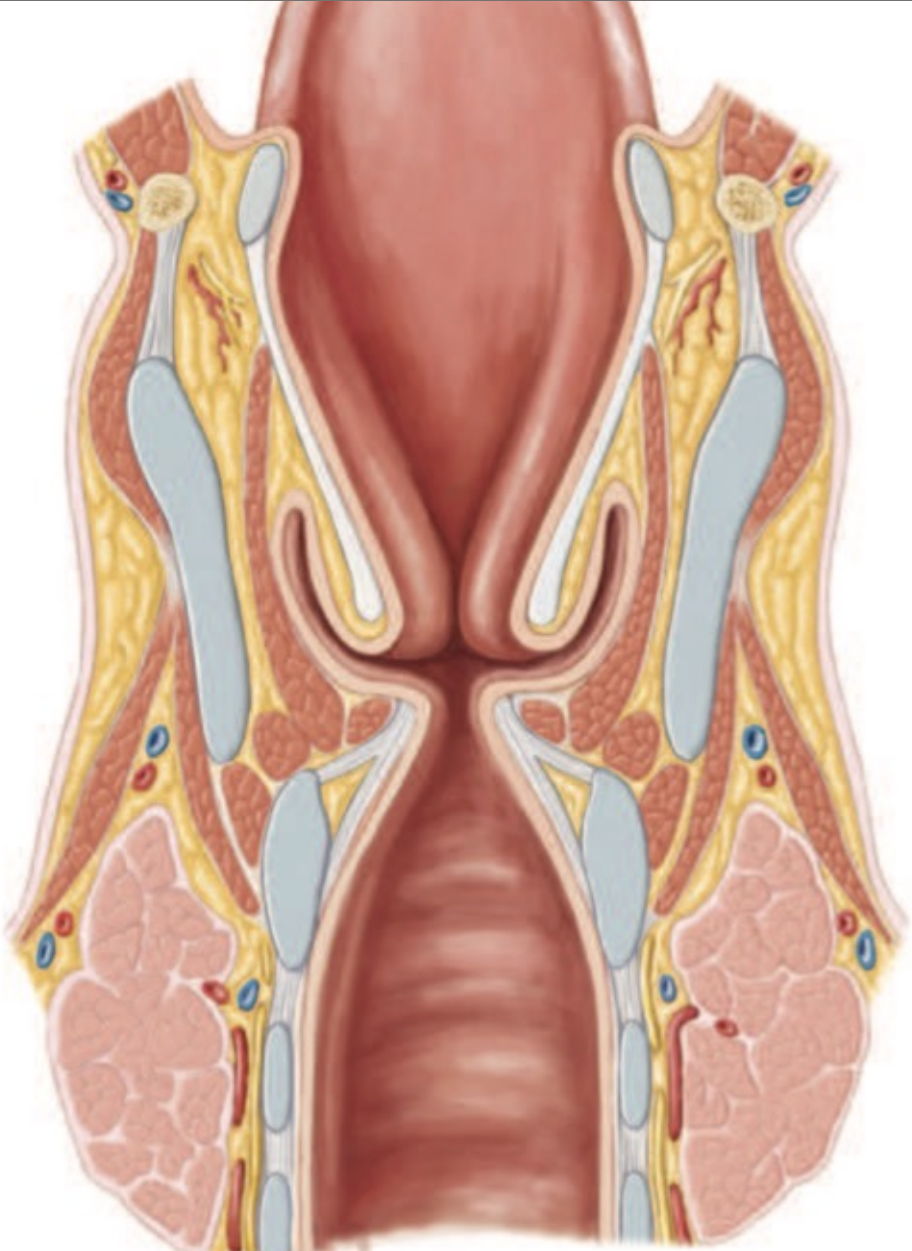
Glandulae salivariae

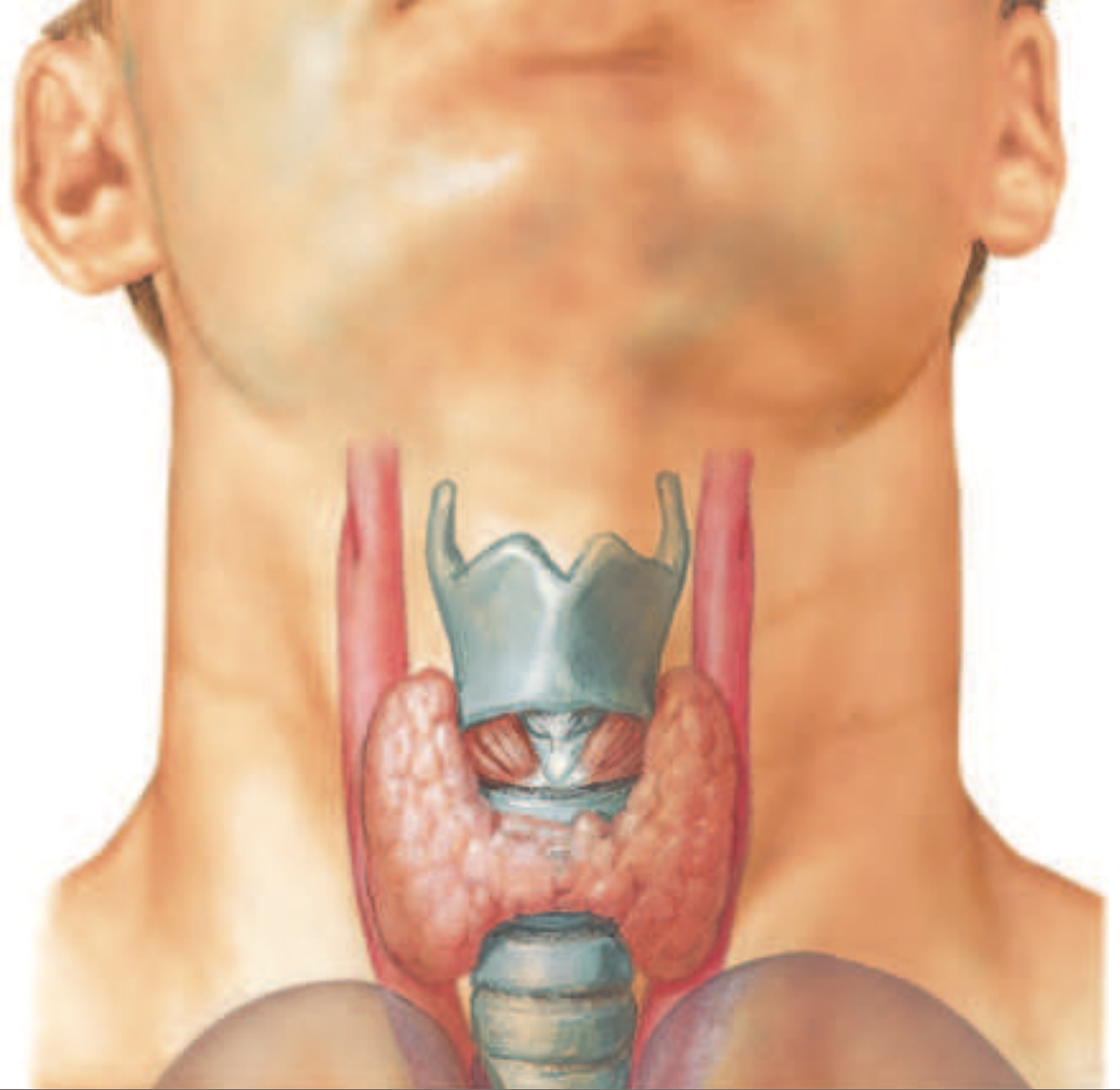
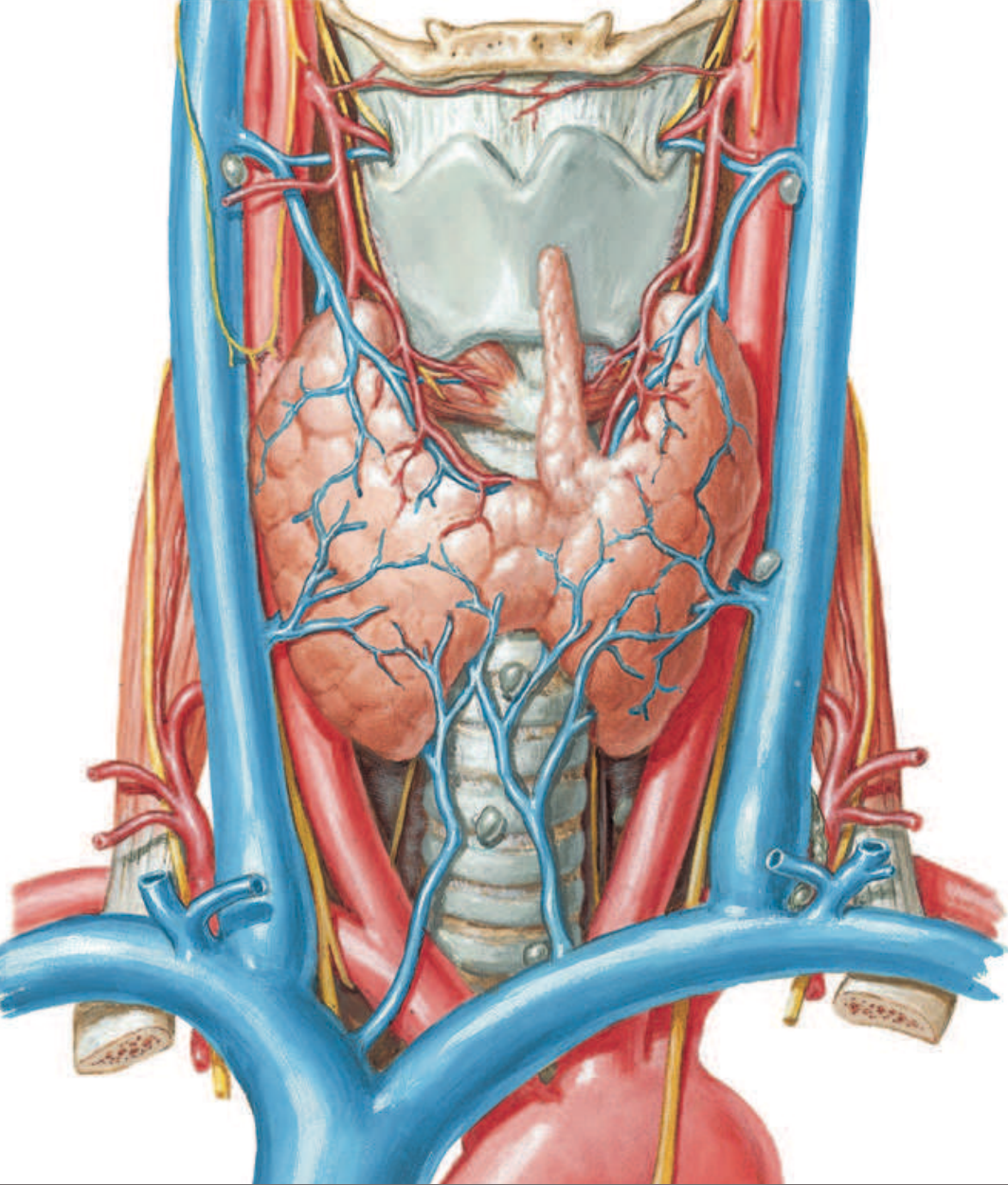


- ♦ **Glandula parotis**
 - ♦ Glandula parotis accesoria
- ♦ **Glandula submandibularis**
- ♦ **Glandula sublingualis**
- ♦ **Glandulae palatinales**
- ♦ **Glandulae labiales**
- ♦ **Glandulae linguales**

Larynx

- ♦ *cartilagine*s
- ♦ **Musculi**
- ♦ *Plica vocalis*
- ♦ *Plica vestibularis*





Glandula thyroidea

- 💧 **Mastication muscles – 1. branchial arch**

- 💧 **Innervation n. trigeminus V3**

- 💧 **Mortor nucleus**

- 💧 *Muscles of mastication*

- 💧 *M. temporalis*

- 💧 *M. masseter*

- 💧 *M pterygoideus lateralis*

- 💧 *M. pterygoideus medialis*

- 💧 **Skin muscles – hyoid branchial arch**

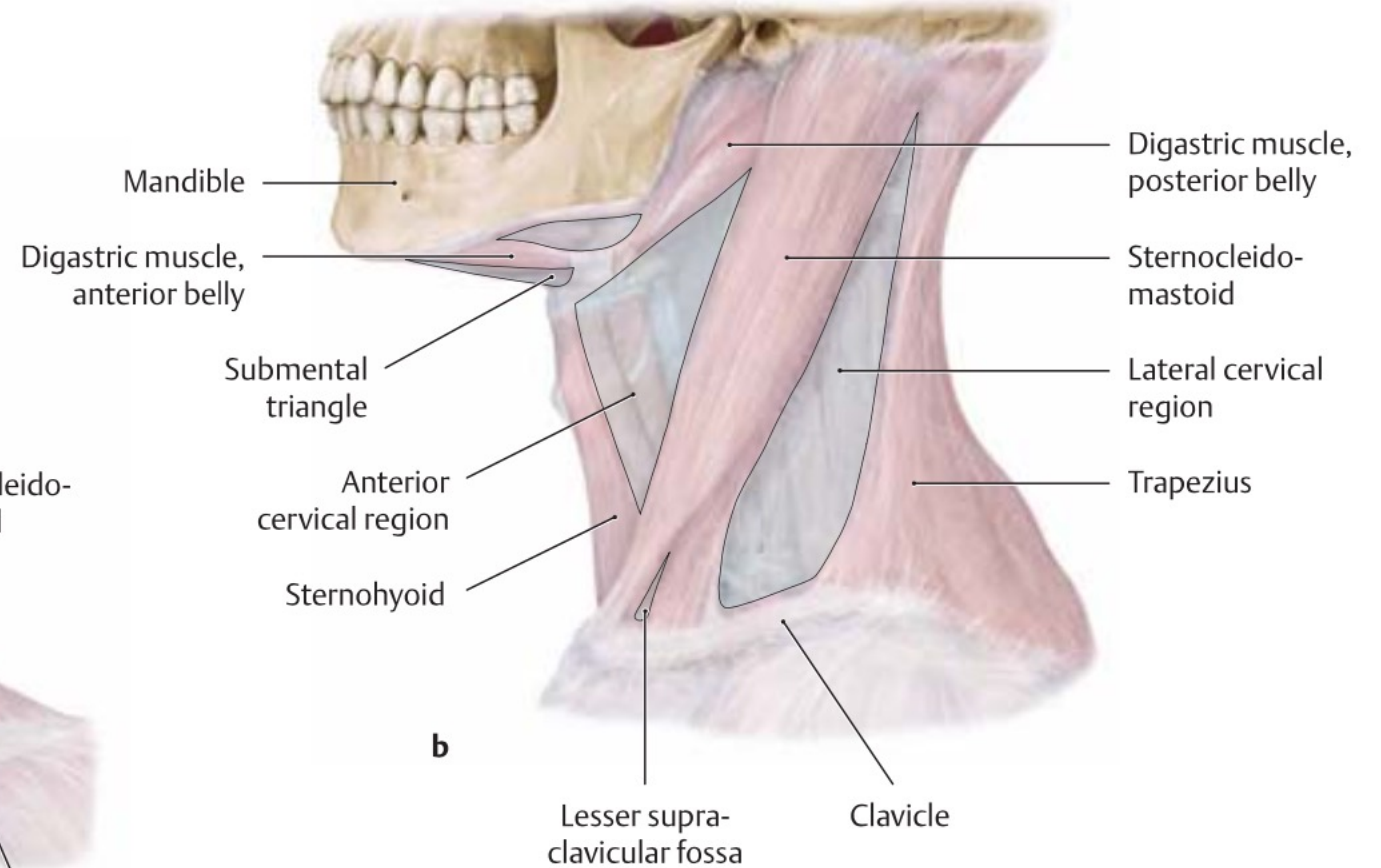
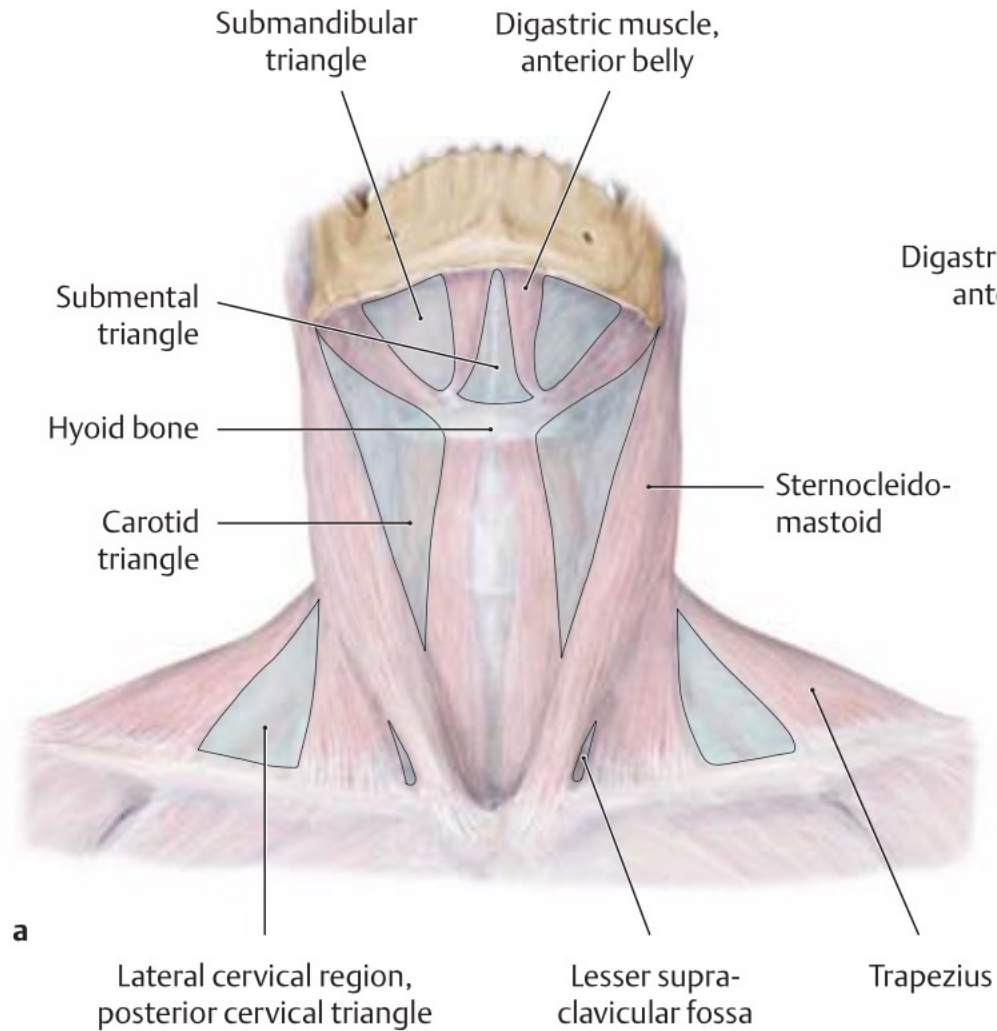
- 💧 **Inneravtion n. facialis VII**

- 💧 **No fascias**



musculi capitis

Musculi cervicis, spatia cervicales

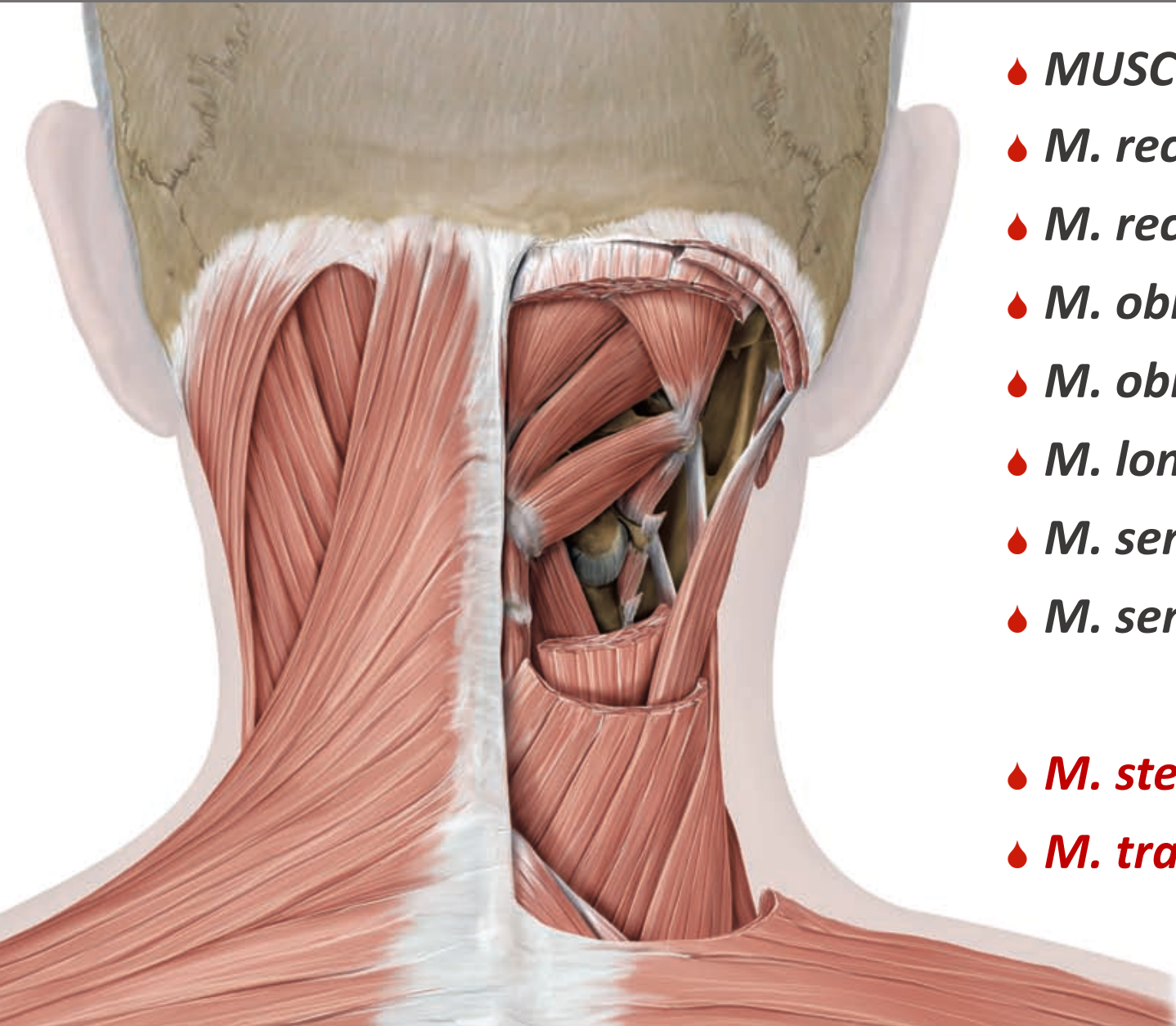


B Muscle dissection of the neck, with the cervical regions outlined

a Anterior view with the head slightly extended.

b Left lateral view.

nucha



♦ *MUSCULI*

♦ *M. rectus capitis posterior minor*

♦ *M. rectus capitis posterior major*

♦ *M. obliquus capitis superior*

♦ *M. obliquus capitis superior*

♦ *M. longissimus capitis*

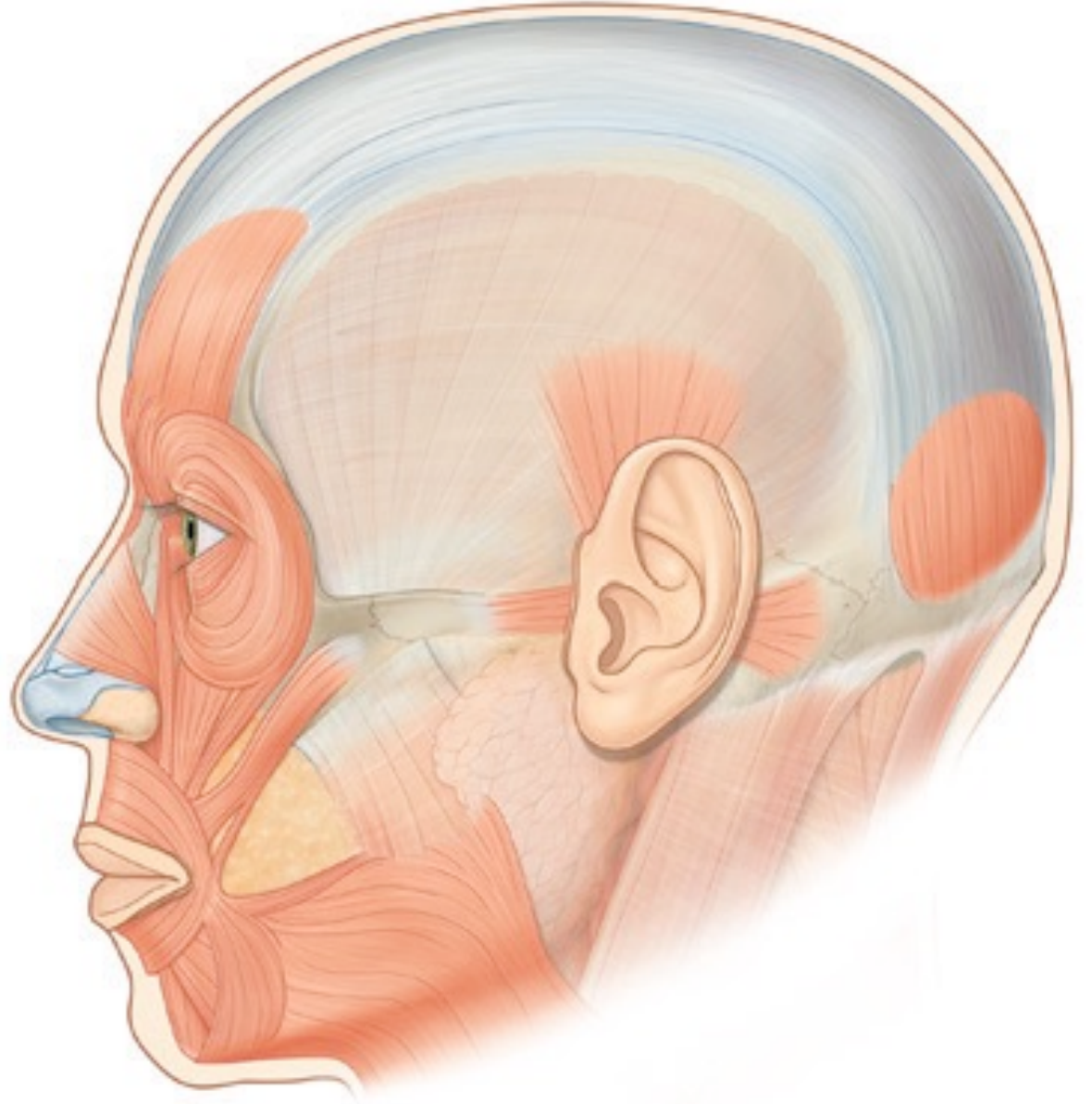
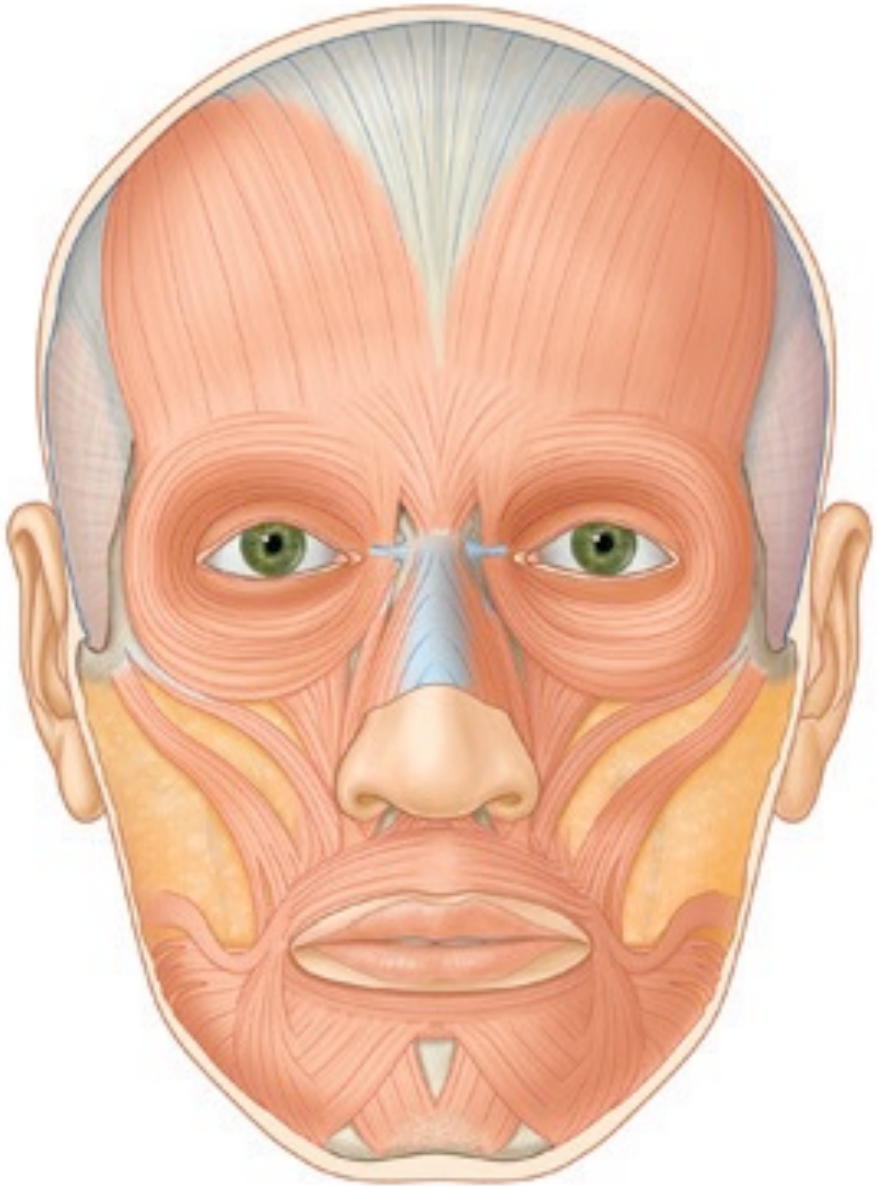
♦ *M. semispinalis capitis*

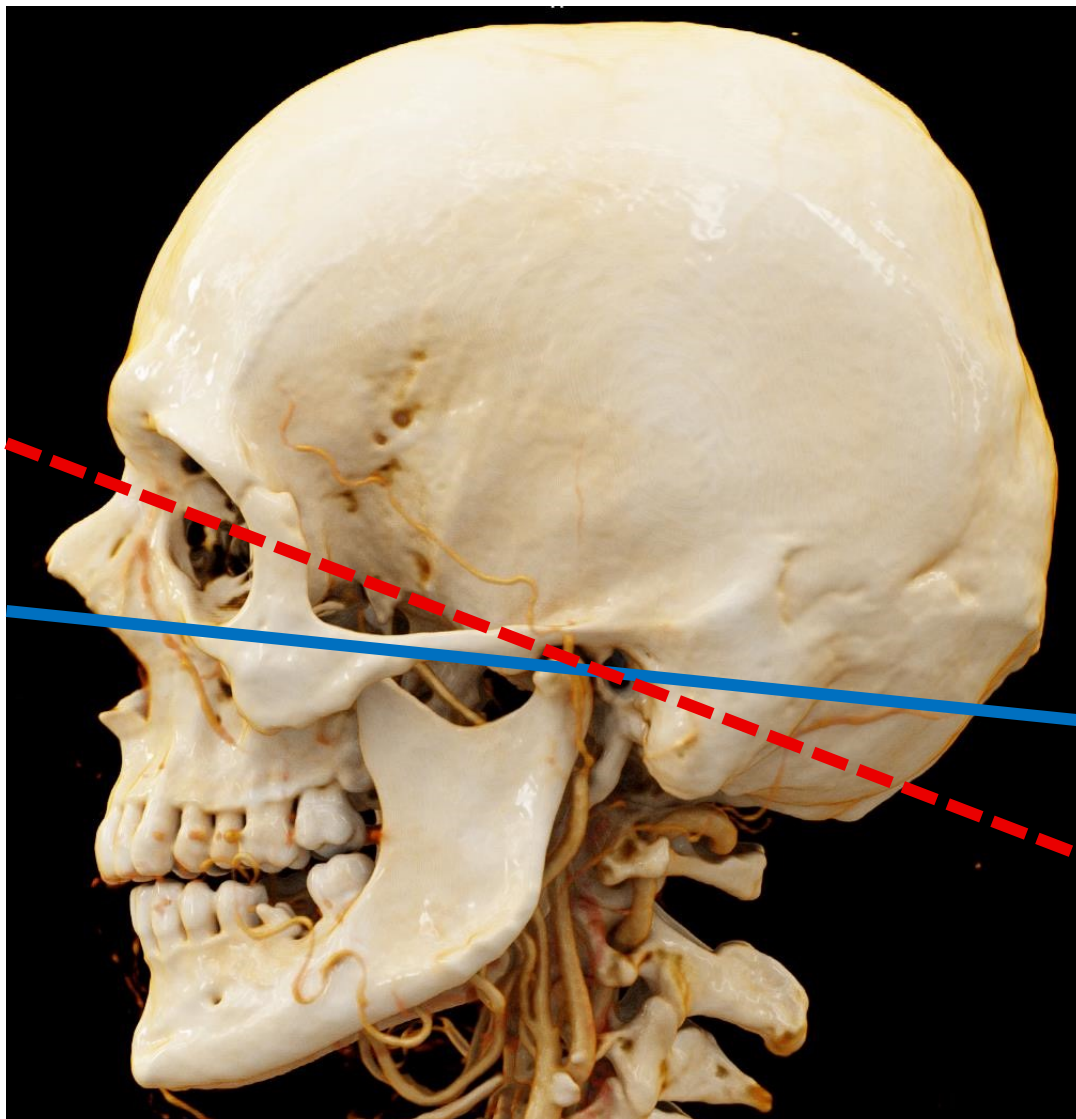
♦ *M. semispinalis cervicis*

♦ *M. sternocleidomastoideus*

♦ *M. trapezius*

Face and scalp





- ♦ Frankfurtská horizontála
- ♦ Horizontal Frankfurt line
- ♦ *Linea horizontalis auricoorbitalis*

- ♦ *Cave - linea orbitomeatalis*
 - ♦ *CT and MRI images*

cranium



♦ **Frankfurt horizontal**

♦ *Linea horizontalis auricoorbitalis*

♦ **views**

♦ *Norma verticalis*

♦ *Norma basalis*

♦ *Norma lateralis*

♦ *Norma facialis*

♦ *Norma occipitalis*

♦ ***kefalometer***

Skull



♦ Width/length index- $w/l * 100$

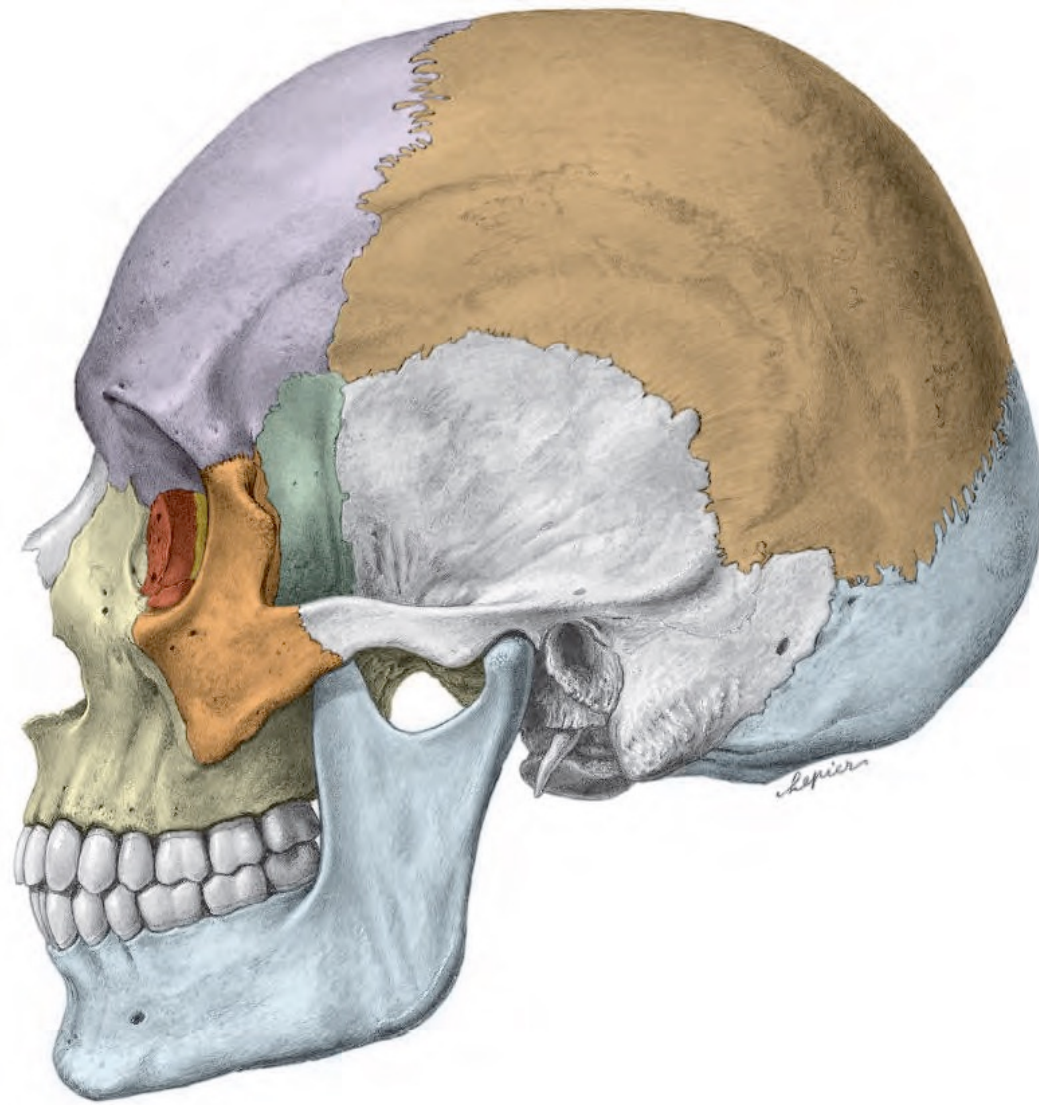
- ♦ *Less than 75 – dolichokranie*
- ♦ *75-80 – mesokranie*
- ♦ *More than 80 - brachykranie*

- ♦ Bregma
- ♦ Basion
 - ♦ Výška – B-B
- ♦ Nasion
- ♦ Glabella
- ♦ Opisthokranion
 - ♦ Délka – G-O
- ♦ Eurion
 - ♦ Šířka – E-E
- ♦ Pterion
- ♦ Zygion
- ♦ Gnathion

kefalometrie



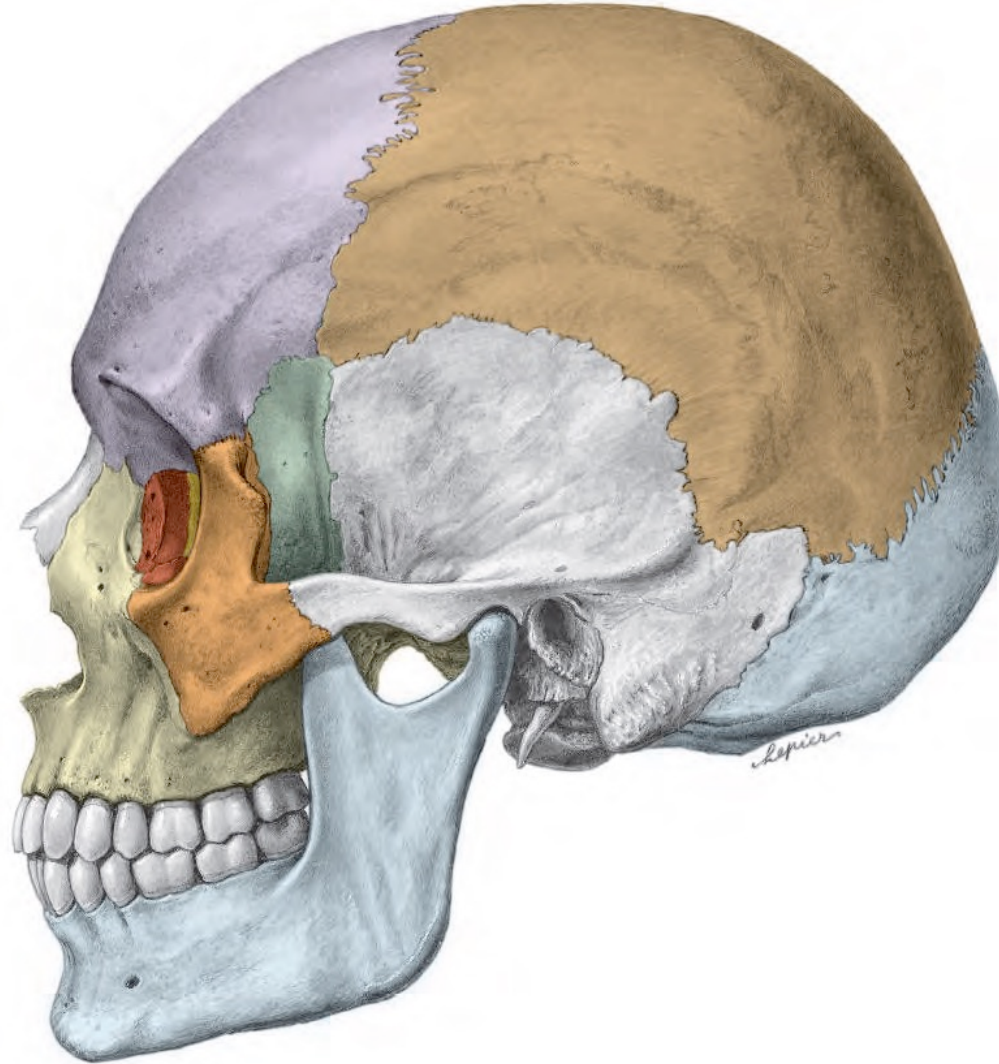
- ♦ Bregma
- ♦ Basion
 - ♦ height – B-B
- ♦ Nasion
- ♦ Glabella
- ♦ Opistokranion
 - ♦ length – G-O
- ♦ Eurion
 - ♦ width – E-E
- ♦ Pterion
- ♦ Zygon
- ♦ Gnathion



- ♦ Os frontale
- ♦ Os ethmoidale
- ♦ Os sphenoidale
- ♦ Ossa parietalia
- ♦ Os occipitale
- ♦ Osa temporalia



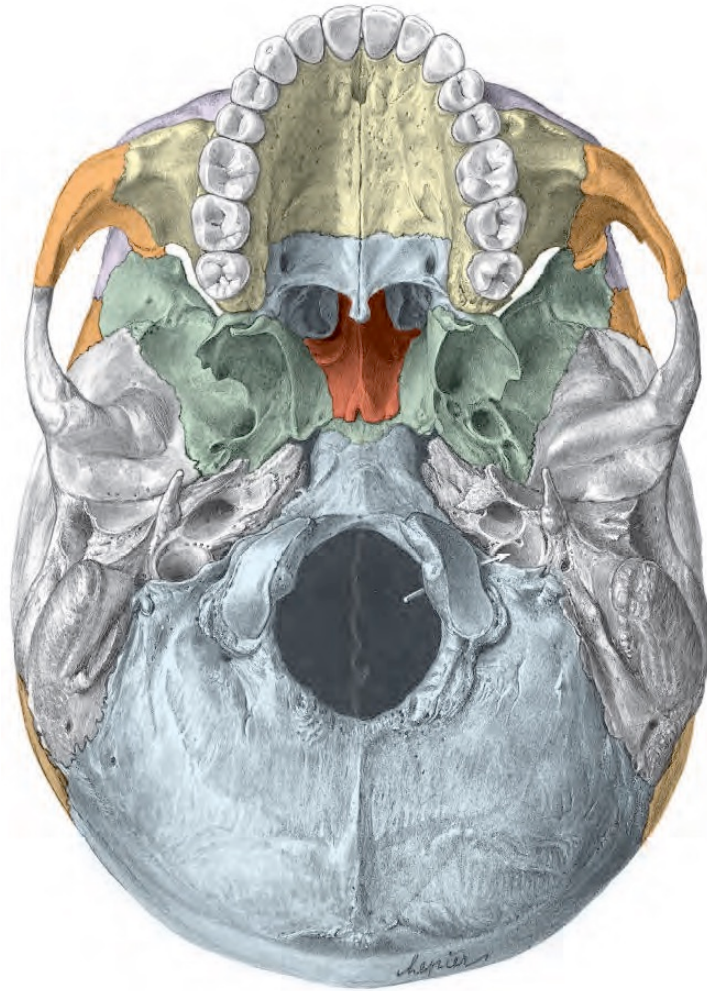
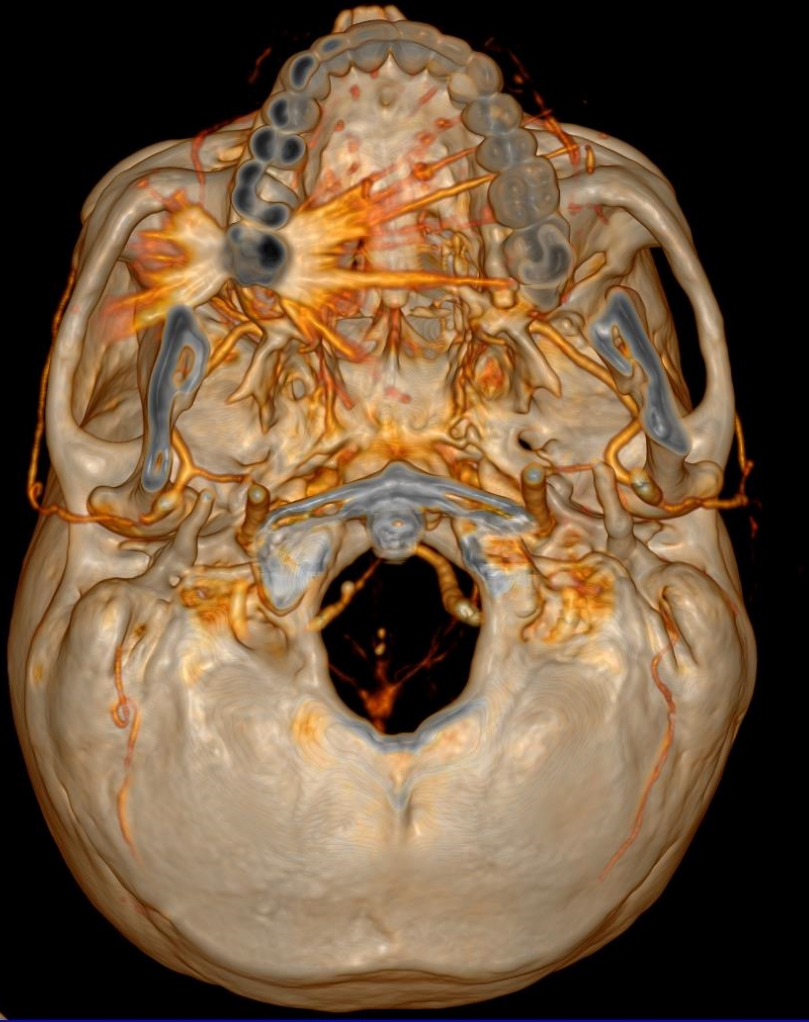
neurocranium



- ♦ **Coronaria**
- ♦ **Sagittalis**
 - ♦ Metopica
- ♦ **Lambdoidea**
 - ♦ Occipitalis transversa
- ♦ **Squamosa**
- ♦ **Sphenofrontalis**
- ♦ **Sphenoparietalis**
- ♦ **Sphenotemporalis**
- ♦ **Frontonasalis**
- ♦ **Frontozygomatica**

suturae

AFL



AHL

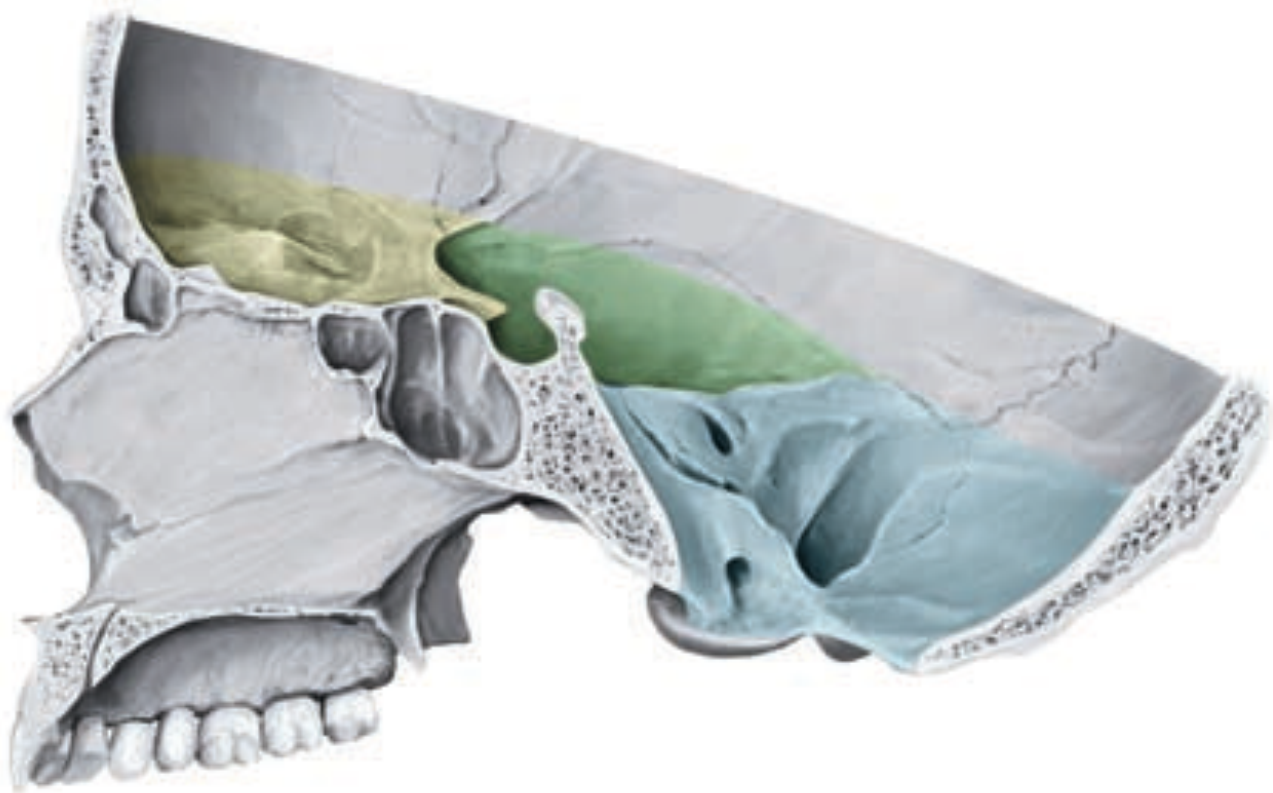


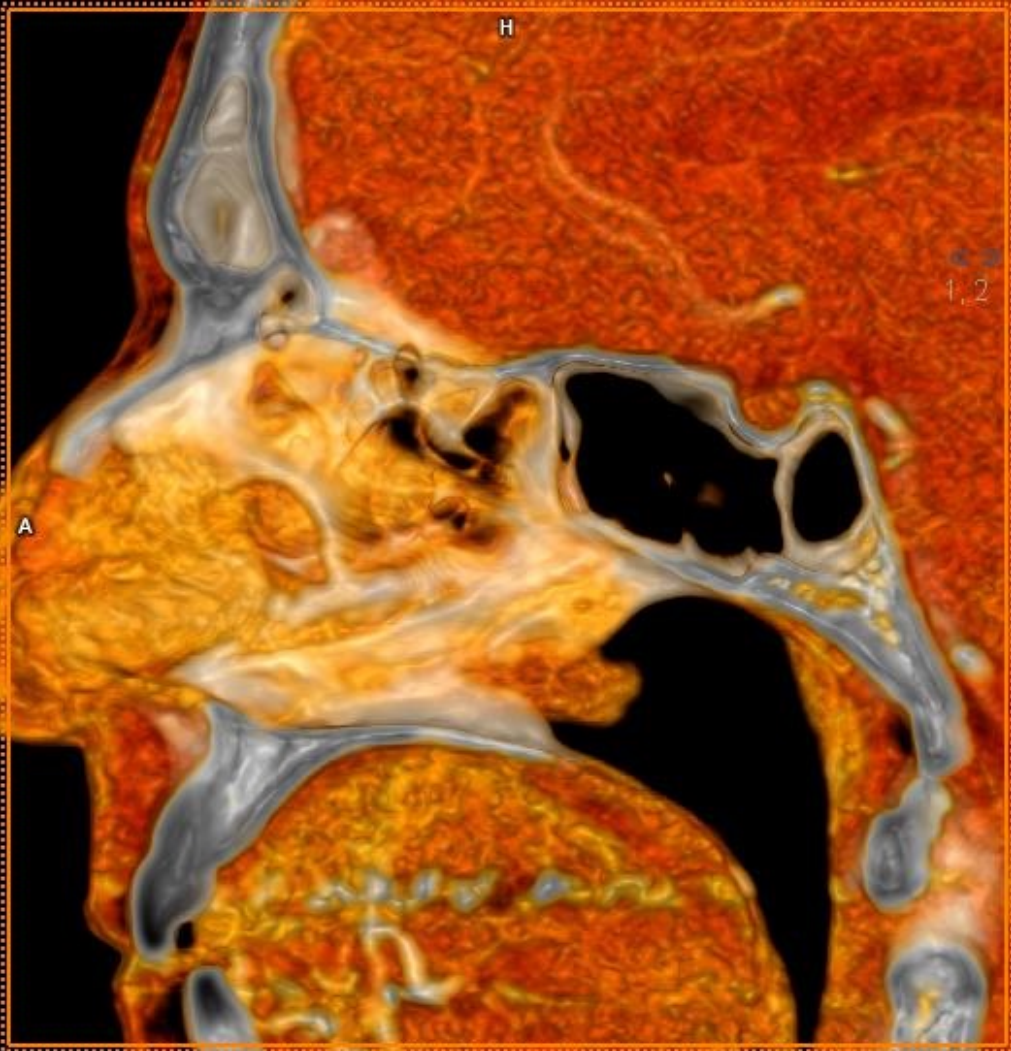
• os frontale, os ethmoideum, os sphenoidale, os temporale, os occipitale

basis cranii

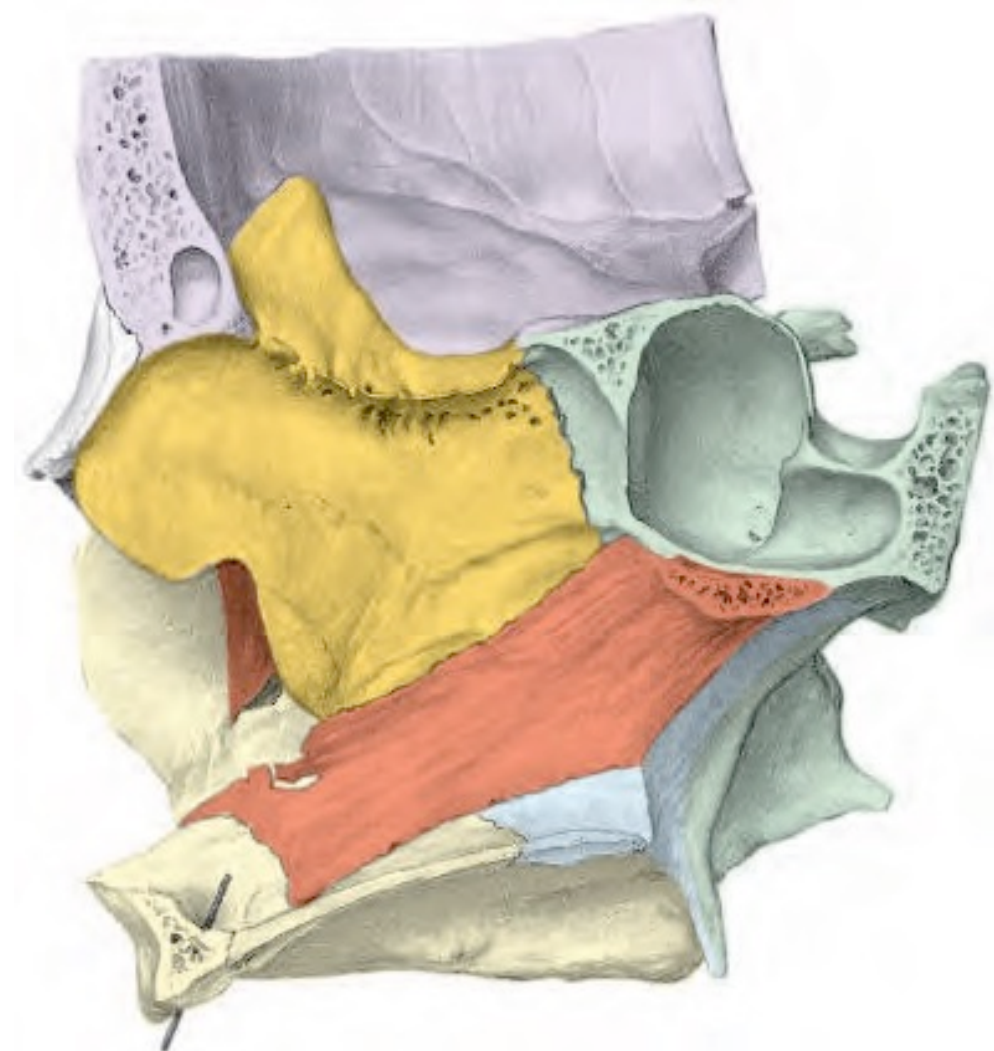
Fossae cranii

- 🔥 Fossa cranii anterior
- 🔥 Fossa cranii media
- 🔥 Fossa cranii posterior





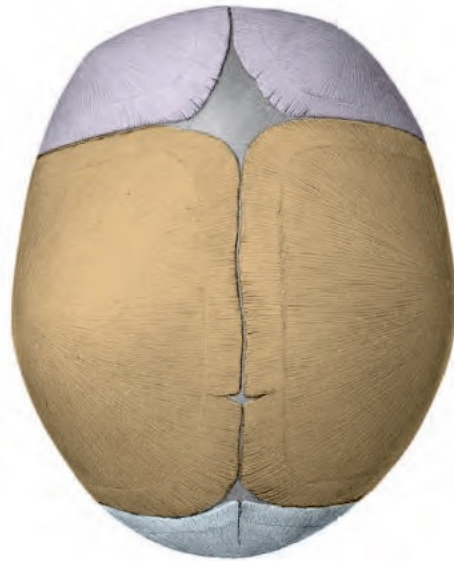
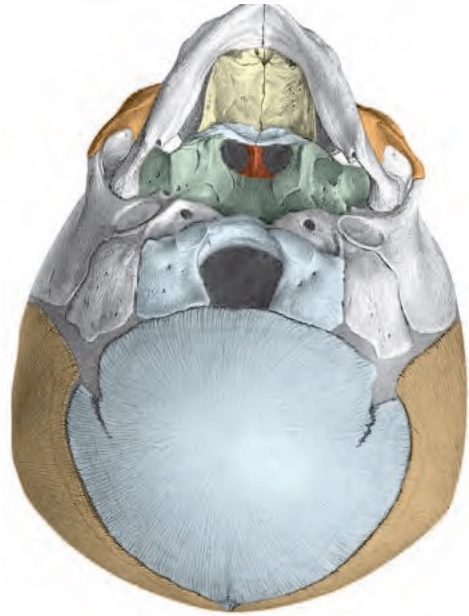
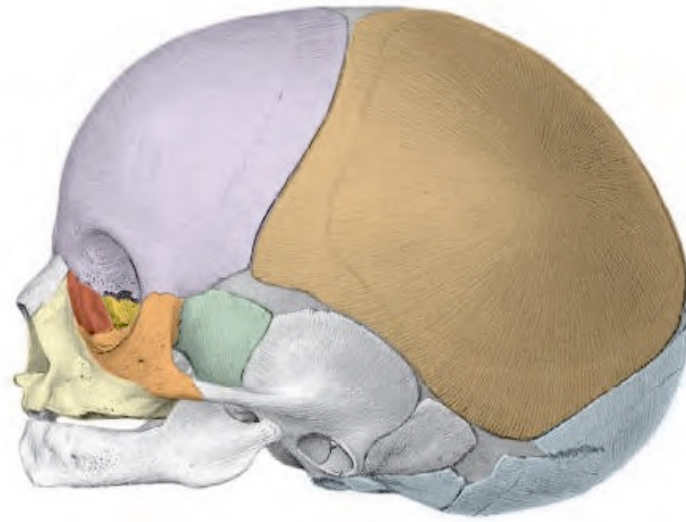
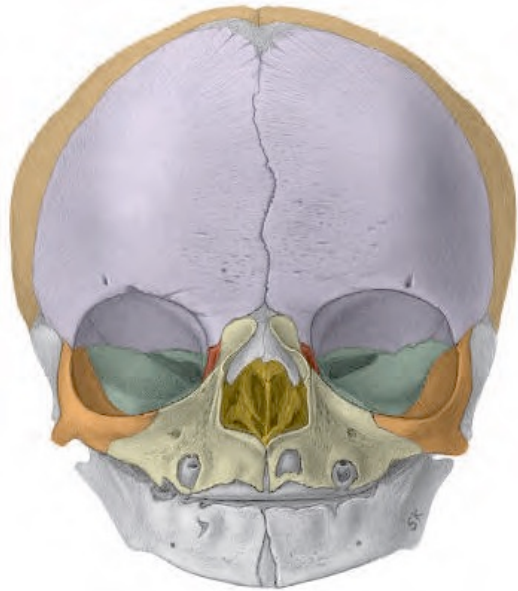
- ♦ Os frontale
- ♦ Os ethmoidale
 - ♦ Crista galli
 - ♦ Lamina cribrosa
- ♦ Os sphenoidale
 - ♦ Sella turcica
- ♦ Vomer
- ♦ Maxilla
- ♦ Os palatinum



Fossae cranii

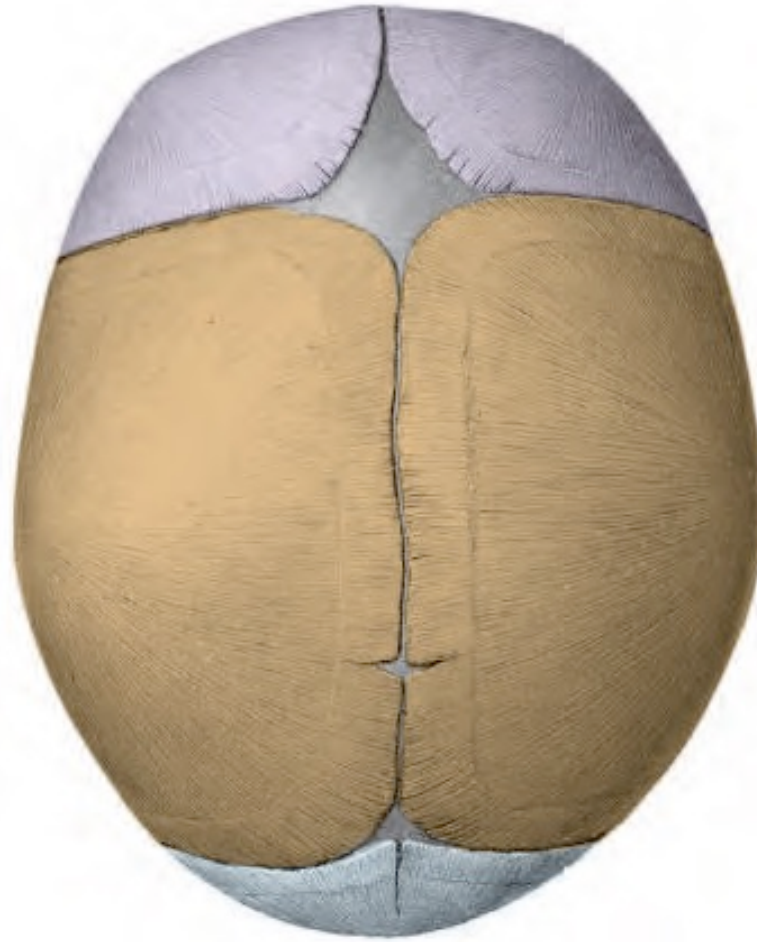
Cranium neonati





- ♦ **Sutura metopica**
 - ♦ *ossis frontalis*
- ♦ **Tubera frontalia**
- ♦ **Tubera parietalia**
- ♦ **Os tympanicum**
 - ♦ *Ring in neonate – adult - conus*
- ♦ **Os incisivum (praemaxilla)**
- ♦ **Sutura mandibulae – ossalia mentalia**
- ♦ **Fonticuli (fontanelles)**
- ♦ **Os bregmaticum – fonticulus major**
- ♦ **Os epiptericum – fonticulus sphenoidalis**
- ♦ **Ossa suturarum wormiana**
 - ♦ *Sutura lambdoidea*

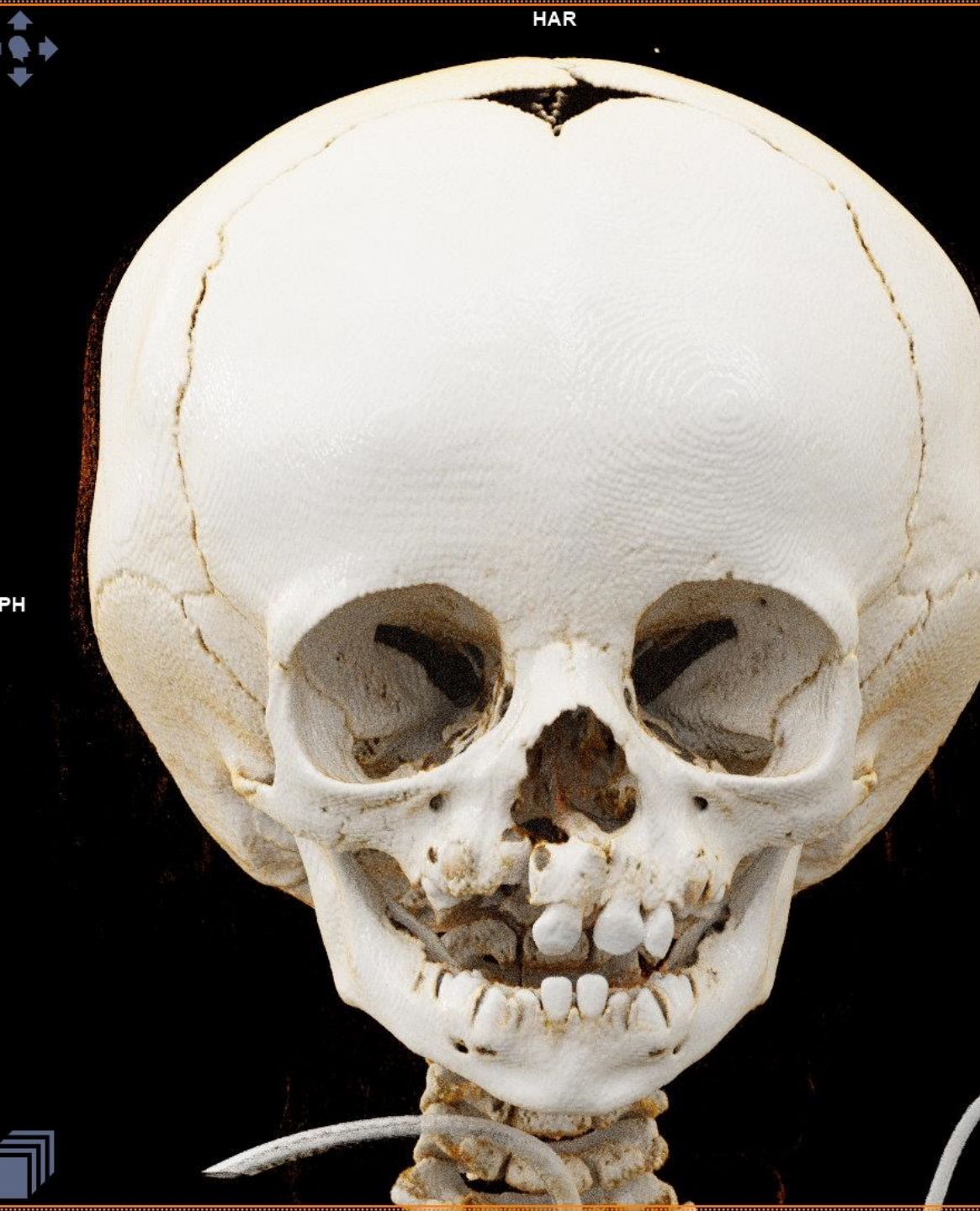
Cranium neonati



- ♦ Fibrous membrane
- ♦ Fotculus major
 - ♦ greater fontanela
 - ♦ *Closing in 2y*
 - ♦ *Clinical examination*
- ♦ Fonticulus minor
 - ♦ *lesser fontanela*
 - ♦ *Closing in 6 m*
- ♦ Fonticulus sphenoidalis
- ♦ Fonticulus mastoideus

- ♦ *Bowing in increased intracranial pressure*
- ♦ *Acoustic window to insonation using ultrasound*

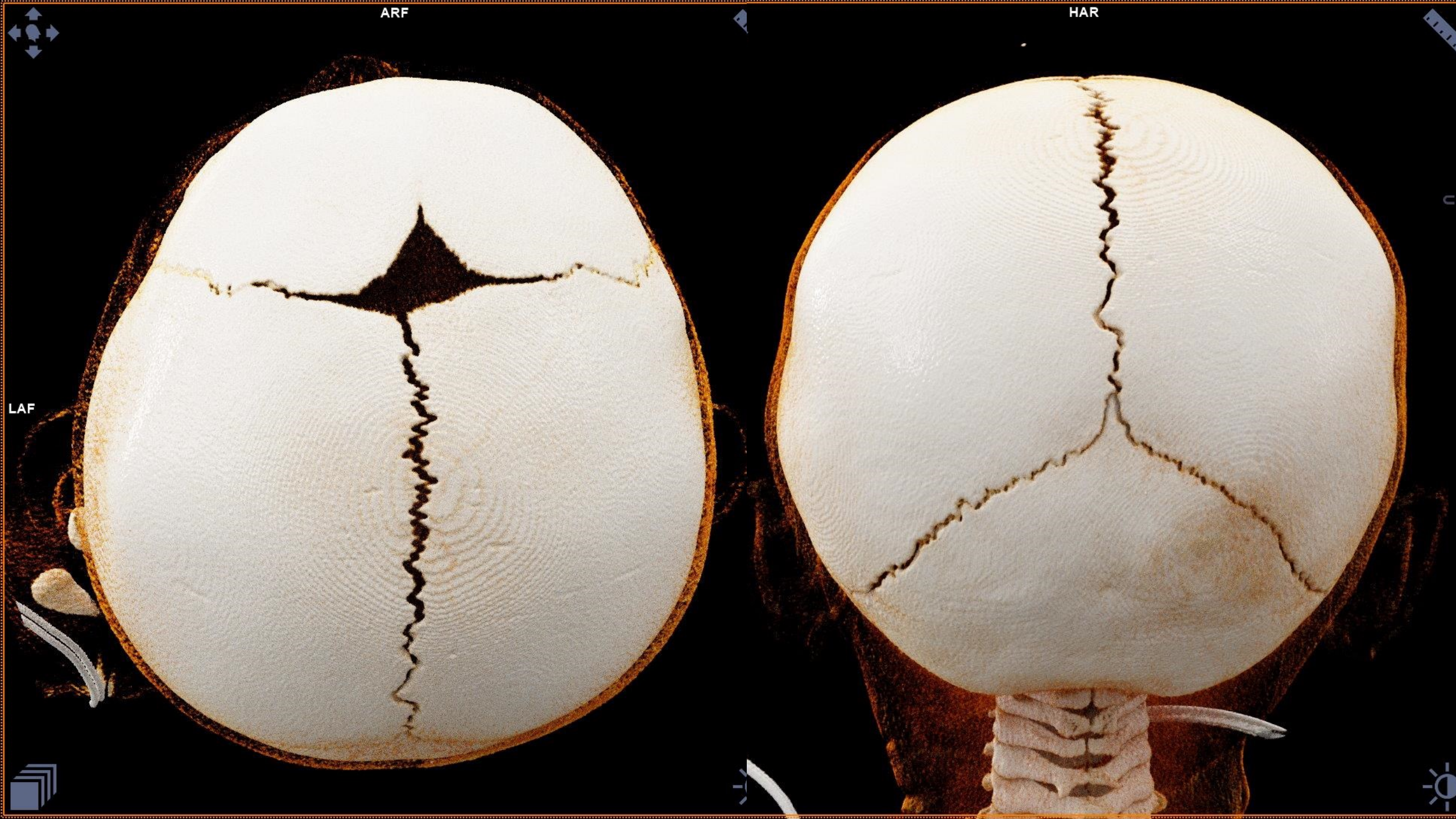
fonticuli

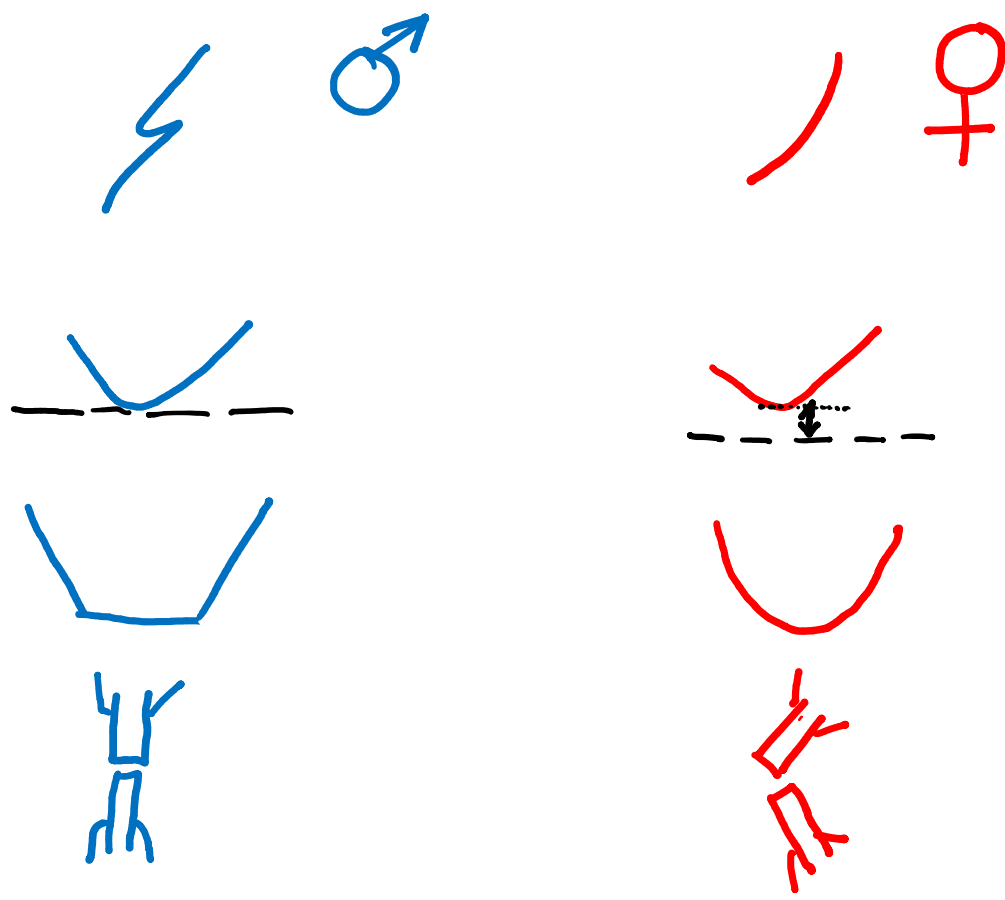


ARF

HAR

LAF

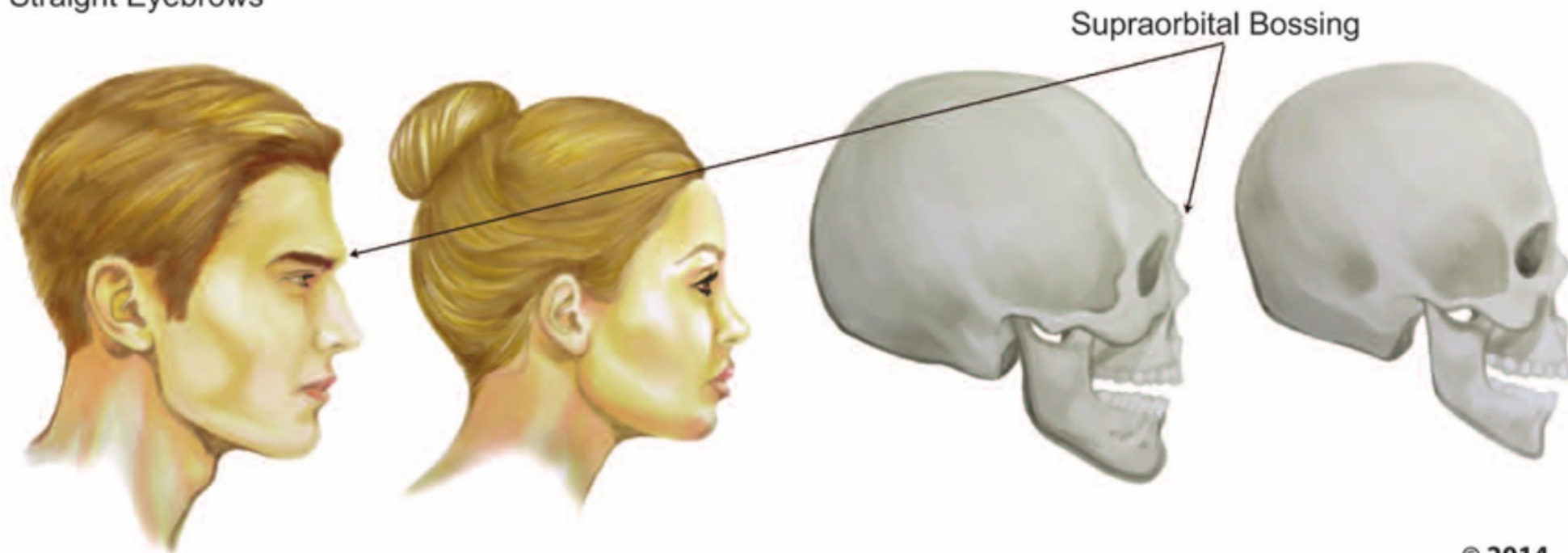
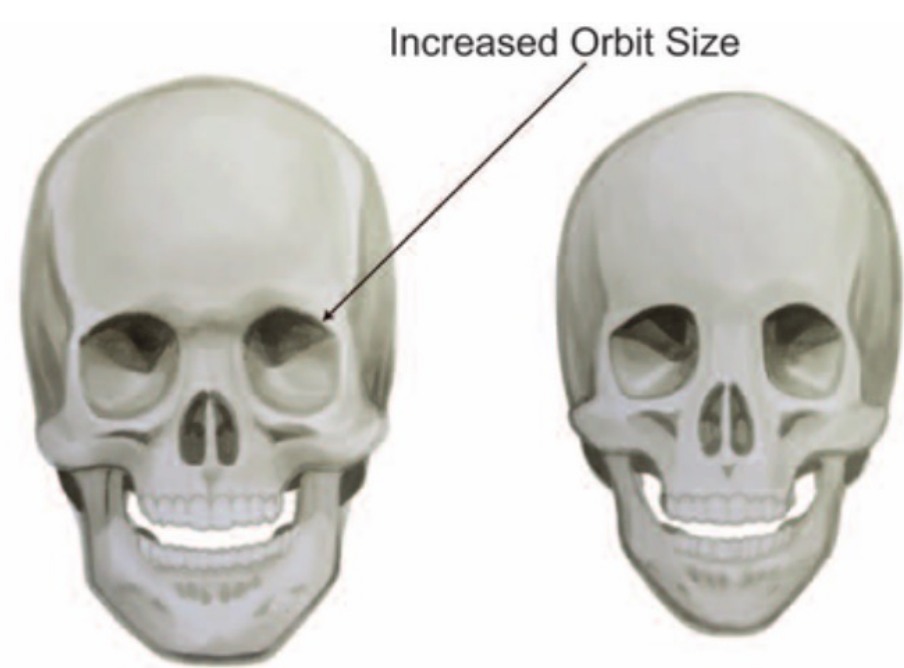
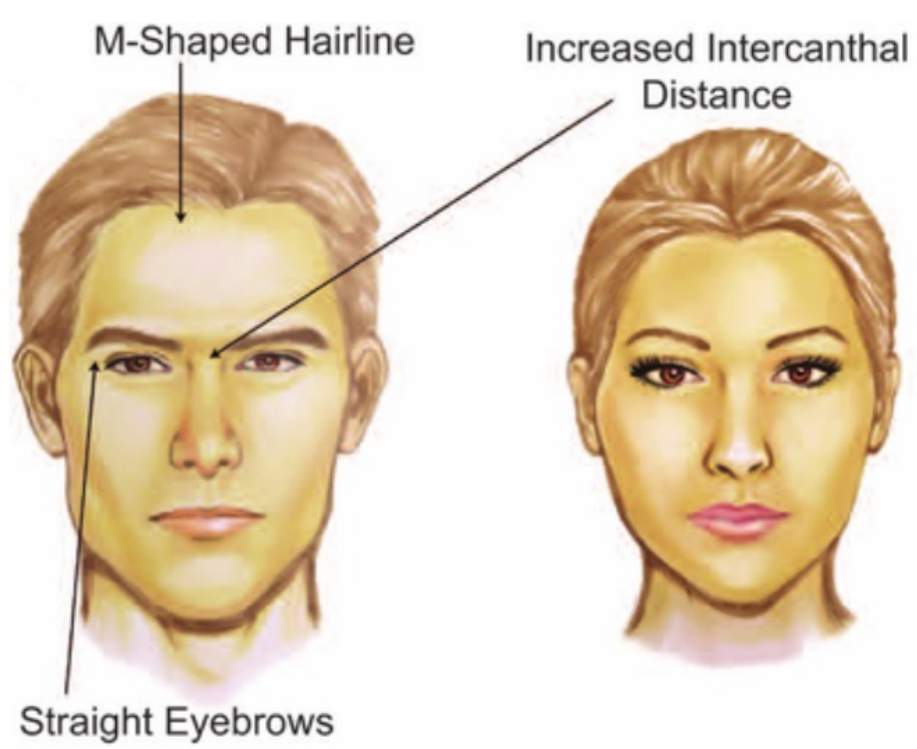




- Sutura nasofrontalis
- Arcus superciliaris M+ F-
- Tubera frontalia M- F+
- Protuberantia occipitalis externa M+ F-
- Processus mastoideus
- Protuberantia mentalis
- Processus alveolares
 - M: ortognathie
 - F: prognathie dentes incisivi

- *Sexual differences in forensic medicine*
- *In 1/10 impossible to determinate sex based on cranium*

Sexual differences



Sexual differences



ORIGINAL ARTICLE

Aging and Sexual Differences of the Human Skull

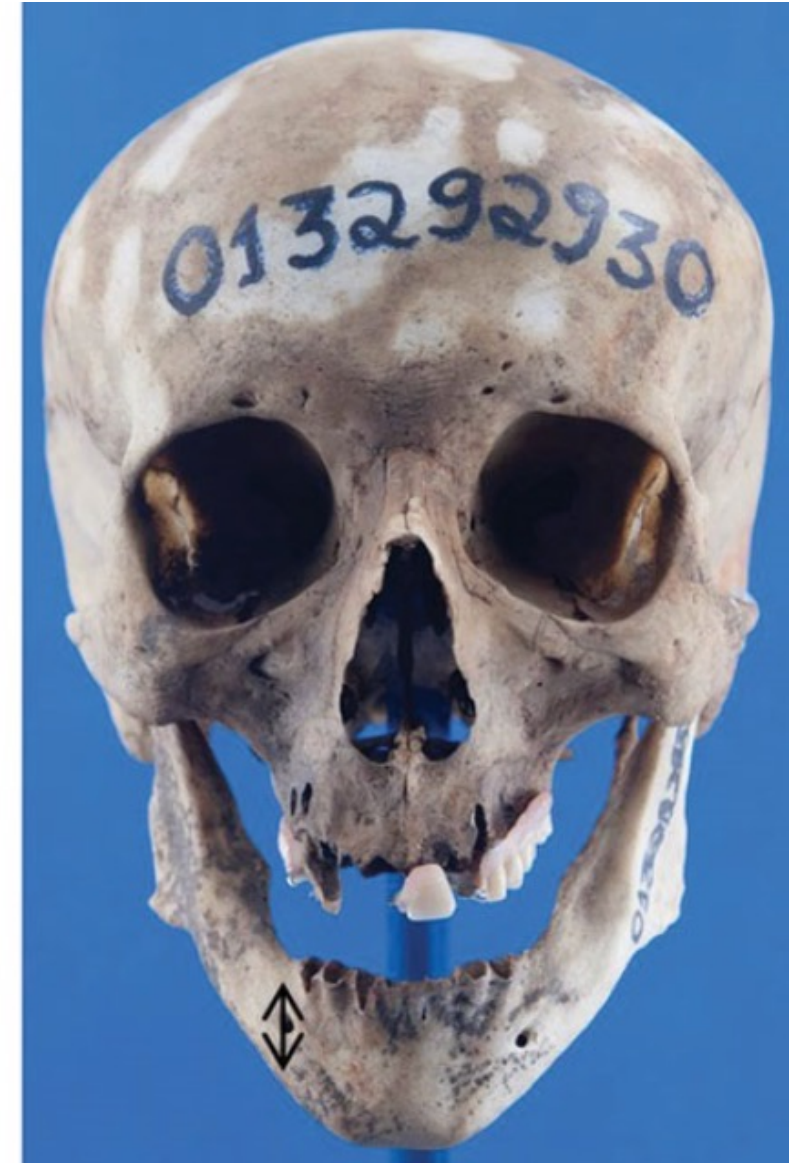
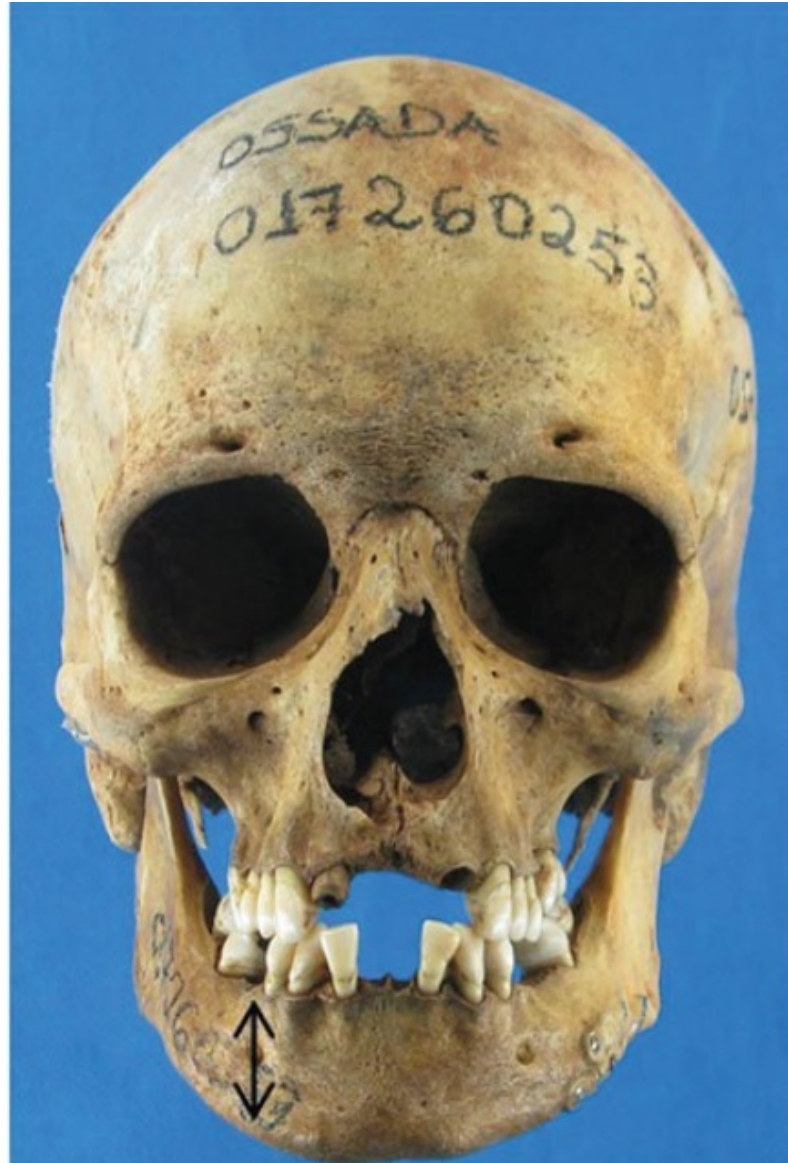
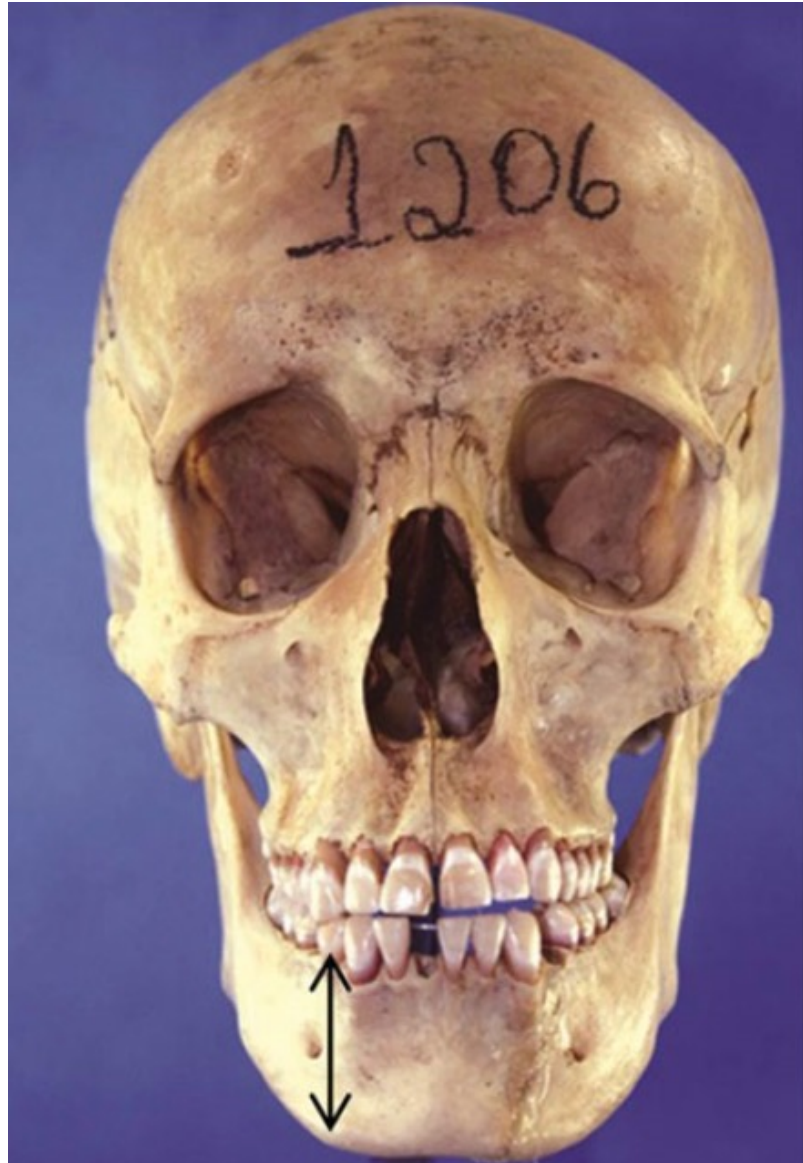
Toledo Avelar, Luiz Eduardo MD^{*}; Cardoso, Márcio Alberto MD^{†‡§}; Santos Bordoní, Leonardo PhD^{‡§¶}; de Miranda Avelar, Lorena^{§||}; de Miranda Avelar, João Victor^{§||}

[Author Information](#) ☺

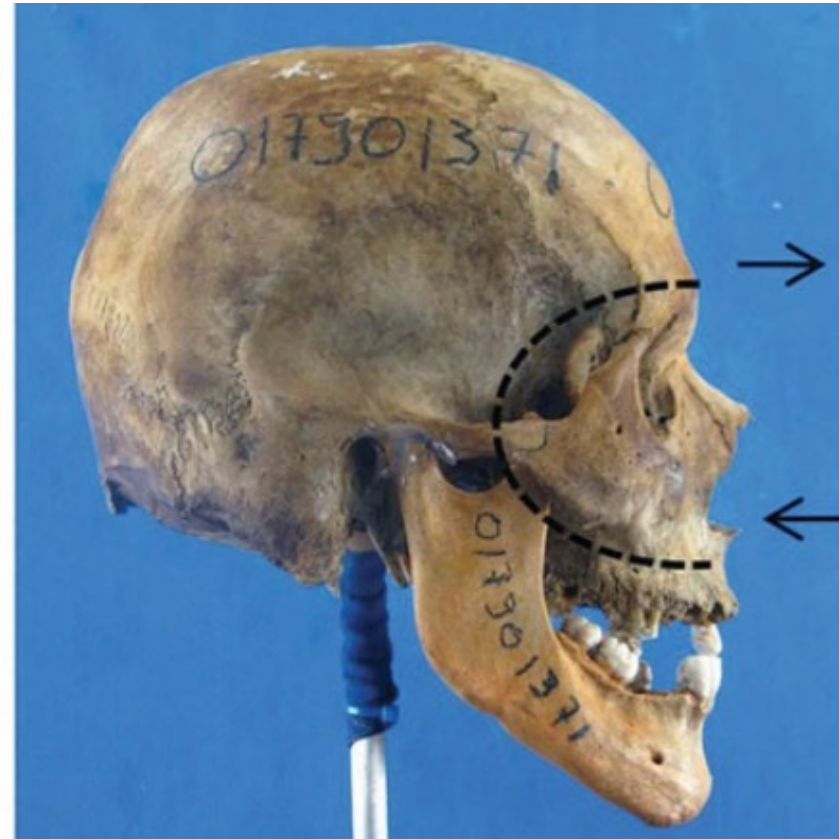
Plastic and Reconstructive Surgery - Global Open: April 2017 - Volume 5 - Issue 4 - p e1297

doi: 10.1097/GOX.0000000000001297

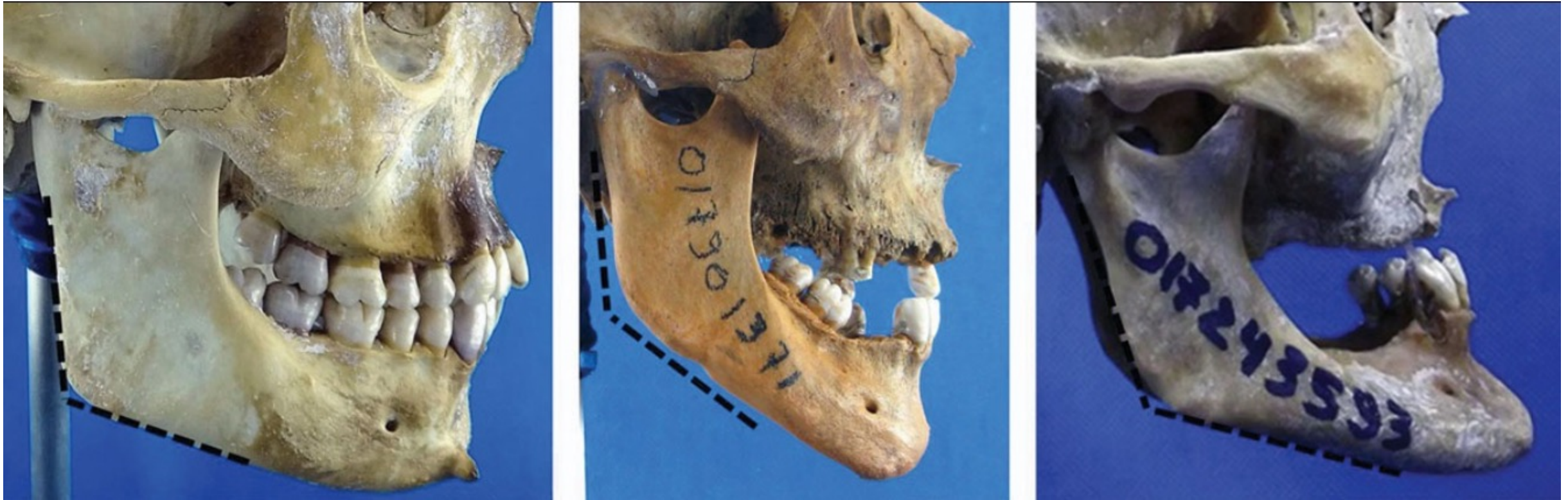
Remodelation related to aging



Remodelation related to aging



Remodelation related to aging



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Head and neck 1

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