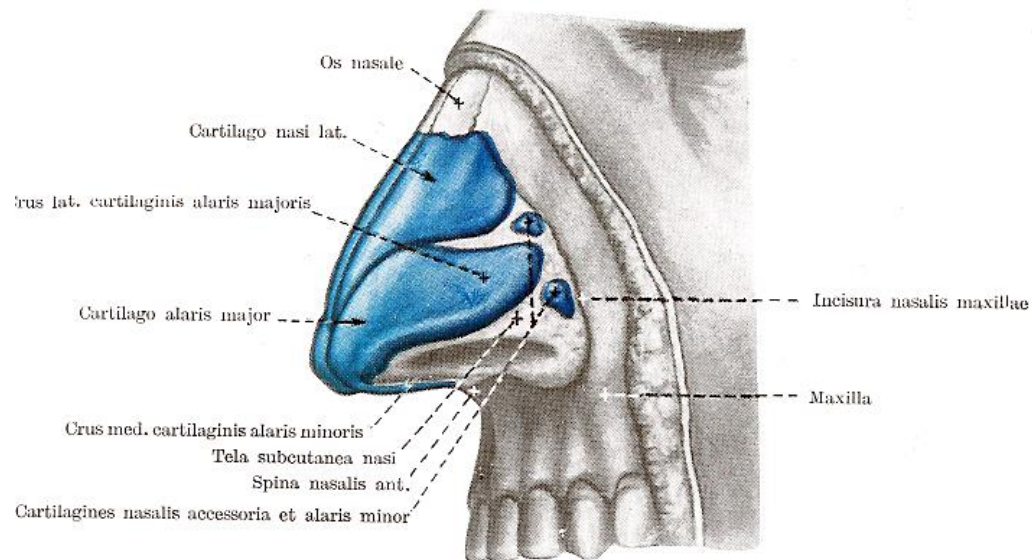


---

# Orrüreg, orrmelléküregek

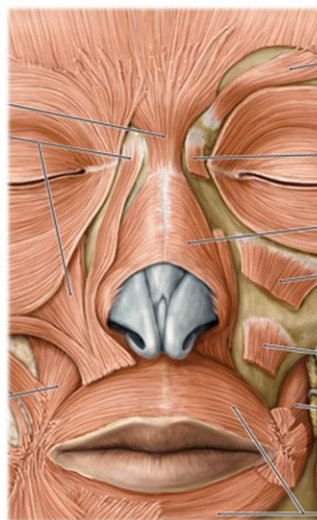
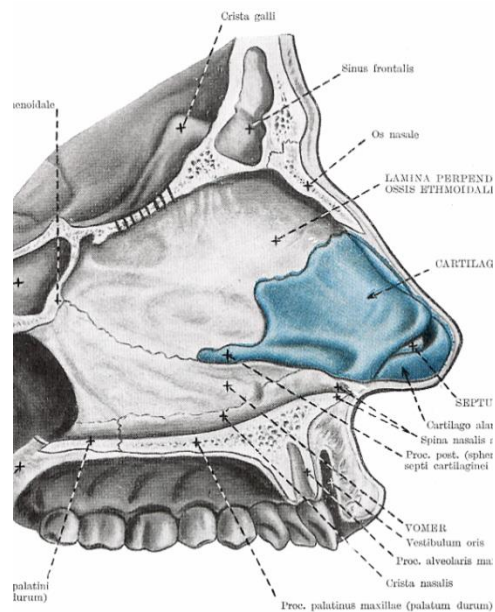
Bárány - Pálfi

# A külső orr



## Alkotórészek:

- porc
  - *cart. nasi lateralis*
  - *cart. alaris maj. et min.*
  - *cart. septi nasi*
  - *cart. nasalis accessoria*
- csont (*os nasale*)
- izom
  - *m. nasalis*
  - *m. levator labii superioris alaeque nasi*
  - *m. procerus*
- tömött rostos kötőszövet
- bőr és nyálkahártya



Thieme

orrhát (*dorsum nasi*)

orrcsúcs (*apex nasi*)

orrnyílások (*nares*)

orrszárnyak (*alae nasi*)

orrsvégy (*septum nasi*)

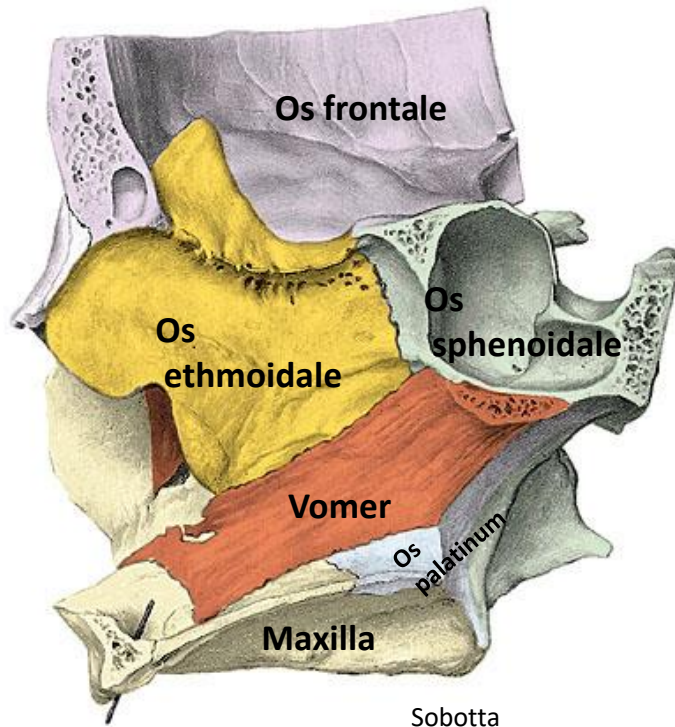
porcos rész (*pars cartilaginea*)

csontos rész (*pars ossea*)

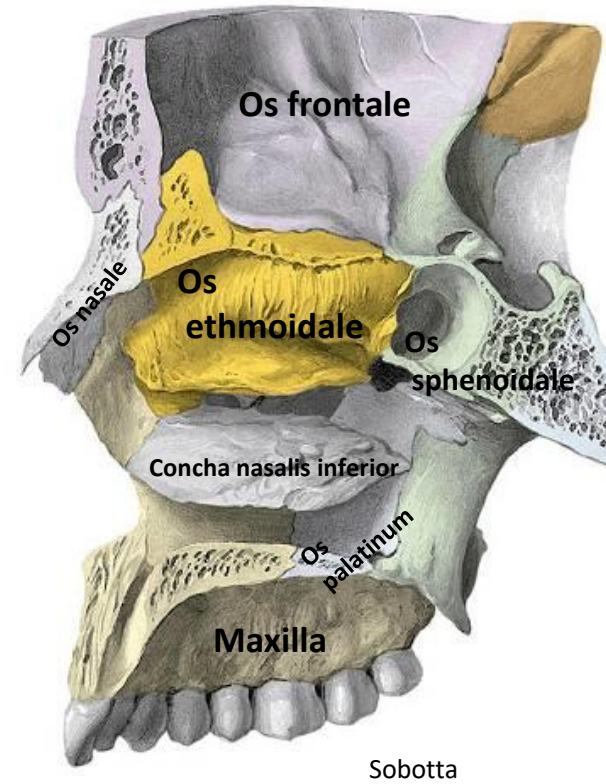
pars mobilis septum nasi

# A csontos orrüreg

## Mediális fal



## Laterális fal

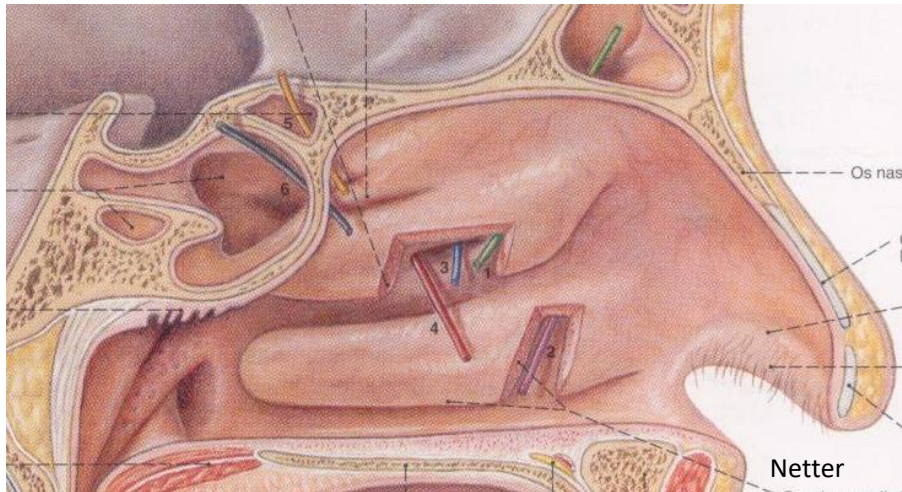


# Cavum nasi

## Részei:

- vestibulum nasi - vibrissae
- cavum nasi proprium
  - regio olfactoria
  - regio respiratoria

limen nasi



## Meatus nasi communis

- apertura piriformis
- lamina cribrosa
- canalis incisivus
- foramen sphenopalatinum
- apertura sinus sphenoidalis
- choana

## Meatus nasi superior

- cellulae ethmoidales post.

## Meatus nasi medius

- cellulae ethmoidales ant., med.
- hiatus semilunaris
  - E: infundibulum ethm.
  - H: apertura sin. max.

## Meatus nasi inferior

- canalis nasolacrimalis (Hasner-bill.)

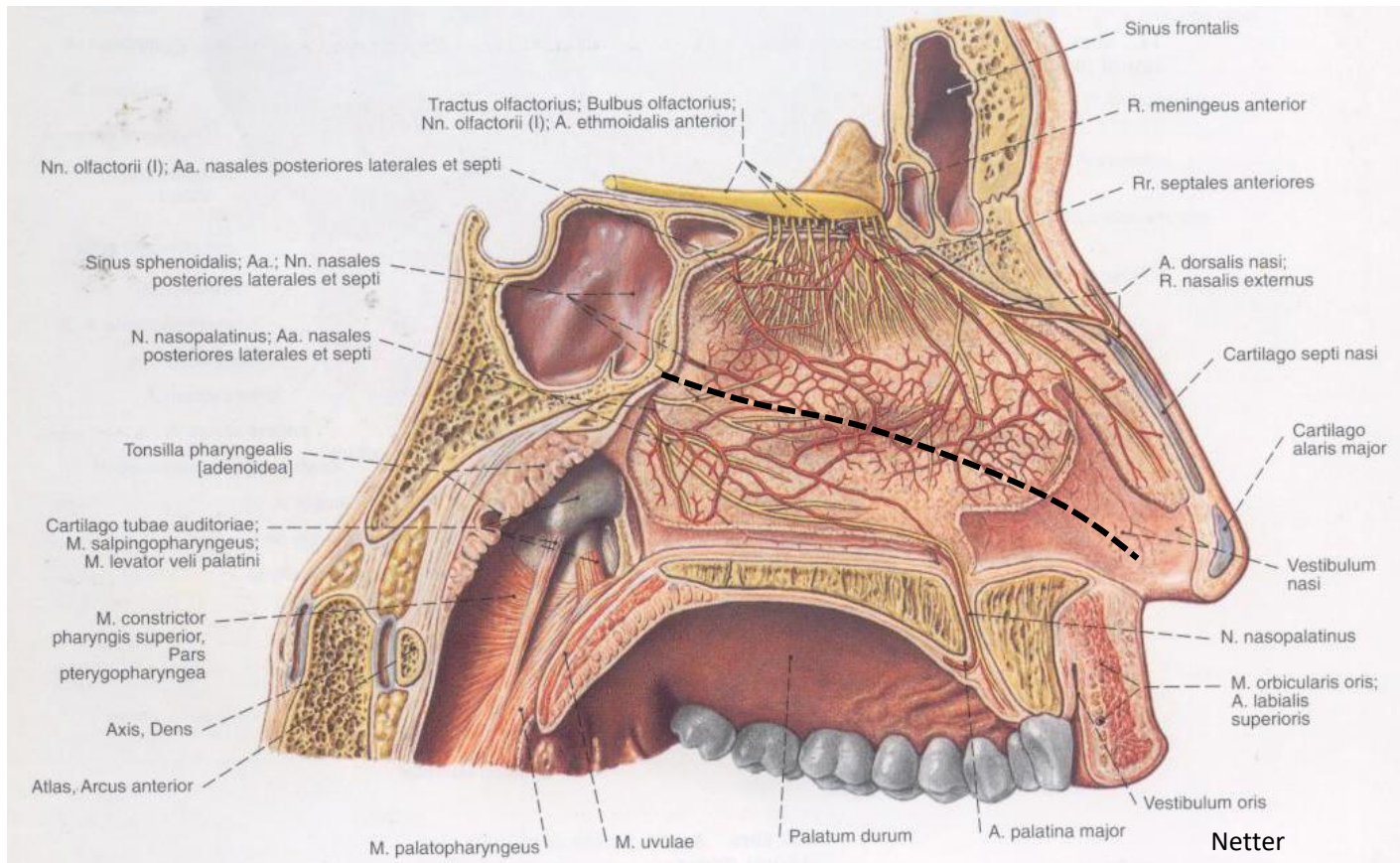


# Vérellátás

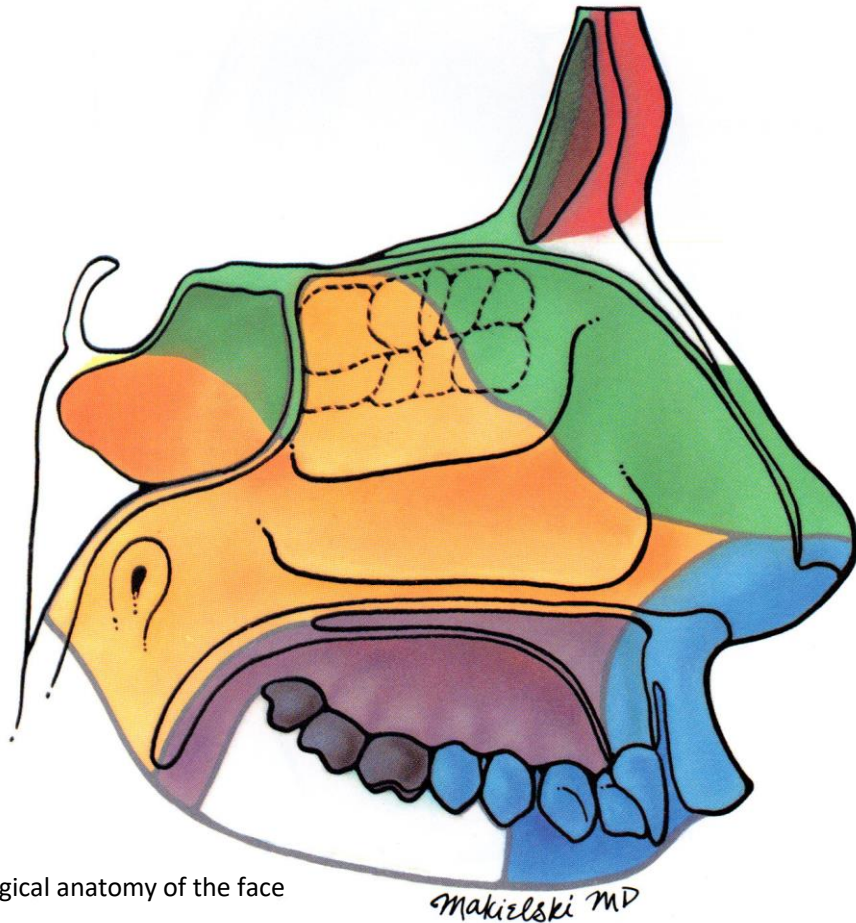
a. ethmoidalis anterior (a. ophthalmica)  
a. sphenopalatina (a. maxillaris)  
ramus septalis a. labialis superior (a. facialis)

locus Kesselbachi

plexus venosus pterygoideus et pharyngeus  
plexus cavernosi concharum



# Az orrüreg beidegzése



Surgical anatomy of the face

Makielski MD

N. ethmoidalis anterior

N. sphenopalatinus

N. infraorbitalis

N. alveolaris sup. ant. et med.

N. alveolaris sup. post.



# Az orrmelléküregek

Sinus frontalis

Sinus maxillaris

Sinus (cellulae) ethmoidalis

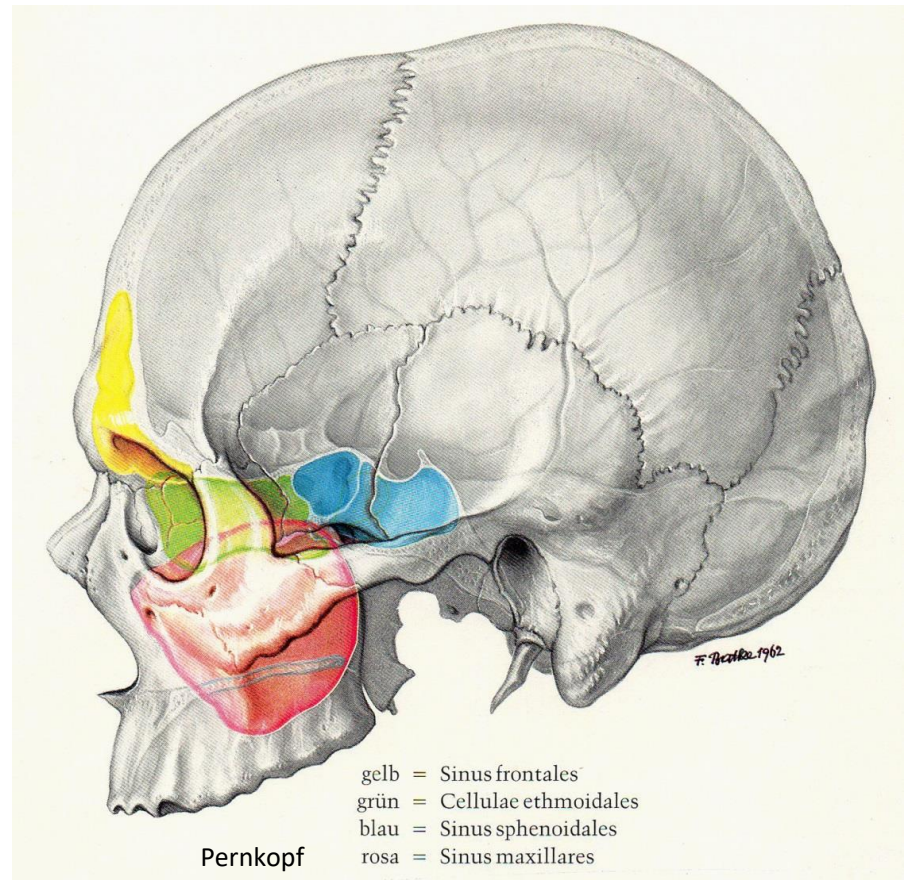
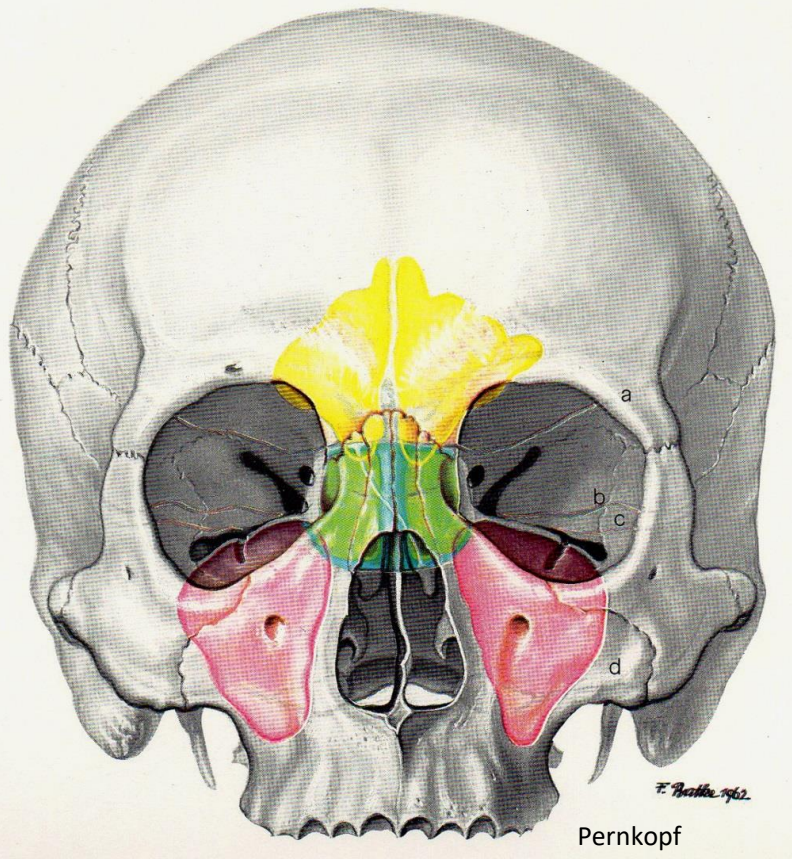
Sinus sphenoidalis

Koponya könnyítése

Rezonátorközegek

Levegő melegítése, nedvesítése

Mucintermelés



R

Water-view

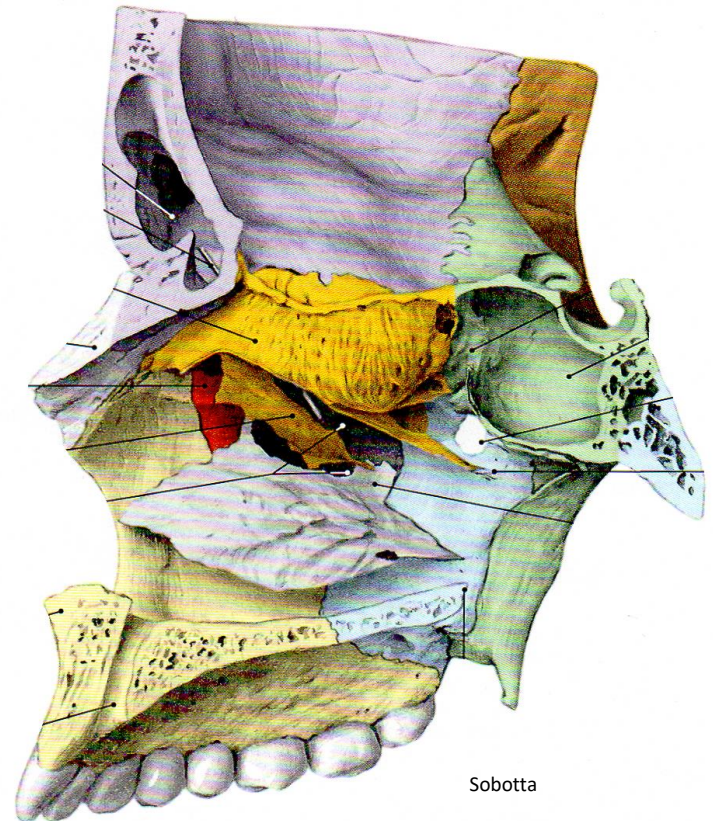
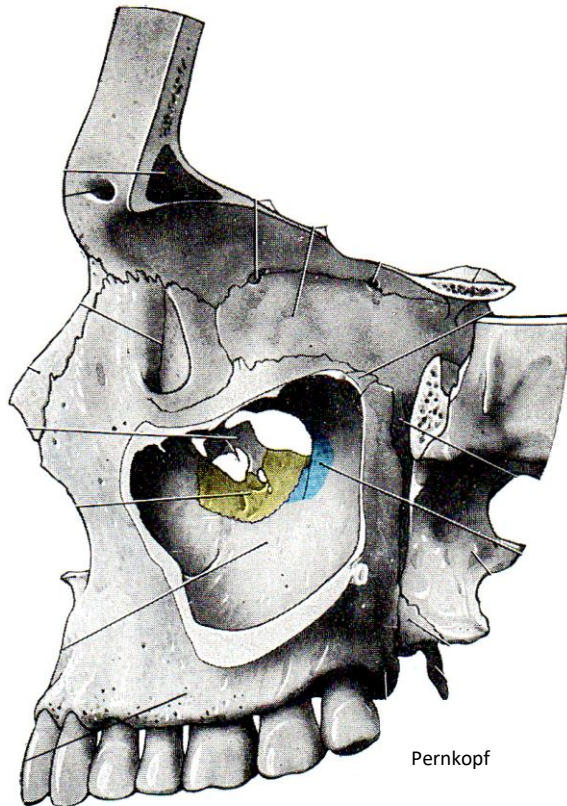




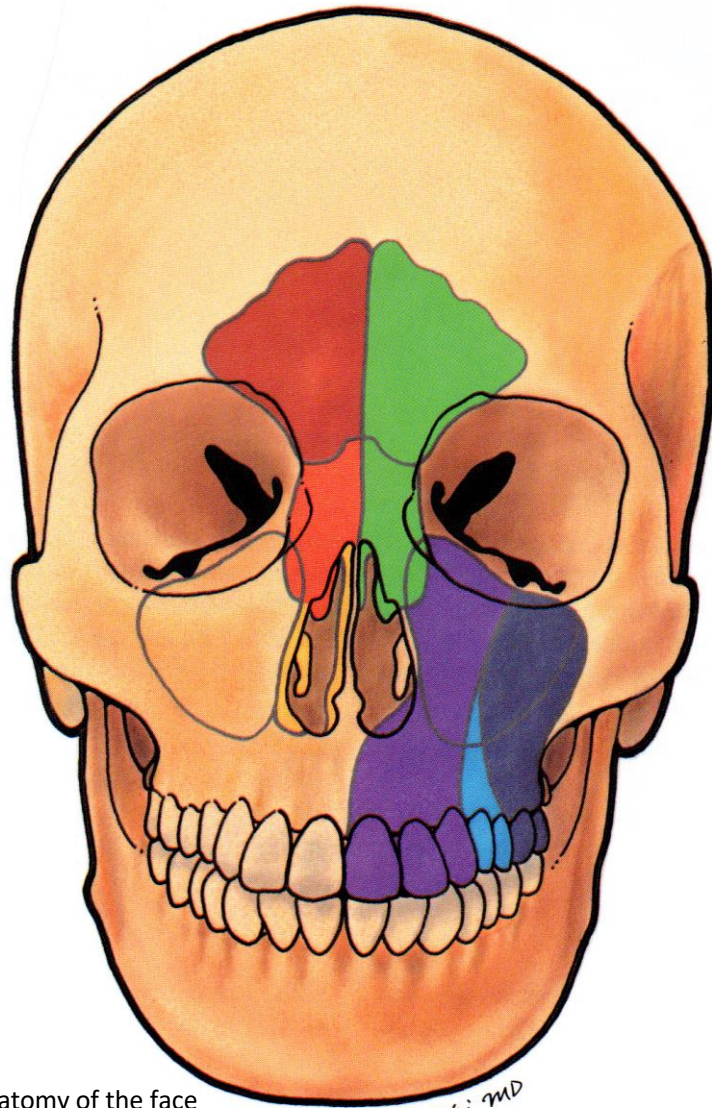
# Aditus sinus maxillaris

Az aditust szűkítő csontok

- Os palatinum
- Os ethmoideale
- Os lacrimale
- Concha nasalis inferior



# Az orrmelléküregek beidegzése



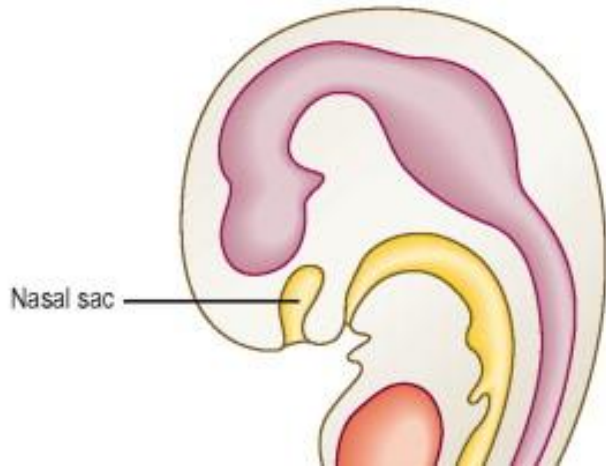
- N. supraorbitalis
- N. supraorbitalis és N. nasopalatinus
- N. sphenopalatinus
- N. ethmoidalis anterior
- N. alveolaris ant. sup.
- N. alveolaris ant. med.
- N. alveolaris ant. post

Surgical anatomy of the face

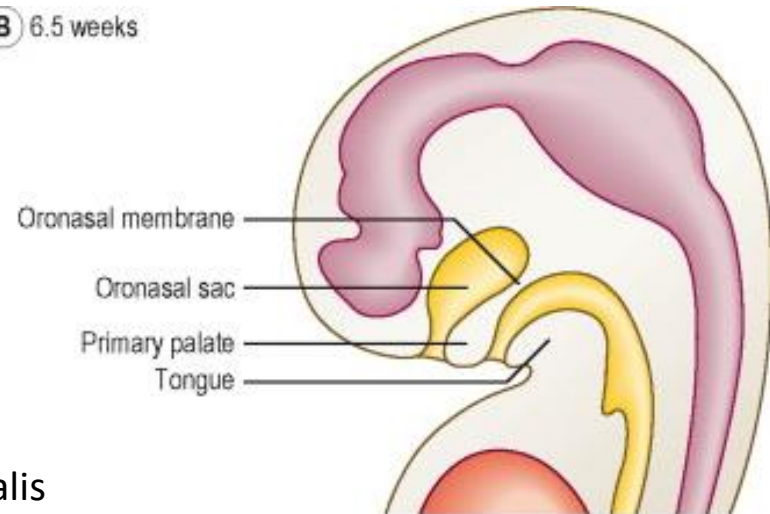
Makielski MD

# Fejlődés és pneumatizáció

**A** 6 weeks

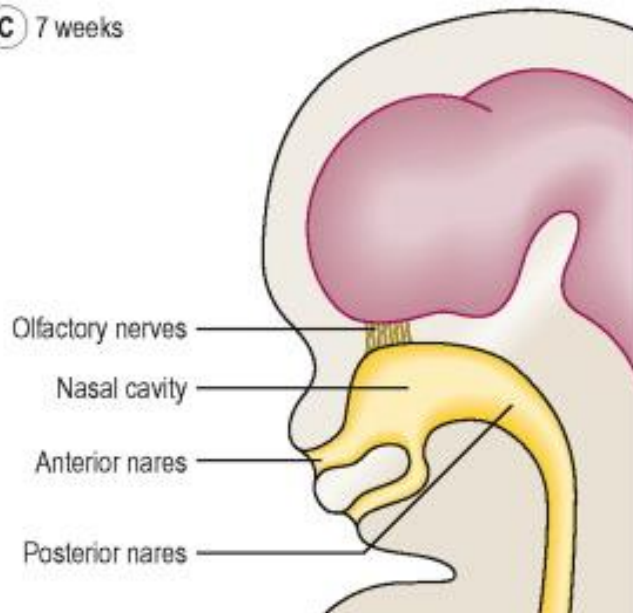


**B** 6.5 weeks

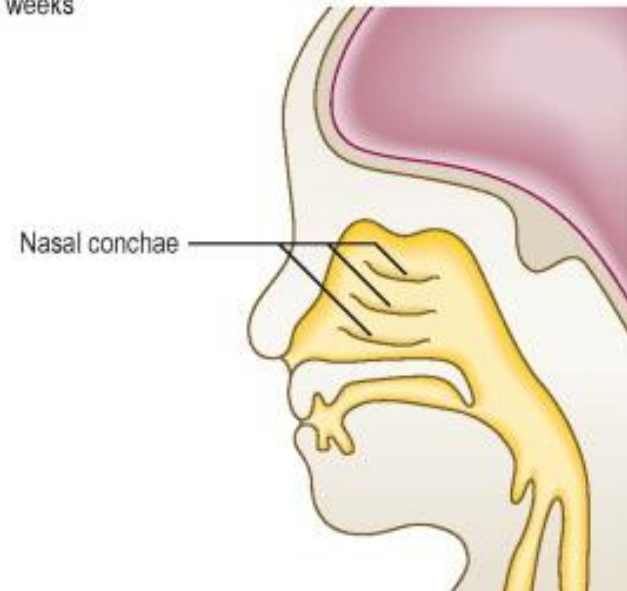


fovea nasalis  
saccus nasalis

**C** 7 weeks

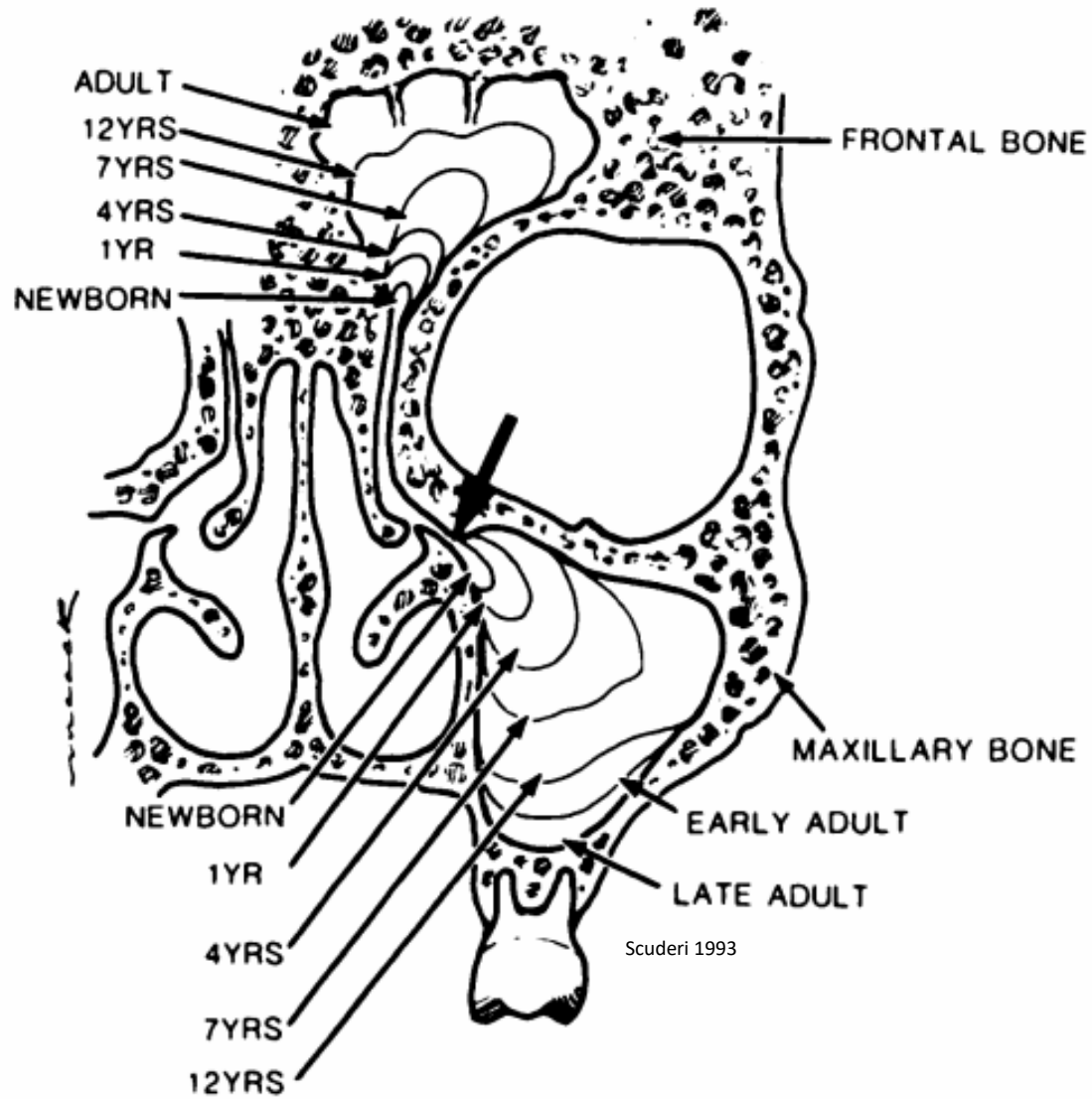


**D** 12 weeks





# Fejlődés és pneumatizáció

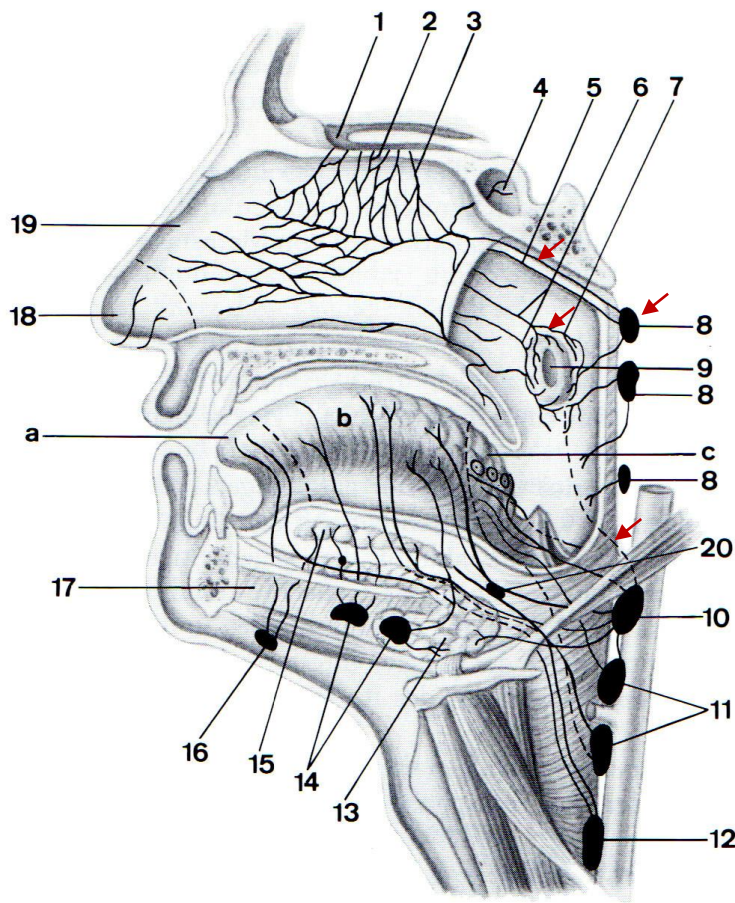


# Az orrüreg és orrmelléküregek nyirokelvezetése

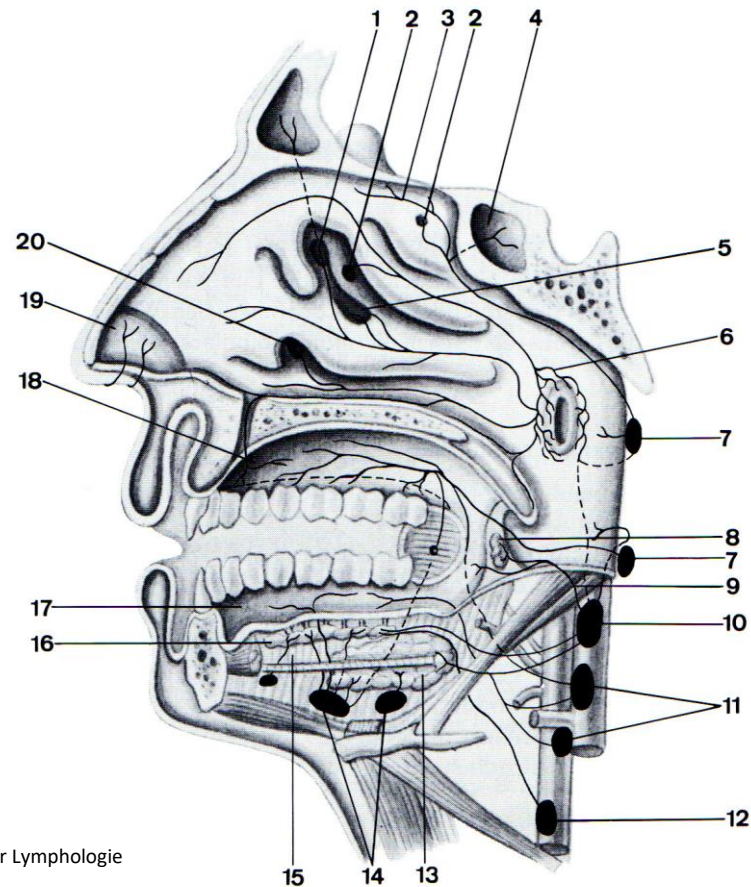
Regio olfactoria: összeköttetés az intracranialis térrel (infekció)

Regio respiratorica: hátrafelé drenál (kiv: vestibulum nasi)

- Közvetlen: N. I. retropharyngei lateralis (csak a felső rész!)
- Plexus preitubaris: az ostium pharyngeum tubae auditivae körül
  - Lateralis út: n. I. jugulodigastrici
  - Hátsó út: n. I. retropharyngei laterales



Lehrbuch der Lymphologie

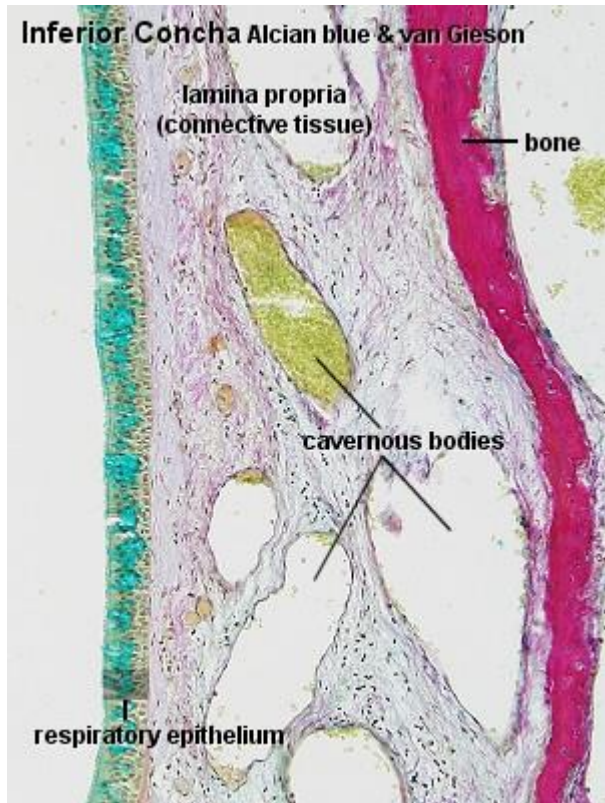


# Szövettan

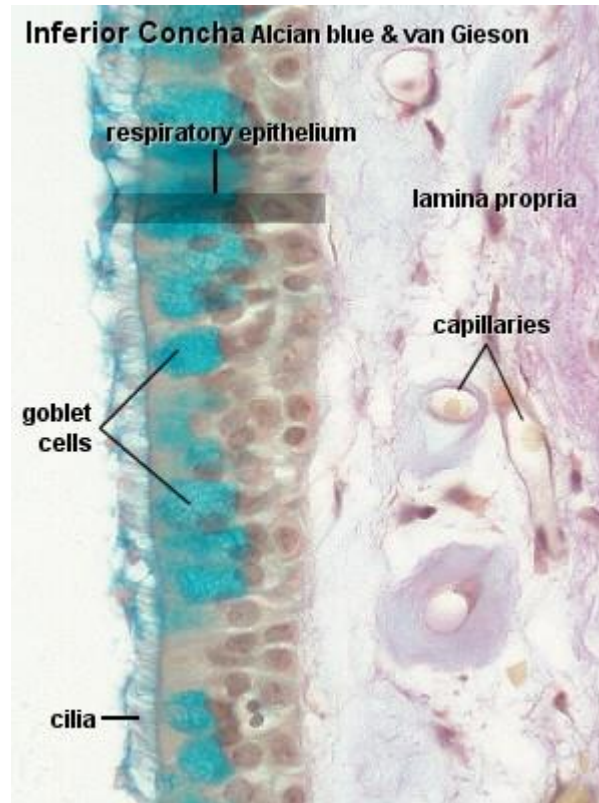
regio respiratorica

cilia – többmagsoros hengerhám  
kehelysejtek  
cavernák  
seromucosus mirigyek  
mucoperioisteum

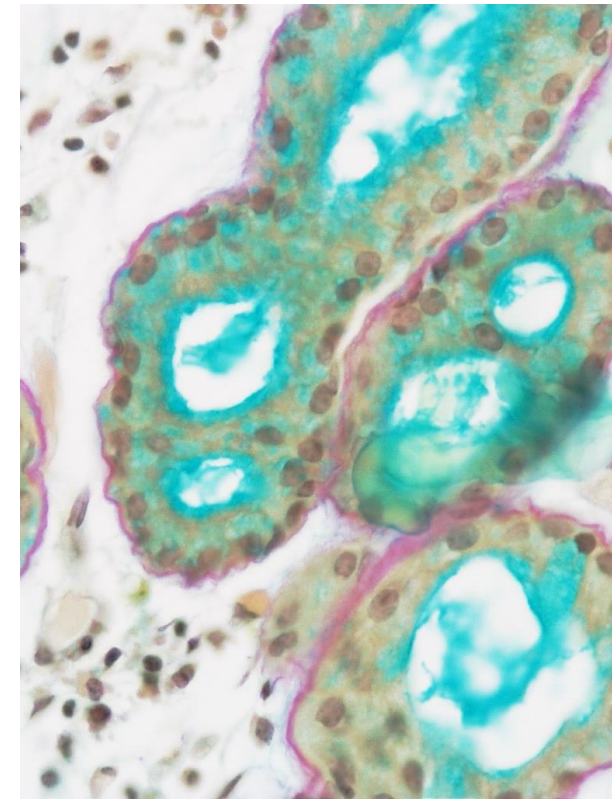
ormelléküreg:  
vékonyabb hám



Blue Histology



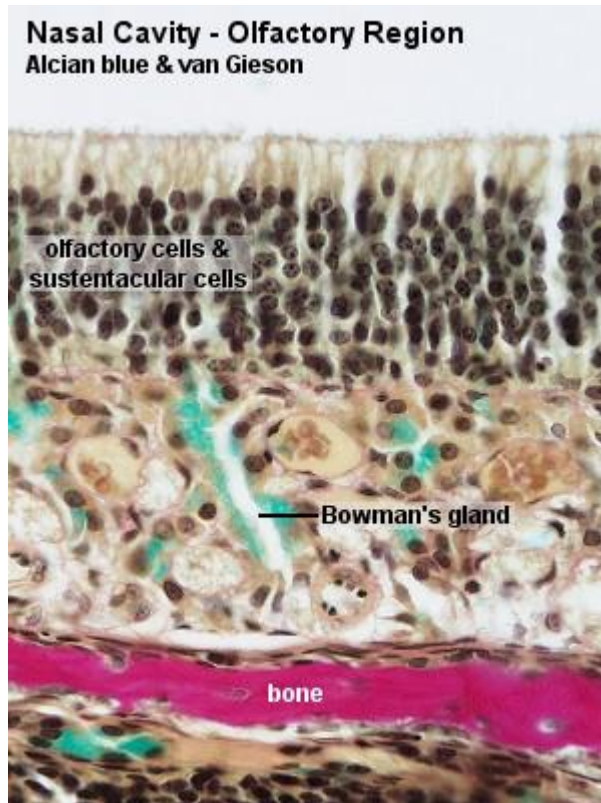
Blue Histology



Blue Histology



regio olfactoria



Blue Histology

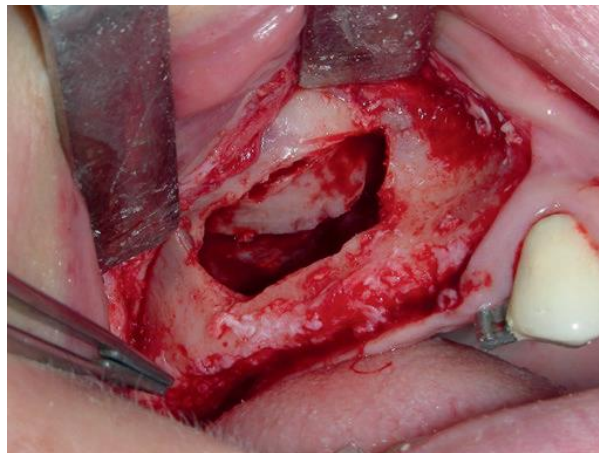
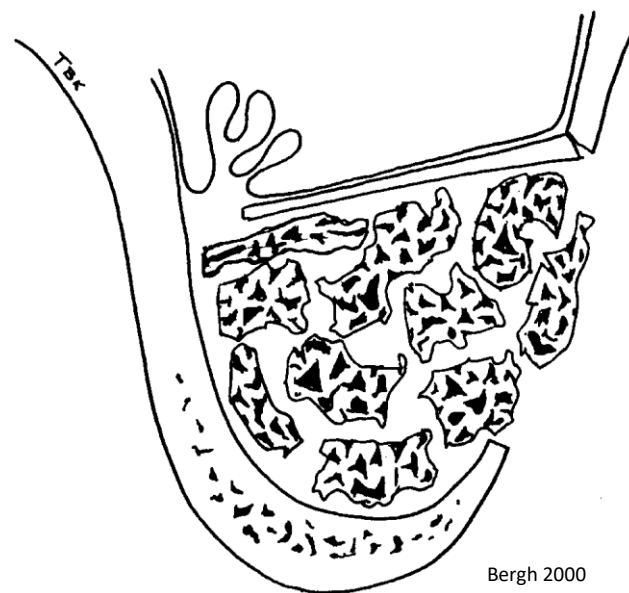
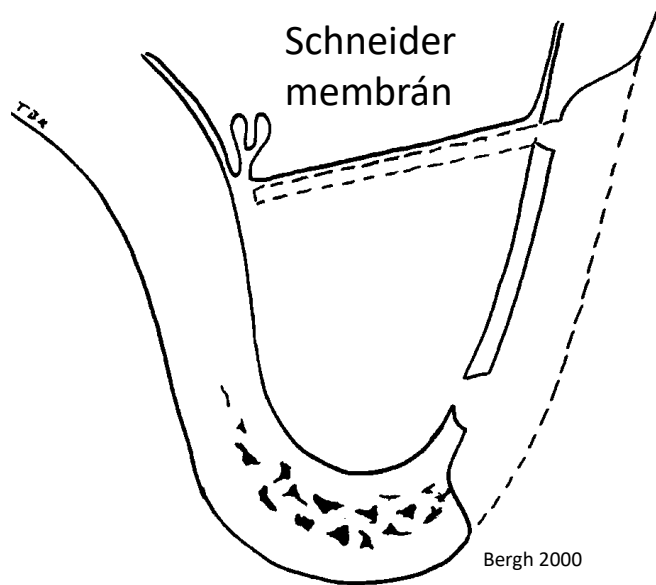
primer érzékhámsejtek + támasztósejtek

cilia nem kifejezett

kehelysejtek nincsenek

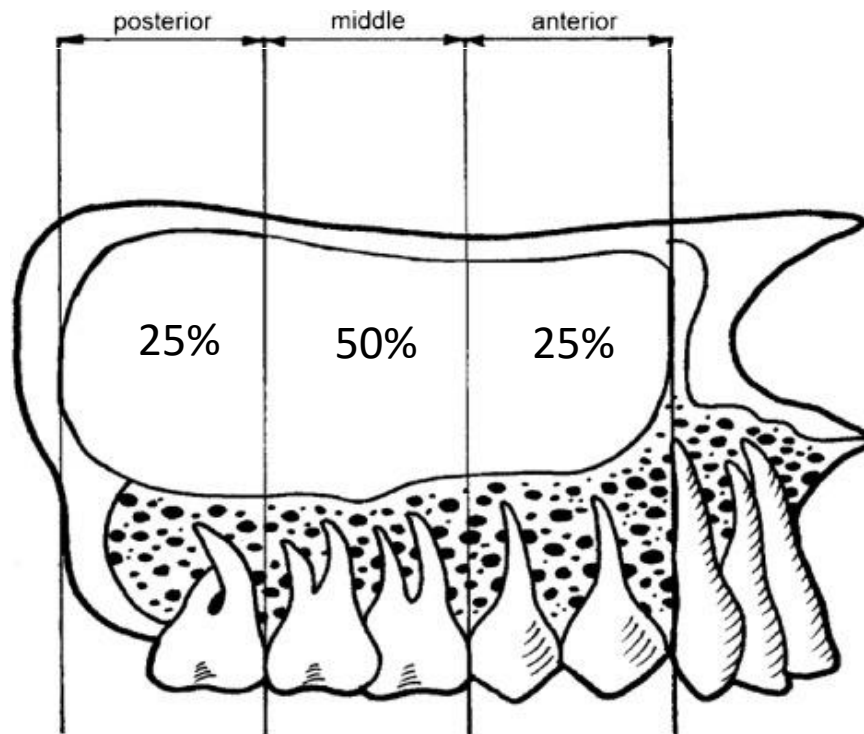
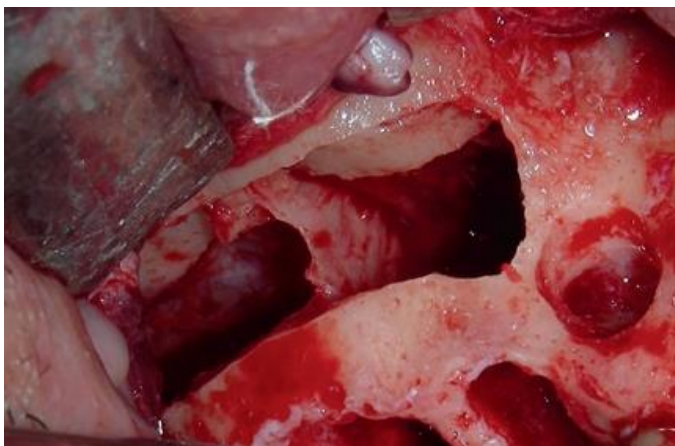
Bowman-mirigy: mucinosus (gázok oldása)

## Csontaugmentációs műtét implantáció előtt: Sinus lifting



## Septum sinus maxillaris

- 25-33%-os gyakoriság
- általában egyoldali
- 99% inkomplett
- horizontális a leggyakoribb orientáció



Hungerbühler 2019



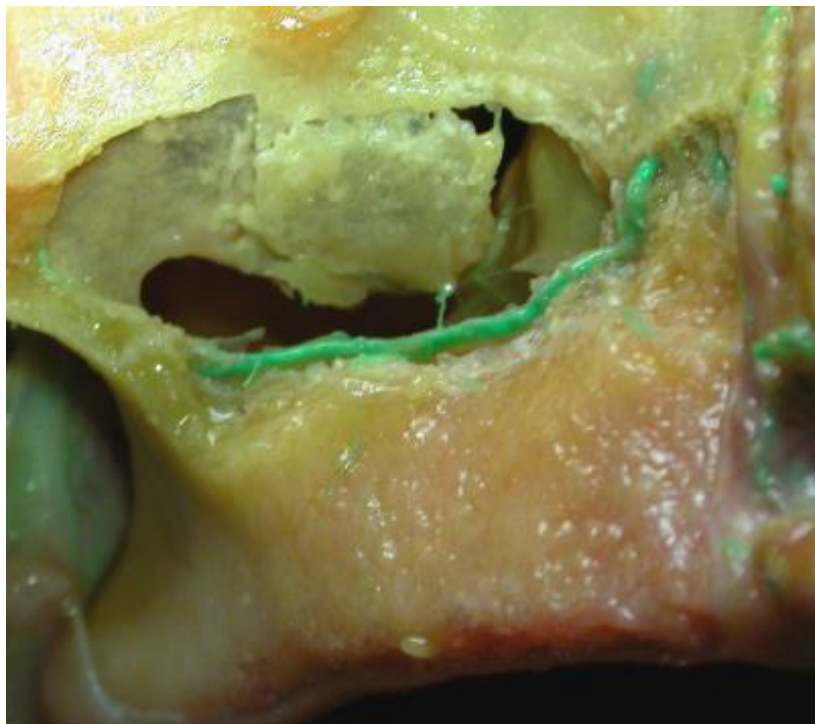
Bergh 2000



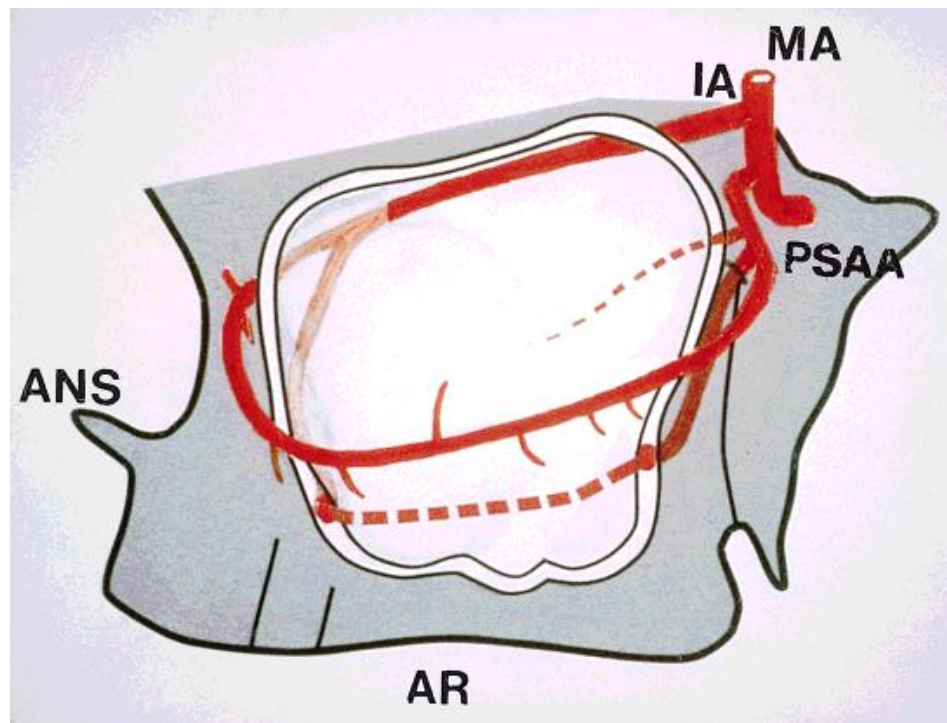
Ellátó erek:

- a. alveolaris superior posterior
- a. infraorbitalis

A kettő között egy extra- és egy intraossealis anastomosis található.  
Utóbbi átlagosan 19 mm-re az alveolaris ívtől.



Rosano 2011



Traxler 2009

