

# ***CAVUM NASI ET SINUS PARANASALES***

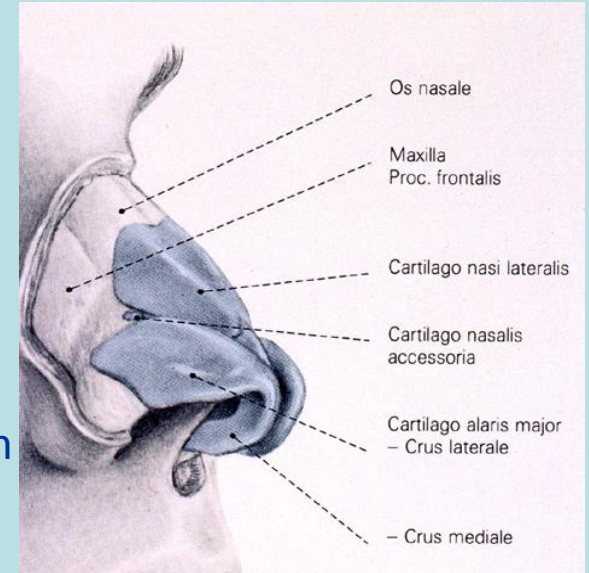


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*Anatomisches, Histologisches und Embryologisches Institut*  
*Budapest*

# STRUKTUR UND ROLLE DER NASE



- „KLIMAANLAGE“
- Mukoziliäre Transport
- Schleimhautbarriere
- Resonatorraum
- Geruchsorgan/Riechorgan

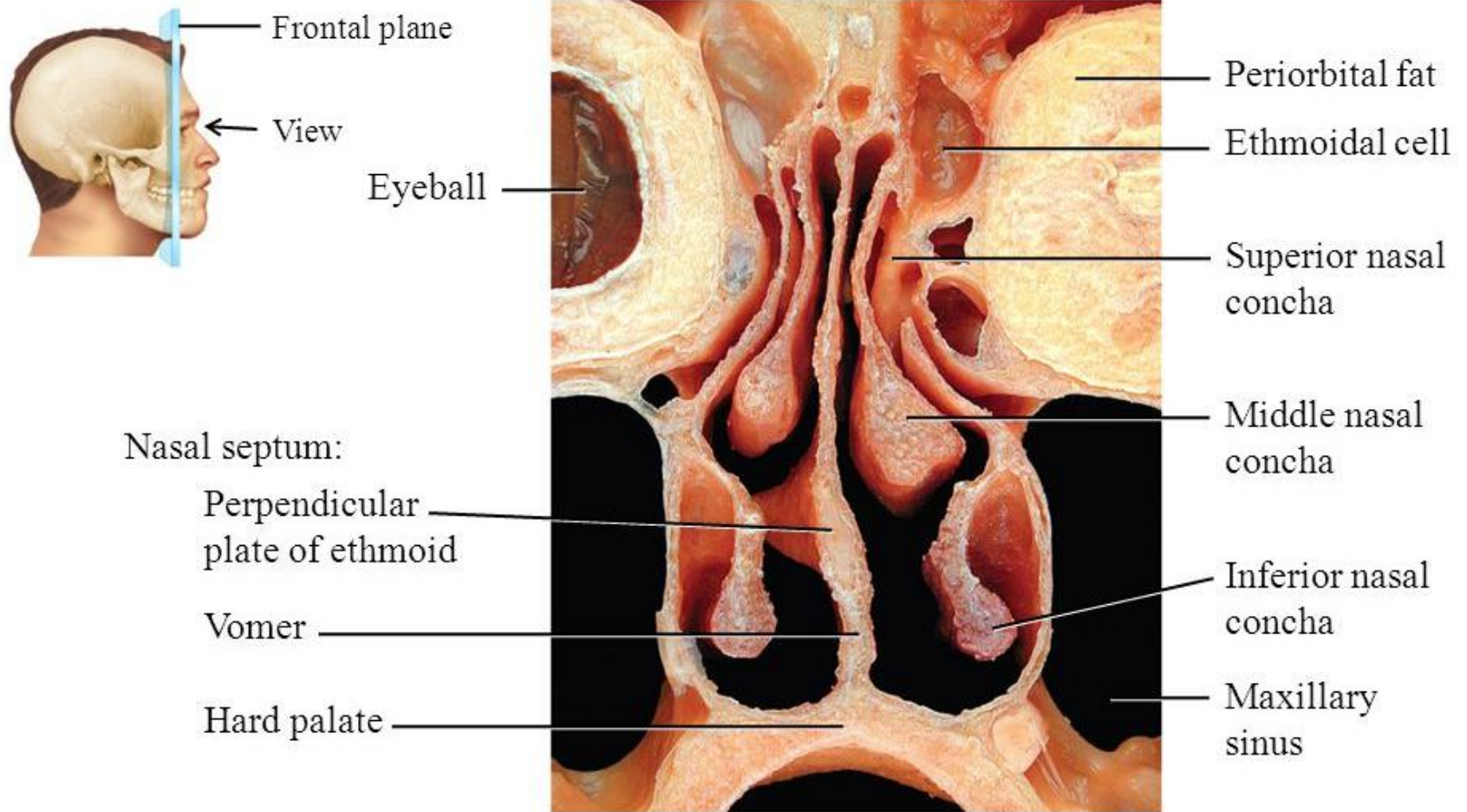


## NASUS EXTERNUS

### Teil des Viscerocraniums

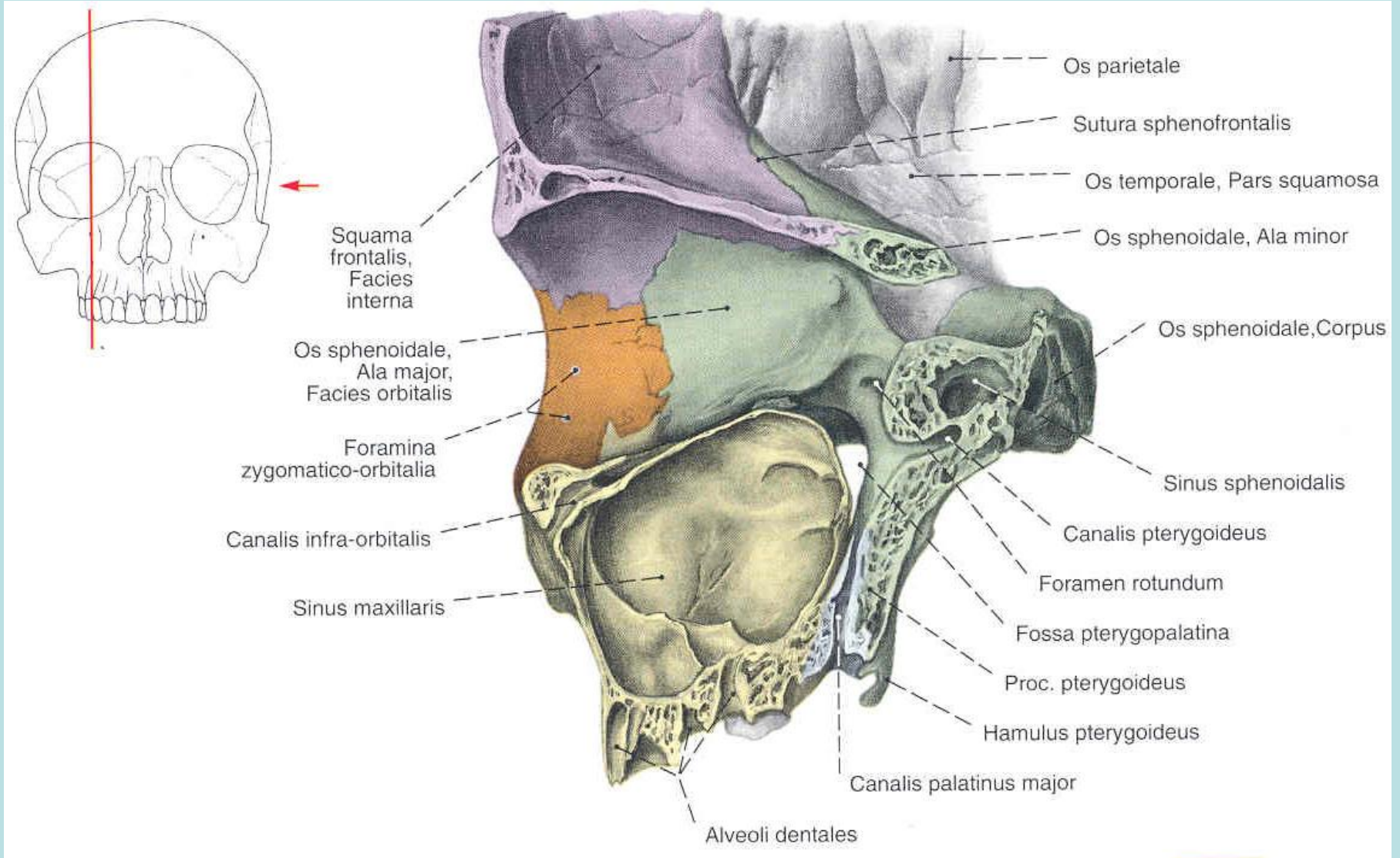
- Knöchernen PYRAMIDE- Os frontale, Os nasale und Os maxillare bilden
- Mündung: **APERTURA PIRIFORMIS**
- Weitere Ergänzung: Knorpelig-membranöse Strukturen  
(dorsum, ala, apex nasi)

# TOPOGRAPHIE DER NASENHÖHLE

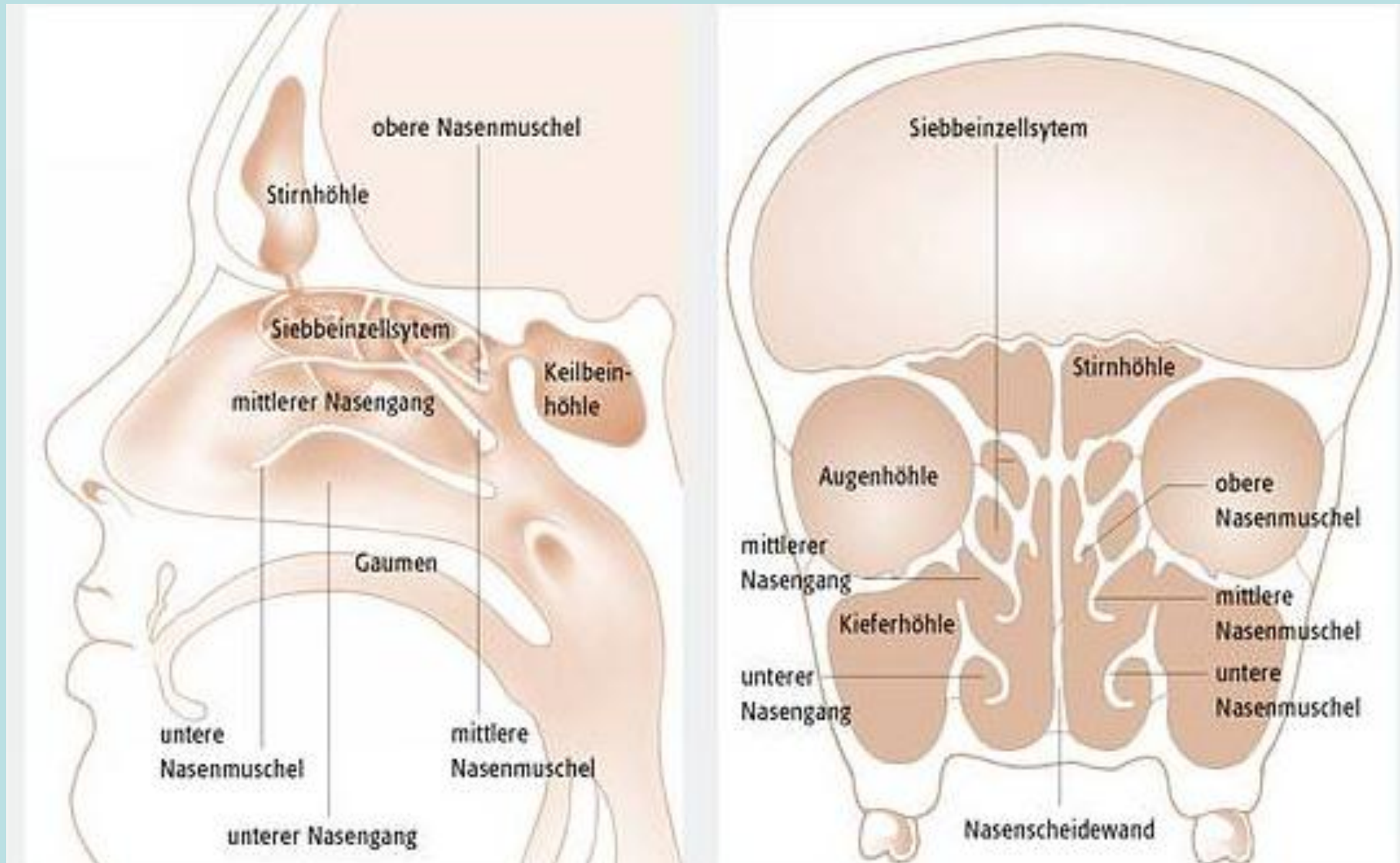


(c) Frontal section showing conchae

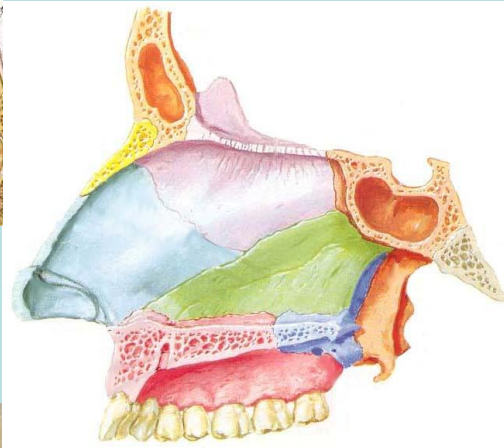
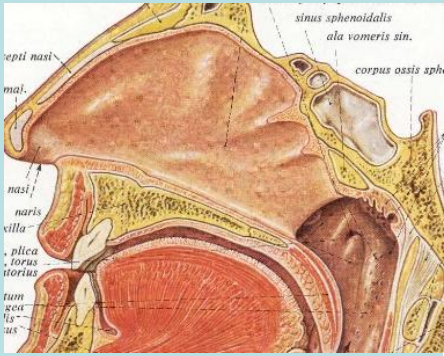
# TOPOGRAPHIE DER NASENHÖHLE



# NASUS INTERNUS – CAVUM NASI



# NASUS INTERNUS – CAVUM NASI

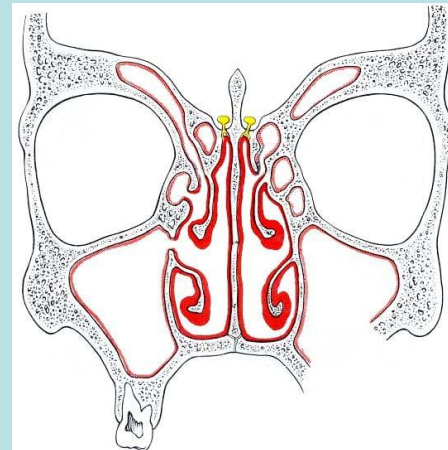
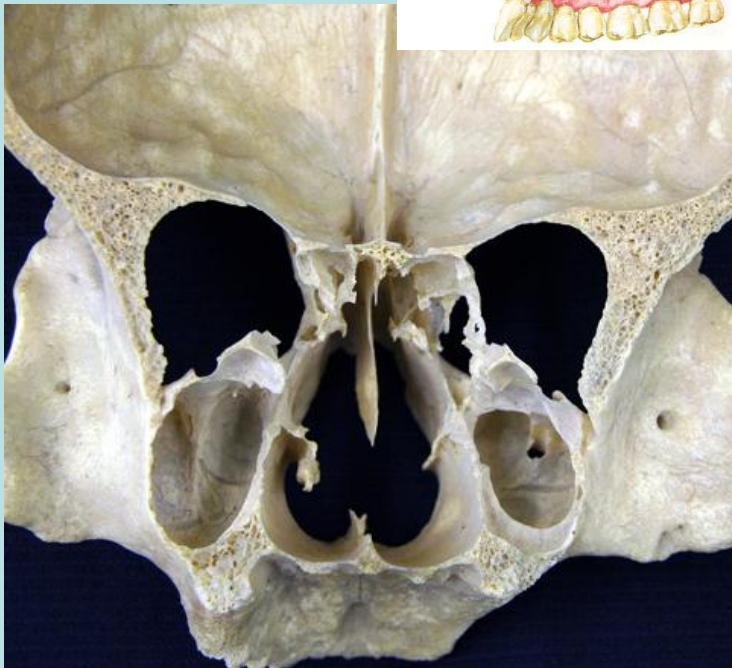


## 2 SYMMETRISCHE NASENHÖHLEN

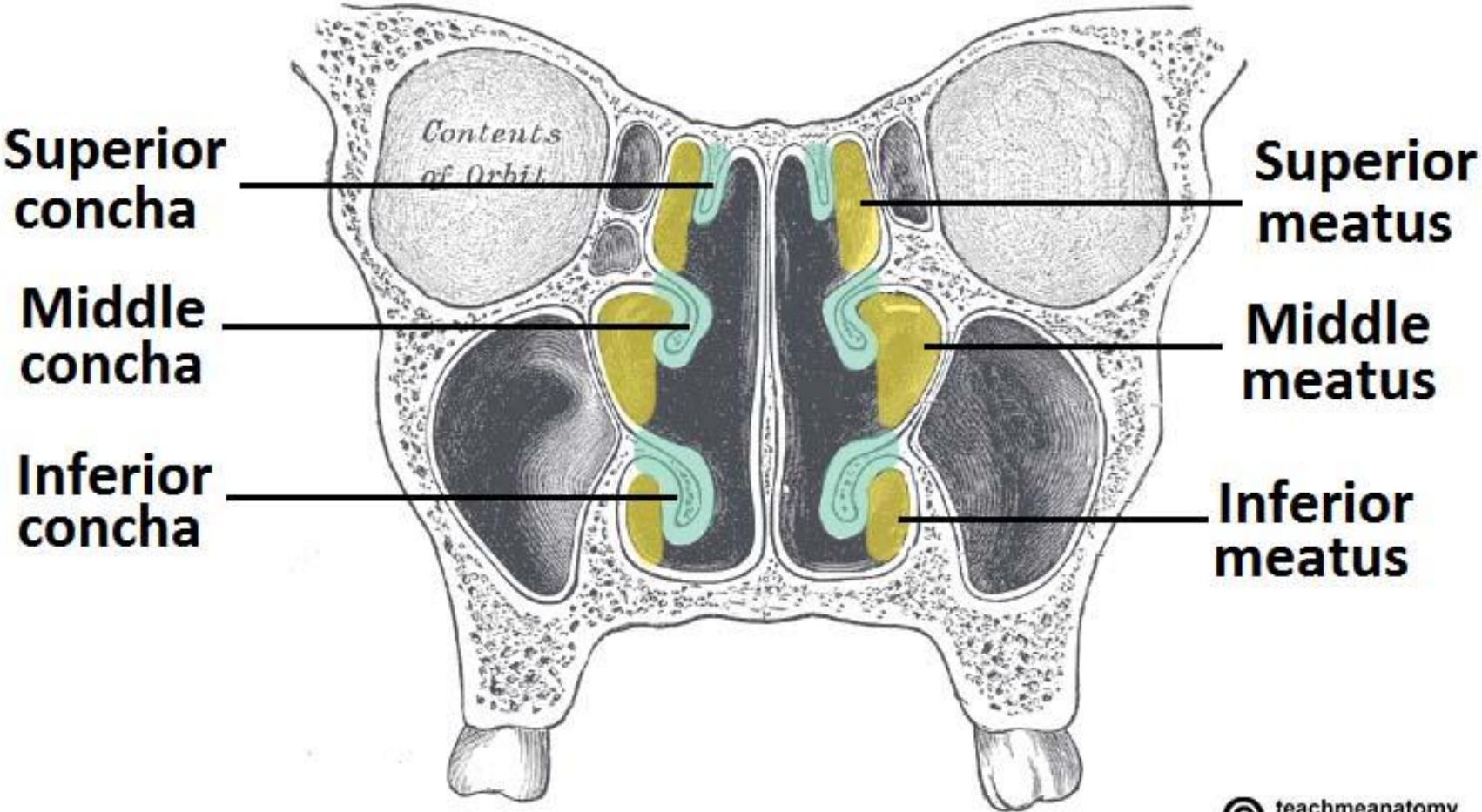
- Getrennt durch das Septum nasi (Cartilago septodorsalis, Lamina perpendicularis, Vomer)

## GÄNGE

- Meatus nasi communi
- Meatus nasi superior
- Meatus nasi medius
- Meatus nasi inferior



# FRONTALSCHNITT



**Superior  
concha**

**Middle  
concha**

**Inferior  
concha**

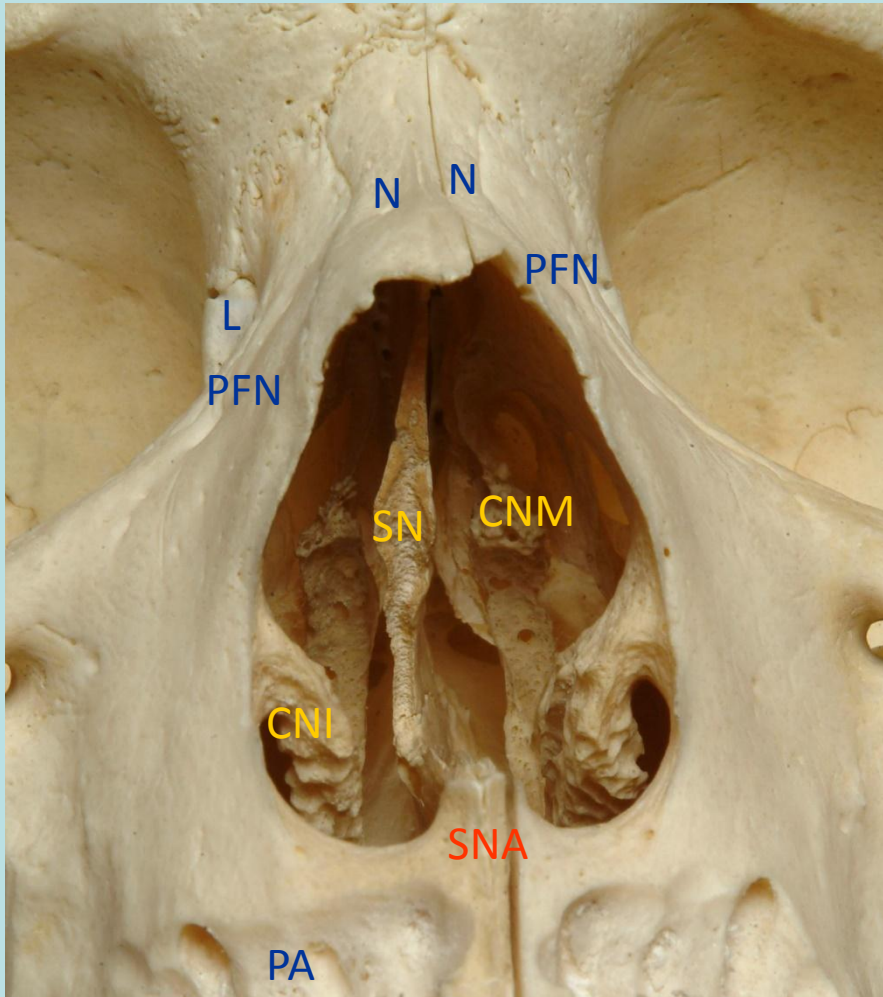
**Superior  
meatus**

**Middle  
meatus**

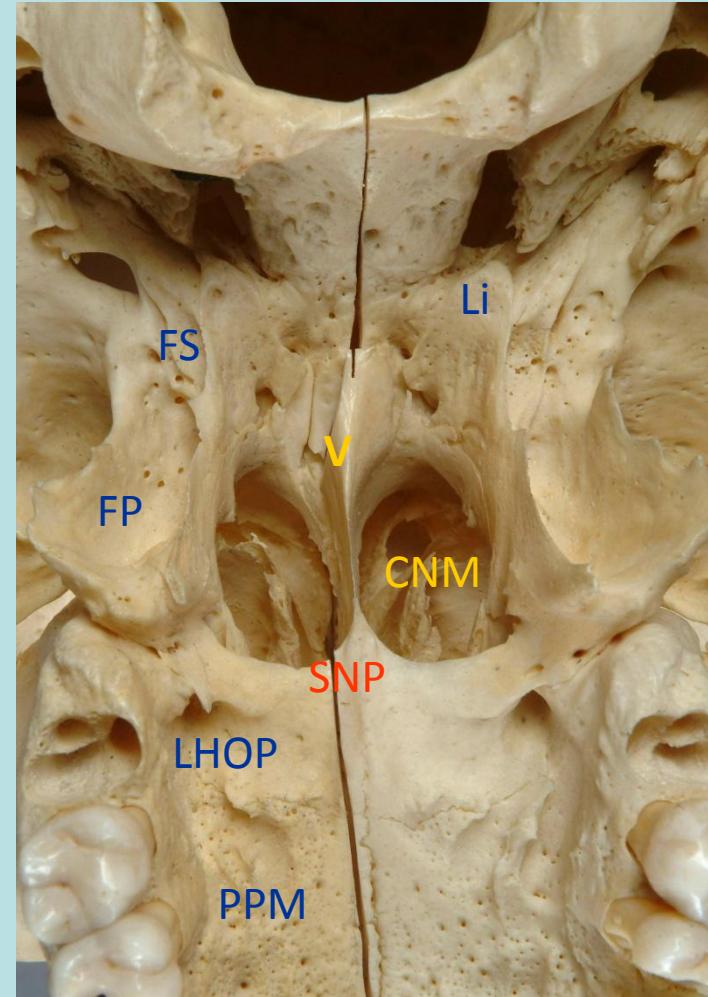
**Inferior  
meatus**

# EINGANG - AUSGANG

## APERTURA PIRIFORMIS



## CHOANAE

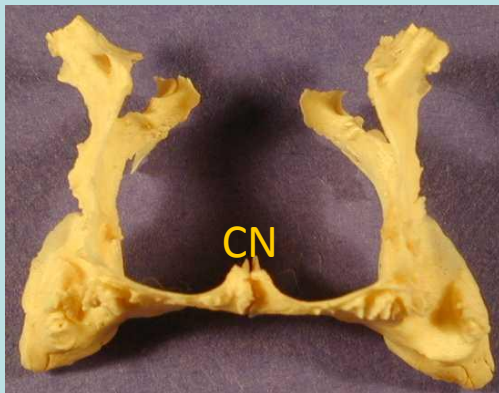




# BODEN

## TEILE:

- proc. palatinalis m.
- lamina horizontalis o.p.

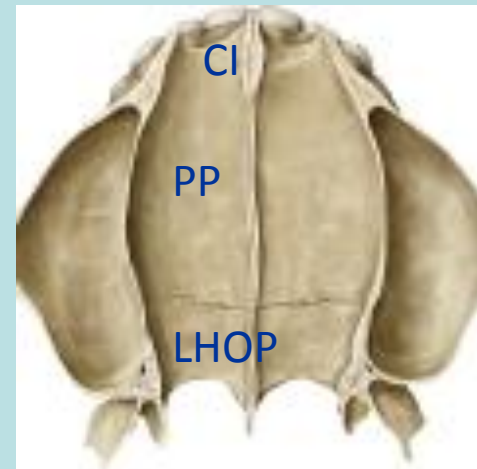


## ÖFFNUNG:

- canalis incisivus

## STRUKTUREN:

- spina nasalis anterior
- crista nasalis
- spina nasalis posterior
- sutura transversa
- sutura mediana



# DACH

## TEILE:

- os nasale
- os frontale (sinus frontalis)
- lamina horizontalis o.e.
- corpus o. sph.

## ÖFFNUNG:

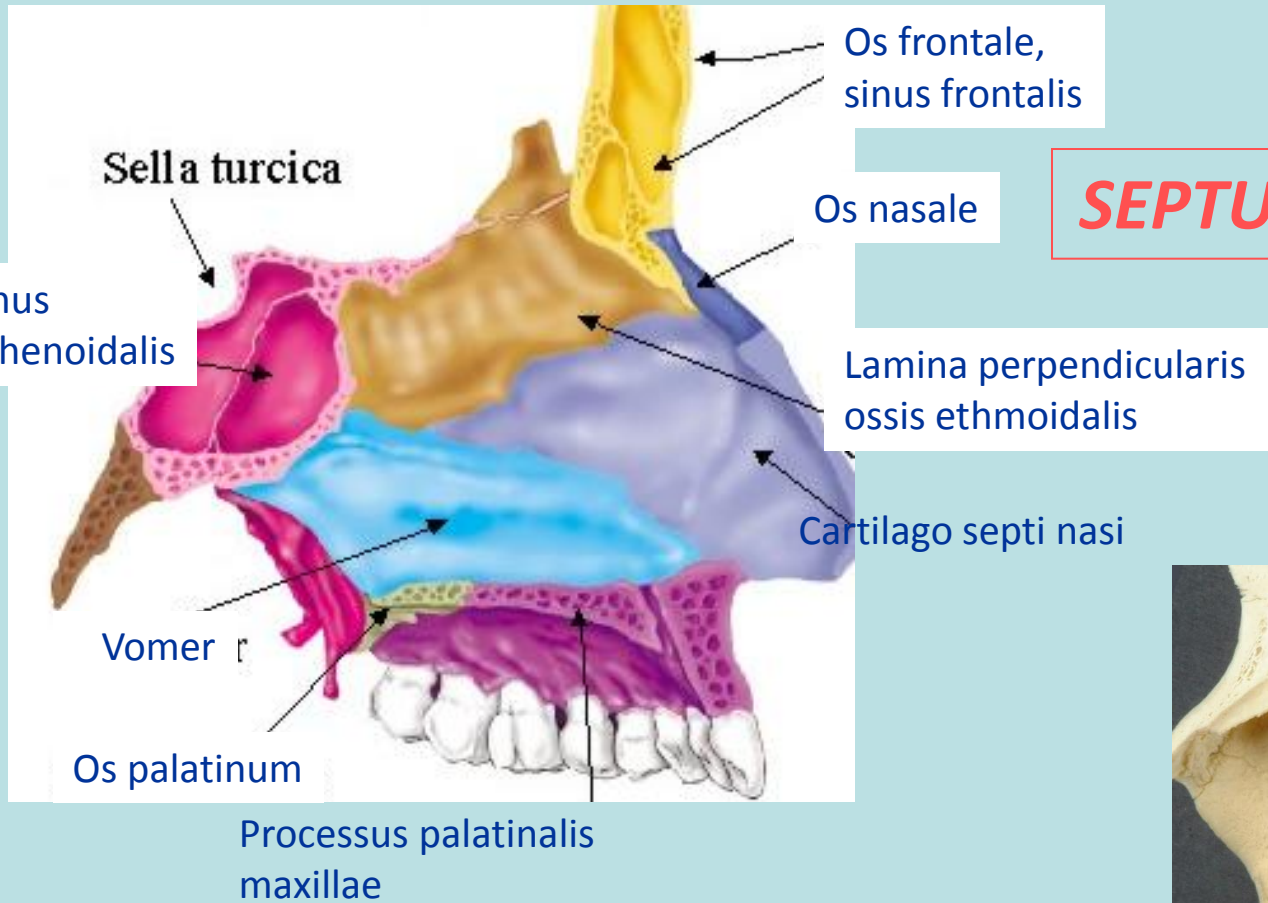
- lamina cribrosa
- *apertura sin. sph.*

## STRUKTUREN:

- meatus nasi communis
- recessus sphenoidalis



# MEDIALE WAND



## *SEPTUM NASI OSSEUM*

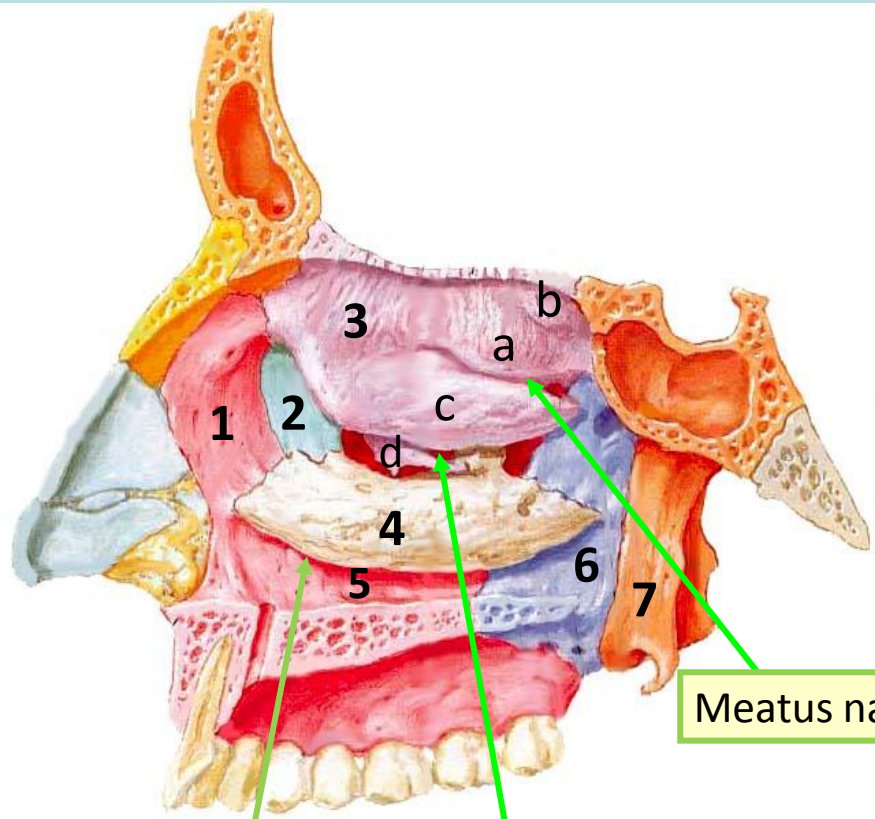


### TEILE:

- vomer
- lamina perpendicularis o.e.

# LATERALE WAND 1

## TEILE



Meatus nasi inferior

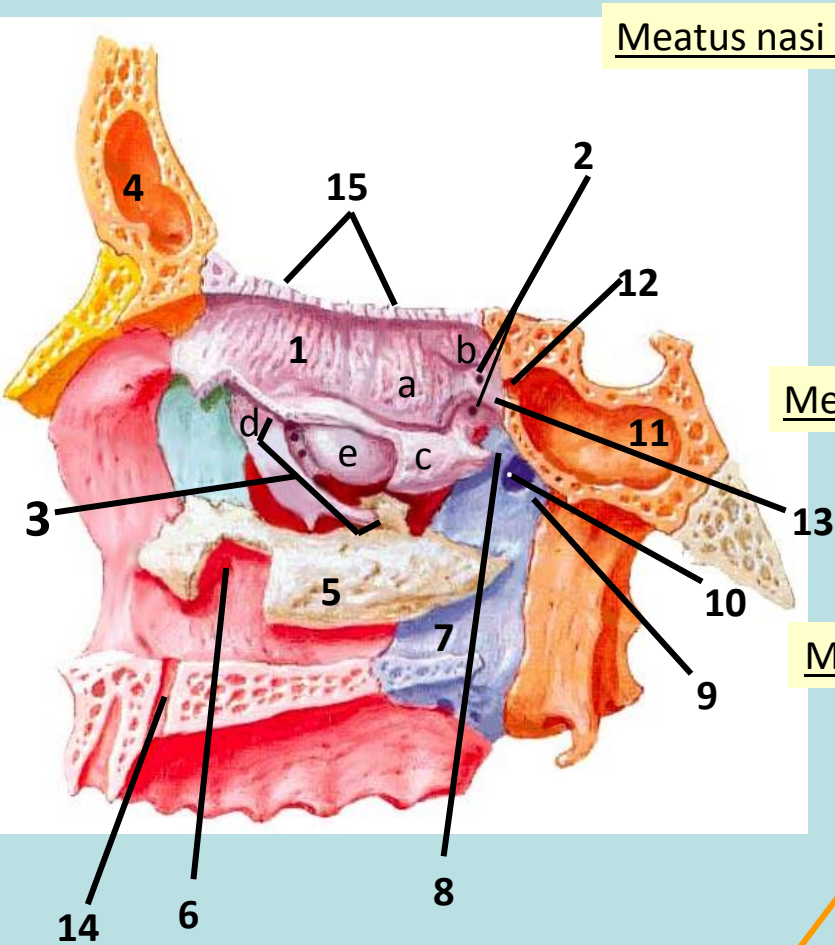
Meatus nasi medius

Meatus nasi superior

1. Processus frontalis maxillae
2. Hamulus ossis lacrimalis
3. Lamina labyrinthica ossis ethmoidalis
  - a., concha nasalis superior
  - b., concha nasalis suprema
  - c., concha nasalis media
  - d., processus uncinatus
4. Concha nasalis inferior
5. Corpus maxillae; facies nasalis
6. Lamina perpendicularis ossis palatini
7. Lamina medialis proc. pterygoidei

# LATERALE WAND 2

## ÖFFNUNGEN UND STRUKTUREN



Meatus nasi superior

### 1. *Lamina labyrinthica ossis ethmoidalis*

- a., concha nasalis superior
- b., concha nasalis suprema

### 2. *celulae ethmoidales post.*

- c., concha nasalis media (*geschnitten*)
- d., processus uncinatus
- e., bulla ethmoidalis

### 3. *Hiatus semilunaris*

- *infundibulum ethmoidale*

### (4. *sinus frontalis*)

- *celulae ethmoidales ant./medii*
- *sinus maxillaris*

Meatus nasi medius

### 5. Concha nasalis inferior

### 6. Canalis nasolacrimalis

### 7. Lamina perpendicularis ossis palatini

8. Processus orbitalis

9. Processus sphenoidalis

10. For. sphenopalatinum

11. Sinus sphenoidalis

12. Apertura sinus sphenoidalis

Meatus nasi inferior

13. Recessus sphenoeethmoidalis

Meatus nasi communis

Apertura piriformis et choana

14. Canalis incisivus

15. Lamina cribrosa

# VERBINDUNGEN DER NASENHÖHLE

CAVUM NASI

## 1) Meatus nasi communis

*Lamina cribrosa*

(foramina cribrosa)

*Apertura piriformis*

*Canalis incisivus*

("Y"- förmig)

*Foramen pterygopalatinum*

*Choana*

*Apertura sinus sphenoidalis*

(im recessus sphenothmoidalis)

## 2) Meatus nasi superior

## 3) Meatus nasi medius

*Hiatus semilunaris*

## (4) Meatus nasi inferior

*Canalis nasolacrimalis*

WOMIT / WOHER / WOHIN

Fossa cranii anterior  
(*scala anterior*)

Gesichtsbereich

Cavum oris

Fossa pterygopalatina

Pars nasalis pharyngis

Sinus sphenoidalis

Cellulae ethmoidales posteriores

Cellulae ethm. antt. et mediae

Infundibulum ethmoidale /*Sinus frontalis*

Apertura sinus maxillaris

Orbita

# SINUS PARANASALES

Sinus frontalis

Meatus nasi medius

Cellulae ethmoidales  
ant., medii, post.

- meatus nasi superior  
- meatus nasi medius

Sinus maxillaris  
(Higmore üreg)

Meatus nasi medius

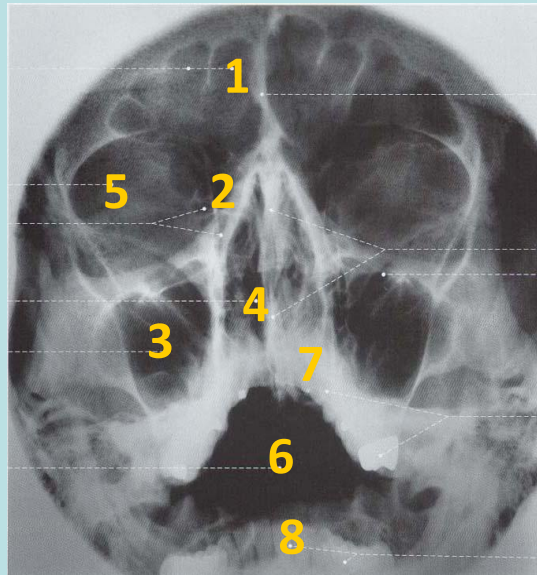
Sinus frontalis

Sinus maxillaris  
(Highmore)

Sinus sphenoidalis

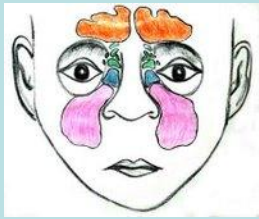
Meatus nasi communis

1. Sinus frontalis
2. Cellulae ethmoidales
3. Sinus maxillaris (Higmore)
4. Meatus nasi communis
5. Orbita
6. Cavum oris proprium
7. Dentes superiores
8. Dentes inferiores



## ROLLE:

- Verminderung des Gewichts durch Pneumatisation
- Resonatorraum für Vokalisation
- Einstellung der Lufttemperatur

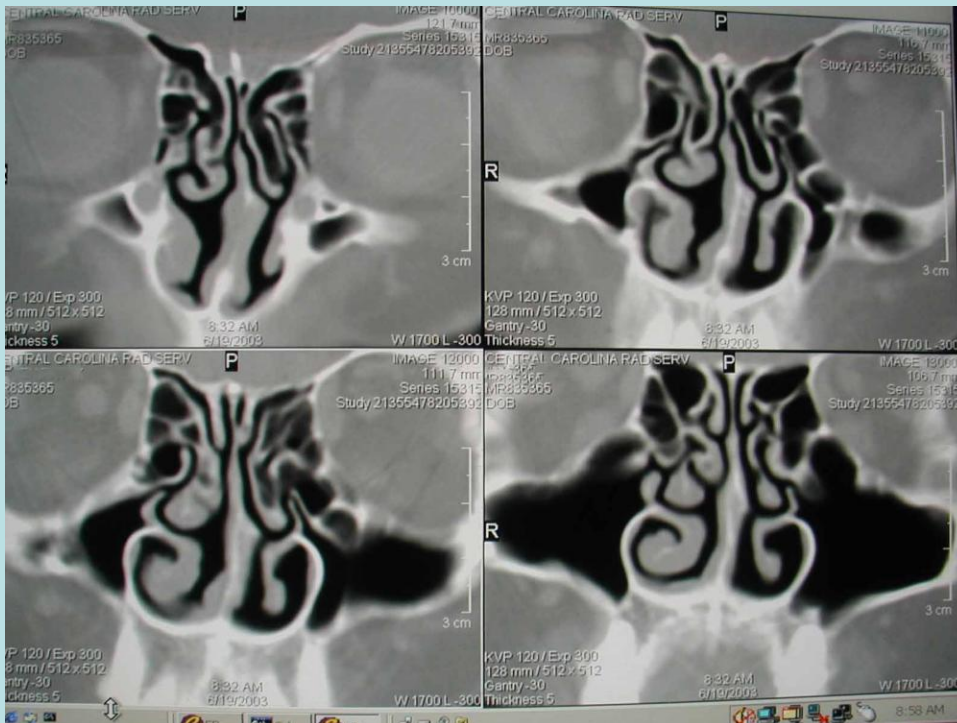
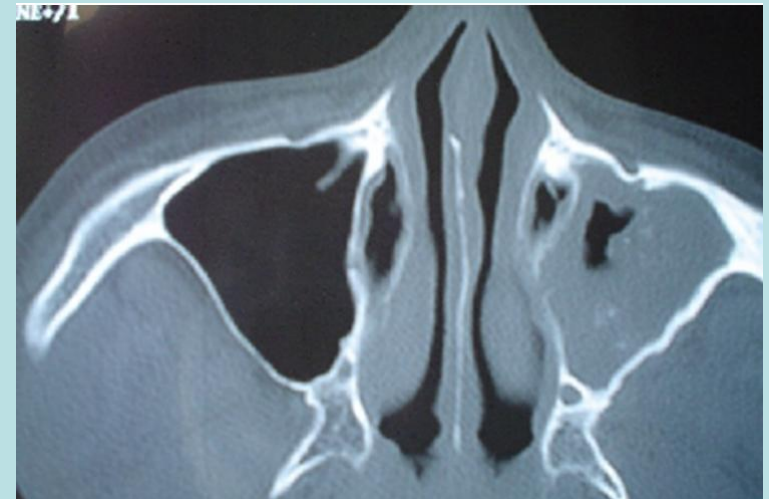
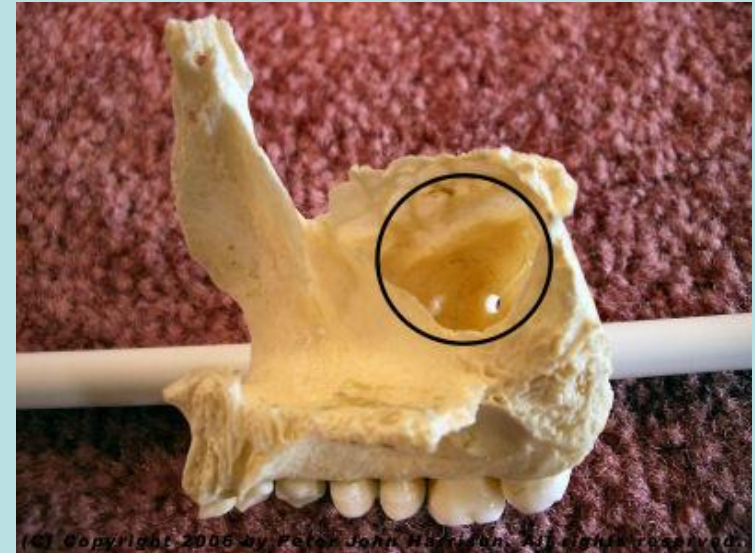


# SINUS MAXILLARIS

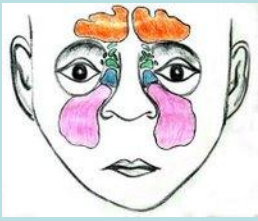
Grösste Nasennebenhöhle

Öffnet durch den *hiatus semilunaris*

Wichtige topographische Beziehung mit den oberen Backzähne und der Augenhöhle

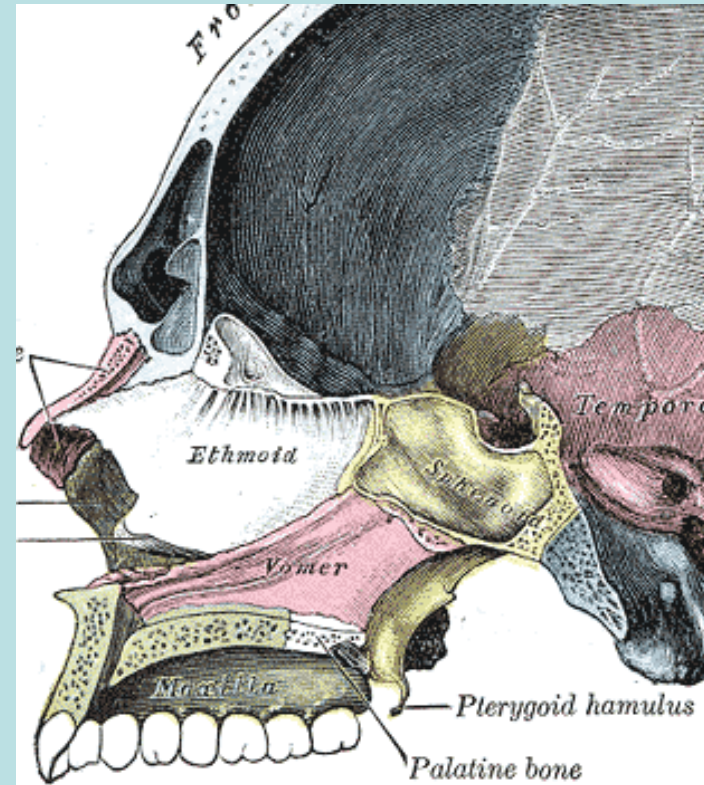
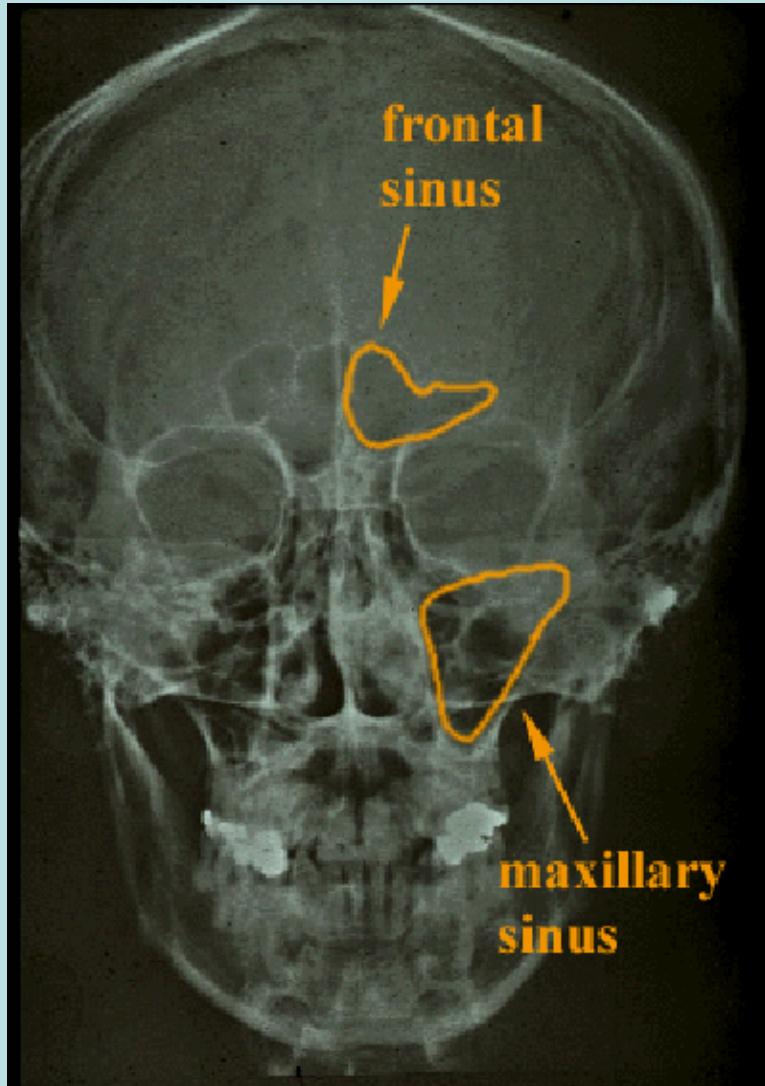


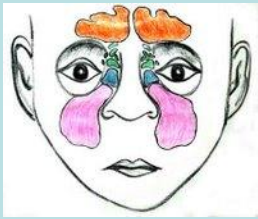




# SINUS FRONTALIS

Öffnet durch das infundibulum ethmoidale (*ductus nasofrontalis*) am hiatus semilunaris (vorne)

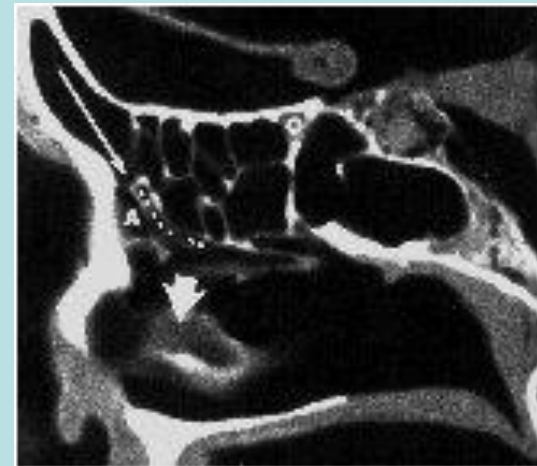
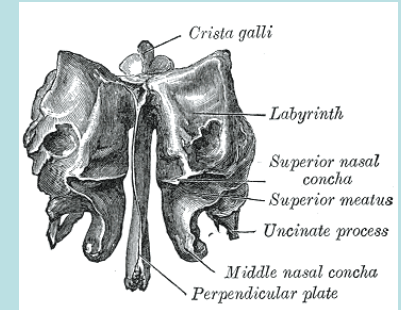


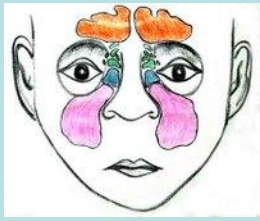


# (SINUS) CELLULAE ETHMOIDALES

## **Viele Mündungen**

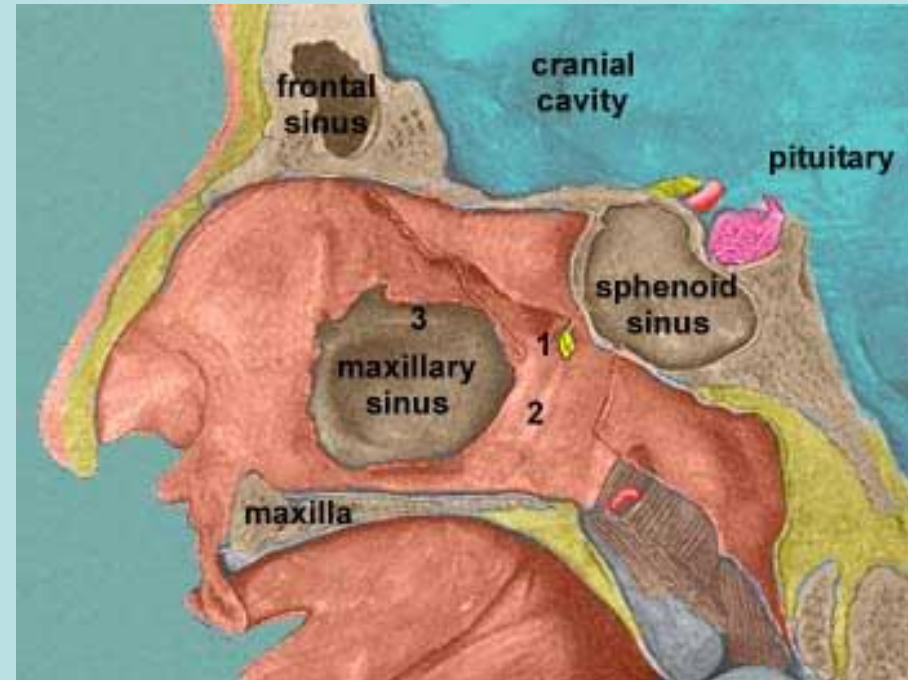
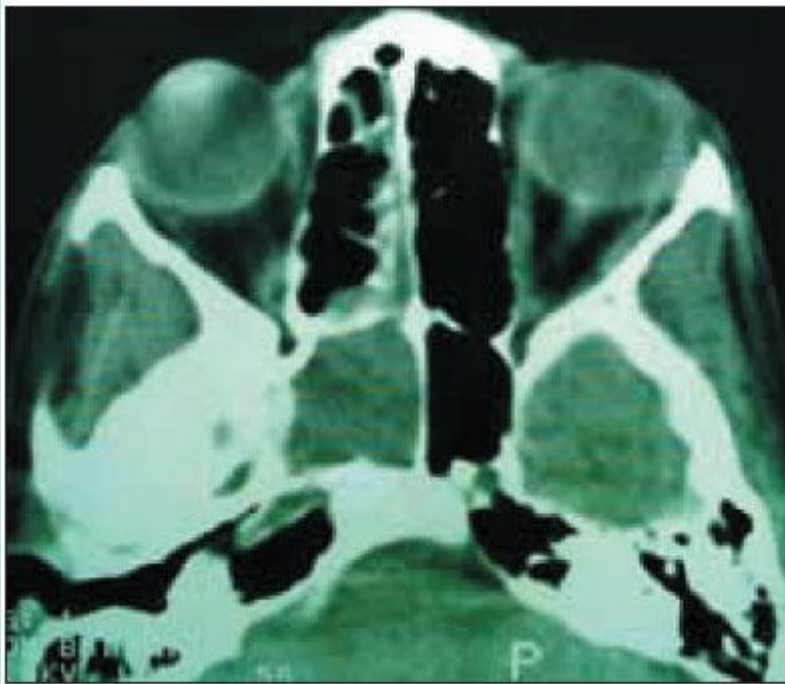
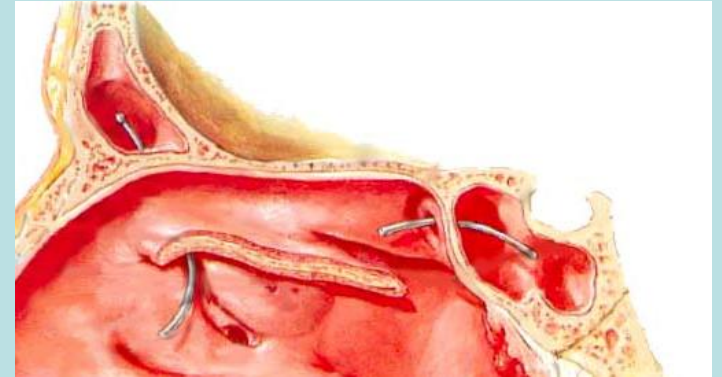
- cellulae anteriores/mediales  
durch den hiatus semilunaris
- cellulae posteriores  
in den meatus nasi superior



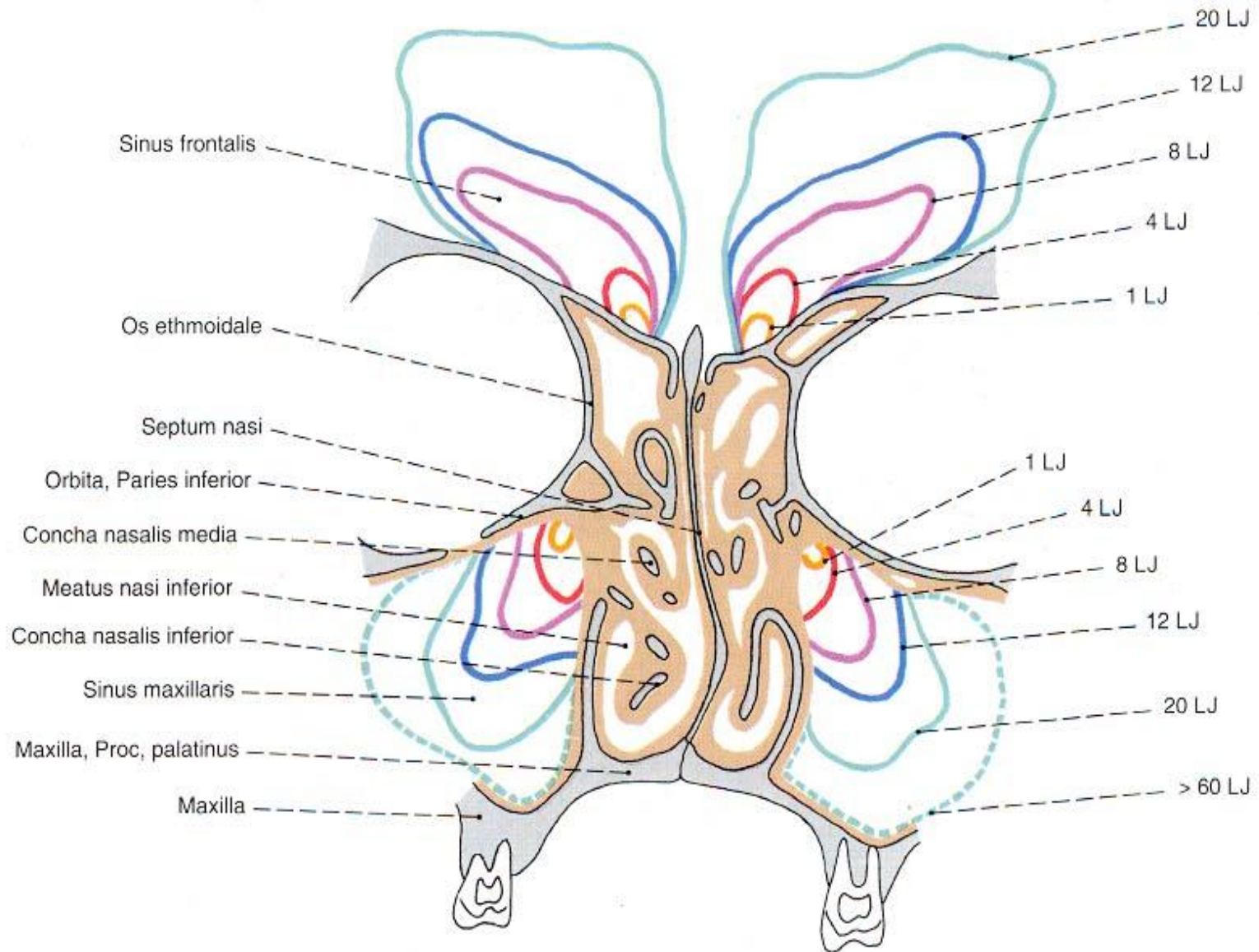


# SINUS SPHENOIDALIS

Öffnet durch die apertura sinus sphenoidalis  
in den recessus sphenothmoidalis

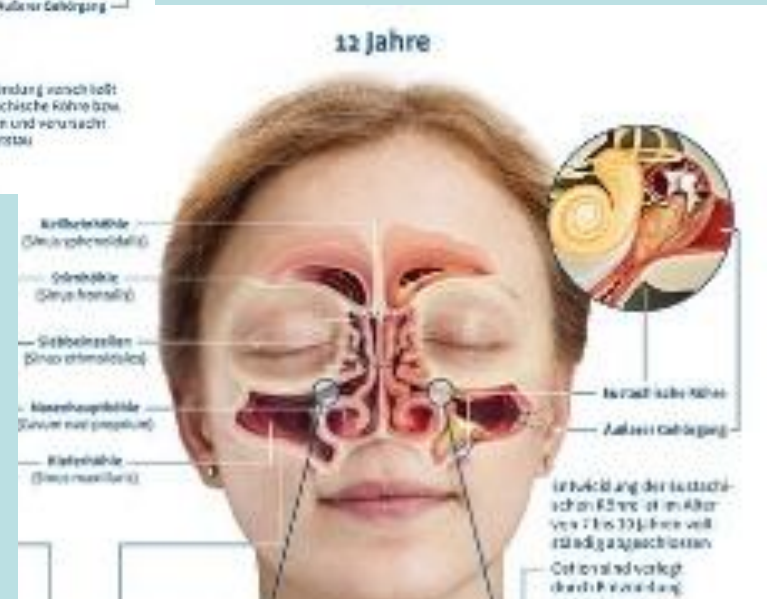
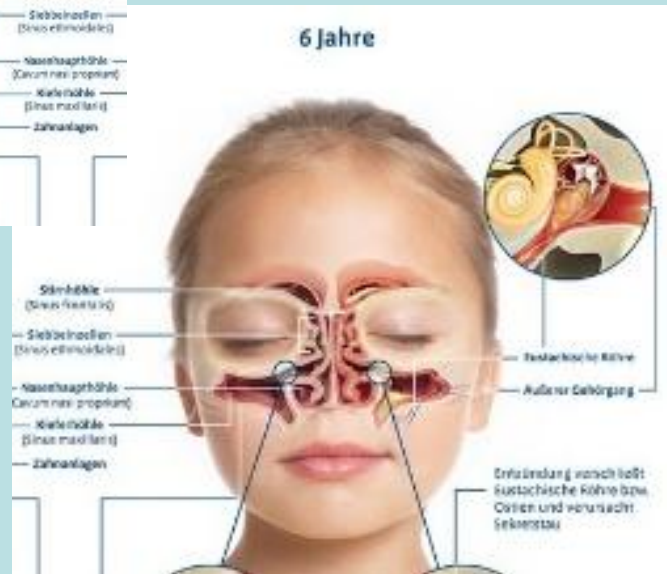
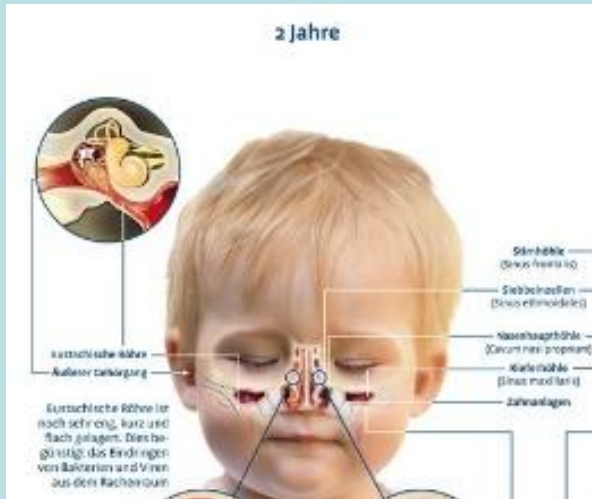


# ENTWICKLUNG DER NASENNEBENHÖHLEN



# ENTWICKLUNG DER NASENHÖHLE

## bzw. NASENNEBENHÖHLEN





fungus de nare sic met  
ditur.

# SEITENWAND DER NASENHÖHLE

*Processus pterygoideus ossis sphenoidalis*

*Lamina perpendicularis ossis palatinalis*

*Labyrinthus ethmoidalis (+bulla ethmoidalis+processus uncinatus)*

*Corpus maxillae*

*Concha nasalis inferior*

*Os lacrimale*

*Os frontale*

*Processus frontalis maxillae*

*Os nasale*

