

FESS

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Overlege ØNH-Rikshospitalet

Førsteamanuensis UiO

Antrostomi

Antrostomi

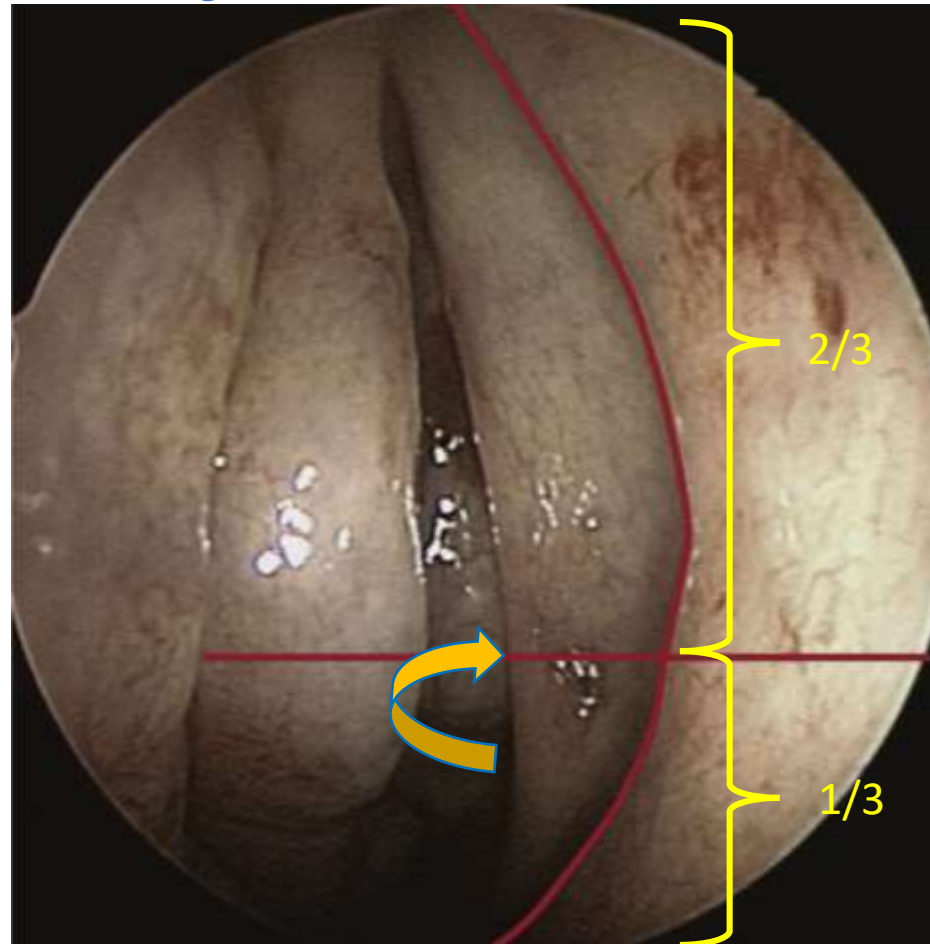
- **Første trinn i FESS**

1. Fjerning av processus uncinatus
2. Finner ostium
3. Utvide ostium

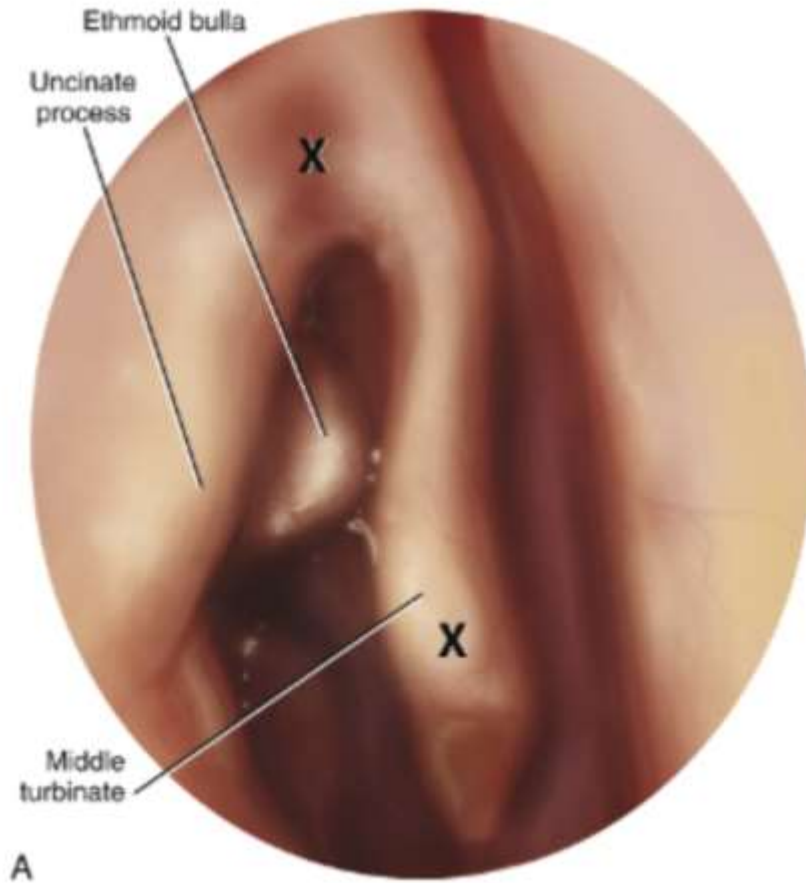
- **Potensiell risiko**

- Ved lateralisert processus uncinatus → sigdkniv eller microdébrider kan → orbitotomi → skade på orbitalinnholdet.
- Tårekanalskade.

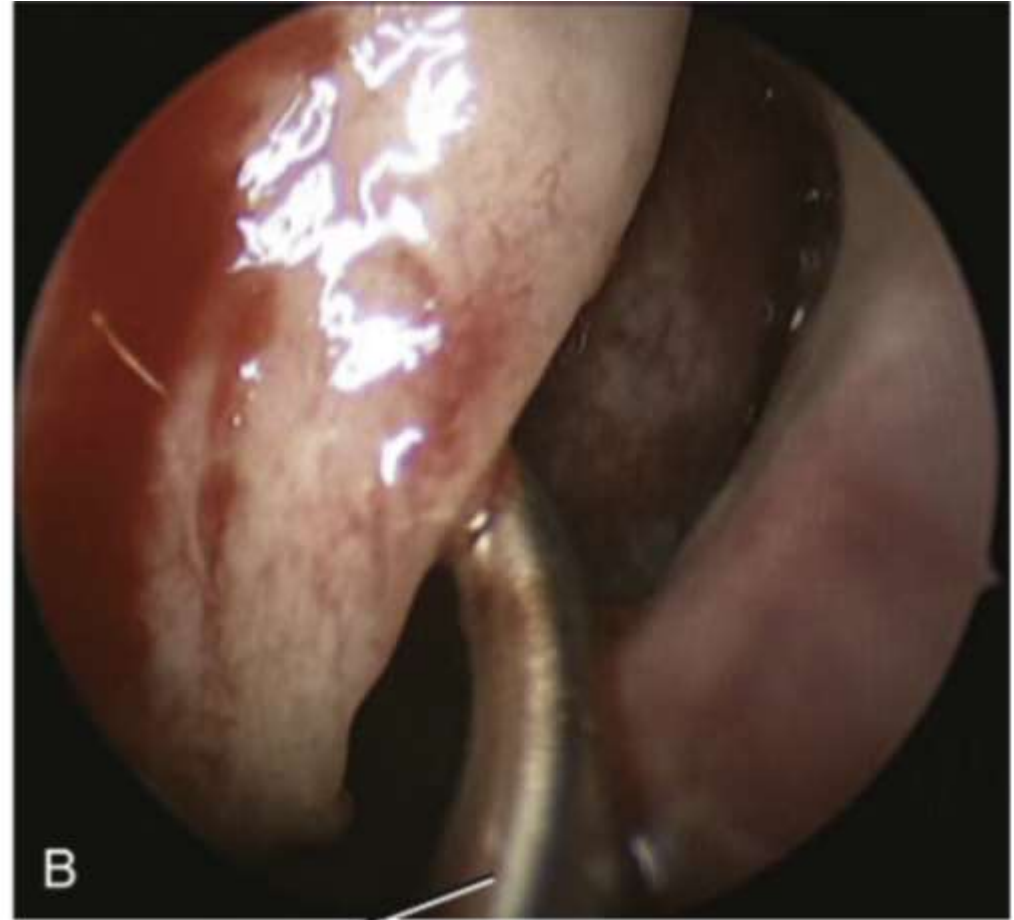
Antrostomi (Ostium lokalisasjon)



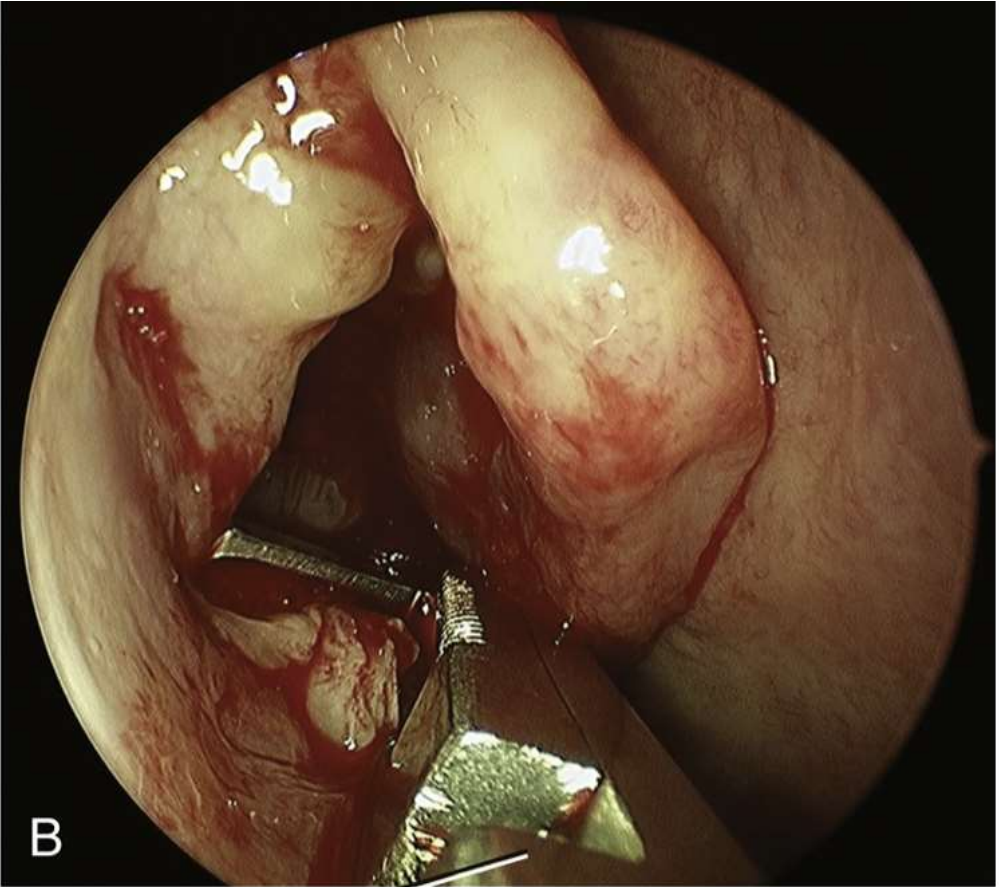
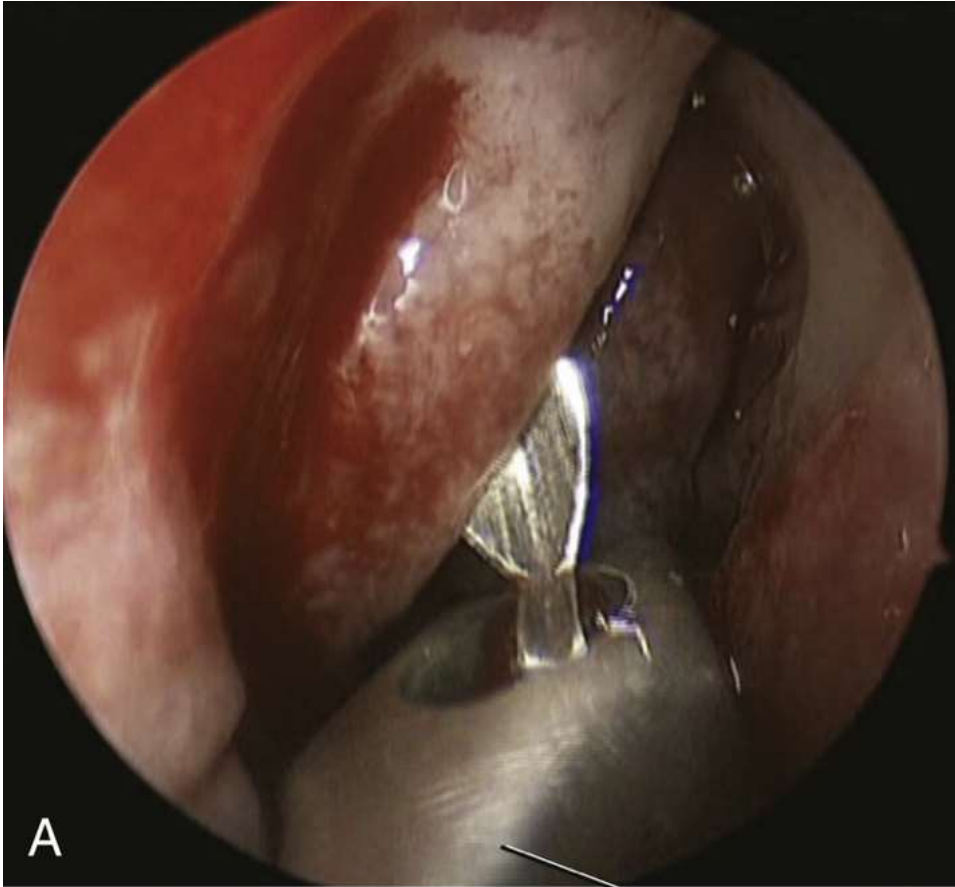
Antrostomi (Lokal bedøvelse)



Antrostomi (Processus Uncinatus)

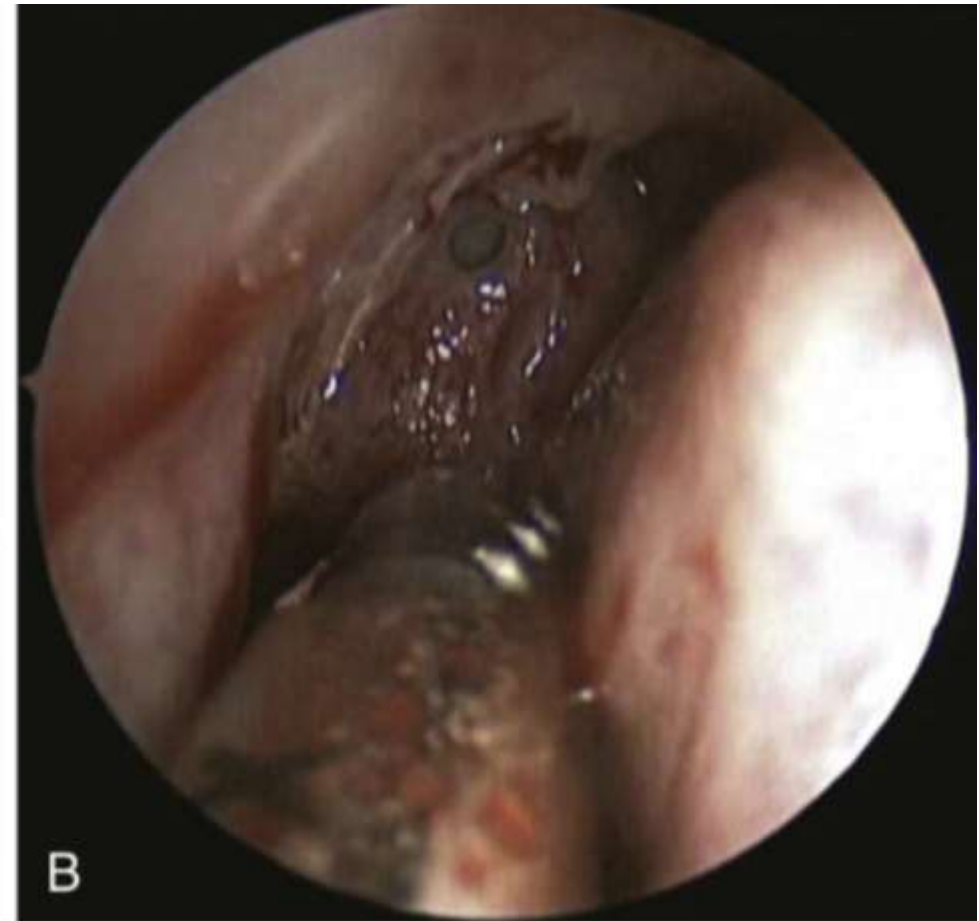
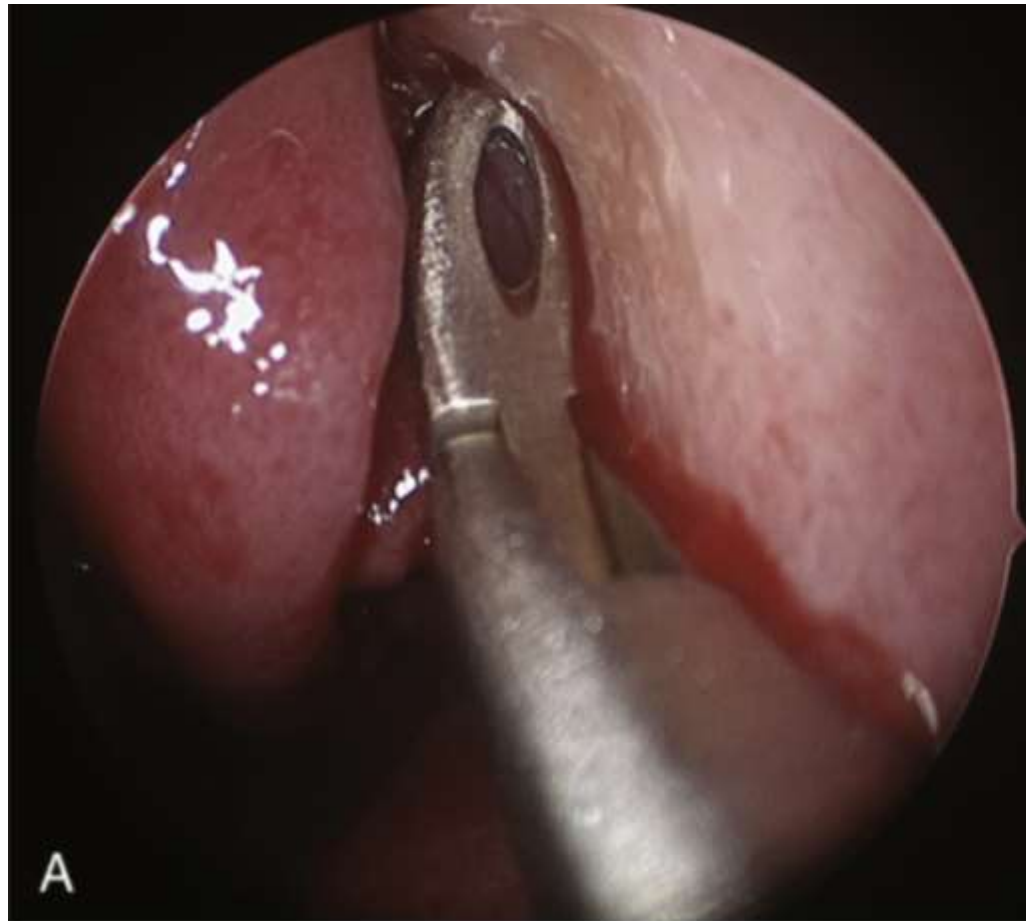


Antrostomi (Uncenectomi)

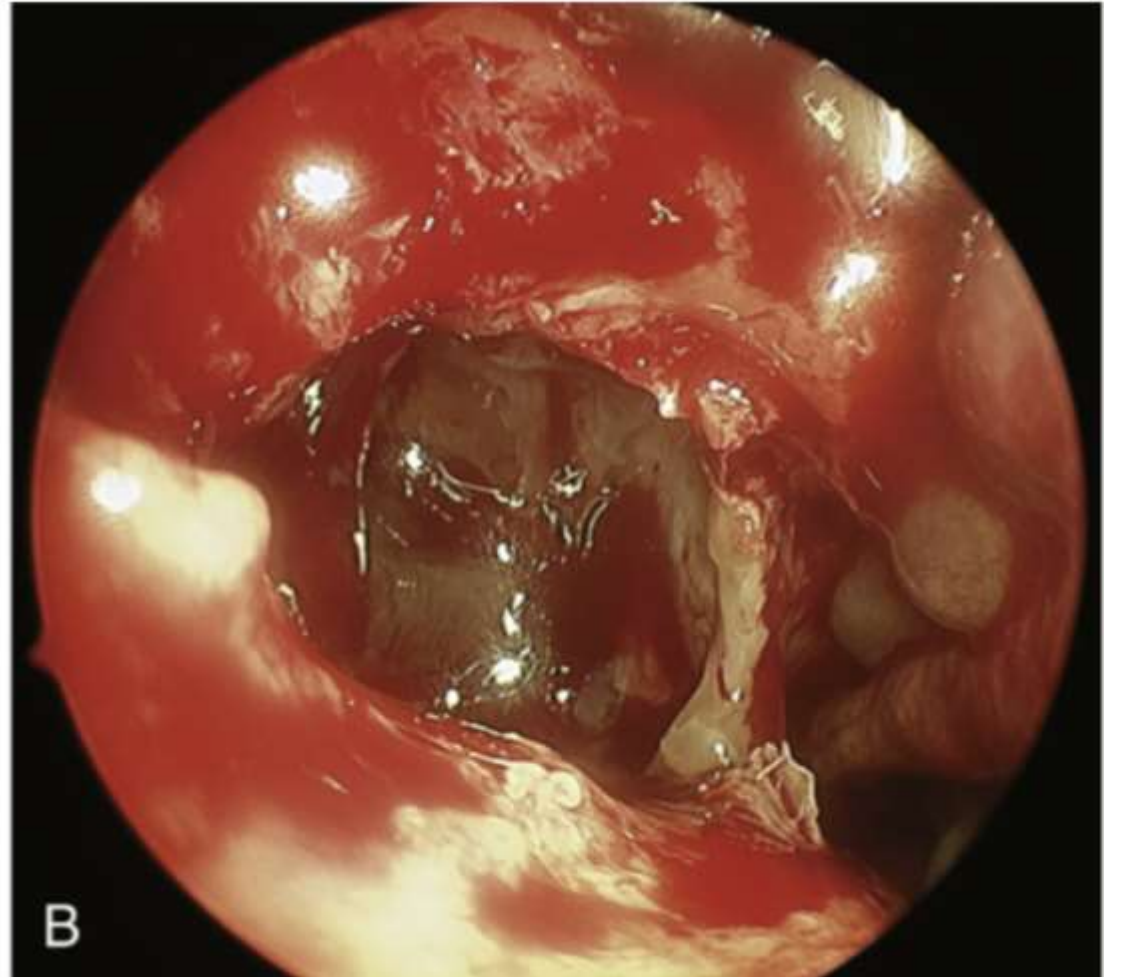


Backbiter

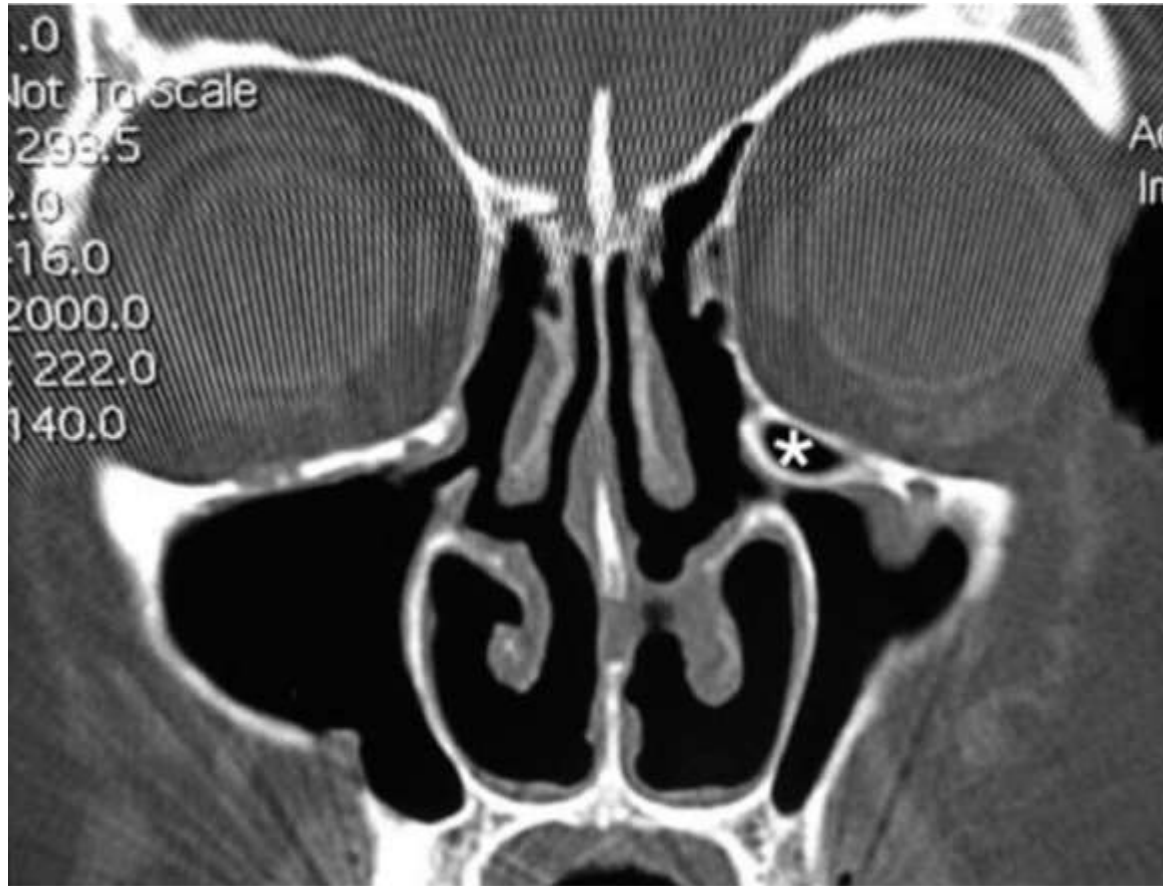
Antrostomi (Uncenectomi)



Antrostomi (Utvide åpningen)



Antrostomi (Spesielle hensyn)



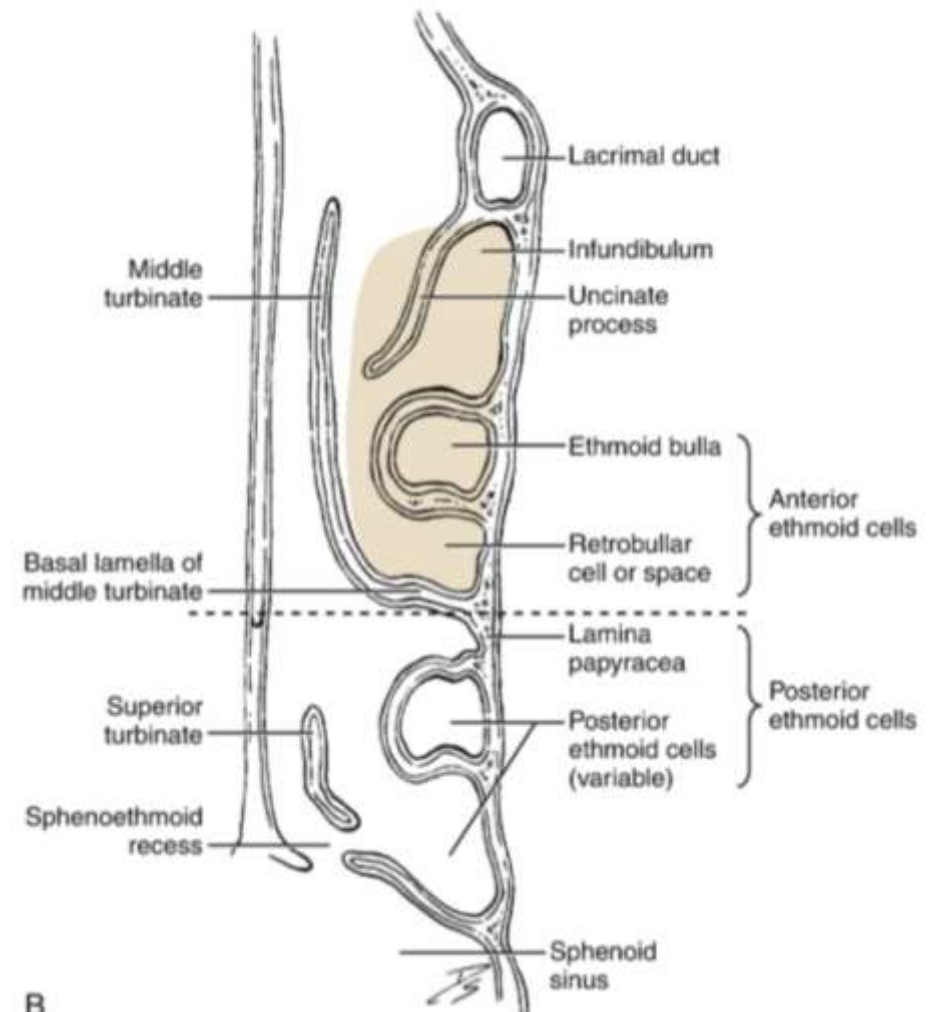
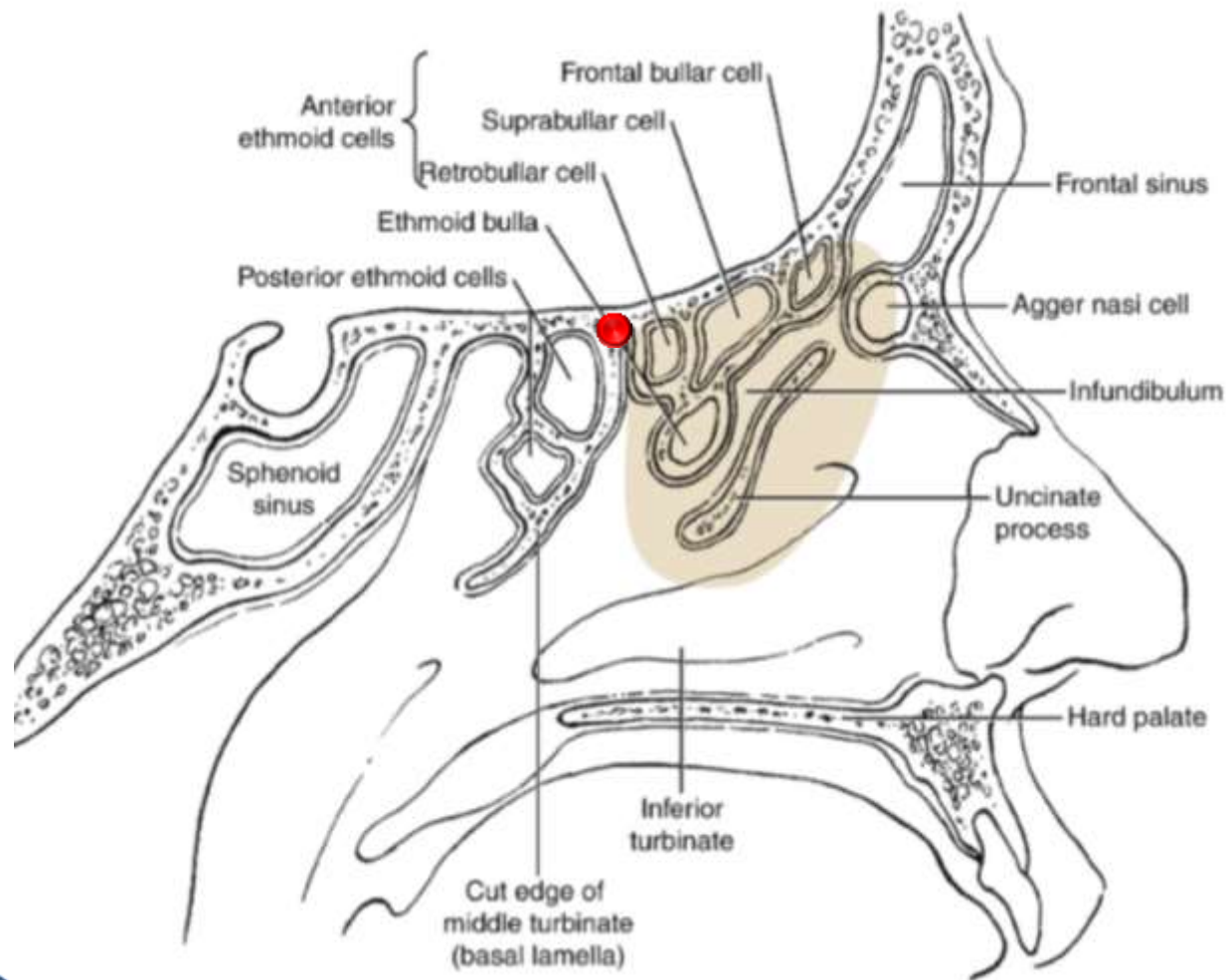
Haller celle



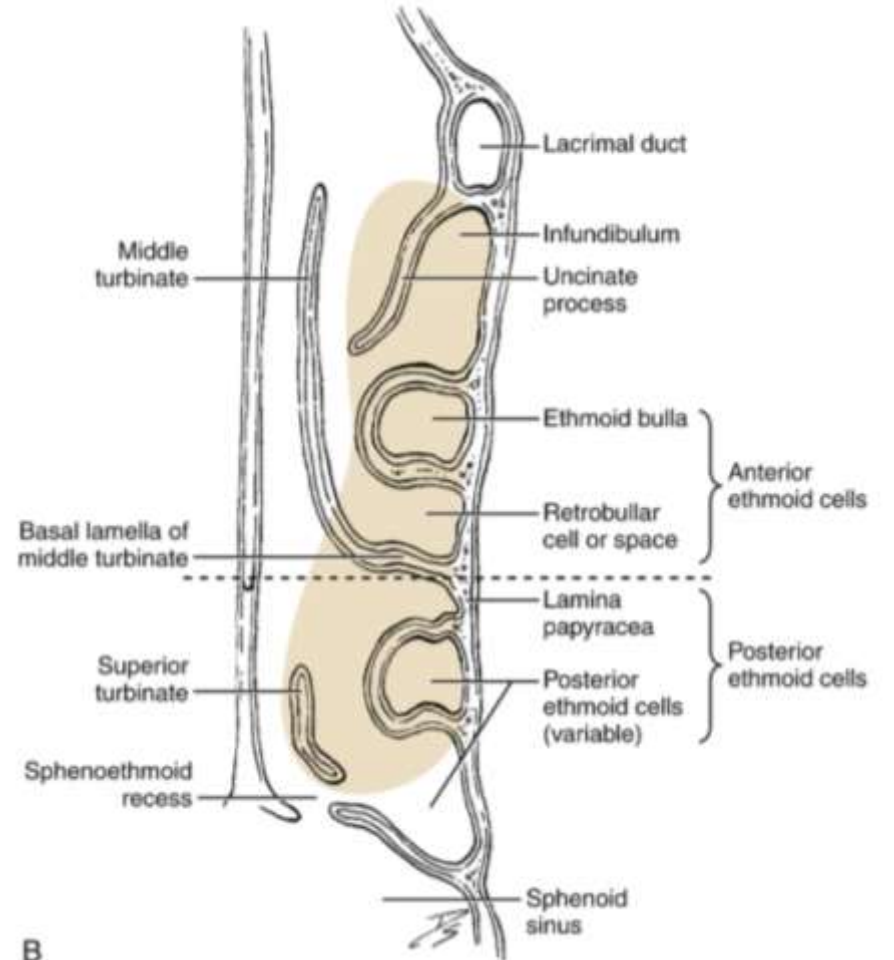
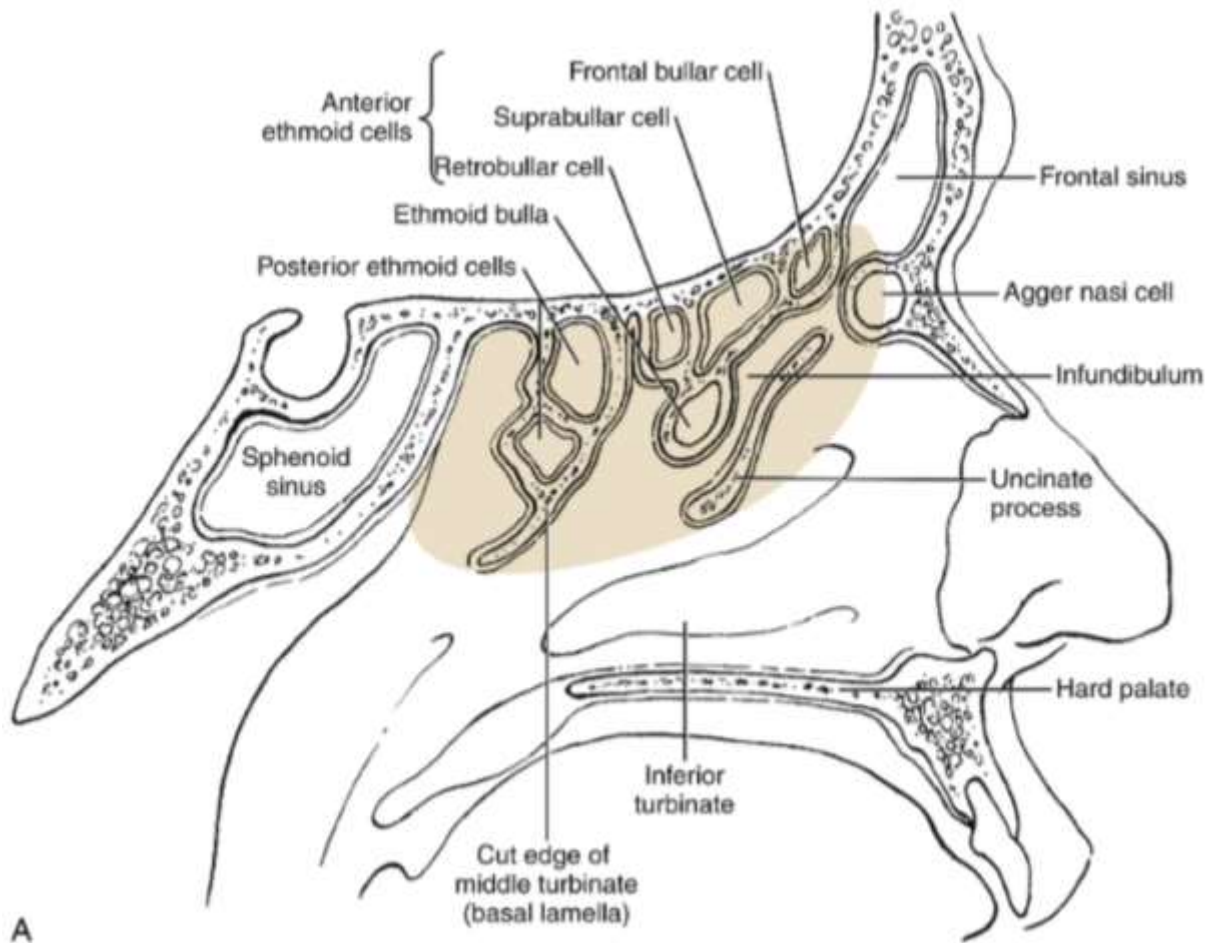
Silent sinus syndrom

Ethmoidektomi

Ethmoidektomi (Fremre)



Ethmoidektomi (Fremre + Bakre)



Ethmoidektomi

- **Partiell etmoidektomi:** fjerning av bulla etmoidalis og eventuelle noen celler foran basallamellene.
 - Indikasjon:
 - Residiverende akutt sinusitt
 - CRSsNP (Kronisk sinusit uten polyposis)
- **Komplett etmoidektomi:** fjerning av fremre og bakre etmoide cellene.
 - **Prinsipp:** fjerne de nedre fremre og bakre etmoide cellene inntil sphenoid er nådd → identifisere skallebasen → dissekere langs skallebasen fra en posterior til anterior.
 - **Indikasjoner komplett etmoidektomi :**
 - CRSwNP (Kronisk sinusit med polyposis)
 - Revisjonskirurgi for CRS
 - Sykdom i bakre etmoider og sphenoid sinus

Ethmoidektomi

- Obs!

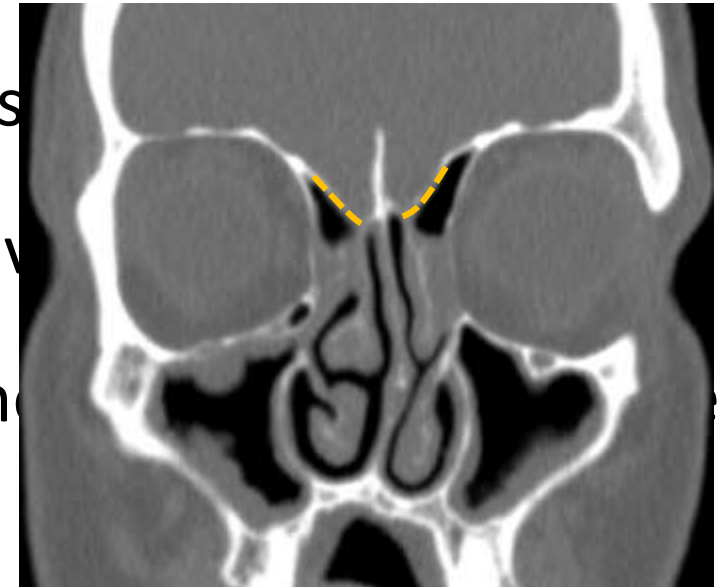
- Skallebasis skråner ned bakover

- Unngå fjerning av horisontale delen av bas

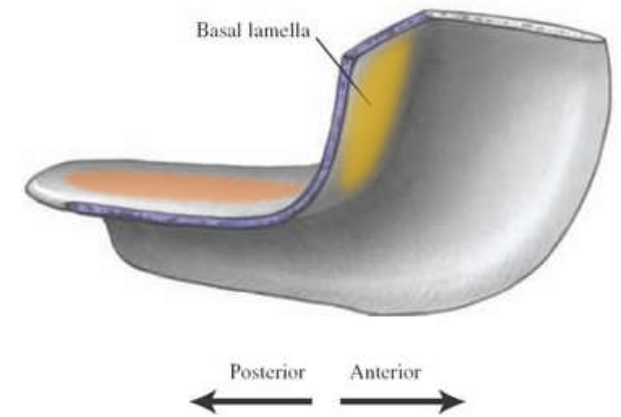
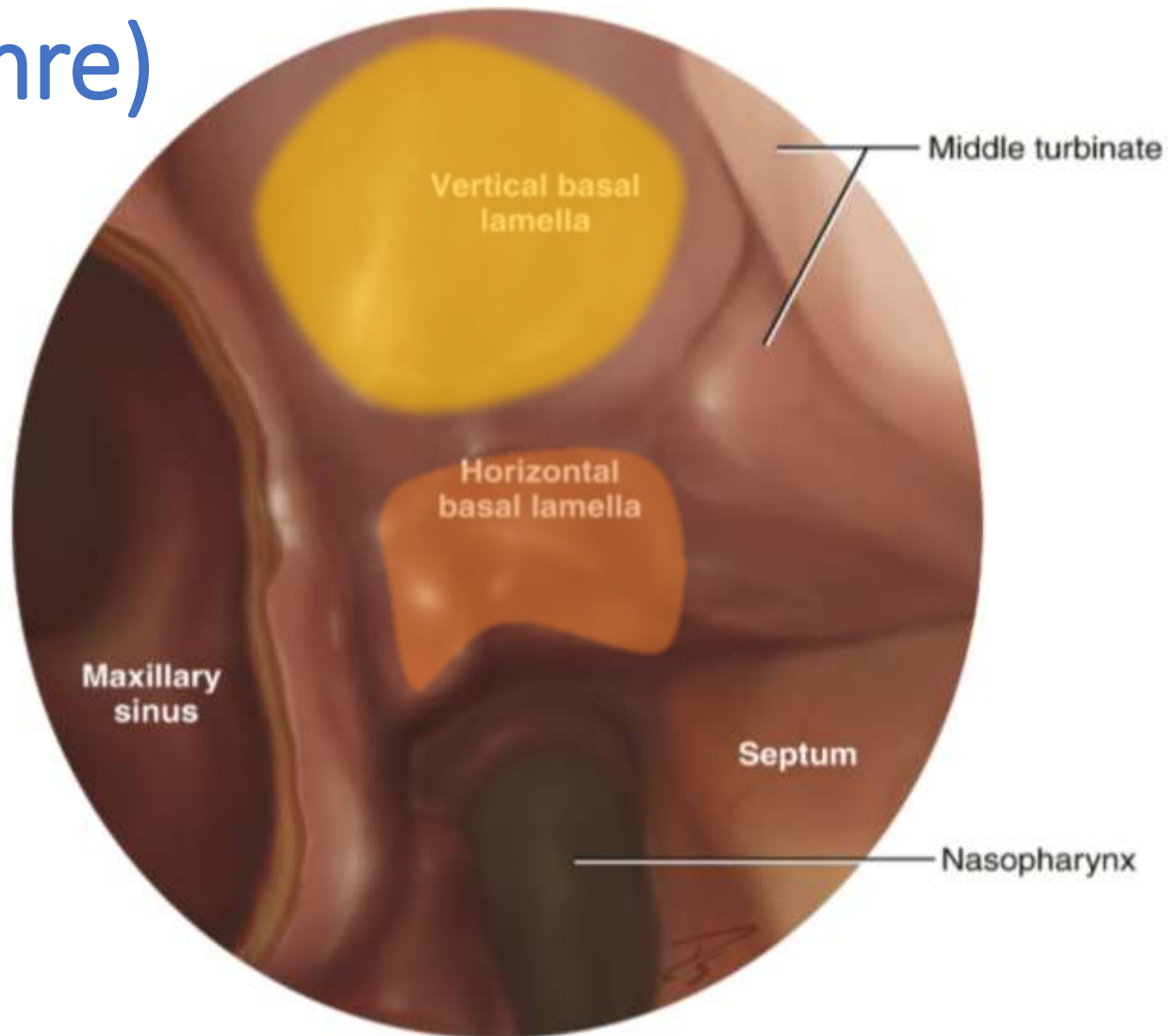
- Identifiser Onodi-celle pre- og per-operativ

- Reseksjon av den nedre delen av basallam

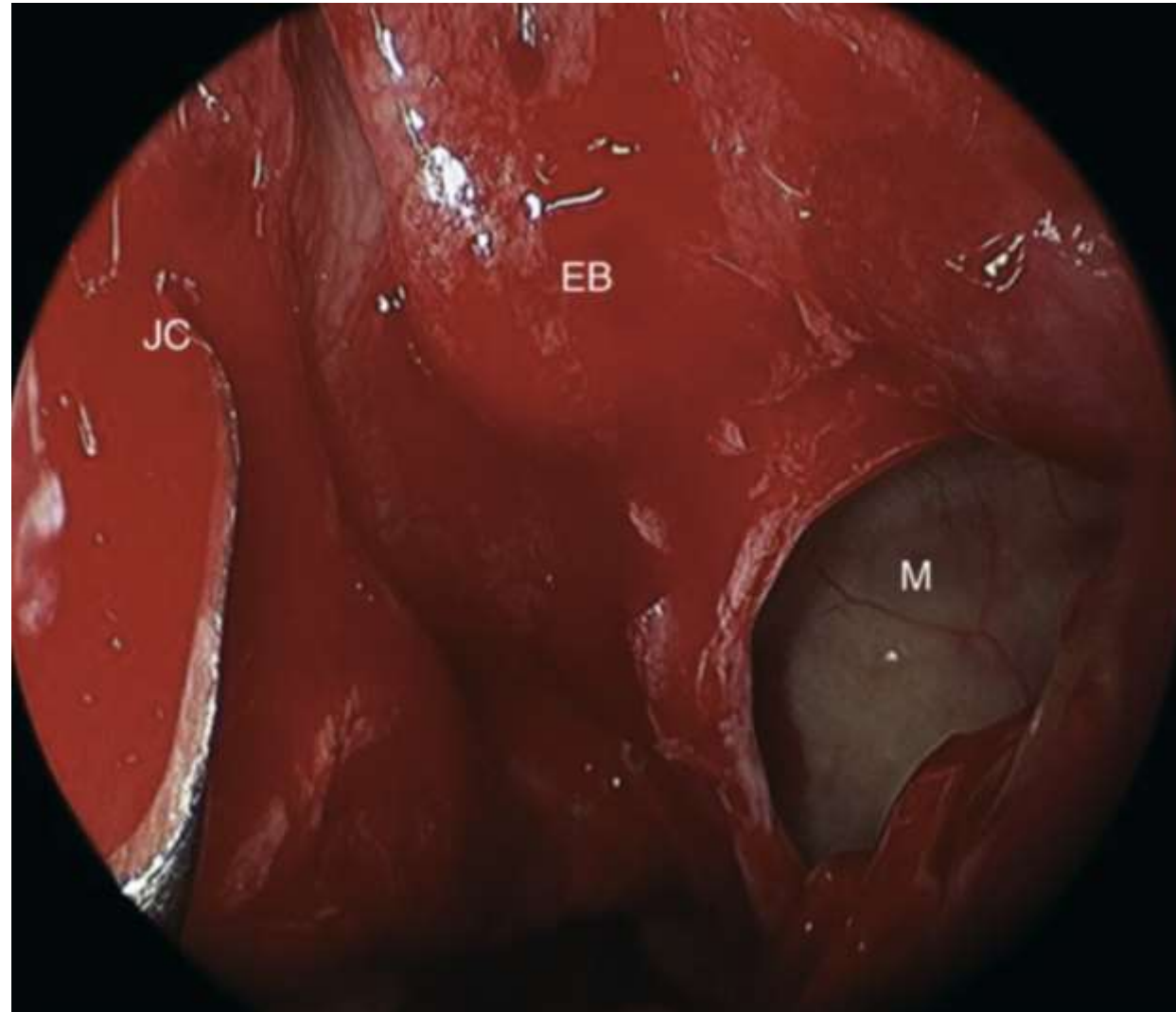
- av a. sphenopalatina.



Ethmoidektomi (Fremre)

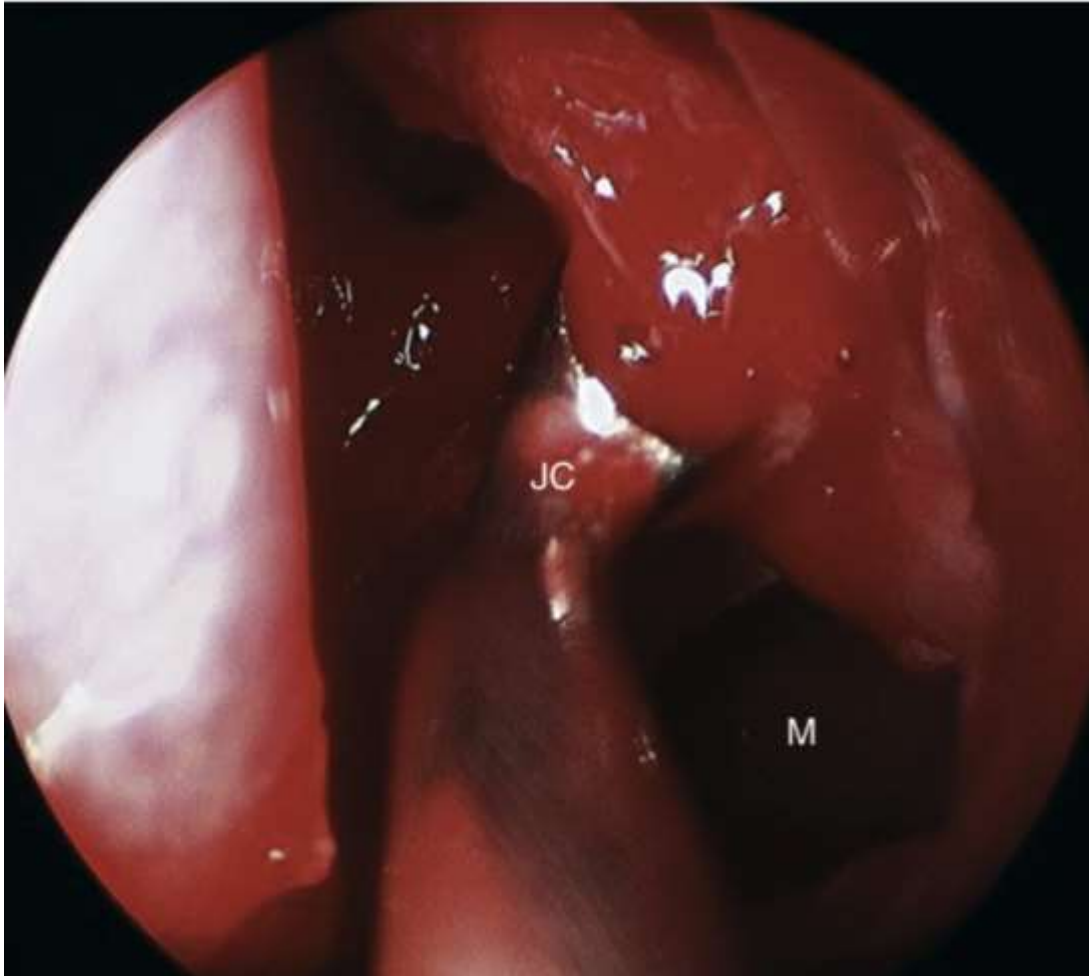


Ethmoidektomi (Fremre)



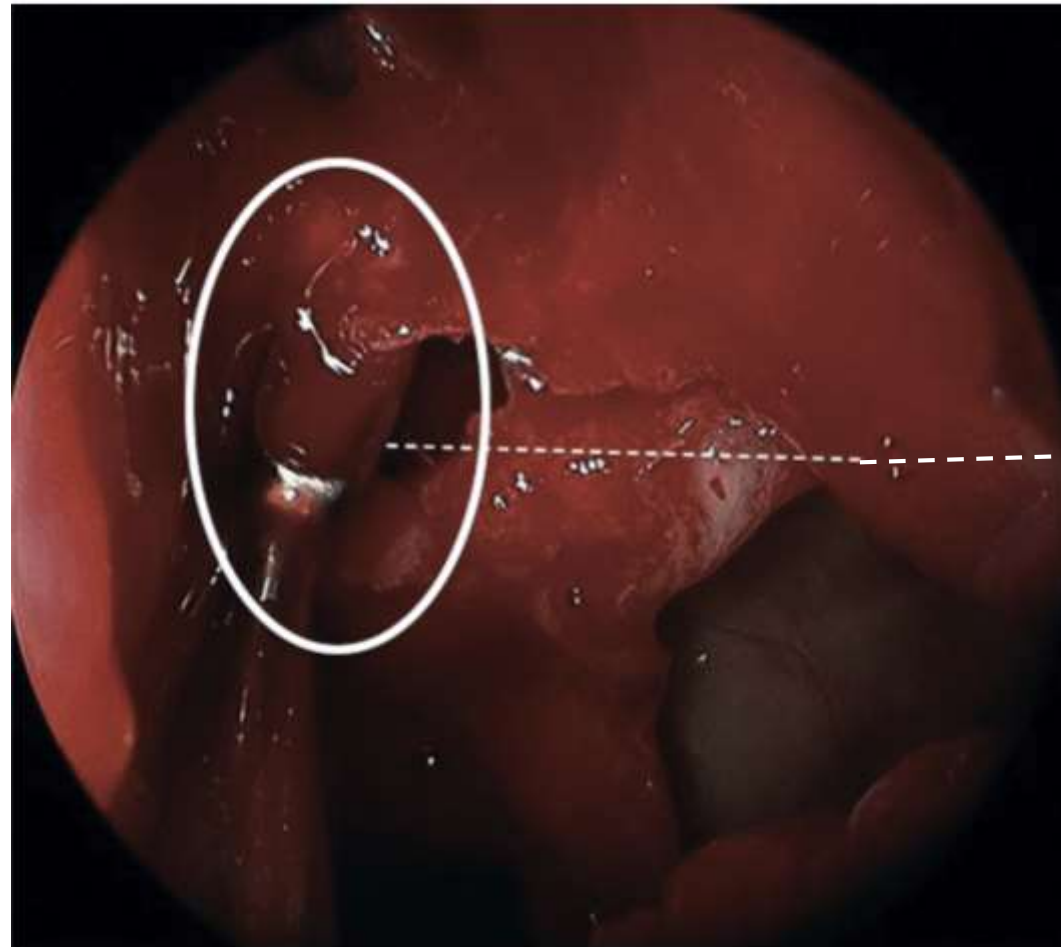
M: sinus maxillaris
EB: Bulla ethmoidalis
JC: currette

Ethmoidektomi (Fremre)



Ethmoidektomi (Bakre)

Vertikal
basal
lamina



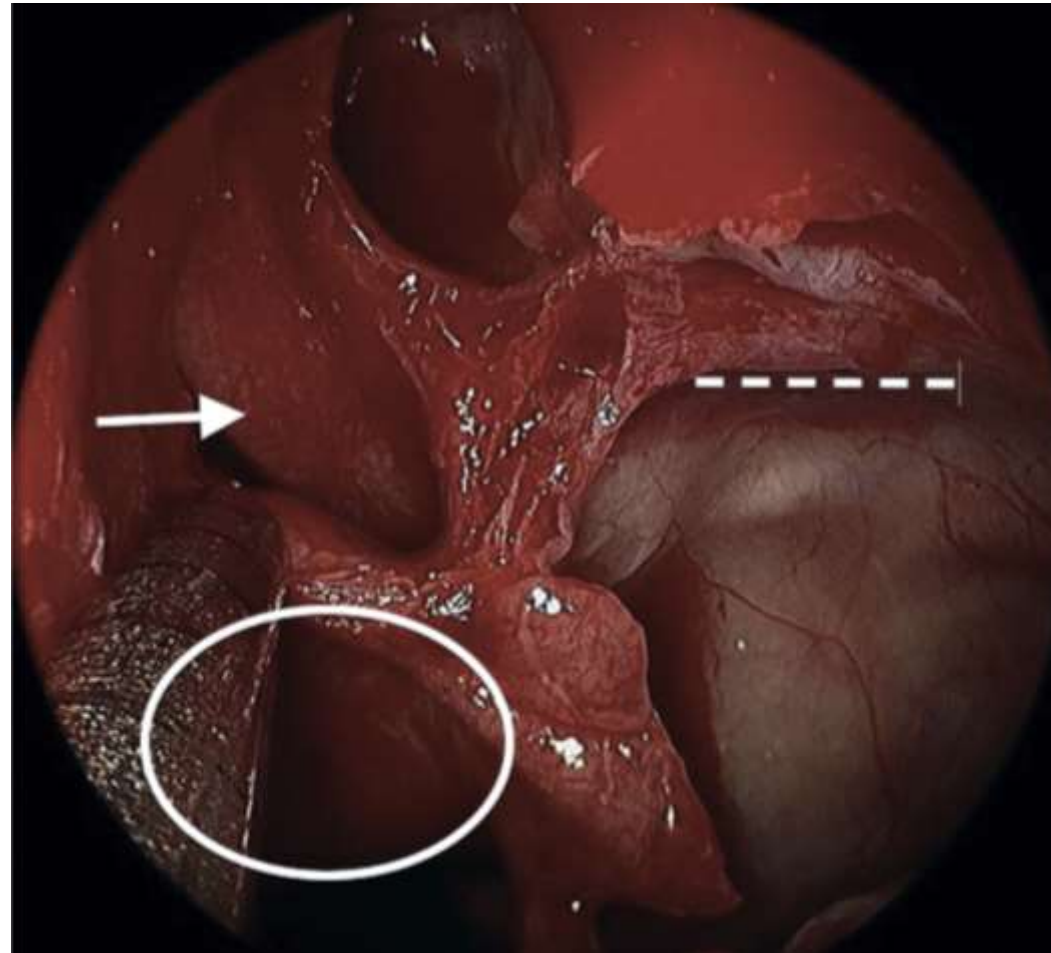
tak av sinus maxillaris

Ethmoidektomi (Bakre)

Concha superior

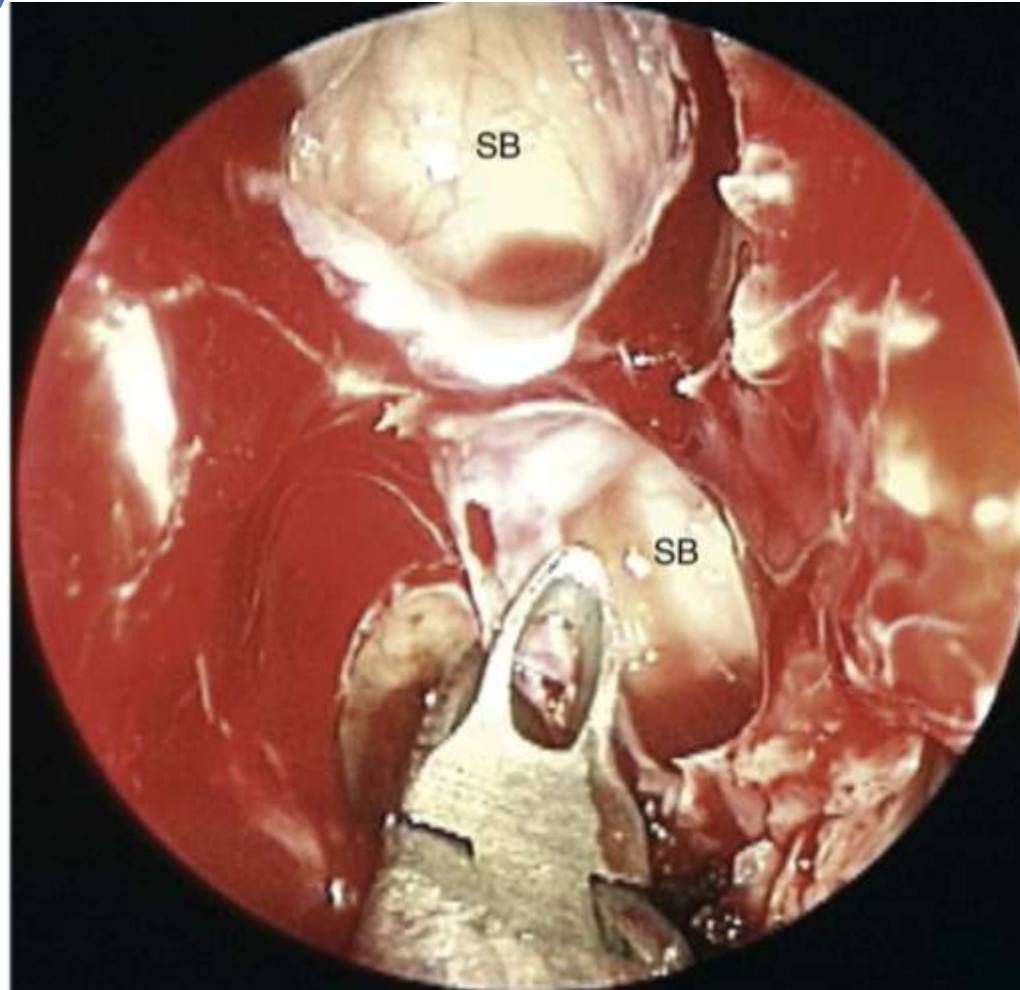


Horizontal
basal
lamina



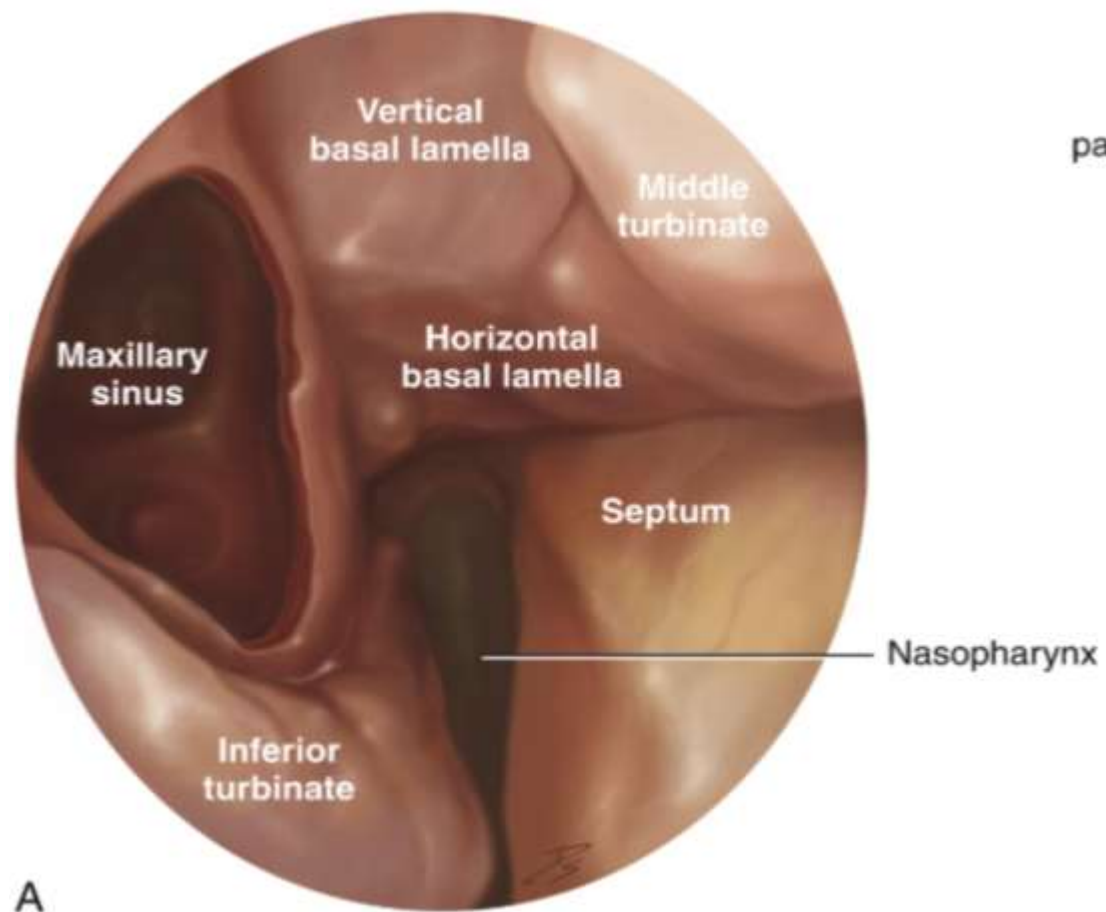
tak av sinus maxillaris

Ethmoidektomi (skallebasis)

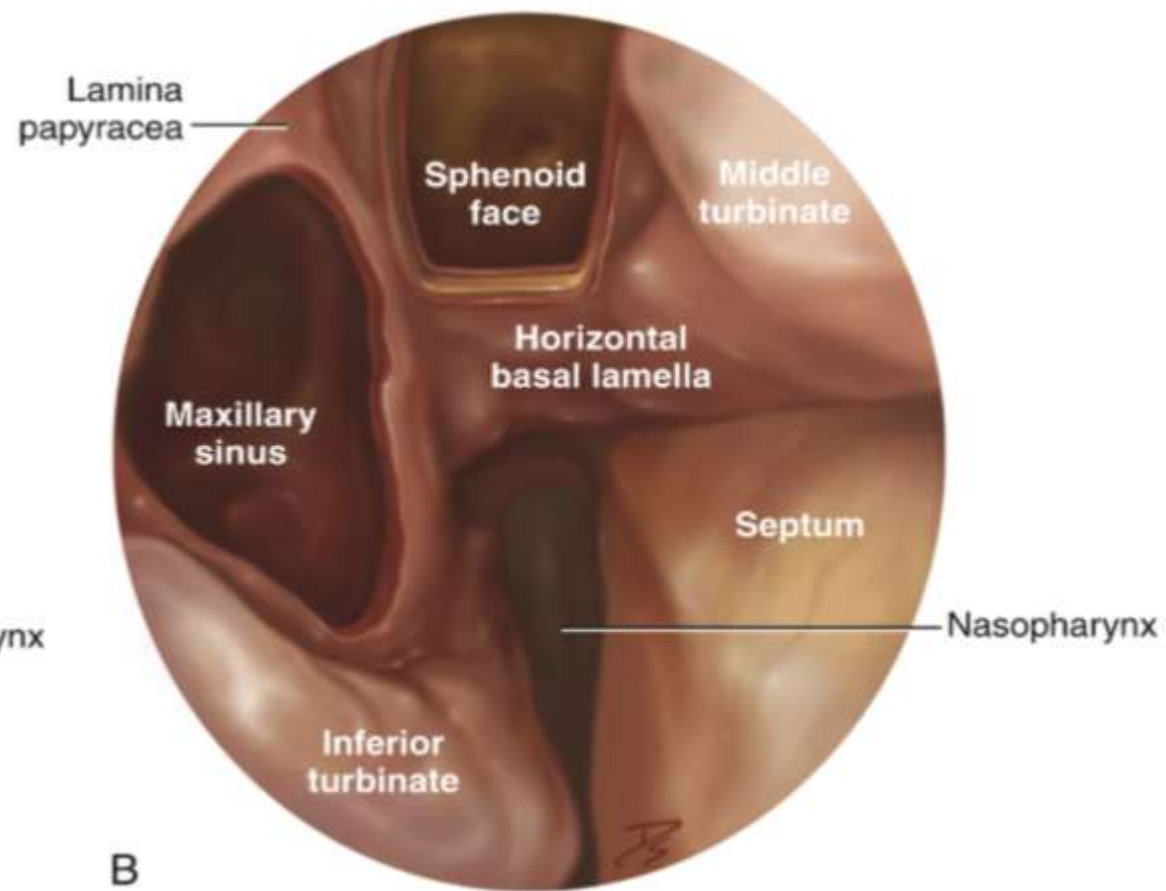


SB: skallebasis

Ethmoidektomi



Fremre ethmoidektomi



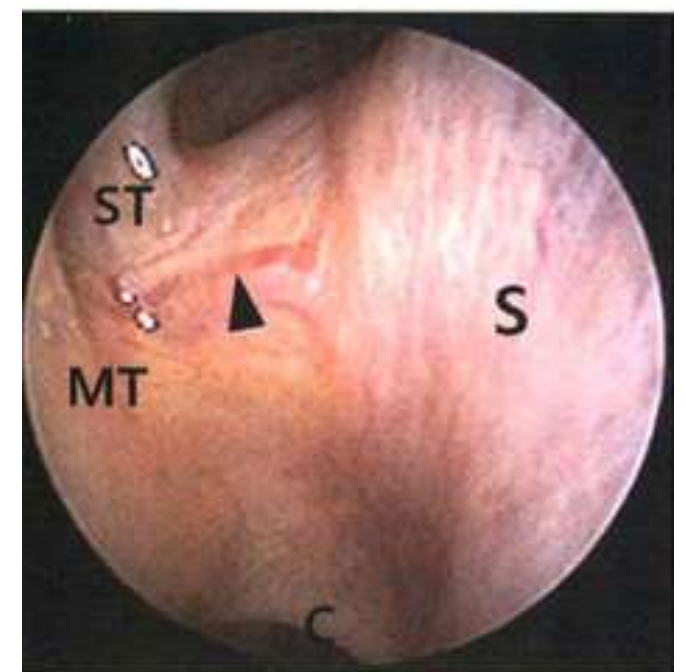
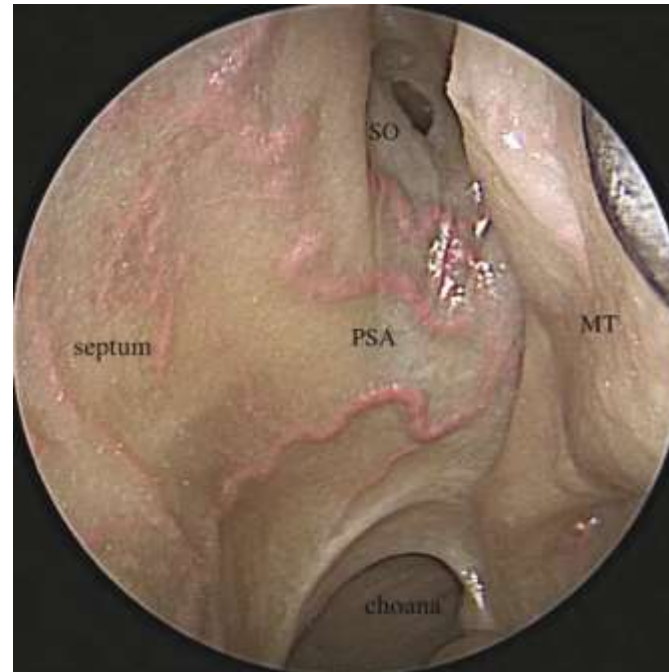
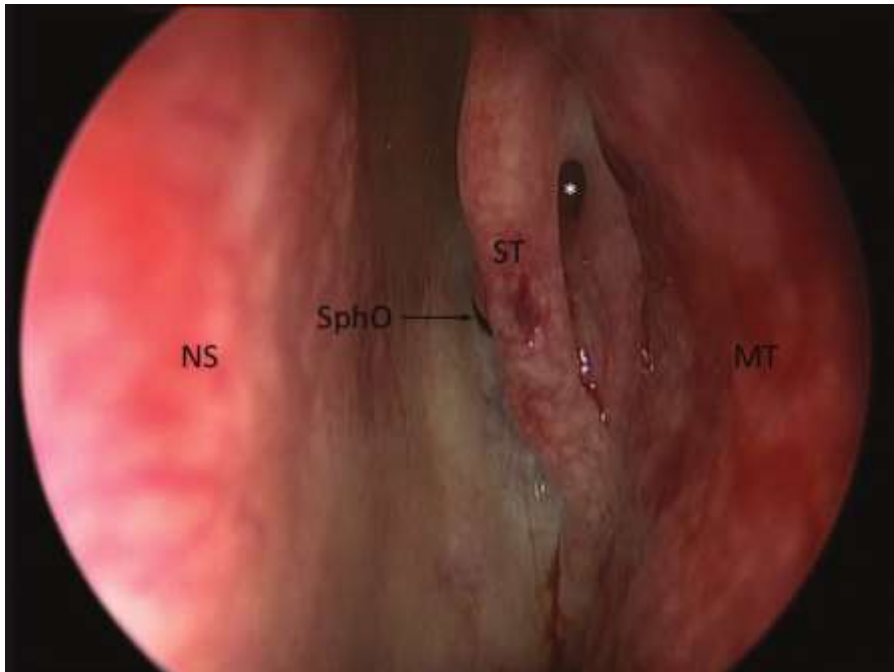
Fremre + Bakre ethmoidektomi

Sfenotomi

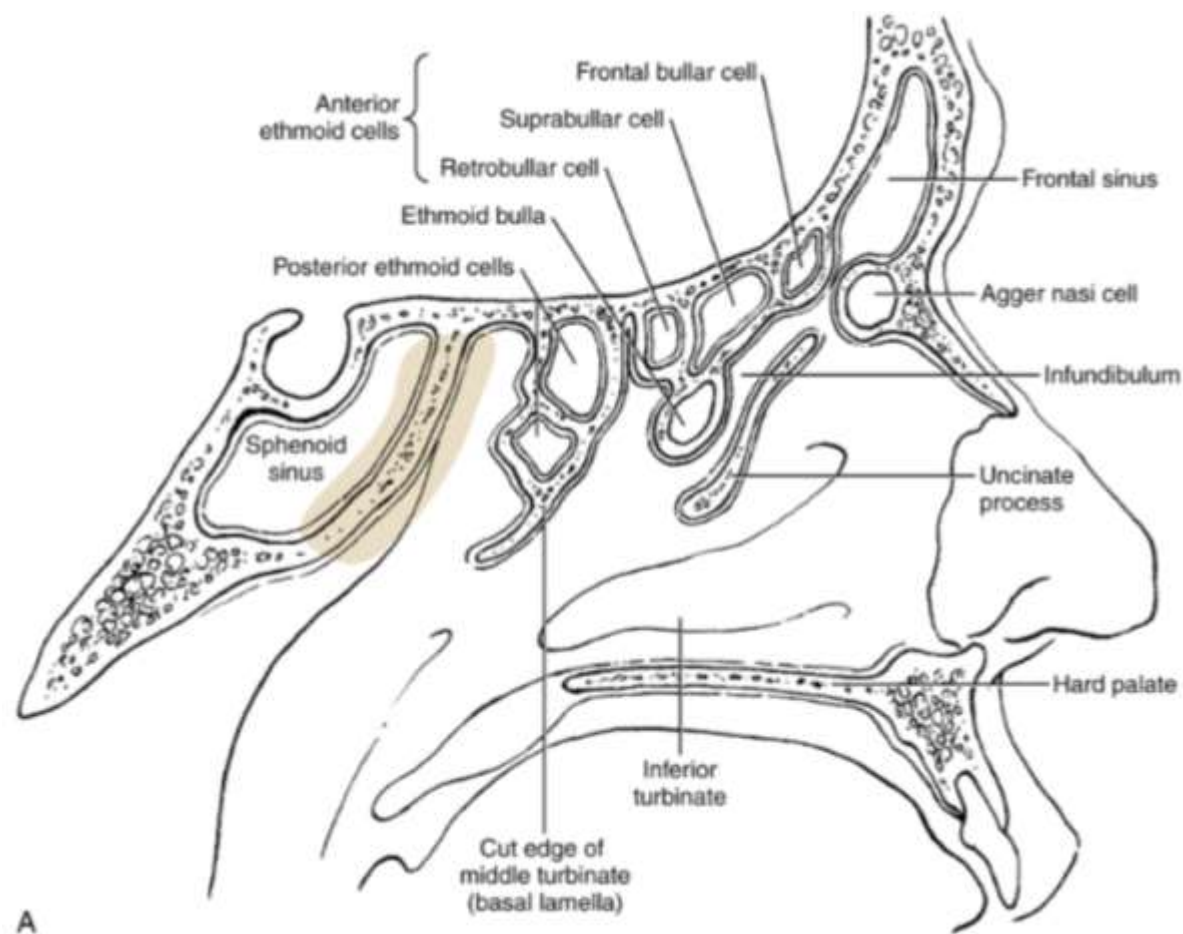
- Transnasal og transethmoidal
- Transnasale: Disseksjonen medialt til CM
 - Indikasjon:
 - Isolerte patologi i sphenoid sinus (soppball, isolert sphenoid sinusitt)
 - Kombinert med en bakre septektomi for endoskopisk tilnærming til hypofysen
- Transethmoidal
 - Fremre og bakre ethmoidektomi.
 - Indikasjon:
 - Isolert sphenoid sykdom
 - En del av full FESS

Sfenotomi

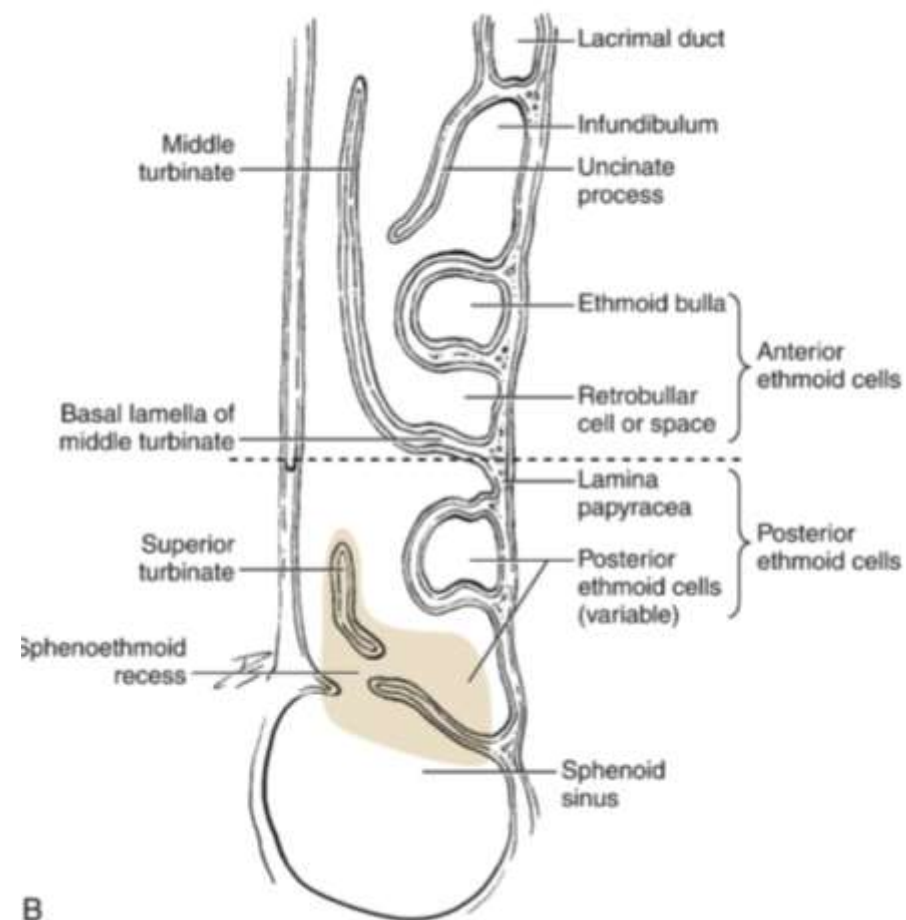
- Sphenoid ostium: medial og bak for concha superior
- Septal gren til a.sphenopalatina løper horisontalt langs fremre vegg



Sfenotomi



A

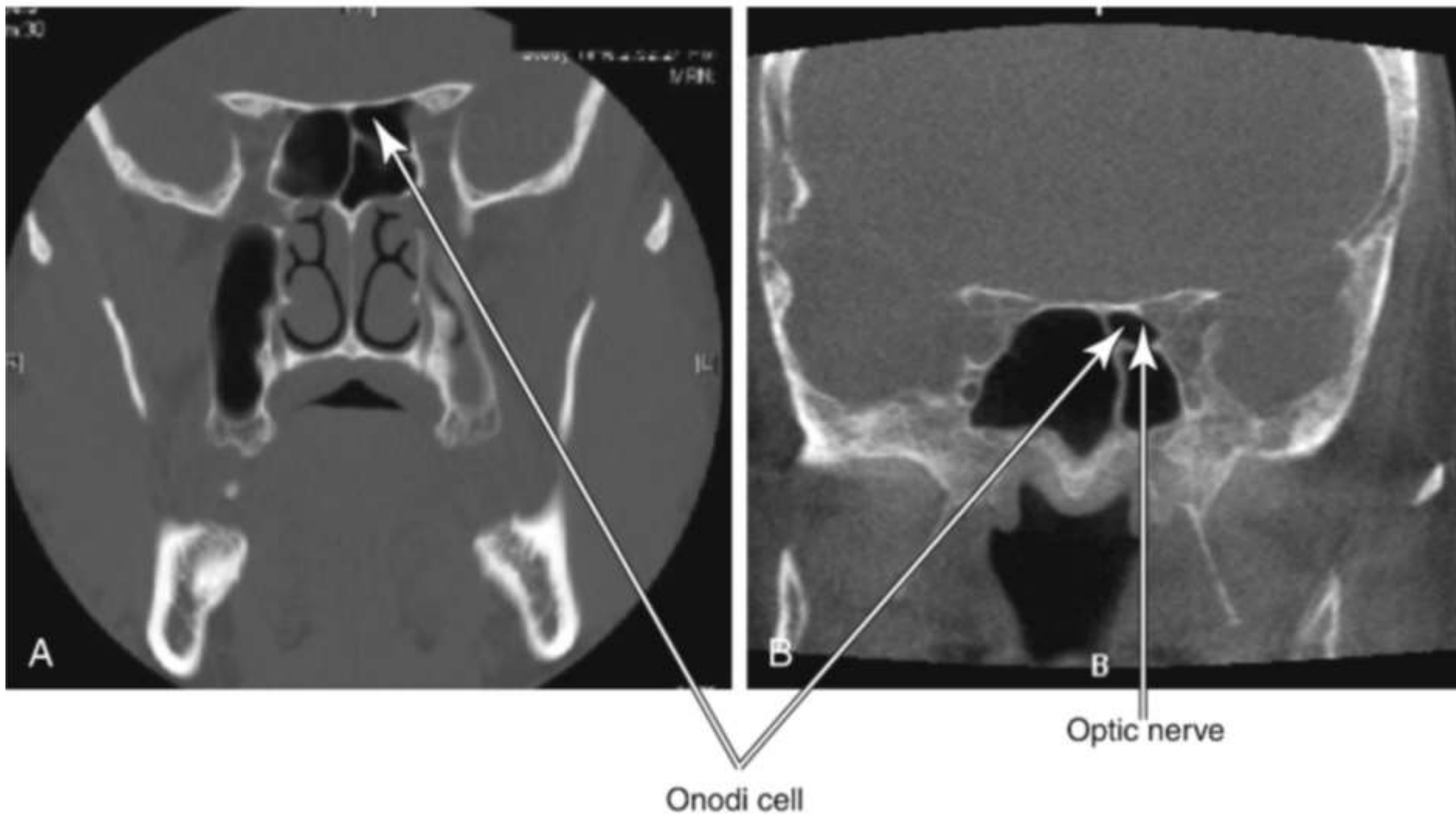


B

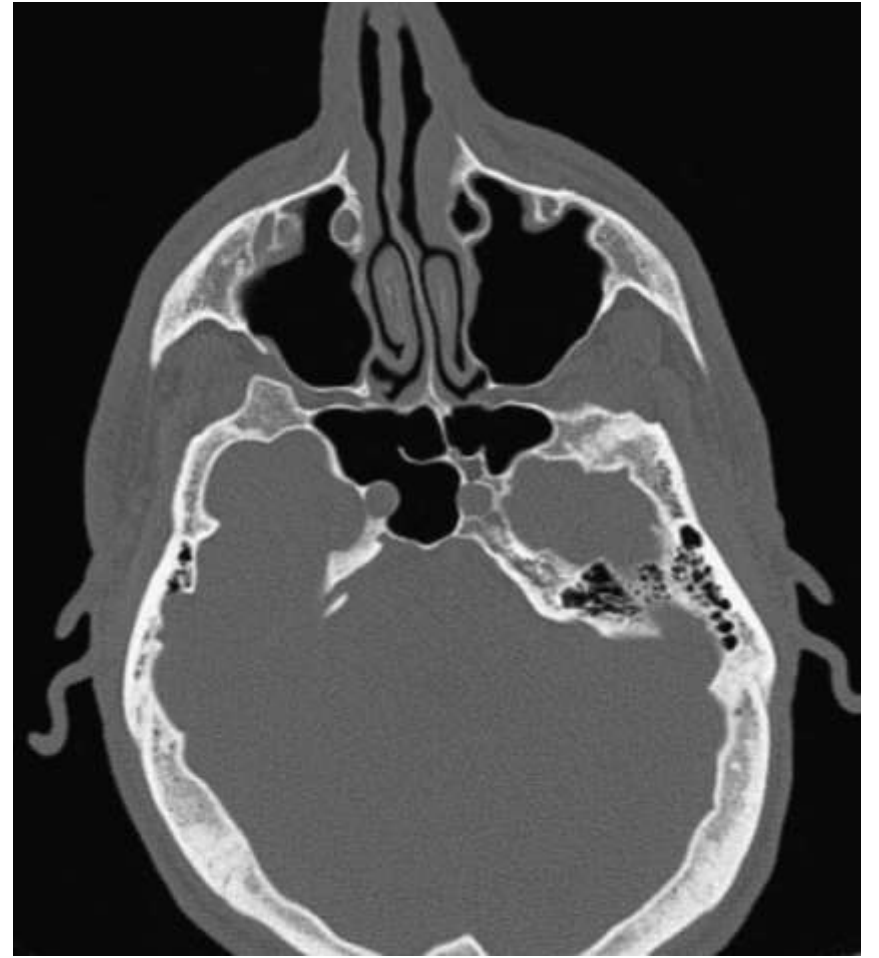
Sfenotomi (CT)

- Aksial-, koronal- og sagittal CT er nyttig for anatomi kartlegging
- Vurder:
 - Størrelsen og pneumatiseringen av sphenoid sinus
 - Beintykkelse (CRS, sopp)
 - Onodi-celler (Obs: optic kanal)
 - Intersinus septum (Obs: a carotis)
 - Lokalisasjon og beindekning mot a.carotis

Sfenotomi

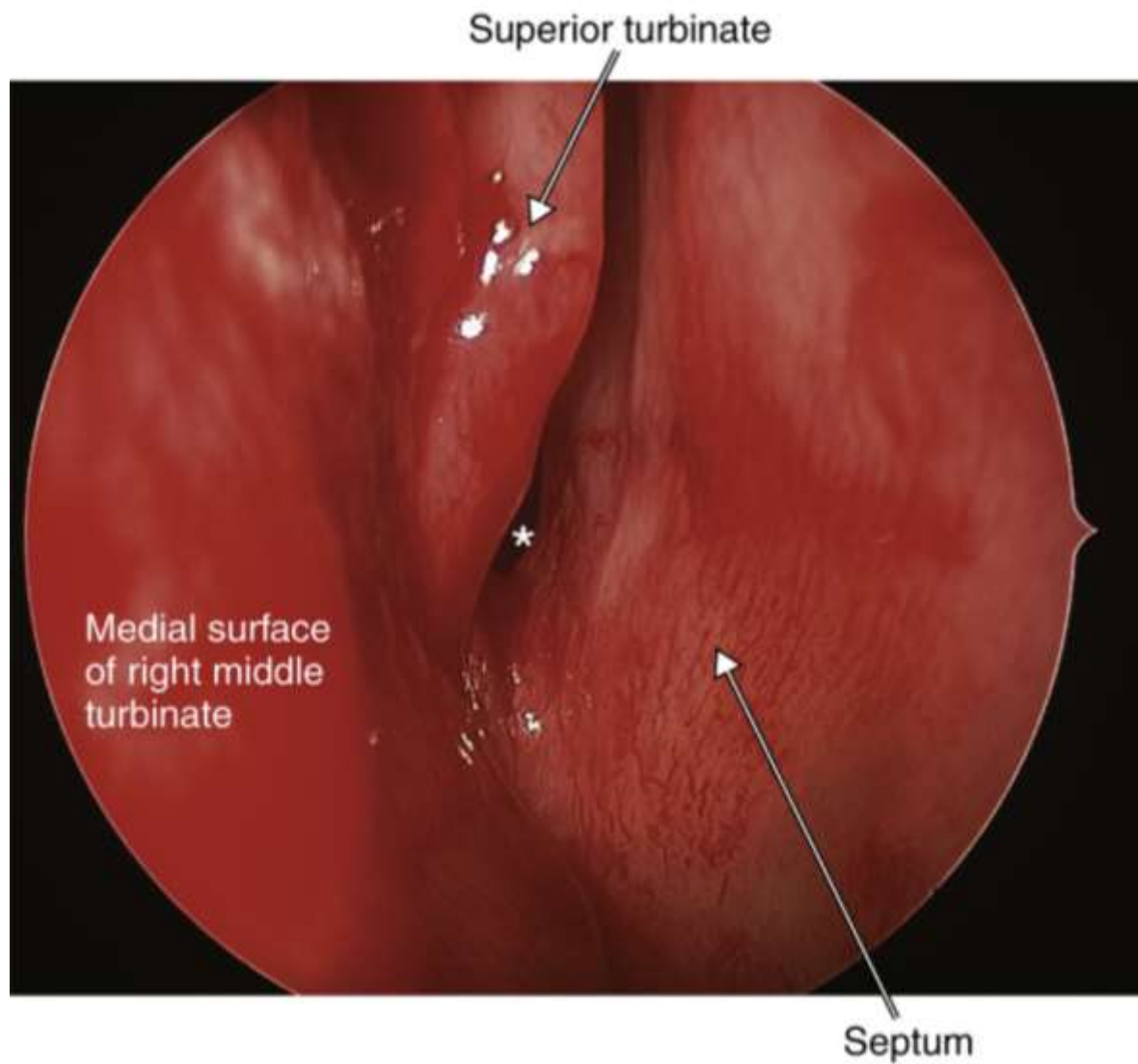


Sfenotomi (CT)



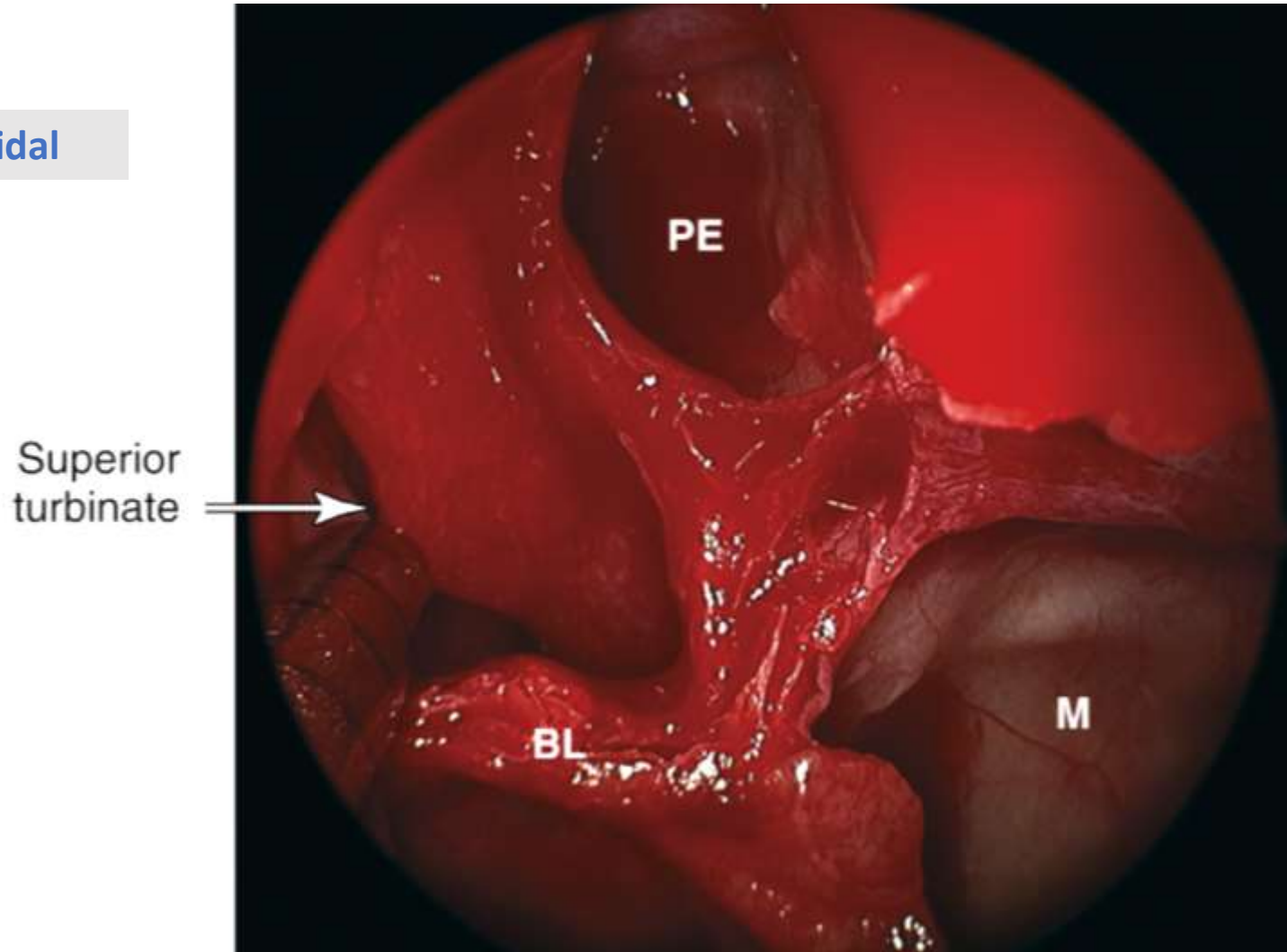
Sfenotomi

Transnasal



Sfenotomi

Transethmoidal



Superior
turbinate

PE

BL

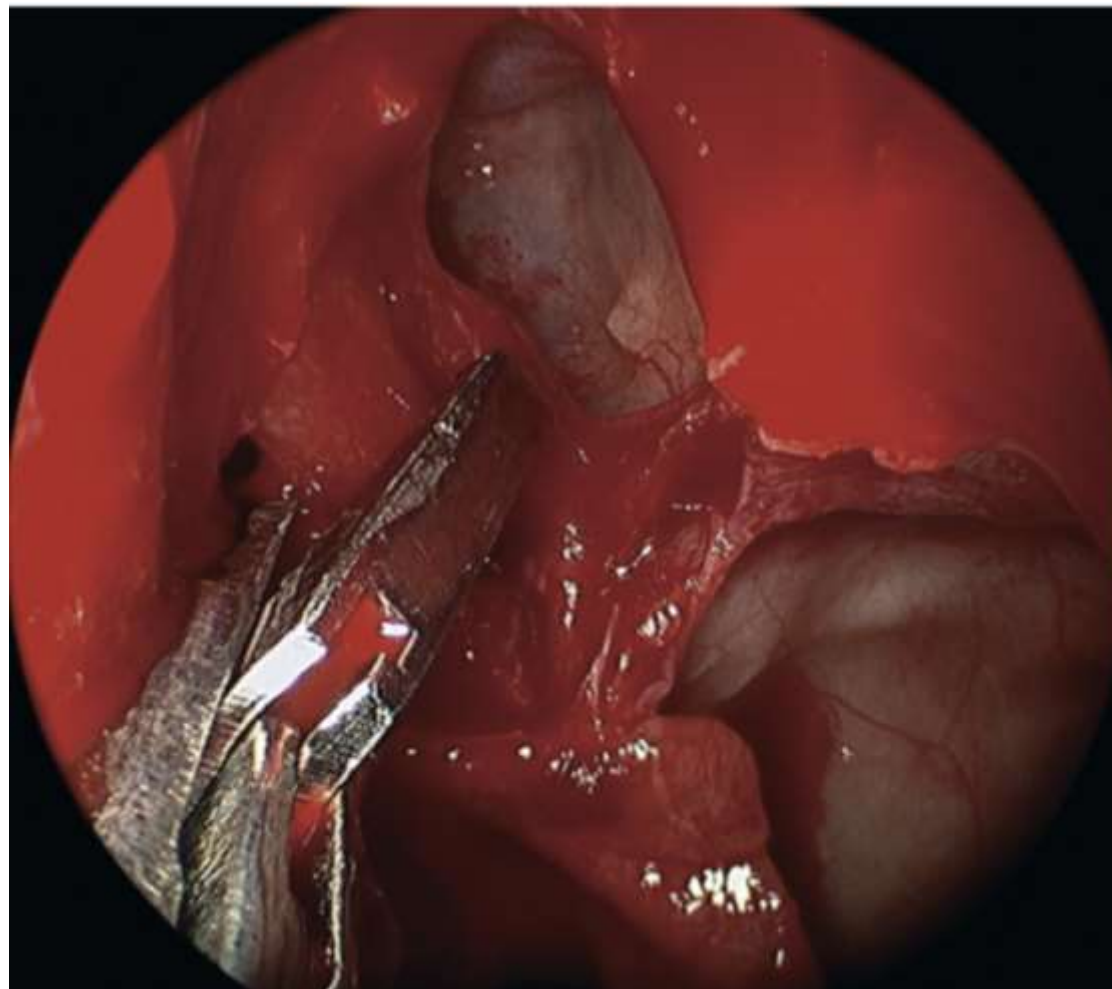
M

BL: Basal lamella
M: maxillary sinus
PE: posterior ethmoid.

Sfenotomi

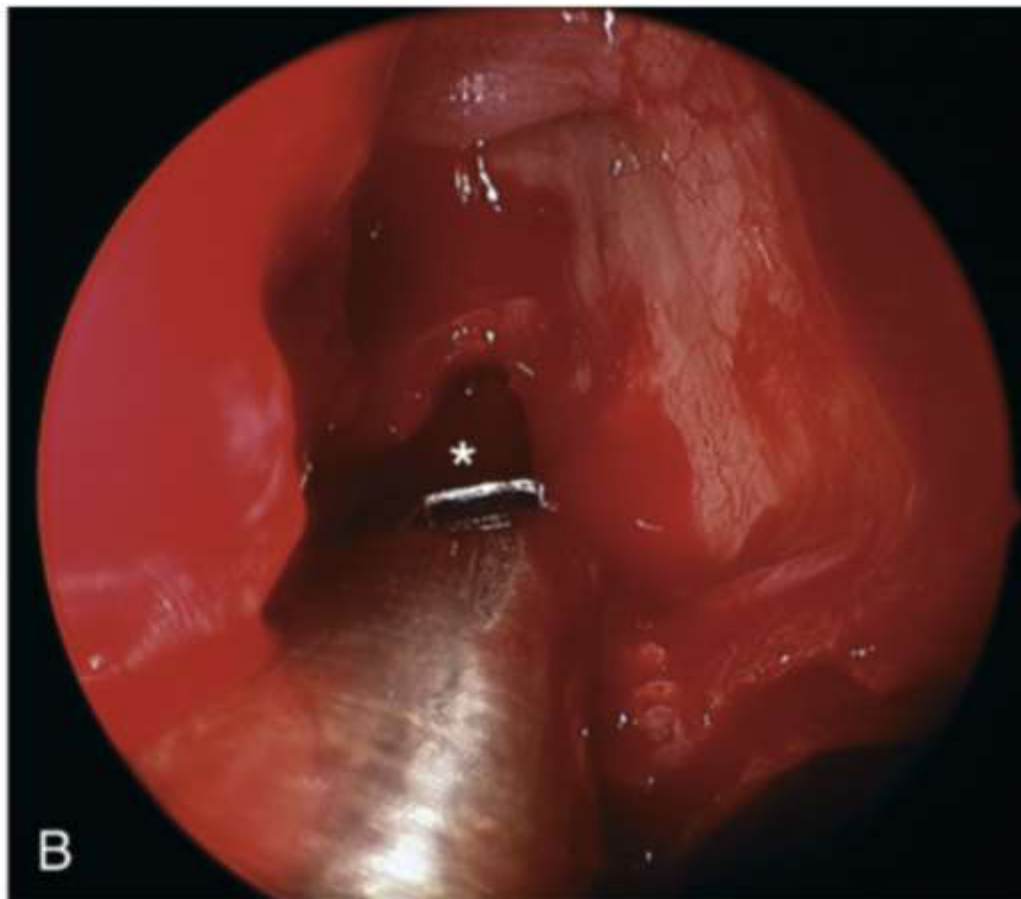
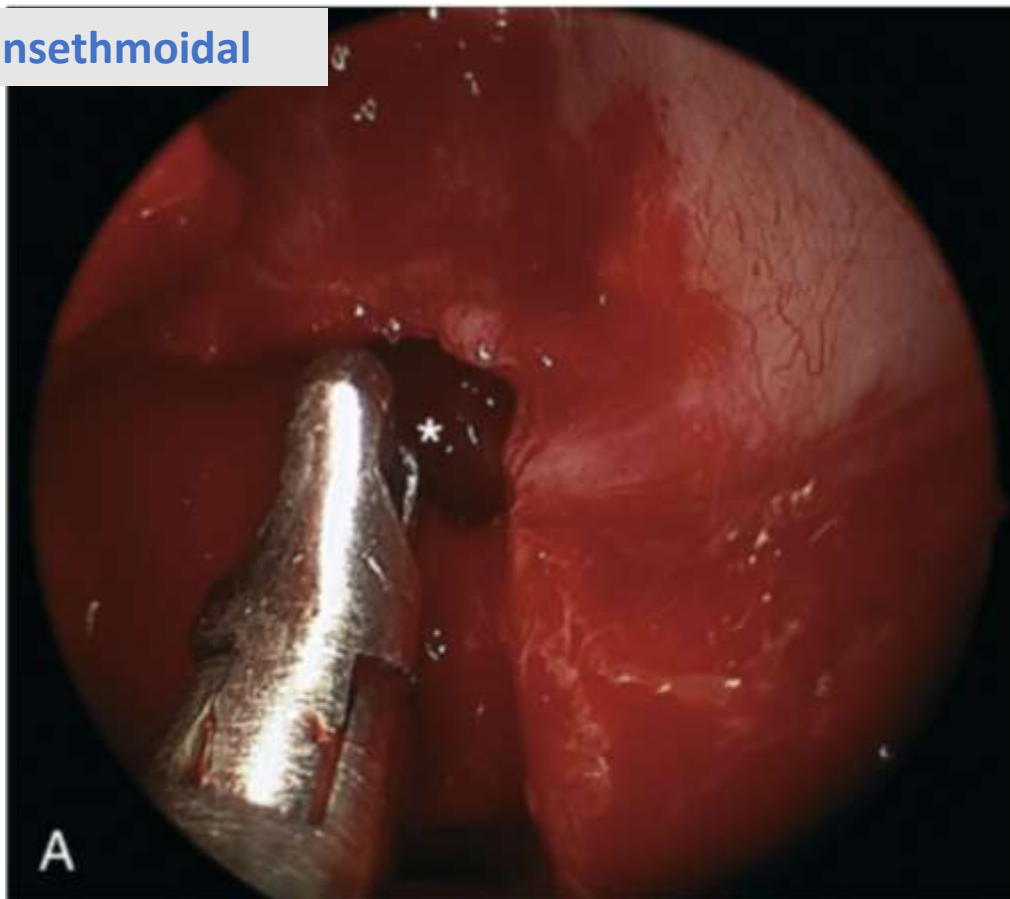
Transethmoidal

- Bakre ethmoidektomi
- Fjerning av nedre del av concha superior



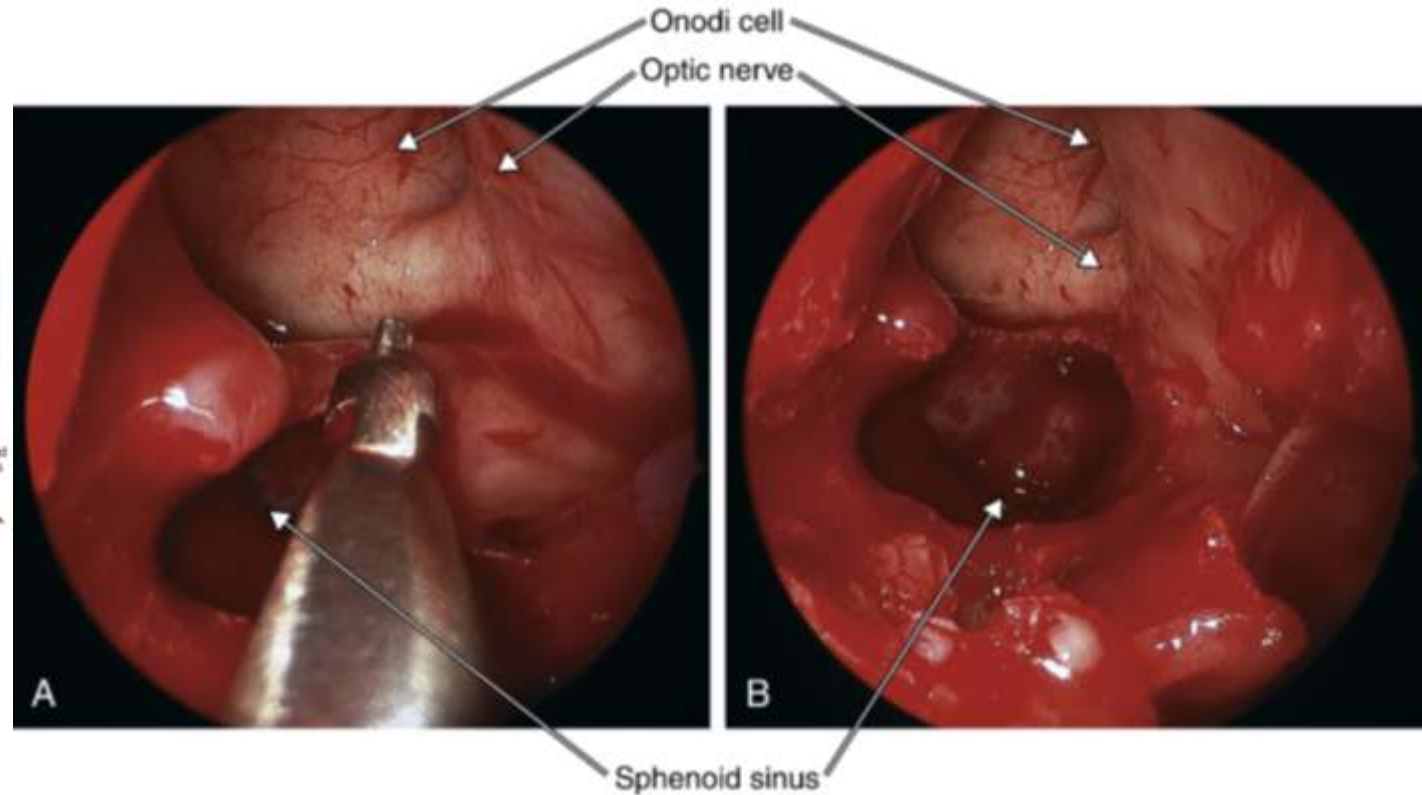
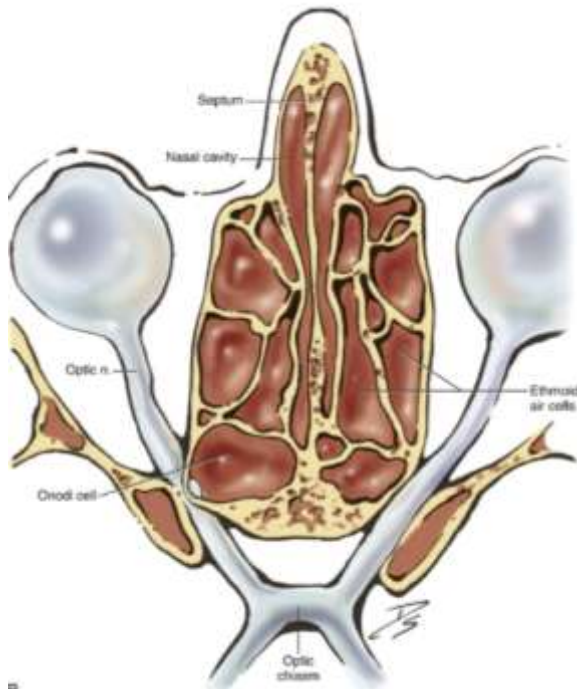
Sfenotomi

Transethmoidal

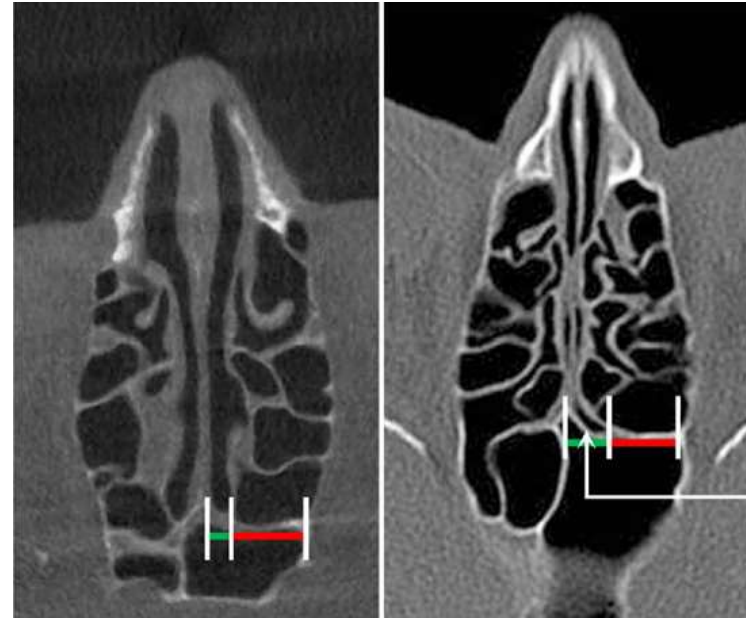
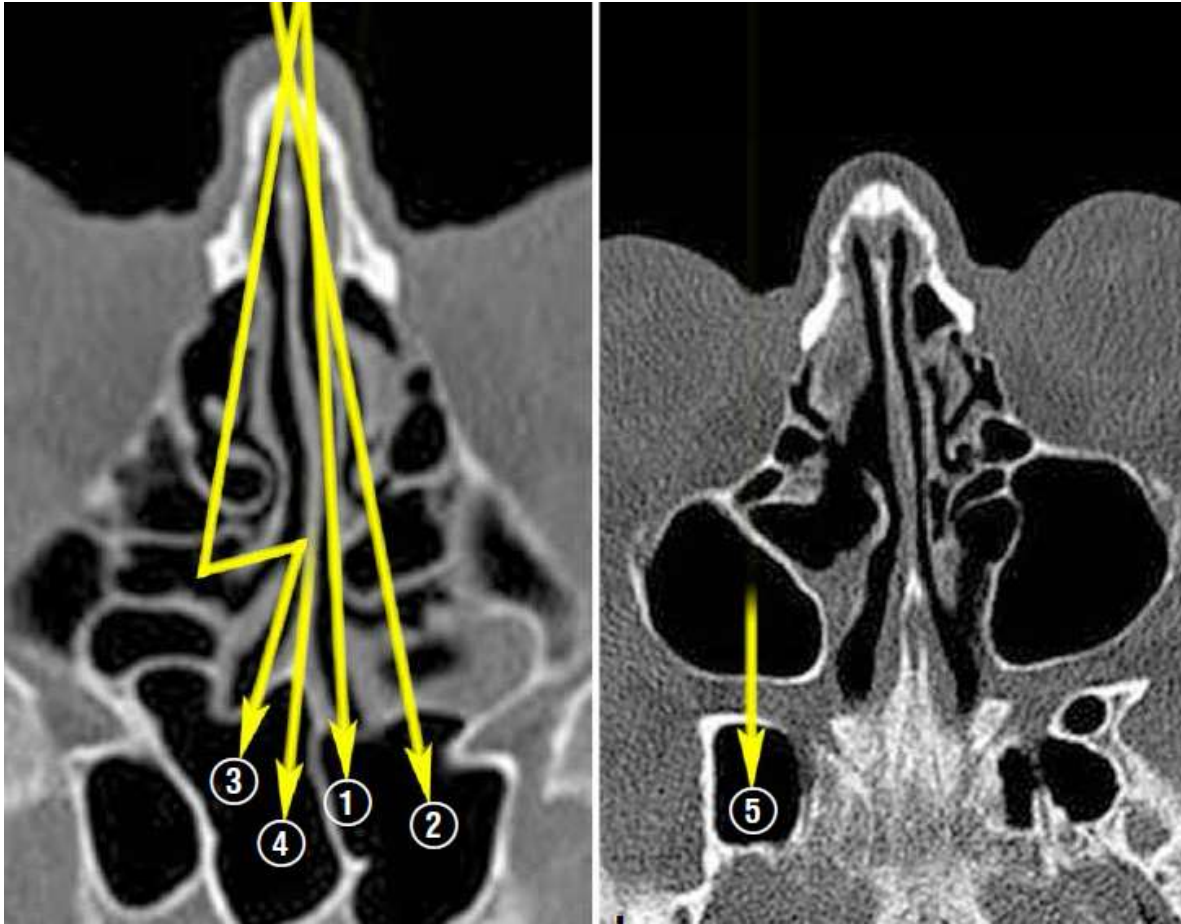


Sfenotomi

- Disseksjon gjennom den bakre veggen av en Onodi-celle → intrakraniell eller orbital apexskade.

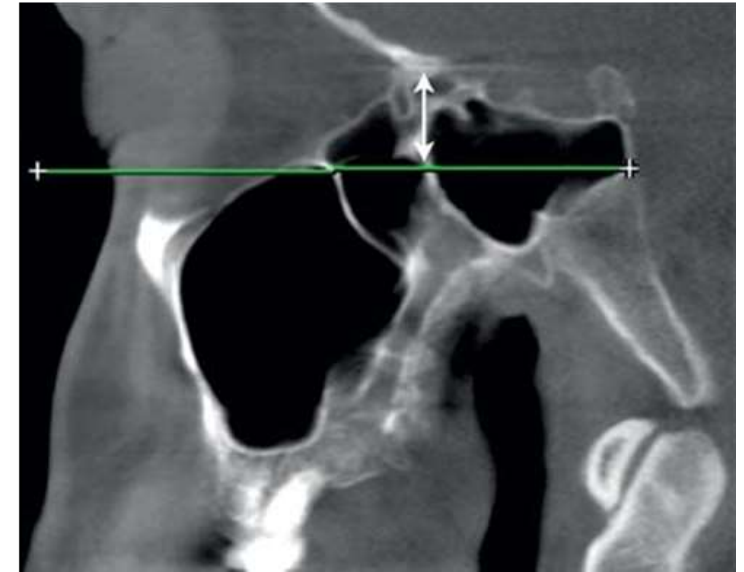


Sfenotomi



- 1) Transnasal
- 2) Tranethmoidal
- 3) Tranethmoidal-transnasal
- 4) Transeptal
- 5) Tranpterygoid (tranantral)

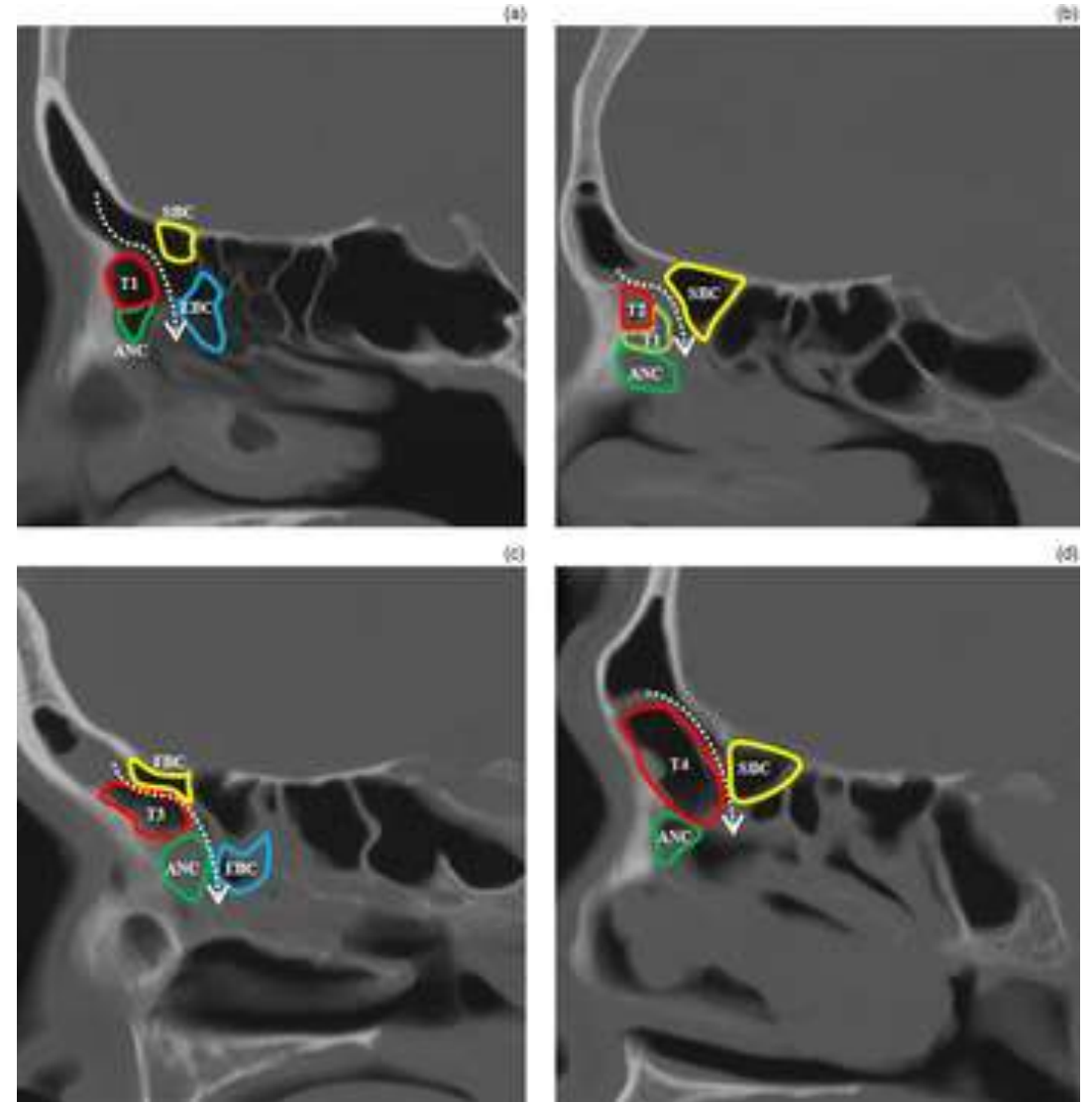
Sfenotomi



- 1) Transnasal
- 2) Tranethmoidal
- 3) Tranethmoidal-transnasal
- 4) Transeptal
- 5) Tranpterygoid (tranantrol)
- 6) Tranorbital

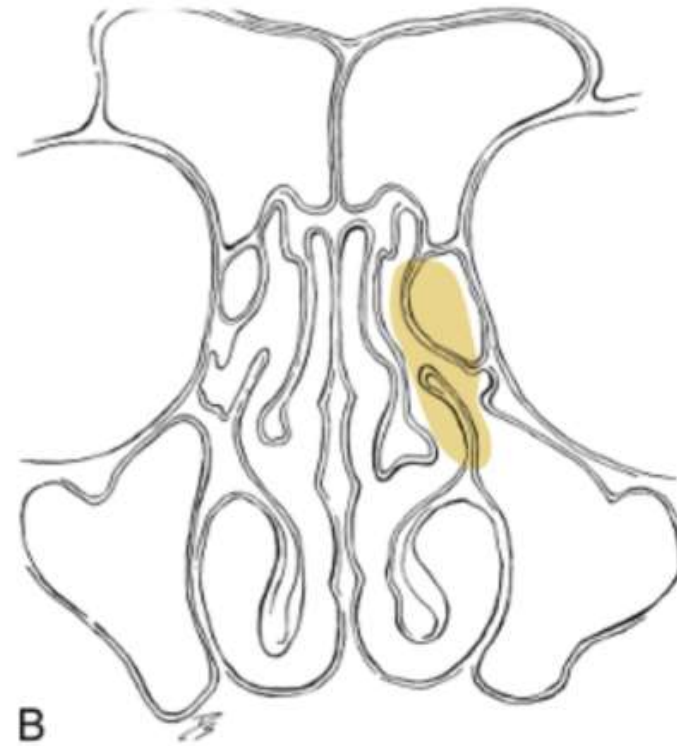
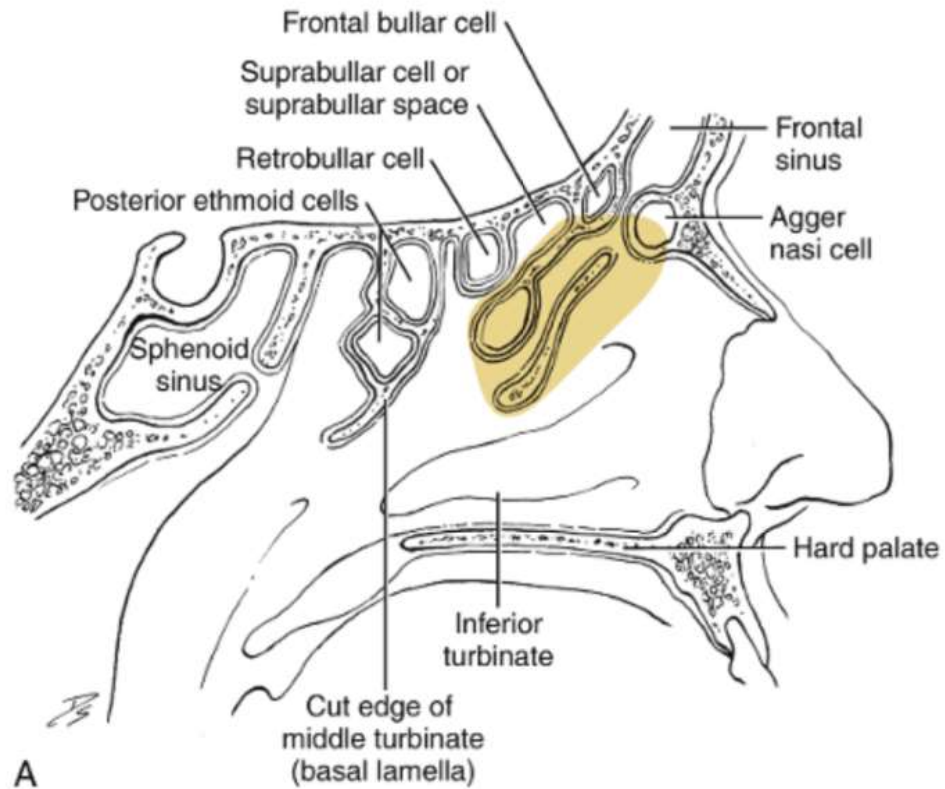
Frontal Sinusotomi

- Frontal sinusotomi er den vanskeligste av basic FESS pga:
 - Slimhinnen rundt frontal recess bør bevares
 - Variable anatomi



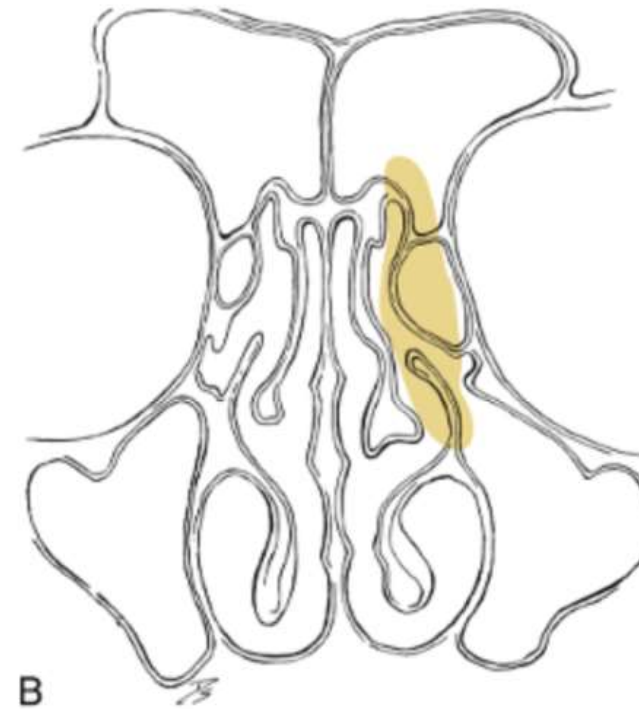
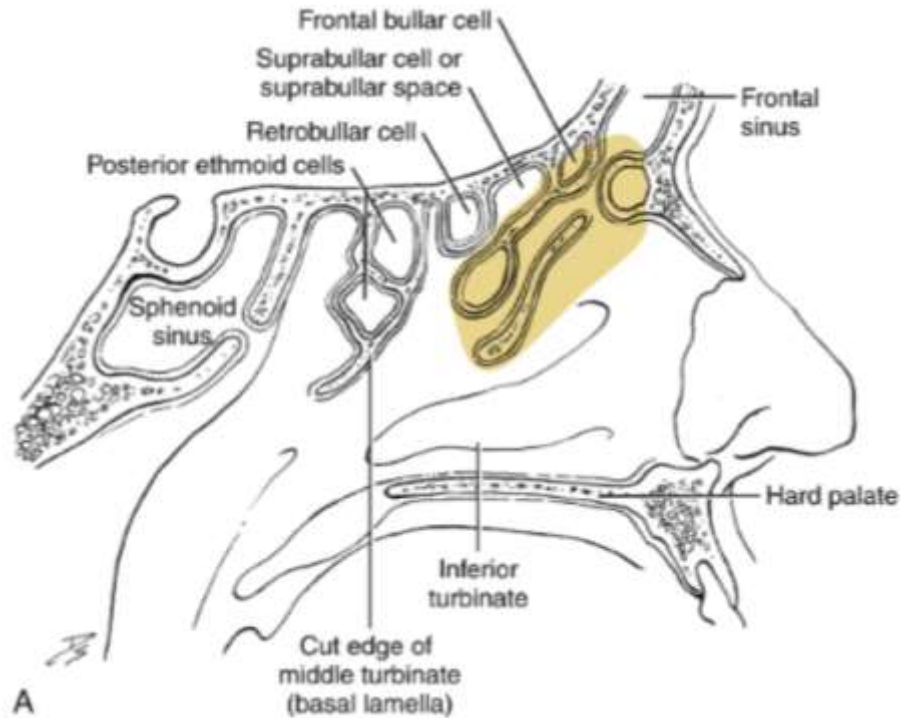
Frontal Sinusotomi

- Draf I: fjerning prosess uncinatus + fremre ethmoidektomi ± ager nasi



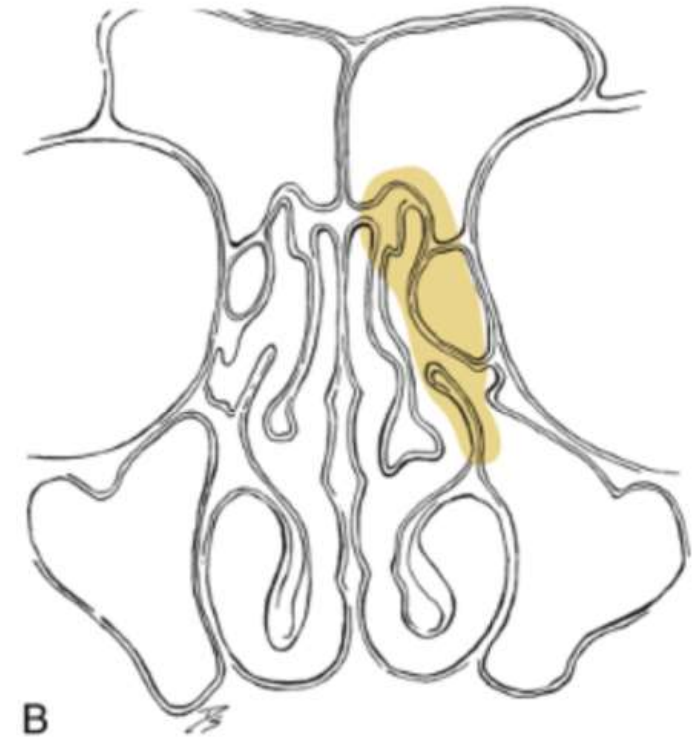
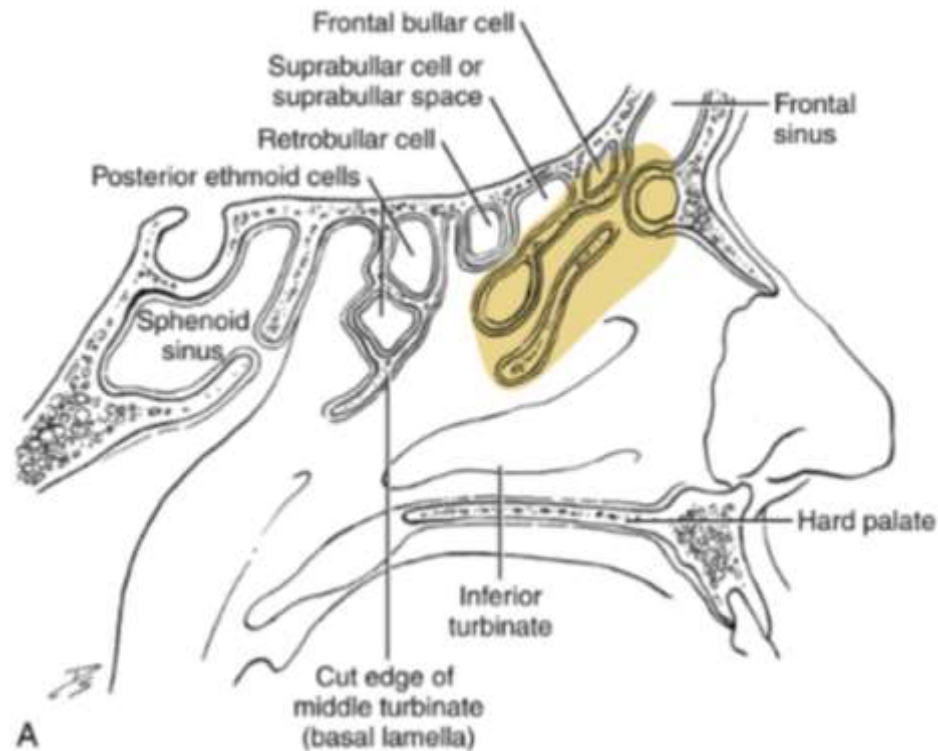
Frontal Sinusotomi

- Draf IIa: fjerning av alle celler i frontal recessen



Frontal Sinusotomi

- Draf IIb: fjerning av det ipsilaterale gulvet i frontal recess



Frontal Sinusotomi

- Draf IIb: fjerning av det ipsilaterale gulvet i frontal recess



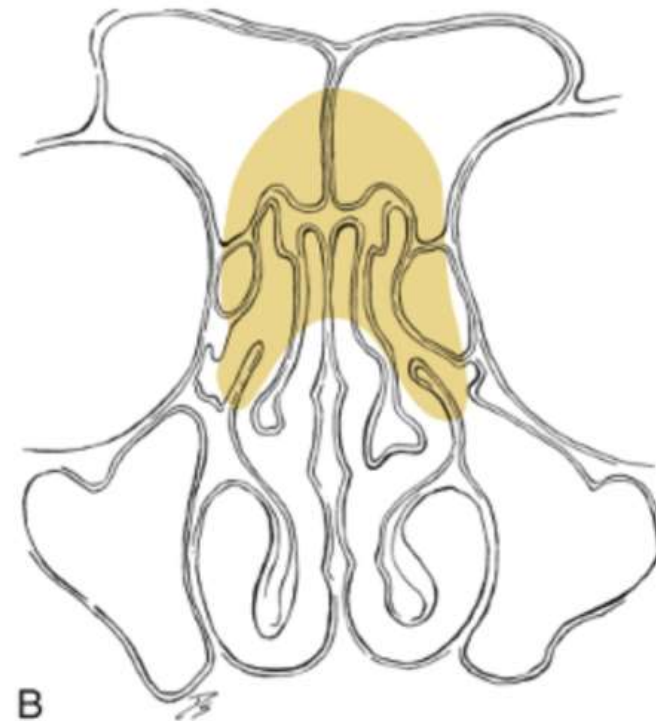
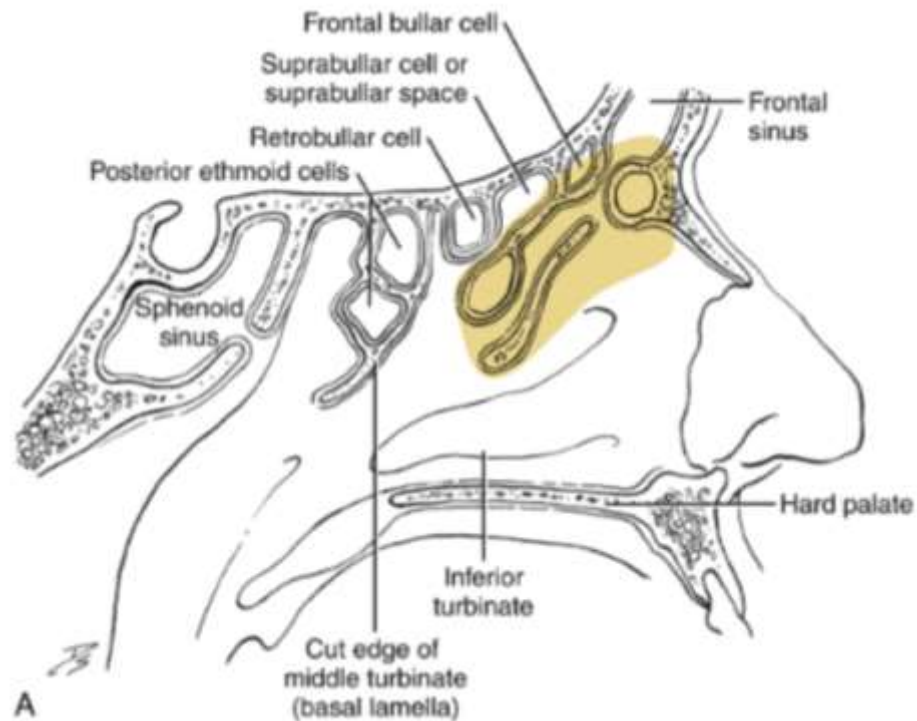
Før



Etter

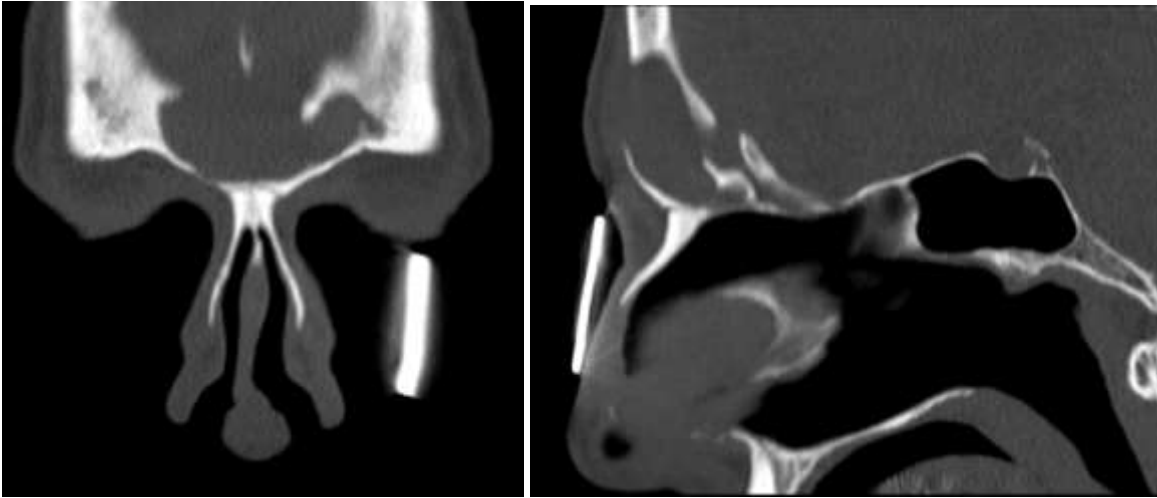
Frontal Sinusotomi

- Draf III: bilateral Draf IIb + fjerning av intersinus septum og øvre del av nase septum → en felles åpning

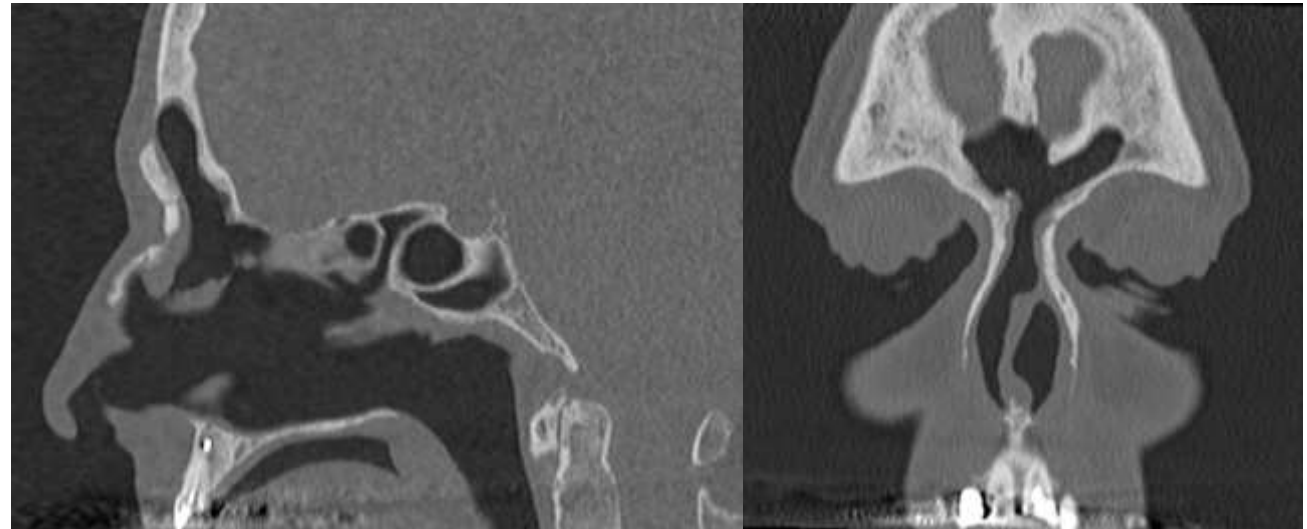


Frontal Sinusotomi

- Draf III: bilateral Draf IIb + fjerning av intersinus septum og øvre del av nase septum → en felles åpning



Før



Etter

Takk