

# Endoscopic Approaches to the Sella

Blair Barton, MD

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Ochsner Regional Neuroscience Symposium

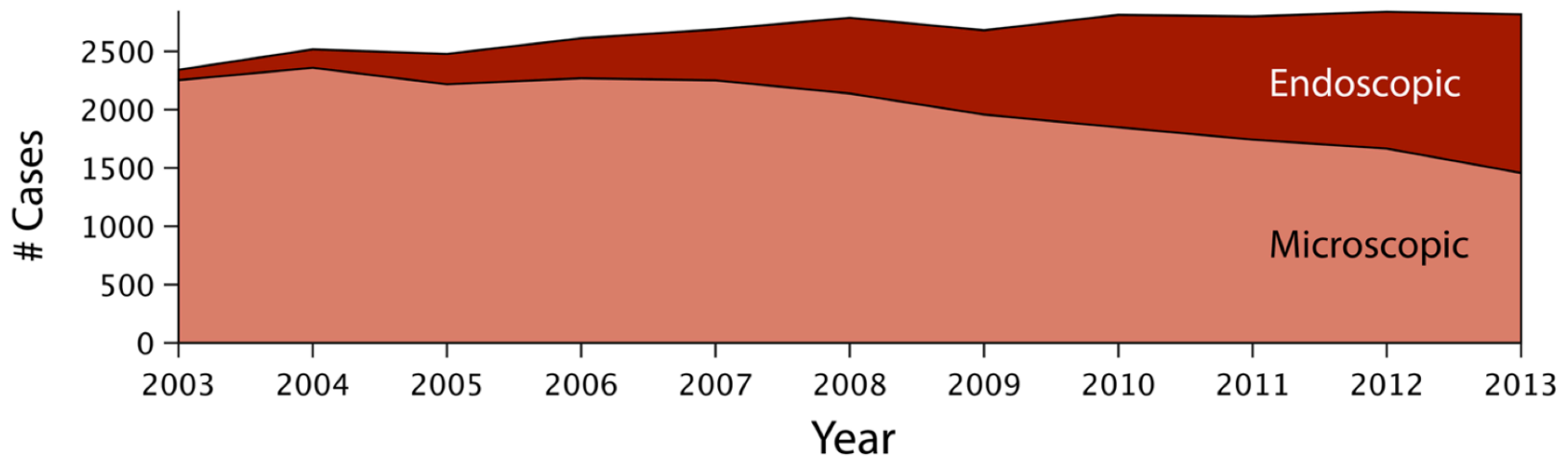
# Disclosures

- None

# Introduction

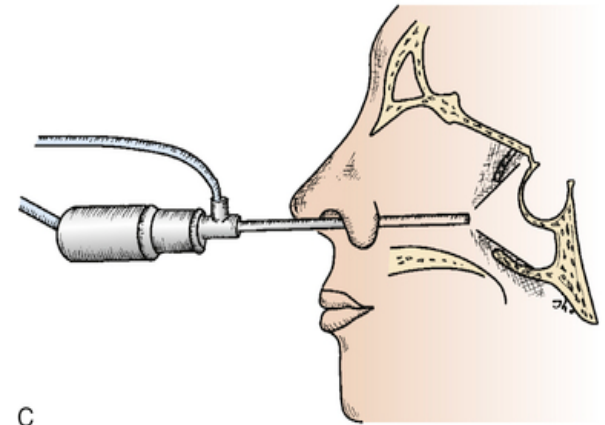


# Introduction

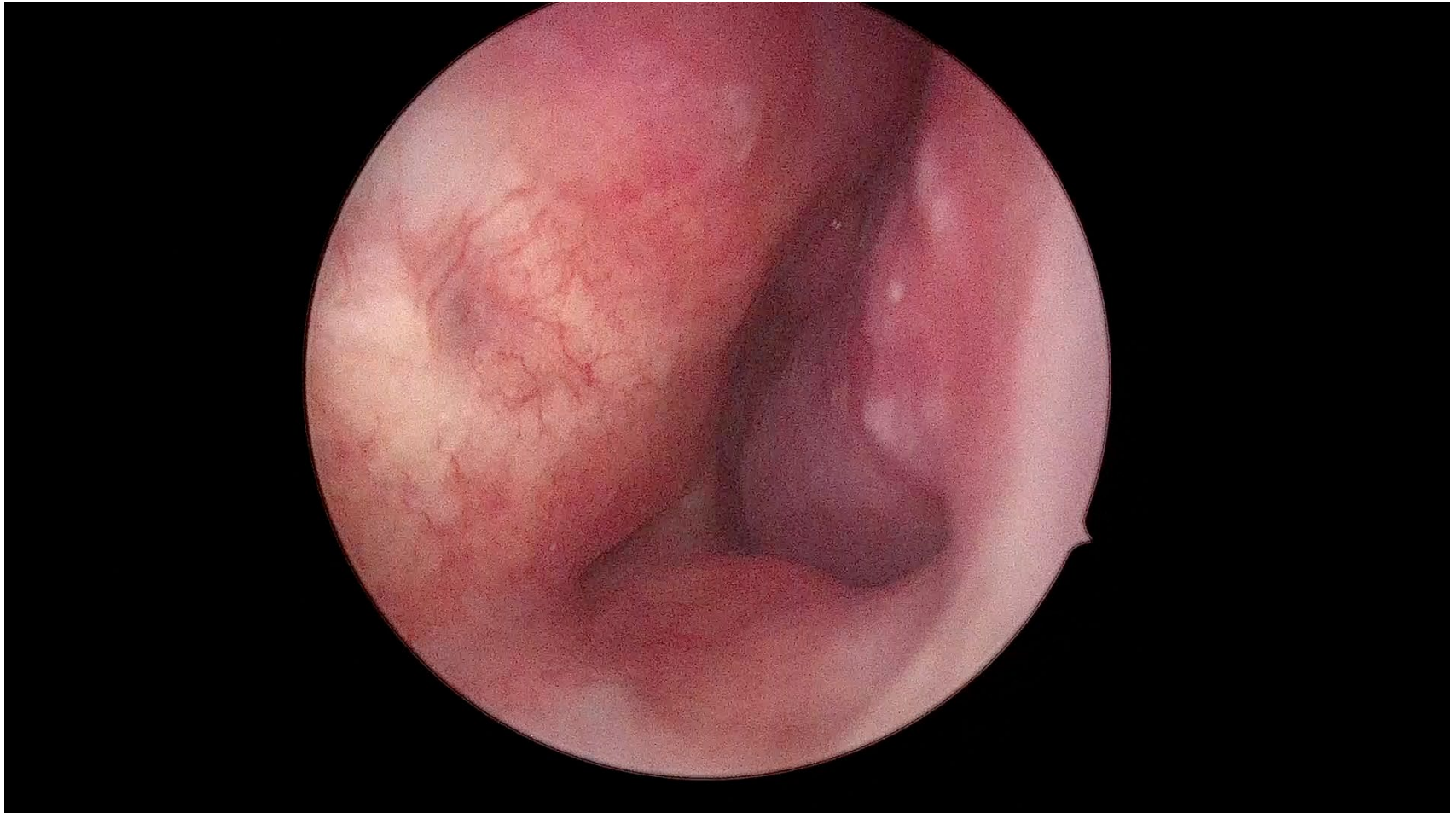


# Endoscopic Advantages

- Absence of speculum
  - Less lateral limitation
  - Bi-nasial access
- No submucous septal dissection
  - Less pain and discomfort
  - Improved nasal healing and function
- Wider view with 0, 30, & 45 deg endoscopes
  - Identification of surrounding structures
  - Improved resection



# Endoscopic Advantages



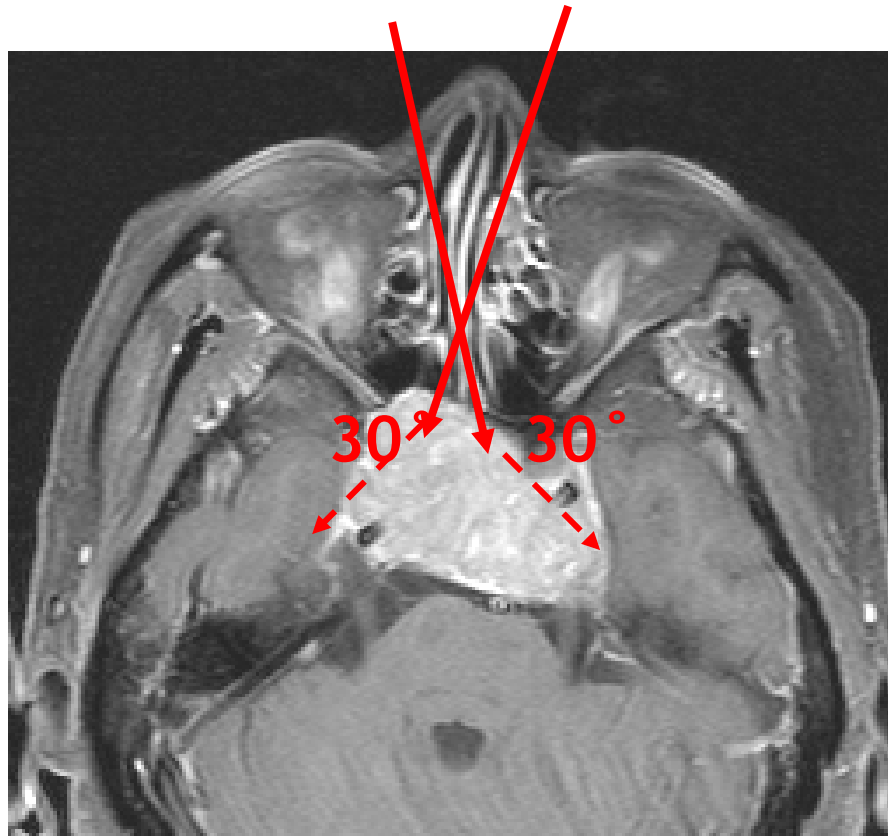


# Endoscopic Advantages

- Instrumentation



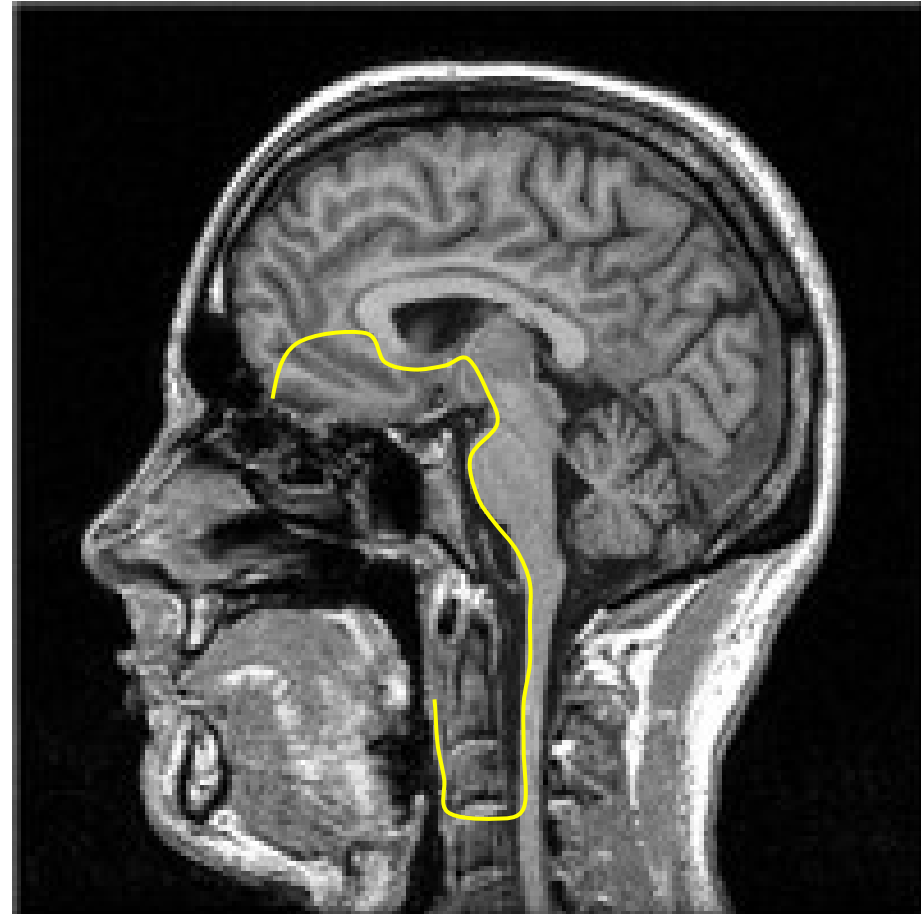
# Endoscopic Advantages





# Expanded Endonasal Approaches

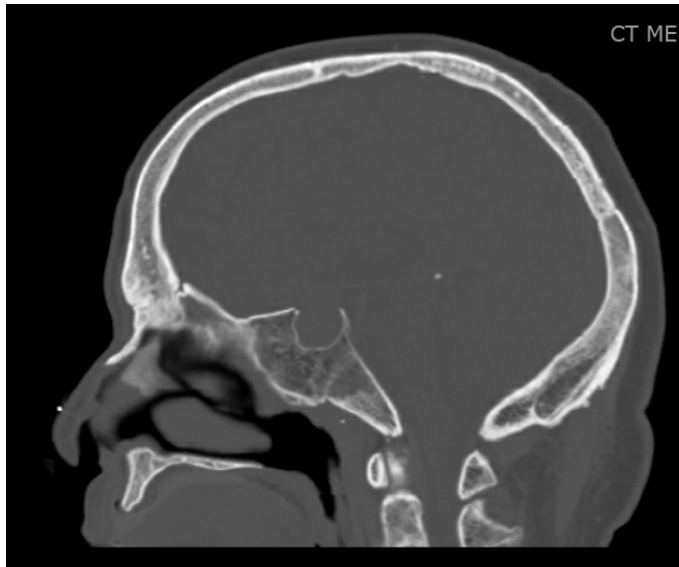
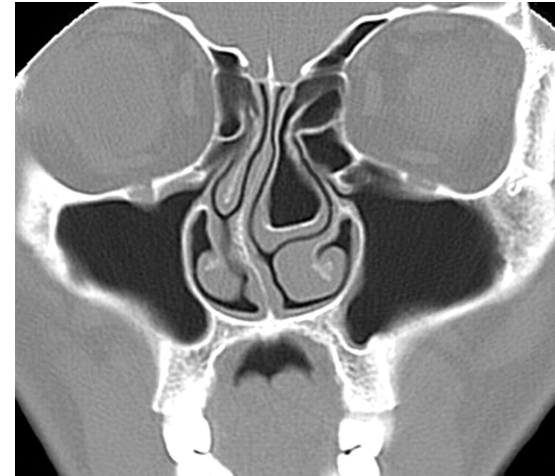
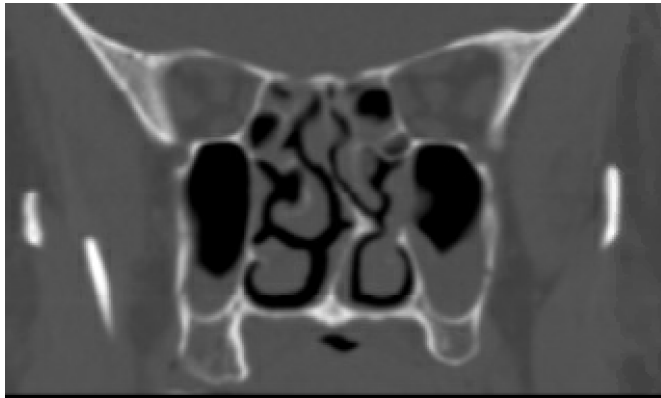
- Access to:
  - Cribriform
  - Sella/parasella
  - Planum
  - Tuberculum
  - Cavernous sinus
  - Petrous apex
  - Pterygopalatine fossa
  - Infratemporal fossa
  - Odontoid
  - Clivus



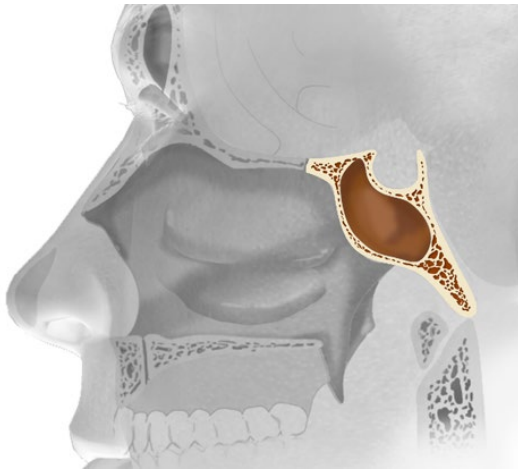
# Approaches

- Early days
  - Expanded approaches concentrated on safety at the expense of preservation of function
  - Once safety was established, concentrated on functional and anatomic preservation
- Today
  - Minimally invasive on the outside
  - Minimally destructive on the inside
  - Resect only what is necessary
  - Work through smaller corridors
  - Leave the nose the way we found it

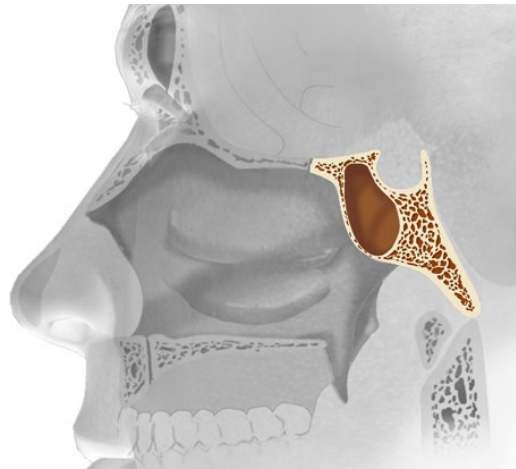
# Patient Selection



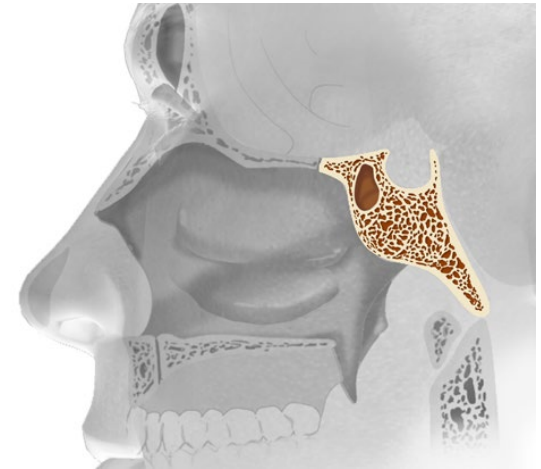
# Sphenoid Sinus Variations



**“Sellar”-type  
(75%)**

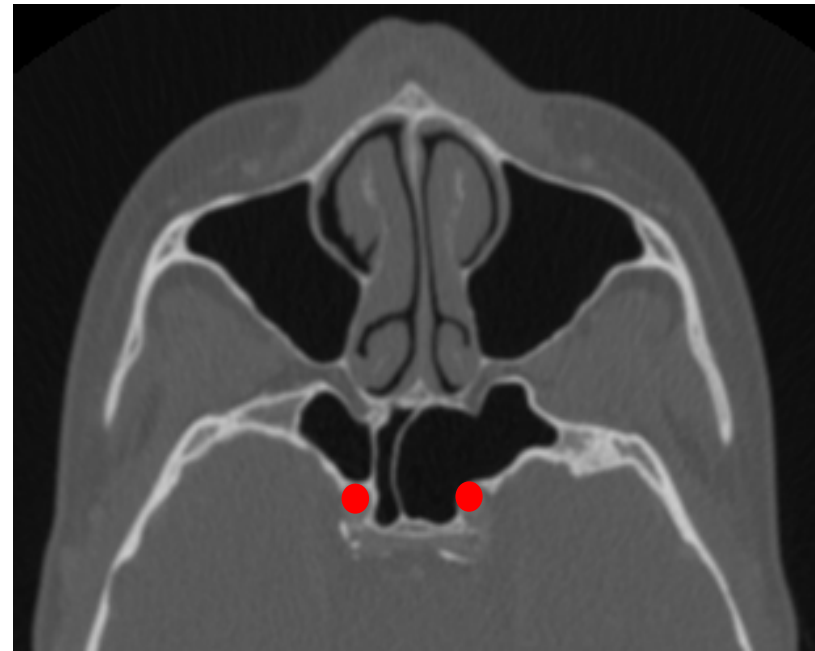
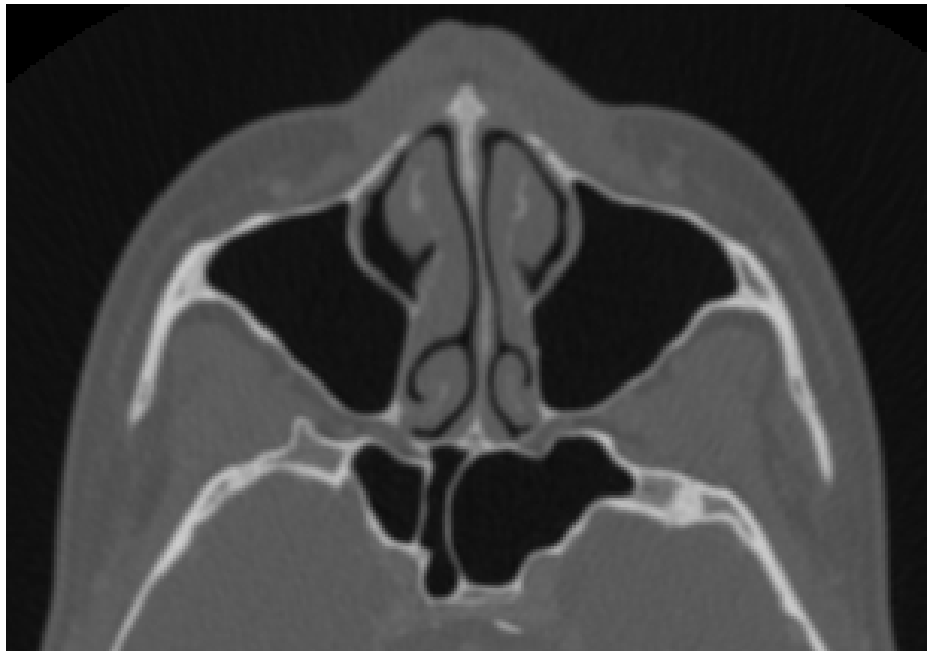


**“Presellar”-type  
(24%)**

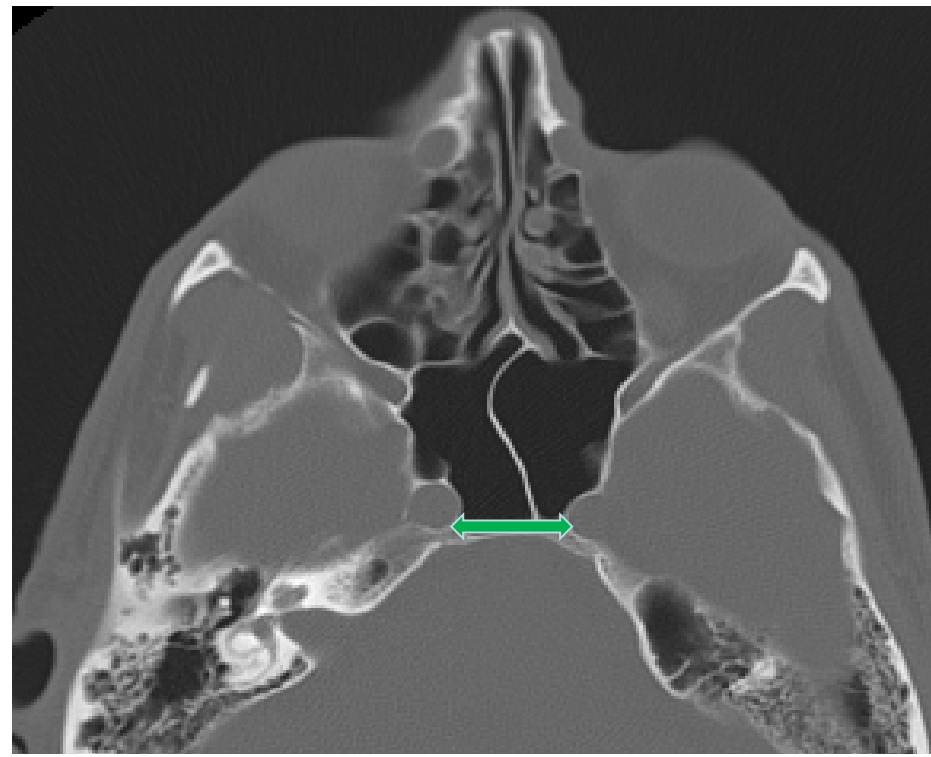
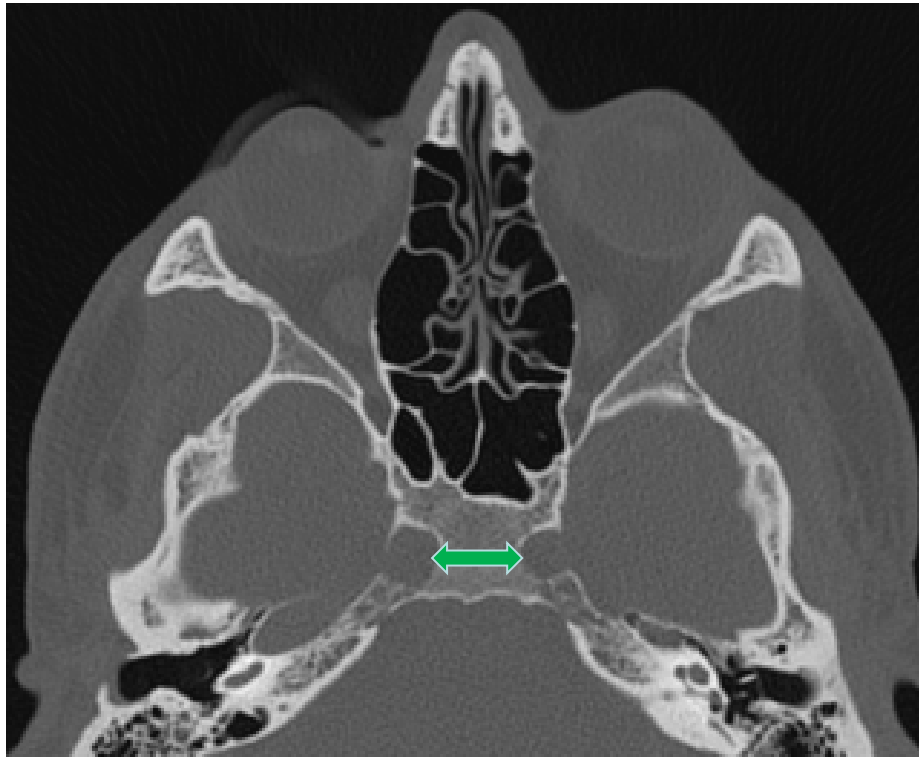


**“Conchal”-type  
(1%)**

# Sphenoid Septation



# Inter-carotid Distance



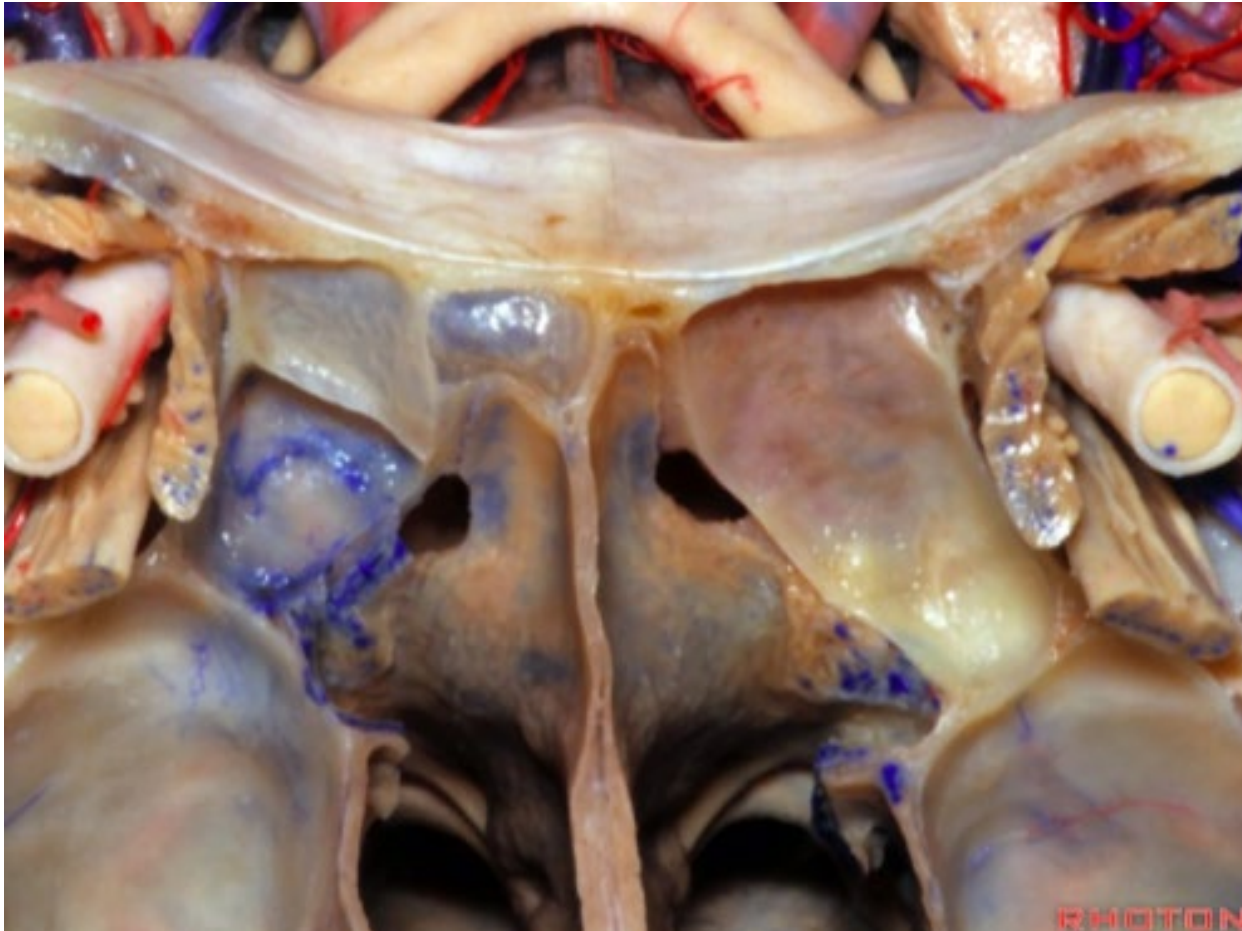
- 4-18mm
  - Average 12mm



# Patient Selection

- Pre-operative endoscopy
  - Helps to determine ease of access during surgery
  - Reconstructive options
- Pre-operative radiology
  - CT Medtronic without contrast
    - Evaluate sinonasal anatomy
  - MRI with/without contrast
    - Evaluate tumor pathology

# Anatomy

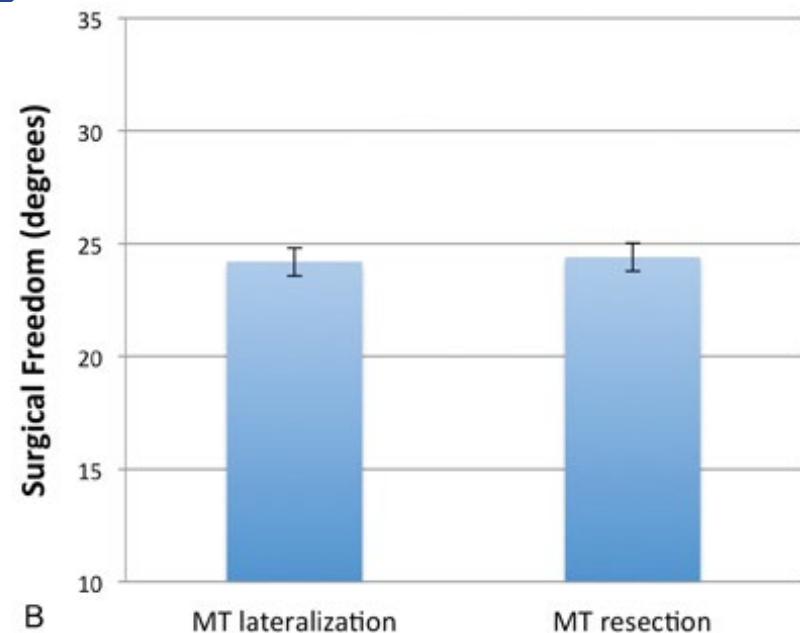
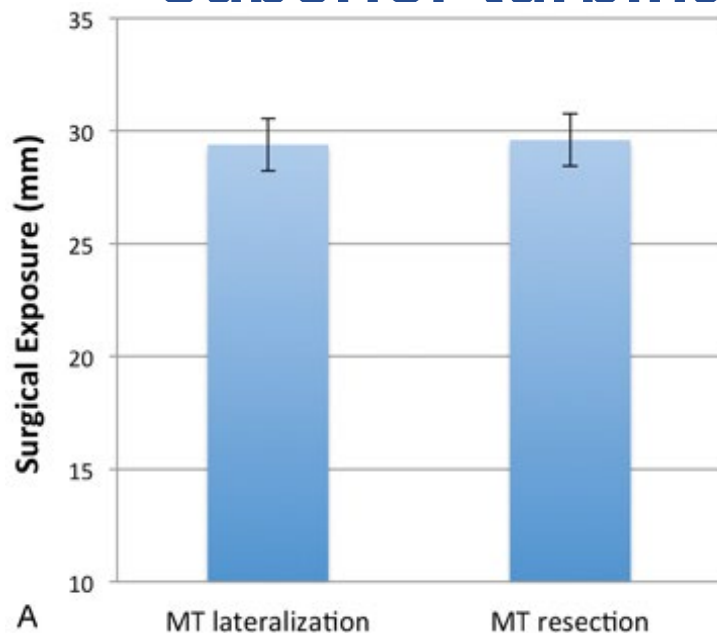


# Approaches

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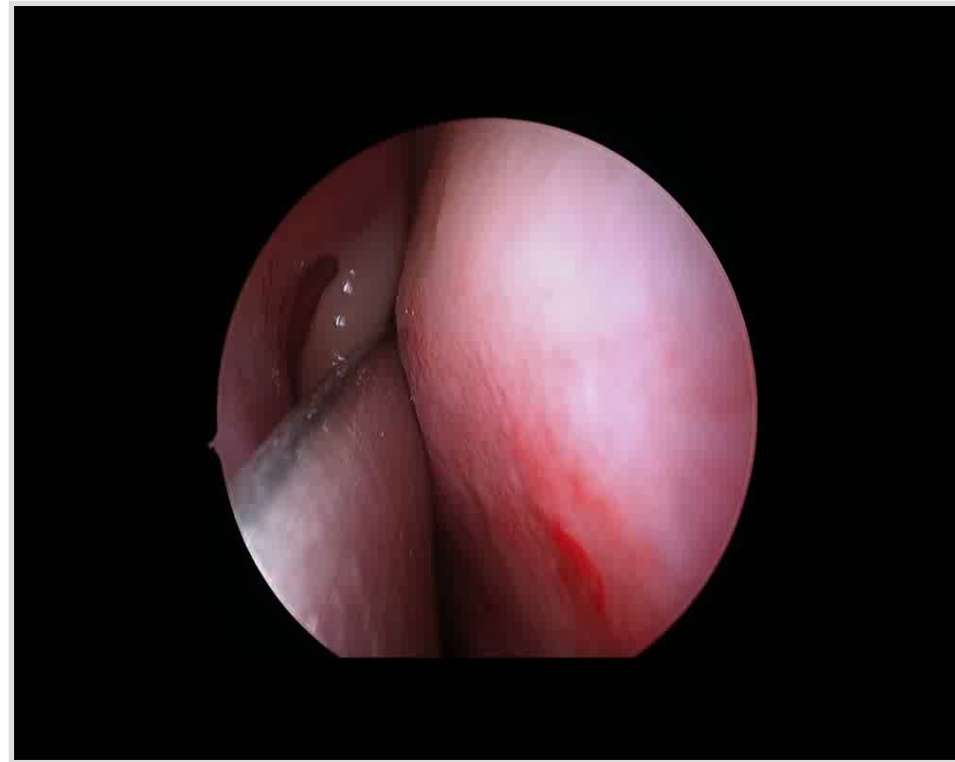
# Preservation of Function

## 1. Lateralize inferior, middle and superior turbinates



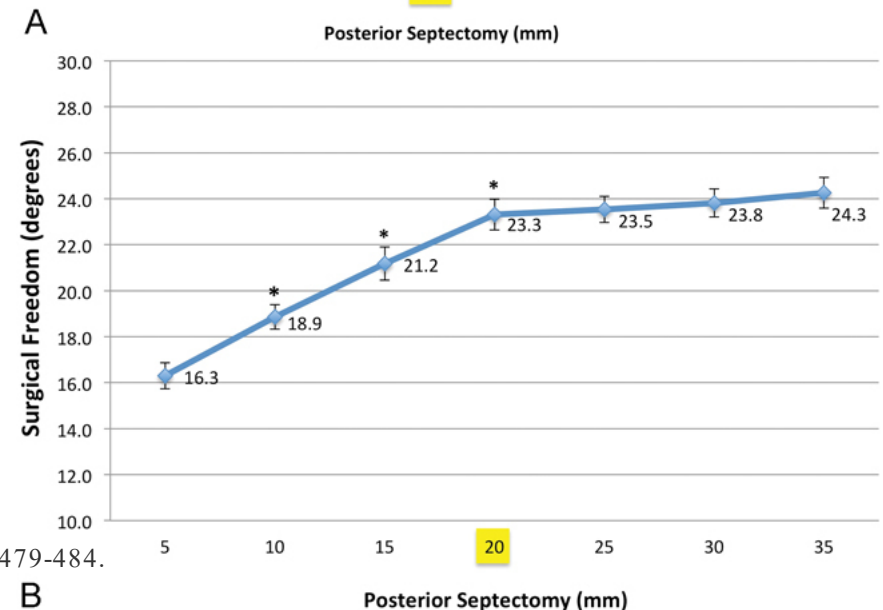
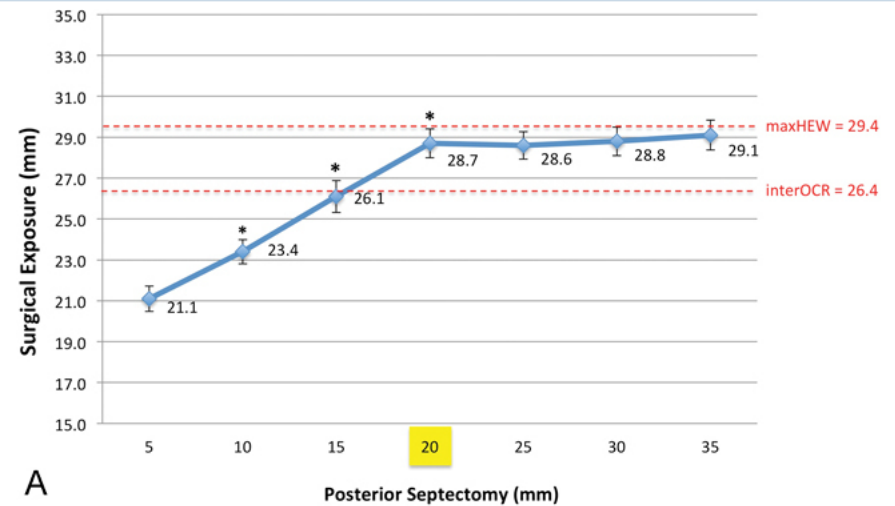
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# Preservation of Function

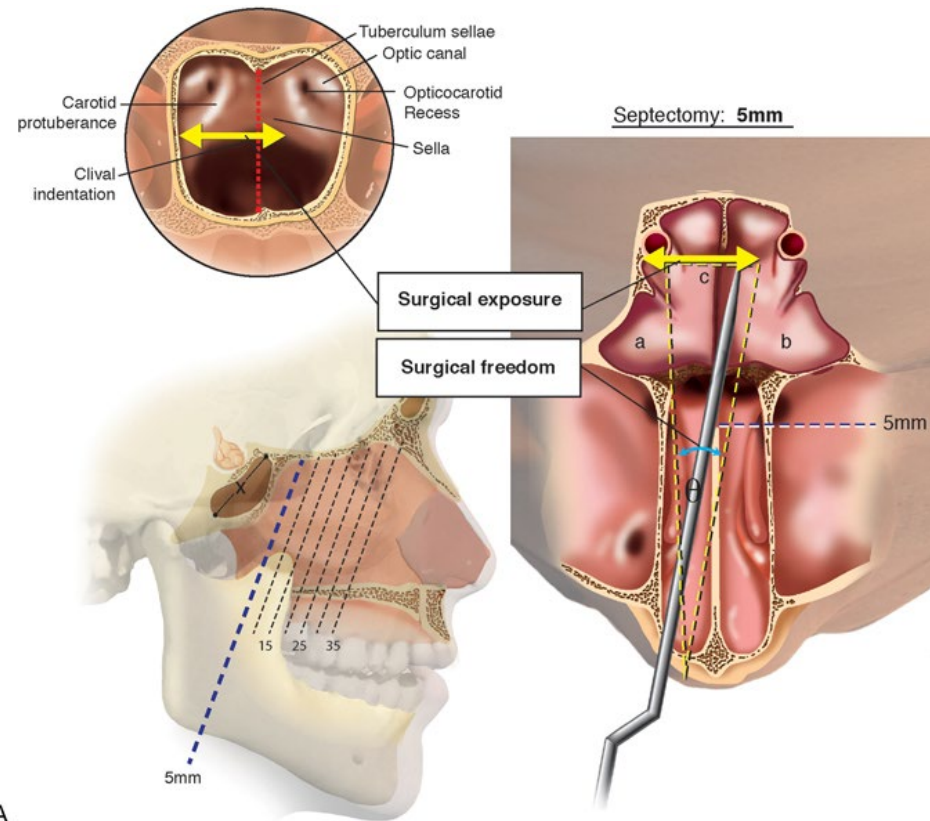
1. Lateralize inferior, middle and superior turbinates
2. Minimal posterior septectomy





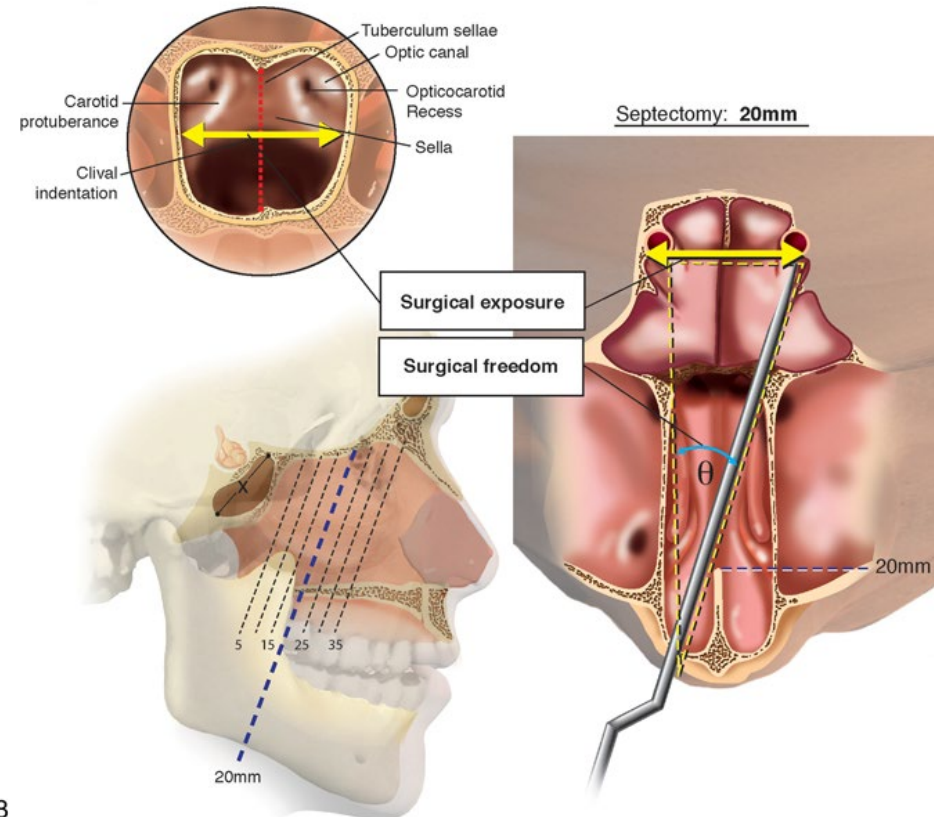
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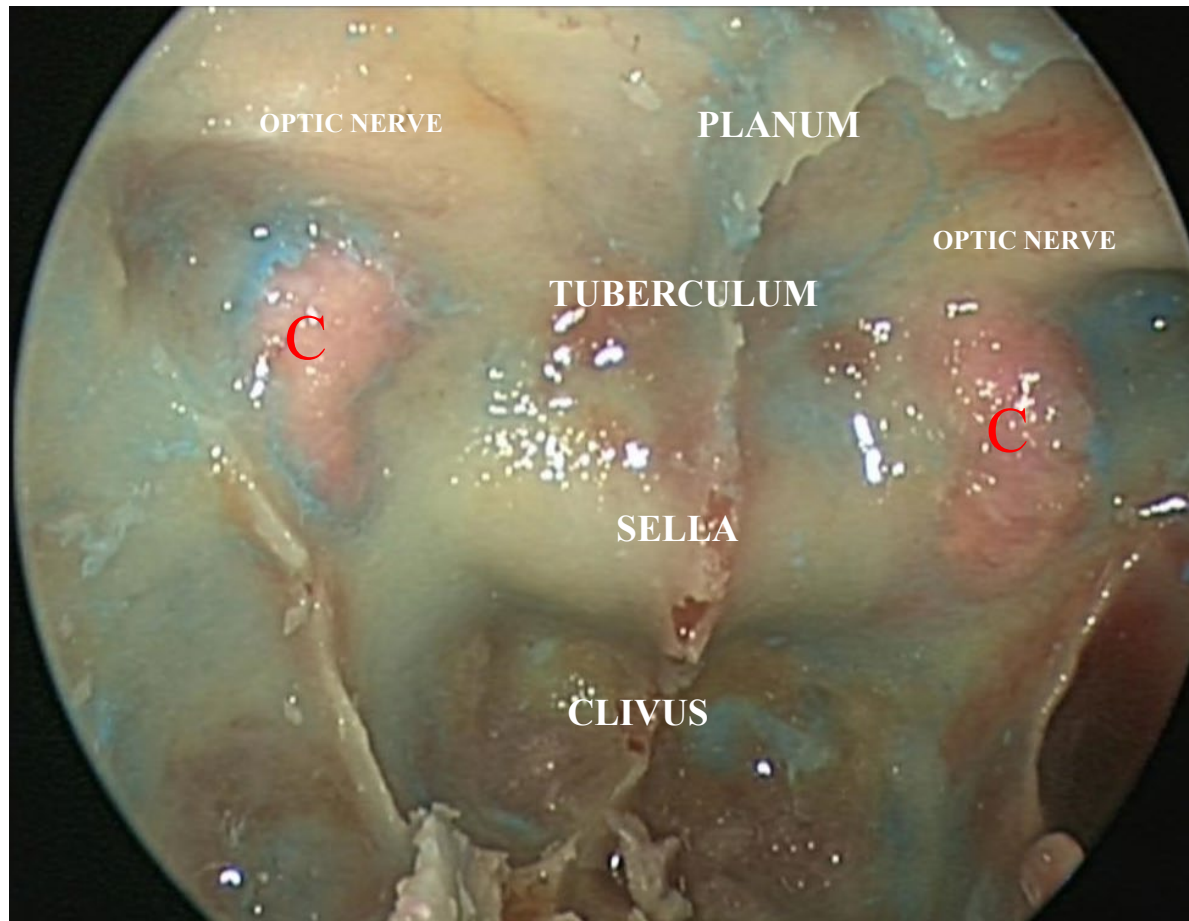


# Preservation of Function

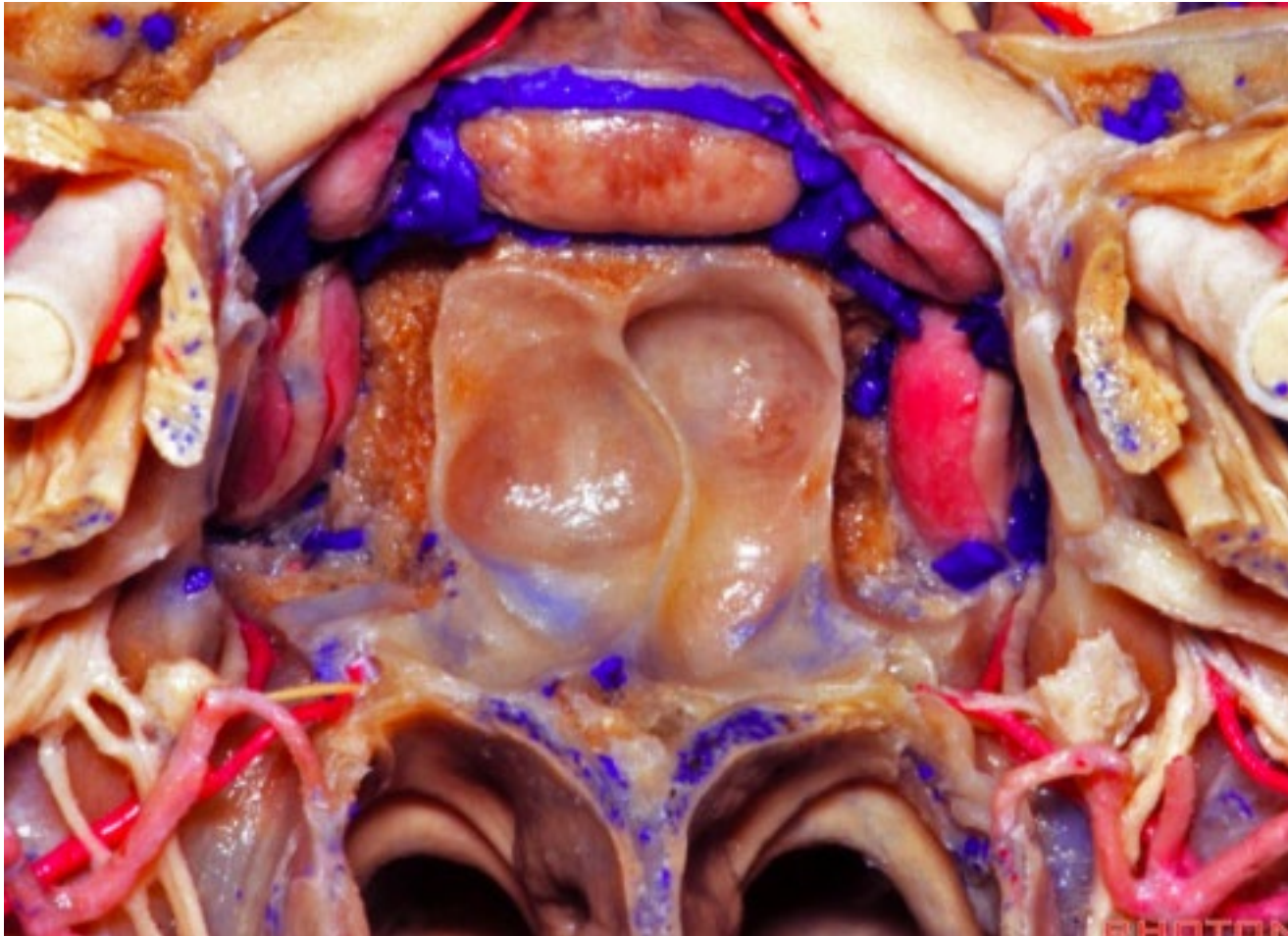
1. Lateralize inferior, middle and superior turbinates
2. Minimal posterior septectomy



- Sinus aeration
  - Pre-existing sinus disease
  - Consider staging EEA if acute or fungal sinusitis detected
- Structural analysis
  - Septum - deviation is common
  - Size and pneumatization of turbinates
  - Previous nasal or sinus surgery



# Anatomy





Choice of approach is dictated by...

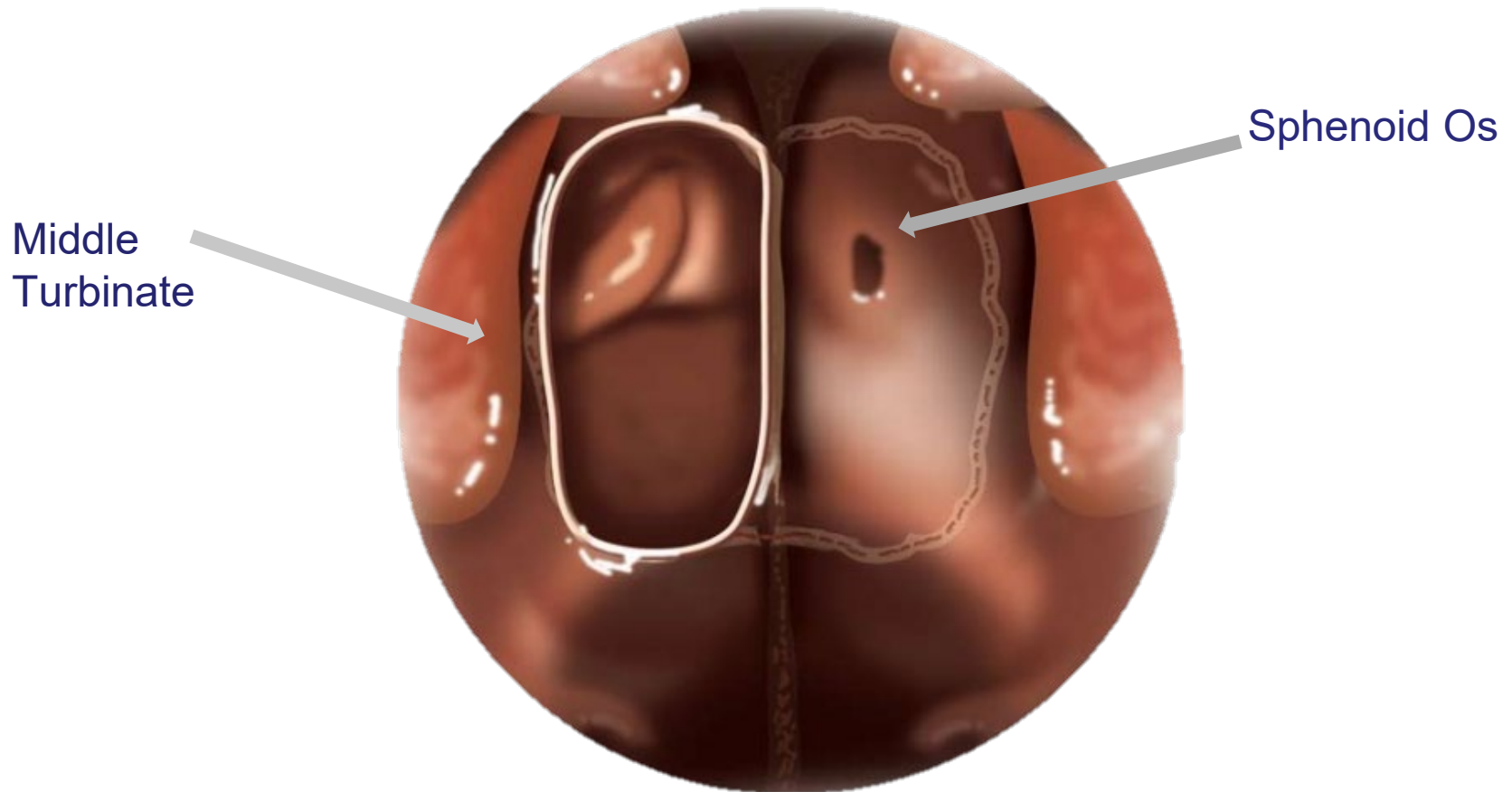
1. Patient anatomy
2. Tumor pathology
3. Expected need for reconstruction



# Approaches

1. Unilateral approach
2. Pushdown approach
3. Tunnel/septoplasty approach

# Unilateral Approach



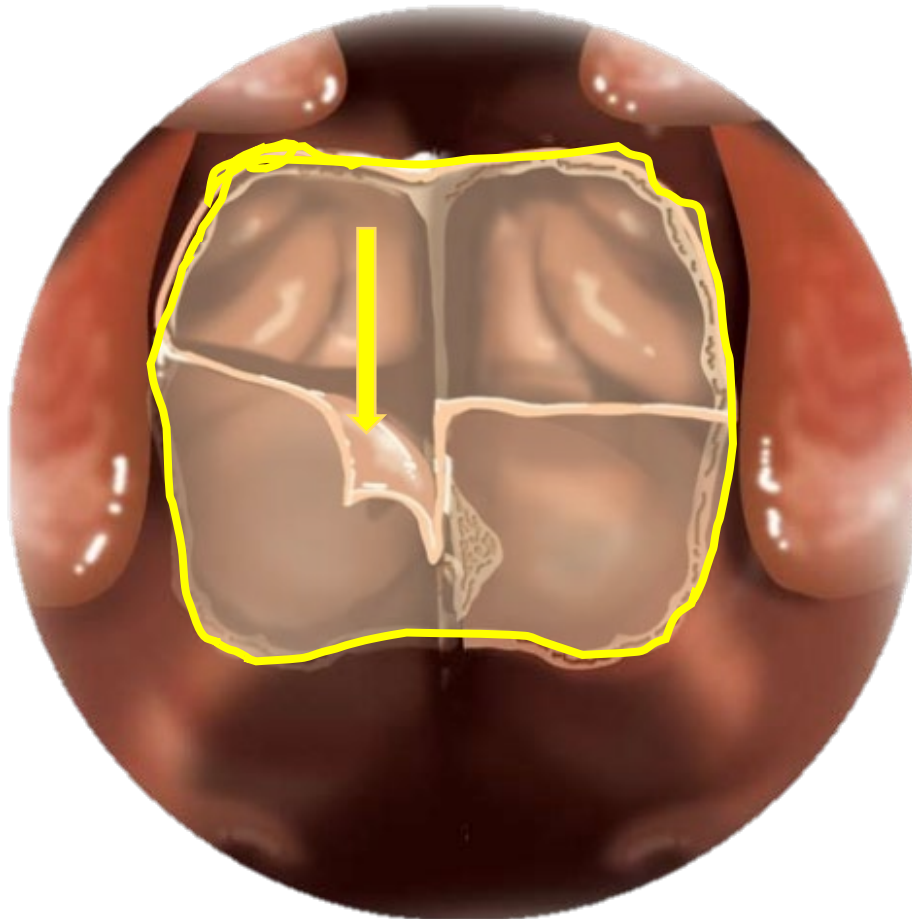
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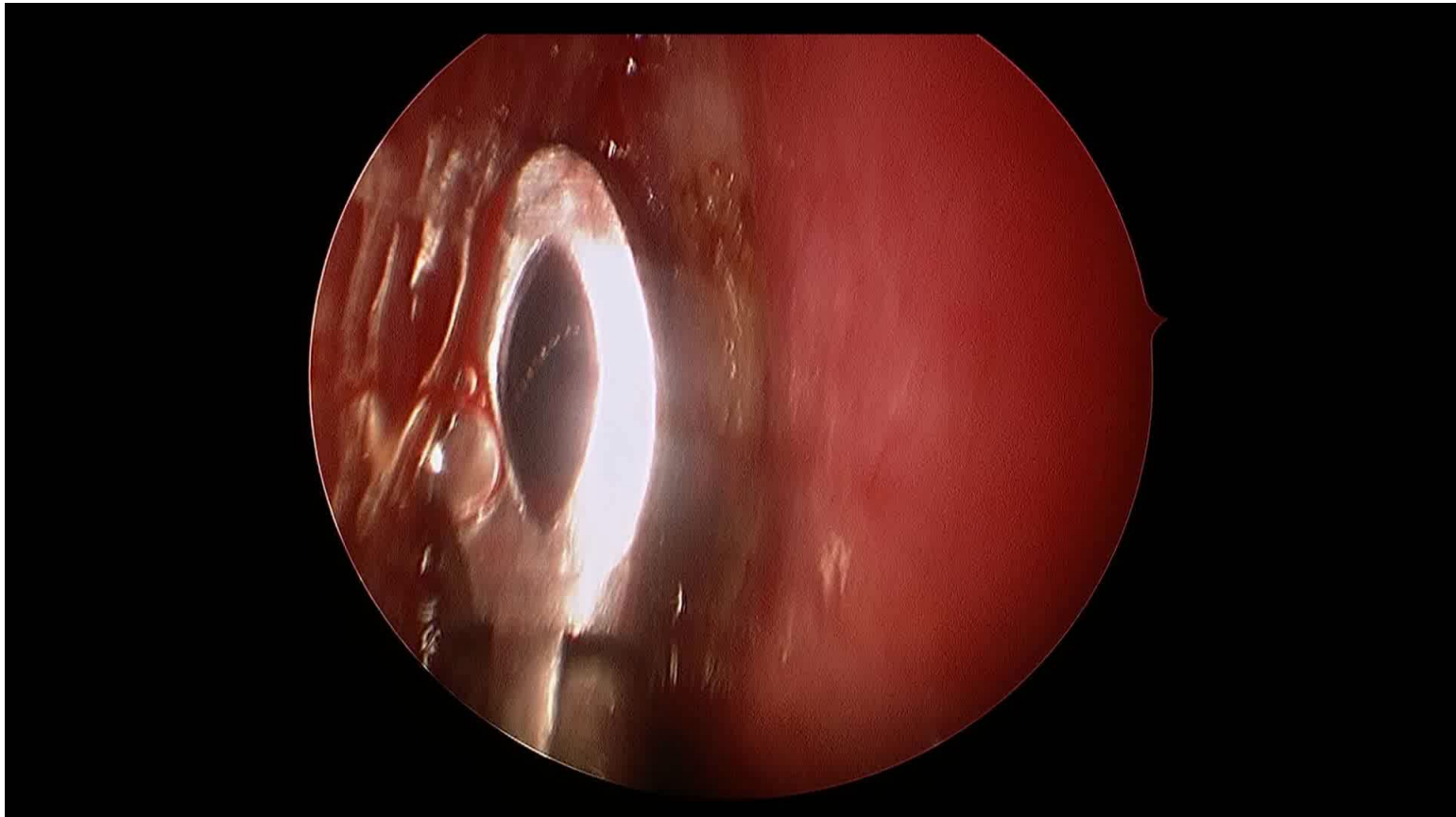
# Unilateral Approach

- Advantages
  - Least amount of nasal dysfunction
  - Contralateral nasal cavity undisturbed
- Disadvantages
  - Least amount of operative exposure
  - Less room for instrumentation
  - ENT and NSGY work through same nares

# 1.5 “Pushdown”



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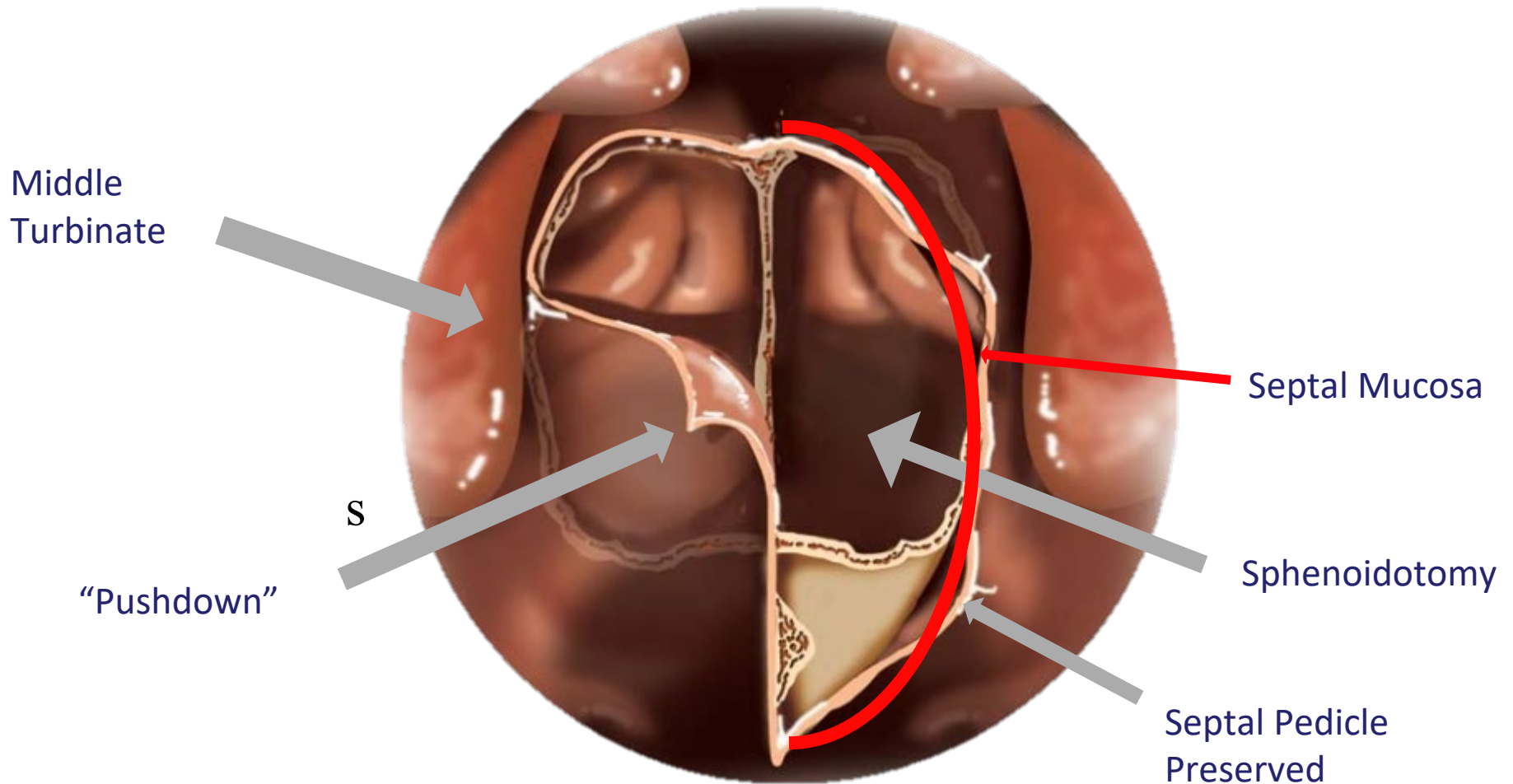




# 1.5 “Pushdown”

- Advantages
  - Workhorse approach
  - Binarial access
  - Minimal nasal distraction
- Disadvantages
  - Learning curve

# Tunnel Approach



# Tunnel Approach

## Unilateral Tunnel Approach with NSF (Septoplasty Pearls)



Marc Rosen, MD

Jefferson Minimally Invasive Cranial Base Center

# Tunnel Approach

- Advantages
  - Addresses septal deviations/spurs
  - Improved functional outcomes
  - Improved endoscopic visualization
- Disadvantages
  - Increased operative time
  - Increased risk of injury to flap

# Preservation of Function



# Conclusions

- Tailored approach to pituitary lesions critical for best outcomes
- PRESERVATION OF FUNCTION
- Approaches based on anatomy, tumor, & reconstruction
- Reconstruction based on CSF leak
- Not everyone needs a NSF

# Questions?