

UPDATE ON RHINOSINUSITIS

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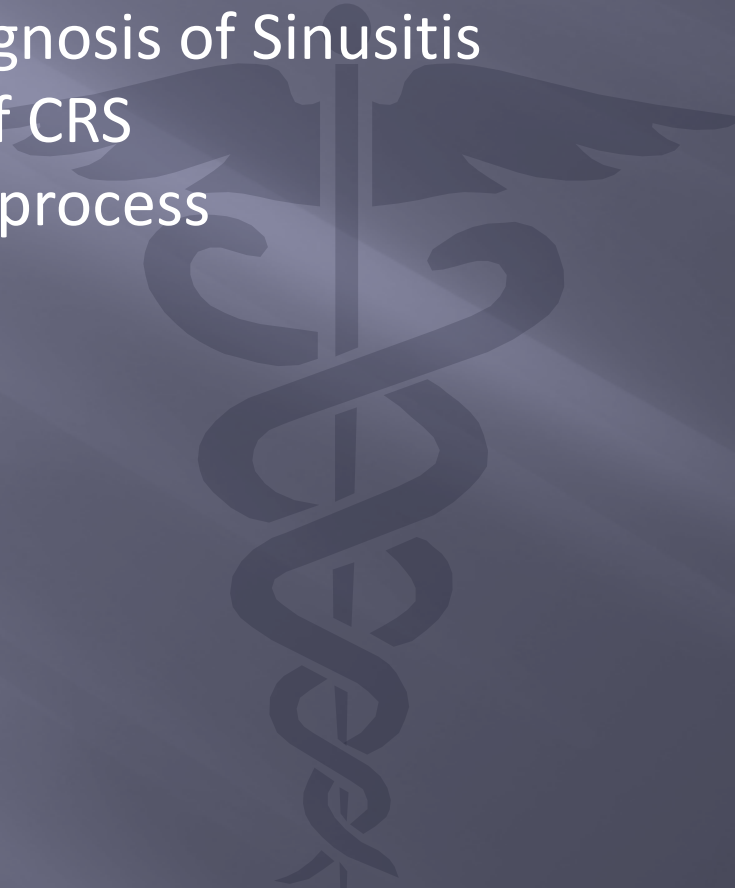
FINANCIAL DISCLOSURES

None



OBJECTIVES

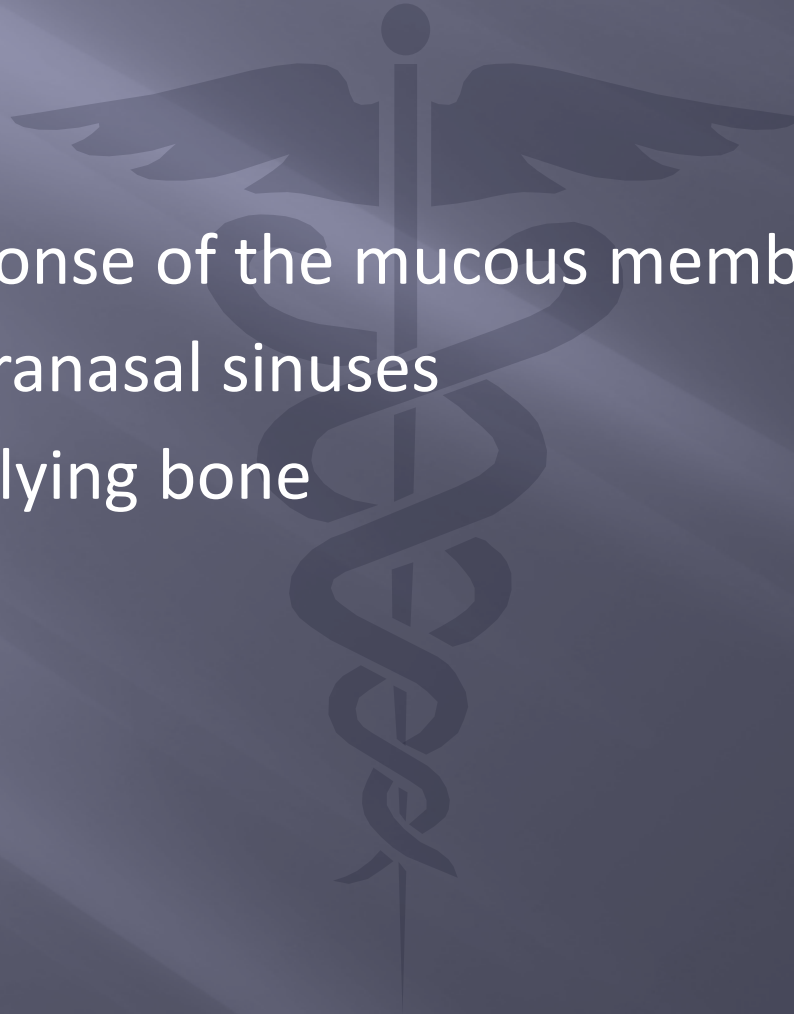
1. Identify the different diagnosis of Sinusitis
2. Identify the pathogens of CRS
3. Discuss the examination process
4. Discuss the treatment
5. Discuss what is new



DIAGNOSIS OF SINUSITIS

Clinically:

1. An inflammatory response of the mucous membranes
2. Fluid in the nasal / paranasal sinuses
3. Can involve the underlying bone



DIAGNOSIS OF SINUSITIS

Acute and chronic sinusitis have similar symptoms; the 4 cardinal symptoms:

Facial pain / pressure

Drainage

Congestion

Anosmia



DIAGNOSIS OF SINUSITIS

FDA

Acute rhinosinusitis: Lasts up to 4 weeks

Subacute rhinosinusitis: time period in between

Chronic rhinosinusitis(CRS): after 3 months

CRSsNP: CRS without nasal polyps

CRSwNP: CRS with nasal polyps

DIAGNOSIS OF SINUSITIS

Acute Adult rhinosinusitis

- Sudden onset / self limiting
- Most acute infections are viral. Infections that do not improve after 10 days or worsen after 5-7 days may be bacterial.
- May last up to 4 weeks
- Two or more major factors OR 1 major and 2 minor factors
- Acute rhinosinusitis can be differentiated from a URI via longevity and/or severity

DIAGNOSIS OF SINUSITIS(CRS)

Adult Chronic Rhinosinusitis

- Two or more major factors OR one major and 2 minor
- Must be more than 12 weeks
- Facial pain alone is not diagnostic but highly suggestive

DIAGNOSIS OF SINUSITIS

Lanza 1997: Chronic Adult Rhinosinusitis

Major Factors

1. Facial pain / pressure--
2. Facial congestion / fullness
3. Nasal obstruction / blockage--
4. Nasal discharge/purulence/discolored PND--
5. Hyposmia / anosmia--
6. Purulence in the nasal cavity on exam
7. Ear pain / pressure/ fullness

Minor Factors

1. Headache
2. Fever(all nonacute)
3. Halitosis
4. Fatigue
5. dental pain
6. Cough
7. Ear pain/pressure/fullness

PATHOGENESIS OF CRS

1. Defects in the innate immune

- a. Decreases in barrier function
- b. Decreases in mucociliary clearance
- c. Production of antimicrobial peptides

2. Subsequent recruitment and activation of:

- a. Eosinophils
- b. Mast cells
- c. Innate lymphoid cells (ILCs)
- d. The above directly activates adaptive immune cells, including T and B cells.

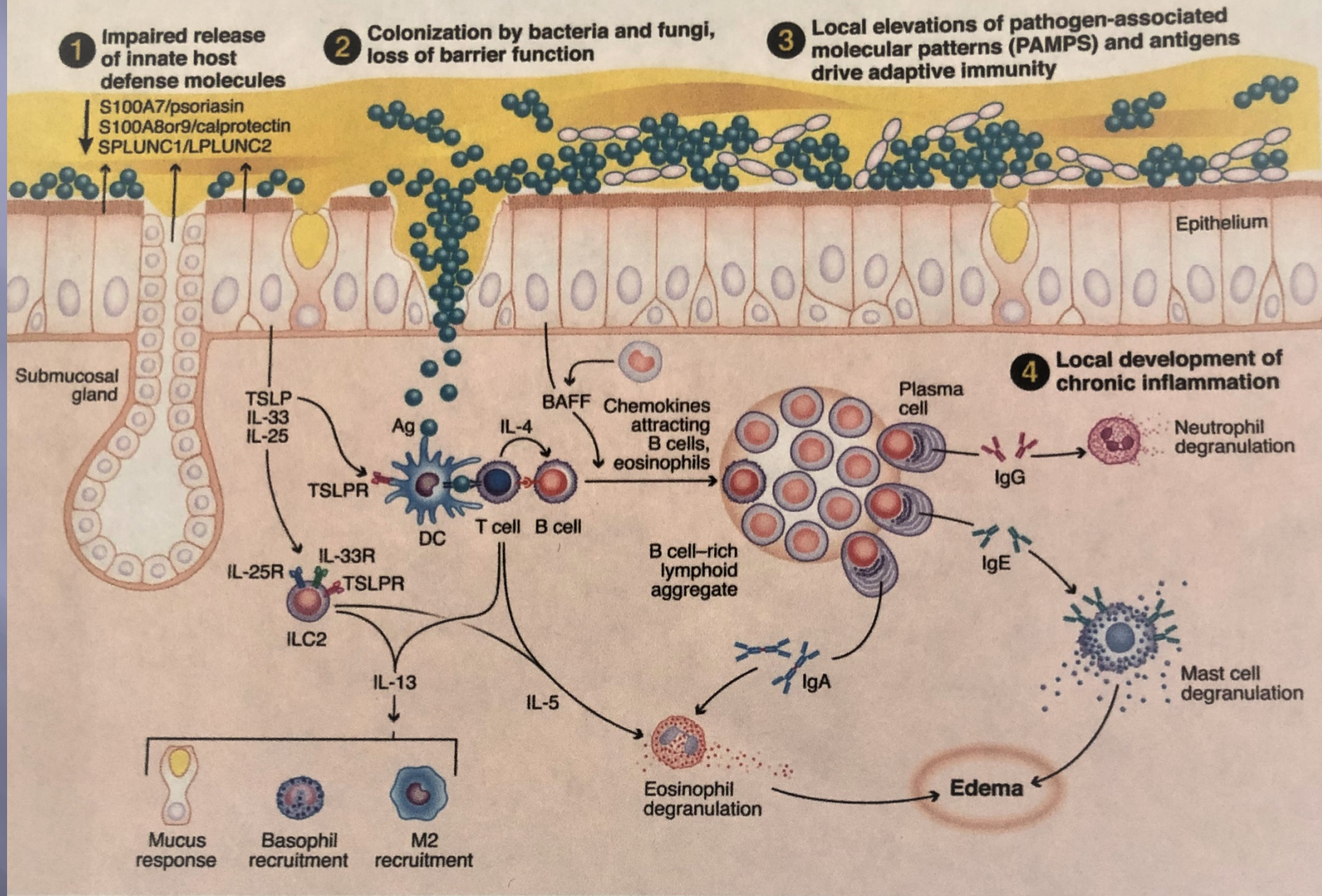


Fig. 1.

EXAMINATION



1. Head & Neck, Otoscopy, Anterior rhinoscopy, oropharyngoscopy, and neck exam
2. Nasal endoscopy is indicated for persistent rhinologic symptoms
3. How?

IMAGING STUDIES INDICATIONS

1. 12 weeks of sinus pain, sinus pressure, nasal congestion, and anosmia. Must have 3 of the 4.
2. Nasal steroids at least 30 days
3. 1 to 3 rounds of antibiotics
4. OTC meds (antihistamines)
5. Nasal rinse

TREATMENT



Acute Rhinosinusitis: “self-limiting”

Antibiotics: Augmentin...etc

Allergy Meds

Steroids: intranasal / oral

Nasal saline: spray / gel/ irrigation

Decongestants: spray / oral

Steam vapors / humidifiers

Recurrent Acute Rhinosinusitis: Search for underlying conditions, CT is very helpful

TREATMENT

Chronic Rhinosinusitis

- Augmentin, use culture driven treatment
- Intranasal corticosteroids
- Nasal saline irrigations
- Surgery is not considered in patients that have not failed two prolonged courses of broad-spectrum antibiotics
- Sinuplasty**
- Implants**
- Biologics**

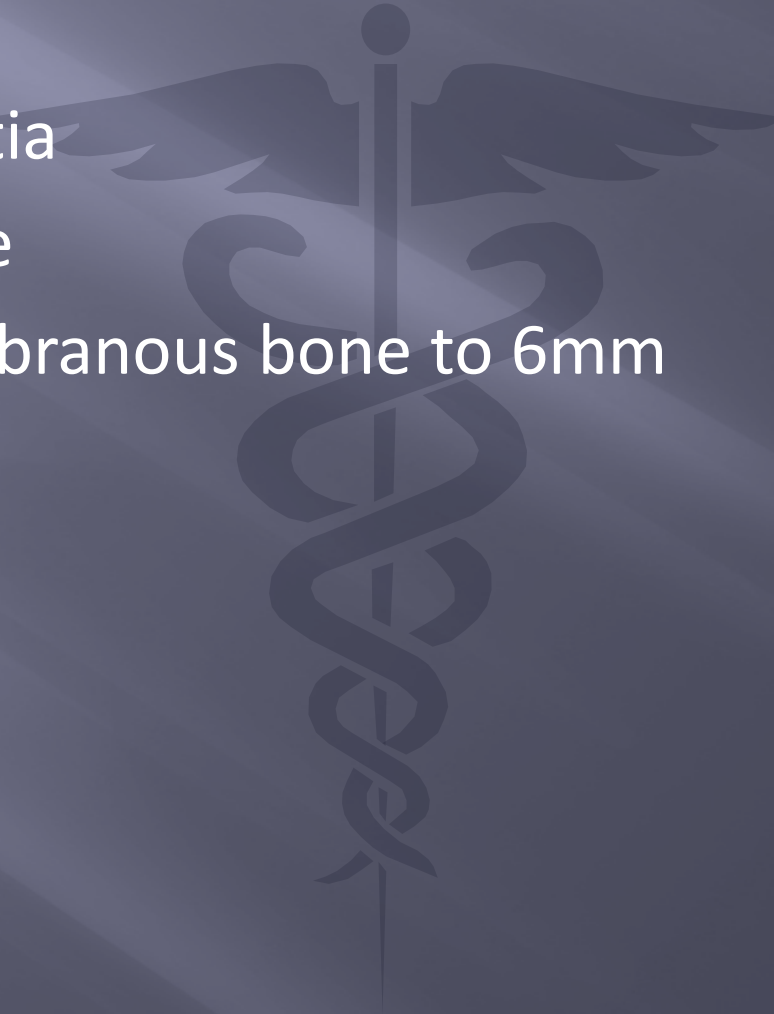
TREATMENT

Sinuplasty

- Approved via the FDA 2005
- Considered extremely effective in reducing symptoms of CRS
- Fully covered by medical insurance

SINUPLASTY

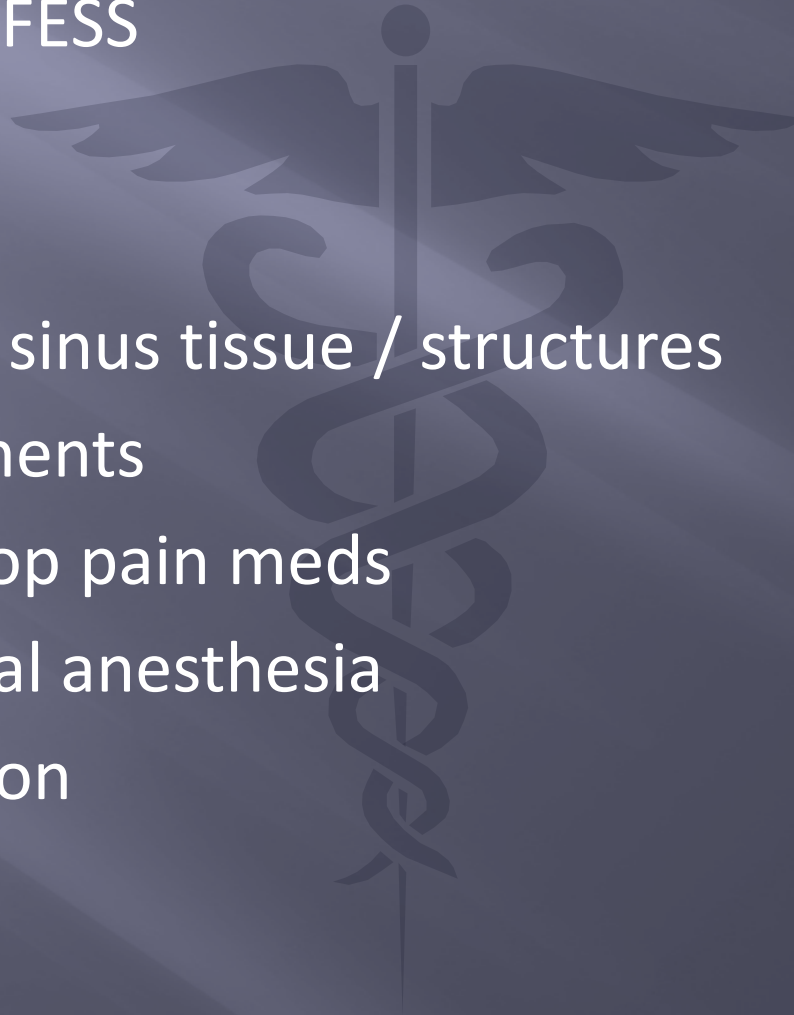
- Works by dilating the ostia
- Can be done in the office
- Microfractures the membranous bone to 6mm

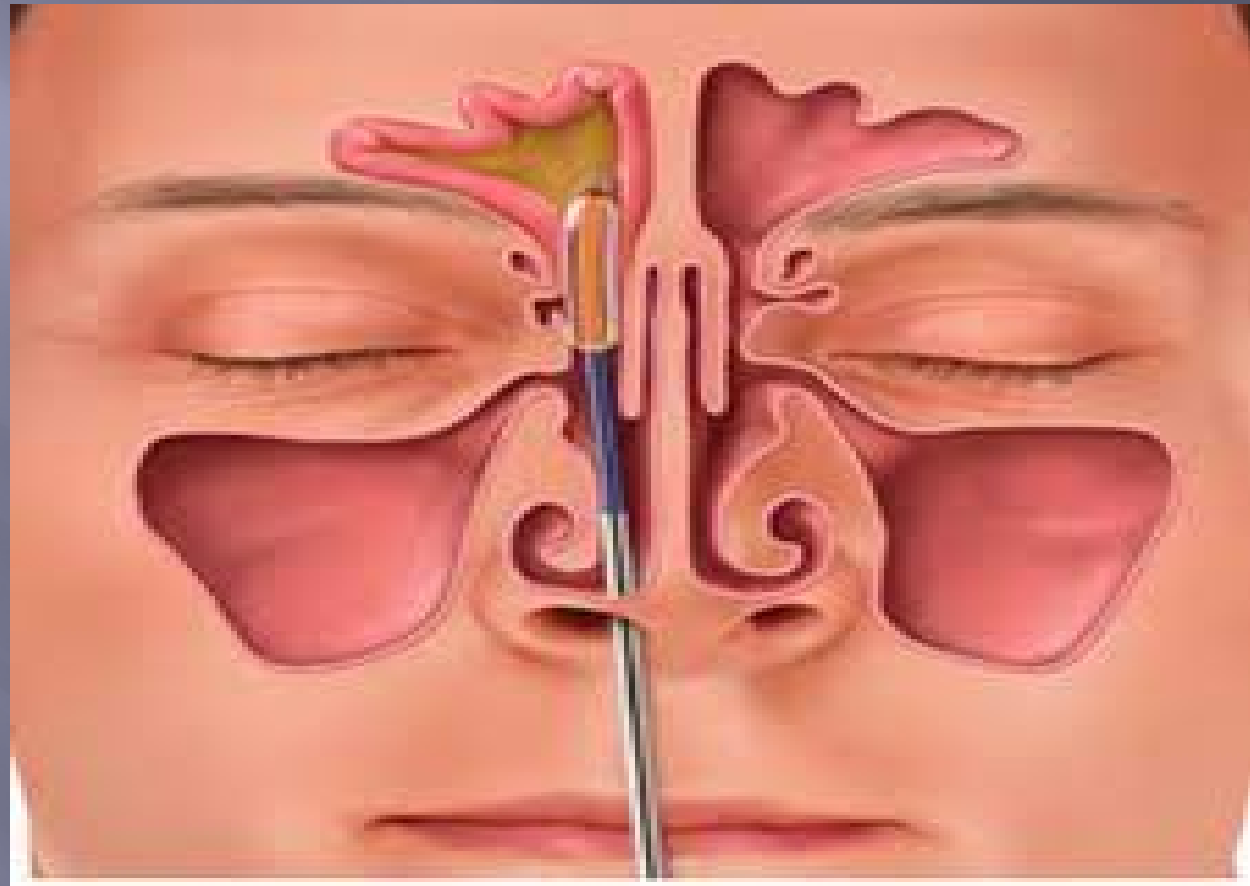


SINUPLASTY

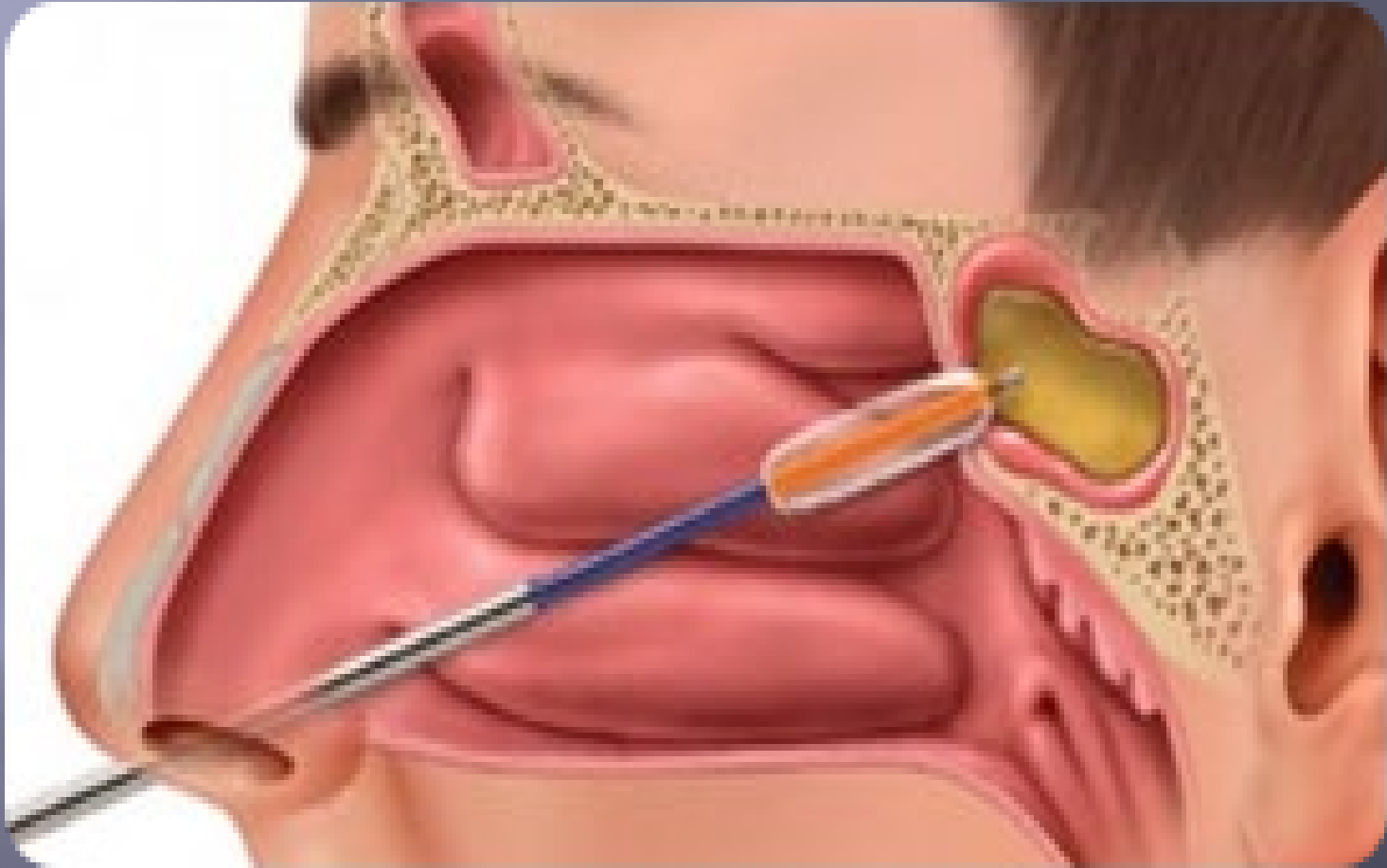
Benefits over traditional FESS

- Lower risk of bleeding
- Faster recovery time
- No intended damage to sinus tissue / structures
- Fewer post op appointments
- Reduced need for post-op pain meds
- Reduces need for general anesthesia
- Reduced post-op infection
- Reduced risk of scarring





yes





Medtronic

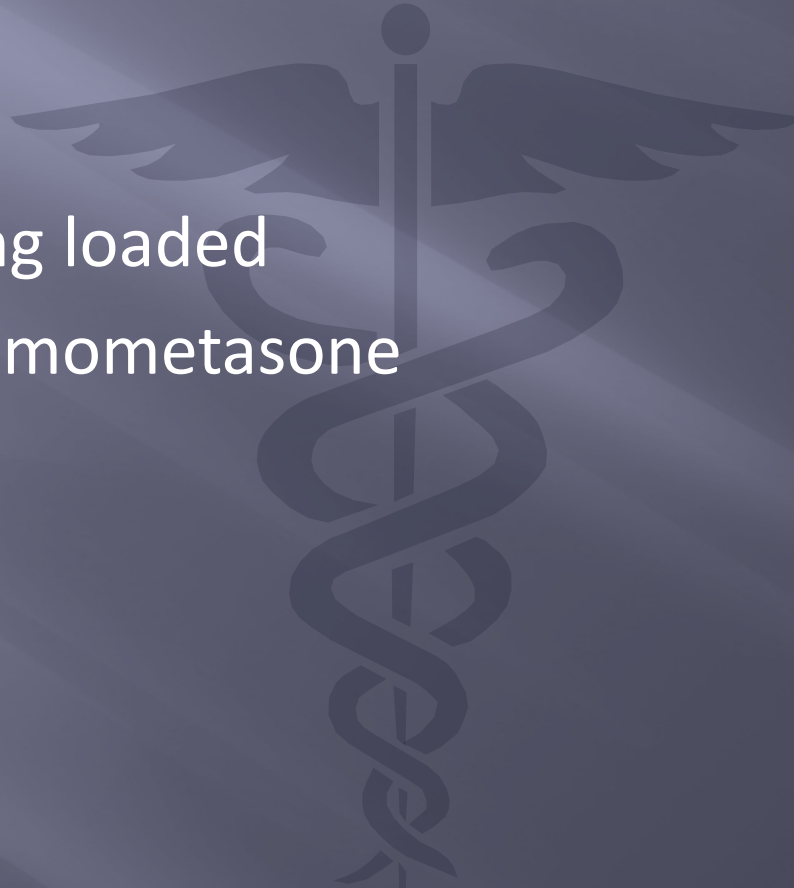
TREATMENT

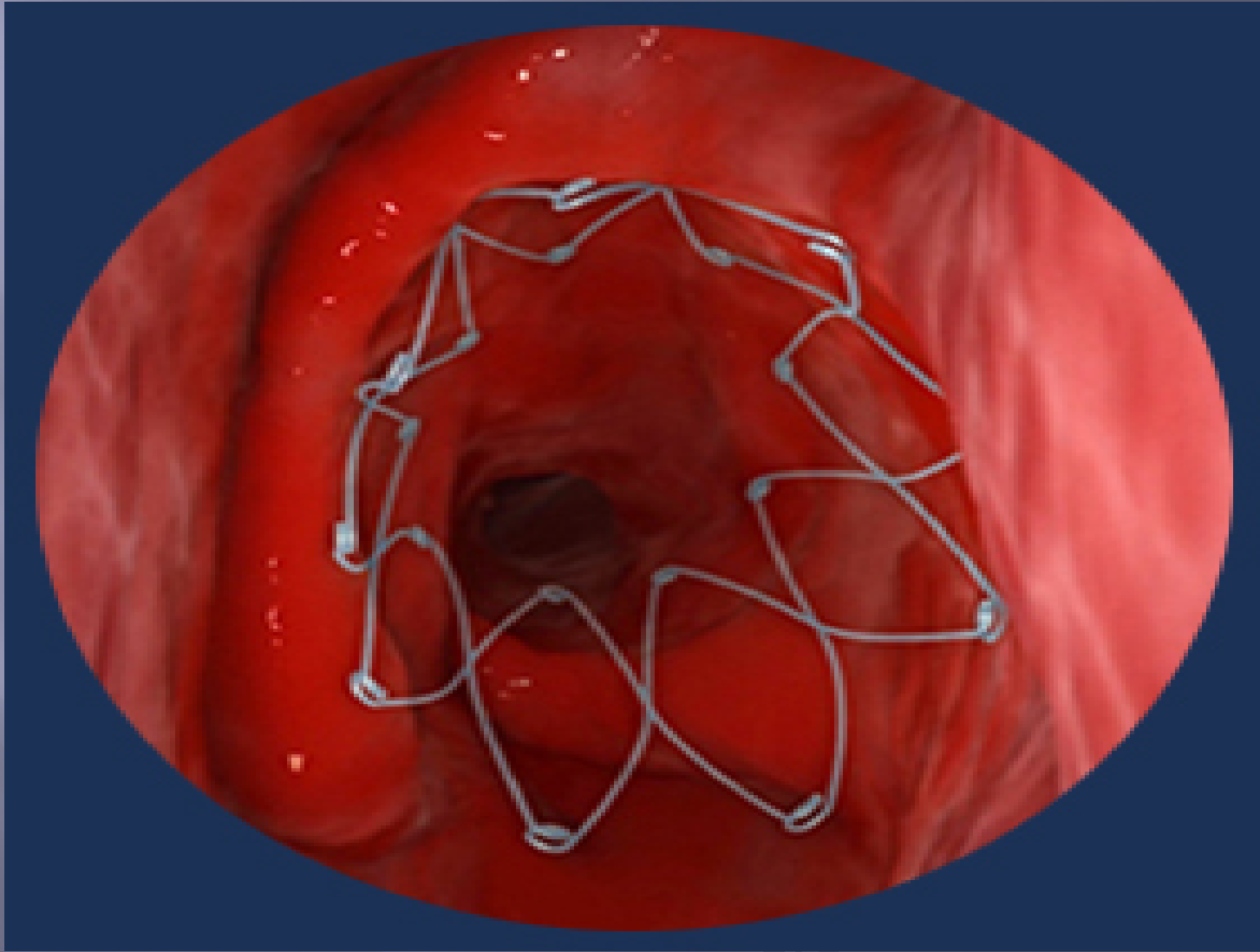
Implants

Mechanically spring loaded

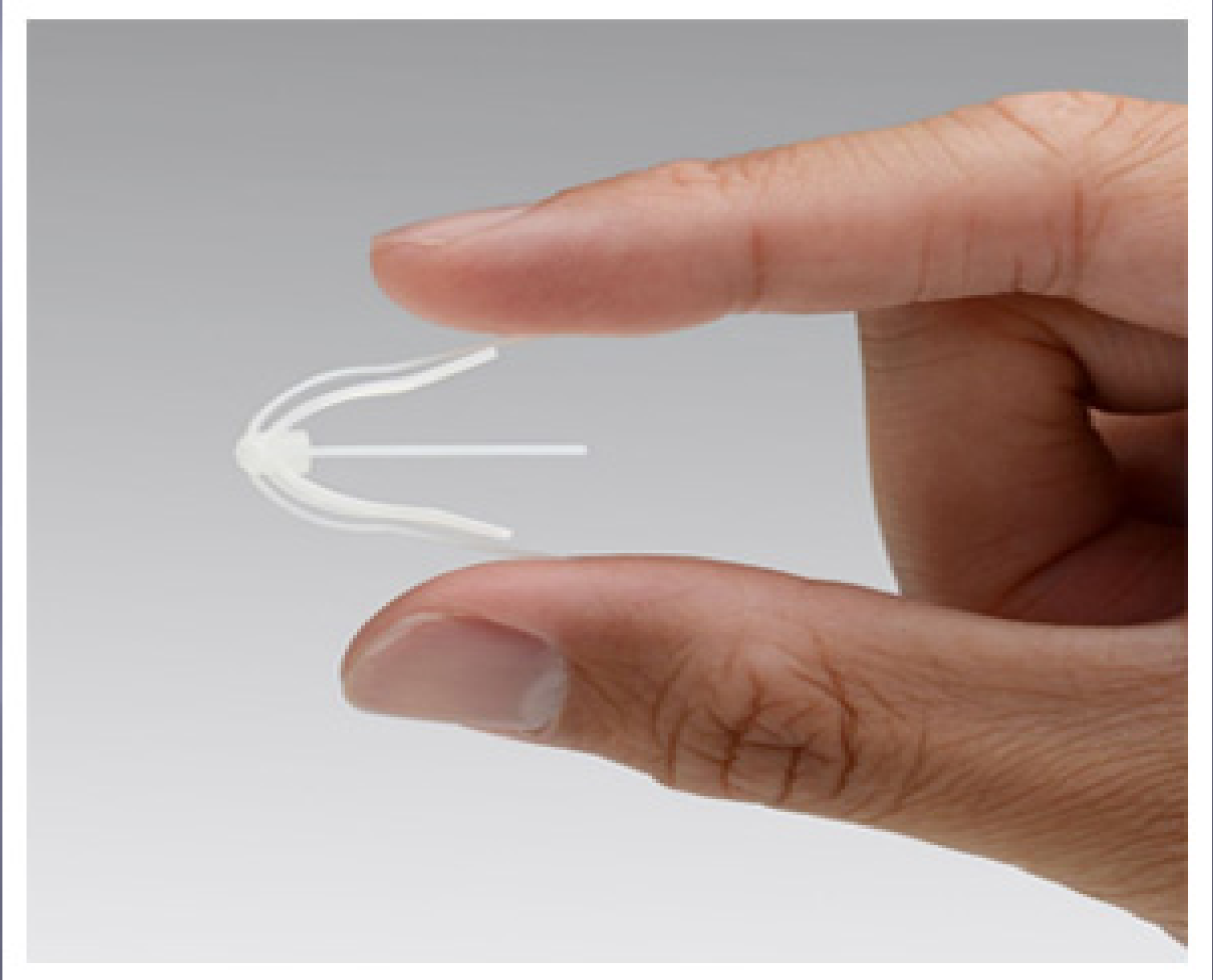
Impregnated with mometasone

Dissolvable







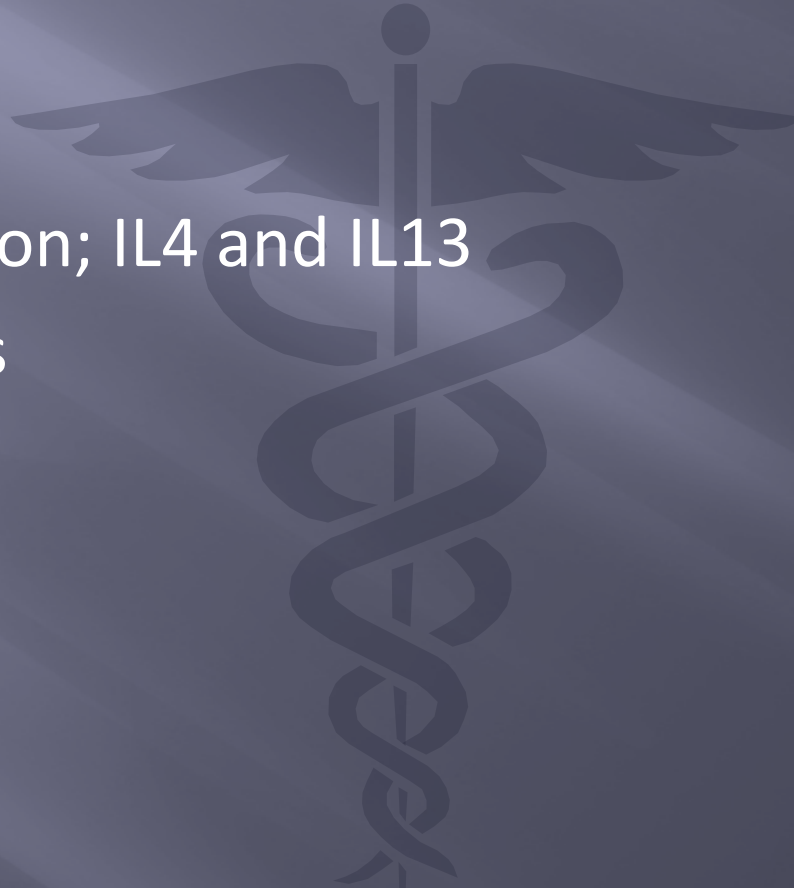


BIOLOGICS

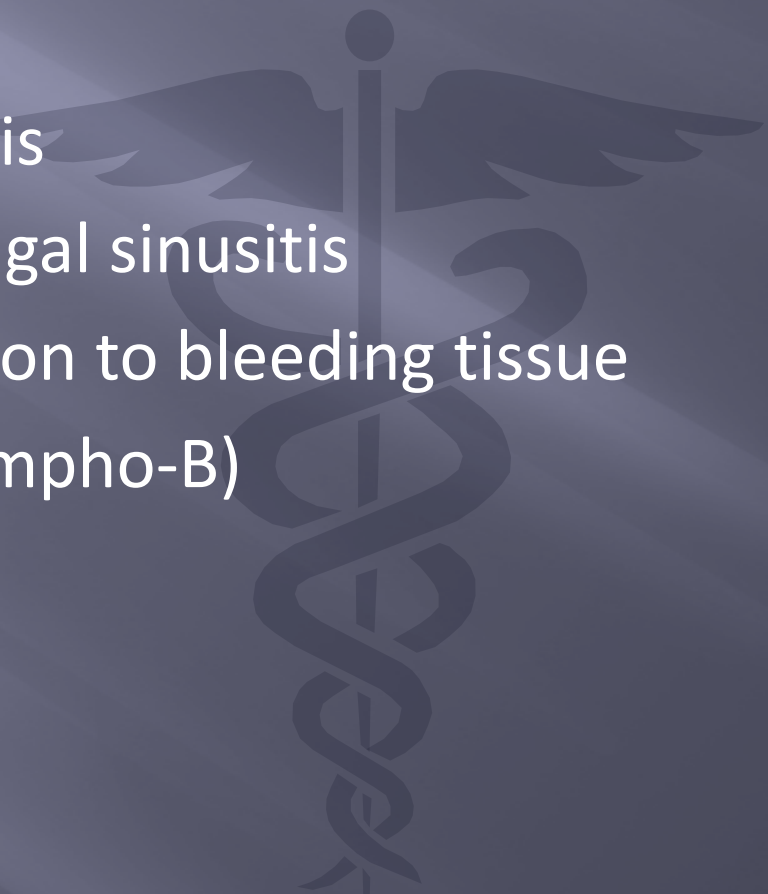
Dupilumab(Dupixent)

Blocks type 2 inflammation; IL4 and IL13

300mg SQ every 2 weeks



TREATMENT

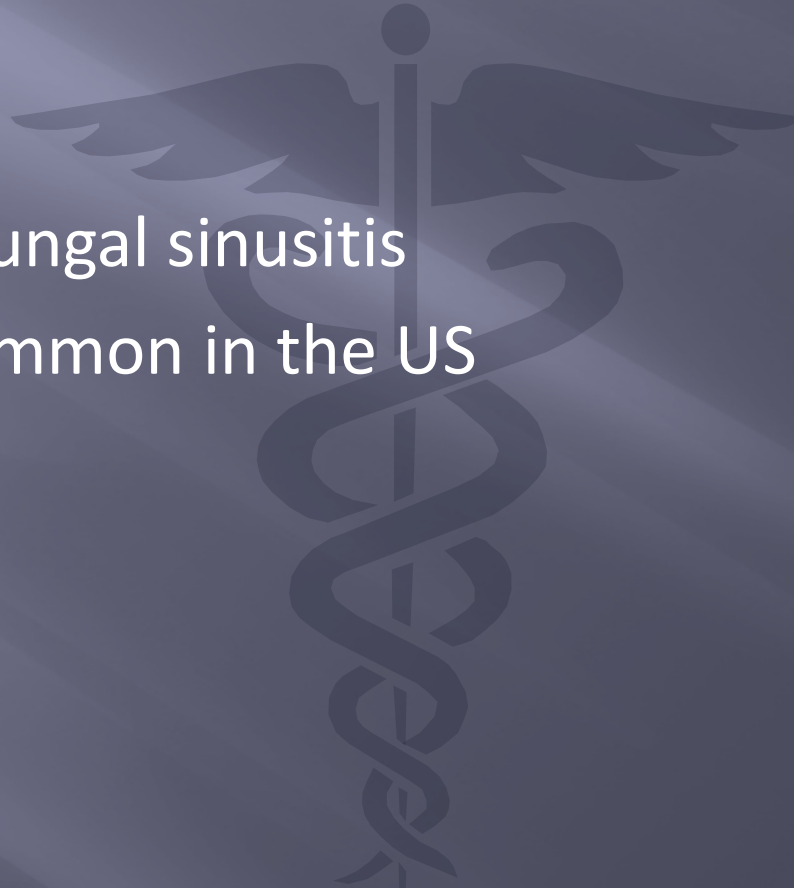
1. Invasive Fungal Sinusitis
 2. Fulminant invasive fungal sinusitis
 3. 1. Surgery with resection to bleeding tissue
 4. 2. Antifungal drugs (Ampho-B)
 5. 3. Hyperbarric Oxygen
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TREATMENT

Fungal sinusitis

Chronic indolent fungal sinusitis

1. Extremely uncommon in the US



TREATMENT

Fungal Treatment

Fungus ball are treated with surgery



TREATMENT

Fungal treatment

Allergic fungal sinusitis is complex!!

1. Surgery
2. Oral steroids
3. Topical steroids
4. Nasal irrigations
5. Oral antifungals??

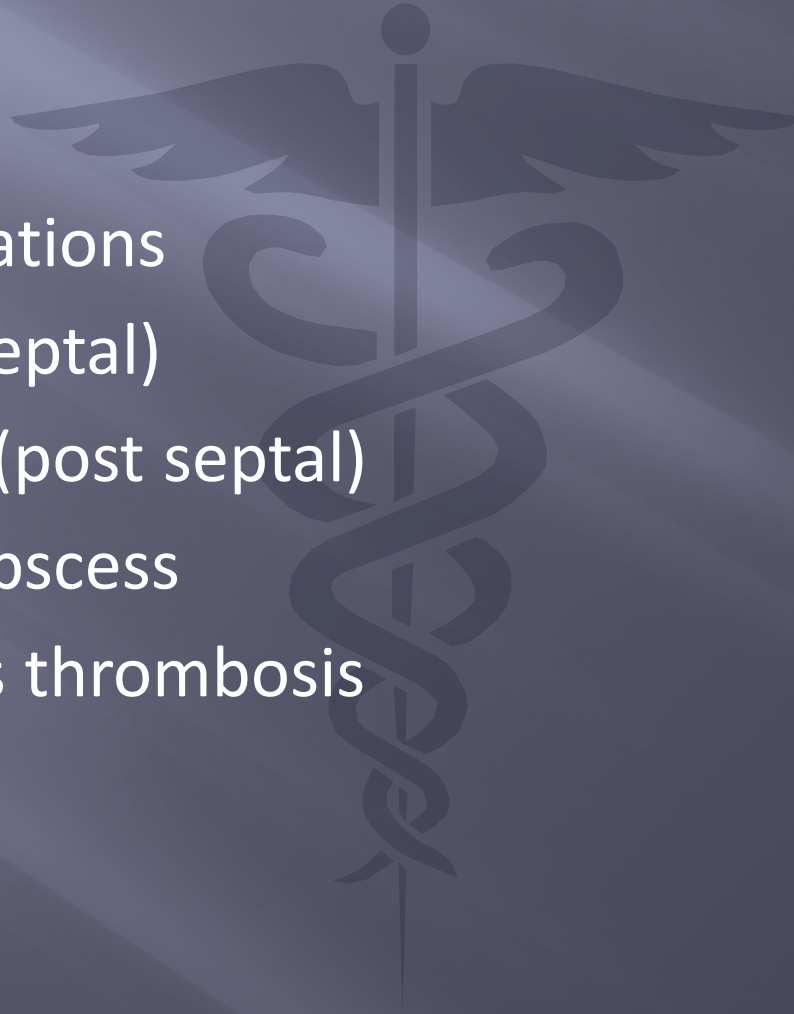


COMPLICATIONS

Orbital

Chandler classifications

1. Periorbital(preseptal)
2. Orbital cellulitis(post septal)
3. Subperiosteal abscess
4. Cavernous sinus thrombosis



COMPLICATIONS

Intracranial

1. Epidural abscess
2. Subdural abscess
3. Brain abscess
4. Meningitis





Questions?