

## Chapter 23 – Sore Throat

### Episode overview:

- 1) List 8 Emergent Diagnoses for the chief complaint of sore throat
- 2) List the most common viral, bacterial, and non-infectious causes of sore throat
  - List at least 8
- 3) Describe the modified Centor Criteria and their use

### Wisecracks

- 1) Describe the pros and cons of antibiotics for suspected or confirmed acute GAS pharyngitis (see Rosen's page 202)
- 2) Other than Group B Strep, name 6 agents causing exudative pharyngitis

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### Rosen's in Perspective

#### Relevant Anatomy

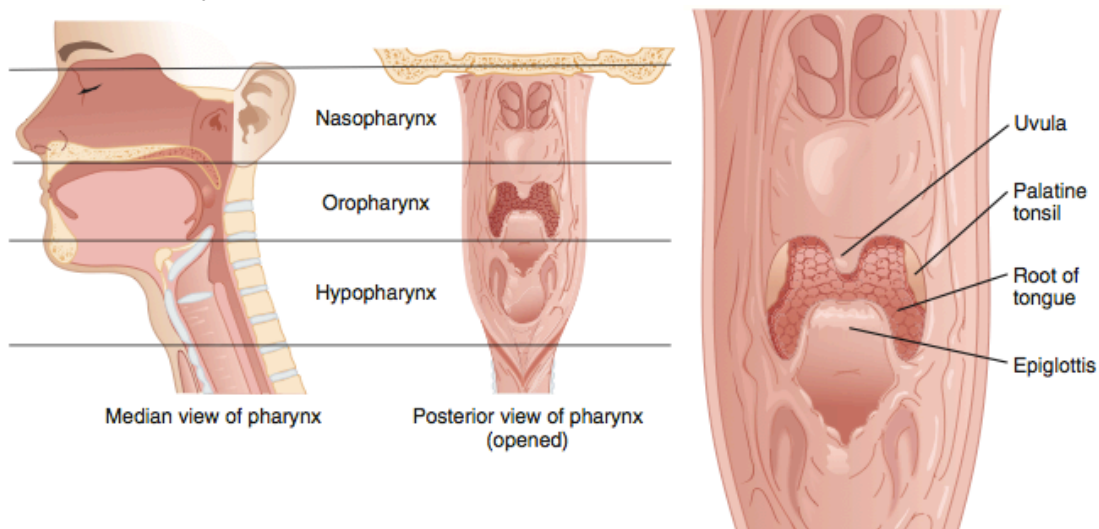
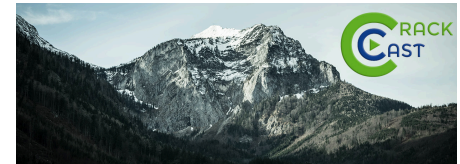


Figure 23-1. Anatomy of the nasopharynx, oropharynx, and hypopharynx.

One of the most common chief complaints in the ED, sore throat or *pharyngitis* is caused by **inflammation of the pharynx** (at any level).



## 1) List 8 **Emergent** Diagnosis for Sore Throat

Diseases not to miss:

1. **Epiglottitis**
2. **Bacterial tracheitis**
3. **Ludwig's angina**
4. **Gonorrhoea**
5. **Foreign body**
6. **Angioedema**
7. **Peri-tonsillar abscess**
8. **Retro-pharyngeal abscess**
9. Primary HIV
10. Corynebacterium Diphtheriae
11. Epstein barr virus
12. Cancer
13. Herpes Simplex

## 2) List the most common viral, bacterial, and non-infectious causes of sore throat (list at least 8)

**Viral** – The *most common* cause of acute pharyngitis

- **Rhinovirus**
- **Adenovirus**
- **HSV 1&2**
- **EBV**
- Influenza
- CMV
- Varicella-zoster virus
- Hepatitis virus

### **Bacterial**

- **Group A Beta-Hemolytic streptococcus**
- **Non-group A streptococcus**
- **Neisseria gonorrhoeae**
- **Neisseria meningitidis**
- Mycoplasma pneumoniae
- Chlamydia trachomatis
- Corynebacterium diphtheriae
- H. influenzae

### **Non-infectious causes:**

#### **Systemic Diseases**

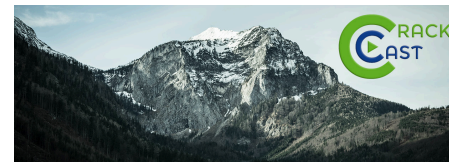
- Kawasaki's disease
- SJS
- Cyclic neutropenia
- Thyroiditis

#### **Trauma**

- Retained foreign body
- Laryngeal fracture
- Hematoma
- Caustic exposure
- Post-tonsillectomy eschar

#### **Tumours**

- Tongue
- Larynx
- Thyroid
- etc.



### 3) Describe the Centor Criteria and their use

Lets take a step back and talk about the airway red flags when it comes to sore throats:

- Rapidly progressive symptoms
- Unwell, restless, distressed
- Hypoxia
- Drooling
- Muffled voice (supraglottic threat)
- Stridor (means glottic problem - common in children <10 with croup)
- Dehydration and systemic toxicity
- "Brawny" induration on the floor of the mouth
- Direct visualization paramount
- Trismus vs. bilateral tonsillar exudates vs. uvular deviation vs. signs of PTA

See: <http://www.mdcalc.com/modified-centor-score-for-strep-pharyngitis/>

#### Viral vs. Bacterial Differentiation

##### Modified Centor Criteria

Feature	Score
History of fever	+1
Tonsillar exudates	+1
Tender anterior cervical adenopathy	+1
Absence of cough	+1
Age <15 add 1 point	+1
Age >44 subtract 1 point	-1

##### Modified CENTOR criteria scoring

If  $\geq 4$  points on the scale...

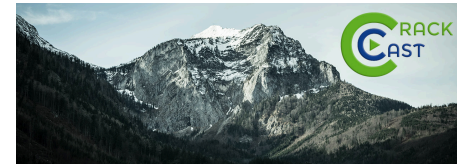
... only 51% Group A strep infection (not good)

- All USED to get antibiotics

#### From MDcalc Description

*"The Modified Centor Criteria (or Mclsaac Score) correlate directly with risk of positive throat culture for GAS."*

- *The "Modified" criteria include an age component, along with "tonsillar swelling" as part of the rule. GAS is incredibly rare in patients under 3 and less common in older adults, so this can help risk stratify patients for clinicians.*
- *Most cases of pharyngitis are viral in origin, and with the rare incidence of rheumatic fever, along with the questionable benefits of early antibiotics to prevent sequelae like peritonsillar abscess, antibiotics are prescribed much less often. Steroids (like dexamethasone) and NSAIDS often provide similar pain relief and resolution of symptoms to antibiotics.*



## Wisecracks

### 1) Describe the pros and cons of antibiotics for suspected or confirmed acute GAS pharyngitis

- See rosen's page 202

**Antibiotics:** Only reduce GAS symptoms by 16 hours.

*From Rosen's Page 202*

- Only gonococcal disease should be treated with antibiotics
- Antibiotics only useful in reducing rheumatic fever during one military epidemic in the 20th century, and the decline of rheumatic fever is due to industrialization, hygiene, living conditions, access to care, and nutrition. Therefore they ought only to be used in endemic or epidemic settings.
- Antibiotics do NOT reduce the incidence of suppurative complications from sore throat (e.g. peritonsillar abscess)
- Key to management is thorough patient education and explanation of:
  - The natural disease course of infectious pharyngitis
  - Encourage symptomatic treatment (NSAIDs and steroids)
  - **Antibiotic risks:** anaphylaxis, resistance, n/v/d, rash

**Some debate the safety of the no “antibiotic approach” but:**

*“However, the signs and symptoms of streptococcal and non-streptococcal pharyngitis overlap too broadly for diagnosis to be made with the requisite diagnostic precision on the basis of clinical grounds alone. Even subjects with all clinical features in a particular scoring system can be confirmed to have streptococcal pharyngitis only about 35%–50% of the time, and this is particularly the case in children. The clinical diagnosis of GAS pharyngitis cannot be made with certainty even by the most experienced physicians, and bacteriologic confirmation is required.” - IDSA Guidelines 2012*

Read more about this here:

[http://www.idsociety.org/uploadedFiles/IDSA/Guidelines-Patient\\_Care/PDF\\_Library/2012%20Strep%20Guideline.pdf](http://www.idsociety.org/uploadedFiles/IDSA/Guidelines-Patient_Care/PDF_Library/2012%20Strep%20Guideline.pdf)

### 2) Other than Group B strep, name 6 agents causing exudative tonsillopharyngitis

1. Group A Streptococcus
  - a. Non-group A strep
2. Neisseria gonorrhoea
3. EBV / Mono
4. Haemophilus influenzae
5. Corynebacterium diphtheriae
6. Candida species (?HIV infection)
7. Mycoplasma pneumoniae
8. Chlamydia trachomatis
9. Staph aureus
10. Strep. pneumoniae
11. Necrotizing tumour
12. Post tonsillectomy eschar!