

# Pharyngitis Syndromes Including Group A Strep

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8/5/2025

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## Disclosures of Financial Relationships with Relevant Commercial Interests

- None

Special Thanks to Dr. Bennett Lorber!



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## Think Like A Realtor

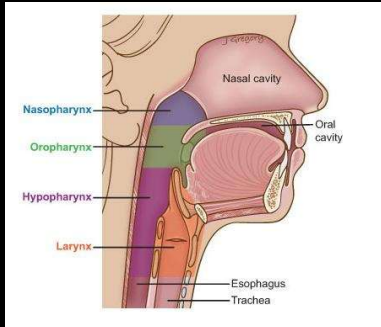


Location  
Location  
Location

PROPERTY BROTHERS

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## Pharyngitis



- Micro-neighborhoods
- Regional differences

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## Question #1

38-year-old female presents with a 1 day of sore throat and fever.

Childhood history of anaphylaxis to penicillin.

Physical exam

T=102.3

HEENT-tonsillar erythema & petechiae

Neck-Tender bilateral anterior LAN

Labs:

Rapid strep antigen test **negative**



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## Question #1

**What is the most appropriate antibiotic treatment?**

- A. Cephalexin
- B. None
- C. Doxycycline
- D. Clindamycin
- E. Levofloxacin

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## Group A streptococcus

- AKA *Streptococcus pyogenes*
- 5-15% sore throats in adults
- Usually **self-limited** infection in adults (even untreated)



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## Differentiating Pharyngitis

### GAS

- Sudden onset
- Fever
- Lymphadenopathy
- Exposure to contact with streptococcal pharyngitis

### Viral pharyngitis

- The 3 C's
  - Conjunctivitis
  - Coryza
  - Cough
- Other symptoms
  - Diarrhea
  - Ulcerative stomatitis
  - Hoarseness

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## Differentiating Pharyngitis

**GAS**



vs

**Viral pharyngitis**



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## How Specific are Clinical Findings?

Modified CENTOR score

- Can't cough
- Exudate
- Nodes
- Temperature
- OR age <15 yr (+1) or >44 years (-1)

Points	Strep probability
0 or 1	< 10%
2	11 -17%
3	28 -35%
4 or 5	35-50%

IDSA guidelines recommend antibiotics only following a positive RADT testing.

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## Streptococcal Clues

- Palatal petechia
- Scarletina



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## Laboratory Diagnosis

- Adults:
  - RADT screen, if negative, culture optional
- ASO titer or Anti-DNAse B antibodies
  - helpful in diagnosis of rheumatic fever and post-streptococcal glomerulonephritis, but not for strep pharyngitis.

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## Treatment for GAS Pharyngitis

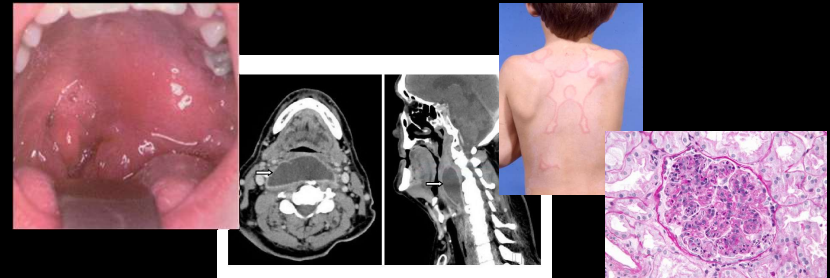
- First line:
  - Oral Penicillin or amoxicillin x **10** days
- PCN Allergic:
  - cephalosporin, clindamycin, macrolides (+/-)
  - Not recommended: tetracyclines, sulfonamides, fluoroquinolones



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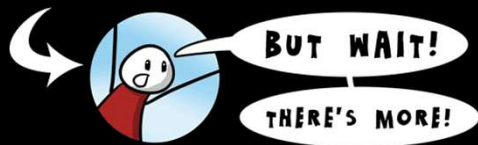
## Secondary Complications

- Infectious complications
- Immunologic complications



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## Pharyngitis and....



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## Pharyngitis & Rash

- Young adult with fever, sore throat, tonsillar exudate, scarletinoform rash BUT...**Negative RADT and culture**

### ***Arcanobacterium haemolyticum***

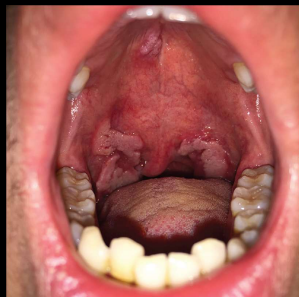
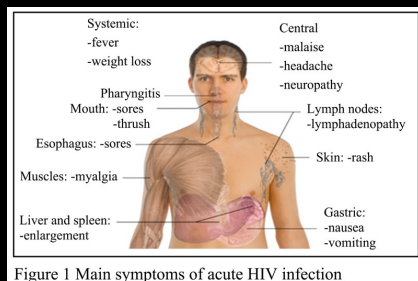
- Gram positive rod
- Rash in >50%, mimics strep
- Rarely life-threatening sequelae



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## Pharyngitis & Rash

- Acute HIV
- Secondary syphilis



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## Pharyngitis after Receptive Oral Intercourse

### *Neisseria gonorrhoeae*

### Herpes simplex virus

- Highest risk MSM
- Diagnose by nucleic acid amplification test of pharyngeal swab



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## Pharyngitis & Conjunctivitis

- College freshman with sore throat, fever, and conjunctivitis.
- Roommate and 3 others in her dorm with similar syndrome

### Adenovirus



Epidemics in group living situations—barracks, dorms, camps, etc

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## Pharyngitis and Vesicles

- 35 yo man with sore throat, low grade fever, and lesions on palms & soles. His 3 yo son is sick with a similar illness.

### Hand, Foot, and Mouth disease



- Caused by enteroviruses (most common Coxsackie virus)
- More common in kids (often serve as vector)

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## Oral Lesions Due to Mpox

- Oral lesions often pre-date skin findings
- Seen in up to 25% of cases of mpox



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## Question #2

- A 62-year-old man presents with 24hr of fever and odynophagia
- He works at a vineyard in Napa Valley and last week participated in the grape harvest. He admits to sampling the grape must.
- His cat recently had kittens



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## Question #2

- PE:  
Ill appearing,  
T=102.4, HR=122, BP=97/52  
left tonsil swollen and erythematous  
Left suppurative lymph node tender to palpation



CMAJ 2014;186:E62

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## Question #2

What is the most likely cause of this patient's illness?

- Toxoplasmosis
- Bartonellosis (Cat Scratch Fever)
- Tularemia
- Epstein Barr virus
- Scrofula (mycobacterial lymphadenitis)

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## Oropharyngeal Tularemia

- Uncommon in the US
- Transmission through ingestion (or rarely inhalation)
  - Inadequately cooked game
  - Contaminated water
  - Rodent contamination
- Exudative tonsillitis, **suppurative LAN**
- Treatment: streptomycin, doxycycline or quinolone



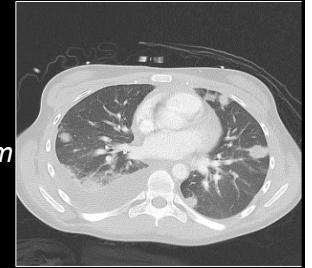
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## Pharyngitis and Chest Pain

- 20 yo college student with sore throat and fever. Despite oral amoxicillin, he develops new onset of cough and pleuritic CP; CT below

### Lemierre syndrome

- Septic phlebitis of internal jugular vein
- Often follows GAS pharyngitis or mono (EBV)
- Classic cause is *Fusobacterium necrophorum*
- Causes septic pulmonary emboli



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## Pharyngitis in Immunocompromised Patients

- 69yo man on infliximab presents with 2 months of painful oral ulcer and 20 lb wt loss

### Oropharyngeal Histoplasmosis

- Can mimic oral malignancy
- Denotes disseminated disease



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## Extra-Tonsillar Infections: 1

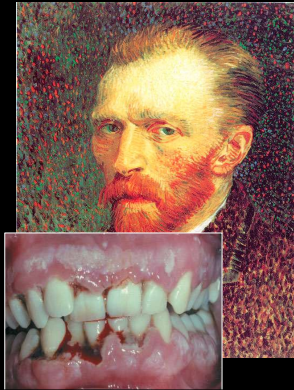
- Epiglottitis
  - Fever, sore throat
  - Hoarseness, drooling, muffled voice, stridor
  - Examine with care!
  - Lateral neck x-ray: Thumb sign
  - *H. influenzae* type B, pneumococcus



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## Extra-Tonsillar Infections: 2

- Vincent Angina
  - AKA Trench mouth
  - AKA acute necrotizing ulcerative gingivitis
  - Bad breath (mixed anaerobes)
  - Painful
  - Sloughing of gingiva



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## Extra-Tonsillar Infections: 3

- Ludwig Angina
  - Cellulitis of floor of the mouth
  - Often starts with infected molar
  - Rapid spread with potential for airway obstruction
  - Fevers, chills, drooling, dysphagia, muffled voice, **woody induration of neck**
  - Mixed oral organisms



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### Question #3

PREVIEW QUESTION

IDBR  
INFECTIOUS  
DISEASE  
BOARD REVIEW  
2025



- A 32-year-old woman is seen for a bad sore throat for 4 days
- Recently returned from her sister's wedding in Kazakhstan
- She c/o odynophagia and a low-grade fever
- T 100.2F; P 126; BP 118/74.
- HEENT: Submandibular swelling with gray exudate coating posterior pharynx. An S3 gallop is heard.
- EKG shows 1<sup>st</sup> degree AV nodal block, QT prolongation, and ST-T wave changes.



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### Question #3

PREVIEW QUESTION

IDBR  
INFECTIOUS  
DISEASE  
BOARD REVIEW  
2025



**What is the most likely diagnosis?**

- Streptococcal pharyngitis
- Kawasaki disease
- Vincent angina
- Diphtheria
- Candida

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## Buzz Words and Visual Associations

Bull neck:



**Grey pseudomembrane:** extends onto palate or uvula; bleeds when scraped



## Other Clues

- Location, location, location
  - Almost unheard of in developed countries (vaccination works!)
- Sore throat and myocarditis (~25%).
- Sore throat and neuropathies (~5%).
- Sore throat and cutaneous ulcer



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## Noninfectious Mimics

- PFAPA (periodic fever, aphthous stomatitis, pharyngitis, and adenitis)
- Still's disease
- Lymphoma
- Kawasaki disease
- Behçet disease



THANK  
YOU!

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