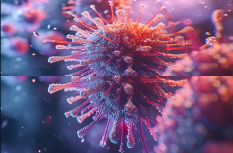



39 Pharyngitis Syndromes and Group A Strep
Speaker: Karen C. Bloch, MD, MPH, FIDSA, FACP



Pharyngitis Syndromes Including Group A Strep

Karen C. Bloch, MD, MPH, FIDSA, FACP
Professor, Division of Infectious Diseases
Vanderbilt University Medical Center

7/11/2025

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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

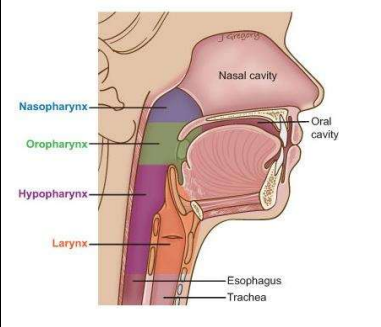


Location
Location
Location

PROPERTY BROTHERS

3

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



Viral pharyngitis



vs

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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

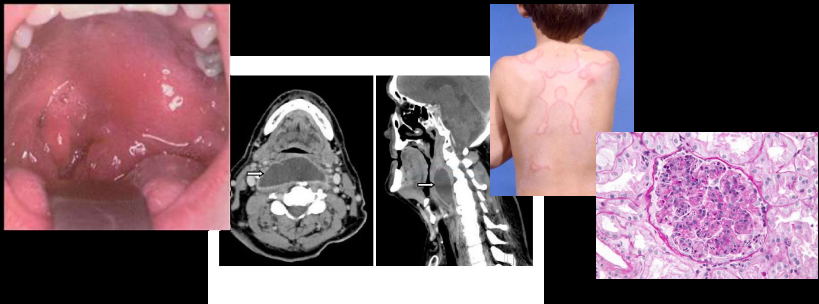
- First line:
 - Oral Penicillin or amoxicillin x **10** days
- PCN Allergic:
- cephalosporin, clindamycin, macrolides (+/-)
 - Not recommended: tetracyclines, sulfonamides, fluoroquinolones



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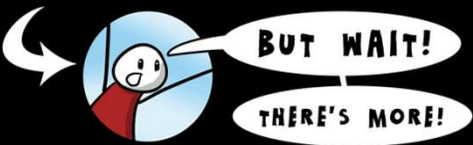
Secondary Complications

- 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

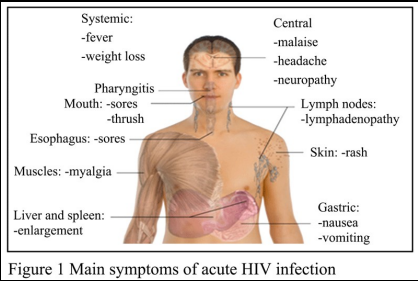


Figure 1 Main symptoms of acute HIV infection



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Pharyngitis after Receptive Oral Intercourse

Neisseria gonorrhoeae

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

Herpes simplex virus

- H
- U
- T
- L
- V



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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?

- A. Toxoplasmosis
- B. Bartonellosis (Cat Scratch Fever)
- C. Tularemia
- D. Epstein Barr virus
- E. Scrofula (mycobacterial lymphadenitis)

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Question #2

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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



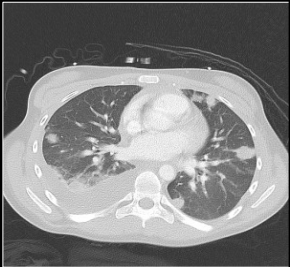
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Pharyngitis and Chest Pain

- 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

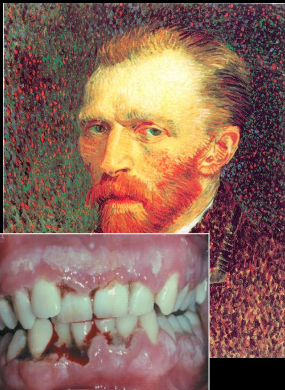
- Epiglottitis
 - Fever, sore throat
 - Hoarseness, drooling, muffled voice, stridor
 - Examine with care!
 - Lateral neck x-ray: Thumb sign
 - *H. influenzae* type B, pneumococcus



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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

2025
IDSA
INFECTIOUS
DISEASE
BOARD REVIEW



- 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 1st degree AV nodal block, QT prolongation, and ST-T wave changes.



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Question #3

PREVIEW QUESTION

2025
IDSA
INFECTIOUS
DISEASE
BOARD REVIEW



What is the most likely diagnosis?

- A. Streptococcal pharyngitis
- B. Kawasaki disease
- C. Vincent angina
- D. Diphtheria
- E. Candida

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Question #3

PREVIEW QUESTION

2025
IDSA
INFECTIOUS
DISEASE
BOARD REVIEW



What is the most likely diagnosis?

- A. Streptococcal pharyngitis
- B. Kawasaki disease
- C. Vincent angina
- D. Diphtheria**
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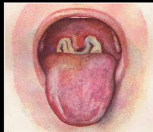
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Buzz Words and Visual Associations

Bull neck:



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



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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



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