Pharyngitis Syndromes Including Group A Strep

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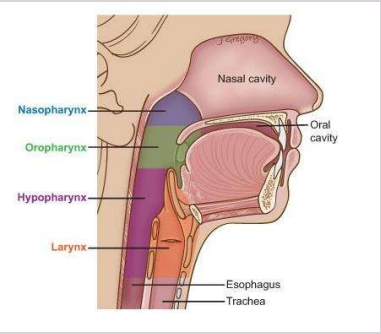
8/6/2026

Disclosures of Financial Relationships with Relevant Commercial Interests

- None

Think Like A Realtor

Pharyngitis



- Micro-neighborhoods
- Regional differences

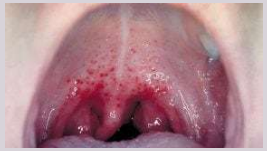
SEE ENLARGED SLIDE FOLLOWING ENTIRE PRESENTATION

42 Pharyngitis Syndromes Including Group A Strep Pharyngitis

Speaker: Karen Bloch, MD, MPH

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**



Question #1

What is the most appropriate antibiotic treatment?

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

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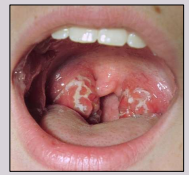
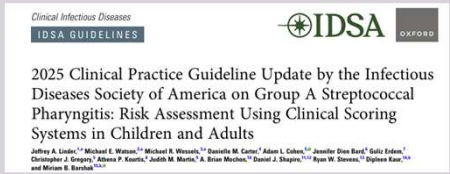
Group A streptococcus



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

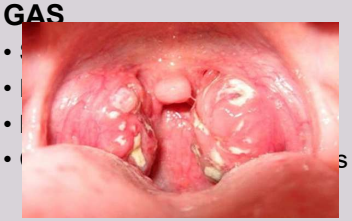

Clinical Infectious Diseases
IDSA GUIDELINES
IDSA
OXFORD

2025 Clinical Practice Guideline Update by the Infectious Diseases Society of America on Group A Streptococcal Pharyngitis: Risk Assessment Using Clinical Scoring Systems in Children and Adults

Jeffrey A. Linder,[1,a] Michael E. Watson,[2,a] Michael R. Wessels,[3,a] Danielle M. Carter,[4] Adam L. Cohen,[5,6] Jennifer Dien Bard,[7] Güliz Erdem,[7] Christopher J. Gregory,[8] Athena P. Kourtis,[9] Judith M. Martin,[4] A. Brian Mochon,[10] Daniel J. Shapiro,[11,12] Ryan W. Stevens,[13] Dipleen Kaur,[14,b] and Miriam B. Barshak[15,b,c]

Differentiating Pharyngitis

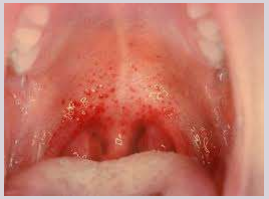
GAS

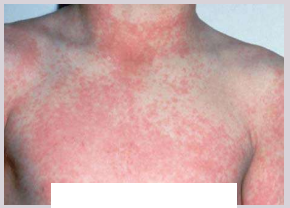


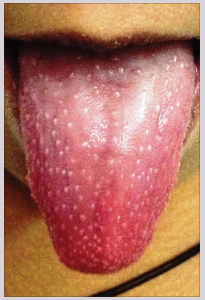
Viral Pharyngitis

- Ulcerative stomatitis
- Hoarseness

Streptococcal Clues







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%

2025 IDSA guidelines recommend:

- Clinical scoring systems are most useful in identifying low-risk patients who don't require testing
- High-risk individuals should be tested even in low scores
  - Exposure to household contact
  - Prior RF
  - Signs or symptoms of iGAS

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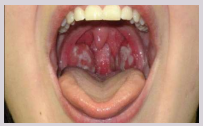
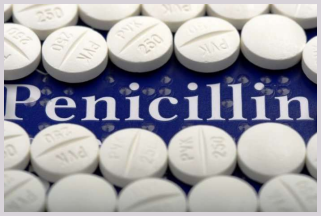
Laboratory Diagnosis

- Adults:
  - RADT: if negative, culture or NAAT if high risk or high score
  - NAAT: if negative, no culture needed
- ASO titer or Anti-DNAse B antibodies
  - helpful in diagnosis of rheumatic fever and post-streptococcal glomerulonephritis, but **not** for strep pharyngitis.



Treatment for GAS Pharyngitis

- **First Line:**
  - Oral Penicillin or amoxicillin x 10 days

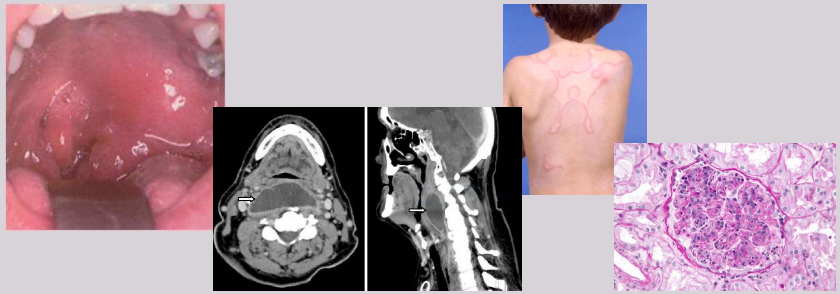


PCN Allergic:

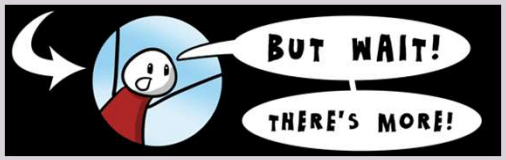
- Mild: cephalosporin (1-3rd) x 10 days or macrolides (+/-) x 3 days
- Anaphylaxis/severe:
  - Clindamycin
  - Azithromycin

Secondary Complications

- Infectious complications
- Immunologic complications



Pharyngitis and…

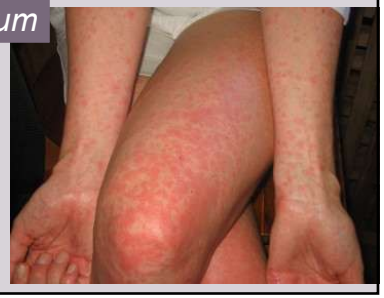


Pharyngitis & Rash

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

Arcanobacterium haemolyticum

- Gram positive rod
- Most common in adolescents
- Rash in >50%, mimics strep but does not peel
- Rarely life-threatening sequelae



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Pharyngitis & Rash

- Acute HIV

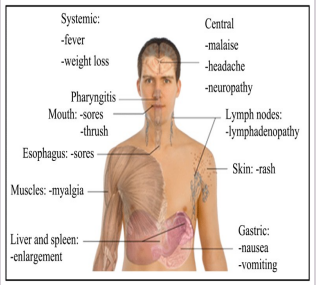
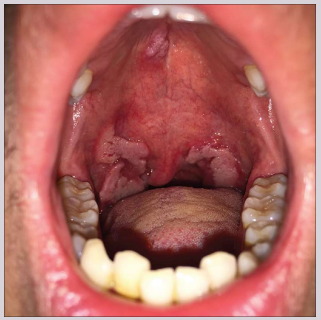


Figure 1 Main symptoms of acute HIV infection

- Secondary syphilis



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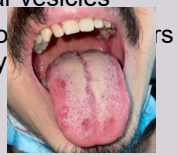
Pharyngitis after Receptive Oral Intercourse

Neisseria gonorrhoeae	Herpes Simplex Virus
• Highest risk MSM • Often asymptomatic	• HSV-1 or HSV-2 • Usually with initial infection • Tonsillar vesicles • Labial o rs variably



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Pharyngitis & Conjunctivitis

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

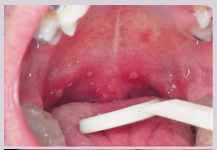
Adenovirus

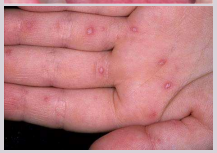
Epidemics in group living situations—barracks, dorms, camps, etc.

Pharyngitis and Vesicles

- 35-year-old man with sore throat, low grade fever, and lesions on palms & soles. His 3-year-old 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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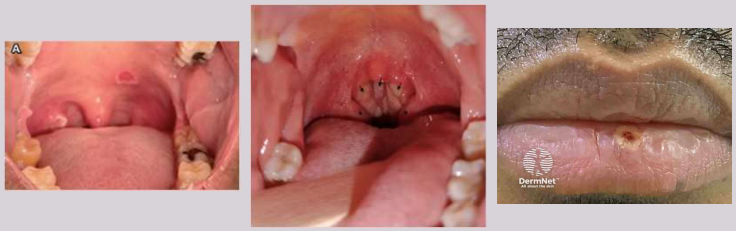
Oral Lesions Due to Mpox

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



Question #2

- A 22-year-old woman presents with 24hr of fever and odynophagia
- She works at a vineyard in Napa Valley and last week took part in the grape harvest. She admits to sampling the grape must.
- Her cat recently had kittens

Question #2

Physical Exam:

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

Tuncer, et al (2013).c. APMIS : acta pathologica, microbiologica, et immunologica Scandinavica. 122. 10.1111/apm.12132.

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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Oropharyngeal Tularemia

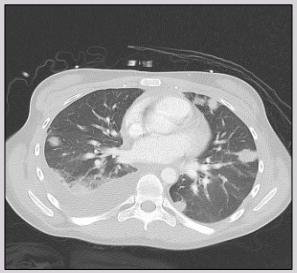
- Uncommon in the US
- Transmission through ingestion (or rarely inhalation)
  - Inadequately cooked game
  - Contaminated water
  - Rodent contamination
- Exudative tonsillitis, suppurative LAN
- Treatment: gentamicin (severe cases), quinolone, or doxycycline (if milder)

Pharyngitis and Chest Pain

- 20-year-old 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



Pharyngitis in Immunocompromised Patients

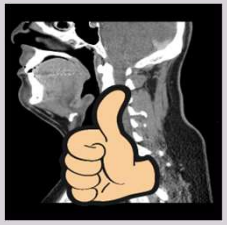
- 69-year-old man on infliximab presents with 2 months of painful oral ulcer and 20 lb. wt loss

Oropharyngeal Histoplasmosis

- Can mimic oral malignancy
- Denotes disseminated disease

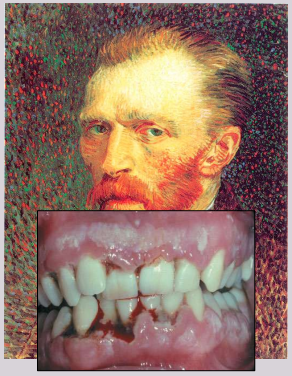
Extra-Tonsillar Infections: 1

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



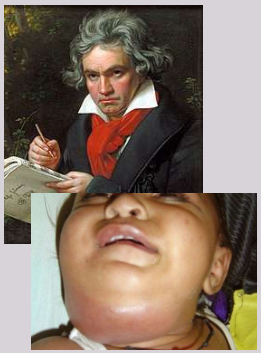
Extra-Tonsillar Infections: 2

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



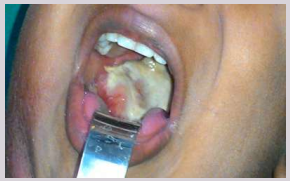
Extra-Tonsillar Infections: 3

- 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



Question #3

- 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



Question #3

What is the most likely diagnosis?

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

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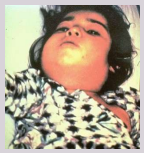
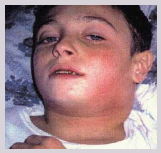
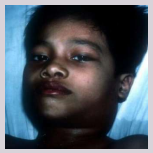
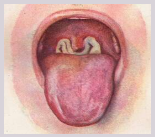
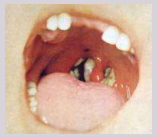
Buzz Words and Visual Associations

Bull neck:

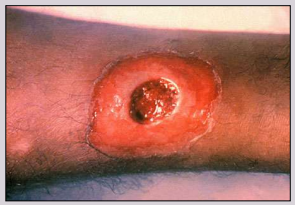




Grey pseudomembrane: extends onto palate or uvula; bleeds when scraped

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



Noninfectious Mimics

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

THANK YOU!

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