URTI

Common Cold

- Acute viral Rhinitis
- Patient Rhinorrhea 7 days or 4 fever + Patient Unwell
- Asthma
- Viral cause (Rhinovirus) #RV
- S → Rhinorrhea + Nasal obs + fever + Poor feeding + irritability + cough
- Ant. cervical lymphadenopathy + conjunctival injection
- Tx:- supportive → Nasal Saline, decongestion (Apsial)
- complications:- Acute OM; Bacterial pneumonia; Acute bacterial sinusitis; Exacerbation of Asthma


- *natural drug: oseltamivir + zanamivir in 48h in influenza virus

Sinusitis

- *Diagnosis- clinical
  - Sinus Aspirate culture
  - Sinus x-ray
  - CT (coronal)
- at birth [ethmoid, maxillary] [sphenoidal 5, frontal 7-8]
- if chronic cause CF
- Acute <30 day, Sub 1-3 m, Chronic >3m
- test:- amoxicillin clavulanate (high 90mg/kg/day) 2 doses
  - → clindamycin ± 3rd
  - → decongestion
- * Acute bacterial → DS pneumonia → Penicillin Resistance; non typeable Influenza → β lactamase; Moraxella
- * Immunosuppression → severe fungal
- * Chronic → H. influenza, α+β hemolytic strep, coagulase -ve staph

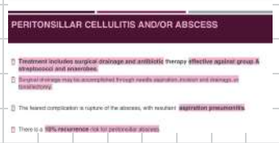
Retropharyngeal Abscess

- GA strep (Cellulitis) anaerobic, staph aureus
- MC < 3-4
- Retro > 5
- Diagnosis-
  1. Incision + drainage + culture
  2. CT
  3. soft tissue neck film → inspiration + extended neck with airway
- symptoss- Drooling, fever, neck stiffness, torticollis, Refuse to move neck
- Hot Potato Sound "Muffled", Stridor, bulge post pharyngeal wall (lat)

Lat. para Peritonsillar cellulitis Abscess

PERITONSILLAR CELLULITIS AND/OR ABSCESS

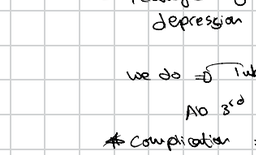
- Peritonsillar cellulitis and/or abscess is caused by bacterial invasion through the capsule of the tonsil, leading to cellulitis and/or abscess formation in the surrounding tissues.
- The typical patient with a peritonsillar abscess is an adolescent with a recent history of acute pharyngotonsillitis.
- Clinical manifestations include: sore throat, fever, trismus, and dysphagia.
- Physical examination reveals an: asymmetric tonsillar bulge with displacement of the uvula. Which is diagnostic
- CT is helpful for revealing the abscess.
- Group A streptococci and mixed oropharyngeal anaerobes are the most common pathogens.



PERITONSILLAR CELLULITIS AND/OR ABSCESS

- Treatment includes surgical drainage and antibiotic therapy effective against group A streptococci and anaerobes.
- Surgical drainage may be accomplished through needle aspiration, incision and drainage, or tonsillectomy.
- The feared complication is rupture of the abscess, with resultant aspiration pneumonitis.
- There is a 10% recurrence risk for peritonsillar abscess.

- Hx: 1. IV Ab ± Drain: cephalosporine + Ampicillin-sulbactam
- Drainage: [Res. distress, failure to improve with IV Ab

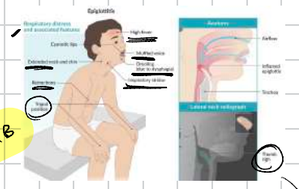


Complications of retropharyngeal or lateral pharyngeal abscess include

3. upper airway obstruction ,
4. rupture leading to aspiration pneumonia ,
5. extension to the mediastinum,
6. Thrombophlebitis of the internal jugular vein and erosion of the carotid artery sheath.

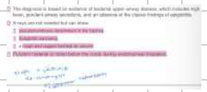
Epiglotitis

- Drooling, Stridor, cough, Hx. influB



- Teenage → depression
- We do → Tube 2-3d, No 3rd
- * Complication → bacteremia

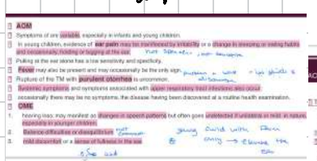
Back. Tracheitis

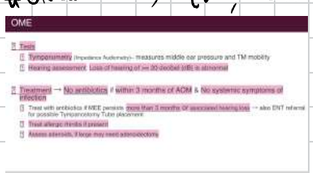
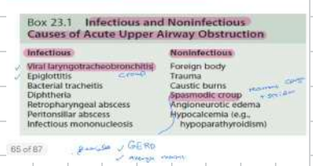


- * need intubation
- S. aureus
- 5-7 y
- follow viral
- life-threatening
- Brassy cough

OM

- * Middle → Conductive HL
- * peak 1-2
- MC of acquired HL
- * Bacterial like sinusitis
- * viral → RSV, inflm, adeno

Box 23.1 Infectious and Noninfectious Causes of Acute Upper Airway Obstruction

Infectious	Noninfectious
Viral laryngotracheobronchitis	Foreign body
Epiglottitis	Trauma
Bacterial tracheitis	Caustic burns
Diphtheria	Spasmodic croup
Retropharyngeal abscess	Angioneurotic edema
Peritonsillar abscess	Hypocalcemia (e.g., hypoparathyroidism)
Infectious mononucleosis	

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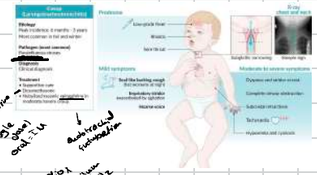
Viral LTB "CROUP"



- * Mc infective upper dss
- Pre school
- [Droplet, Direct inoculation from hand


- Laryngotracheobronchitis
- Spasmodic croup
- Epiglottitis
- Bacterial tracheitis

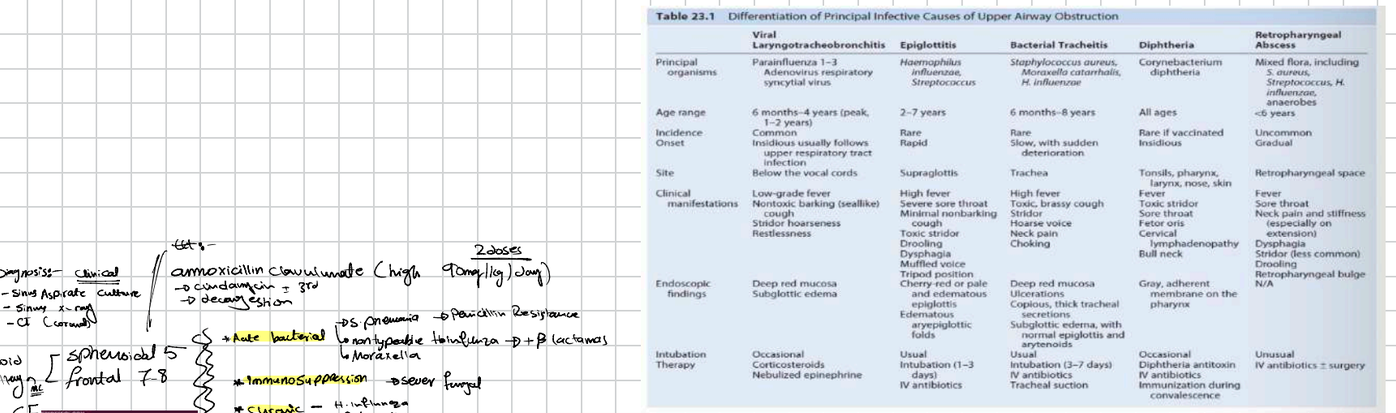


Table 23.1 Differentiation of Principal Infective Causes of Upper Airway Obstruction

	Viral Laryngotracheobronchitis	Epiglottitis	Bacterial Tracheitis	Diphtheria	Retropharyngeal Abscess
Principal organisms	Parainfluenza 1–3 Adenovirus respiratory syncytial virus	*Haemophilus influenzae, Streptococcus*	*Staphylococcus aureus, Moraxella catarrhalis, H. influenzae*	Corynebacterium diphtheria	Mixed flora, including *S. aureus, Streptococcus, H. influenzae,* anaerobes
Age range	6 months–4 years (peak, 1–2 years)	2–7 years	6 months–8 years	All ages	<6 years
Incidence Onset	Common Insidious usually follows upper respiratory tract infection	Rare Rapid	Rare Slow, with sudden deterioration	Rare if vaccinated Insidious	Uncommon Gradual
Site	Below the vocal cords	Supraglottis	Trachea	Tonsils, pharynx, larynx, nose, skin	Retropharyngeal space
Clinical manifestations	Low-grade fever Nontoxic barking (seallike) cough Stridor hoarseness Restlessness	High fever Severe sore throat Minimal nonbarking cough Toxic stridor Drooling Dysphagia Muffled voice Tripod position	High fever Toxic, brassy cough Stridor Hoarse voice Neck pain Choking	Fever Toxic stridor Sore throat Fetor oris Cervical lymphadenopathy Bull neck	Fever Sore throat Neck pain and stiffness (especially on extension) Dysphagia Stridor (less common) Drooling Retropharyngeal bulge
Endoscopic findings	Deep red mucosa Subglottic edema	Cherry-red or pale and edematous epiglottis Edematous aryepiglottic folds	Deep red mucosa Ulcerations Copious, thick tracheal secretions Subglottic edema, with normal epiglottis and arytenoids	Gray, adherent membrane on the pharynx	N/A
Intubation Therapy	Occasional Corticosteroids Nebulized epinephrine	Usual Intubation (1–3 days) IV antibiotics	Usual Intubation (3–7 days) IV antibiotics Tracheal suction	Occasional Diphtheria antitoxin IV antibiotics Immunization during convalescence	Unusual IV antibiotics ± surgery

Acute pharyngitis and tonsillitis

Pharyngitis refers to inflammation of the pharynx, including erythema, edema, exudates, or an enanthem (ulcers, vesicles).

Pharyngeal inflammation could be due to :

1. infectious agents.
2. environmental exposures, such as tobacco smoke, air pollutants.
3. contact with caustic substances, hot food, and liquids.
4. various inflammatory conditions such as:

((Periodic Fever, Aphthous stomatitis, Pharyngitis, and Adenitis (PFAPA) syndrome)), Kawasaki disease, inflammatory bowel disease, Stevens-Johnson syndrome, and systemic lupus erythematous.

VIRUSES	BACTERIA
Adenovirus	*Streptococcus pyogenes* (Group A streptococcus)
Coronavirus	*Arcanobacterium haemolyticum*
Cytomegalovirus	*Fusobacterium necrophorum*
Epstein-Barr virus	*Corynebacterium diphtheriae*
Enteroviruses	*Neisseria gonorrhoeae*
Herpes simplex virus (1 and 2)	Group C streptococci
Human immunodeficiency virus	Group G streptococci
Human metapneumovirus	*Francisella tularensis*
Influenza viruses (A and B)	*Yersinia pestis*
Measles virus	*Chlamydophila pneumoniae*
Parainfluenza viruses	*Chlamydia trachomatis*
Respiratory syncytial virus	*Mycoplasma pneumoniae*
Rhinoviruses	*Mixed anaerobes (Vincent angina)*

BACTERIAL CAUSES

- **Group A Streptococcus**
- Streptococcal pharyngitis is relatively **uncommon before 2-3 yr of age**, is quite common among children **5-15** yr old.
- Illness occurs **throughout the year** but is most prevalent in **winter and spring**.
- GAS causes **15-30% of pharyngitis** in school-age children.
- Spread **via respiratory particle droplets** – NO school attendance until 24 hours after initiation of appropriate antibiotic therapy
- **Colonization** result in **asymptomatic carriage or acute infection**.
- The **M protein** is the GAS **virulence factor** that facilitates resistance to phagocytosis. The M protein is immunogenic; an individual can experience multiple episodes of GAS pharyngitis in a lifetime because natural immunity is M type-specific and we have numerous GAS M types **(90 types)**.

SCARLET FEVER

- Fine red, papular (**"sandpaper"**) **rash** of **scarlet fever**. It begins on the face and then becomes generalized. With circumoral pallor. The rash blanches with pressure and it may be more intense in skin creases, especially in the antecubital fossae, axillae, and inguinal creases **(Pastia's lines or Pastia's sign).** The tongue Initially is "white" then "red" **strawberry tongue.**

DIAGNOSIS

FEATURE, BY SUSPECTED ETIOLOGIC AGENT	
Group A Streptococcal	***Viral***
• Sudden onset of sore throat	• Conjunctivitis
• Age 5-15 yr	• Coryza
• Fever	• Cough
• Headache	• Diarrhea
• Nausea, vomiting, abdominal pain	• Hoarseness
• Tonsillopharyngeal inflammation	• Discrete ulcerative stomatitis
• Patchy tonsillopharyngeal exudates	• Viral exanthema
• Palatal petechiae	
• Anterior cervical adenitis (tender nodes)	
• Winter and early spring presentation	
• History of exposure to strep pharyngitis	
• Scarlatiniform rash	

DIAGNOSIS

- Streptococcal antibody tests are not useful in assessing patients with acute pharyngitis.
- Throat culture and rapid antigen-detection tests (RADTs) are the diagnostic tests for GAS.
- Throat culture remains the "gold standard" for diagnosing streptococcal pharyngitis.
- Because RADTs are generally less sensitive than culture, confirming a negative rapid test with a throat culture is recommended.
- A child who is chronically colonized with GAS (streptococcal carrier) can have a positive culture if it is obtained when the child is evaluated for pharyngitis that is actually caused by a viral infection.
- Testing for bacteria other than GAS is performed infrequently, and should be reserved for patients with persistent symptoms.
- Polymerase chain reaction can identify a variety of viral and bacterial agents within a few hours.
- A CBC or blood film showing many atypical lymphocytes and a positive mononucleosis slide agglutination test (monospot test) can help to confirm a clinical diagnosis of Epstein-Barr virus.

- **Group A Streptococcus**
- Pharyngeal infection with GAS classically presents as
  - rapid onset of significant sore throat and fever.
  - The **pharynx is red**, the **tonsils are enlarged** and covered with a white, grayish **exudate**.
  - There may be **petechiae** or **"doughnut" lesions** on the soft palate and pharynx.
  - **Enlarged and tender anterior cervical lymph nodes** are frequently present, bilateral
  - **Headache**, **abdominal pain**, and **vomiting**.
  - **Ear pain** is a frequent complaint but the tympanic membranes are usually normal.

TREATMENT

- Specific therapy is unavailable for most viral pharyngitis.
- An oral antipyretic/analgesic agent (acetaminophen or ibuprofen) can relieve fever and sore throat pain.
- Systemic corticosteroids are used in children with mononucleosis.
- **Oral penicillin** is often suggested for patients with group C streptococcal isolates and **oral erythromycin** is recommended for patients with *A. haemolyticum*.

GAS TREATMENT

- **Most untreated episodes of GAS pharyngitis resolve uneventfully within 5 days, but early antibiotic therapy hastens clinical recovery by 12-24 hr.**
- **Antibiotic therapy should not be delayed for children with symptomatic pharyngitis and a positive GAS RADT or throat culture.**
- The primary benefit and intent of antibiotic treatment is **the prevention of acute rheumatic fever (ARF); it is highly effective when started within 9 days of onset of illness. Antibiotic therapy does not prevent acute post-streptococcal glomerulonephritis (APSGN).**
- **Presumptive antibiotic treatment** can be started when there is a clinical diagnosis of scarlet fever, a symptomatic child has a household contact with documented streptococcal pharyngitis, or a history of ARF in the patient or a family member, but a diagnostic test should be performed to confirm the presence of GAS.

GAS TREATMENT

- Group A streptococci are universally susceptible to **penicillin. Amoxicillin** and all other β-lactam antibiotics.
- The duration of oral penicillin and amoxicillin therapy is **10 days**.
- A single intramuscular dose of **benzathine penicillin or a benzathine-procaine penicillin G combination.**
- **Patients allergic to penicillin** can be treated with course of a narrow-spectrum **(first-generation) cephalosporin (cephalexin or cefadroxil)** if the previous reaction to penicillin was not an immediate, type I hypersensitivity reaction. Mostly are treated for 10 days with **erythromycin, clarithromycin, or clindamycin, or for 5 days with azithromycin**.

Chronic group A streptococcus carriers

- It is usually **unnecessary to attempt to eliminate chronic carriage**. Instead, **evaluation and treatment of pharyngitis should be undertaken without regard for chronic carriage, treating test-positive patients in routine fashion and avoiding antibiotics in patients who have negative tests**.
- Expert opinion suggests that eradication might be attempted in select circumstances:
  1. a community outbreak of ARF or APSGN; or in a closed or semiclosed community, nursing home or healthcare facility.
  2. personal or family history of ARF;
  3. when tonsillectomy is being considered because of chronic carriage or recurrent streptococcal pharyngitis.
- **Clindamycin** given by mouth for 10 days is effective therapy.

RECURRENT PHARYNGITIS

- True recurrent GAS pharyngitis can occur for several reasons:
  1. reinfection with the same M type if type-specific antibody has not developed;
  2. poor compliance with oral antibiotic therapy;
  3. macrolide resistance if a macrolide was used for treatment;
  4. infection with a new M type.
- Treatment with intramuscular **benzathine penicillin** eliminates non-adherence to therapy.
- Recurrent GAS pharyngitis is rarely, if ever, a sign of an immune disorder.
- Recurrent pharyngitis can be **part of an autoinflammatory syndrome**, **neutropenia**, a **recurrent fever syndrome**, or an autoimmune disease

COMPLICATIONS

1. Acute **bacterial middle ear infections and acute bacterial sinusitis**.
2. Local suppurative complications, such as **parapharyngeal abscess**.
3. Nonsuppurative illnesses (immunological) , such as **ARF, APSGN, poststreptococcal reactive arthritis, and possibly PANDAS** (pediatric autoimmune neuropsychiatric disorders associated with *S. pyogenes*) or **CANS** (childhood acute neuropsychiatric symptoms).

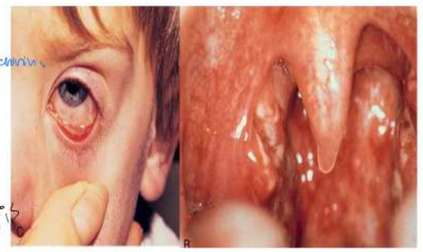
papulovesicular ulcerations in the **posterior oropharynx**, severe throat pain, and fever are characteristic of **herpangina.**

Gingivostomatitis and ulcerating vesicles in the **anterior pharynx** seen in primary oral **herpes simplex virus.**

In hand-foot-mouth disease; vesicles or ulcers throughout the oropharynx, vesicles on the palms and soles, and sometimes on the trunk and extremities; **Coxsackie A16** is the most common agent.

adenoviruses cause pharyngitis. ***pharyngoconjunctival fever.***

adenoviruses cause pharyngitis. ***pharyngoconjunctival fever.***



Infectious Mononucleosis

Splenomegaly or hepatomegaly with lymphadenopathy may be the clue to Epstein- Barr virus infectious mononucleosis in an adolescent with exudative tonsillitis.