

APPROACH TO SORE THROAT

SEEN IN EVERY AGE GROUP AND HAS NO SEX PREDILECTION

PATHOPHYSIOLOGY:

- Majority of infections are mild and not associated with serious complications
 - However → several may result in airway compromise, systemic disease or sepsis
- Viruses cause the majority of cases of sore throat → up to 80%, enterovirus being the most common
- Acute pharyngitis due to BACTERIAL INFECTION is much less common
 - GABHS (*Streptococcus pyogenes*) → most common
 - Incidence of GABHS in school-age kids ~15-30%, but in adults ~5%
→ antibiotics prescribed to 50-75%
- GABHS with anaerobes or anaerobes alone cause deeper plane infection
- Immunocompromised may present with severe infection or repeated infection
→ think candida

Table 30-1 Differential Diagnosis for Sore Throat

INFECTIOUS CAUSES				
VIRAL	AEROBES		ANAEROBES	OTHER
	COMMON	UNCOMMON		
Rhinovirus	<i>Streptococcus pyogenes</i> (GABHS)	<i>Haemophilus influenzae</i>	<i>Bacteroides</i> sp.	<i>Candida</i> sp.
Adenovirus	GABHS <i>Peptostreptococcus</i> sp.	<i>Haemophilus parainfluenzae</i> <i>Coccidioides</i> sp.		
Coronavirus	Non-group A streptococcus	<i>Corynebacterium diphtheriae</i>	<i>Peptococcus</i> sp.	
Herpes simplex 1, 2	<i>Neisseria gonorrhoeae</i>	<i>Streptococcus pneumoniae</i>	<i>Clostridium</i> sp.	
Influenza A, B	<i>Neisseria meningitidis</i>	<i>Yersinia enterocolitica</i>	<i>Fusobacterium</i> sp.	
Parainfluenza	<i>Mycoplasma pneumoniae</i>	<i>Treponema pallidum</i>	<i>Prevotella</i> sp.	
Cytomegalovirus	<i>Arcanobacterium hemolyticum</i>	<i>Francisella tularensis</i>		
Epstein-Barr	<i>Chlamydia trachomatis</i>	<i>Legionella pneumophila</i>		
Varicella-zoster	<i>Staphylococcus aureus</i>	<i>Mycobacterium</i> sp.		
Hepatitis virus				
NONINFECTIOUS CAUSES				
SYSTEMIC	TRAUMA, MISCELLANEOUS		TUMOR	
Kawasaki disease	Penetrating injury Angioneurotic edema		Tongue	
Stevens-Johnson syndrome	Retained foreign body Anomalous aortic arch		Larynx	
Cyclic neutropenia	Laryngeal fracture Calcific retropharyngeal tendinitis		Thyroid	
Thyroiditis	Retropharyngeal hematoma		Leukemia	
Connective tissue disease	Caustic exposure			

GABHS, group A beta-hemolytic streptococcus.

PIVOTAL FINDINGS:

HISTORY:

- CHARACTERISTICS OF PAIN → rapidly progressing symptoms, high fever or severe pain suggest invasive disease. If duration several days, think deeper plane infection or systemic disease
 - Pain that radiates to the back of the neck or between the shoulder blades suggests prevertebral or retropharyngeal pathology
- ASSOCIATED COMPLAINTS → ODYNOPHAGIA UNIVERSAL
 - Presence of severe pain, significant dysphagia, drooling, voice muffling (“hot-potato voice”) → more serious infection (think peritonsillar abscess, glossal abscess, epiglottitis, Ludwig’s angina)

- SYSTEMIC SYMPTOMS → prolonger fever (>5-7 days) in Kawasaki disease
- OROGENITAL CONTACT → gonorrhoea, herpetic infection
- TRAUMA → blunt/penetrating → deep-space infection
- IMMUNISATION → if not, think Haemophilus, diphtheria, pertussis
- IMMUNE STATUS → diabetes, known immune disorders, chemo/radiotherapy, alcoholism/malnutrition → all at risk for more severe infection

PHYSICAL EXAMINATION:

- ASSESS FOR AIRWAY COMPROMISE → critical first step
 - Observe posture, phonation, level of consciousness, colour
 - Observation alone very important in kids as more invasive examination can lead to agitation and progression to complete airway obstruction
 - Presence of air hunger, stridor, drooling or toxic appearance may indicate pending airway obstruction
 - Pending airway loss leads to air-preserving posturing, especially in children:
 - Infants → lateral decubitus with neck hyperextended
 - Children capable of sitting → support head with their hands
 - Older children → fixed upright posturing, tripod posturing

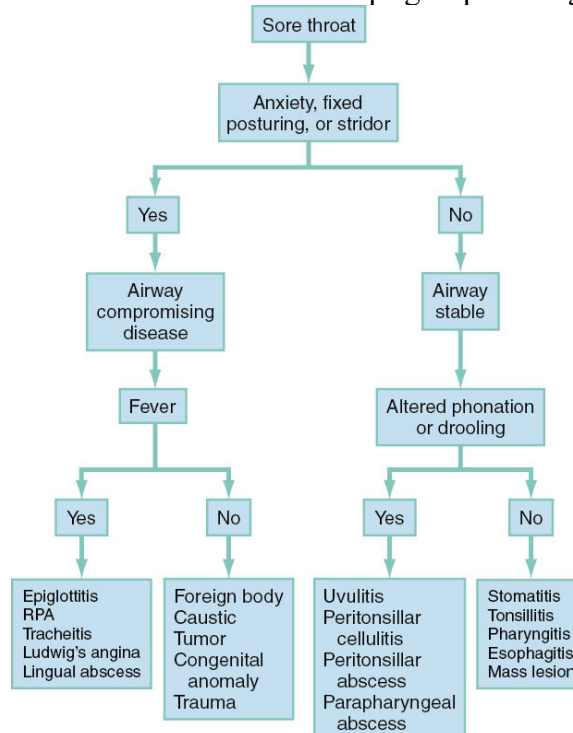


Table 30-2 Pivotal Findings in Physical Examination

SIGN	FINDING	DIAGNOSES
Appearance	Toxic	Epiglottitis RPA Bacterial tracheitis Kawasaki disease
Posturing	Fixed, upright, leaning forward	Epiglottitis RPA Tracheitis Laryngotracheobronchitis
Phonation	Torticollis Absent Muffled	Parapharyngeal abscess Epiglottitis RPA Peritonsillar cellulitis Peritonsillar abscess
Stridor, drool	Either present	Epiglottitis RPA Tracheitis Peritonsillar abscess
Noninvasive ENT	Conjunctivitis	Kawasaki disease Stevens-Johnson syndrome Adenovirus
	Mucous membrane sore	Stevens-Johnson syndrome Behçet disease Enterovirus Herpes simplex Ludwig's angina
	Submental, sublingual mass Adenopathy	Adenovirus EBV <i>Mycobacterium</i> sp. HIV
	Tender hyoid Tender thyroid	Epiglottitis Thyroiditis Thyroglossal duct cyst infection
Augmented ENT findings	Trismus	Parapharyngeal abscess Peritonsillar abscess
	Tongue coating	Kawasaki disease GABHS
	Palatal petechiae Pharyngeal hyperemia	GABHS Infectious tonsillopharyngitis Caustic Trauma GABHS
	Exudative tonsillitis	<i>Corynebacterium diphtheriae</i> <i>Fusobacterium</i> sp. EBV Adenovirus
	Bulged retropharynx Uvular erythema Displaced uvula	RPA Uvulitis Peritonsillar abscess Parapharyngeal abscess
	Inflamed epiglottis	Epiglottitis
Abdomen	Hepatosplenomegaly	EBV, hepatitis
Joint examination	Arthritis	Lemierre's syndrome
Rash	Scarlatiniform	GABHS <i>Arcanobacterium</i> sp. EBV Kawasaki disease

EBV, Epstein-Barr virus; ENT, ear, nose, throat; GABHS, group A beta-hemolytic streptococcus; HIV, human immunodeficiency virus; RPA, retropharyngeal abscess.

ANCILLARY TESTING:

- Use of the CENTOR CRITERIA (see below), with or without rapid antigen detection/culture is a rational but not universally accepted approach, but the goal is to decrease the cost of additional testing
 - CENTOR CRITERIA → fever, no cough, tender lymphadenopathy, tonsillar exudate
- Think EBV if severe sore throat, fever and lymphadenopathy (generalised) → if raised absolute lymphocytosis. MONOSPOT. Retest if negative but with compatible history as heterophile antibodies tested by monospot may not be present in first week in ~10%
- Lateral neck radiograph can narrow differential in paediatric patients with potential airway obstruction

- Use of Hib vaccine has dramatically ↓d epiglottitis in kids, but the incidence has NOT CHANGED IN ADULTS
- Ultrasound → can guide drainage and avoid radiation
- CT → defines the extent of infection and can distinguish cellulitis from abscess

EMPIRICAL MANAGEMENT:

- If the patient is IN EXTREMIS with signs of airway compromise → immediate airway control is obviously necessary
 - The patient who is febrile and appears toxic, has an abnormal voice, is drooling → may require emergent airway management before any other diagnostic manoeuvres are attempted
 - Equipment for cricothyrotomy should be readily available because instrumentation can lead to airway obstruction or laryngospasm
 - Fibreoptic if available with light sedation and topical anaesthesia
 - If able to transport → surgical cricothyrotomy in OT
 - BROAD-SPECTRUM PARENTERAL ANTIBIOTICS
 - SIMPLE TONSILLITIS → penicillin alone for strep coverage
- If patient's airway is ok but has vocal changes → think epiglottitis, peritonsillar abscess or cellulitis → direct examination with nasoendoscope to identify offending condition

Table 30-3

Centers for Disease Control and Prevention: Practice Guidelines for Acute Pharyngitis in Adults

Population: Adults (patients older than 15 years)

Patients with viral symptoms: Do not test or treat

Patients with symptoms of GABHS: Use Centor criteria*

Centor score = 4: Perform RADT or treat presumptively

Centor score = 3: Perform RADT or treat presumptively

Centor score = 2: Perform RADT or do not test or treat

Centor score = 1 or 0: Do not test or treat

In all cases in which an RADT is performed, only those with positive results are treated.

Culture after negative RADT: No

Recommended antibiotic: Penicillin (erythromycin if penicillin allergic)

*Centor criteria history of fever; absence of cough; swollen, tender anterior cervical lymph nodes; and tonsillar exudate.

GABHS, group A beta-hemolytic streptococcus; RADT, rapid antigen detection test.

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