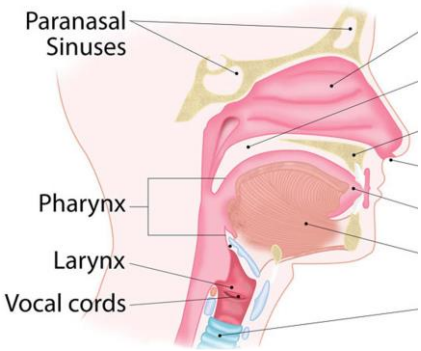
Lec. 3 | Resp 1 – Diseases of upper respiratory tract

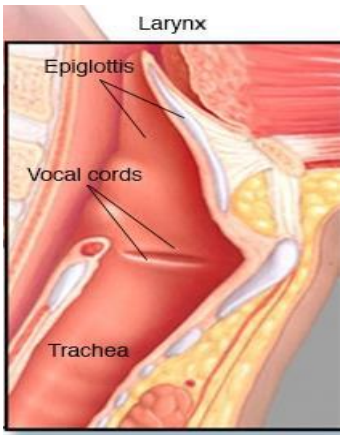
DISEASES OF UPPER RESPIRATORY TRACT

1. Acute Inflammatory upper airway obstruction

A 12-month-old child is brought to your office because of a barky cough. The mother states that over the past 3 days the child has developed a runny nose, fever, and cough. The symptoms are getting worse, and the child seems to have difficulty breathing. He sounds like a seal when he coughs. ***What is the most probable diagnosis?***



1. CROUP



» **Infective agents:** parainfluenza types 1, 2, 3
» **Age** 3 months–5 years
» **Most common in** winter
» **Recurrences** decrease with increasing growth of airway.
» Inflammation of subglottis.

Signs & symptoms:

Upper respiratory infection 1–3 days, then **barking cough, hoarseness, inspiratory stridor**; worse at night, gradual resolution over 1 week

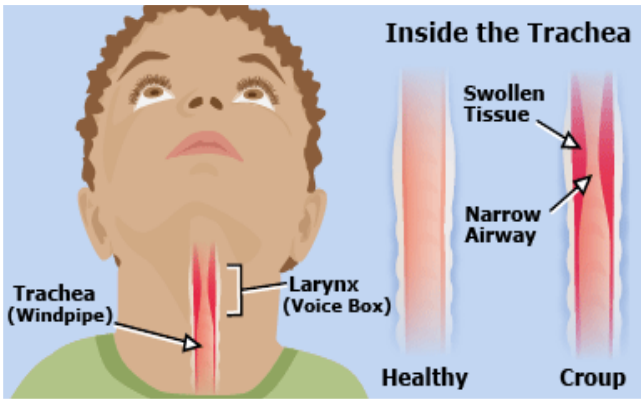
Complications: Hypoxia only when obstruction is complete

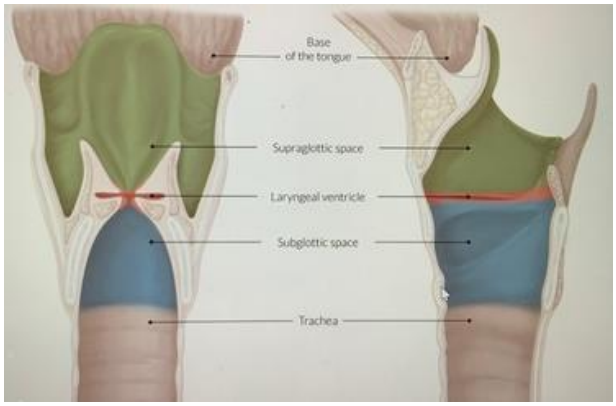
Diagnosis:

- Clinical
- X-ray not needed (steeple sign if an x-ray is performed

Note:

- Drooling, dysphagia, high fever, & toxic appearance are notably **absent** in viral croup.
- **Barking cough:** It sounds unmistakably like a seal or a dog barking. This sound is similarly





Tapering of the upper trachea in the frontal chest XR due to subglottic narrowing

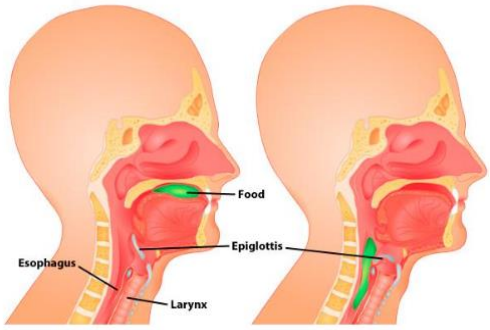
ASSESSMENT OF THE SEVERITY OF CROUP

Mild croup	Characterized by an absence of stridor at rest, minimal respiratory distress, and an occasional cough
Moderate croup	The child's behavior and mental status are normal but inspiratory stridor and retractions are present at rest and the amount of respiratory distress is increased.
Severe croup	Characterized by mental status changes accompanied by significant respiratory distress and decreasing air entry, indicating impending respiratory failure

Treatment ***Supportive plus:***

- **Mild:** corticosteroid then observe; if improved, then home but if worsens, treat as moderate croup
- **Moderate:** nebulized epinephrine + corticosteroid, then observe; if improved, then home but if worsens, repeat epinephrine, and admit to hospital
- **Severe:** nebulized epinephrine and corticosteroid then admit to hospital (possibly PICU)

2. EPIGLOTTITIS



A 3-year-old male that presents with respiratory distress, drooling, and stridor on inspiration. On exam, the patient is extending his neck with an open mouth and leaning forward.

What is the most probable diagnosis?

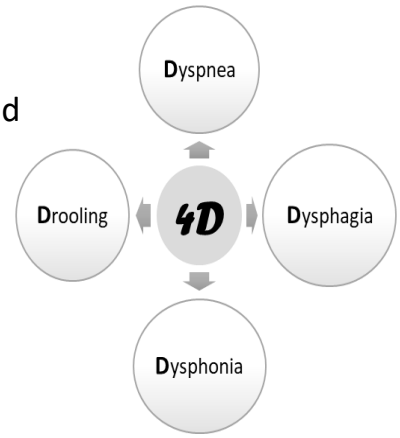
Epiglottitis: Infection of the cartilaginous structure protecting the airway during swallowing

Infective agents:

- Hemophilus influenzae type B (HiB) no longer number one (vaccine success)
- **Now** combination of Streptococcus pyogenes, Streptococcus pneumoniae, Staphylococcus aureus, Mycoplasma

Risk factor: adult or unimmunized child

Signs and symptoms:



1. **Dramatic acute onset** with High fever, sore throat, dyspnea, and rapidly progressing obstruction
2. **Toxic-appearing,** difficulty swallowing, drooling, sniffing-position
3. **Stridor** is a late finding (near-complete obstruction)

Complications: Complete airway obstruction and death

Diagnosis:

- Clinical first (do nothing to upset child)
- Controlled visualization (laryngoscopy). Feature of a cherry-red, swollen epiglottis
- X-ray **not needed** (*thumb sign* if x-ray is performed) followed by immediate intubation.

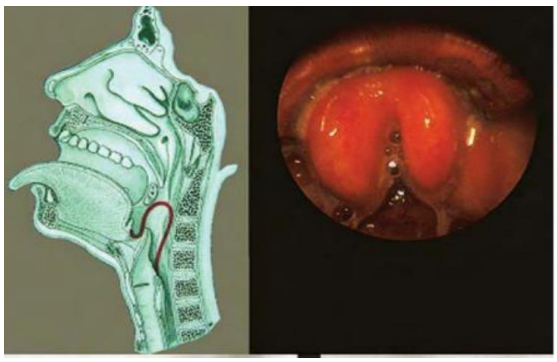
Treatment:

This disease is a true emergency. Keep the patient (and parents) calm, call anesthesia, and transfer the patient to the OR.

Do not examine the throat unless an anesthesiologist or otolaryngologist is present.

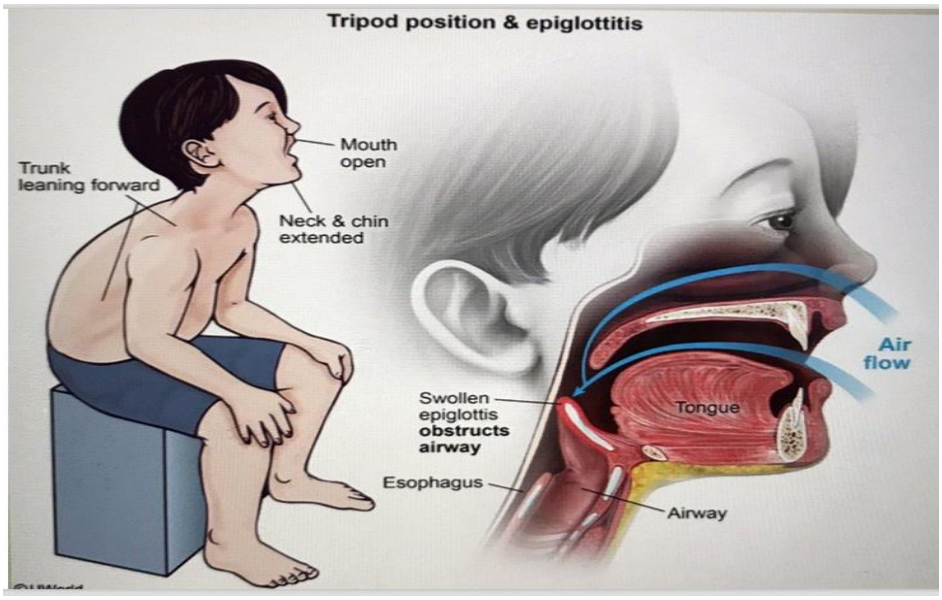
Treatment lines:

- **Establish patent airway** (Endotracheal intubation or tracheostomy)
- **IV antibiotics** to cover staphylococci, HiB, and resistant strep (antistaphylococcal plus third-generation cephalosporin)



Note

Epiglottis protects airway during swallowing.

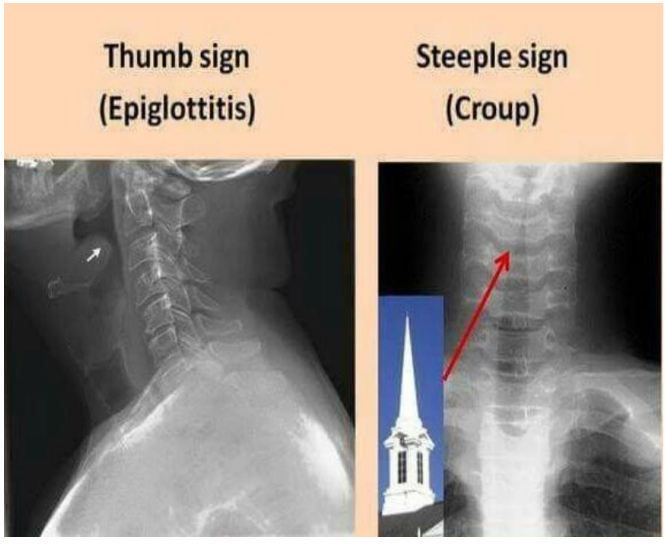


Differentiation between croup and epiglottitis

Feature	Croup	Epiglottitis
Etiology	• Parainfluenza 1,2,3	• *S. aureus* • *S. pneumonia, S. pyogenes* • *H. influenza* type B
Age	• Preschool	• Toddler-young school age
Timing	• Cool months	• Year round
Diagnosis Key Words	• Barking cough • Inspiratory stridor • If the patient gets worse: Inspiratory stridor ↓ Expiratory stridor **(Biphasic stridor)** ↓ Stridor at rest	• Acute onset • Extremely sore throat • Cannot swallow • High fever • Sniffing position • Drooling • Inspiratory stridor later
Best Initial Test	• Clinical Dx • CXR not needed-but shows steeple sign	• Laryngoscopy
Most Accurate Test	• PCR for virus • Not needed clinically	• C and S from tracheal aspirate
Best Initial Treatment	• None or nebulized epinephrine if severe	• Airway (intubation)
Definitive Treatment (If Needed)	• Parenteral steroid – Most common-single dose IM Dexamethasone → – Observation	• Airway (tracheostomy if needed) + broad-spectrum antibiotics • Then per sensitivities

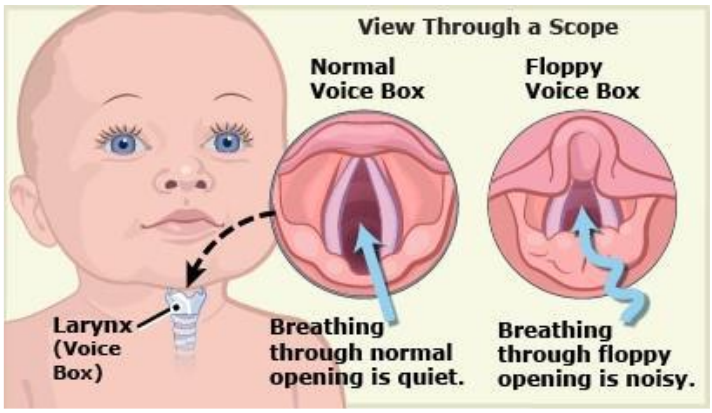
Pitfalls to avoid:

- Never forcefully examine the child's throat.
- Never do anything painful to the child. If they need intravenous access because they are so unwell, this must wait until they are somewhere with an anaesthetist and hopefully also an ENT surgeon. It is better to allow them to have some cardiovascular compromise than complete airway obstruction.



2.Congenital Anomalies of The Larynx

	Laryngomalacia	Subglottic Stenosis	Vocal Cord Paralysis
	Most frequent cause of stridor in infants due to collapse of supraglottic structures in inspiration	Second most common cause	Third most common cause; may occur as a result of repair of congenital heart disease or TE fistula repair (recurrent laryngeal nerve)
Clinical	Stridor in supine that decreases in prone; exacerbated by exertion	Recurrent or persistent stridor with no change in positioning	Often associated with Chiari malformation (hydrocephalus); inspiratory stridor, airway obstruction, cough, choking, aspiration
Diagnosis	laryngoscopy	laryngoscopy	flexible bronchoscopy
Treatment	Supportive; most improve in 6 months, but surgery may be needed in severe cases	Cricoid split reconstruction	supportive; most improve in 6 12 months but tracheostomy may be needed



3.AIRWAY FOREIGN BODY

A toddler presents to the emergency center after choking on some coins. On physical examination, the patient is noted to be drooling and in moderate respiratory distress. There are decreased breath sounds on the right with intercostal retractions.

6 months	• Sits with support (tripod) • Feet in mouth in supine	• Unilateral reach • Raking grasp • Transfers object	• Babbles	• Recognizes that someone is a stranger

Site:

- **Larynx** is the most common site of foreign body aspiration in children age 1 year.
- In children age >1 think trachea or right mainstem bronchus

Age: Most seen in children aged 3–4 years

- **Items that are most commonly implicated in accidental foreign body ingestion include food such as peanuts, coins, toys, and other small objects.**
- **Highly suggested if symptoms are acute choking, coughing, wheezing; often a witnessed event**

Clinical ***depends on location:***

- Sudden onset of respiratory distress
- Cough, hoarseness, shortness of breath
- Wheezing (asymmetric) and decreased breath sounds (asymmetric)

Complications:

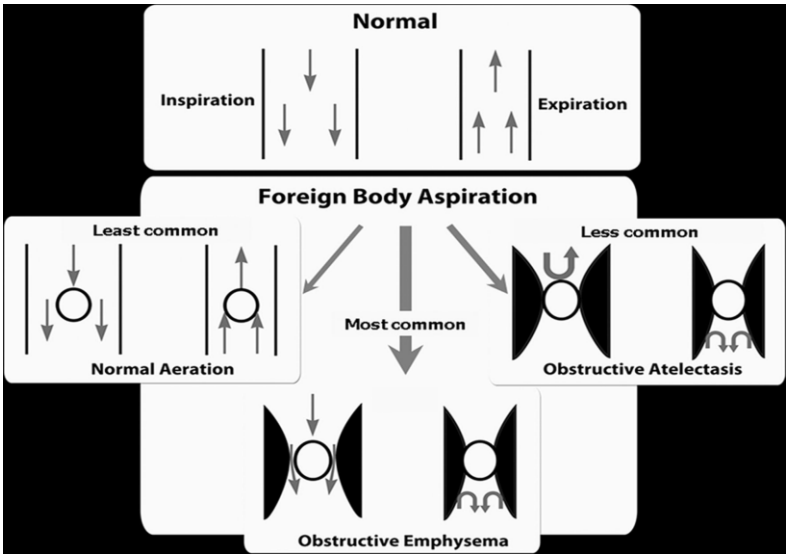
- Obstruction
- Erosion
- Infection (fever, cough, pneumonia, hemoptysis, atelectasis)

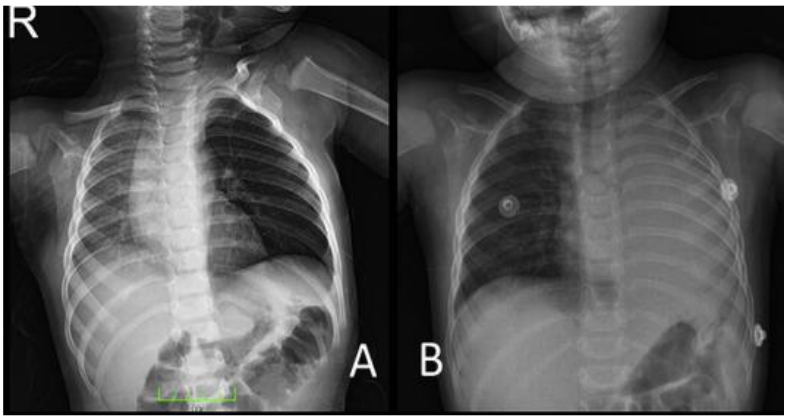
- **Foreign body aspiration can be a life-threatening emergency. An aspirated solid or semisolid object may lodge in the larynx or trachea. If the object is large enough to cause nearly complete obstruction of the airway, asphyxia may rapidly cause death**

Diagnosis:

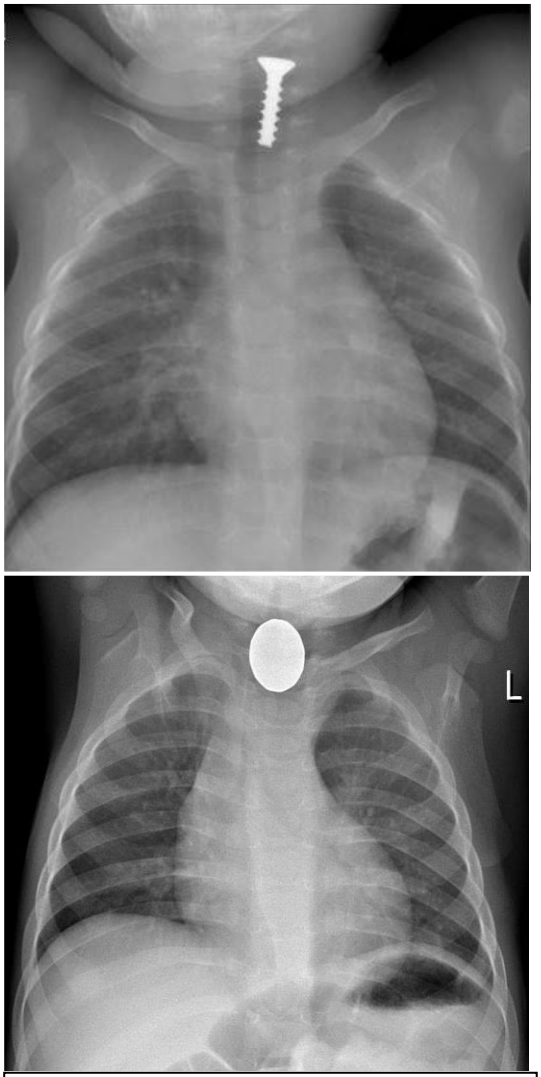
- Chest x-ray reveals **air trapping** (ball-valve mechanism). Most of FB are radiolucent
- **Bronchoscopy** for definite diagnosis

Therapy: removal by rigid bronchoscopy





A) Hyperlucency of left lung due to a check-valve effect of a foreign body.
B) Total atelectasis of the left lung



Examples of radio opaque foreign bodies

CASE

A toddler presents to the emergency center after choking on some small objects. On physical examination, the patient is noted to be drooling and in moderate respiratory distress. There are decreased breath sounds on the right with intercostal retractions.

Which of the following is considered for definitive diagnosis of this patient?

a) Chest X-ray

b) Bronchoscopy

c) CT chest

d) CBC with differential count

e) Sputum culture and sensitivity

DISORDERS OF THE EAR, NOSE, AND THROAT

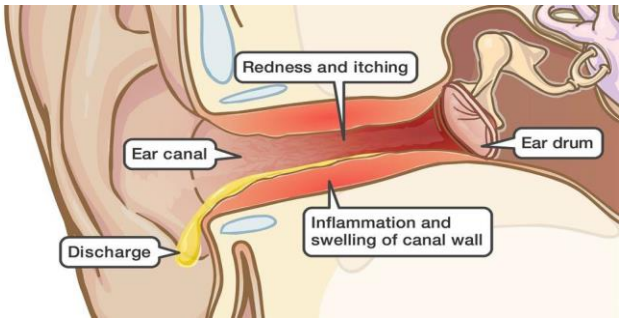
A. EAR

EXTERNAL EAR

1.Otitis externa (swimmer's ear)

Normal flora of external canal includes:

- Pseudomonas aeruginosa (most common cause)
- S. aureus (second most common cause)
- Coagulase-negative Staphylococcus, diphtheroids, Micrococcus spp., and viridans streptococci



Causes of otitis externa:

1. Excessive wetness
2. Dryness
3. Skin pathology
4. Trauma

Symptoms:

- Significant pain (especially with manipulation of outer ear)
- Conductive hearing loss

Findings:

edema, erythema, and thick otorrhea, preauricular nodes

Malignant external otitis is invasive to temporal bone and skull base, with facial paralysis, vertigo, other cranial nerve abnormalities; requires immediate culture, IV antibiotics, and imaging (CT scan) → may need surgery.

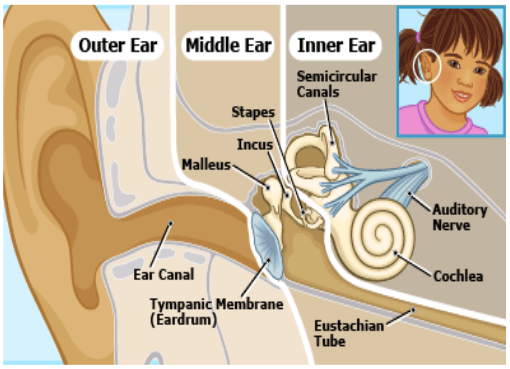
Treatment: topical otic preparations ± corticosteroids

Prevention:

- Earplugs
- Thorough drying of canal
- 2% acetic acid after getting wet.

MIDDLE EAR

1.Otitis media (OM)



A 4-year-old child is seen in the office with a 3-day history of fever and cold symptoms and now complains of right ear pain. Physical examination is remarkable for a bulging tympanic membrane with loss of light reflex and landmarks. **What is the most probable diagnosis?**

Otitis Media Correlated Factors:

- Commonly first 2 years of life
- Boys > girls
- Low socioeconomic
- Heritable genetic component
- Protective effect of breast milk vs formula
- Positive correlation to both tobacco smoke and exposure to other children
- Season: cold weather
- Congenital anomalies: more with palatal clefts, other craniofacial anomalies, & Down syndrome

Acute, suppurative otitis media; accompanied by a variable degree of hearing loss (20–30 dB)

Etiology:

- **Bacterial (up to 75%):**
  S. pneumoniae (40%); nontypeable H. influenzae (25– 30%); Moraxella catarrhalis (10–15%).
- **Other 5%:** Group A strep, S. aureus, gram negatives (neonates and hospitalized very young infants), respiratory viruses (rhinovirus, RSV most often)

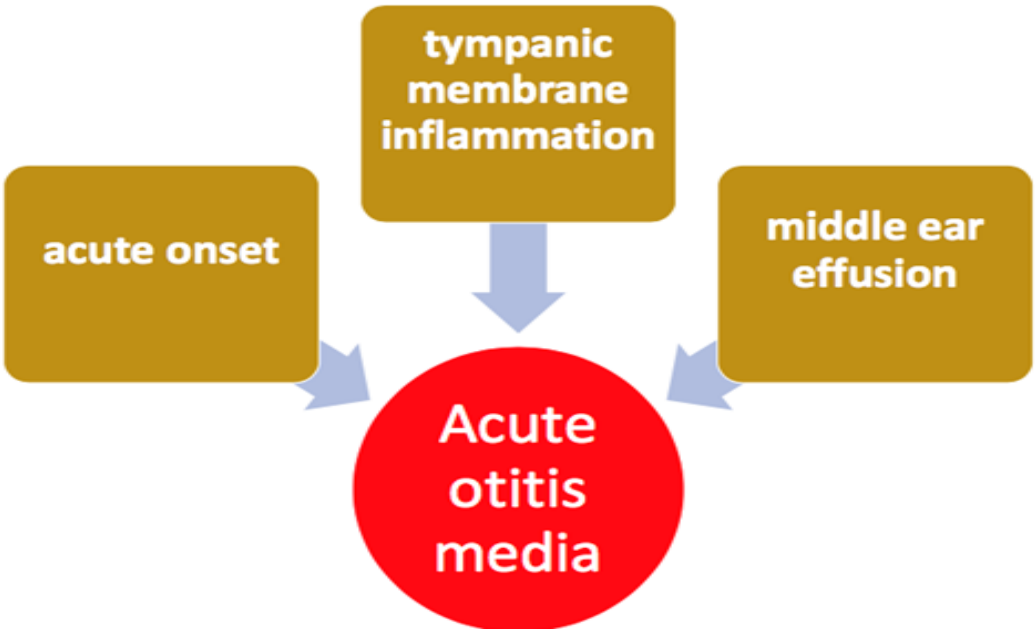
Pathogenesis

- Interruption of normal eustachian tube function (ventilation) by obstruction → inflammatory response → middle ear effusion → infection; most with URI
- Shorter and more horizontal orientation of tube in infants and young children allows for reflux from pharynx (and in certain ethnic groups and syndromes)

Clinical findings | highly variable

- Symptoms: ear pain, fever, purulent otorrhea (ruptured tympanic membrane), irritability, or no symptoms
- Pneumatic otoscopy: fullness/bulging or extreme retraction, intense erythema (otherwise erythema may be from crying, fever, sneezing; erythema alone is insufficient unless intense), some degree of opacity (underlying effusion)
- Mobility is the most sensitive and specific factor to determine presence of a middle ear effusion (pneumatic otoscopy)

Diagnosis: It must have **acute onset, tympanic membrane inflammation, and middle ear effusion**.

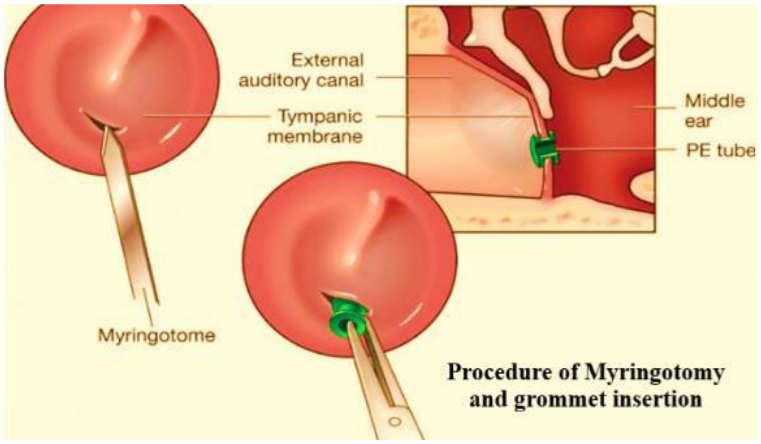


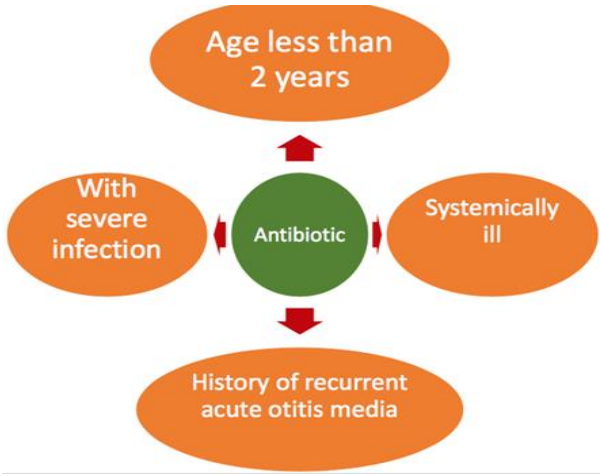
Treatment

- **Advisable to use routine antimicrobial treatment especially for:**
  - » Age <2 years
  - » Those systemically ill
  - » With severe infection
  - » With history of recurrent acute otitis media
- **Pain relief is essential:** acetaminophen, NSAIDs (except acetylsalicylic acid because of risk of Reye syndrome)
- **First-line drug of choice**
  - » **amoxicillin (high dose)**
  - » **Alternate first-line drug or history of penicillin allergy:** azithromycin.

- In some patients age >2 years with no high fever or severe pain, **observation and reevaluation** in 2-3 days is acceptable; if no improvement, start antibiotics.
- Duration: 10 days; shorter if mild, older child
- **Follow up:** within days for young infants, continued pain or severe.
- Otherwise, 8-12 weeks if age <2 years or ≥2 years and with language/learning problems (sustained improvement seen in TM)
- **Second-line drugs:** if continued pain after 2–3 days:
  - **Amoxicillin - clavulinic acid** (effective against β-lactamase producing strains)
  - **Cefuroxime axetil** (unpalatable, low acceptance)
  - **IM ceftriaxone** (may need repeat 1–2×; for severe infection if oral not possible), if patient is not taking/tolerating oral medications.
  - Also, may be **cefdinir** (very palatable, shorter duration)

If clinical response to good second-line drug is unsatisfactory, perform myringotomy or tympanoscentesis



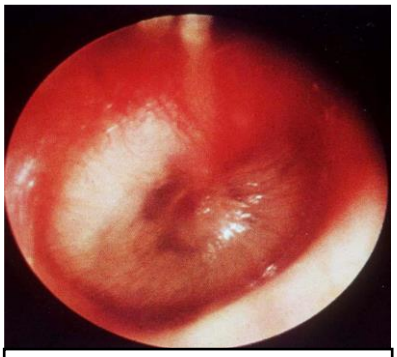


Important note:

Abnormal Examination Findings

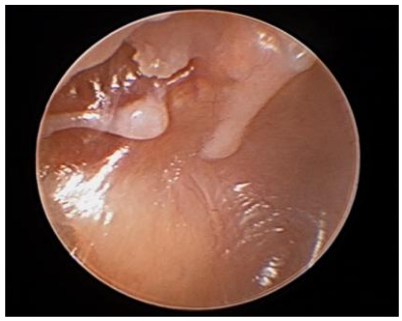
1. **Purulent otorrhea:** sign of otitis externa, otitis media with perforation and/or drainage from middle ear through tympanostomy tube
2. **Bulging TM:** increased middle ear pressure with pus or effusion in middle ear
3. **TM retraction:** negative middle ear pressure (more rapid diffusion of air from middle ear cavity than its replacement via the eustachian tube)
4. **Other findings for an effusion:** bubbles, air-fluid level seen behind TM

Normal eardrum

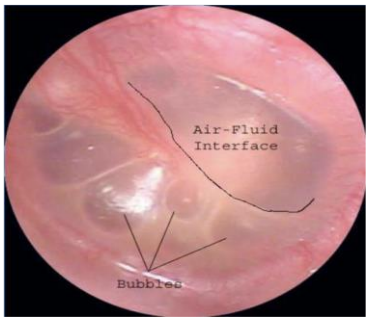


Purulent effusion behind a bulging tympanic membrane

Purulent otorrhea



Retraction of the tympanic membrane resulting in a breakdown of the long process of the incus

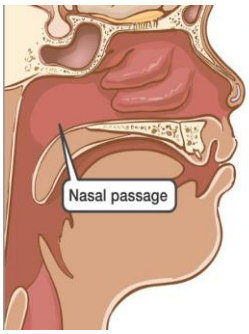


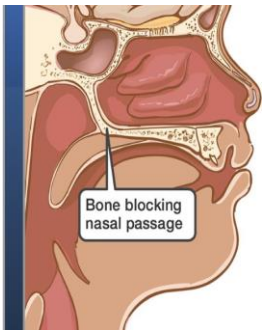
Bubbles, air-fluid level seen behind tympanic membrane.

B. NOSE

1. Choanal atresia

A newborn is noted to be cyanotic in the wellborn nursery. On stimulation, he cries and becomes pink again. The nurse has difficulty passing a catheter through the nose.





Choanal atresia:

Unilateral or bilateral bony (most) or membranous septum between nose and pharynx

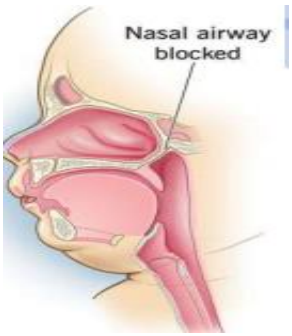
Half have other anomalies **(CHARGE association)**

» **Unilateral:** asymptomatic for long time until first URI, then persistent nasal discharge with obstruction

» **Bilateral:** typical pattern of cyanosis while trying to breathe through nose, then becoming pink with crying; if can breathe through mouth, will have problems while feeding

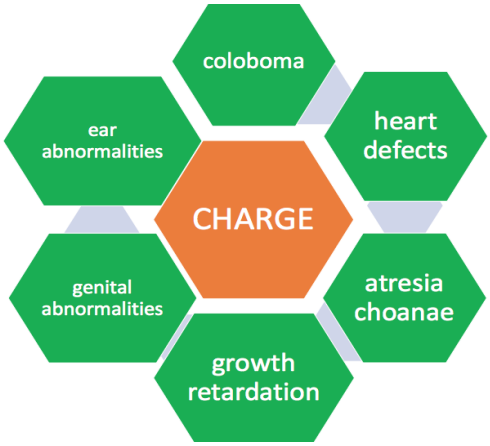
Cyanosis while trying to breathe while pink with crying

Stridor in supine that decreases in prone; exacerbated by exertion



Diagnosis:

- Inability to pass catheter 3–4 cm into nasopharynx.
- Fiberoptic rhinoscopy
- The best way to delineate anatomy is CT scan.



Treatment:

- Establish oral airway, possible intubation.
- Trans-nasal repair with stent(s).

2.Foreign body

Any small object

Clinical: unilateral purulent, malodorous bloody discharge

Diagnosis:

May be seen with nasal speculum or otoscope; lateral skull film if radiopaque (may have been pushed back, embedded in granulation tissue)

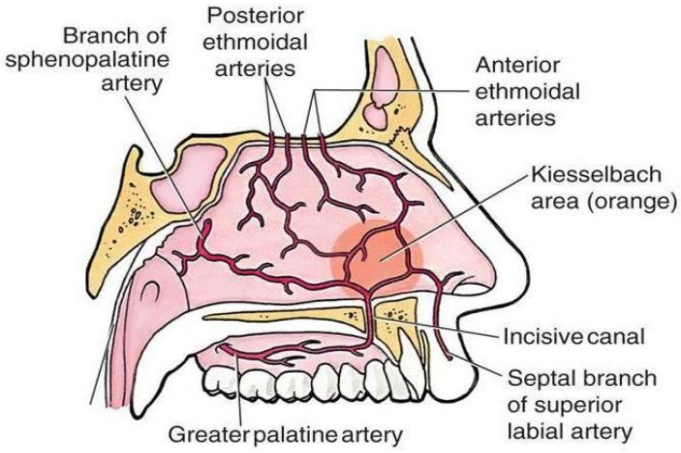
Treatment: if cannot easily remove with needle-nose forceps, refer to ENT

3.Epistaxis

An 8-year-old child has repeated episodes of nosebleeds. Past history, family history, and physical examination are unremarkable.

» Common in childhood; decreases with puberty.
» Most common area—anterior septum (Kiesselbach plexus), prone to exposure

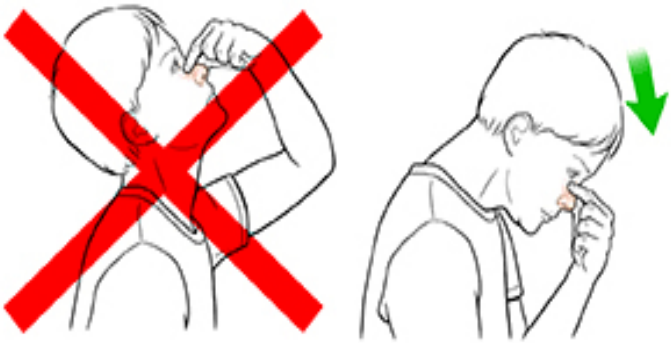
Etiology:



- **Digital trauma** (nose picking; most common)
- **Dry air** (especially winter)
- **Allergy**
- **Inflammation** (especially with URI)
- **Nasal steroid sprays**
- Severe GERD in young infants
- Congenital vascular anomalies
- Clotting disorders
- Hypertension

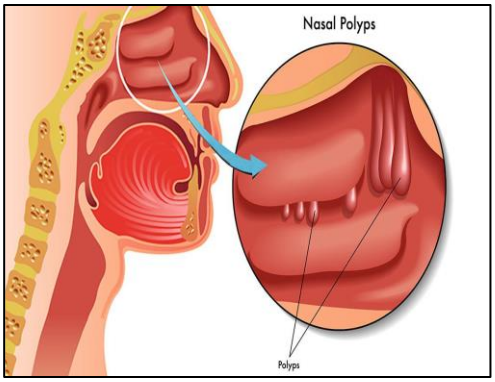
Treatment:

- Most stop spontaneously — Compress nares, upright, head forward; cold compress
- If this does not work, then local oxymetazolone or phenylephrine
- If this does not work, then anterior nasal packing; if it appears to be coming posteriorly, need posterior nasal packing.
- If the bleeding site identified, cautery.
- Use humidifier, saline drops, petrolatum for prevention.



4. Polyps

» Benign pedunculated tumors from chronically inflamed nasal mucosa
» Usually from ethmoid sinus external to middle meatus
» **Most common cause is cystic fibrosis, suspect in any child less than 12 years old with polyp; EVEN in absence of other typical symptoms.**
» May also be associated with the Samter triad (polyps, aspirin sensitivity, asthma)



Presentation:

- Presents with **obstruction** → hyponasal speech and mouth breathing.
- May have profuse mucopurulent rhinorrhea.

Examination: generally glistening, gray, grape-like masses

Treatment:

- **Intranasal steroids/systemic steroids** may provide some shrinkage (helpful in CF)
- **Remove surgically if:**
  - » Complete obstruction
  - » Uncontrolled rhinorrhea
  - » Nose deformity

5. Sinusitis

The same organisms that are responsible for AOM are also implicated in sinusitis.

- **Acute:** viral versus bacterial (differentiated by duration & severity) (Viral is mild and short duration)
- Most with URI- most viral, self-limited; up to 2% complicated by bacterial sinusitis

Sinus development:

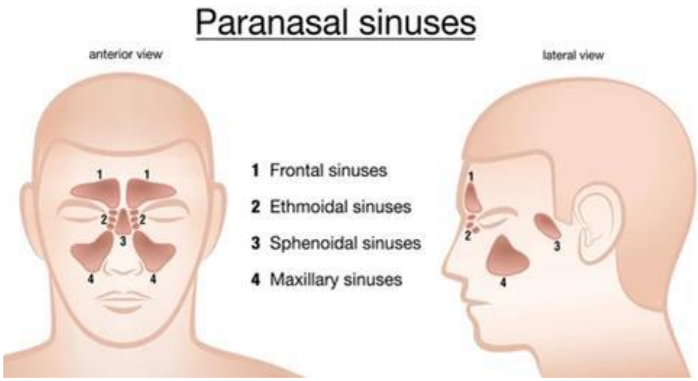
- **Ethmoid and maxillary** are present at birth, but only ethmoid is pneumatized.
- **Sphenoid** present by 5 years
- **Frontal** begins at 7–8 years and is not completely developed until adolescence.

Etiology:

- **S. Pneumonia, nontypeable H. influenzae, M. catarrhalis; S. aureus in chronic cases**
- May occur at **any age.**
- **Predisposed with:**
  - » URI
  - » Allergy
  - » Cigarette smoke exposure

Chronic sinusitis predisposing factors:

1. Immune deficiency
2. CF
3. Ciliary dysfunction
4. Abnormality of phagocytic function
5. GERD, cleft palate
6. Nasal polyps
7. Nasal foreign body



Pathophysiology: Fluid in sinuses during most URIs from nose blowing. Inflammation and edema may block sinus drainage and impair clearance of bacteria.

Clinical features:

- **Nonspecific complaints:** nasal congestion, discharge, fever, cough
- **Less commonly:** bad breath, decreased sense of smell, periorbital edema headache, face pain
- **Sinus tenderness** only in adolescents and adults;
- Exam mostly shows mild erythema and swelling of nasal mucosa and discharge.

Diagnosis:

- **Entirely historical and clinical presentation (evidence-based)**
- **Persistent URI symptoms without improvement for at least 10 days**
- **Severe respiratory symptoms with purulent discharge and temperature at least 38.9°C (102°F) for at least 3 consecutive days**
- The only accurate method to distinguish viral versus bacterial is sinus aspirate and culture, but this is NOT done routinely.
- Sinus films/CT scans—show mucosal thickening, opacification, air-fluid levels, but does not distinguish viral versus bacterial.

Treatment:

- Initial amoxicillin (adequate for majority)
- Alternative—cefuroxime axetil, cefpodoxime, azithromycin
- Treat 7 days past improvement
- If still does not work, refer to ENT (maxillary sinus aspirate)

C. THROAT

1.Acute pharyngitis

An 8-year-old girl complains of acute sore throat of 2 days' duration, accompanied by fever and mild abdominal pain. Physical examination reveals enlarged, erythematous tonsils with exudate and enlarged, slightly tender cervical lymph nodes.

» Viruses versus group A beta-hemolytic strep (GABHS)
» Viral—typical winter and spring; close contact
» **GABHS—uncommon <2–3 years** of age; increased incidence in childhood, then decreases in adolescence; **all year long** (but most in cold months)

Clinical presentation of acute pharyngitis

- Strep pharyngitis
- Scarlet fever
- Viral pharyngitis

1. Strep pharyngitis	*2. Scarlet fever*
• Rapid onset • Severe sore throat and fever • Headache and gastrointestinal symptoms frequently **Exam:** red pharynx, tonsillar enlargement with yellow, blood-tinged exudate, petechiae on palate and posterior pharynx, strawberry tongue, red swollen uvula, increased and tender anterior cervical nodes. 	From GAS that produce one of three streptococcal pyogenic exotoxins (SPE A, B, C); exposure to each confers a specific immunity to that toxin, so a person can have scarlet fever up to three times. • Findings of pharyngitis plus **circumoral pallor** • **Red, finely papular erythematous rash diffusely that feels like sandpaper** • Pastia's lines in intertriginous areas 

3. Viral pharyngitis

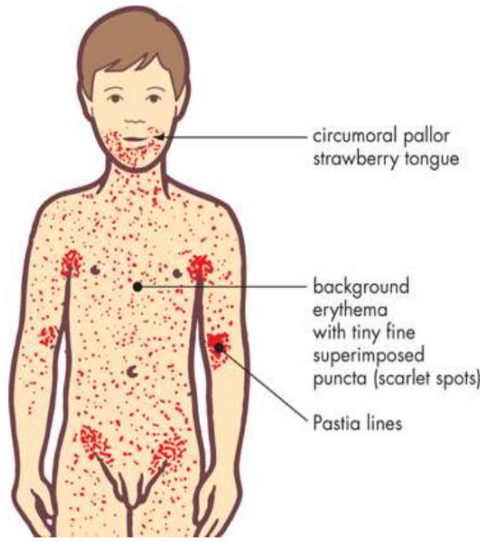
- ❖ More gradual; with typical URI symptoms; erythematous pharynx, no pus
- ❖ Pharyngoconjunctival fever (adenovirus)

Coxsackie:

- ○ Herpangina—small 1–2 mm vesicles and ulcers on posterior pharynx.
- ○ Acute lymphonodular pharyngitis—small 3–6 mm yellowish-white nodules on posterior pharynx with lymphadenopathy.
- ○ Hand-foot-mouth disease: inflamed oropharynx with scattered vesicles on tongue, buccal mucosa, gingiva, lips, and posterior pharynx → ulcerate; also, on hands and feet and buttocks; tend to be painful.

Diagnosis of strep:

- ○ **First: rapid strep test; if positive, do not need throat culture**
- ○ **But must confirm a negative rapid test with cultures if clinical suspicion is high.**



Scarlet fever

Treatment:

Early treatment only hastens recovery by 12–24 hours but prevents acute rheumatic fever if treated within 9 days of illness.

» **Oral Penicillin V or oral amoxicillin for 10 days**

» Benzathine Penicillin G can be given (IM) injection in a single dose if medication adherence is uncertain.

» **if Allergy to penicillin: use azithromycin or erythromycin.**

Complications:

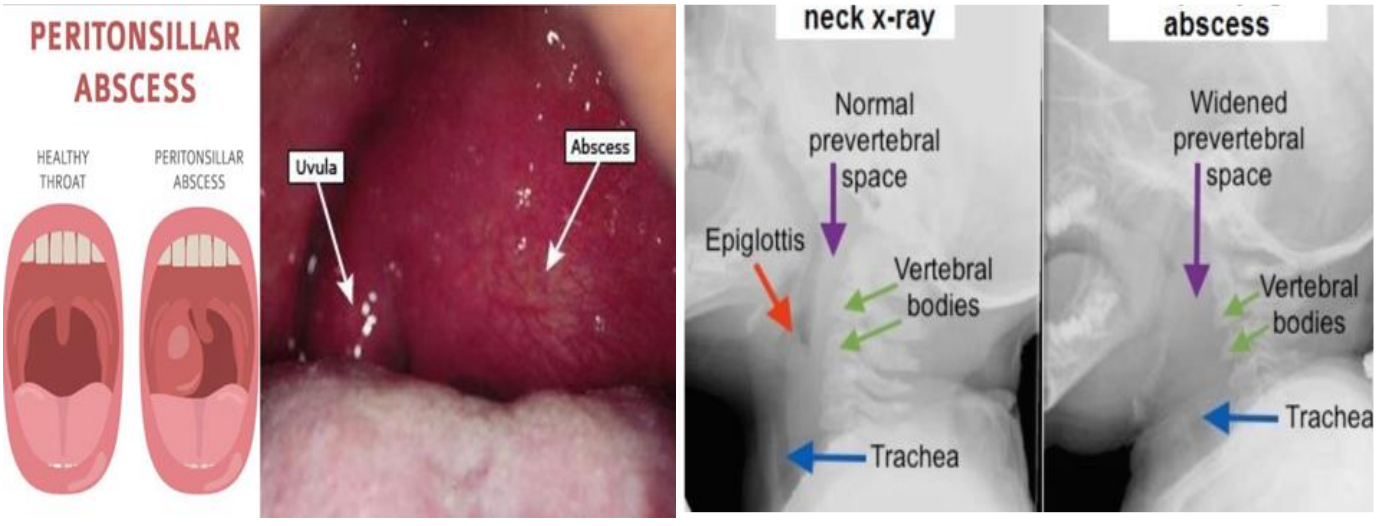
Retropharyngeal and lateral pharyngeal abscess

» Deep nodes in neck; infection from extension of localized infection of oropharynx
» **Clinical**: nonspecific—fever, irritability, decreased oral intake, neck stiffness, torticollis, refusal to move neck, muffled voice
» **Examination**: bulging of posterior or lateral pharyngeal wall
» **Diagnosis:** Soft tissue neck film with head extended may show increase width
» **Definitive diagnosis**: incision and drainage, culture, and sensitivity most polymicrobial (GABHS, anaerobes, S. aureus)
» **Treatment:**
- Intravenous antibiotics + surgical drainage
- Third-generation cephalosporin plus ampicillin/sulbactam or clindamycin
- Surgical drainage needed if respiratory distress or failure to improve

Peritonsillar abscess:

» **Bacterial invasion through capsule of tonsil**
» **Typical presentation**: adolescent with recurrent history of acute pharyngotonsillitis, Sore throat, fever, dysphagia, trismus
» **Examination**:
- asymmetric tonsillar bulge with displacement of uvula away from the affected side is diagnostic.
- GABHS + mixed oropharyngeal anaerobes

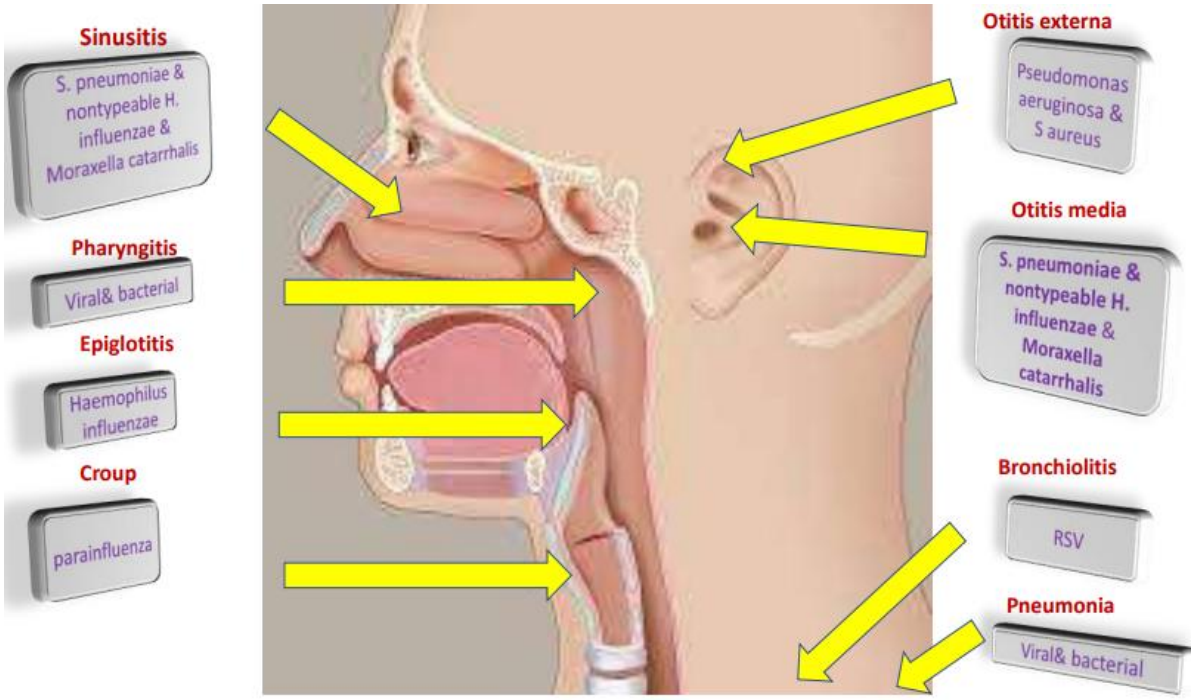
» **Treatment:**
- Antibiotics and needle aspiration
- Incision and drainage
- Tonsillectomy if recurrence or complications (rupture with aspiration)



Note

Causes of Cervical Lymphadenitis Infections

— Viral / bacterial pharyngitis
— Cat scratch disease
— Tb/atypical mycobacteria
— Mumps
— Thyroglossal duct cyst
— Branchial cleft cyst Cystic hygroma Tumors (rare)



Quiz

Q1: A 3-year-old boy presented with fever and a cough. You thinks the patient has croup but is also concerned about epiglottitis**. Which of the following physical findings is most helpful in attempting to differentiate croup from epiglottitis?**

a) Dysphonia
b) Barky cough
c) Dysphagia
d) Drooling
e) Dyspnea

Q2:A 10-year-old girl presents with fever and sore throat. The exam reveals tonsillar erythema and exudates. Examination showed asymmetric tonsillar bulge.
Which of the following is diagnostic sign to diagnose peritonsillar abscess?

a) Displacement of uvula away from the affected side
b) scattered vesicles on tongue, buccal mucosa, gingiva, lips
c) Circumoral pallor and Red, finely popular erythematous rash
d) bulging of posterior or lateral pharyngeal wall
e) petechiae on palate and posterior pharynx

Q3: A 3-day-newborn presented with cyanosis. His mother stated that cyanosis is improved, and his baby turned pink with crying. **Which of the following is the most probable diagnosis?**

a) Laryngomalacia
b) Vocal cord paralysis
c) Choanal atresia
d) Trisomy 21
e) Retropharyngeal abscess

Q4: A 6-year-old child presented with headache, face pain, fever, cough. Examination showed nasal congestion, discharge. **Which of the following is the expected causative organisms?**

a) Escherichia coli and alpha streptococcus
b) Respiratory syncytial &adenovirus
c) Staphylococcus aureus and Proteus species
d) S. pneumonia, nontypeableH. influenzae, M. catarrhalis
e) parainfluenza types 1, 2, 3 and Streptococcus pneumoniae

Q5: A 4-year-old boy presents with sore throat and fever of sudden onset. He has difficulty swallowing and his breathing is labored. He is drooling and sitting upright and leaning forward in a tripod position. **What is the appropriate next step in patient management?**

a) Complete blood cell counts and intravenous antibiotics
b) Lateral radiograph of the neck
c) Dose of oral dexamethasone
d) Direct laryngoscopy in the operating room
e) Examination of the oral cavity

QUIZ

1- A 9-month-old infant presented to the pediatric clinic with unilateral nasal purulent, malodorous bloody discharge. His father stated that his son is not responding to treatment for one month. Which of the following is the most probable diagnosis? ***MID 59 + Form***

A. Acute sinusitis B. Adenoid hypertrophy
C. Choanal atresia D. Nasal foreign body
E. Upper respiratory tract infection

2- A 7-year-old girl presents with fever and sore throat. Physical examination reveals tonsillar erythema and exudates, circumoral pallor and red, finely papular erythematous rash diffusely that feels like sandpaper. Which of the following is the most probable causative organism? ***MID 59***

A. Coxsackie virus B. Group A beta hemolytic streptococci
C. Hemophilus influenzae D. Moraxella catarrhalis E. Staphylococcus aureus

3- A 3-year-old child presented with inflamed oropharynx with scattered vesicles on tongue, buccal mucosa, gingiva, lips, and posterior pharynx; also, on hands and feet and buttocks; tend to be painful. Which of the following is the most probable causative organism? ***MID 59 + Form***

A. Adenovirus B. Coxsackie virus
C. Group A beta hemolytic streptococci D. Moraxella catarrhalis E. Staphylococcus aureus

4. A 5-months-old boy was seen in follow-up clinic with history of noisy breathing mainly during inspiration, and more prominent when he is crying, his symptoms was noted since he was one week of age. Which of the following is the least likely diagnosis? ***MID 62***

A. Laryngeal hemangioma B. Laryngeal web
C. Laryngomalacia D. Viral Croup E. Vocal cord paralysis

5. A 3-years-old male child presented to hospital because of sudden onset of respiratory distress preceded by chocking and coughing episodes while he was playing with his toys. On chest examination, there is diminished air entry and expiratory rhonchi over the right side. The most likely diagnosis is: ***MID 62***

a) Acute severe asthma b) Esophageal foreign body ingestion
c) Foreign body aspiration d) Gastro-esophageal reflux e) Severe pneumonia

6. A 4-year-old child presents with fever, diffuse finely papular red rash with circumoral pallor, coated tongue with reddish swollen papillae, and follicular tonsillitis of 1-day duration. What is the most likely diagnosis? ***MID 62***

a) Avian influenza b) Measles
c) Roseola infantum d) Rubella (German measles) e) Scarlet fever

7. A 6-year-old child presented with headache, face pain, fever, cough. Examination showed erythema and swelling of nasal mucosa, nasal congestion and discharge. No history of similar attack. Which of the following is the most likely expected causative organisms? ***Final 59***

A. Escherichia coli and alpha streptococcus
B. Respiratory syncytial virus and adenovirus
C. Staphylococcus aureus and Proteus species
D. S. pneumonia, non-typeable H. influenzae, M. catarrhalis
E. Parainfluenza types 1, 2, 3 and Streptococcus pneumoniae

8. A 7-month-old boy with respiratory difficulty is brought to the emergency department at 3 AM. His mother reports that several family members have had "colds" over the past week. He first developed cough and coryza 3 days ago, and the cough has become "barky." On examination, he has an axillary temperature of 38 degrees C, respiratory rate 55 breaths/min, and heart rate 140 beats/minute. Which of the following is the next step in management of this patient? ***Final 59 I***

A. Chest radiograph
B. Nebulized B2 agonists
C. Nebulized epinephrine and corticosteroids
D. Parenteral antibiotics
E. Throat swab for rapid testing for Streptococci

9. A 14-month-old girl has a 6-hour history of fever to 39.2 degrees C and an increasingly ill appearance. She is anxious and does not want to leave her mother's arms, but she gives only a faint cry when approached. Her respiratory rate is 70 breaths/minute, and her neck is hyperextended. She has never been immunized. She is noted to be unable to drink with saliva drooling from her mouth. Which of the following is the next most appropriate step in management? ***Final 59 I***

A. Administer nebulized racemic epinephrine and steroids
B. Humidified oxygen and observation
C. Immediate transfer to the operating room for tracheal intubation
D. Obtain blood, urine, and cerebrospinal fluid cultures
E. Perform a complete throat examination

10. A 7-year-old girl presents with fever and sore throat. Examination reveals tonsillar erythema and exudates, circumoral pallor and red, finely papular erythematous rash diffusely that feels like sandpaper. The mother is worried and asked you if this condition can be repeated to her girl in the future. Which of the following is the right answer? ***Final 59 I***

A. Can be repeated every winter
B. Can be repeated once again
C. Can be repeated three times again
D. Can be repeated two times again

11. An 8-year-old child has repeated episodes of nose bleeding. Past history, family history, and physical examination are unremarkable. Which of the following is the best position for the child during nasal compression? ***Final 59 I***

A. Prone position
B. Supine position
C. Tripod position
D. Upright, head backward
E. Upright, head forward

12. An 18-month-old child presents to your office with a 2-day history of fever. He is not eating well, and the mother tells you that she thinks his mouth hurts. Examination showed vesicular rash in his mouth, small vesicular lesions on his palms, soles and buccal mucosa. Which of the following viruses is the most likely causative agent of this disease? ***Final 59 I***

A. Adenovirus
B. Coxsackie virus
C. Human herpes virus
D. Parvovirus
E. Varicella-zoster virus

13. A mother is rushed to the emergency room with her 2-day-old baby. She noticed that her baby's lips looks blue and they turned pink during crying. He has difficulty to feed and breath at the same time. Which of the following is the most probable diagnosis? ***Final 60 I***

A. Choanal atresia
B.Laryngomalacia
C.Retropharyngeal abscess
D.Trisomy 21
E.Vocal cord paralysis

Written QS

1. Mention the most probable diagnosis of neonate who presented with stridor since birth that increase in supine & improved in prone position: ***Mid 59***

2. You council a mother with her newborn who was diagnosed to have this anomaly as seen in the photo. Mention 2 complications you will inform the mother that her baby might have? ***Mid 59***

3. A 5-year-old child presented with fever, irritability, decreased oral intake, torticollis, refusal to move neck, muffled voice. Examination showed bulging of posterior pharyngeal wall. What is the most probable diagnosis? ***Mid 59***

4. A 1-year old child is seen in the office with a 3 day history of feve and cold symptoms and now complains of right ear pain. Physical examination is remarkable for a bulging tympanic membrane with loss of light reflex landmarks. Name the first line of choice ***Mid 59***

5. A 3-day-newborn presented with cyanosis. His mother stated that cyanosis is improved, and his baby turned pink with crying. What is the most likely diagnosis? ***Mid 59***

6. Following your request for a plain radiograph of the neck of a 2-year-old child who presented with barking cough, the radiologist calls you to report finding of a steeple sign. The most probable diagnosis of this child is ***Mid 59***

7. A 16-year-old girl presented with fever, sore throat and dysphagia. Physical examination revealed tonsillar erethema and exudates with asymmetric pharyngeal bulge. She has a history of recurrent acute pharyngotonsillitis. What is the diagnostic sign for the most likely diagnosis? ***MID 62***

8. A 4-year-old previously healthy child presents to the emergency department with a sudden onset of high fever, sore throat, and difficulty swallowing and drooling. On examination, the child is sitting in a tripod position, appears anxious, has a muffled speech, inspiratory stridor is noted. What precautions should be taken during the examination of this patient? ***MID 62***

9. A 4-year-old child is seen in the outpatient clinic with a 3-day history of fever and cold symptoms. Today he complains of right ear pain. Physical examination is remarkable for a bulging tympanic membrane with loss of light reflex and landmarks. ***Final 59 I + Final 60***
A. What is the most probable diagnosis?

B. Two days later, you see him because of persistence of ear pain, high fever and a painful swelling behind the same ear. On examination there is displacement of pinna inferiorly and anteriorly and inflammation of posterior auricular area with pain on percussion of mastoid process. What is the most probable diagnosis?

10. A 12-month-old infant is brought to emergency department because of barky cough. The mother states that over the past 3 days the child has developed a runny nose, fever, and cough. The symptoms are getting worse, and the child seems to have difficulty breathing. The cough sounds like a sound of seal barking. What is the severe form of the most likely diagnosis characterized by? ***Final 61 I***

1	2	3	4	5	6	7	8	9	10	11	12	13
D	B	B	D	C	E	D	C	C	D	E	B	A

ANSWERS

1. Laryngomalacia
2. A. Otitis media
2. B. Hearing loss Speech problem
3. Retropharyngeal abscess
4. Amoxicillin
5. Choanal atresia
6. Croup
7. Displacement of uvula away from the affected side
8. Do not examine the throat unless an anesthesiologist or otolaryngologist is present
9. A. Acute otitis media
9. B. Acute mastoiditis.
10. Severe croup is characterized by mental status changes accompanied by significant respiratory distress and decreasing air entry, indicating impending respiratory failure.