

Upper Respiratory Tract Infection

URTI

Objective

- To learn the epidemiology and various clinical presentation of URT
- To identify the common etiological agents causing these syndromes
- To study the laboratory diagnosis of these syndromes
- To determine the antibiotic of choice for treatment

Definition

- Pharyngitis
- Otitis Media
- Sinusitis
- Epiglottitis

Conducting Passages

Upper respiratory tract

Nasal cavity

Pharynx

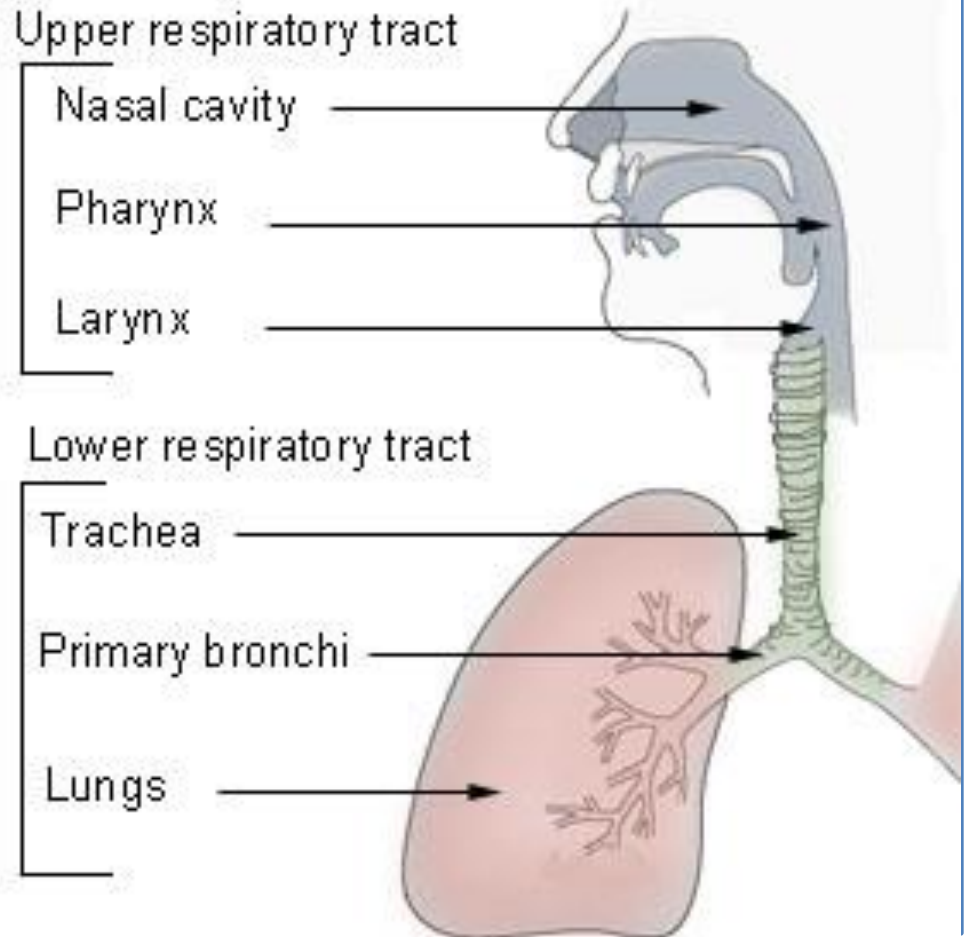
Larynx

Lower respiratory tract

Trachea

Primary bronchi

Lungs



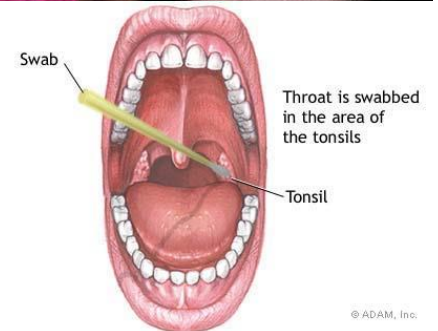
Pharyngitis

- Late fall, winter, early spring
- 5 to 15 years
- erythema, edema, and/or exudates
- Tender, enlarged >1 cm lymph nodes
- Fever 38.4 and 39.4° C
- No signs and symptoms of viral infections



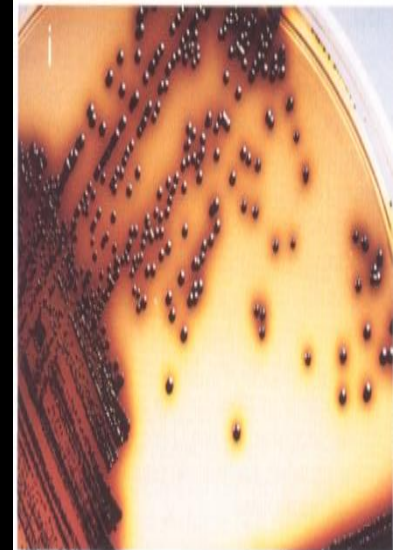
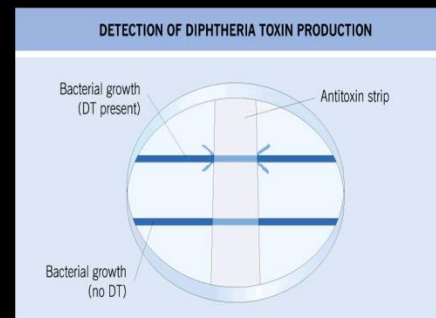
Pharyngitis

- Etiology
- Viral is the most common
 - Enterovirus, HSV, EBV, HIV, Respiratory viruses
- Bacterial Group A streptococcus
- *Neisseria gonorrhoeae*
- Anaerobic bacteria i.e Lemierre's syndrome
- *Corynebacterium diphtheriae*



Corynebacterium diphtheriae

- One of the most common causes of death in unvaccinated children 1-5yrs.
- Toxin mediated disease
- Rapid progression tightly adhering gray membrane in the throat
- Tinsdale media
- Penicillin or erythromycin



Epiglottitis

- Usually young unimmunized children presented with dysphasia, drooling, and distress
- *H.influenzae* Type b
- *S.pneumoniae*
- *S.aureus* or Beta hemolytic streptococcus
- Viral or candida
- Ceftriaxone



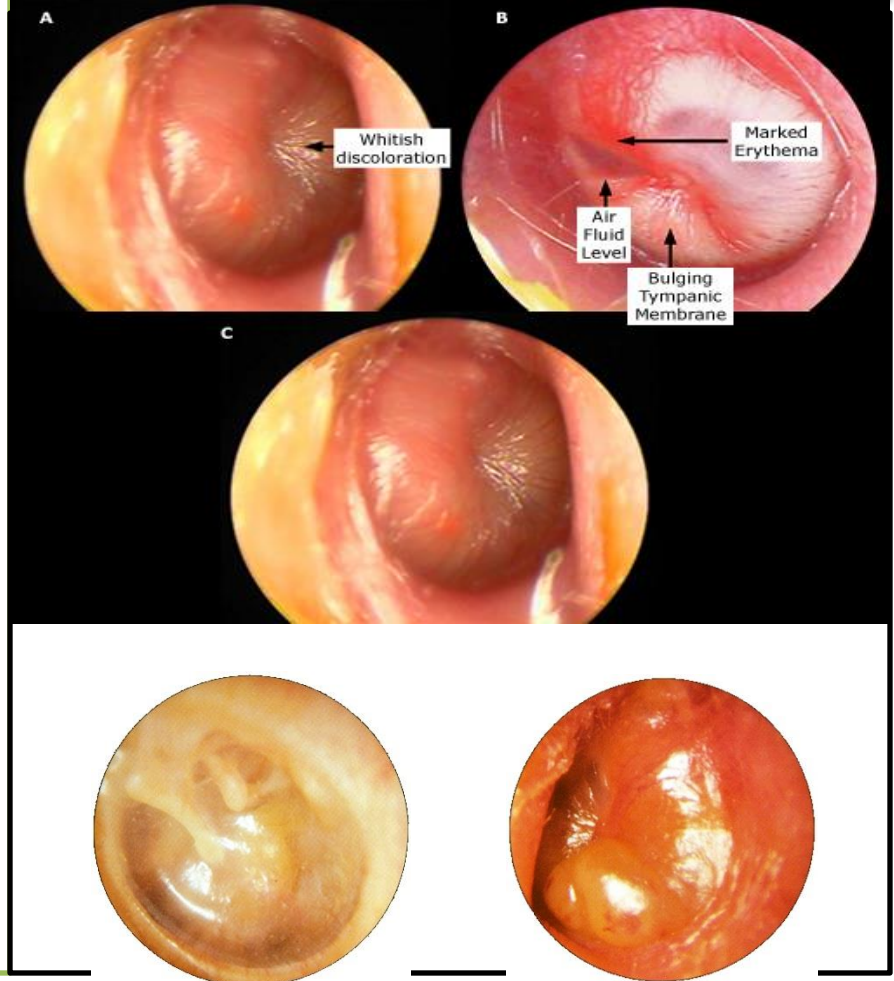
Pertussis (whooping cough)

- *Bordetella pertussis* (GNB)
- Pertussis toxin (PT)*
- Filamentous hemagglutinin (FHA)
- Incubation period 1 to 3 wks
- Catarrhal Stage 1-2 weeks
- Paroxysmal Stage 1-6 weeks
- Convalescent Stage 3-6 weeks
- Leukocytosis with lymphocyte predominance
- nasopharyngeal (NP) swabs
- Charcoal-horse blood T media
- Regan-Lowe, Bordet-Gengou
- Treatment and prevention



Acute otitis media

- *S. pneumoniae*
- *H. influenzae*
- GAS
- *S. aureus*
- *Moraxella catarrhalis*
- Viral and fungal
- Tympanocentesis
- Amoxicillin or AMC
- Mastoiditis treat for 2 wks



Bacterial sinusitis

• Acute sinusitis

- Children
- Mainly clinical diagnosis
- Aspiration in case T failure
- Dx X-rays CT/MRI
- Periorbital cellulitis R/O sinusitis by CT/MRI
- Post-septal involvement treat as meningitis

• Chronic sinusitis

- Less local symptoms
- Mimic allergic rhinitis
- Dx Image less useful than acute (changes persist after T and to R/O tumor)
- Obtain odontogenic X-rays if maxillary sinus

Bacterial sinusitis

- **Acute sinusitis**

- *S.pneumoniae*
- *H.influenza*
- *M.catarrhalis*

- **Treatment**

- Quinolones or
- Ceftriaxone
- For 1-2 weeks

- **Chronic sinusitis**

- *S.pneumoniae*
- *H.influenza*
- *M.catarrhalis*
- Oral anaerobes

- **Treatment**

- Same as acute sinusitis
- Duration
 - For 2-4 weeks

Clinical Presentations of Sinusitis



Figure 2. View of right nostril showing pale, boggy nasal mucosa with clear secretions in patient with perennial allergic rhinitis.

Figure 2 courtesy of Richard Hebert II, MD, and Mark Gerber, MD, department of otolaryngology, Children's Memorial Hospital, Chicago.

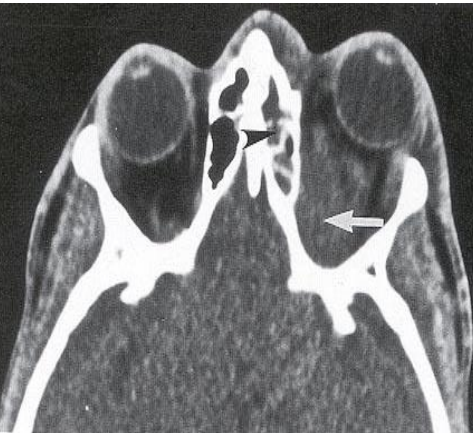
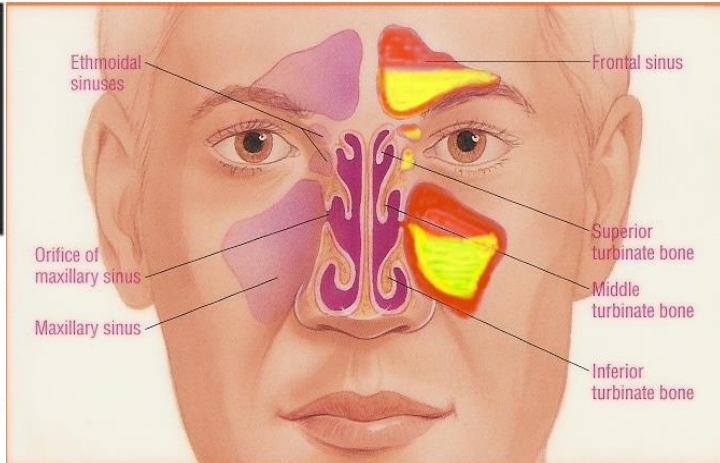
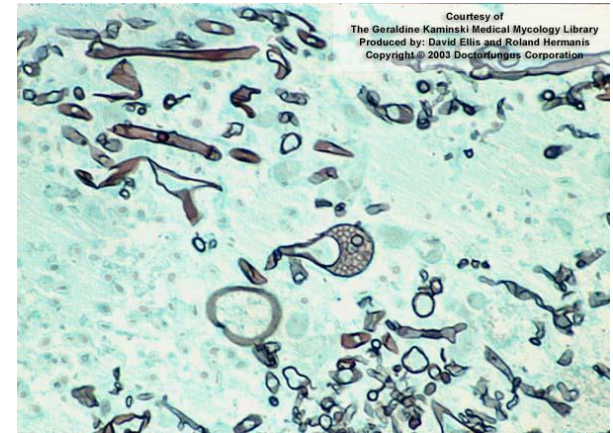
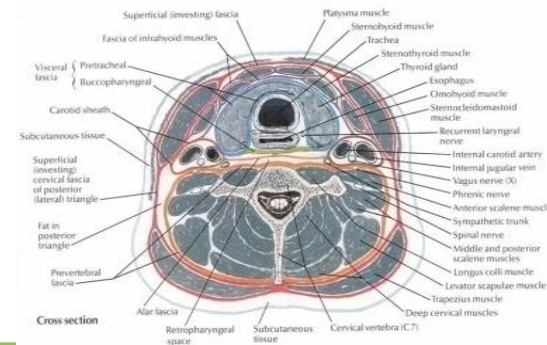


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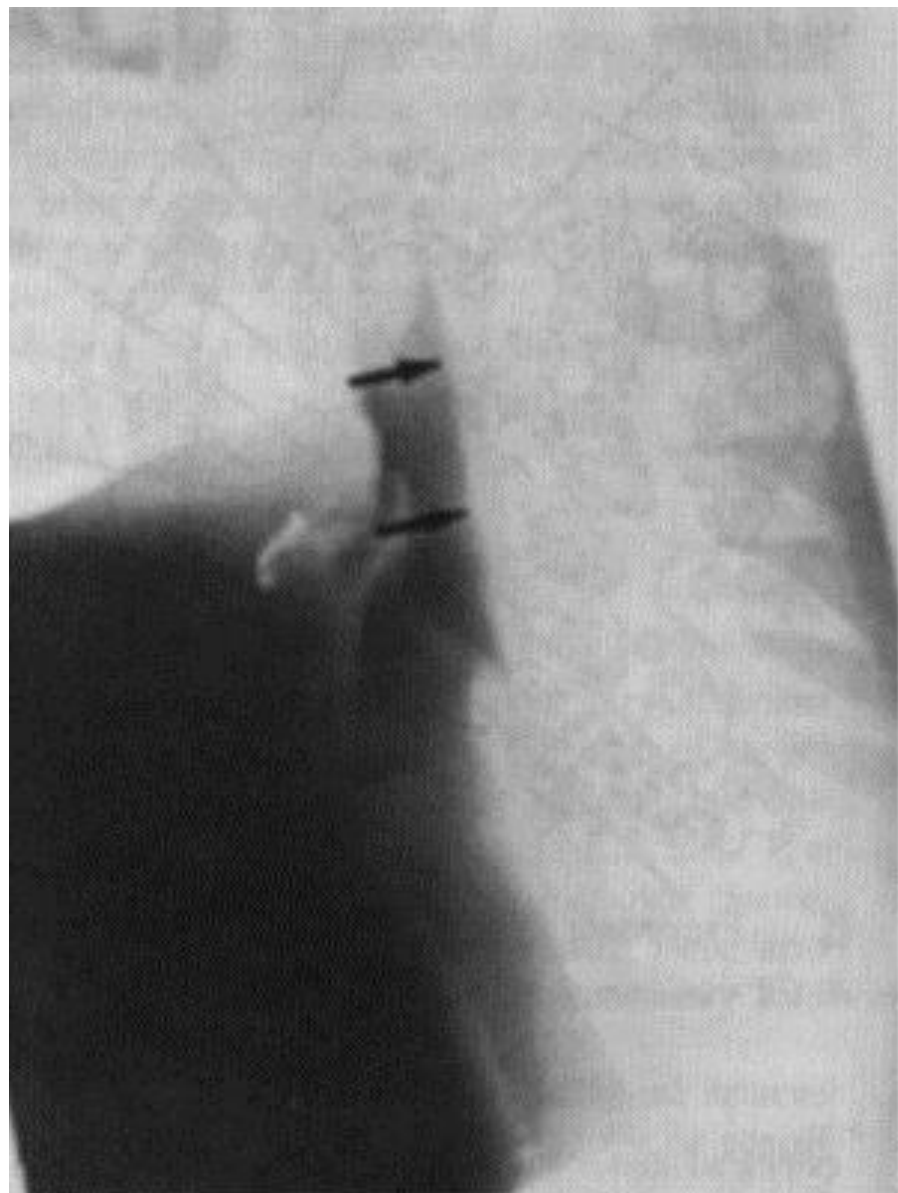


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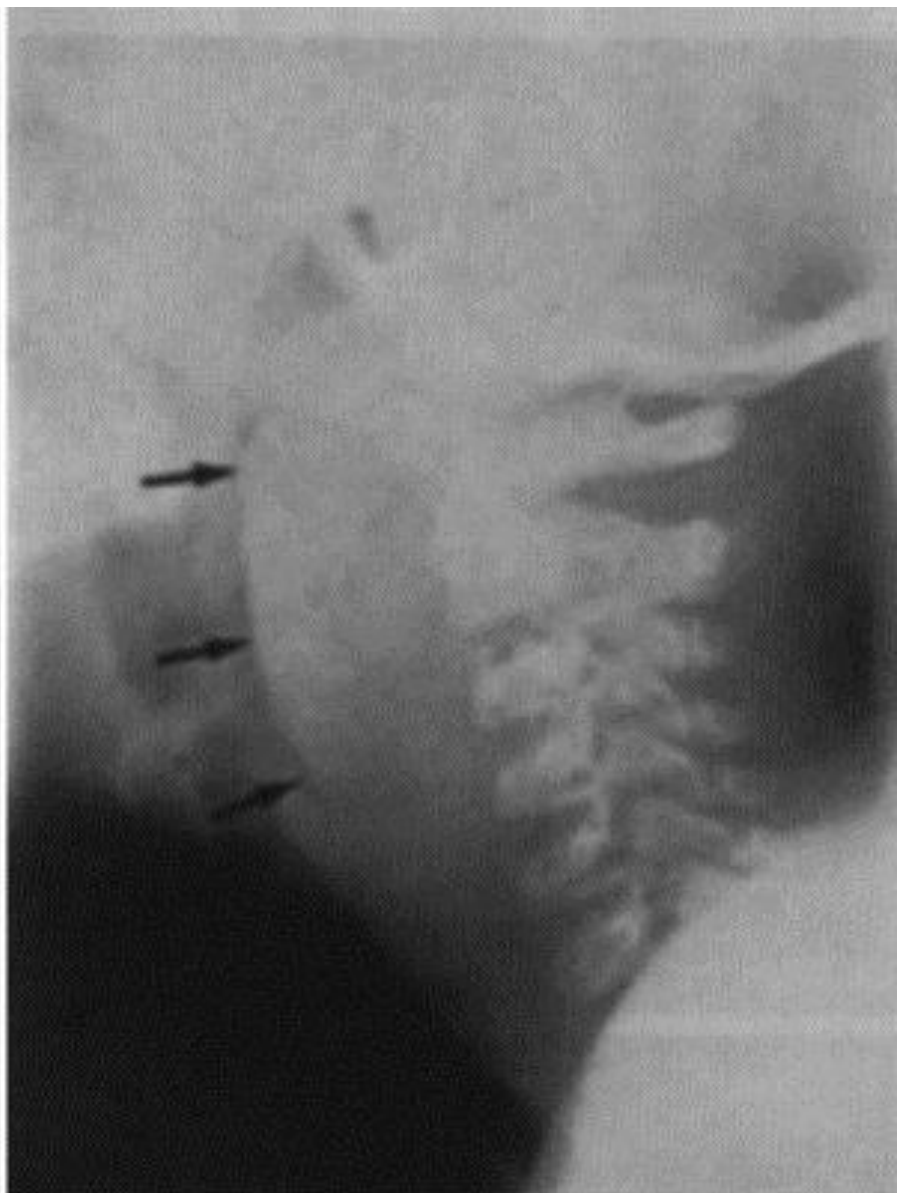
Deep neck space infections



- Lateral pharyngeal, retropharyngeal or prevertebral space
- Patients are toxic with unilateral posterior pharyngeal soft tissue mass on oral exam
- Neck stiffness with retropharyngeal space infection/abscess
- Retropharyngeal (danger space) infection may extend to mediastinum and present as mediastinitis
- Prognosis is poor without surgical drainage



A



B

Deep neck space infections treatment

- Usual pathogens
 - Oral streptococci and anaerobes
- **TREATMENT**
 - Meropenem or
 - Piperacillin
 - Clindamycin
- Duration
 - 2 weeks

Other Infections

- Lemierre's syndrome
- As a complication peritonsillar abscess or post-dental infection
- Patient present with sore throat, fever and shock due IJV thrombophlebitis which leads to multiple septic emboli in the lung
- *Fusobacterium necrophorum*
- Medical T same as deep neck space infection
- Venotomy if not respond to medical treatment

