RESPIRATORY TRACT INFECTIONS

DIAGNOSTIC APPROACH

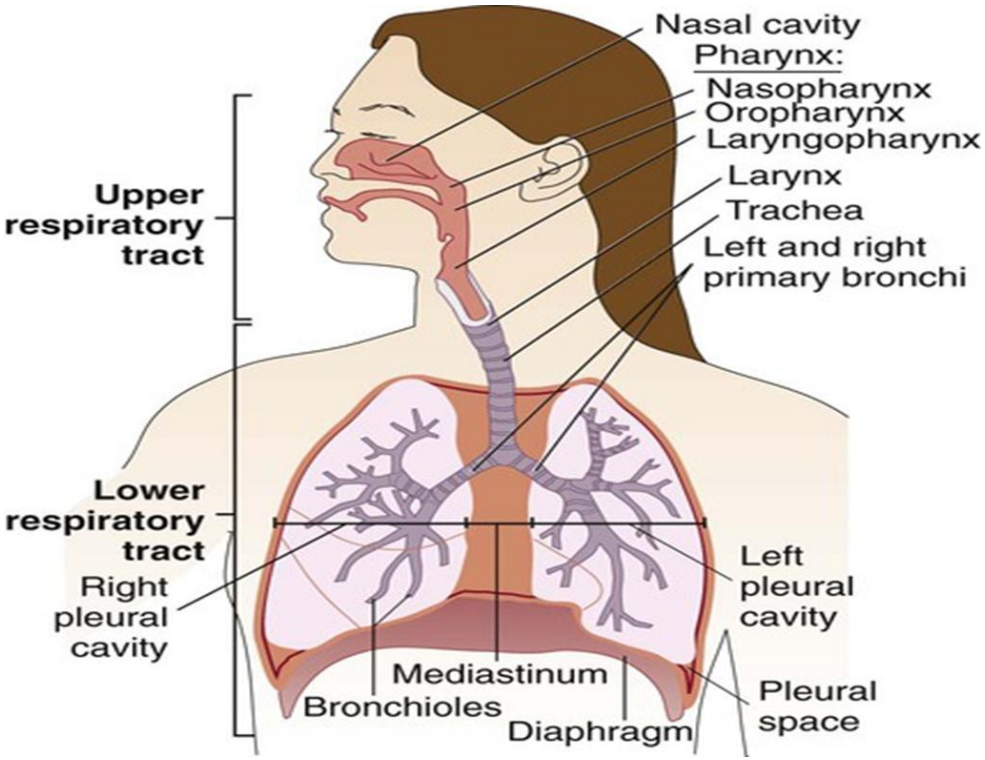
OUTLINES

- Introduction
- Anatomy
- Pathogenesis of the respiratory tract
- Clinical presentation
- Laboratory Diagnosis

INTRODUCTION

- Respiratory tract infection refers to any of a number of infectious diseases involving the respiratory tract
- It is classified in to 2 types :
  - UPPER RESPIRATORYTRACT INFECTION
  - LOWER RESPIRATORYTRACT INFECTION

ANATOMY


Nasal cavity
Pharynx:
Nasopharynx
Oropharynx
Laryngopharynx
Larynx
Trachea
Left and right primary bronchi
Upper respiratory tract
Lower respiratory tract
Right pleural cavity
Left pleural cavity
Mediastinum
Bronchioles
Diaphragm
Pleural space

PATHOGENESIS OF THE RESPIRATORY TRACT

- **Host Factors**
  - Nonspecifc defence mechanisms
  - Normal flora
- **Microorganism factor**
  - Adherence
  - Toxins
  - Avoiding the host response
  - Microorganisms growth

CLINICAL PRESENTATION

A. LRTI:

- Bronchitis
  - Acute
  - Chronic
- Bronchiolitis
- Pneumonia
- Pleural infections

CLINICAL PRESENTATION

- **Pneumonia**
  - Typical and atypical pneumonias
    - **Community-acquired pneumonia**
      - Children
        - Nosocomial infections
      - Young adults
    - **Chronic LRTI**
      - Cystic fibrosis (CF)
    - **In immunocompromised patients**
      - Transplant recipients
      - HIV-infected Patients

CLINICAL PRESENTATION

B. URTI:

- Laryngitis
- Laryngotracheobronchitis
- Epiglottitis
- Pharyngitis, tonsilitis and peritonsillar abscesses
- Rhinitis

CLINICAL PRESENTATION

C. Oral cavity:

- Stomatitis
- Thrush
- Periodontal infections
- Salivary gland infections

LABORATORY DIAGNOSIS OF LRTI

A. Specimen collection and transport

- **Sputum**
  - Expectorated
  - Induced

- **Endotracheal or tracheostomy suction specimens**
  - Bronchoscopy
  - Transtracheal aspirates
  - Other invasive procedures

LABORATORY DIAGNOSIS OF LRTI

B. Specimen processing

- Direct visual examination
  - Gram stain
  - Direct fluorescent antibody (DFA) stain
- Routine culture
  - 5% sheep blood agar, MacConkey agar, chocolate agar
  - No enrichmient broth or anaerobic incubation except for transtracheal aspiration
  - BCYE agar
  - Other

LABORATORY DIAGNOSIS OF URTI

A. Specimen collection and transport

B. Direct visual examination or detection

- Culture

LABORATORY DIAGNOSIS OF **ORAL CAVITY AND NECK INFECTIONS**

A. Specimen collection and transport

B. Direct visual examination

C. Culture