

DISEASES OF THE RESPIRATORY SYSTEM AND MANAGEMENT

Definition:

The respiratory system includes the lungs, airways, and breathing muscles. Diseases of the respiratory system are conditions that affect breathing or the exchange of oxygen and carbon dioxide.

Common Cold (Viral Rhinitis)

- Cause: Viral infection (Rhinovirus, Coronavirus)
- Symptoms: Runny nose, sneezing, mild fever, sore throat
- Management: Rest, hydration, symptomatic treatment, avoid antibiotics unless secondary infection

Influenza (Flu)

- Cause: Influenza virus
- Symptoms: Fever, chills, cough, body aches, fatigue
- Management: Antiviral drugs (Oseltamivir), symptomatic treatment, vaccination for prevention

Pneumonia

- Cause: Bacterial, viral, or fungal infection
- Symptoms: Cough, fever, chest pain, shortness of breath
- Management: Antibiotics (bacterial), oxygen therapy, supportive care, hospitalization if severe

Tuberculosis (TB)

- Cause: Mycobacterium tuberculosis
- Symptoms: Chronic cough, hemoptysis, night sweats, weight loss
- Management: Anti-tubercular therapy (6–9 months), isolation in early phase, nutritional support

Asthma

- Cause: Chronic airway inflammation triggered by allergens, infections, or stress
- Symptoms: Wheezing, coughing, shortness of breath, chest tightness
- Management: Inhaled bronchodilators (Salbutamol), inhaled corticosteroids, avoid triggers, monitor peak flow

Chronic Obstructive Pulmonary Disease (COPD)

- Cause: Long-term exposure to smoke, pollutants, chronic bronchitis, emphysema
- Symptoms: Chronic cough, sputum production, dyspnea
- Management: Bronchodilators, corticosteroids for exacerbations, oxygen therapy, smoking cessation, pulmonary rehabilitation

Bronchitis

- Cause: Viral or bacterial infection, smoking
- Symptoms: Persistent cough, mucus, mild fever
- Management: Symptomatic treatment, antibiotics only for bacterial infection, avoid smoking

Lung Cancer

- Cause: Smoking, environmental toxins, genetic factors

- Symptoms: Persistent cough, hemoptysis, weight loss, chest pain
- Management: Surgery, chemotherapy/radiotherapy, palliative care

Pulmonary Embolism

- Cause: Blood clot in pulmonary arteries
- Symptoms: Sudden dyspnea, chest pain, tachycardia, hemoptysis
- Management: Anticoagulants, oxygen therapy, thrombolysis in severe cases

COVID-19 (Coronavirus Disease)

- Cause: SARS-CoV-2 virus
- Symptoms: Fever, cough, shortness of breath, fatigue, loss of taste/smell
- Management: Oxygen therapy for hypoxia, antivirals & corticosteroids if severe, supportive care, isolation, vaccination

General Management Principles:

- Maintain airway patency
- Ensure oxygenation (oxygen therapy if needed)
- Administer medications as per cause (antibiotics, antivirals, bronchodilators)
- Physiotherapy: Breathing exercises, chest physiotherapy
- Lifestyle measures: Avoid smoking, pollutants, allergens
- Vaccination: Influenza, Pneumococcal, COVID-19

Prevention of Respiratory Diseases:

- Hand hygiene & masks to prevent infections
- Vaccination programs
- Avoid exposure to pollutants, smoke, and allergens
- Healthy lifestyle and nutrition
- Early medical consultation for persistent symptoms

Short Exam Notes:

- Viral: Cold, Flu, COVID-19
- Bacterial: Pneumonia, TB
- Chronic: Asthma, COPD, Bronchitis
- Severe: Pulmonary embolism, Lung cancer
- Management = Airway + Oxygen + Cause-specific treatment + Supportive care