


COPD & difference
between obstructive
and restrictive lung
disease

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Learning Objectives

By the end of this presentation, learners should be able to:

- Define COPD
- Identify causes and risk factors of COPD
- Recognize signs and symptoms of COPD
- Differentiate obstructive vs restrictive lung disease
- Understand basic treatment and physical therapy management

What is COPD?

Definition of COPD

COPD is a chronic, progressive lung disease

Causes airflow limitation and difficulty breathing

Includes:

Chronic bronchitis

Emphysema

Airflow obstruction is usually not fully reversible

Key Features

- Dyspnea (shortness of breath)
- Chronic cough
- Sputum production
- Reduced exercise tolerance

COPD Pathophysiology

Chronic Bronchitis

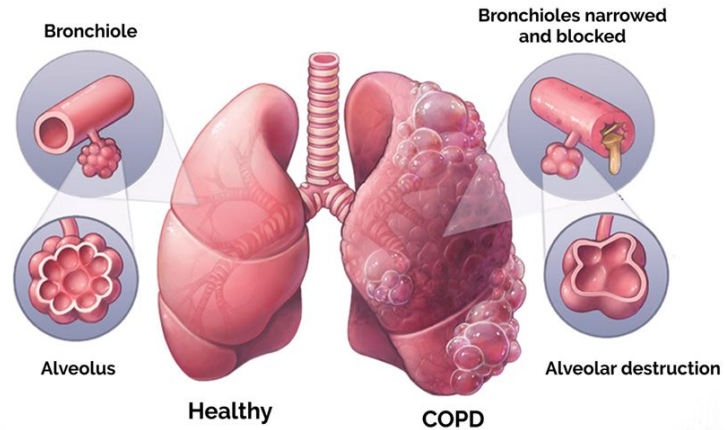
- Airway inflammation
- Excess mucus

Emphysema

- Alveolar destruction
- Air trapping

Result

- Difficulty exhaling
- Poor gas exchange



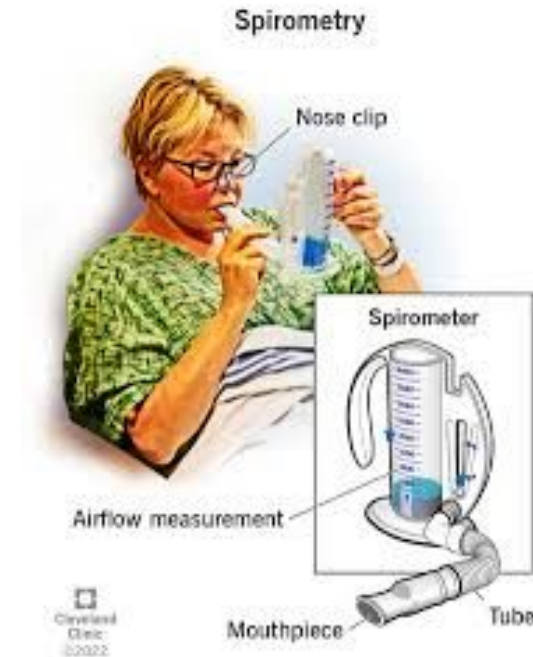
Causes & Diagnosis

Causes

- Smoking
- Air pollution
- Occupational exposure
- Genetics

Diagnosis

- Spirometry/PFT
- ↓ FEV1/FVC ratio (<70%)
- Chest X-ray or CT



Obstructive Lung Disease

Definition

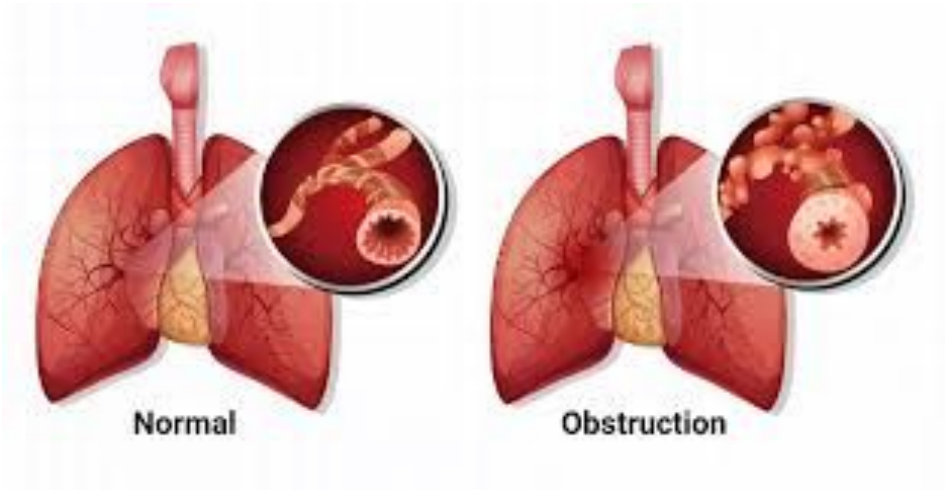
Difficulty getting air OUT of the lungs due to narrowed or blocked airways

Examples

- COPD
- Asthma
- Bronchiectasis

Characteristics

- Air trapping
- Increased residual volume
- Prolonged expiration
- Decreased FEV1/FVC ratio



Restrictive Lung Disease

Definition

Difficulty getting air INTO the lungs due to reduced lung expansion

Examples

- Pulmonary fibrosis
- Scoliosis
- Obesity
- Neuromuscular disorders

Characteristics

- Reduced lung volumes
- Stiff lungs/chest wall
- Decreased total lung capacity (TLC)



COPD Treatment

Medical Management

Medications

- Bronchodilators
- Corticosteroids
- Oxygen therapy

Lifestyle

- Smoking cessation
- Vaccinations
- Pulmonary rehabilitation

Severe Cases

- Surgical intervention
- Lung transplant



PT Management

Interventions

- Pursed-lip breathing
- Diaphragmatic breathing
- Aerobic exercise
- Strengthening
- Energy conservation

Goals

- Reduce dyspnea
- Improve endurance
- Improve function



Key Takeaways

- COPD is a chronic obstructive lung disease
- Smoking is the leading cause
- Obstructive diseases affect exhalation
- Restrictive diseases limit lung expansion
- Spirometry helps differentiate disease types
- PT plays an important role in improving function and quality of life

References

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