

# SNS COLLEGE OF PHYSIOTHERAPY

Affiliated To The Tamil Nadu Dr. MGR Medical University, Chennai  
Coimbatore – 641035

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**COURSE NAME : CLINICAL CARDIOLOGY**

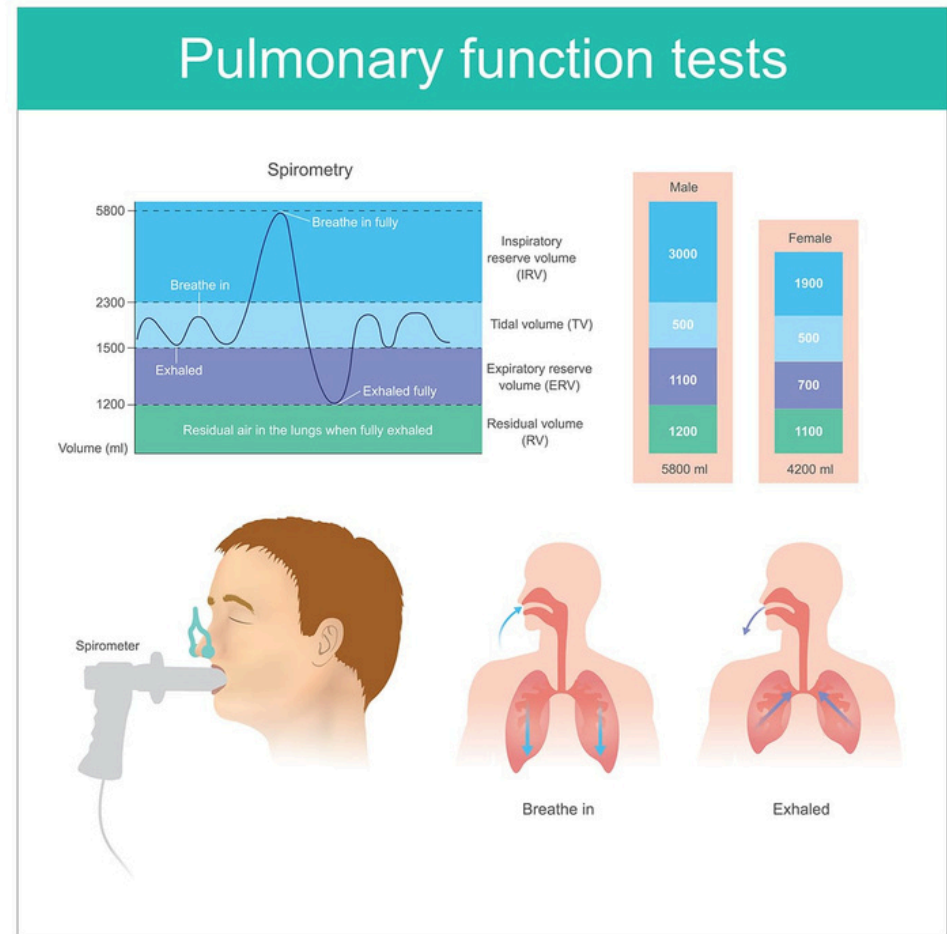
**SUBJECT CODE : 6286**

**TOPIC : LUNG FUNCTIONAL TEST**

# INTRODUCTION TO LUNG FUNCTIONAL TEST

## Definition

- Lung function tests are investigations used to assess lung volumes, capacities, airflow, and gas exchange, helping to diagnose and monitor respiratory diseases. Common Lung Function Tests



# COMMON LUNG FUNCTION TESTS

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## Spirometry (Most important)

Measures airflow and lung volumes.

Parameters:

FVC – Forced Vital Capacity  
FEV<sub>1</sub> –

Forced Expiratory

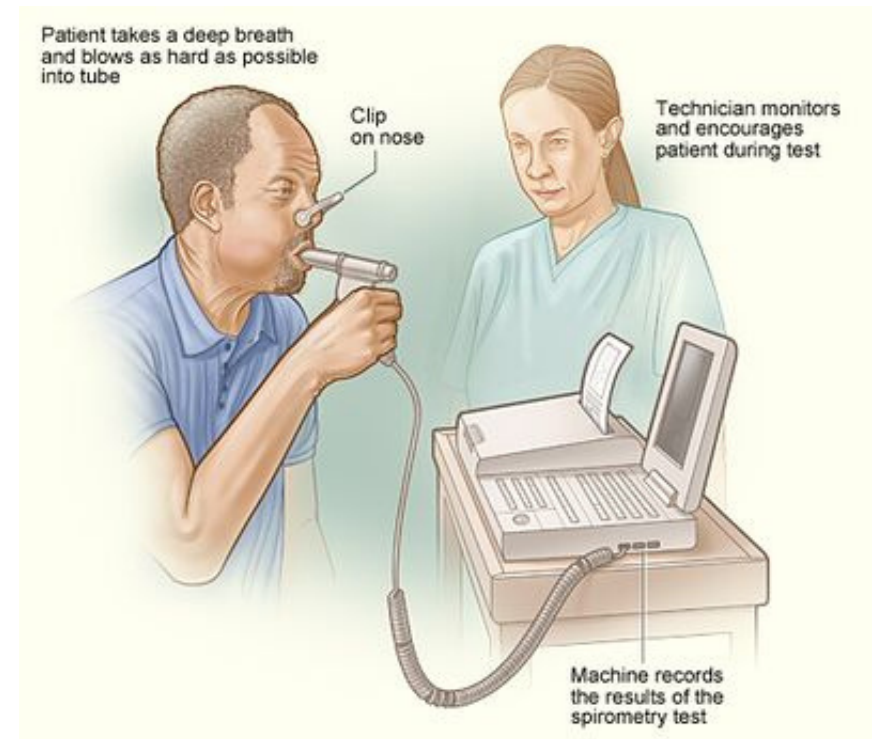
Volume in 1 second

FEV<sub>1</sub>/FVC ratio  
PEFR – Peak Expiratory

Flow Rate  
Uses

:Obstructive diseases (Asthma,

COPD) Restrictive diseases (Fibrosis)



# COMMON LUNG FUNCTION TESTS

## 2. Peak Flow Meter Measures PEFr

Simple bedside or home test

Useful in asthma monitoring

## 3. Lung Volume Measurement

Measures TLC, RV, FRC

Methods: Body plethysmography

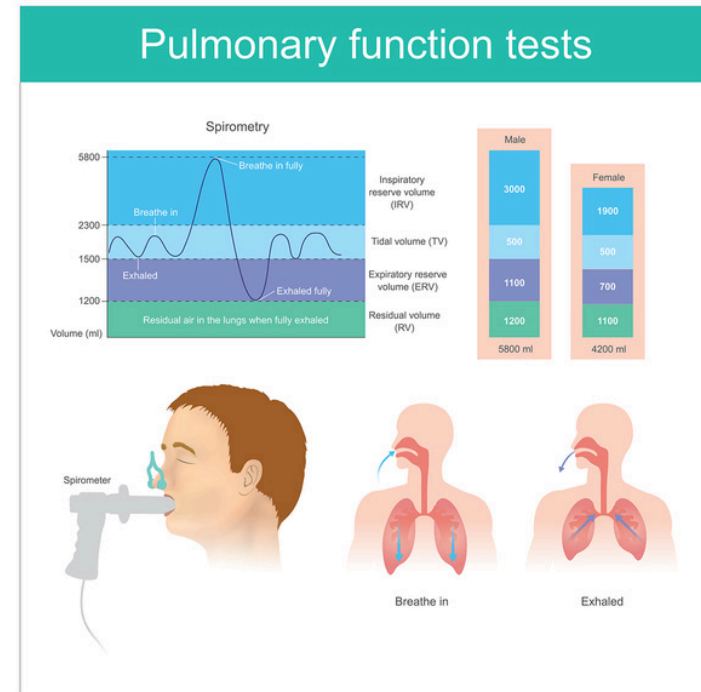
Gas dilution techniques

## 4. Diffusion Capacity Test (DLCO) Measures gas transfer across alveoli

Decreased in:

Pulmonary fibrosis

Emphysema  
Anemia



# COMMON LUNG FUNCTION TESTS

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## 5. Arterial Blood Gas (ABG) Analysis

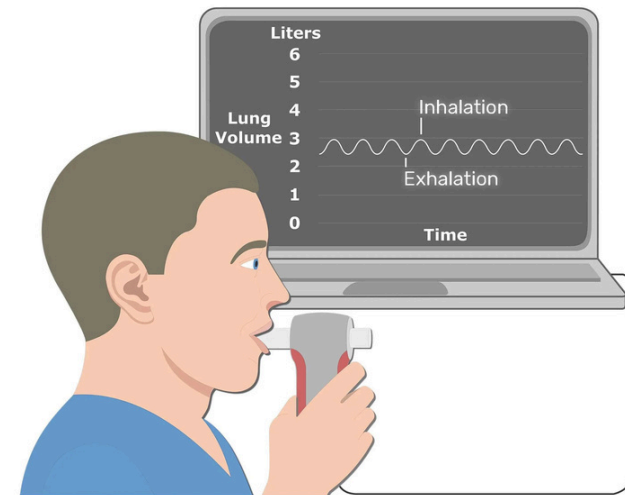
- Measures:  $p\text{H}$ ,  $\text{PaO}_2$ ,  $\text{PaCO}_2$ ,  $\text{HCO}_3^-$  - Assesses oxygenation and acid–base status

## 6. Pulse Oximetry

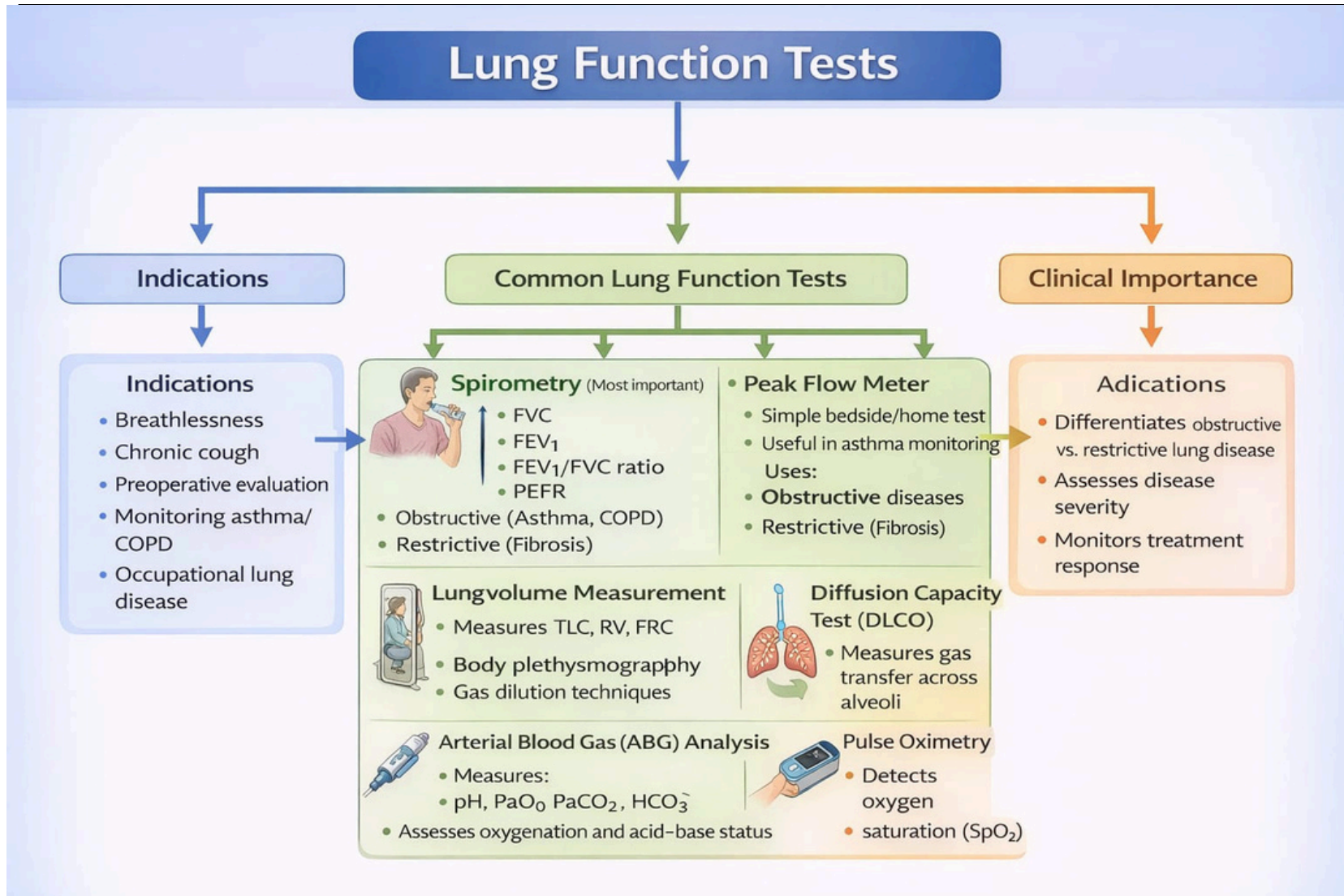
- Non-invasive measurement of oxygen saturation ( $\text{SpO}_2$ )

Breathlessness

- Chronic cough
- Preoperative evaluation
- Monitoring asthma/COPD Occupational lung disease



# FLOW CHART



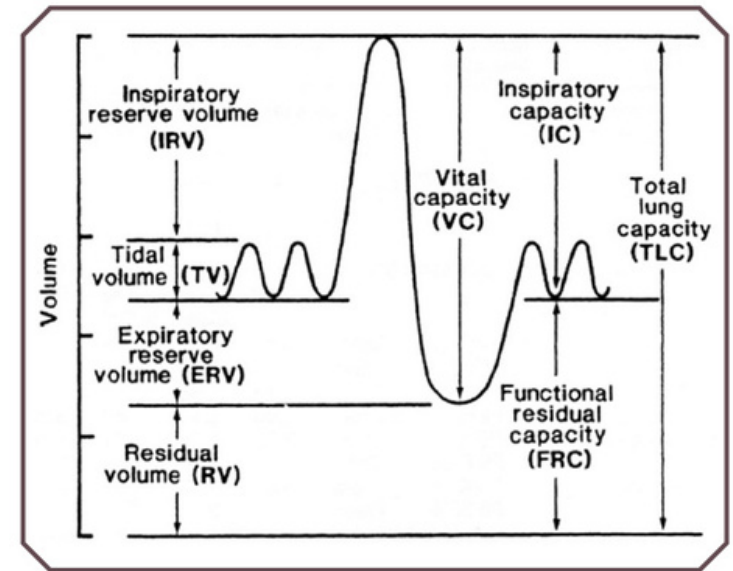
# PREPARATION AND PROCEDURE

What to Wear: Loose, comfortable clothing that does not restrict your chest or breathing.

Diet and Habits: Avoid large meals for 2 hours before the test. Do not smoke or perform heavy exercise for several hours beforehand.

Medications: You may be asked to stop using certain inhalers (bronchodilators) for 4–12 hours before the test.

Timing: Tests typically take between 15 and 45 minutes, though a complete series of tests can take up to 90 minutes.



## IN CLASS ASSESSMENTS

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1. What are lung function tests?
2. Which test is considered the most important pulmonary function test?
3. Expand  $FEV_1$ .
4. What does PEF<sub>R</sub> measure?
5. Name one non-invasive test to measure oxygen saturation.

# IN CLASS ASSESSMENT

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1. List any two parameters measured in spirometry.
2. Mention two indications for performing lung function tests.
3. Write two uses of Peak Flow Meter.
4. What is DLCO?
5. Mention one condition where it is reduced. State two clinical uses of lung function tests.

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THANK YOU