

# 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**

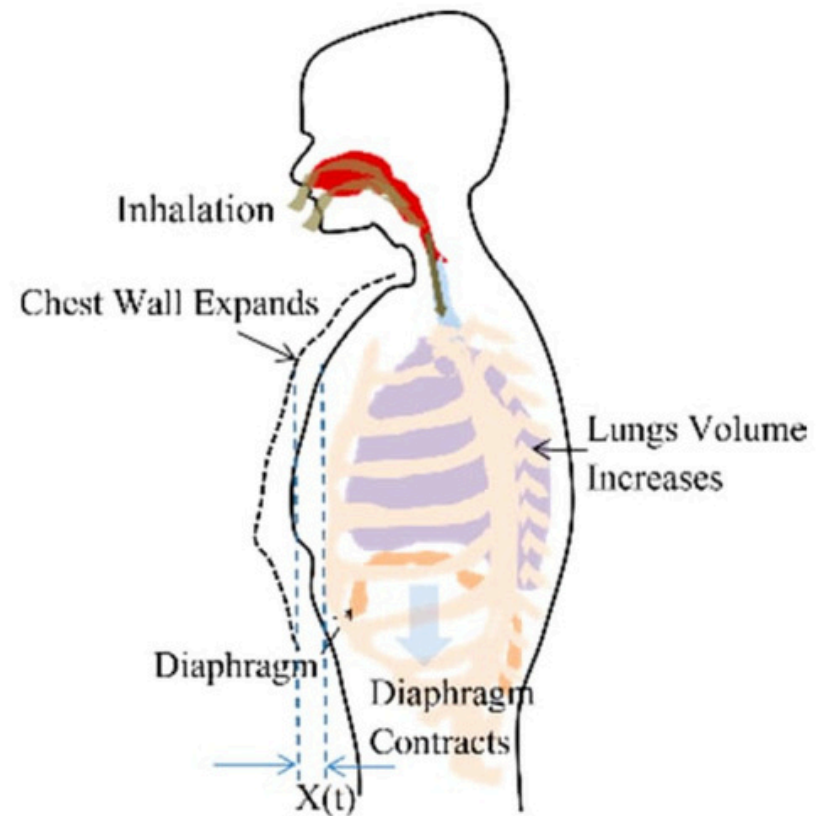
**TOPIC : CHEST WALL MOVEMENTS**

# INTRODUCTION TO THE CHEST WALL MOVEMENTS

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## Definition

- Chest wall movements are the visible and palpable movements of the thoracic cage during breathing, caused by expansion and recoil of the lungs and chest wall.



# TYPES

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## During Inspiration

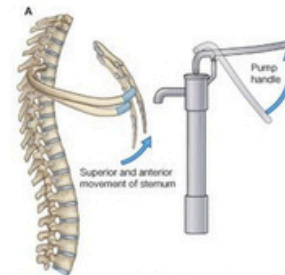
- Rib cage moves upward and outward
- Sternum moves forward
- Thoracic cavity volume increases
- Lungs expand → air enters

## During Expiration

- Rib cage moves downward and inward
- Sternum moves backward
- Thoracic cavity volume decreases
- Lungs recoil → air moves out

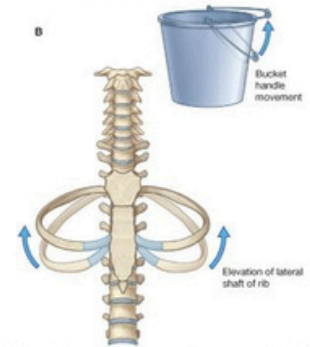
## RESPIRATORY MOVEMENTS B- MOVEMENTS OF RIBS

**PUMP HANDLE MOVEMENT**  
Elevation of ribs  
↓  
Increase in antero-posterior diameter of thoracic cavity



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**BUCKET HANDLE MOVEMENT**  
Elevation of ribs  
↓  
Increase in lateral diameter of thoracic cavity

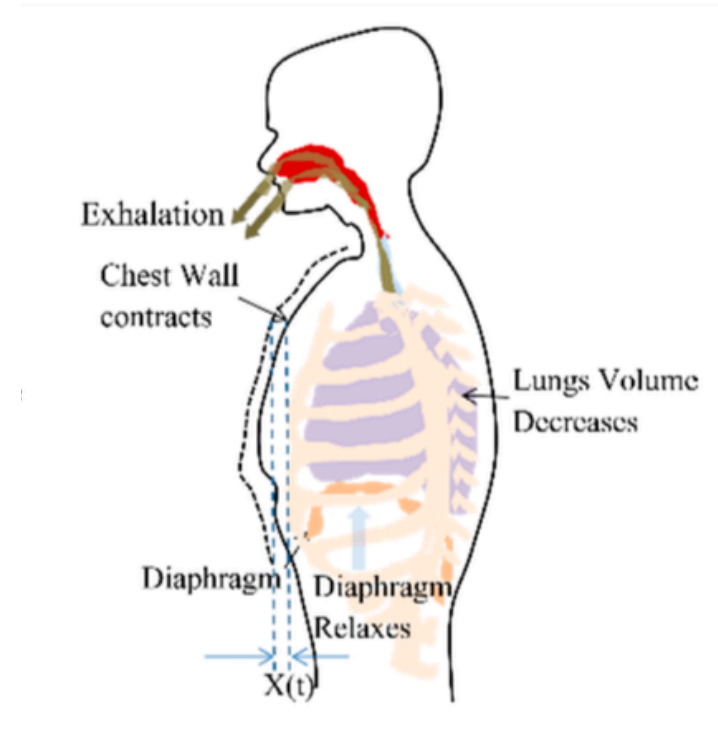


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# PATTERN

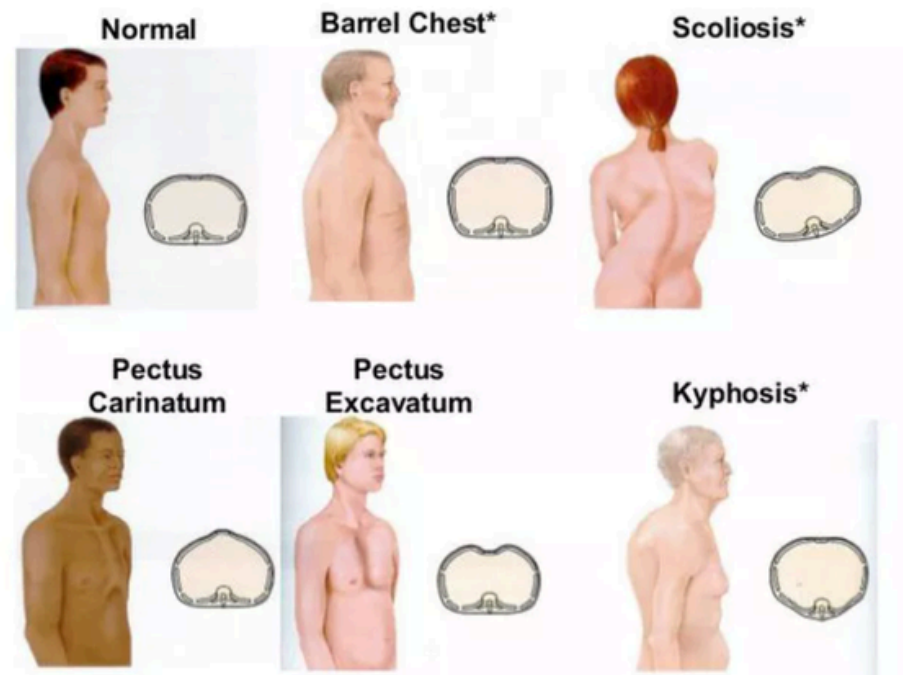
## Patterns of Chest Wall Movements

- Costal (Thoracic) breathing
- Common in females
- Upper chest movement predominates
- Diaphragmatic (Abdominal) breathing
- Common in males
- Abdominal movement more than chest
- Mixed breathing
- Combination of thoracic and abdominal movements

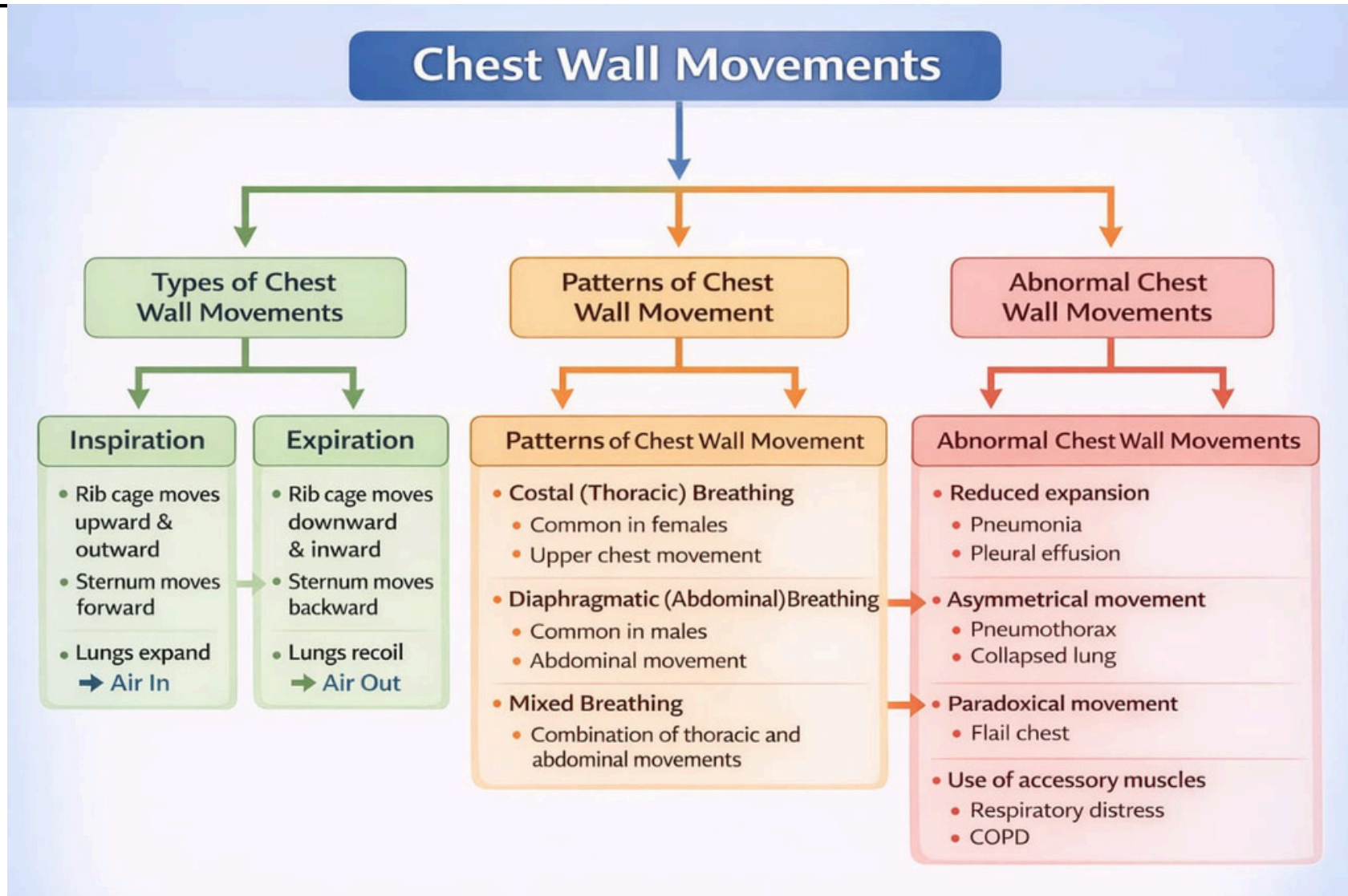


# ABNORMAL CWM

- Reduced expansion – pneumonia, pleural effusion
- Asymmetrical movement – pneumothorax,
- lung collapse
- Paradoxical movement – flail chest
- Use of accessory muscles – respiratory distress, COPD



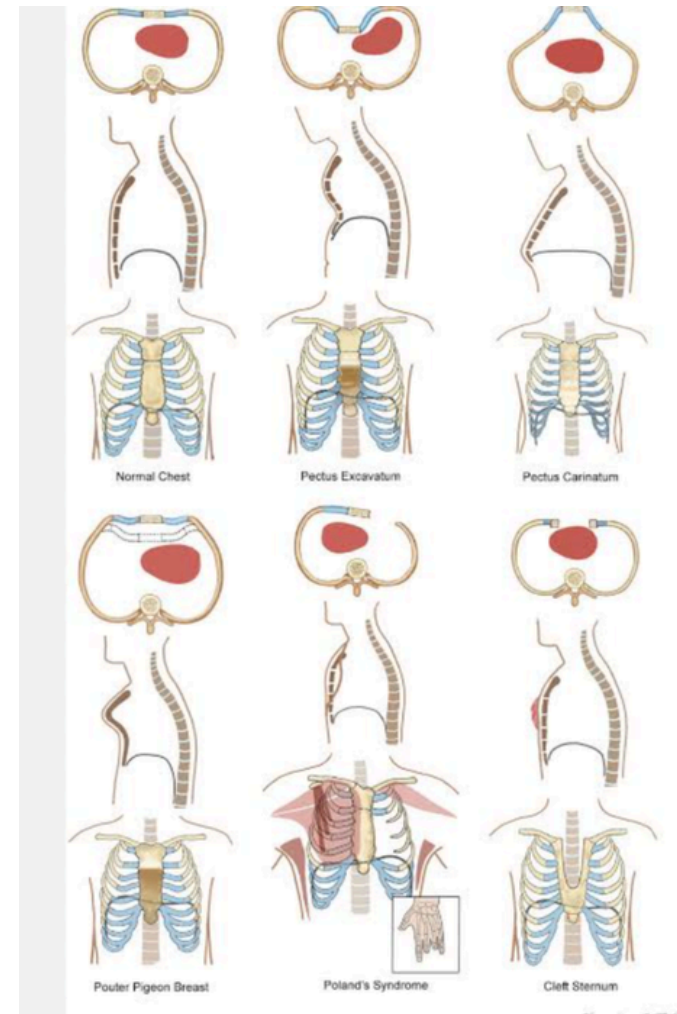
# FLOW CHART



# SYMPTOMS

Many individuals, especially with mild cases, may not experience physical symptoms other than the visible change in chest shape. Symptoms, which often worsen during adolescent growth spurts, can include:

- Shortness of breath or difficulty breathing, particularly during physical activity
- Chest pain or tenderness
- Heart palpitations or a rapid heartbeat
- Reduced exercise tolerance
- Poor posture
- Psychological issues, such as low self-esteem and social anxiety



## IN CLASS ASSESSMENTS

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1. Define chest wall movements
2. During inspiration, in which direction does the rib cage move?
3. What happens to the sternum during expiration?
4. Name the type of breathing common in males.
5. Which abnormal movement is seen in flail chest?

## IN CLASS ASSESSMENT

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1. Mention two features of chest wall movement during inspiration
2. List two causes of reduced chest wall expansion.
3. Differentiate between thoracic (costal) breathing and diaphragmatic breathing (any two points).
4. Write two conditions causing asymmetrical chest wall movement.
5. Mention two clinical uses of observing chest wall movement

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THANK YOU