

RESPIRATORY PHYSIO

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Aims



- Common conditions
- Subjective assessment
- Objective assessment
- Treatment options
- Outcome measures

Common Conditions

- COPD
- Post Operative
- TB
- Pneumonia
- Chest Infection



COPD

- **Chronic Obstructive Pulmonary Disease**
- Characterised by airflow obstruction. The airflow obstruction is usually progressive, not fully reversible and does not change markedly over several months. The disease is predominantly caused by smoking

- **Emphysema**
 - An over-inflation of the air sacs (alveoli) in the lungs, causing a decrease in lung function, and often, breathlessness.
- **Chronic Bronchitis**
 - Inflammation and swelling of the lining of the airways, leading to narrowing and obstruction generally resulting in daily cough. The inflammation stimulates production of mucus, which can cause further blockage of the airways.



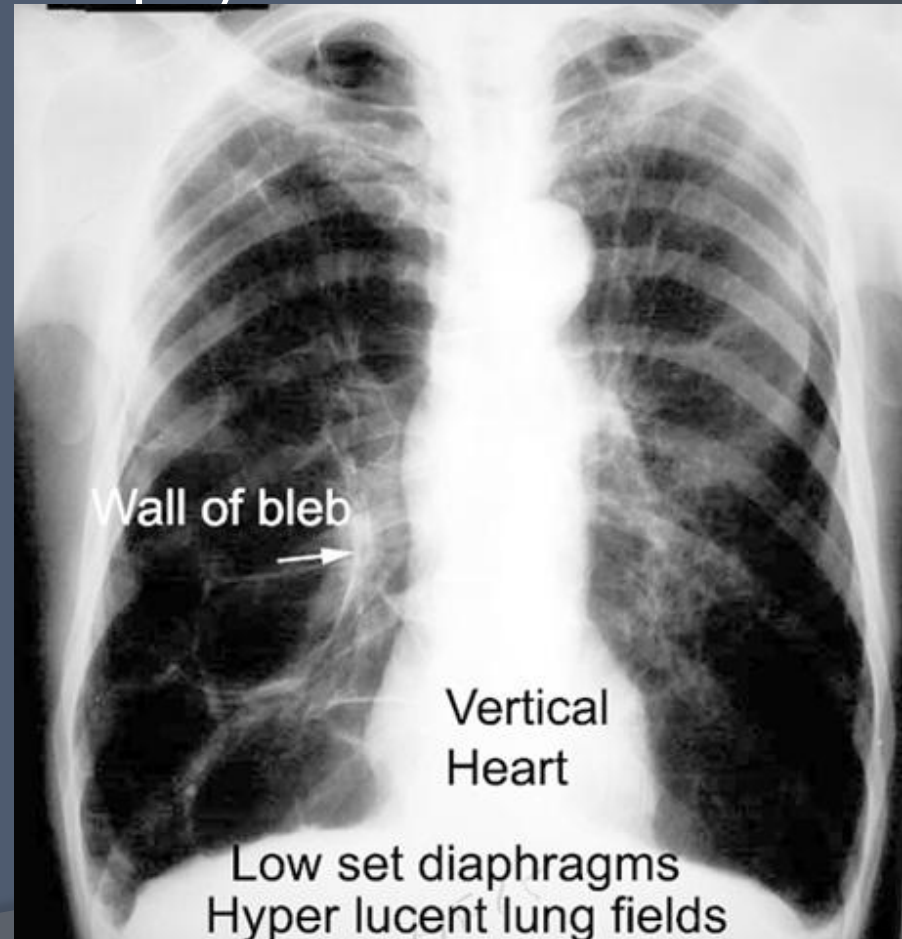
Bronchitis v Emphysema



○ Bronchitis



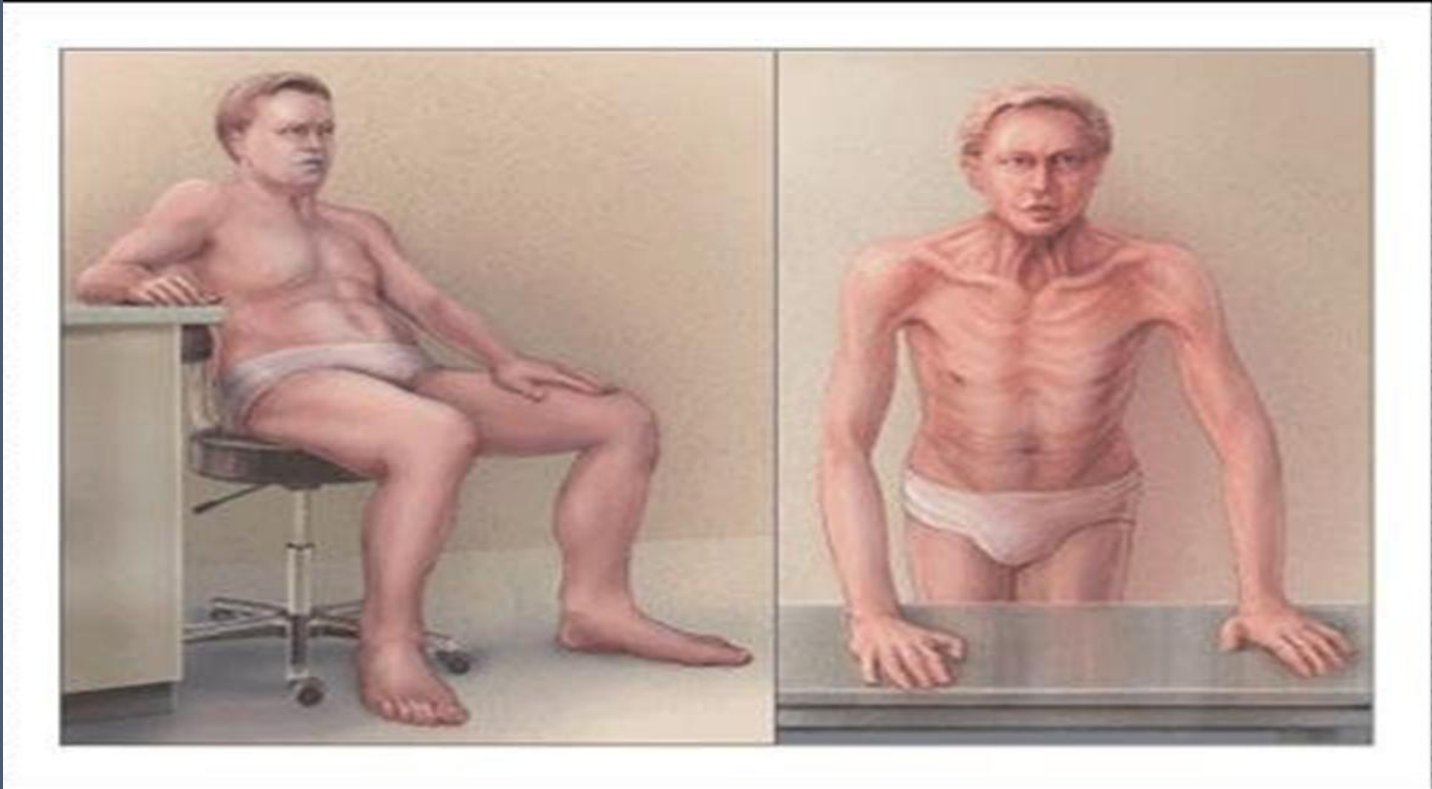
○ Emphysema



Bronchitis v Emphysema



○ Different



Bronchitis v Emphysema



⦿ Blue Bloater

- Chronic Bronchitis
- Obese
- Some hyperinflation
- Cor Pulmonale
- Polycythemia
- Central Cyanosis
- Raised PaCO₂

⦿ Pink Puffer

- Emphysema
- Thin
- Accessory Muscle Use
- Marked Hyperinflation
- High RR
- High metabolic rate
- Increased use of energy
- ABG demonstrates low PaCO₂.

Post Operative

- Pain
- ?Abdominal Incision
- Anaesthetic
- Reduced mobility



Tuberculosis

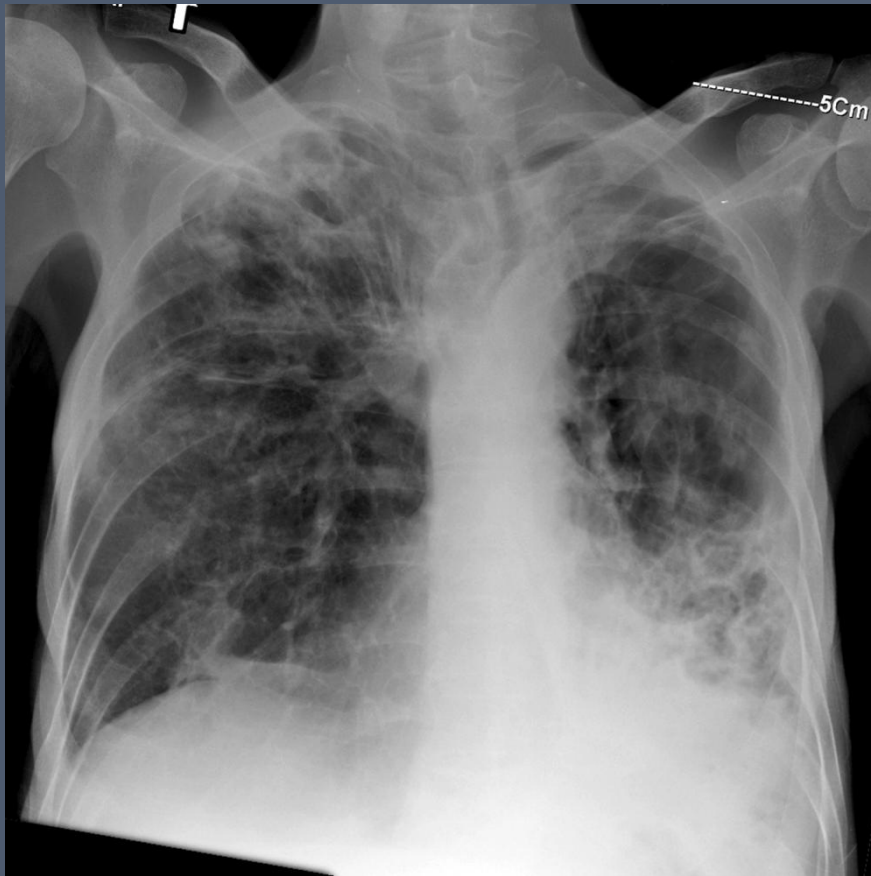


- A TB infection of the lungs is known as pulmonary TB.
- Symptoms of pulmonary TB include:
 - •a persistent cough that brings up thick phlegm, which may be bloody
 - •breathlessness, which is usually mild to begin with and gradually gets worse
 - •weight loss
 - •lack of appetite
 - •a high temperature of 38C (100.4F) or above
 - •extreme tiredness
 - •a sense of feeling unwell

Tuberculosis



- Chest x-ray

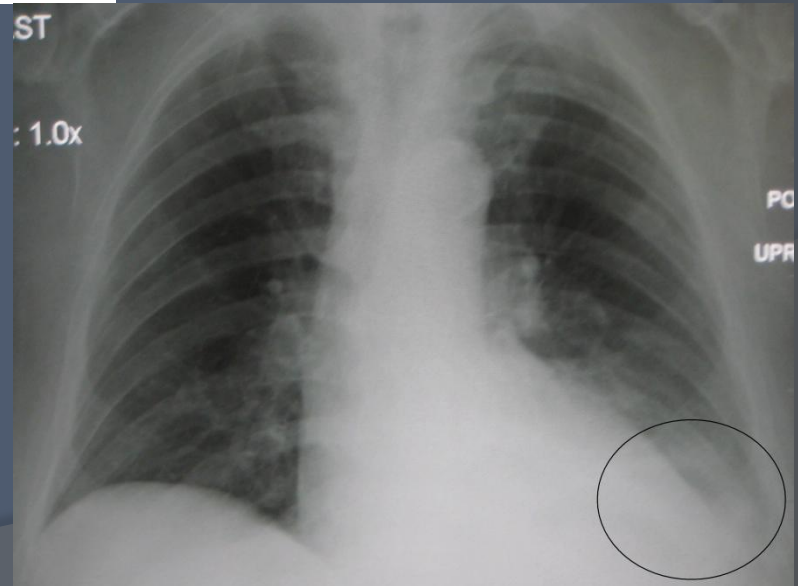
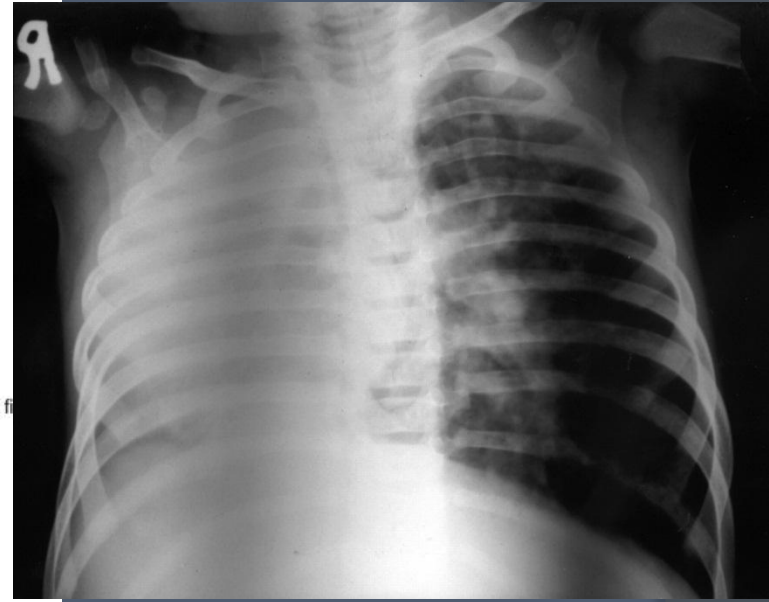
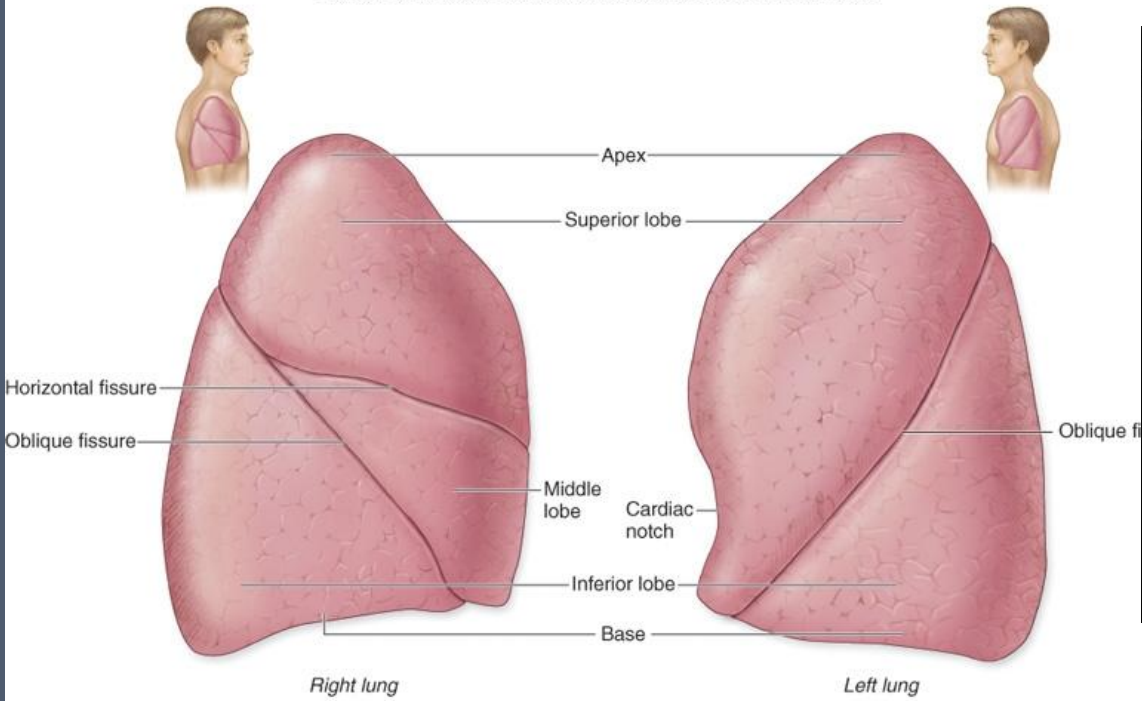


- Do not always require PT intervention despite being admitted.
- Main input is to get sputum samples to aid further testing



Pneumonia v Chest Infection

- Pneumonia is a lung infection that can be caused by different types of microorganisms, including bacteria, viruses, and fungi.
- Symptoms of pneumonia include cough with sputum production, fever, and sharp chest pain on inspiration
- Chest Infection can be upper or lower respiratory infection and be caused by bacteria or viruses.
- Symptoms include cough with sputum, pyrexia and generally feeling unwell.



Subjective Assessment



- Cough; when, dry, productive, normal for patient
- Sputum; colour, quantity, thickness, debris, easy to clear
- Breathlessness; at rest, how much exercise, recovery time, positions of ease
- Wheeze; mono or polyphonic, irritability
- Chest Pain; MSK, angina, sharp, stabbing
- Drug History; inhalers, oxygen, nebulisers
- Social History; stairs, distances needed to walk
- Previous hospital admissions; how many, last admission, ITU

Objective Assessment



- General Appearance; position, SOBAR, accessory muscles, cyanotic, body weight
- Oxygen; how much, what route
- Observations; RR, HR, BP, SpO2
- Auscultation; breath sounds, added sounds
- Palpation;
- X-Ray
- Blood Results; inflammatory markers, renal markers, platelets
- Peripheral Oedema; ?cardiac origin

Treatment Options



- ACBT
- Positioning
- Manual Techniques
- Postural Drainage
- Bubble PEP
- Mobility and Pacing
- Decrease WOB techniques

Active Cycle of Breathing Technique



- Adapt for the individual
- Can be combined with manual techniques and/or positioning
- Components
 - Deep breath +/- inspiratory hold
 - Deep breath +/- sniff
 - Huff
 - Cough

Positioning



- Similar to postural drainage
- Can be used with more medically unstable patients
- Consider V/Q mismatch
- Consider drainage of secretions

Manual Techniques

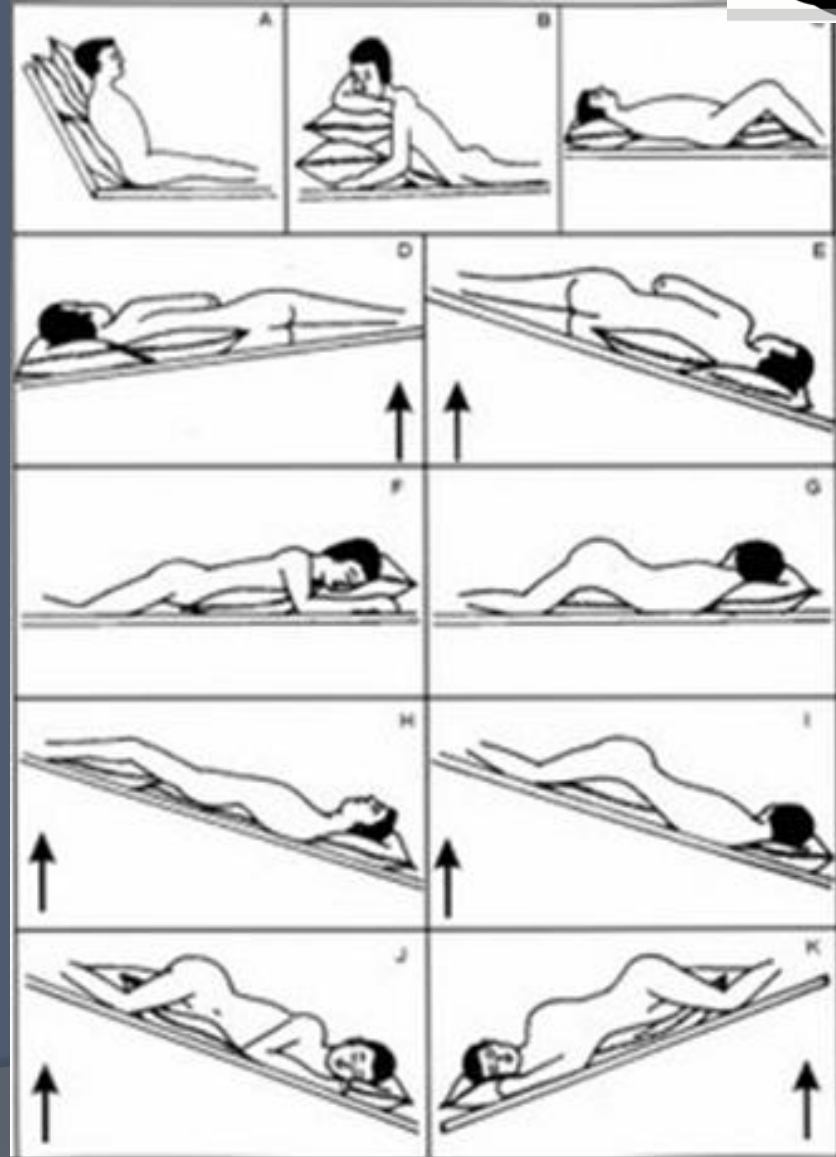


- Manual techniques are used to aid sputum clearance. They are performed in postural drainage positions (normally modified), and to prevent desaturation are accompanied by deep breathing and interspersed with relaxed breathing.
- <http://www.youtube.com/watch?v=B8wTlqhuSpc>
- Contraindications:
 - Rib fractures, or potential rib fractures (tumour metastasis/spread, OP)
 - Recent haemoptysis, clotting disorder
 - Unstable angina or a-arrhythmias
 - Subcutaneous emphysema

Postural Drainage



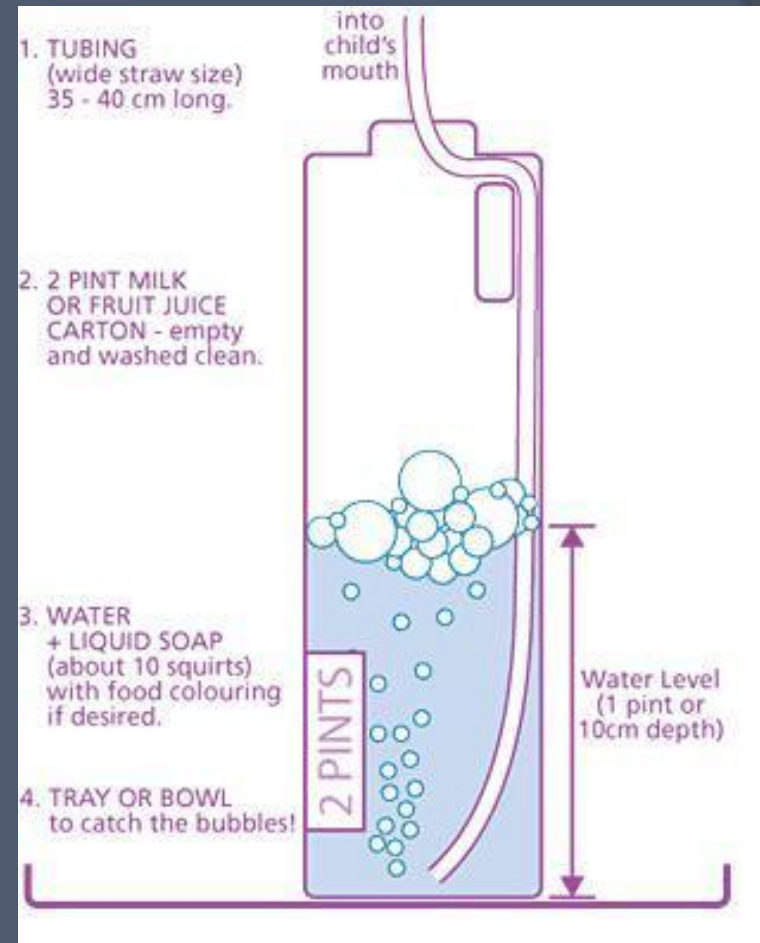
- Postural drainage positions are used when a specific segment of a lobe can be identified as being the problem, as in bronchiectasis or lung abscess and sometimes CF.
- 15 minutes is needed in each position, modified according to the individual.
- The procedure should be discontinued if the patient complains of headache, discomfort, dizziness, palpitations or breathlessness.



Bubble PEP



- Positive Expiratory Pressure
- Aids clearance of secretions
- Positive pressure created with the tubing
- Very good with children and those unable to follow ACBT



Mobility and Pacing

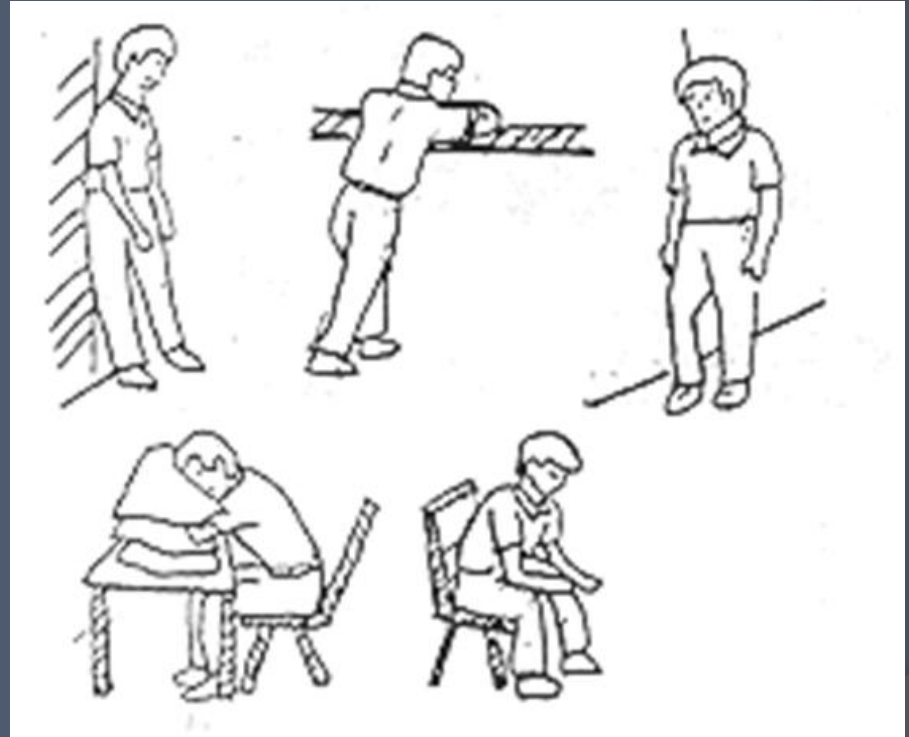


- Reduce risk of atelectasis by taking natural deep breaths through exertion
- Increases tidal volume
- Advise the patient with distances and how to pace themselves to reduce
- Regular rests
- Use a walking aid



Decreased Work of Breathing

- Relax the accessory muscles with positioning
- Calming voice to reduce anxiety
- Pursed lips
- Encourage to increase expiration



Outcome Measures

- Patients Individual Goals
- Borg Breathless Scale
- 6min walk
- Mobility distance

