

Assessment of Respiratory Function/ Diagnostic Evaluation/ Interventions

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Health History

- ▶ Dyspnea
 - ▶ Cough
 - ▶ Sputum production
 - ▶ Chest pain
 - ▶ Wheezing
 - ▶ Hemoptysis
 - ▶ Exposure
- 

Physical Assessment Techniques

- ▶ Inspection
 - ▶ Palpation
 - ▶ Percussion
 - ▶ Auscultation
- 

Adventitious Lung Sounds

- ▶ Rales (crackles)
 - Fine short sounds
 - Air moving through fluid/mucus
 - Lower lobes
 - Inspiration & expiration, best on inspiration
- ▶ Rhonchi (gurgles)
 - Continuous low pitch
 - Gurgling
 - Inspiration & expiration, best on expiration

Adventitious Lung Sounds

▶ Friction rub

- Superficial grating sound
- Rubbing of inflamed pleural surface
- Lower anterior and lateral chest
- Inspiration & expiration

▶ Wheeze

- Continuous high pitch
- Squeaky, musical sound
- Constricted bronchus
- expiration

Adventitious Lung Sounds

- ▶ **Stridor**
 - High- pitch
 - Harsh
 - Inspiration

S/S of Respiratory Problems

- ▶ LOC/ mental status
- ▶ Cyanosis (central/ peripheral)
- ▶ Changes in breathing pattern
- ▶ Adventitious lung sounds
- ▶ Clubbing
- ▶ Delayed capillary refill



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Alterations in Breathing Pattern

- ▶ Tachypnea
 - ▶ Bradypnea
 - ▶ Orthopnea
 - ▶ Kausssmaul's breathing
 - ▶ Biot's respirations
 - ▶ Cheyne–Stokes breathing
- 

Pulse Oximetry



A



B

Imaging Studies

- ▶ CXR
- ▶ Computed Tomography (CT)
- ▶ Magnetic Resonance Imaging (MRI)
- ▶ Fluoroscopy
- ▶ Lung Scans
 - V/Q scan
 - Gallium scan
 - Positron emission tomography (PET)

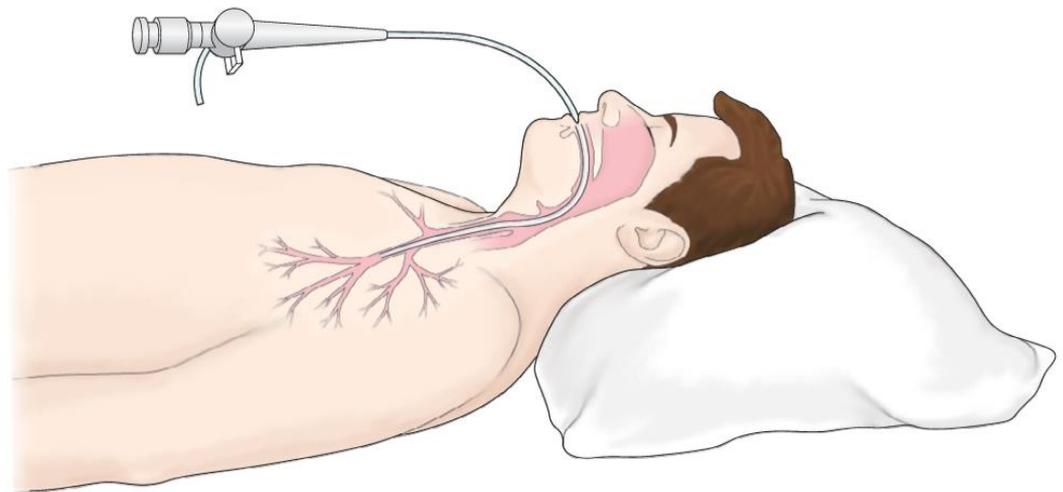
Pulmonary Function Test (PFT)

- ▶ Measure lung volumes, ventilatory function, mechanics of breathing, diffusion, and gas exchange

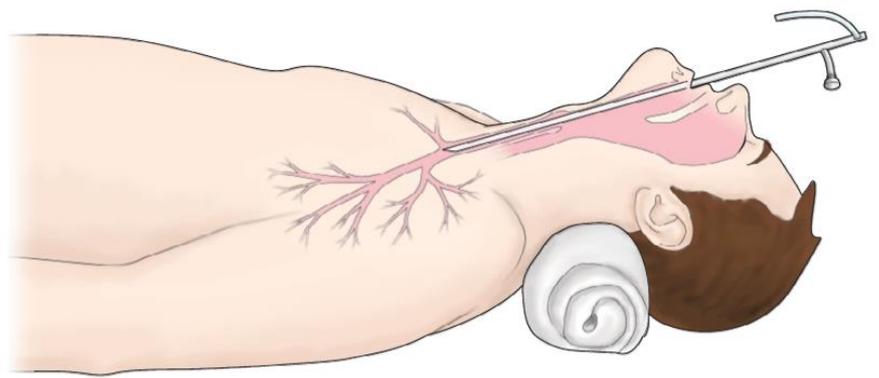
Sputum

- ▶ Gram stain
- ▶ Culture
- ▶ Acid fast bacilli (AFB)

Bronchoscopy

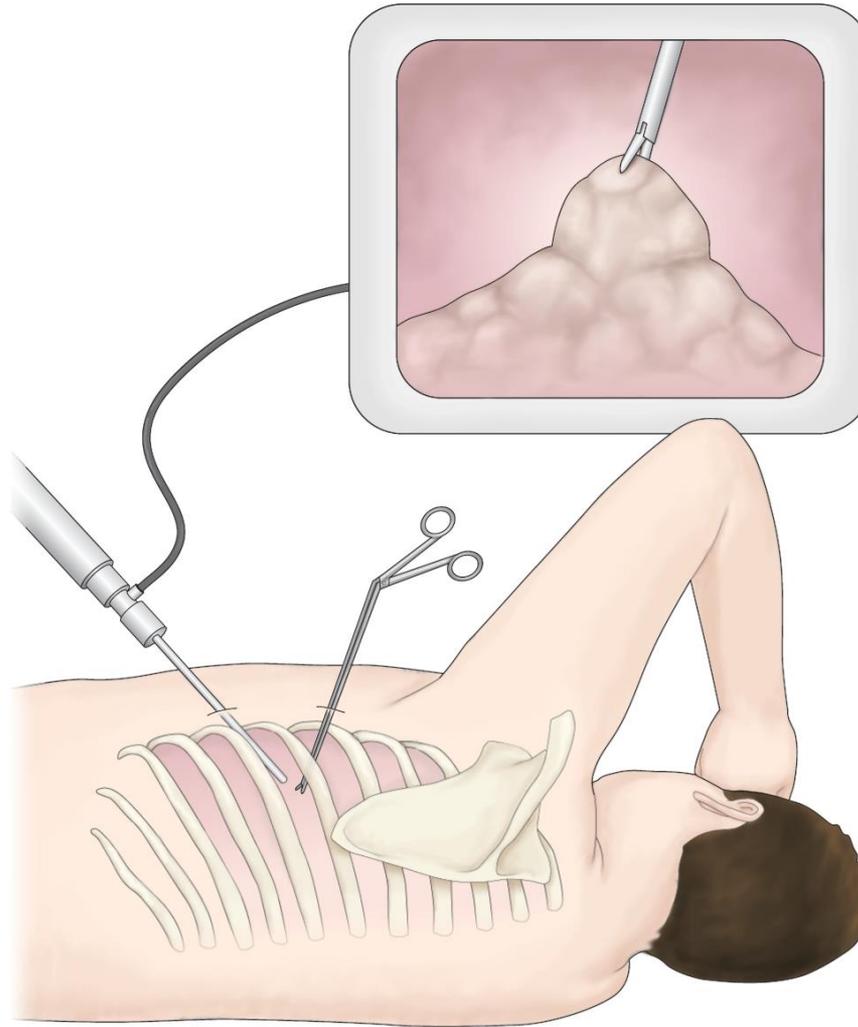


Fiberoptic bronchoscopy

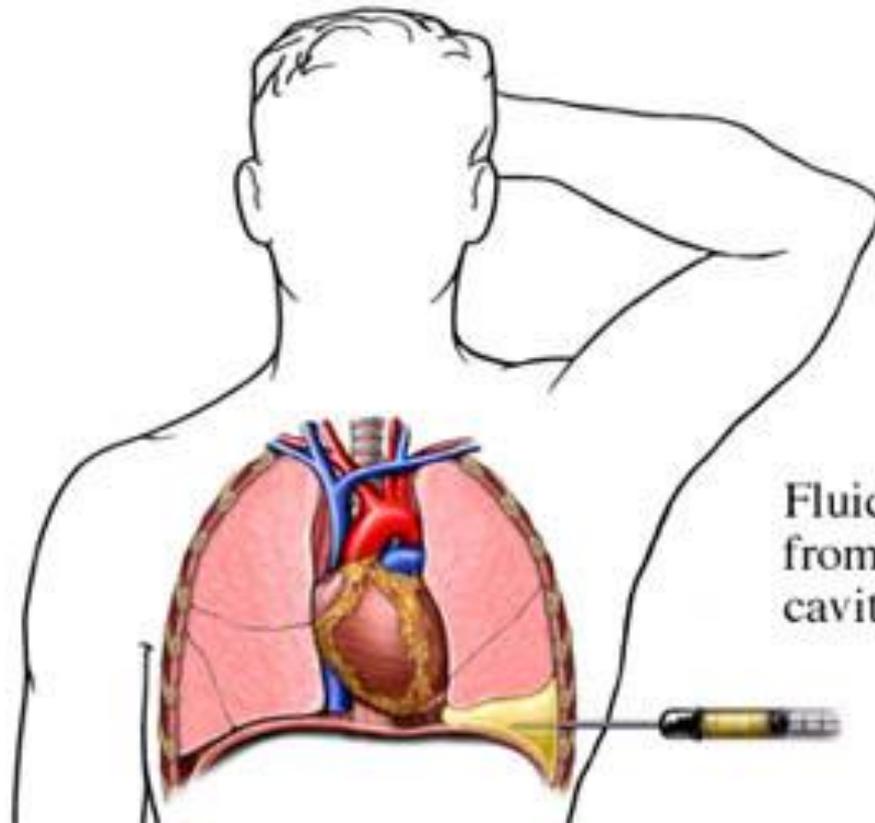


Rigid bronchoscopy

Thoracoscopy

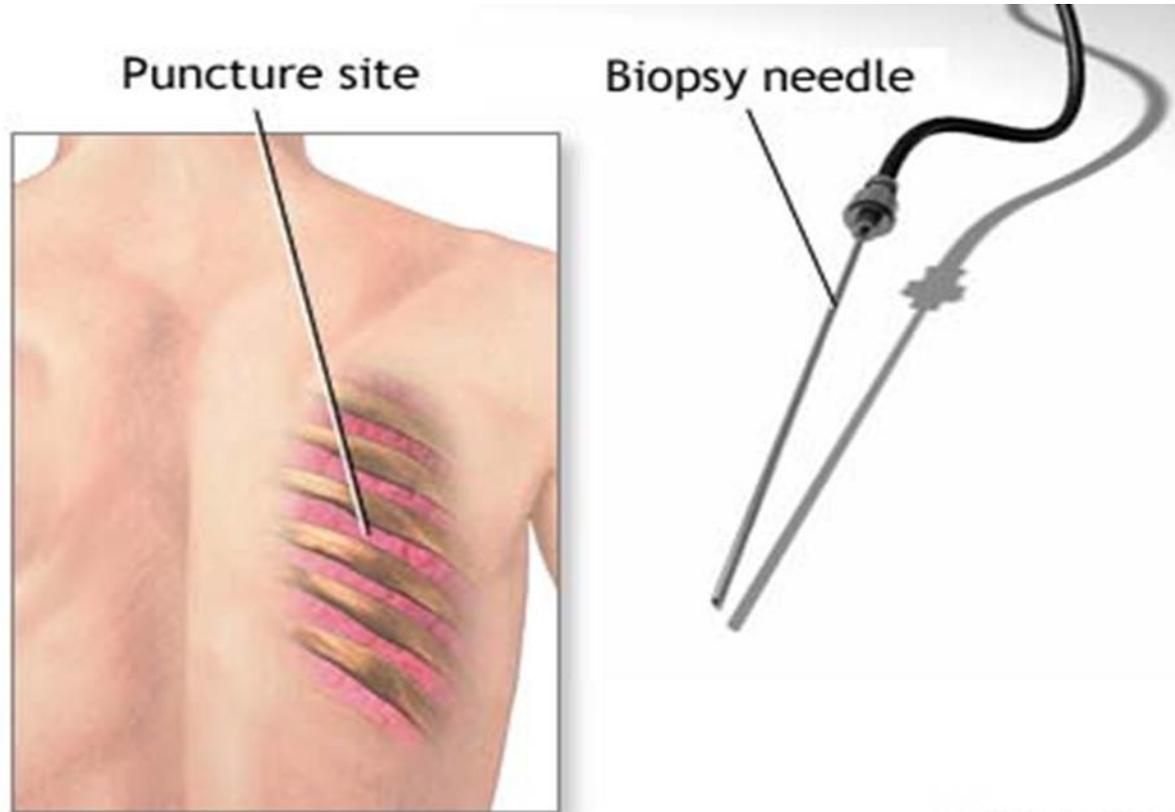


Thoracentesis



Fluid is removed from the pleural cavity with a needle.

Biopsy



Oxygen Therapy

- ▶ Nasal canula
 - Most common
 - Inexpensive
 - O₂: 24–45%
 - Flow rate: 1–6 L/min
- ▶ Face mask
 - Simple face mask
 - O₂: 40–60%
 - Flow rate: 5–8 L/min

Oxygen Therapy

▶ Face Mask

- Partial rebreather mask
 - O₂: 40–60%
 - Flow rate: 6–10 L/min
- Nonrebreather
 - O₂: 95–100%
 - Flow rate: 10–15 L/min
- Venturi mask
 - O₂: varies
 - Flow rate: 4–10 L/min



Oxygen Therapy

- ▶ Face Tent
 - O₂: 30–50%
 - Flow rate: 8–10 L/min
- ▶ Noninvasive positive pressure ventilation (NPPV)
 - CPAP
 - Continuous positive airway pressure
 - Bipap
 - Pressure during exhalations < pressure during inhalation

Incentive Spirometer

- ▶ Measures ability of lungs to exhale air
 - ▶ Determines if emergency care is necessary
 - ▶ Measures your personal best
 - ▶ Green Zone
 - ▶ Yellow Zone
 - ▶ Red Zone
- 

Nebulizer/ Inhaler

▶ Bronchodilator



ADAM



Push down on the canister and breathe in slowly

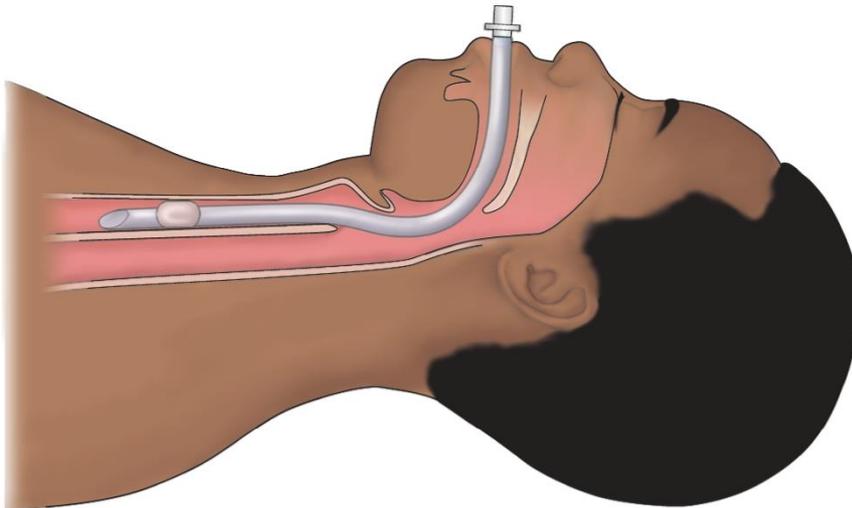
ADAM

Chest Physiotherapy

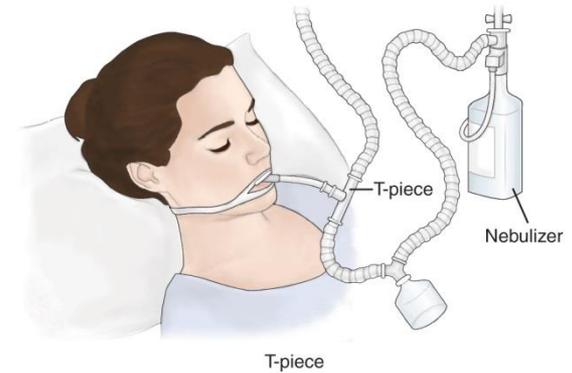
- ▶ Postural drainage
 - ▶ Chest percussion & vibrations
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Artificial Airway

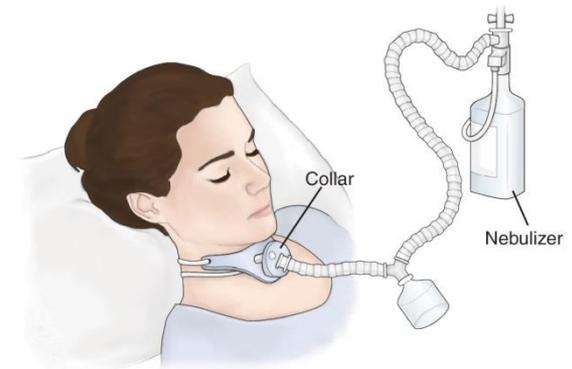
- ▶ Oropharyngeal & nasopharyngeal
- ▶ Endotracheal tubes
- ▶ Tracheostomy



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T-piece



Tracheostomy collar

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