

Chapter 49
Care of the Patient With a
Respiratory Disorder

- Lesson 49.1**
1. Differentiate between external and internal respiration.
 2. Describe the purpose of the respiratory system and discuss the parts of the upper and lower respiratory tracts.
 3. List the ways in which oxygen and carbon dioxide are transported in the blood.
 4. Discuss the mechanisms that regulate respirations.

Respiration

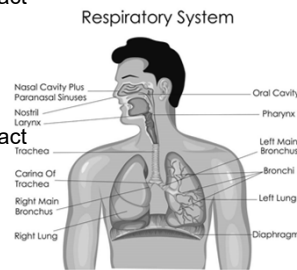
- External respiration: breathing
- Internal respiration: exchange of oxygen and carbon dioxide at the cellular level



4

The Respiratory System

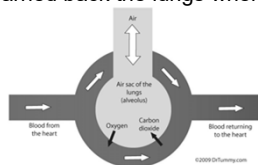
- Upper respiratory tract
 - > Nose
 - > Pharynx
 - > Larynx
 - > Trachea
- Lower respiratory tract
 - > Bronchial tree



5

Transportation of Oxygen and Carbon Dioxide in the Body

- Oxygen(O_2) enters the body via the lungs
- O_2 binds to Hgb in the alveoli
- O_2 is delivered to cells where it is exchanged for carbon dioxide (CO_2)
- CO_2 is carried back the lungs where it is exhaled



6

Respiration Regulation

- Nervous control
 - Chemoreceptors regulate breathing level and rate according to amount of CO₂ in the blood



Lesson 49.2

5. Identify signs and symptoms that indicate a patient is experiencing hypoxia.
6. Differentiate among sonorous wheezes, sibilant wheezes, crackles, and pleural friction rub.
7. Describe the purpose, significance of results, and nursing interventions related to diagnostic examinations of the respiratory system.
8. Describe the significance of arterial blood gas values and differentiate between arterial oxygen tension (PaO₂) and arterial oxygen saturation (SaO₂).
9. Discuss the etiology and pathophysiology, clinical manifestations, assessment, diagnostic tests, medical management, nursing interventions, and prognosis of the patient with disorders of the upper airway.

8

Signs and Symptoms of Hypoxia

- Cyanosis
- Gray skin
- Pale skin
- Decreased O₂ saturation
- Confusion
- Irritability



Lung Sounds

- Sonorous wheezes (formerly known as *wheezes*)
- Sibilant wheezes (formerly known as *rhonchi*)
- Crackles
- Pleural friction rub

10

Diagnostic Examinations

- Chest X-ray
- Spiral CT
- Pulmonary angiography
- Ventilation-perfusion scan (V/Q scan)
- Pulmonary function testing
- Mediastinoscopy
- Laryngoscopy
- Bronchoscopy
- Sputum specimen

11

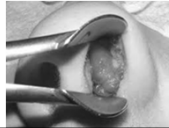
Arterial Blood Gases

- Partial pressure of oxygen (PaO_2) and arterial oxygen saturation (SaO_2) provide a measurement of pulmonary function
- PaO_2 represents the amount of oxygen dissolved in the plasma
- SaO_2 is the percentage of hemoglobin binding sites that have oxygen bound to them

12

Upper Airway Disorders

- Epistaxis
- Deviated septum and nasal polyps
- Allergic rhinitis
- Obstructive sleep apnea
- Upper airway obstruction
- Cancer of the larynx



Lesson 49.3

10. Discuss nursing interventions for the patient with a laryngectomy.
11. Discuss the etiology and pathophysiology, clinical manifestations, assessment, diagnostic tests, medical management, nursing interventions, and prognosis of the patient with disorders of the lower airway.
12. Differentiate between tuberculosis infection and tuberculosis disease.
13. List nursing assessments and interventions pertaining to the care of the patient with closed-chest drainage.

14

The Patient With a Laryngectomy

- Nursing interventions for the laryngectomy patient
 - Airway maintenance
 - Thorough assessments
 - Monitor I&O
 - Assist with nutrition
 - Develop communication strategies with patient
 - Prevent infection



15

Disorders of the Lower Airway

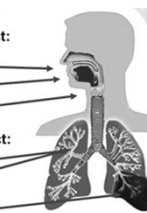
- Bronchitis
- Tuberculosis
- Pneumonia
- Pleural effusion
- Empyema
- Pneumothorax
- Lung cancer
- Pulmonary edema

➤ Upper respiratory tract:

- ▼ Influenza
- ▼ Tonsillitis
- ▼ laryngitis

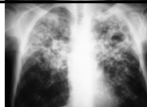
➤ Lower respiratory tract:

- ▼ bronchitis
- ▼ Asthma
- ▼ Pneumonia



16

Tuberculosis

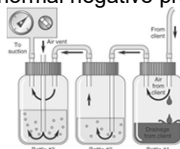


- A chronic pulmonary and extrapulmonary (outside of the lung) infectious disease acquired by inhalation of a dried droplet nucleus containing a tubercle bacillus
- Most commonly affects the respiratory system, but other parts of the body may be involved as well
- TB is prevalent among those with HIV infection
- Hospitals are an increased risk setting for TB transmission

17

Closed-Chest Drainage

- A chest tube or tubes may be inserted for continuous drainage of fluid, blood, or air from the pleural cavity and for medication instillation
- To prevent the lung from collapsing, a closed drainage system is used, which maintains the lung cavity's normal negative pressure.



18

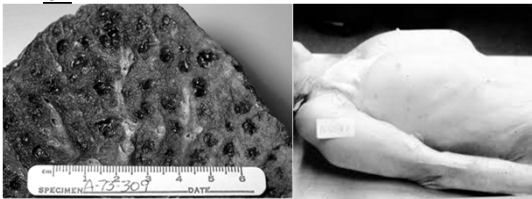
Lesson 49.4

14. Compare and contrast the etiology and pathophysiology, clinical manifestations, assessment, diagnostic tests, medical management, nursing interventions, and prognosis for the patient with chronic obstructive pulmonary disease, including emphysema, chronic bronchitis, asthma, and bronchiectasis.
15. State three possible nursing diagnoses for the patient with altered respiratory function.

19

Chronic Obstructive Pulmonary Disease (COPD)

- Emphysema
- Chronic bronchitis
- Asthma
- O2



Nursing Diagnoses for Respiratory Patients

- Ineffective airway clearance
- Ineffective breathing pattern
- Impaired gas exchange
- Anxiety
- Activity intolerance
- Imbalanced nutrition: less than body requirements

21

