# **Guided Lecture Notes, Chapter 31, The Respiratory System**

Learning Objective 1. List and describe the main parts of the respiratory system. (Refer to PowerPoint slides 2 to 9.)

### Review the structures of the respiratory system and point out the structures that make up the upper and lower respiratory tracts.

### Use anatomic models or charts to point out the structures of the respiratory system.

### Describe the structure of the airway.

### Draw a picture of the airway on the whiteboard. Then use arrows to show how the air moves from the nasal cavity, through the pharynx, into the larynx, down the trachea, into the bronchi, and finally into the bronchioles.

### Describe the lungs and the pleural membranes.

### Have learners refer to learning activities located at the end of the chapter.

Learning Objective 2. Discuss the main functions of the respiratory system. (Refer to PowerPoint slides 10 to 14.)

### Identify the primary function of the respiratory system.

### Explain the process of ventilation and the muscles that assist in that process.

### Use a respiration simulator model to demonstrate how ventilation takes place.

### Explain the process of gas exchange.

### Have learners refer to learning activities located at the end of the chapter.

Learning Objective 3. Describe how normal aging processes affect the respiratory system. (Refer to PowerPoint slides 15 and 16.)

### Explain the age-related changes that affect the respiratory system.

### Point out that a lifetime of exposure to toxic substances and chemicals can hasten the effects of aging on the respiratory system.

### Obtain brochures from the American Lung Association or the American Cancer Society about the dangers of smoking and other toxic substances to distribute to students.

### Have learners refer to learning activities located at the end of the chapter.

Learning Objective 4. Describe some of the disorders that can affect the respiratory system. (Refer to PowerPoint slides 17 to 28.)

### Describe pneumonia, bronchitis, and influenza as disorders resulting from infection of the respiratory system.

### Explain the procedure used to collect a sputum specimen and how this specimen is used to diagnose and treat respiratory infections.

### Explain what asthma is and how it interferes with a person’s ability to breathe.

### State the cause, symptoms, and treatment of asthma.

### Describe how asthma affects a patient or resident and the responsibility of a nursing assistant while caring for a person with asthma.

### Ask students if they suffer from asthma and discuss what an acute attack is like, especially the feeling of not being able to breathe.

### Explain why emphysema and chronic bronchitis are grouped under the general term chronic obstructive pulmonary disease (COPD). Explain that these conditions are considered terminal illnesses and the most common cause is smoking.

### Explain the pathophysiology of emphysema and the pathophysiology of chronic bronchitis.

### Point out the physical manifestations of emphysema and of chronic bronchitis.

### The cancers affecting the lungs and airway are the most common cause of cancer-related deaths in the United States in both men and women. Describe some of the cancers that can affect the respiratory system.

### Describe the different ways to diagnose cancer, and point out that a person who is awaiting the results of diagnostic tests may be worried or frightened.

### Explain the terms pneumothorax and hemothorax, and differentiate between the two.

### Have learners refer to learning activities located at the end of the chapter.

Learning Objective 5. Describe how oxygen therapy is used to assist a person with respiration. (Refer to PowerPoint slides 29 to 43.)

### Explain respiratory therapy and the role of the respiratory therapist.

### Describe oxygen therapy. Mention the difference between the oxygen content of inhaled air and the oxygen content of the supplemental oxygen used as part of respiratory therapy.

### Explain the use of a flow meter, a pulse oximeter, and a humidity bottle.

### Describe sources of supplemental oxygen.

### Explain different methods of delivering supplemental oxygen.

### Show students an assortment of oxygen delivery equipment such as nasal cannulas, masks, and different types of airways. Demonstrate how to apply a nasal cannula and a mask properly.

### Differentiate between mechanical ventilation and oxygen therapy.

### Explain the difference between an endotracheal tube and a tracheostomy tube.

### Explain why having an endotracheal tube can be very uncomfortable and frightening for a person, and the measures that a nursing assistant can take to help a person who has an endotracheal tube.

### Explain the process of suctioning.

### Show students examples of the various types of suction catheters and describe when each is used.

### Explain the term hypoxia and point out that hypoxia can be a complication of suctioning. Identify the complications that may arise due to suctioning.

### Have learners refer to learning activities located at the end of the chapter.

Learning Objective 6. Describe the guidelines that a nursing assistant should follow when caring for patients or residents receiving oxygen therapy. (Refer to PowerPoint slides 29 to 43.)

### Explain the responsibilities of the nursing assistant with regard to each piece of equipment (flow meter, a pulse oximeter, and a humidity bottle).

### Describe the guidelines that a nursing assistant should follow when caring for patients or residents receiving oxygen therapy.

### Point out that, although suctioning is usually outside of the scope of practice for nursing assistants, nursing assistants are responsible for reporting a need for suctioning to the nurse.

### Have learners refer to learning activities located at the end of the chapter.

Learning Objective 7. Discuss other methods used to help a person who is having trouble with respiration. (Refer to PowerPoint slides 44 to 50.)

### Specify the role of a nursing assistant when caring for a person with respiratory disorders.

### Explain why observation is a major responsibility of a nursing assistant.

### List the various observations a nursing assistant makes while providing care.

### Identify and explain measures that a nursing assistant can take to help provide comfort to a person with respiratory disorders.

### Describe holistic care as it relates to caring for a person experiencing respiratory difficulty.

### State the measures a nursing assistant can take that exemplify holistic care.

### Have learners refer to learning activities located at the end of the chapter.