

Name: _____

Period: _____

Unit 9: Respiratory System

Test Review

1. List the general functions of the respiratory system.

2. Identify the organs of the respiratory system in the order in which air will pass through them from the exterior.

3. Describe the three regions of the pharynx.
 - a. nasopharynx:

 - b. oropharynx:

 - c. laryngopharynx:

4. Identify the anatomical features of the larynx and associated structures.
 - a. epiglottis:

 - b. glottis:

 - c. hyoid bone:

 - d. thyroid cartilage:

 - e. cricoid cartilage:

 - f. true vocal cords:

 - g. false vocal cords:

5. Identify the coverings of the lungs and the gross anatomical features of the lungs.
 - a. apex:

 - b. base:

 - c. lobes:

 - d. visceral pleura:

 - e. parietal pleura:

 - f. pleural cavity:

6. Identify the site at which gas exchange occurs in the lungs.

7. Identify the volumes and capacities of air exchange during ventilation.
 - a. tidal volume:

 - b. vital capacity:

8. Differentiate among ventilation, external respiration, and internal respiration.
 - a. ventilation:

 - b. external respiration:

 - c. internal respiration:

9. Describe the effects of carbon dioxide on respiration.

10. Describe the diseases or disorders of the respiratory system.

a. Emphysema:

b. Influenza:

c. Pleurisy:

d. Pneumonia:

e. SIDS:

f. Tuberculosis:

g. Lung Cancer:

Unit 9: Respiratory System

Test Review - KEY

1. List the general functions of the respiratory system.
 - A. Brings oxygenated air to the alveoli
 - B. Removes air containing carbon dioxide
 - C. Filters, warms, and humidifies the air
 - D. Produces sound
 - E. Helps with the sense of smell
 - F. Assists to regulate the pH within the blood

2. Identify the organs of the respiratory system in the order in which air will pass through them from the exterior.
Nose, nasal cavity, nasopharynx, oropharynx, laryngopharynx, larynx, trachea, bronchi, bronchioles, alveolar ducts, alveoli

3. Describe the three regions of the pharynx.
 - a. nasopharynx: Located behind the nasal cavity extending to the level of the soft palate. Serves as a passageway for air.

 - b. oropharynx: Located behind the mouth from the level of the soft palate to the level of the hyoid bone. Serves as a passageway for both air and food.

 - c. laryngopharynx: Located from the hyoid bone to the esophagus. Serves as a passageway for food.

4. Identify the anatomical features of the larynx and associated structures.
 - a. epiglottis: Flap-like cartilage structure located at the back of the tongue near the entrance to the trachea. It is attached to the thyroid cartilage. Closes over the glottis during swallowing to help prevent food from entering the larynx.

 - b. glottis: Slit-like opening between the (true) vocal cords Serves as a passageway for air

 - c. hyoid bone: Located in the neck between the lower jaw and the larynx. Serves as the posterior attachment for the tongue and the muscles which help move the tongue and function in swallowing.

 - d. thyroid cartilage: Is the largest cartilage of the larynx. Nicknamed the Adam's apple.

- e. cricoid cartilage: Is a "signet ring" shaped cartilage forming part of the posterior wall and is the most inferiorly placed of all the laryngeal cartilages. Marks the most inferior border of the larynx. (Also serves as a landmark for a tracheotomy).
 - f. true vocal cords: The most inferior of the two pairs of horizontal folds in the mucous membrane of the larynx. They are actually the lower folds. They contain elastic fibers, which vibrate when air is passed over them. Are responsible for producing sound.
 - g. false vocal cords: The most superior of the two pairs of horizontal folds in the mucous membrane of the larynx. They contain muscle fibers. Help close the glottis during swallowing to prevent food from entering the larynx.
5. Identify the coverings of the lungs and the gross anatomical features of the lungs.
- a. apex: The apex is the pointed superior portion of the lungs, which projects above the clavicles.
 - b. base: The broad, inferior surface of the lungs which rests on the diaphragm.
 - c. lobes: The functional units of the lungs. The right lung contains three lobes - the superior, middle, and inferior lobes. The left lung contains two lobes - the superior and inferior lobes.
 - d. visceral pleura: The serous membrane which covers the outer surfaces of the lungs and extends into the fissures separating the lobes.
 - e. parietal pleura: The serous membrane which covers the inner surface of the pleural cavity and extends over the diaphragm and the mediastinum.
 - f. pleural cavity: The mediastinum divides the thoracic cavity into two pleural cavities, each of which contains a lung.
6. Identify the site at which gas exchange occurs in the lungs.
alveoli
7. Identify the volumes and capacities of air exchange during ventilation.
- a. tidal volume: The volume of air moved into or out of the lungs during quiet breathing. The average volume is 500 cc's.
 - b. vital capacity: The maximum volume of air that can be exhaled after taking the deepest breath possible. $VC = TV + IRV + ERV$. The average volume is 4,600 cc's.

8. Differentiate among ventilation, external respiration, and internal respiration.
 - a. ventilation: Ventilation is also known as breathing or the movement of air into and out of the lungs. May also be called pulmonary ventilation.
 - b. external respiration: The process of exchanging gases between the air and the blood.
 - c. internal respiration: The process of exchanging gases between the blood and the body cells.
9. Describe the effects of carbon dioxide on respiration.

The medulla oblongata is sensitive to changes in the blood concentration of carbon dioxide and hydrogen ions. When the concentration of carbon dioxide increases, the respiratory center is stimulated and the rate of breathing is increased.
10. Describe the diseases or disorders of the respiratory system.
 - a. Emphysema: Emphysema is one of the chronic obstructive pulmonary disorders. Emphysema is an irreversible enlargement of the air spaces distal to the terminal bronchioles due to the destruction of the alveolar walls. The result is decreased elastic recoil properties of the lungs.
 - b. Influenza: Influenza, or flu, is an acute, highly contagious viral infection of the respiratory tract.
 - c. Pneumonia: Pneumonia is an acute infection of the lungs which prevents gas exchange. Pneumonia can be caused by viruses, bacteria, or the aspiration of fluid.
 - e. SIDS: SIDS is a mystery killer which takes the lives of apparently healthy infants between the ages of four weeks and seven months.
 - f. Tuberculosis: Tuberculosis, or TB, is a bacterial infection of the lungs is characterized by pulmonary infiltrates. People who live in crowded conditions or poorly ventilated areas are more likely to be infected.
 - g. Lung Cancer: Lung cancer is the most common cause of cancer in the United States. Lung cancer typically usually develops in the wall or the epithelium of the bronchial tree.