**Respiratory System**

**Practice Quiz**

1. What 3 factors affect the affinity of hemoglobin for O2? How would an increase in

each factor affect affinity?

2. Describe the following structures of the nose: root, bridge, tip.

3. Describe the following structures of the nasal cavity: external nares, nasal concha,

nasal septum, internal nares. What is the function of the nasal concha?

4. What are the 3 segments of the pharynx and where is each located? Which one is a

passageway for air only? Which ones serve as a passageway for both food and air?

5. List the laryngeal cartilages. What is the function of the epiglottis? What is significant

about the thyroid cartilage and cricoid cartilage? Which ones are found in pairs?

6. What type of tissue lines the trachea? What type of tissue makes up the tracheal rings

and the majority of the larynx? What type of tissue makes up the epiglottis?

7. What is the function of the soft palate & uvula during swallowing?

8. List the parts of the respiratory tree in order from largest to smallest. How many

secondary bronchi are there on each side?

9. What is the diameter of a standard bronchiole? What is the diameter of a terminal

bronchiole?

10. Where are the vocal folds (cords) located?

11. What is surfactant? Where is it located? What is its function?

12. Which muscles contract during inspiration? What does their contraction do to

intrapulmonary volume? What does it do to intrapulmonary pressure? At what point

during this change will air enter the lungs?

13. What causes normal, resting expiration? What muscles are involved with forceful

expiration? During both instances what changes are seen in intrapulmonary volume

and pressure?

14. What gas law tells us that as volume increases, pressure decreases? What gas law tells

us that each gas in a mixture exerts its own, independent pressure?

15. Define partial pressure.

16. List the 4 groups of the respiratory center. Where is each one located? What is the

function of each one?

17. In what 2 forms is oxygen transported in the blood? What percentage of O2 is

transported in each form? In what 3 forms is carbon dioxide transported in the blood?

What percentage of CO2 is transported in each form?

18. Write out the formula on the conversion of carbon dioxide to bicarbonate.

19. What is the purpose of the chloride shift?

20. What is the normal resting breathing pattern? What is the normal respiration rate?

21. Describe respiratory bronchioles and the alveolar sac.

22. What is the function of alveoli? How many are typically found in each lung?

23. Match the breathing patterns with their correct description.

1) Eupnea a. higher than normal breathing rate

2) Apnea b. difficult, labored, or painful breathing

3) Dsypnea c. normal breathing

4) Hyperventilation d. transient cessation of breathing

5) Hypoventilation e. lower than normal breathing rate

24. Match the lung volumes/capacities with their correct description.

1) Tidal volume

2) Inspiratory reserve volume

3) Expiratory reserve volume

4) Residual volume

5) Dead Space Volume

6) Total lung capacity

7) Vital capacity

a. The amount of air that can be forcefully inhaled after a normal tidal volume

inhalation

b. The total amount of exchangeable air

c. Amount of air remaining in the lungs after a forced exhalation

d. The amount of air inhaled or exhaled with each breath under resting conditions

e. The sum of all respiratory volumes

f. The amount of air that can be forcefully exhaled after a normal tidal volume

exhalation

g. Amount of air in the respiratory pathway not involved in gas exchange

25. Where in the body is pCO2 the highest? Where is it the lowest? Where in the body is

pO2 the highest? Where is it the lowest?

26. List the following lung capacities/volumes for males and females; total lung capacity,

vital capacity, dead space volume, residual volume, tidal volume.

27. What are the 4 functions of the larynx?

28. The respiratory center receives input from what locations? What do the

chemoreceptors in the brain detect? What do chemoreceptors in the aortic arch and

common carotids detect?

29. What factors affect gas exchange in the body? How would an increase in each of

these factors alter the rate of exchange?

30. Match the respiratory disorder with its description. Two answers are used more than

once.

1) Inflamed sinuses from a nasal cavity infection

2) Inflammation of the vocal cords

3) Inflammation of the pleural membranes

4) Seen in premature infants; due to a lack of surfactant

5) Air in the intrapleural spaces

6) CO binds with Hb in place of O2

7) Infectious inflammation of the lungs (viral or bacterial)

8) Permanent enlargement of the alveoli due to destruction of the alveolar walls

9) Inhaled irritants lead to chronic excessive mucus production as well as

inflammation and fibrosis of the mucosa

10) Bronchoconstriction prevents airflow into the alveoli

11) An infectious disease caused by a bacterium resulting in fibroid masses in the

lungs

12) Genetic disorder that causes an increase in mucus production resulting in clogged

respiratory passages

13) Alveoli collapse between breaths causing labored breathing and sometimes

inadequate

14) Respiration lung collapse

15) Caused by *Mycobacterium*

a. Sinusitis h. Emphysema

b. Laryngitis i. Chronic bronchitis

c. Pleurisy j. Asthma

d. Atelectasis k. Tuberculosis

e. Pneumothorax l. Cystic Fibrosis

f. Carbon Monoxide Poisoning m. Pneumonia

g. Infant Respiratory Distress Syndrome (IRDS)