Appendix D-2

EMT-Basic Monitoring Pulse Oximetry
Pre-Test—Answer Key

1. An unresponsive patient with shallow, gasping breaths at a rate of six per minute requires:

    a. oxygen given via nasal cannula
    b. immediate transport to a medical facility
    c. immediate ventilations with a bag-valve-mask and supplemental oxygen
    d. oxygen given via nonrebreather mask

2. If your patient is able to speak only in short choppy sentences, this may mean she:

    a. may have a language problem
    b. is unable to hear you clearly
    c. is experiencing hypoglycemia
    d. is experiencing breathing difficulty

3. If a patient has an SpO2 of 91% and is breathing adequately, administer oxygen via:

    a. nasal cannula
    b. nonrebreathing mask
    c. pocket face mask
    d. bag-valve-mask with supplemental oxygen

4. If a patient is experiencing breathing difficulty and is breathing adequately, it is usually best to place him in the ____ position.

    a. tripod
    b. sitting up
    c. supine
    d. prone

5. The term "hypoxemia" refers to:

    a. hypoventilation
    b. decreased oxygen in the environment
    c. decreased oxygen in the blood
    d. increased CO2 in the blood

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6. The gas exchange at the pulmonary capillaries is known as:

    a. external respiration
    b. internal respiration
    c. external ventilation
    d. total lung capacity

7. Pulse oximetry measures:

    a. the adequacy of ventilation
    b. the level of CO2 in the blood
    c. the oxygen dissolved in the plasma
    d. the oxygen bound to hemoglobin

8. If the SpO2 drops below 90%, the EMT-B should:

    a. administer oxygen via a nasal cannula
    b. administer oxygen via simple face mask
    c. insure open airway and aggressively oxygenate the patient
    d. ventilate the patient with low flow oxygen

9. A patient suffering from pulmonary edema may have a low SpO2 because:

    a. edema will result in failure of the sensor to detect a pulse
    b. carbon dioxide will build up in the blood
    c. external respiration is impaired causing decreased oxygen in the blood.
    d. internal respiration is impaired causing decreased oxygen in the blood

10. A tripod position is a sign of:

    a. severe respiratory distress
    b. hypoglycemia
    c. stroke
    d. heat emergency

11. Carbon monoxide may affect pulse oximetry because:

    a. carbon monoxide will bind to hemoglobin more readily than oxygen
    b. carbon monoxide prevents internal respiration
    c. carbon monoxide prevents oxygen from off-loading at the cellular level
    d. carbon monoxide binds with oxygen to produce carbon dioxide

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12. If a patient has a SpO2 of 100%, you should:

    a. withhold oxygen to prevent oxygen toxicity
    b. withhold oxygen for 5 minutes to get another reading
    c. assess the patient's clinical status to determine if oxygen administration is indicated.
    d. give the patient low flow oxygen with a nasal cannula

13. SpO2 and partial pressure oxygen measure the same thing:

    a. true
    b. false

14. Most of the oxygen transported by the blood is:

    a. dissolved in the plasma
    b. carried as bicarbonate ions
    c. bound to hemoglobin
    d. carried as carboxyhemoglobin

15. When using pulse oximetry in patient assessment, it is best to attach the sensor before starting the patient assessment to insure a baseline value.

    a. true
    b. false

16. Pulse oximetry monitoring is not recommended for pediatrics.

    a. true
    b. false

17. After administering a nebulized breathing treatment to a patient with chronic obstructive pulmonary disease, you would expect:

    a. the pulse oximetry reading to be lower
    b. the pulse oximetry reading to be above 100%
    c. the pulse oximetry reading to be higher
    d. the pulse oximetry reading would not change

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18. If you palpate the pulse and it is considerably different than the heart rate reading on the pulse oximeter:

    a. you should document the heart rate on the oximeter as the pulse rate
    b. the reading on the oximeter should be considered erroneous
    c. the reading on the oximeter should is always accurate but do not use the heart rate as the pulse rate
    d. remove oxygen from the patient and check it again in 5 minutes

19. Rib fractures may cause inadequate respiration due to:

    a. decreased oxygen at the tissue level
    b. inadequate chest expansion
    c. pain
    d. b and c

20. Which of the following is a late sign of hypoxemia?

    a. restlessness
    b. tachycardia
    c. cyanosis
    d. increased respiratory rate

21. In hypothermic patients, pulse oximetry:

    a. may read higher than actual saturation
    b. may read lower than actual saturation
    c. will not be affected
    d. sensors should be place on the coldest extremity

22. Bright ambient lights:

    a. may affect the accuracy of pulse oximetry
    b. will improve the accuracy of pulse oximetry
    c. will cause the oximetry reading to be higher than actual oxygen saturation
    d. will only affect oximetry in pediatrics

23. Heavy smokers may have a high pulse oximetry reading due to:

    a. increased levels of oxyhemoglobin in the blood
    b. decreased levels of carbon dioxide
    c. decreased levels of carboxyhemoglobin in the blood
    d. increased levels of carboxyhemoglobin in the blood

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24. Light-emitting diodes in pulse oximeters produce red and infrared light.

    a. true
    b. false

25. Pulse oximeters will produce a SpO2 during cardiac arrest:

    a. in pediatrics only
    b. if compressions produce a pulse
    c. in all patients
    d. if the patient is in PEA