Appendix E-1

EMT-Basic Pulse Oximetry Monitoring
Post Test

1. In Kansas EMT-B may monitor pulse oximetry:

    a. after they complete the EMT-B course
    b. when the service purchases the state approved pulse oximeters
    c. when the service director receives permission form the Board of EMS
    d. on completion of an approved course and with medical control

2. Choose the sign or symptom that best indicates severe respiratory distress.

    a. the patient speaks in full sentences between breaths.
    b. a patient has a bluish-gray skin color on the face and neck
    c. a 10-year-old is breathing 30 times per minute
    d. a 4-month-old is breathing with abdominal muscles

3. The light-emitting diodes produce red and ambient light to detect oxyhemoglobin in the capillary beds.

    a. true
    b. false

4. SpO2 indicates the:

    a. carbon dioxide in expire air
    b. oxygen dissolved in the plasma
    c. oxyhemoglobin
    d. carbon monoxide dissolved in the blood

5. A oxygen partial pressure of 60 mm Hg:

    a. will produce a SpO2 reading of 60% in most healthy adults
    b. will produce a SpO2 of less than 60% in most healthy adults
    c. may produce a SpO2 of 90% in a patient with COPD
    d. is not compatible with life

6. Normal SpO2 in healthy adults on room air is:

    a. 80-100 mm Hg
    b. 120 mm Hg
    c. 35-45%
    d. 97-98%

EMT-Basic Pulse Oximetry Monitoring
Post Test

7. If your patient has an SpO2 of 85% with clinical signs of hypoxemia, you should:

    a. administer oxygen by nasal cannula and recheck it in 5 minutes
    b. aggressively intervene with insuring an airway and 100% oxygen administration
    c. move the sensor to the other side of the body and check the pulse oximetry to verify accuracy
    d. call medical control before administering oxygen if the patient has COPD

8. The technology of pulse oximeters includes the fact that:

    a. oxygen dissolved in the blood absorbs more ambient light
    b. oxygen bound to hemoglobin absorbs more red light
    c. oxygen bound to hemoglobin absorbs more infrared light
    d. carboxyhemoglobin does not absorb infrared light

9. SpO2 is very close to SaO2 determined by laboratory tests.

    a. true
    b. false

10. Oxygen present in the alveoli will move to pulmonary capillaries because:

    a. there is more concentration of oxygen in the pulmonary capillaries
    b. the red blood cells have a polar attraction for oxygen pulling it out of the capillaries
    c. oxygen is pulled into the capillaries by plasma proteins
    d. oxygen moves from a greater concentration to a lesser concentration of oxygen

11. Pulse oximeters may indicate a SpO2 in cardiac arrest patients when:

    a. the sensor is placed on the ear lobe rather than on the fingers
    b. when a pulse wave can be detected
    c. if the patient has been in arrest for less than 10 minutes
    d. if the patient is not in asystole

12. Ideally, the pulse oximeters should be placed on the patient:

    a. prior to beginning the initial assessment
    b. during the breathing assessment
    c. only during transport of the patient
    d. only if the patient is complaining breathing difficulty

EMT-Basic Pulse Oximetry Monitoring
Post Test

13. You arrive on scene for a patient complaining difficulty breathing. You position the patient in an upright position and administer oxygen at 15 lpm with a non-rebreather oxygen mask. Your initial pulse oximetry reading is 89%. You would expect your interventions to:

    a. increase the pulse oximetry reading
    b. decrease the pulse oximetry reading
    c. have no affect on the pulse oximetry reading
    d. have little affect on the pulse oximetry during the first 30 minutes

14. Pulse oximetry readings of 100% indicate that the patient has adequate oxygen and carbon dioxide levels in the blood.

    a. true
    b. false

15. Internal respiration is defined as:

    a. the exchange of gases at the pulmonary level
    b. the contraction of the left ventricle after receiving oxygenated blood from the lungs
    c. the exchange of gases at the cellular level
    d. the exchange of gases at the alveolar level deep within the lungs

16. Hypoxemia is:

    a. decreased oxygenation in the blood
    b. increased carbondioxide in the blood
    c. decreased oxygen at the alveolar level
    d. decreased acid levels in the blood

17. Pneumonia may have the greatest affect on:

    a. oxygen carrying capacity of the blood
    b. oxygen exchange at the cellular level
    c. external respiration
    d. internal respiration

EMT-Basic Pulse Oximetry Monitoring
Post Test

18. An early sign of hypoxemia is:

    a. a drop in systolic blood pressure below 100 mm Hg
    b. cyanosis
    c. barrel chest
    d. altered mental status

19. To determine if motion is causing an erroneous pulse oximetry reading,

    a. compare the palpated pulse with the heart rate on the pulse oximeters
    b. motion will not cause problems with the pulse oximeters
    c. check to see if the light is flickering regularly
    d. turn the pulse oximeters off for a few minutes and recheck

20. Fingernail polish:

    a. does not affect new pulse oximeters
    b. should be removed if it has metallic flakes
    c. should be removed if the patient has pressed on nails
    d. will cause the pulse oximetry reading to be much higher than normal

21. Pulse oximetry in infants in late shock with cold mottled extremities:

    a. may produce a low reading when the patient may not require oxygen
    b. may not detect an adequate pulse wave
    c. may require the sensor to be place high on the extremities to avoid giving unnecessary oxygen
    d. may be placed on the toes or fingers and will usually give an accurate reading

22. Patients who are anemic with high pulse oximetry readings are compensating and do not require oxygen.

    a. true
    b. false

23. The EMT-B using the pulse oximeters will be free to perform other tasks since the pulse oximeters will monitor the pulse and ventilatory functions of the patient.

    a. true
    b. false

EMT-Basic Pulse Oximetry Monitoring
Post Test

24. Hypotension may produce:

    a. inadequate oxygen saturation but compensate with greater oxygen carrying capacity.
    b. adequate oxygen saturation and adequate oxygen carrying capacity
    c. adequate oxygen saturation but inadequate oxygen carrying capacity
    d. higher than normal pulse oximetry readings because of anemia

25. Patients with suspected carbon monoxide exposure should be treated with high concentrations of oxygen because:

    a. carboxyhemoglobin cannot be distinguished from oxyhemoglobin by the pulse oximeters.
    b. carbon monoxide has a greater affinity for hemoglobin than oxygen
    c. oxygen dissolved in the blood cannot be used to for cellular perfusion
    d. all of the above are true