1. You have finished teaching a class on cold emergencies and want to assess if the class understands the concepts. You ask a student to discuss the regulation of temperature in the human body. You know that she understands when she makes which of the following statements?

a. "If the body becomes too hot or too cold, the brain sends instructions so that the body either retains or loses heat."

b. "If the air outside the body is cold and the body is too hot, the cold air will move into the body to cool it."

c. "Because cellular activity constantly generates heat, the body must always be cooler than the air that surrounds it."

d. "For its cells to function properly, the body must always be warmer than the air that surrounds it."

Answer: a

Objective: Supplemental

Reference: 815

2. You are assessing a conscious but confused hiker who became lost in the woods on a cold day. Your assessment shows that he has an open airway, adequate breathing, and a weak radial pulse. His skin is cold to the touch and he is shivering. OEC Technicians should recognize that the:

a. cold caused the patient's brain to become dysfunctional, as evidenced by the shivering.

b. shivering actually represents a small seizure, which indicates that the brain is cold.

c. shivering is a protective means by which the body is attempting to warm itself.

d. shivering indicates that the patient's core body temperature has fallen below 90°F.

Answer: c

Objective: 25-2

Reference: 816

3. A young man who was angry with friends wandered away from a party and spent the night outside uncovered in 40–50 degree temperatures. He is confused, has decreased but adequate breathing, and has a weak radial pulse. His skin is cool, and capillary refill is delayed. When looking to see if he is shivering, you note that he is not. Based on this presentation, OEC Technicians can safely conclude that the:

a. patient is exhibiting signs indicating that he is effectively compensating and conserving heat.

b. patient's body temperature is most likely dangerously low.

c. absence of shivering indicates that body temperature is almost back to normal.

d. cause of his confusion is not related to exposure to the low overnight temperatures.

Answer: b

Objective: 25-2

Reference: 819

4. You and your friends are camping on a 20-degree day. Which of the following assessment findings best illustrates that your bodies are no longer compensating for the effects of the cold?

a. Cool and clammy skin

b. Loss of fine motor coordination

c. Shivering

d. Hypertension

Answer: b

Objective: 25-2

Reference: 819

5. Which of the following processes may account for as much as 60 percent of heat loss from the body?

a. Conduction

b. Respiration

c. Radiation

d. Evaporation

Answer: c

Objective: 25-1

Reference: 817

6. Which of the following actions should you take to decrease a patient’s heat loss due to radiation?

a. Put a hat on the patient’s head.

b. Turn off all fans in the room.

c. Wipe the patient's skin down with warm water.

d. Apply warm packs to the patient's body.

Answer: a

Objective: 25-1

Reference: 828

7. Which of the following patients is losing body heat by the mechanism of convection?

a. A 41-year-old female who is intoxicated and has passed out in the snow

b. A 56-year-old male who is confused and perspiring heavily

c. A 63-year-old female who took a drug that depressed her brain function

d. A 30-year-old male exposed to a light breeze in a cool environment

Answer: d

Objective: 25-1

Reference: 816

8. A patient who is conscious and breathing has been pulled from a stream of cold water. To decrease her loss of heat via the mechanism of conduction, an OEC Technician should immediately:

a. cover her with a blanket.

b. remove her wet clothing.

c. provide positive-pressure ventilation.

d. encourage her to stop shivering.

Answer: b

Objective: 25-7

Reference: 816, 830

9. Based on your OEC training, which of the following patients is most likely suffering from generalized hypothermia?

a. A 21-year-old female who was trapped in cold water for 10 minutes before being rescued

b. A 19-year-old male whose ears are firm and waxy in appearance

c. A 34-year-old male whose fingers and toes are blue from exposure to the cold

d. A 87-year-old alcoholic with hand pain and numbness after shoveling snow without wearing gloves

Answer: a

Objective: Supplemental

Reference: 820

10. You are scheduled to give a presentation on cold-related emergencies to an OEC class. In preparing the talk, which of the following points should you emphasize?

a. Prevention of heat loss is crucial in the care of all cold injury patients.

b. Of the two types of cold-related injuries, a local cold injury, or frostbite, is more life threatening because it can result in the loss of fingers, toes, arms, or legs.

c. Coma or unresponsiveness in a patient suffering a cold-related injury is actually protective because it decreases the body's energy requirements.

d. A cold-related emergency becomes critical when body temperature falls below 80°F because at that point the body loses the ability to regulate its temperature.

Answer: a

Objective: 25-7

Reference: 828

11. Which of the following signs would you observe earliest in a hypothermic patient?

a. Confusion

b. Hypotension

c. Shivering

d. Bradycardia

Answer: c

Objective: 25-2

Reference: 825

12. Which of the following statements about immersion hypothermia is *false*?

a. A patient pulled from cold water should be moved to a warm environment immediately.

b. Immersion hypothermia typically does not occur until the water temperature is below 35°F.

c. Adults typically can withstand exposure to colder water for a longer period of time than can children.

d. It is important to remove the clothes of a patient exposed to cold water as soon as possible.

Answer: b

Objective: 25-7

Reference: 819

13. Your friend, who is a paramedic, is describing an emergency call he was on last weekend. He tells you that he cared for a 78-year-old woman who had slipped while getting out of her bathtub and had been lying on a tile floor for almost 24 hours. When your friend arrived he found the woman confused and cold to the touch. Although it was 80 degrees outside, the temperature in the apartment was only 68 because she had her air conditioner running on high. Based on your OEC training, you recognize that this patient was probably suffering from:

a. hypothermia caused by a medical condition.

b. generalized hyperthermia caused by evaporation.

c. hypothermia due to heat loss caused by conduction.

d. localized hypothermia caused by immobility.

Answer: c

Objective: 25-1

Reference: 816

14. A young boy complains of pain in his fingers after spending several hours outside riding a sled in cold temperatures. After ensuring that he has no life-threatening conditions, you turn your attention to his hands and note that his fingers are cold to the touch. Which of the following signs or symptoms would help confirm your suspicion that he is suffering from early or superficial frostbite?

a. Soft but numb skin on the fingers

b. A history of being exposed to cold temperatures

c. Swelling of and blisters on the fingers

d. Firm but numb cold skin on the fingers

Answer: a

Objective: 25-3

Reference: 819

15. When assessing the vital signs of a severely hypothermic patient, OEC Technicians should:

a. vigorously shake the patient to assess the true level of responsiveness.

b. monitor the patient’s pulse and respirations for ten seconds.

c. check the patient’s radial pulse to avoid exposing the patient’s head and neck to the cold.

d. warm their own fingers for a full minute to ensure that they can feel the patient’s pulse.

Answer: b

Objective: 25-7

Reference: 831

16. Which of the following instructions is most appropriate when moving a patient who has severe generalized hypothermia?

a. "I want everyone to take extra care in moving her very gently to the stretcher; we do not want her to go into cardiac arrest."

b. "Be careful when moving her to the stretcher; the cold makes her very prone to bone fractures."

c. "Let's place her on her side on the stretcher because her body temperature contraindicates placement of a nasal airway."

d. "Let's secure her with her arms and legs extended because this position promotes the retention of body heat."

Answer: a

Objective: 25-7

Reference: 830

17. Which of the following findings best indicates that a patient with cold skin is suffering from moderate hypothermia?

a. Blood pressure of 112/60

b. Respirations at 28 per minute

c. A heart rate of 52 beats per minute

d. A pulse oximetry reading of 95 percent

Answer: c

Objective: 25-7

Reference: 826

18. When obtaining a history of a five-year-old boy with generalized hypothermia, which of the following questions should an OEC Technician ask first?

a. "Are all of his childhood shots up to date?"

b. "Does he have any medical conditions?"

c. "When did he last eat or drink?"

d. "Why was he outside without adult supervision?"

Answer: b

Objective: 25-7

Reference: 824

19. An OEC Technician can most accurately assess a patient’s core temperature by using a(n):

a. tympanic thermometer placed in the patient's ear.

b. low-temperature rectal thermometer.

c. oral thermometer placed in the patient's mouth.

d. household rectal thermometer.

Answer: b

Objective: 25-7

Reference: 827

20. A severely hypothermic patient is in cardiac arrest. Most studies indicate that for patients who have been submerged in cold water for more than one hour, you should:

a. start cardiopulmonary resuscitation.

b. focus on rewarming and rapidly transporting the patient.

c. provide ventilations but not compressions.

d. do nothing because there is no chance such patients will survive.

Answer: b

Objective: 25-7

Reference: 831

21. You have been called to aid an alert and oriented male patient whose friends state he spent several hours locked out of his house in cold temperatures. Given that the primary and secondary assessments have ruled out immediately life-threatening conditions, you have decided to rewarm the patient. Which of the following actions would be most appropriate for this patient?

a. Place the patient in a tub of warm water.

b. Apply hot packs to the patient's chest, groin, and armpits.

c. Massage the patient’s arms and legs after applying warm blankets.

d. Blow hot air from a hair dryer over the patient's arms and legs.

Answer: b

Objective: 25-7

Reference: 829

22. You need to begin rewarming an unresponsive patient who has a core temperature of 93°F. Which of the following measures would most benefit this patient?

a. Give the patient warm drinks to increase internal body temperature.

b. Gently massage the patient’s arms and legs.

c. Wrap the patient in several warm blankets.

d. Place one extremity at a time into warm water.

Answer: c

Objective: 25-7

Reference: 824, 830

23. Which of the following statements indicates that an OEC Technician understands the care of a patient with a localized cold injury to the foot?

a. "After rewarming the foot you should elevate it above the level of the heart."

b. "If the patient has blisters on his foot, it is beneficial to break them so that the fluid inside will not freeze and cause additional injury."

c. "Gentle massage of the foot is beneficial because it enhances the circulation of warm blood in the affected area."

d. "You should avoid immobilizing the foot because doing so will further decrease the circulation of blood in the affected area."

Answer: a

Objective: 25-8

Reference: 828

24. You are facilitating a talk on cold emergencies in the backcountry. You are asked when one should attempt to rewarm a hand or foot that is frostbitten. Which of the following statements would be your best response?

a. "You never want to rewarm a frozen body part because doing so can cause additional damage."

b. "Attempt to rewarm a frozen body part only if the person still has some feeling in it."

c. "It is best to attempt rewarming in any situation because the benefits of rewarming outweighs the risks of not rewarming."

d. "Rewarming should take place only when there is no chance that the tissue will refreeze."

Answer: d

Objective: 25-8

Reference: 827

25. One of your friends on a hunting trip in Montana has suffered a severe localized cold injury to his hand and fingers. He does not have any life-threatening conditions and you elect to rewarm the affected areas. Which of the following actions is most appropriate for your friend?

a. Immerse the hand and fingers in water that is no hotter than 120°F.

b. Place the hand lower than the heart after rewarming is complete.

c. Slowly warm the affected hand using hot packs.

d. Thaw and rewarm the tissue as quickly as possible.

Answer: d

Objective: 25-8

Reference: 827

26. After successfully rewarming a foot that has frozen toes, an OEC Technician should:

a. cover the foot and toes with dry dressings.

b. gently massage the foot and toes.

c. ambulate the patient to ensure return of adequate motor function.

d. place the foot below the level of the heart to enhance circulation.

Answer: a

Objective: 25-8

Reference: 828

27. You have initiated the rewarming of a local cold injury in a patient's hand and fingers. On scene the patient had no sensation in his hand or fingers. Which of the following statements is a cause of concern when made by the patient?

a. "The blisters on my fingers haven't broken yet."

b. "My fingers are really starting to hurt now!"

c. "I still can’t feel my fingers when I rub them with my other hand."

d. "My hand is feeling funny. It seems to be starting to tingle a little bit."

Answer: c

Objective: 25-8

Reference: 824

28. The continued drop in core body temperature after removal from exposure to the cold is known as:

a. afterdrop.

b. secondary hypothermia.

c. thermoregulation.

d. shock.

Answer: a

Objective: 25-6

Reference: 820

29. To prevent a continued drop in core body temperature after treatment for hypothermia has begun, the patient should:

a. immediately start exercising to produce body heat.

b. have the extremities vigorously rubbed to move fluids into the body’s core.

c. be entirely immersed in warm water.

d. remain quiet and in a supine position.

Answer: d

Objective: 25-6

Reference: 829

30. It has taken you 45 minutes to extricate an avalanche victim. Based on your knowledge of hypothermia and avalanche victims, you know that:

a. 30 minutes is usually long enough for severe hypothermia to develop.

b. the threat of severe hypothermia is greater after extrication than before extrication.

c. a pulseless victim can most likely be resuscitated after rewarming.

d. a patient who is responsive is not hypothermic.

Answer: b

Objective: 25-9

Reference: 832

31. A patient who has diabetes and is unresponsive after being in cold temperatures for several hours has \_\_\_\_\_\_\_\_ hypothermia.

a. secondary

b. non-immersion

c. accidental

d. primary

Answer: a

Objective: 25-4

Reference: 820

32. Which of the following statements concerning immersion hypothermia is *false?*

a. It can occur even if the head is above water and the entire torso is submersed.

b. Death will occur within a few minutes.

c. The function of arm and leg muscles can be lost within 10–15 minutes.

d. It takes more than 30 minutes for an individual to become hypothermic.

Answer: b

Objective: 25-4

Reference: 819-820

33. A patient with moderate hypothermia will have a:

a. core body temperature of 90–95°F.

b. slow pulse and/or slow respirations.

c. higher-than-normal blood pressure.

d. high risk of ventricular fibrillation.

Answer: b

Objective: 25-5

Reference: 825-826

34. Which of the following findings is *not* a sign of severe hypothermia?

a. Coma

b. A core temperature below 82°F

c. A palpable radial pulse

d. Diminished pupillary eye reflexes

Answer: c

Objective: 25-5

Reference: 826

35. You are with a candidate OEC Technician who is attending to snowboarder who has fallen. The candidate is very concerned that the snowboarder is shivering vigorously and asks you what this indicates. Which of the following statements would be your best response?

a. Shivering is a sign of mild hypothermia.

b. Shivering indicates moderate hypothermia.

c. Individuals who are shivering cannot maintain their normal body temperature.

d. It is good to try to get a shivering patient to stop because shivering burns energy.

Answer: a

Objective: 25-5

Reference: 825

36. The major cause of death in avalanche victims is:

a. severe hypothermia.

b. trauma.

c. asphyxiation.

d. bleeding.

Answer: c

Objective: 25-9

Reference: 831