

Chapter 30

Review

1. When a person is exposed to cold temperatures and strong winds for an extended period of time, he or she will lose heat mostly by:
 - A. radiation.
 - B. convection.
 - C. conduction.
 - D. evaporation.

Answer: B

Rationale: Convection occurs when heat is transferred to circulating air, as when cool air moves across the body surface. A person wearing lightweight clothing and standing outside in cold, windy, weather is losing heat to the environment mostly by convection.

1. When a person is exposed to cold temperatures and strong winds for an extended period of time, he or she will lose heat mostly by:

A. radiation.

Rationale: Radiation is the transfer of heat.

B. convection.

Rationale: Correct answer

1. When a person is exposed to cold temperatures and strong winds for an extended period of time, he or she will lose heat mostly by:

C. conduction.

Rationale: Conduction is the direct transfer of heat by contact.

D. evaporation.

Rationale: Body moisture evaporates and cools the body.

2. Shivering in the presence of hypothermia indicates that the:

- A. musculoskeletal system is damaged.
- B. nerve endings are damaged, causing loss of muscle control.
- C. body is trying to generate more heat through muscular activity.
- D. thermoregulatory system has failed and body temperature is falling.

Answer: C

Rationale: Shivering in the presence of hypothermia indicates that the body is trying to generate more heat (thermogenesis) through muscular activity. In early hypothermia, shivering is a voluntary attempt to produce heat; as hypothermia progresses, shivering becomes involuntary.

2. Shivering in the presence of hypothermia indicates that the:

A. musculoskeletal system is damaged.

Rationale: Hypothermia is not a physical injury.

B. nerve endings are damaged, causing loss of muscle control.

Rationale: Hypothermia is not a physical injury.

2. Shivering in the presence of hypothermia indicates that the:

C. body is trying to generate more heat through muscular activity.

Rationale: Correct answer

D. thermoregulatory system has failed and body temperature is falling.

Rationale: The thermoregulatory system has not failed; it is producing heat and keeping the body warm.

3. All of the following are examples of passive rewarming techniques, EXCEPT:
- A. removing cold, wet clothing.
 - B. administering warm fluids by mouth.
 - C. turning up the heat inside the ambulance.
 - D. covering the patient with warm blankets.

Answer: B

Rationale: Passive rewarming involves allowing the patient's body temperature to rise gradually and naturally. Removing cold, wet clothing; turning up the heat in the ambulance; and covering the patient with warm blankets are examples of passive rewarming. Administering warmed fluids by mouth or intravenously is an example of active rewarming; this should be avoided in the uncontrolled prehospital setting.

3. All of the following are examples of passive rewarming techniques, EXCEPT:

A. removing cold, wet clothing.

Rationale: This is passive rewarming.

B. administering warm fluids by mouth.

Rationale: Correct answer

C. turning up the heat inside the ambulance.

Rationale: This is passive rewarming.

D. covering the patient with warm blankets.

Rationale: This is passive rewarming.

4. A woman has frostbite in both feet after walking several miles in a frozen field. Her feet are white, hard, and cold to the touch. Treatment at the scene should include:
- A. rubbing her feet gently with your own warm hands.
 - B. trying to restore circulation by helping her to walk around.
 - C. removing her wet clothing and rubbing her feet briskly with a warm, wet cloth.
 - D. removing her wet clothing and covering her feet with dry, sterile dressings.

Answer: D

Rationale: When treating a patient with frostbite, you should remove any wet clothing and cover the injured area with dry, sterile dressings. Do not break any blisters, and do not apply heat to try to rewarm the area.

4. A woman has frostbite in both feet after walking several miles in a frozen field. Her feet are white, hard, and cold to the touch. Treatment at the scene should include:

A. rubbing her feet gently with your own warm hands.

Rationale: Do not rub or massage the frostbitten area.

B. trying to restore circulation by helping her to walk around.

Rationale: Do not allow the patient to stand or walk on a frostbitten foot.

4. A woman has frostbite in both feet after walking several miles in a frozen field. Her feet are white, hard, and cold to the touch. Treatment at the scene should include:
- C. removing her wet clothing and rubbing her feet briskly with a warm, wet cloth.
Rationale: Do not apply something warm or hot.
 - D. removing her wet clothing and covering her feet with dry, sterile dressings.
Rationale: Correct answer

5. A 30-year-old male, who has been playing softball all day in a hot environment, complains of weakness and nausea shortly after experiencing a syncopal episode. Appropriate treatment for this patient includes all of the following, EXCEPT:
- A. giving a salt-containing solution by mouth.
 - B. moving him to a cooler environment at once.
 - C. administering oxygen via nonrebreathing mask.
 - D. placing him in a supine position and elevating his legs.

Answer: A

Rationale: Treatment for heat exhaustion begins by moving the patient to a cooler environment. Remove excess clothing, administer oxygen as needed, and place the patient supine. Elevating the patient's legs may improve blood flow to the brain and prevent another syncopal episode. If the patient is not nauseated, give a salt-containing solution by mouth. Give nothing by mouth if the patient is nauseated; doing so increases the risks of vomiting and aspiration.

5. A 30-year-old male, who has been playing softball all day in a hot environment, complains of weakness and nausea shortly after experiencing a syncopal episode. Appropriate treatment for this patient includes all of the following, EXCEPT:

A. giving a salt-containing solution by mouth.

Rationale: Correct answer

B. moving him to a cooler environment at once.

Rationale: This is an appropriate treatment for heat exhaustion.

5. A 30-year-old male, who has been playing softball all day in a hot environment, complains of weakness and nausea shortly after experiencing a syncopal episode. Appropriate treatment for this patient includes all of the following, EXCEPT:

C. administering oxygen via nonrebreathing mask.

Rationale: This is an appropriate treatment for heat exhaustion.

D. placing him in a supine position and elevating his legs.

Rationale: This is an appropriate treatment for heat exhaustion.

6. You are assessing a 30-year-old woman with a heat-related emergency. Her skin is flushed, hot, and moist; and her level of consciousness is decreased. After moving her to a cool environment, managing her airway, and administering oxygen, you should:
- A. give her ice water to drink.
 - B. place her in the recovery position.
 - C. cover her with wet sheets and fan her.
 - D. take her temperature with an axillary probe.

Answer: C

Rationale: This patient is experiencing heatstroke. After moving her to a cooler area, managing her airway, and administering oxygen, the single most important treatment for her involves rapid cooling. Turn on the AC in the back of the ambulance, cover her with a wet sheet, and begin fanning her. Consider applying chemical ice packs to her groin and axillae (follow local protocols). Untreated heatstroke almost always results in death due to brain damage.

6. You are assessing a 30-year-old woman with a heat-related emergency. Her skin is flushed, hot, and moist; and her level of consciousness is decreased. After moving her to a cool environment, managing her airway, and administering oxygen, you should:

A. give her ice water to drink.

Rationale: Give the patient nothing by mouth.

B. place her in the recovery position.

Rationale: Place the patient in the shock position.

6. You are assessing a 30-year-old woman with a heat-related emergency. Her skin is flushed, hot, and moist; and her level of consciousness is decreased. After moving her to a cool environment, managing her airway, and administering oxygen, you should:

C. cover her with wet sheets and fan her.

Rationale: Correct answer

D. take her temperature with an axillary probe.

Rationale: The core temperatures are the most accurate.

7. It is important to remove a drowning victim from the water before laryngospasm relaxes because:
- A. the patient will suffer less airway trauma.
 - B. the risk of severe hypothermia is lessened.
 - C. less water will have entered the patient's lungs.
 - D. you can ventilate the patient with laryngospasm.

Answer: C

Rationale: Even small amounts of salt or fresh water will irritate the larynx, causing it to spasm (laryngospasm). This is the body's protective mechanism. If the EMT can safely remove the patient from the water before the laryngospasm relaxes, the amount of water that enters the lungs will be minimized. It will also be easier to ventilate the patient.

7. It is important to remove a drowning victim from the water before laryngospasm relaxes because:

A. the patient will suffer less airway trauma.

Rationale: A laryngospasm is the closing of the vocal cords. This process will not cause trauma to the airway.

B. the risk of severe hypothermia is lessened.

Rationale: Submersion will produce hypothermia with or without the presence of a laryngospasm.

7. It is important to remove a drowning victim from the water before laryngospasm relaxes because:

C. less water will have entered the patient's lungs.

Rationale: Correct answer

D. you can ventilate the patient with laryngospasm.

Rationale: A laryngospasm is an upper airway obstruction and you will not be able to ventilate.

8. A 13-year-old girl is found floating face down in a swimming pool. Witnesses tell you that the girl had been practicing diving. After you and your partner safely enter the water, you should:
 - A. turn her head to the side and give five back slaps.
 - B. turn her head to the side and begin rescue breathing.
 - C. rotate her entire body as a unit and carefully remove her from the pool.
 - D. rotate the entire upper half of her body as a unit, supporting her head and neck.

Answer: D

Rationale: When caring for a patient who is in the water and has possibly been injured, rotate the upper half of the body as a unit, supporting the head and neck, until the patient is face up. Open the airway with the jaw-thrust maneuver and begin artificial ventilation.

8. A 13-year-old girl is found floating face down in a swimming pool. Witnesses tell you that the girl had been practicing diving. After you and your partner safely enter the water, you should:

A. turn her head to the side and give five back slaps.

Rationale: You must consider a spinal injury.

B. turn her head to the side and begin rescue breathing.

Rationale: Manual stabilization must occur when treating patients with suspected neck injuries.

8. A 13-year-old girl is found floating face down in a swimming pool. Witnesses tell you that the girl had been practicing diving. After you and your partner safely enter the water, you should:

C. rotate her entire body as a unit and carefully remove her from the pool.

Rationale: While in the water and placing a patient in the supine position, a controlled rotation of the upper torso will automatically cause the proper rotation of the lower torso.

D. rotate the entire upper half of her body as a unit, supporting her head and neck.

Rationale: Correct answer

9. Shortly after ascending rapidly to the surface of the water while holding his breath, a 29-year-old diver begins coughing up pink, frothy sputum and complains of dyspnea and chest pain. You should suspect and treat this patient for:
- A. an air embolism.
 - B. a pneumothorax.
 - C. pneumomediastinum.
 - D. decompression sickness.

Answer: A

Rationale: Signs of an air embolism, which present after a person rapidly ascends to the surface of the water while holding his or her breath, include skin mottling, pink froth at the mouth or nose, muscle or joint pain, dyspnea and/or chest pain, dizziness, nausea or vomiting, visual impairment, paralysis or coma, and even cardiac arrest.

9. Shortly after ascending rapidly to the surface of the water while holding his breath, a 29-year-old diver begins coughing up pink, frothy sputum and complains of dyspnea and chest pain. You should suspect and treat this patient for:

A. an air embolism.

Rationale: Correct answer

B. a pneumothorax.

Rationale: A pneumothorax is a rupture or perforation of the pleura, causing air to leak into the pleural sac.

9. Shortly after ascending rapidly to the surface of the water while holding his breath, a 29-year-old diver begins coughing up pink, frothy sputum and complains of dyspnea and chest pain. You should suspect and treat this patient for:

C. pneumomediastinum.

Rationale: This is air found in the mediastinum, between the lungs.

D. decompression sickness.

Rationale: This is a condition marked by joint pain, nausea, loss of motion, and breathing difficulties.

10. Three ambulances respond to a golf course where a group of six golfers were struck by lightning. Two of the golfers are conscious and alert with superficial skin burns (Group 1). The next two golfers have minor fractures and appear confused (Group 2). The last two golfers are in cardiac arrest (Group 3). According to reverse triage, which group of golfers should be treated FIRST?
- A. Group 1
 - B. Group 2
 - C. Group 3
 - D. Groups 1 and 2; Group 3 should be tagged as deceased

Answer: C

Rationale: The process of triaging multiple patients who were struck by lightning differs from standard triage; it is called “reverse triage.” If the patients are alive at the scene, survival is likely. Delayed cardiac arrest following a lightning strike is uncommon. If the patients are in cardiac arrest, there is a good chance that they can be resuscitated with early, high-quality CPR and defibrillation. Therefore, Group 3 should be treated first.

10. Three ambulances respond to a golf course where a group of six golfers were struck by lightning. Two of the golfers are conscious and alert with superficial skin burns (Group 1). The next two golfers have minor fractures and appear confused (Group 2). The last two golfers are in cardiac arrest (Group 3). According to reverse triage, which group of golfers should be treated FIRST?

A. Group 1

Rationale: Delayed cardiac arrest following a lightning strike is uncommon. This group should not deteriorate.

B. Group 2

Rationale: Delayed cardiac arrest following a lightning strike is uncommon. This group should not deteriorate.

10. Three ambulances respond to a golf course where a group of six golfers were struck by lightning. Two of the golfers are conscious and alert with superficial skin burns (Group 1). The next two golfers have minor fractures and appear confused (Group 2). The last two golfers are in cardiac arrest (Group 3). According to reverse triage, which group of golfers should be treated FIRST?

C. Group 3

Rationale: Correct answer

D. Groups 1 and 2; Group 3 should be tagged as deceased

Rationale: Group 3 has a good chance of surviving with quality CPR and defibrillation.