

Chapter 23

Review

1. Which of the following is NOT a component of the cardiovascular system?

A. Heart

B. Lungs

C. Venules

D. Plasma

Answer: B

Rationale: Components of the cardiovascular system include the heart, blood vessels (arteries, arterioles, capillaries, venules, veins), and blood (plasma and blood cells). The lungs are a component of the respiratory system.

1. Which of the following is NOT a component of the cardiovascular system?

A. Heart

Rationale: This is part of the cardiovascular system.

B. Lungs

Rationale: Correct answer

1. Which of the following is NOT a component of the cardiovascular system?

C. Venules

Rationale: This is part of the cardiovascular system.

D. Plasma

Rationale: This is part of the cardiovascular system.

2. Perfusion is MOST accurately defined as:

- A. the removal of adequate amounts of carbon dioxide during exhalation.
- B. the intake of adequate amounts of oxygen during the inhalation phase.
- C. circulation of blood within an organ with sufficient amounts of oxygen.
- D. the production of carbon dioxide, which accumulates at the cellular level.

Answer: C

Rationale: Perfusion is the circulation of blood within an organ and tissues with sufficient amounts of oxygen and other nutrients. Carbon dioxide is the by-product of normal cellular metabolism; it should be returned to the lungs for removal from the body; it should *not* accumulate at the cellular level.

2. Perfusion is MOST accurately defined as:

A. the removal of adequate amounts of carbon dioxide during exhalation.

Rationale: Removal of carbon dioxide is a part of exhalation, and not perfusion.

B. the intake of adequate amounts of oxygen during the inhalation phase.

Rationale: This is a function of respirations, and not perfusion.

2. Perfusion is MOST accurately defined as:

C. circulation of blood within an organ with sufficient amounts of oxygen.

Rationale: Correct answer

D. the production of carbon dioxide, which accumulates at the cellular level.

Rationale: Carbon dioxide is a normal by-product of cellular metabolism and should not accumulate in the cells.

3. A man involved in a motorcycle crash has multiple abrasions and lacerations. Which of the following injuries has the HIGHEST treatment priority?
- A. Widespread abrasions to the back with pinkish ooze
 - B. 3" laceration to the forehead with dark red, flowing blood
 - C. Laceration to the forearm with obvious debris in the wound
 - D. 1" laceration to the thigh with spurting, bright red blood

Answer: D

Rationale: Bleeding from an artery produces bright red bleeding that spurts with the pulse. The pressure that causes the blood to spurt also makes this type of bleeding difficult to control. Blood loss from an arterial wound is more severe—and thus, more life threatening—than from a venous wound.

3. A man involved in a motorcycle crash has multiple abrasions and lacerations. Which of the following injuries has the HIGHEST treatment priority?

A. Widespread abrasions to the back with pinkish ooze

Rationale: Abrasions are painful, but not an immediate life threat.

B. 3" laceration to the forehead with dark red, flowing blood

Rationale: Venous bleeding is controlled after arterial bleeding is controlled.

3. A man involved in a motorcycle crash has multiple abrasions and lacerations. Which of the following injuries has the HIGHEST treatment priority?

C. Laceration to the forearm with obvious debris in the wound

Rationale: There is no indication that this wound is actively bleeding.

D. 1" laceration to the thigh with spurting, bright red blood

Rationale: Correct answer

4. Which of the following sets of vital signs is LEAST indicative of internal bleeding?

A. BP, 140/90 mm Hg; pulse rate, 58 beats/min; respirations, 8 breaths/min

B. BP, 100/50 mm Hg; pulse rate, 120 beats/min; respirations, 24 breaths/min

C. BP, 98/60 mm Hg; pulse rate, 110 beats/min; respirations, 28 breaths/min

D. BP, 102/48 mm Hg; pulse rate, 100 beats/min; respirations, 22 breaths/min

Answer: A

Rationale: Internal hemorrhage typically reveals vital signs that are consistent with shock: hypotension, tachycardia, and tachypnea. Hypertension, bradycardia, and bradypnea (choice “A”) is consistent with a closed head injury, not internal bleeding.

4. Which of the following sets of vital signs is LEAST indicative of internal bleeding?

A. BP, 140/90 mm Hg; pulse rate, 58 beats/min; respirations, 8 breaths/min

Rationale: Correct answer

B. BP, 100/50 mm Hg; pulse rate, 120 beats/min; respirations, 24 breaths/min

Rationale: This is indicative of a progression to decompensated shock.

4. Which of the following sets of vital signs is LEAST indicative of internal bleeding?

C. BP, 98/60 mm Hg; pulse rate, 110 beats/min; respirations, 28 breaths/min

Rationale: This is indicative of a progression to decompensated shock.

D. BP, 102/48 mm Hg; pulse rate, 100 beats/min; respirations, 22 breaths/min

Rationale: This is indicative of a progression to decompensated shock.

5. When caring for a patient with internal bleeding, the EMT must first:
- A. ensure a patent airway.
 - B. obtain baseline vital signs.
 - C. control any external bleeding.
 - D. take appropriate standard precautions.

Answer: D

Rationale: All of the interventions in this question must be performed. However, before providing patient care—whether the patient is bleeding or not—the EMT must first ensure that he or she has taken the appropriate standard precautions.

5. When caring for a patient with internal bleeding, the EMT must first:

A. ensure a patent airway.

Rationale: This would be the first step after standard precautions.

B. obtain baseline vital signs.

Rationale: This would be the third step after standard precautions, airway, and bleeding control.

5. When caring for a patient with internal bleeding, the EMT must first:

C. control any external bleeding.

Rationale: This would be the second step after standard precautions and airway.

D. take appropriate standard precautions.

Rationale: Correct answer

6. The quickest and MOST effective way to control external bleeding from an extremity is:

- A. a pressure bandage.
- B. direct pressure and elevation.
- C. a splint.
- D. a tourniquet.

Answer: B

Rationale: Direct pressure and elevation are the quickest, most effective ways to control external bleeding from an extremity. This combination will effectively control external bleeding in most cases.

6. The quickest and MOST effective way to control external bleeding from an extremity is:

A. a pressure bandage.

Rationale: This is done after direct pressure has controlled the bleeding.

B. direct pressure and elevation.

Rationale: Correct answer

6. The quickest and MOST effective way to control external bleeding from an extremity is:

C. a splint.

Rationale: Most cases of external bleeding can be controlled by direct pressure and elevation and do not require a splint.

D. a tourniquet.

Rationale: This is the last method of controlling external bleeding.

7. When applying a tourniquet to an amputated arm, the EMT should:
- A. use the narrowest bandage possible.
 - B. avoid applying the tourniquet over a joint.
 - C. cover the tourniquet with a sterile bandage.
 - D. use rope to ensure that the tourniquet is tight.

Answer: B

Rationale: If you must apply a tourniquet, never apply it directly over a joint. You should use the widest bandage possible and make sure it is secured tightly. Never use wire, rope, a belt, or any other narrow material, as it could cut the skin. The tourniquet should never be covered with a bandage. Leave it open and in full view.

7. When applying a tourniquet to an amputated arm, the EMT should:

A. use the narrowest bandage possible.

Rationale: You should use the widest bandage possible.

B. avoid applying the tourniquet over a joint.

Rationale: Correct answer

7. When applying a tourniquet to an amputated arm, the EMT should:

C. cover the tourniquet with a sterile bandage.

Rationale: You should leave a tourniquet open and in plain view.

D. use rope to ensure that the tourniquet is tight.

Rationale: Never use a wire, rope, belt, or any other narrow material, as it may cut or damage the extremity.

8. A 70-year-old man is experiencing a severe nosebleed. When you arrive, you find him leaning over a basin, which contains an impressive amount of blood. He has a history of coronary artery disease, diabetes, and migraine headaches. His BP is 180/100 and his heart rate is 100 beats/min. Which of the following is the MOST likely contributing factor to his nosebleed?
- A. His blood pressure
 - B. His history of diabetes
 - C. The fact that he is elderly
 - D. His heart rate of 100 beats/min

Answer: A

Rationale: Several conditions can cause a nosebleed (epistaxis), including skull fractures, facial injuries, sinusitis (inflamed sinuses), high blood pressure, coagulation disorders (ie, hemophilia), and digital trauma (ie, nose picking). A BP of 180/100 indicates a significant amount of pressure on the arteries, which is no doubt the main contributing factor to this patient's nosebleed.

8. A 70-year-old man is experiencing a severe nosebleed. When you arrive, you find him leaning over a basin, which contains an impressive amount of blood. He has a history of coronary artery disease, diabetes, and migraine headaches. His BP is 180/100 and his heart rate is 100 beats/min. Which of the following is the MOST likely contributing factor to his nosebleed?

A. His blood pressure

Rationale: Correct answer

B. His history of diabetes

Rationale: Diabetes can be a cause of hypertension and vascular problems, but typically is not a condition that will cause epistaxis.

8. A 70-year-old man is experiencing a severe nosebleed. When you arrive, you find him leaning over a basin, which contains an impressive amount of blood. He has a history of coronary artery disease, diabetes, and migraine headaches. His BP is 180/100 and his heart rate is 100 beats/min. Which of the following is the MOST likely contributing factor to his nosebleed?

C. The fact that he is elderly

Rationale: Elderly patients are prone to hypertension, which can cause epistaxis, but age is not a factor.

D. His heart rate of 100 beats/min

Rationale: His heart rate may be a result of his age or a compensatory mechanism dealing with blood loss.

9. When caring for a patient with severe epistaxis, the MOST effective way to prevent aspiration of blood is to:
- A. insert a nasopharyngeal airway and lean the patient back.
 - B. tilt the patient's head forward while he or she is leaning forward.
 - C. place the patient supine with his or her head in the flexed position.
 - D. tilt the patient's head forward while he or she is leaning backward.

Answer: B

Rationale: Leaning forward, with the head tilted forward, will stop blood from trickling down the throat. This decreases the risk that the patient will swallow the blood, which may cause vomiting, or aspirating the blood into the lungs.

9. When caring for a patient with severe epistaxis, the MOST effective way to prevent aspiration of blood is to:

A. insert a nasopharyngeal airway and lean the patient back.

Rationale: Never insert a nasopharyngeal airway into actively bleeding nares.

B. tilt the patient's head forward while he or she is leaning forward.

Rationale: Correct answer

9. When caring for a patient with severe epistaxis, the MOST effective way to prevent aspiration of blood is to:

C. place the patient supine with his or her head in the flexed position.

Rationale: Lying a patient supine with epistaxis will cause blood to be swallowed and may cause vomiting.

D. tilt the patient's head forward while he or she is leaning backward.

Rationale: Tilt the patient's head forward, but the patient's body must lean forward.

10. Controlling internal bleeding requires:
- A. applying a tourniquet.
 - B. surgery in a hospital.
 - C. positioning the patient in the sitting position.
 - D. providing slow and considerate transport.

Answer: B

Rationale: Controlling internal bleeding usually requires surgery that must be done in the hospital. To care for the patient in the field, administer high-flow oxygen and assist ventilations, if needed; control all obvious external bleeding; monitor and record the vital signs every 5 minutes; place the nontrauma patient in a shock position; keep the patient warm; and provide immediate transport.

10. Controlling internal bleeding requires:

A. applying a tourniquet.

Rationale: Never use a tourniquet to control bleeding from closed, internal, soft-tissue injuries.

B. surgery in a hospital.

Rationale: Correct answer

C. positioning the patient in the sitting position.

Rationale: You should place the patient in the shock position.

D. providing slow and considerate transport.

Rationale: You should provide immediate transport.