

Emergency

Care and Transportation of the Sick and Injured

Chapter 25 Bleeding

Lecture

National EMS Education Standard Competencies (1 of 3)

Trauma

Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely injured patient.

National EMS Education Standard Competencies (2 of 3)

Bleeding

- Recognition and management of
 - Bleeding
- Pathophysiology, assessment, and management of
 - Bleeding

National EMS Education Standard Competencies (3 of 3)

Pathophysiology

- Applies fundamental knowledge of the pathophysiology of respiration and perfusion to patient assessment and management.

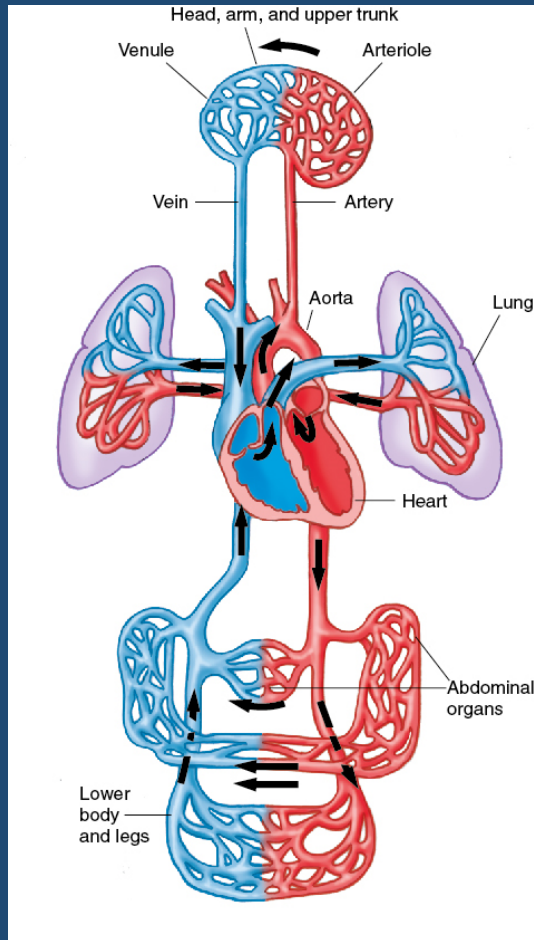
Introduction

- Important to be able to:
 - Recognize bleeding
 - Understand how bleeding affects the body
- Bleeding can be external or internal.
- Bleeding can cause weakness, shock, and death.

Anatomy and Physiology of the Cardiovascular System (1 of 2)

- The cardiovascular system circulates blood to cells and tissues
 - Delivers oxygen and nutrients
 - Carries away metabolic waste products
 - Responsible for supplying and maintaining adequate blood flow

Anatomy and Physiology of the Cardiovascular System (2 of 2)



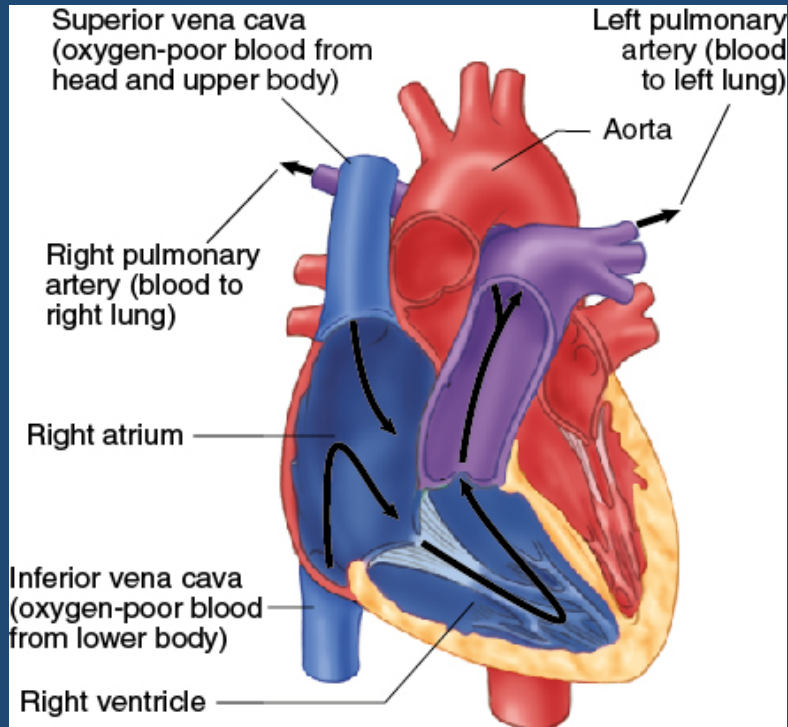
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- Three parts
 - Pump (heart)
 - Container (blood vessels)
 - Fluid (blood and body fluids)

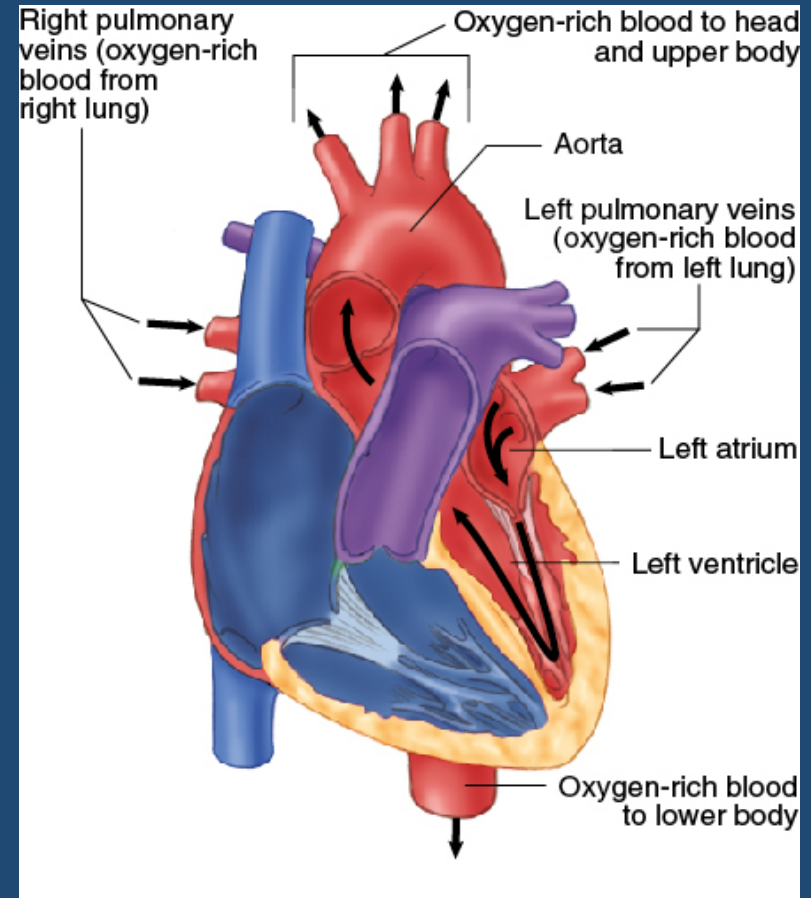
The Heart (1 of 2)

- Needs a rich and well-distributed blood supply
- Works as two paired pumps
 - Upper chamber (atrium)
 - Lower chamber (ventricle)
- Blood leaves each chamber through a one-way valve.

The Heart (2 of 2)



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Blood Vessels and Blood (1 of 6)

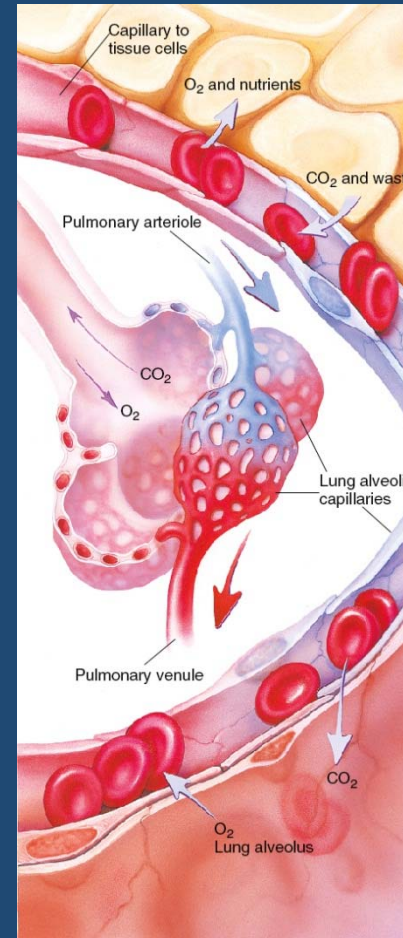
- Arteries
 - Carry blood away from the heart
- Arterioles
 - Smaller vessels that connect the arteries and capillaries
- Capillaries
 - Pass among all the cells and link arterioles and venules

Blood Vessels and Blood (2 of 6)

- Venules
 - Very small, thin-walled vessels that empty into the veins
- Veins
 - Carry blood from the tissues to the heart

Blood Vessels and Blood (3 of 6)

- Oxygen and nutrients pass from the capillaries into the cells, and waste and carbon dioxide diffuse into the capillaries.

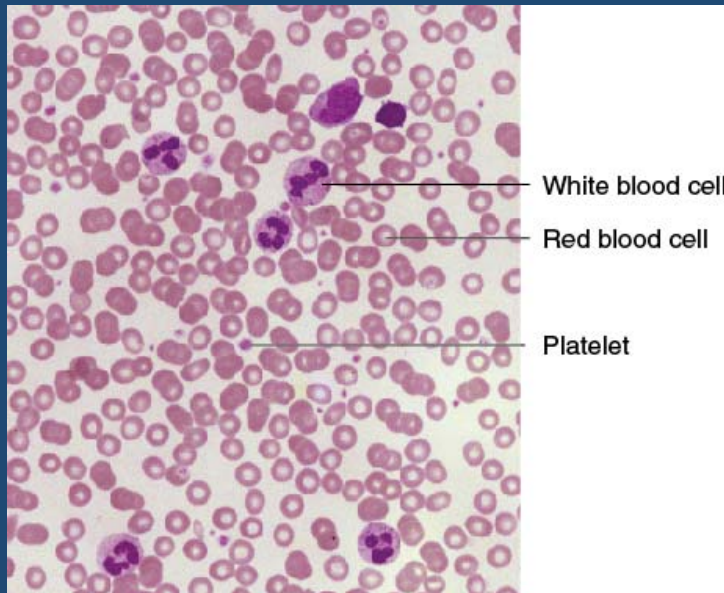


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Blood Vessels and Blood (4 of 6)

- Blood contains
 - Red blood cells
 - Responsible for the transportation of oxygen to the cells and carbon dioxide away from the cells to the lungs

Blood Vessels and Blood (5 of 6)



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- Blood contains (cont'd)
 - White blood cells
 - Responsible for fighting infection
 - Platelets
 - Responsible for forming blood clots
 - Plasma

Blood Vessels and Blood (6 of 6)

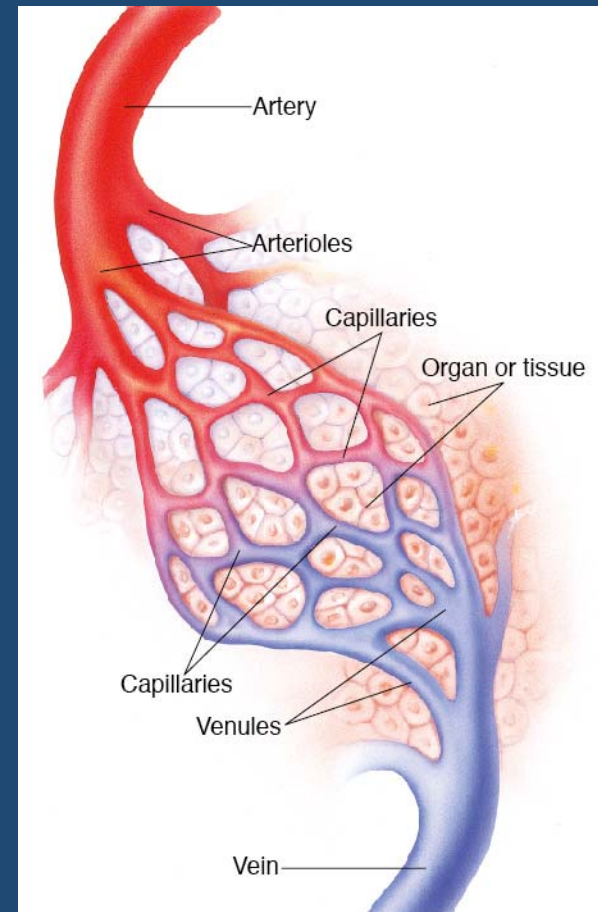
- Blood clot formation depends on:
 - Blood stasis
 - Changes in the blood vessel walls
 - Blood's ability to clot
- When tissues are injured, platelets begin to collect at the site of injury
 - Red blood cells to become sticky and clump together

Autonomic Nervous System

- Monitors the body's needs
- Adjusts blood flow
- Automatically redirects blood away from other organs to the heart, brain, lungs, and kidneys in an emergency
- Adapts to maintain homeostasis and perfusion

Pathophysiology and Perfusion (1 of 4)

- Perfusion is the circulation of blood within an organ or tissue to meet the cells' needs for oxygen, nutrients, and waste removal.



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Pathophysiology and Perfusion (2 of 4)

- Speed of blood flow
 - Fast enough to maintain circulation
 - Slow enough to allow cells to exchange oxygen and nutrients for carbon dioxide and waste
- Some tissues need a constant supply of blood, while others can survive with very little.

Pathophysiology and Perfusion (3 of 4)

- All organs and organ systems depend on adequate perfusion to function properly.
 - Death of an organ system can quickly lead to death of the patient.
 - Emergency care supports adequate perfusion until the patient arrives at the hospital.

Pathophysiology and Perfusion (4 of 4)

- The heart requires a constant supply of blood.
 - Brain and spinal cord may last 4 to 6 minutes.
 - Lungs can survive only 15–20 minutes.
 - Kidneys may survive 45 minutes.
 - Skeletal muscles may last 2 hours.
 - Times are based on a normal body temperature.

External Bleeding

- Hemorrhage means bleeding.
- External bleeding is visible hemorrhage.
- Includes nosebleeds and bleeding from open wounds

Significance of External Bleeding (1 of 3)

- With serious external bleeding, it may be difficult to tell the amount of blood loss.
 - Blood looks different on different surfaces.
 - Estimate the amount of external blood loss.
- Body will not tolerate a blood loss greater than 20% of blood volume.

Significance of External Bleeding (2 of 3)

- Changes in vital signs may occur with significant blood loss.
 - Increase in heart rate
 - Increase in respiratory rate
 - Decrease in blood pressure

Significance of External Bleeding (3 of 3)

- How well people compensate for blood loss is related to how rapidly they bleed.
 - An adult can comfortably donate 1 unit (500 mL) of blood over 15 to 20 minutes.
 - If a similar blood loss occurs in a much shorter time, the person may rapidly develop symptoms of hypovolemic shock.
 - Consider age and preexisting health.

Characteristics of External Bleeding (1 of 3)

- Serious conditions with bleeding:
 - Significant MOI
 - Patient has a poor general appearance and is calm.
 - Signs and symptoms of shock
 - Significant blood loss
 - Rapid blood loss
 - Uncontrollable bleeding

Characteristics of External Bleeding (2 of 3)

- Arterial bleeding
 - Pressure causes blood to spurt and makes bleeding difficult to control.
 - Typically brighter red and spurts in time with the pulse
- Venous bleeding
 - Dark red, flows slowly or rapidly depending on the size of the vein
 - Does not spurt and is easier to manage

Characteristics of External Bleeding (3 of 3)

- Capillary bleeding
 - Bleeding from damaged capillary vessels
 - Dark red, oozes steadily but slowly



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Clotting (1 of 2)

- Bleeding tends to stop rather quickly, within about 10 minutes.
 - When skin is broken, blood flows rapidly.
 - The cut end of the vessel begins to narrow, reducing the amount of bleeding.
 - Then a clot forms.
 - Bleeding will not stop if a clot does not form.

Clotting (2 of 2)

- Despite the efficiency of the system, it may fail in certain situations.
 - Movement
 - Disease
 - Medications
 - Removal of bandages
 - External environment
 - Body temperature
 - Severe injury

Hemophilia

- Patient lacks blood-clotting factors.
- Bleeding may occur spontaneously.
- All injuries, no matter how trivial, are potentially serious.
- Patients should be transported immediately.

Internal Bleeding (1 of 2)

- Bleeding in a cavity or space inside the body
- Can be very serious because it is not easy to detect immediately
 - Injury or damage to internal organs commonly results in extensive internal bleeding.
 - Can cause hypovolemic shock

Internal Bleeding (2 of 2)

- Possible conditions causing internal bleeding:
 - Stomach ulcer
 - Lacerated liver
 - Ruptured spleen
 - Broken bones, especially the ribs or femur
 - Pelvic fracture

MOI for Internal Bleeding (1 of 2)

- High-energy MOI
 - Should increase your index of suspicion for serious unseen injuries
- Internal bleeding is possible whenever the MOI suggests that severe forces affected the body.
 - Blunt trauma
 - Penetrating trauma

MOI for Internal Bleeding (2 of 2)

- Signs of injury (DCAP-BTLS)
 - Deformities
 - Contusions
 - Abrasions
 - Punctures/penetrations
 - Burns
 - Tenderness
 - Lacerations
 - Swelling

NOI for Internal Bleeding (1 of 3)

- Internal bleeding is not always caused by trauma.
- Nontraumatic causes include:
 - Bleeding ulcers
 - Bleeding from colon
 - Ruptured ectopic pregnancy
 - Aneurysms

NOI for Internal Bleeding (2 of 3)

- Frequent signs
 - Abdominal tenderness
 - Guarding
 - Rigidity
 - Pain
 - Distention

NOI for Internal Bleeding (3 of 3)

- In older patients, signs include:
 - Dizziness
 - Faintness
 - Weakness
- Ulcers or other GI problems may cause:
 - Vomiting of blood
 - Bloody diarrhea or urine

Signs and Symptoms of Internal Bleeding (1 of 4)

- Pain (most common)
- Swelling in the area of bleeding
- Distention
- Dyspnea, tachycardia, hypotension
- Hematoma
- Bruising

Signs and Symptoms of Internal Bleeding (2 of 4)

- Bleeding from any body opening
- Hematemesis
- Melena
- Pain, tenderness, bruising, guarding, or swelling
- Broken ribs; bruises over the lower part of the chest; or a rigid, distended abdomen

Signs and Symptoms of Internal Bleeding (3 of 4)

- Hypoperfusion
 - Change in mental status
 - Weakness, faintness, or dizziness on standing
 - Changes in skin color or pallor (pale skin)
- Later signs of hypoperfusion:
 - Tachycardia
 - Weakness, fainting, or dizziness at rest
 - Thirst, nausea and vomiting
 - Cold, moist (clammy) skin

Signs and Symptoms of Internal Bleeding (4 of 4)

- Later signs of hypoperfusion (cont'd):
 - Shallow, rapid breathing
 - Dull eyes, slightly dilated pupils
 - Capillary refill of more than 2 seconds in infants and children
 - Weak, rapid (thready) pulse
 - Decreasing blood pressure
 - Altered level of consciousness

Scene Size-up (1 of 2)

- Scene safety
 - Be alert to potential hazards.
 - At vehicle crashes, ensure the absence of leaking fuel and energized electrical lines.
 - In violent incidents, make sure the police are on the scene.
 - Follow standard precautions.

Scene Size-up (2 of 2)

- Mechanism of injury/nature of illness
 - Determine the NOI or MOI.
 - Consider the need for spinal immobilization and additional resources.
 - Consider environmental factors such as weather.

Primary Assessment (1 of 5)

- Do not be distracted from identifying life threats.
- Form a general impression.
 - Note important indicators of the patient's condition.
 - Be aware of obvious signs of injury.
 - Determine gender and age.

Primary Assessment (2 of 5)

- Perform a rapid exam.
 - Look for life threats and treat them as you find them.
 - If the patient has obvious, life-threatening external bleeding, address it first.
 - Assess skin color.
 - Determine level of consciousness.

Primary Assessment (3 of 5)

- Airway and breathing
 - Consider the need for spinal stabilization.
 - Ensure a patent airway.
 - Look for adequate breathing.
 - Check for breath sounds.
 - Provide high-flow oxygen or assist ventilations with a bag-valve mask or nonrebreathing mask.
 - Insert an oropharyngeal airway if the patient is unconscious.

Primary Assessment (4 of 5)

- Circulation
 - Assess pulse rate and quality.
 - Determine skin condition, color, and temperature.
 - Check capillary refill time.
 - Control external bleeding.
 - Treat for shock.

Primary Assessment (5 of 5)

- Transport decision
 - Assessment of ABCs and life threats will determine the transport priority.
 - Signs that imply rapid transport:
 - Tachycardia or tachypnea
 - Low blood pressure
 - Weak pulse
 - Clammy skin

History Taking (1 of 2)

- Investigate the chief complaint.
 - Look for signs and symptoms of other injuries due to the MOI and/or NOI.
 - Note obvious signs of internal bleeding.
 - Assess the entire patient.

History Taking (2 of 2)

- SAMPLE history
 - Ask the patient about blood-thinning medications.
 - If the patient is unresponsive, obtain history from medical alert tags or bystanders.
 - Look for signs and symptoms of shock.
 - Determine the amount of blood loss.

Secondary Assessment (1 of 3)

- Record vital signs.
- Complete a focused assessment of pain.
- Attach appropriate monitoring devices.
- With a critically injured patient or a short transport time, there may not be time to conduct a secondary assessment.

Secondary Assessment (2 of 3)

- Assess all anatomic regions for DCAP-BTLS.
 - Look for uncontrolled bleeding from large scalp lacerations.
 - Feel all four quadrants of the abdomen for tenderness or rigidity.
 - Record pulse, motor, and sensory function in extremities.

Secondary Assessment (3 of 3)

- Vital signs
 - Assess vital signs to observe the changes that may occur during treatment.
 - A systolic blood pressure of less than 100 mm Hg with a weak, rapid pulse should suggest the presence of hypoperfusion.
 - Cool, moist skin that is pale or gray is an important sign.

Reassessment (1 of 3)

- Repeat the patient in areas that showed abnormal findings.
 - Signs and symptoms of internal bleeding are often slow to present.
- Reassess an unstable patient every 5 minutes and a stable patient every 15 minutes.

Reassessment (2 of 3)

- Interventions
 - Provide high-flow oxygen.
 - Control external bleeding.
 - Provide treatment for shock and transport rapidly.
 - Do not delay transport of a patient to complete an assessment.

Reassessment (3 of 3)

- Communication and documentation
 - Recognize, estimate, and report the amount of blood loss and how rapidly or over what period of time it occurred.
 - Communicate all relevant information to the staff at the receiving hospital.
 - Document all injuries, the care provided, and the patient's response.

Emergency Medical Care for External Bleeding (1 of 2)

- Follow standard precautions.
 - Wear gloves, eye protection, and possibly a mask or gown.
 - Make sure the patient has an open airway and is breathing adequately.
 - Provide high-flow oxygen.
 - Control obvious, life-threatening bleeding as quickly as possible.

Emergency Medical Care for External Bleeding (2 of 2)

- Several methods are available to control external bleeding.
 - Direct, even pressure and elevation
 - Pressure dressings and/or splints
 - Tourniquets

Direct Pressure

- Most effective way to control external bleeding
- Pressure stops the flow of blood and permits normal coagulation to occur.
- Apply pressure with your gloved fingertip or hand over the top of a sterile dressing.
- Hold uninterrupted pressure for at least 5 minutes.

Pressure Dressing (1 of 2)

- Firmly wrap a sterile, self-adhering roller bandage around the entire wound.
- Use 4" x 4" sterile gauze pads for small wounds and sterile universal dressings for larger wounds
- Cover the entire dressing above and below the wound.

Pressure Dressing (2 of 2)

- Stretch the bandage tight enough to control bleeding.
 - You should still be able to palpate a distal pulse.
- Do not remove a dressing until a physician has evaluated the patient.
- Bleeding will almost always stop when the pressure of the dressing exceeds arterial pressure.

Hemostatic Agents

- Any chemical compound that slows or stops bleeding by assisting with clot formation
- Can be used with direct pressure when direct pressure alone is ineffective
- The use of hemostatic agents in EMS remains largely experimental.
- Be aware of and follow local protocols.

Tourniquet (1 of 4)

- Useful if a patient has substantial bleeding from an extremity injury
- Several types of commercial tourniquets are available.

Tourniquet (2 of 4)

- If a commercial tourniquet is unavailable, you can create a tourniquet using a triangular bandage and a stick or rod.



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Tourniquet (3 of 4)

- Observe the following precautions:
 - Do not apply a tourniquet directly over any joint.
 - Always place the tourniquet proximal to the injury.
 - Make sure the tourniquet is tightened securely.
 - Never use wire, rope, a belt, or any other narrow material.

Tourniquet (4 of 4)

- Observe the following precautions (cont'd):
 - Place padding under the tourniquet.
 - Never cover a tourniquet with a bandage.
 - Do not loosen the tourniquet after you have applied it.

Splints (1 of 3)

- Air splints
 - Soft splints or pressure splints
 - Can control internal or external bleeding associated with severe injuries



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Splints (2 of 3)

- Air splints (cont'd)
 - Immobilize fractures
 - Act like a pressure dressing
 - Use only approved, clean, or disposable valve stems.

Splints (3 of 3)

- Rigid splints
 - Will help immobilize fractures
 - Reduce pain
 - Prevent further damage to soft-tissue injuries
 - Once the splint is applied, monitor circulation in the distal extremity.

Bleeding From the Nose, Ears, and Mouth (1 of 4)

- Several conditions:
 - Skull fracture
 - Facial injuries
 - Sinusitis, infections, use and abuse of nose drops, dried or cracked nasal mucosa
 - High blood pressure
 - Coagulation disorders
 - Digital trauma

Bleeding From the Nose, Ears, and Mouth (2 of 4)

- Epistaxis (nosebleed) is a common emergency.
 - Occasionally it can cause enough blood loss to send a patient into shock.
 - Can usually be controlled by pinching the nostrils together

Bleeding From the Nose, Ears, and Mouth (3 of 4)

- Bleeding from the nose or ears following a head injury:
 - May indicate a skull fracture
 - May be difficult to control
 - Do not attempt to stop blood flow.
 - Loosely cover the bleeding site with a sterile gauze pad.
 - Apply light compression with a dressing.

Bleeding From the Nose, Ears, and Mouth (4 of 4)

- A target or halo-shaped stain may occur on the dressing if blood or drainage contains cerebrospinal fluid.



Emergency Medical Care for Internal Bleeding

- Usually requires surgery or other hospital procedures
- Keep the patient calm, reassured, and as still and quiet as possible.
- Provide high-flow oxygen.
- Maintain body temperature.
- Splint the injured extremity (air splint).

Review

1. Which of the following is NOT a component of the cardiovascular system?
 - A. Heart
 - B. Lungs
 - C. Venules
 - D. Plasma

Review

Answer: B

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

Review (1 of 2)

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

Review (2 of 2)

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.

Review

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.

Review

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.

Review (1 of 2)

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 ventilation, and not perfusion.

Review (2 of 2)

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.

Review

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

Review

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.

Review (1 of 2)

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.

Review (2 of 2)

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

Review

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

Review

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.

Review (1 of 2)

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.

Review (2 of 2)

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.

Review

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.

Review

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.

Review (1 of 2)

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.

Review (2 of 2)

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

Review

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.

Review

Answer: B

Rationale: Direct pressure is the quickest, most effective way to control external bleeding from an extremity. This will effectively control external bleeding in most cases.

Review (1 of 2)

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

Review (2 of 2)

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.

Review

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.

Review

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.

Review (1 of 2)

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

Review (2 of 2)

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.

Review

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

Review

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.

Review (1 of 2)

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.

Review (2 of 2)

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.

Review

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.

Review

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.

Review (1 of 2)

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

Review (2 of 2)

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 also lean forward.

Review

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.

Review

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.

Review

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 a supine position.

D. providing slow and considerate transport.

Rationale: You should provide immediate transport.