Bleeding

EXPLAIN WHY SEVERE BLEEDING MUST BE
CONTROLLED IMMEDIATELY.
IDENTIFY TWO SIGNALS OF LIFE-THREATENING
EXTERNAL BLEEDING.
DESCRIBE THE CARE FOR EXTERNAL BLEEDING.
DESCRIBE HOW TO MINIMIZE THE RISK OF DISEASE
TRANSMISSION WHEN GIVING CARE IN A
SITUATION THAT INVOLVES VISIBLE BLOOD.
DEMONSTRATE HOW TO USE A MANUFACTURED
TOURNIQUET.

Introduction

• Bleeding is the escape of blood from the
  arteries, capillaries or veins.
• Bleeding occurs internally or externally.
• Uncontrolled bleeding, whether internal or
  external, is life threatening.
• Blood is made up of liquid (plasma) and solid
  components (white and red blood cells and
  platelets). Blood—
  • Transports oxygen, nutrients and wastes.
  • Protects against disease.
  • Maintains constant body temperature.

The three major types of blood vessels are—
  • Arteries.
  • Capillaries.
  • Veins.
• Blood in the arteries travels faster and under greater
  pressure.
• Blood in the arteries pulses with each contraction of
  the heart.
• Bleeding that is severe enough to critically reduce
  blood volume is life threatening because tissues will
die from lack of oxygen.
External bleeding occurs when a blood vessel is opened externally, such as a tear in the skin.

Each type of blood vessel bleeds differently.

- Arterial bleeding is rapid and, if severe, is life threatening. The blood is bright red in color.
- Venous blood is under less pressure and flows from the wound at a steady rate. The blood is dark red in color.
- Capillary bleeding is usually slow because the vessels are small. Blood oozes from the wound.

Arterial vs Venous blood

Fat in the blood
External Bleeding

- Signals of severe external bleeding include—
  - Blood spurting from the wound.
  - Bleeding that fails to stop after all measures have been taken to control it.

Care for External Bleeding

- Apply direct pressure.
- Apply a pressure bandage.
- If bleeding does not stop apply additional dressings and bandages.
- Call 9-1-1 or the local emergency number if bleeding cannot be controlled.
- Continue to monitor the victim’s ABCs.

Care for External Bleeding

- A tourniquet is a tight band placed around an arm or leg to constrict blood vessels to stop blood flow to a wound.
- Because of the potential for adverse effects, a tourniquet should be used only as a last resort in the following situations:
  - Cases of delayed care or situations in which response from emergency medical services (EMS) is delayed.
  - Direct pressure does not stop the bleeding.
  - You are not able to apply direct pressure.
- In most areas, application of a tourniquet is considered to be a skill at the emergency medical technician (EMT) level or higher and requires proper training.
Internal Bleeding

- Internal bleeding is the escape of blood from arteries, veins or capillaries into spaces within the body.
- Severe internal bleeding can occur from:
  - injuries caused by blunt force
  - a chronic medical condition.
  - when an object penetrates the skin and damages internal structures.
- You should suspect internal bleeding in any serious injury.

Signals of Internal Bleeding

- Signals include—
  - Soft tissues, such as those in the abdomen, that are tender, swollen or hard.
  - Anxiety or restlessness.
  - Rapid, weak pulse.
  - Rapid breathing, shortness of breath.
  - Skin that feels cool or moist and looks pale, ashen or bluish.
  - Bruising in the injured area.
  - Nausea and vomiting or coughing up blood.
  - Abdominal pain.
  - Excessive thirst.
  - A decreasing level of consciousness.
  - Severe headache.

Care for Internal Bleeding

- If there is minor internal bleeding, such as bruising, apply ice.
- If you suspect internal bleeding, call 9-1-1 or the local emergency number immediately.
- Follow these general care steps:
  - Do no further harm.
  - Monitor ABCs and consciousness.
  - Help the victim rest comfortably.
  - Keep the victim from getting chilled or overheated.
  - Reassure the victim.
  - Give any specific care needed.
Shock

- Shock is a progressive condition in which the circulatory system fails to circulate oxygen-rich blood to all parts of the body.
- When the body is unable to meet its demand for oxygen because blood fails to circulate adequately, shock occurs.

Causes of Shock

Cardiogenic shock
- Results from failure of the heart to pump enough oxygenated blood.
- If the heart rate is too slow, the rate of new oxygenated blood cells reaching each part of the body will not be enough to keep up with the body’s demand.
- Likewise, when the heart beats too rapidly (ventricular tachycardia or ventricular fibrillation) the heart is not an effective pump, and oxygenated blood is not sent throughout the body as it should be.

Distributive shock
- Results from the abnormal dilation of the blood vessels.
- If the blood vessels are not able to adequately constrict or become abnormally dilated, even though the blood volume is adequate and the heart is beating well, the vessels are not filled completely with blood.
- Abnormal dilation of the blood vessels can be caused by:
  - spinal cord or brain trauma (neurogenic/vasogenic shock)
  - infection (septic shock)
  - anaphylaxis (anaphylactic shock).
**Causes of Shock**

**Hypovolemic shock**
- Results from severe bleeding or loss of fluid from the body.
- Insufficient blood volume can lead to shock. Also, if the levels of some components of the blood, such as plasma or fluids, become too low, blood flow will be impaired and shock can result.
- Hemorrhagic shock is the most common type of hypovolemic shock.
  - It results from blood loss, either through external or internal bleeding.
- Other causes include severe vomiting, diarrhea and burns.

**Signals of Shock**

- Without intervention, the body’s failed attempt to compensate for blood loss eventually will result in death.
- Signals of shock include—
  - Restlessness or irritability.
  - Altered consciousness.
  - Pale or ashen, bluish, cool or moist skin.
  - Rapid breathing.
  - Rapid and weak pulse.
  - Excessive thirst.
  - Nausea and vomiting.

**Care for Shock**

- Follow the emergency action steps, CHECK—CALL—CARE, including calling 9-1-1 or the local emergency number.
- To care for shock—
  - Monitor the victim’s breathing and signs of life.
  - Control any external bleeding.
  - Elevate the legs about 12 inches to help blood circulate to the vital organs.
  - Do not elevate the legs—
    - If the victim is nauseated or having trouble breathing.
    - If you suspect head, neck or back injuries or possible broken bones.
    - If moving causes more pain.
Care for Shock
(continued)

- Do not give the victim anything to eat or drink, even though he or she is likely to be thirsty.
- Help the victim maintain normal body temperature by keeping him or her from getting chilled or overheated.

Closing

- Internal bleeding is less obvious than external bleeding.
- Recognize when a serious injury has occurred, and suspect internal bleeding.
- Activate the EMS system immediately, and give care until EMS personnel arrive and take over.
- Do not wait for shock to develop before giving care to a victim of injury or sudden illness.
- Follow the general care steps for any emergency to minimize the progression of shock.

- Questions?