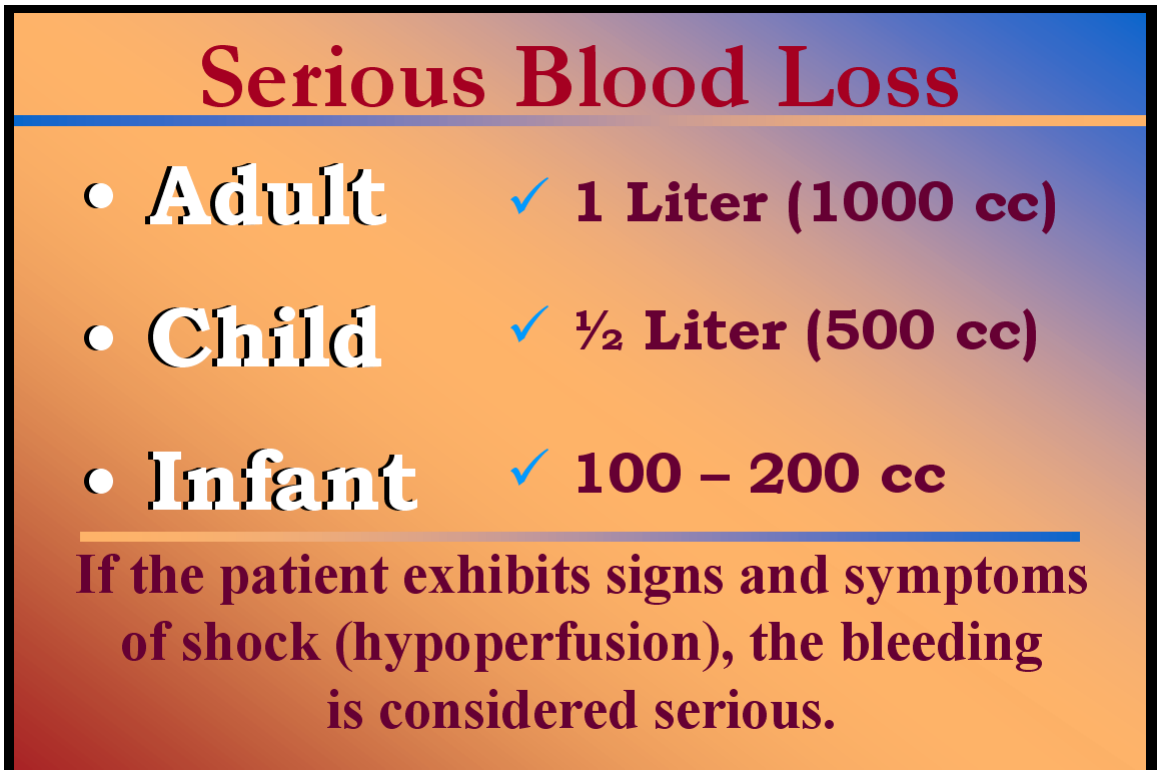
Bleeding and Shock

Perfusion-the circulation of blood through the body's organs (arteries ,capillaries, cells, capillaries, veins)

Hemorrhage- Bleeding, Loss of blood from the vessels of the body.
Loss of over 10% of the body's blood cannot be compensated by the body



Types of bleeds

- Artery-bright red, spurting, in time with the pulse
- Vein- dark red, steady flow, less pressure than artery
- Capillary- slow steady ooze

External bleeding

- The body has its own defensive system to control bleeding
- A cut will constrict to cut off the blood flow
- **Coagulation-**the converting of liquid blood to solid
- A clot will form at the ends of the vessel
- Occurs when the blood is exposed to air and other body chemicals and tissue
- **Platelets-** components in the blood that form clots

Hemophilia- a hereditary disease in which the body is lacking one or several of the components needed for coagulation

Anticoagulant drugs- a drug used to prevent or slow the clotting of the blood Aspirin-used for general purposes,
Persantine- a vasodilator
Other anticoagulants-dicumarol, coumadin, heprin, warfin

- Important because a small wound can become serious

Controlling external bleeding

Direct pressure-

- Apply pressure directly over the wound
- Use dressing or gloved hand at first
- Maintain pressure by rolled kling completely covering the dressing
- If bleeding continues, apply more dressings over the first. DO NOT REMOVE old dressings
- Stops the flow of blood to the site allows coagulation to occur
- Most effective way to control bleeding

Elevation

- Used along with direct pressure
- Elevate the extremity 10 or more inches

Splints

- Along with direct pressure and elevation
- Controls the broken ends of bone that could cause further aggravation
- Air pressure splints-pressure dressing and splints

Pressure Points-

- Apply pressure at the proximal artery
- Use in conjunction with previous methods
- Has limited effect because the area may be supplied by more than one artery

M.A.S.T P.A.S.G

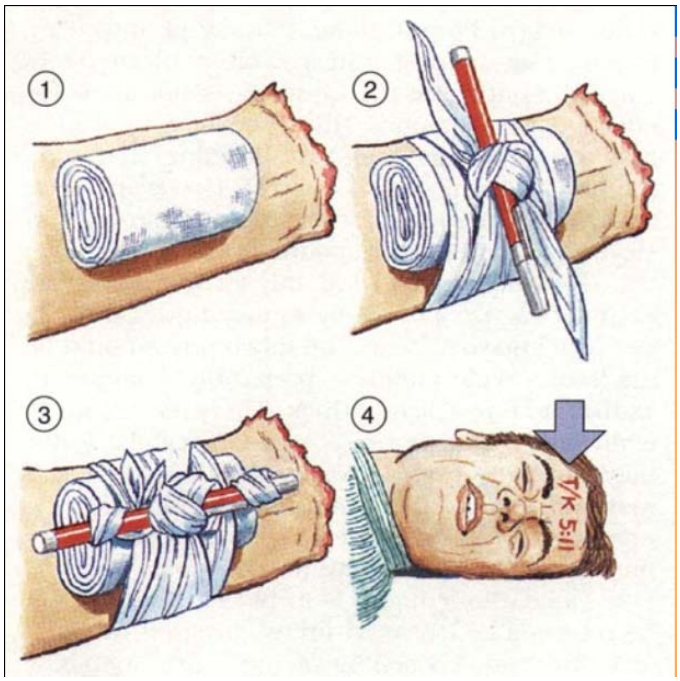
- Used as pressure dressings
- To stabilize pelvis and proximal femur fractures
- Hypovolemic shock-Need Medical Control orders to inflate for shock
- Systolic BP lower than 100
- Control internal bleeding

Tourniquet

- Used as a last resort when all other methods have failed. Almost never used
- Never applied below the knee or the elbow because the nerves and blood vessels lie close to the surface
- Traumatic amputation above the knee or elbow

Applying

1. Fold a cravat 3-4 inches wide 8 layers thick
2. Wrap twice around the extremity as far distal as possible but proximal to the wound
3: Place a single knot on bandage
4. Place a **Spanish Windlass-** over the knot and place another knot over it
5. Turn the windlass until the bleeding stops and secure in place
6. Write **TK** on patient forehead along with the time
7. Never cover up a tourniquet
    - A Bp cuff can be substituted for the cravats - monitor the pressure
    - Never release a tourniquet
    - Never use rope or wire



Epistaxis-nose bleed

- Can be enough blood loss to cause shock
- Blood seen- may only be a portion of blood lost
- Several causes: fractured skull, nasal membrane rupture, high blood pressure, direct blow
- Fractured skull treat only with local, gentle pressure

Most nose bleeds

- Apply gentle pressure to the nostrils
- Place a rolled 4X4 under the upper lip and apply pressure
- Apply a cold pack to the nose
- Place patient in a sitting position slightly forward

Internal bleeding

- Bleeding from any body opening is serious
- Bruise or contusion indicates bleeding into the soft tissue

Sign of possible internal injury

- Mechanism of injury
- thready pulse
- Clammy skin
- Dull, slow to react pupils
- Anxious, decreased LOC
- Falling BP-seen as a late sign

Abdominal

- Bruising, tenderness, and swelling in the abdomen
- Referred pain (shoulder pain from spleen or liver)
- Vomits or coughs blood

Femur

- Bruising, swelling at the site
- Patient can lose 1 liter of blood per femur fracture
- Splint or apply MAST

Treatment of internal injuries

- **Transport immediately**
- Monitor vitals every 5 minutes
- Apply high flow oxygen
- Control obvious external bleeding
- MAST for Hypovolemic shock
- Nothing by mouth
- Elevate the patient's feet 12 inches Shock position

Shock-the condition of inadequate perfusion of the bodies organs

Compensated- the body is able to keep the vital organs perfusion
Uncompensated- the blood pressure falls and the body can no longer perfuse the **vital** organs
Circulatory causes-

- Pump failure-the heart is no longer able to supply the proper volume and/or pressure
- Vessel failure- the vessels dilate to the point where the blood in the body is no longer able to fill the container or are damaged causing leaks
- Content- loss of blood or fluid to the point where it is not enough to perfuse the organs

Respiratory causes

- Failure of one or many parts of the respiratory system to maintain an adequate supply of oxygen

Types of Shock

Cardiogenic

- Inadequate function of the heart
- Inadequate pressure or volume

Neurogenic

- Damage to the spinal cord that causes a block of the impulses that regulate the blood vessel size
- Without this control the blood vessels dilate
- The contents no longer fill the container
- Hypothermia

Psychogenic

- Fainting, syncope, temporary loss of blood flow to the brain caused by the sudden dilation of the vessels
- Look for other injuries

Hypovolemic- low fluid or blood level

- **Hemorrhagic-** type of Hypovolemic shock dealing with blood loss
- **Metabolic-** type of Hypovolemic shock dealing with fluid loss caused by vomiting, diarrhea, or urinating

Septic- state of shock caused by excessive infection, which cause damage to the blood vessels

- Vessels leak and lose capacity to contract
- Complex and long term

Anaphylactic- allergic reaction

- Sensitized to an agent
- Injection, ingestion. Sting, Inhalation
- Reactions develop in minutes or hours

Special signs

Skin

- Urticaria (hives)
- Edema (swelling)

Respiratory

- Dyspnea
- Fluid and mucus are secreted to combat agents
- Bronchioles constrict, wheezing

General signs of shock

- Mechanism of injury
- Rise of pulse- the body trying to compensate
- Agitation, Anxiety, and feeling of impending doom
- Skin- pale, ashen, moist, and cool
- Air hunger, shortness of breath
- Shallow, labored irregular breathing
- Poor urinary output
- Perfuse sweating
- Dull lusterless eyes
- Nausea and vomiting
- Thirst
- Falling BP **late sign** under 90 mmHg systolic
- Absence of peripheral pulses ** late sign**

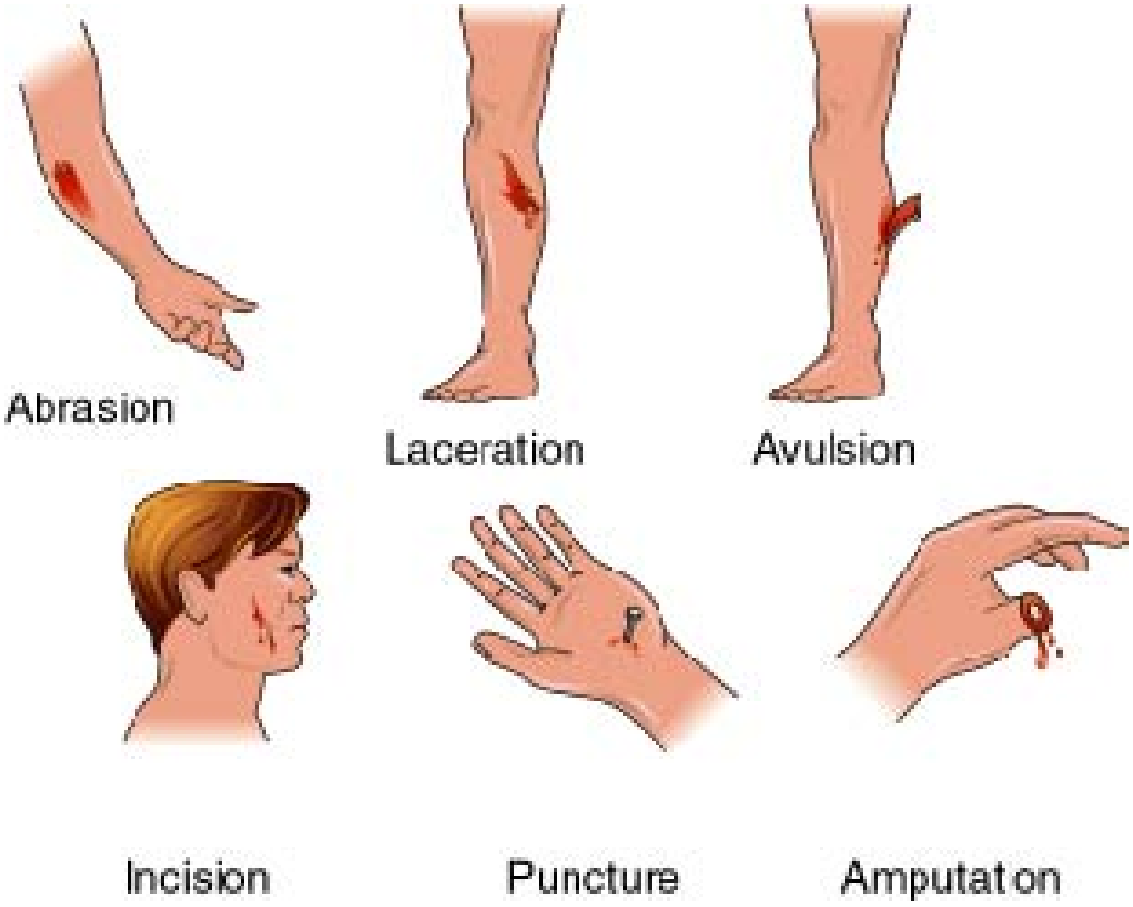
General treatment of shock

- Recognizing the cause of the shock
- ABC's
- High flow oxygen
- Elevate the lower extremities
- Keep the patient warm do not over warm
- Splint any fractures
- Position of comfort
- Vitals every 5 minutes
- NPO nothing by mouth
- MAST as appropriate
- Rapid transportation

Specialized treatment

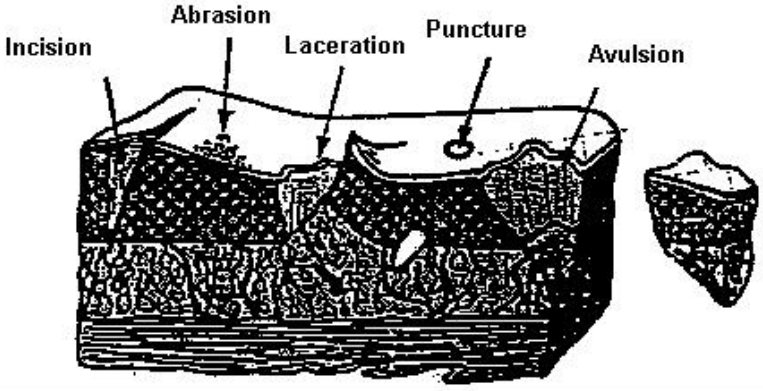
Neurogenic- may need to support Airway and Breathing
Psychogenic- treat other injuries
Septic- requires complex hospital treatment
Respiratory- Airway and breathing
Anaphylactic- drugs to combat the agent
-Epinephrine
-Benadryl

Hematemesis-vomiting bright red blood
Hemoptysis- coughing up bright red blood
Melena- black tar stools (digested blood)
Hematochezia-passage of bright red blood from the rectum
Hematuria- blood in the urine
Coffee ground Vomitus (semi-digested blood)
Ecchymosis- black and blue discoloration
Hematoma- a blood tumor. Blood in the soft tissue


Abrasion
Laceration
Avulsion
Incision
Puncture
Amputation

Wounds & Bleeding

WOUNDS - THE FIVE TYPES



PRESSURE POINT LOCATIONS