CHAPTER 10

Wounds and Soft Tissue Injuries

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Lesson Objectives

1. Describe how to clean a wound.
2. Describe the signs and symptoms of an infected wound and what to do about it.
3. List standard guidelines for using dressings and bandages.
4. Explain how to determine when a wound needs medical attention.
Lesson Objectives continued

5. Describe first aid for punctures, wounds with impaled objects, avulsions and amputations and for injuries of the genitals, scalp and specific facial areas.
Wounds

- Different types of wounds require specific first aid.
- All wounds have risk of infection.
- Wound care involves cleaning and dressing a wound:
  - Prevents infection
  - Protects wound so it can heal
Wounds continued

• Do not waste time cleaning a wound that is bleeding severely – controlling bleeding is always the priority.
Types of Open Wounds

Abrasions

Lacerations
Types of Open Wounds continued

- Punctures
- Avulsions
Types of Open Wounds continued

- Amputations
- Burns
Cleaning Wounds

• Clean wound to prevent infection unless it is very large or bleeding seriously.

• Wash hands and wear medical examination gloves.

• Gently wash shallow wound or abrasion with large amounts of warm or room-temperature water with or without soap.

• Irrigate deeper wound under large amounts of running water to remove foreign matter.
First Aid: Wound Care

1. Wash your hands and put on gloves if available.
2. Gently wash shallow wounds and abrasions with large amounts of warm or room temperature water with or without soap to remove dirt.
3. Irrigate a deeper wound that is not severely bleeding under large amounts of running water to remove foreign matter.
4. Do not use alcohol, hydrogen peroxide or iodine on the wound.
5. Pat the area dry.
6. Apply antibiotic ointment only to an abrasion or superficial wound, and only if victim is not allergic to the antibiotic.
7. Cover the wound with a sterile dressing and bandage (or adhesive bandage with nonstick pad).
Wound Cleaning Alert

- Do not try to clean major wound after controlling bleeding – it may start bleeding again.
- Health care personnel will clean the wound.
- Do not put antibiotic ointment on puncture or deep wound:
  - Use only on abrasions and shallow wounds.
Wound Cleaning Alert continued

• Do not use alcohol, hydrogen peroxide or iodine on wound.

• Avoid breathing or blowing on wound.

• Do not attempt to remove clothing stuck to wound:
  • Cut around clothing and leave in place.

• Do not scrub wound.
Wound Infection

- Infection may occur with any open wound.
- At greater risk are wounds from bites, puncture wounds, dirty wounds, wounds with jagged edges.
Wound Infection continued

- Use antibiotic ointment only on abrasions or shallow wounds in a person who is not allergic to the antibiotic.
- If signs of infection, see health care provider.
Signs and Symptoms Wound Infection

- Red, swollen and warm wound area
- Pain
- Pus
- Fever
- Red streaks or trails on skin near wound – see health care provider immediately
Dressing and Bandaging Wounds

- Helps stop bleeding
- Prevents infection
- Protects wound while healing
Types of Dressings

- Gauze squares
- Roller gauze
- Non-stick pads
- Hemostatic
- Adhesive strips
- Bulky (trauma) dressings
- Occlusive
- Improvised
Guidelines for Using Dressings

• Wash hands and wear medical examination gloves.
• Choose dressing larger than wound:
  • Do not touch part of dressing that will touch wound.
• Lay dressing on wound:
  • Cover whole wound.
Guidelines for Using Dressings continued

- If blood seeps through, do not remove dressing but add more on top.
- Apply bandage to hold dressing in place.
Bandages

- Cover a dressing.
- Keep dressing on wound.
- If needed, maintain pressure to control bleeding.
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Types of Bandages

- Adhesive compresses
- Adhesive tape rolls
- Tubular
- Elastic
- Self-adhering
- Gauze roller
- Triangular
- Improvised
Guidelines for Bandaging

- Apply bandage firmly but do not cut off circulation.
- Do not completely cover fingers or toes.
- Keep checking tightness of bandage.
- Ensure bandage is secured so dressing will not move.
Guidelines for Bandaging continued

- With elastic and roller bandages:
  - Anchor first end.
  - Tie, tape, pin or clip ending section.
- Use elastic bandage as pressure bandage to control bleeding and protect wound.
- Use elastic bandage to support joint and prevent swelling.
Guidelines for Bandaging continued

• Wrap bandage from bottom of limb upward toward the heart.
• Avoid bending joint once it is bandaged.
When to Seek Medical Attention for a Wound

- Bleeding not easily controlled
- Any deep or large wound
- Significant wound on face
- Infected wound
- Any bite
- Foreign object in wound
When to Seek Medical Attention for a Wound

continued

• Puncture wound
• Unsure about tetanus vaccination
• Any wound you are unsure about
• Wounds that require stitches:
  • Cuts on face or hands when edges don’t close
  • Gaping wounds
  • Cuts longer than 1 inch
Tetanus

- Also called lockjaw is an infection caused by common bacteria
- Adults need a tetanus booster at least every 10 years
- Tetanus infection is more common following puncture wounds or deep lacerations but can occur also with abrasions or any break in the skin, including burns, dental infections and animal or human bites
Special Wounds

- Puncture wounds
- Impaled objects
- Amputations
- Genital injuries
- Head and face wounds
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Injury Prevention

- Follow OSHA guidelines in work setting.
- Follow tool manufacturer guidelines.
- Wear appropriate safety helmet.
- Wear eye shields.
- Wear mouth guard.
Injury Prevention continued

- Wear athletic cup, pelvic shield, groin pad or protector.
- Wear a sports bra.
Puncture Wounds

- Greater risk of infection:
  - Germs may not be flushed out
- Irrigate wound with large amounts of warm or room-temperature water with or without soap.
- Gently press on wound edges:
  - Helps promote bleeding
- Do not put any medication inside or over puncture wound.
- Cover wound with sterile dressing and bandage.
- Seek medical attention.
Impaled Objects

- Removing an object could cause more injury and bleeding.
- Leave it in place and dress wound around or over it.
- Control bleeding by applying direct pressure at sides of object.
Impaled Objects continued

- Stabilize object in place with large dressings or folded cloths.
- Support object while bandaging dressings in place.
- Keep victim still.
- Seek medical attention.
Avulsions

- Try to move skin or tissue into normal position (unless contaminated).
- Control bleeding.
- Provide wound care.
- If avulsed body part completely separated – care for it like an amputation.
Amputations

- Control bleeding and care for victim and wound first, then recover and care for amputated part.
Amputations *continued*

- Wrap severed part in dry, sterile dressing or clean cloth (do not wash).
- Place part in plastic bag or container, seal it.
- Place sealed bag in another bag/container with ice:
  - Part should not touch ice directly
- Give part to emergency personnel.
Genital Injuries

• Provide privacy for victim.
• Use direct pressure to control external bleeding.
• Call 9-1-1 for:
  • Severe or continuing bleeding
  • Significant pain or swelling
  • Possibility of sexual abuse
Genital Injuries continued

- Injured testicles:
  - Support with towel between legs. Apply a triangular bandage like a diaper to secure dressings in the genital area.

- Vaginal bleeding:
  - Have woman press sanitary pad or clean folded towel to area.
Head and Face Wounds

- Consider possible neck or spinal injury.
- Do not move victim’s head while giving first aid.
- For scalp wound, apply dressing and use direct pressure; apply roller bandage or triangular bandage folded into a cravat, around head to secure dressing.
- Never wrap a bandage around neck because of risk of impeding breathing.
First Aid: Scalp Wound without Suspected Skull Fracture

1. Replace any skin flaps and cover the wound with a sterile dressing.
2. Use direct pressure to control bleeding.
3. Put a roller or triangular bandage around the victim’s head to secure the dressing.
Eye Injuries

- Serious because vision may be affected.
- Avoid putting pressure on eyeball.
- Movement of eye will worsen injury:
  - Keep unaffected eye covered.
For a Blow to the Eye

- If eye bleeding or leaking fluid:
  - Call 9-1-1 or take victim to emergency department.
- Put cold pack over eye for up to 15 minutes:
  - Eases pain
  - Reduces swelling
  - Do not put pressure on eye
For a Blow to the Eye *continued*

- Do not try to remove contact lens.
- Have victim lie still.
- Cover uninjured eye.
- Seek medical attention if pain persists or vision is affected.
For a Large Object Embedded in the Eye

- Do not remove.
- Stabilize with dressings or bulky cloth (paper cup for large object).
- Cover both eyes.
- Call 9-1-1 or get victim to emergency department.
For Dirt or a Small Particle in the Eye

- Do not let victim rub eyes.
- Wait to see if victim’s tears will flush out object.
- Gently pull upper eyelid out and down over lower eyelid to catch particle on lashes.
For Dirt or a Small Particle in the Eye  

- If particle remains and is visible, try to brush it out.
- If particle still remains or victim has vision problems or pain, cover eye with sterile dressing and seek medical attention.
For a Chemical or Substance Splashed in the Eye

- Continuously flush the victim’s eye with large amounts of clean running water for at least 15 minutes or until EMS arrives; If tap water is not available, use normal saline or a commercial eye irrigation solution.
- Have victim wearing contact lenses remove them.
- Tilt victim’s head so water does not run into unaffected eye.
- For a responsive victim, call the Poison Control Center immediately.
- For an unresponsive victim or if the Poison Control Center is not available, call 9-1-1 or seek help from a medical provider.
Ear Injuries

- Bleeding or cerebrospinal fluid from ear is a sign of serious head injury.
- Do not use direct pressure to stop fluid coming out of ear.
- Do not remove any foreign object – seek medical attention.
- If insect in ear, gently pour lukewarm water into ear to float it out.
First Aid: Ear Injuries

1. Clear fluid or watery blood from the ear could mean a skull fracture. Call 9-1-1.

2. Help victim to sit up, tilting the affected ear lower to let blood or other fluid drain.

3. Cover the ear with a loose, sterile dressing, but do not apply pressure.

4. Seek medical attention immediately if 9-1-1 was not called.
Nose Injuries

- Nose injuries can cause heavy bleeding.
- Usually controlled by:
  - Victim leaning forward
  - Pinching nostrils closed
- Position unresponsive victim on one side with head turned while you pinch nostrils closed.
Nose Injuries continued

- Do not pack nostrils with dressing.
- Bleeding that runs from back of nose down throat needs immediate medical attention.
- In small child, if foreign object visible and easily grasped with tweezers, remove it.
First Aid: Nose Bleed

1. Sit and tilt head forward with mouth open. Carefully remove any object you see protruding from the nose.
2. Pinch nostrils together for 10 minutes.
3. If victim is gasping or choking on blood in the throat, call 9-1-1.
4. Place cold compress on bridge of nose.
5. After 10 minutes, release pressure slowly. Pinch nostrils closed for 10 more minutes if bleeding continues.
Cheek Injuries

- Wound on outside of cheek – follow general guidelines for wound care.
- Position unresponsive victim with head turned to side so blood will run out.
Cheek Injuries continued

- Object impaled in cheek (possible airway obstruction):
  - Remove it in direction from which it penetrated cheek.
  - Place dressing inside mouth between wound and teeth.
  - Place another dressing on outside of wound.
  - Apply pressure as needed.
Teeth and Mouth Injuries

- May cause bleeding anywhere in mouth.
- Control bleeding with direct pressure.
- Ensure airway is open and blood can drain from mouth.
- For loose tooth:
  - Make pad from rolled gauze.
  - Have victim bite down to keep tooth in place.
  - See a dentist.
For a Knocked-Out Tooth

- Have victim sit with head tilted forward.
- Rinse wound with saline solution or tap water.
- Do not try to put tooth back in the socket.
- Control bleeding by having victim bite down for 20-30 minutes on gauze pad or cotton ball placed over tooth socket.
For a Knocked-Out Tooth \textit{continued}

- **Save tooth:**
  - May be reimplanted if victim sees dentist.
  - Touch only tooth’s crown.
  - Rinse, if dirty.
  - Place in a solution such as Hank’s Balanced Salt Solution, a specialized tooth preserving solution, or whole milk.
  - Do not clean or scrub tooth.

- Get victim and tooth to dentist.
For Other Bleeding in Mouth

- Have victim sit with head tilted forward.
- Wound penetrating lip:
  - Put rolled dressing between lip and gum.
  - Place second dressing against outside lip.
- Bleeding tongue:
  - Put dressing on wound and apply pressure.
For Other Bleeding in Mouth  continued

- Do not rinse mouth:
  - May prevent clotting.
- Do not let victim swallow blood:
  - May cause vomiting.
- Tell victim not to drink anything warm for several hours.
- Seek medical attention if bleeding severe or does not stop.
Blisters

- Painful and may become infected
- Usually prevented by:
  - Protecting feet with socks
  - Protecting feet where socks rub
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Blisters continued

• Protect small blister with adhesive bandage.
• Protect large blister:
  • Cut hole in several layers of gauze or moleskin.
  • Position dressing over blister.
• If blister breaks, wash area and treat as a wound.
First Aid: Blisters

1. Wash blister and surrounding area with soap and water. Rinse and gently pat dry.

2. Cover blister with adhesive bandage big enough that gauze pad covers entire blister.
   • For larger blister, use donut-shaped dressing to surround blister and prevent pressure.
Splinters

• Remove a splinter in skin by coaxing it out with sterile needle.
• Then grasp the end with tweezers or your fingers.
• Cleanse area with soap and water.
Crush Injuries

• Caused when strong pressure is exerted against body.

• Can result in muscle, bone, nerve and tissue damage, shock, and internal and/or external bleeding.

• Provide care for injuries found and call 9-1-1.
CHAPTER 10
Learning Checkpoint 2
Chapter – Opening Scenario

Your coworker has cut his arm while trying to repair some office equipment. It is not bleeding heavily, but the wound seems dirty. You get the first aid kit and put on gloves, then take him to a nearby sink.

How should you wash the wound?

What other first aid should you give?
CHAPTER 10
Critical Thinking Challenge Questions
Scenario 1

A coworker’s young son, playing outside, falls and gets a nasty scrape on his palm. The bleeding soon stops by itself, but the wound is full of dirt.

Describe the steps to take with this wound.
Scenario 2

You are using an ice pick to chip away ice around a frozen door when you slip and the tip of the ice pick penetrates your palm. The wound does not seem too deep and it is not bleeding.

How do you care for this wound?
Scenario 3

A carpenter at your worksite is using a nail gun to install new siding. As he is putting the tool down, it fires and a nail is shot into the calf muscle of his leg. You cut open his pants leg and see the head of the nail sticking out about an inch, with bleeding around the nail.

How do you care for this wound?
Scenario 4 (optional)

A coworker is taking a box from a high shelf in the supply room. It slips from his fingers and hits him in the eye. He is in pain but there is no bleeding or fluid coming from the eye.

Describe the first aid to give.
Scenario 5 (optional)

Looking at a newspaper while you walk, you are going out the open door of your office building behind another person. That person does not notice you and lets the door swing closed – and it strikes you in the face. Immediately, blood is splattering out your nose and dripping onto your newspaper.

What should you do first?
After 10 minutes, you slowly release your pinching of the nostrils, and the bleeding seems to have stopped. But when you stand up and start walking, you feel blood again dripping out of your nose.

Now what do you do?
Scenario 5 (optional)  \textit{continued}

After another 10 minutes, you again carefully release the pressure, but bleeding continues.

What should you do?
CHAPTER 10
Discussion and Questions