

Names: \_\_\_\_\_

## Chapter 24 – Soft Tissue Injuries Presentation Notes

### Anatomy of the Skin - Function of the Skin

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_ control

### Soft-Tissue Injuries

- \_\_\_\_\_ injuries
- Soft-tissue damage \_\_\_\_\_ the skin
- \_\_\_\_\_ injuries
- Break in the \_\_\_\_\_ of the skin
- 
- \_\_\_\_\_
- Soft tissue receives \_\_\_\_\_ than it can absorb

\_\_\_\_\_

- Results from \_\_\_\_\_ striking the body

\_\_\_\_\_

- Pool of blood that has collected in the body

- \_\_\_\_\_ Injury

- Occurs when a great amount of force is applied to the body

### Scene Size-up

- Observe for hazards.
- Take BSI precautions.
- Place \_\_\_\_\_ of \_\_\_\_\_ in pocket.
- You may be able to identify bleeding before even reaching patient.
- Look for indicators of \_\_\_\_\_.

### Initial Assessment (1 of 2)

- Observe patient for \_\_\_\_\_ of condition.

- Does patient have any apparent \_\_\_\_\_ ?
- Look for \_\_\_\_\_ injuries.
- Ensure patent \_\_\_\_\_.
- \_\_\_\_\_ patient from further \_\_\_\_\_.
- Quickly assess \_\_\_\_\_.
- Palpate chest wall for \_\_\_\_\_ - \_\_\_\_\_.
- If soft-tissue injury is discovered on \_\_\_\_\_ or \_\_\_\_\_:
  - Check for \_\_\_\_\_ and \_\_\_\_\_ breath sounds.
  - Provide high-flow \_\_\_\_\_ or assisted \_\_\_\_\_.
- Quickly assess \_\_\_\_\_ and \_\_\_\_\_.
- \_\_\_\_\_ soft-tissue injuries do not have visible signs of bleeding.
- \_\_\_\_\_ will indicate how aggressively you need to treat for \_\_\_\_\_.

### Transport Decision

- If patient has signs of \_\_\_\_\_ or \_\_\_\_\_ or \_\_\_\_\_ problem, consider quickly transporting or requesting ALS.
- Do not delay transport of \_\_\_\_\_ - \_\_\_\_\_ patient who may have more serious \_\_\_\_\_ injury.

### Focused History and Physical Exam

- Patients with significant MOI may need a rapid physical exam to identify injuries.
- Focused physical exam
  - Focus assessment on the isolated closed injury, complaint, and affected body region.
- Rapid physical exam
  - Perform if \_\_\_\_\_ has likely affected multiple systems.
  - Make sure cervical collar is applied.

### Baseline Vital Signs

- Closed-injury patients may rapidly become \_\_\_\_\_.
- Look for tachycardia; \_\_\_\_\_; low blood pressure; weak pulse; and cool, moist skin.
- Soft-tissue injuries, even without a significant MOI, can cause \_\_\_\_\_.

**SAMPLE History**

- Obtain from responsive patient or \_\_\_\_\_ / \_\_\_\_\_.
- Look for \_\_\_\_\_ ID jewelry or cards.

**Interventions**

- Provide complete spinal immobilization \_\_\_\_\_ if spinal injuries are suspected.
- Provide \_\_\_\_\_ - \_\_\_\_\_ oxygen.
- Treat aggressively for \_\_\_\_\_
- Request ALS if necessary.
- Do not delay transport.

**Detailed Physical Exam**

- Any time there is a significant \_\_\_\_\_, perform detailed physical exam if \_\_\_\_\_.

**Ongoing Assessment**

- \_\_\_\_\_ the initial assessment.
- \_\_\_\_\_ vital signs frequently.
- Communication and documentation
  - Provide \_\_\_\_\_ account of how you treated injuries.

**R I C E S**

- \_\_\_\_\_ — keep patient quiet and comfortable as possible.
- \_\_\_\_\_ slows bleeding.
- \_\_\_\_\_ over an injury slows bleeding.
- \_\_\_\_\_ above the level of the heart reduces swelling.
- \_\_\_\_\_ decreases bleeding and reduces pain.

**Abrasions**

- Caused by \_\_\_\_\_

**Laceration**

- \_\_\_\_\_ cut

### **Avulsion**

- \_\_\_\_\_ of various layers of the skin

### **Penetrating Wound**

- Results from a \_\_\_\_\_ pointed object

### **Gunshot Wounds**

- Gunshot wounds have \_\_\_\_\_ characteristics

### **Crushing Open Wound**

- May involve damaged \_\_\_\_\_ or broken bones

### **Scene Size-up**

- Wear BSI.
- Do not touch equipment with \_\_\_\_\_ gloves; wear several pairs.
- \_\_\_\_\_ of contaminating one patient with another patient's blood.
- Wear \_\_\_\_\_ protection.
- Consider \_\_\_\_\_.

### **Initial Assessment**

- There may be internal underlying injuries.
- Injuries can affect airway and breathing.
- Provide spinal immobilization.
- If the patient has an \_\_\_\_\_ chest wound, evaluate for \_\_\_\_\_ or \_\_\_\_\_ sounds.
- Quickly place an \_\_\_\_\_ dressing over wound.
- Provide high-flow \_\_\_\_\_.
- Assess pulse and skin for \_\_\_\_\_.
- \_\_\_\_\_ significant bleeding.

### **Transport Decision**

- Consider quick transport if patient has \_\_\_\_\_ or breathing problem or significant \_\_\_\_\_.
- Stay \_\_\_\_\_ on problems at hand.

- Patients with significant bleeding or internal bleeding may quickly become \_\_\_\_\_.
- \_\_\_\_\_ for signs of \_\_\_\_\_.

### **Focused History and Physical Exam**

- Focused physical exam
- Perform in \_\_\_\_\_ patient with \_\_\_\_\_ open injury.
- Focus on \_\_\_\_\_ injury, complaint, and affected body region.

### **Rapid physical exam**

- Perform if there is significant trauma likely affecting multiple systems.
- Look for \_\_\_\_\_ - \_\_\_\_\_.
- Do not delay transport.
- Be sure that spine is \_\_\_\_\_.

### **Baseline Vital Signs/SAMPLE History**

- Baseline vital signs
- Will help determine if patient is going into \_\_\_\_\_
- SAMPLE history
- \_\_\_\_\_ and \_\_\_\_\_
- Medications that \_\_\_\_\_ the blood (aspirin, prescribed blood thinners)

### **Interventions**

- \_\_\_\_\_ bleeding.
- If bleeding is not significant, control later in assessment.
- \_\_\_\_\_ spine and \_\_\_\_\_.
- \_\_\_\_\_ painful, swollen, deformed extremities.

### **Detailed Physical Exam**

- Perform if patient is stable and time allows.

### **Ongoing Assessment**

- \_\_\_\_\_ all bandaging frequently.
- \_\_\_\_\_ often.
- Communication and documentation
- Include description of \_\_\_\_\_ and patient's position.

- Estimate and report amount of \_\_\_\_\_.
- Describe \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_ of injury.

### Emergency Medical Care (1 of 3)

- Use proper BSI precautions.
- Administer oxygen if needed.
- Treatment priority is ABCs—including controlling bleeding.
- Apply \_\_\_\_\_, \_\_\_\_\_ over entire wound.
- Maintain \_\_\_\_\_ and \_\_\_\_\_ dressing with a roller bandage.
- Leave \_\_\_\_\_ in place if bleeding continues.
- Apply a second dressing \_\_\_\_\_ of first and secure.
- \_\_\_\_\_ the extremity.

### Abdominal Wounds

- Open wound in abdomen may expose organs.
- Organ protruding through abdomen is called an \_\_\_\_\_.

### Abdominal Wound Management

- \_\_\_\_\_ exposed organs.
- Cover organs with a \_\_\_\_\_ dressing.
- Transport immediately.

### Impaled Objects (1 of 2)

- \_\_\_\_\_ to \_\_\_\_\_ or \_\_\_\_\_ object.
- \_\_\_\_\_ and stabilize object.
- Tape a \_\_\_\_\_ item over object to prevent movement.
- Transport to hospital \_\_\_\_\_.

### Amputations

- \_\_\_\_\_ partial amputation with bulky dressings and splint.
- \_\_\_\_\_ complete amputation in \_\_\_\_\_ dressing and place in \_\_\_\_\_ bag.
- Put bag in \_\_\_\_\_ container filled with ice. Do not let object freeze!
- Transport severed part with patient.

### Neck Injuries (1 of 2)

- An \_\_\_\_\_ injury can be life threatening.
- \_\_\_\_\_ can get into the \_\_\_\_\_ and cause an air \_\_\_\_\_.
- Cover the wound with an \_\_\_\_\_ dressing.
- Apply \_\_\_\_\_.
- Secure a pressure dressing \_\_\_\_\_ over the neck and firmly through the opposite \_\_\_\_\_.

### Burns

- Burns account for over \_\_\_\_\_ deaths/year.
- Burns are the most \_\_\_\_\_ and \_\_\_\_\_ injuries.
- Remember to perform a complete assessment on burn patients for other injuries.

### Determining Burn Severity

- What is the \_\_\_\_\_ of the burn?
- What is the \_\_\_\_\_ of the burn?
- Are any critical areas involved?
- Are there any preexisting medical conditions or other injuries?
- Is the patient younger than \_\_\_\_\_ years or older than \_\_\_\_\_ years of age?

### Depth of Burns (1 of 3)

- \_\_\_\_\_ ( \_\_\_\_\_-degree) burns
- Involve only top skin layer
  
- \_\_\_\_\_ - \_\_\_\_\_ ( \_\_\_\_\_-degree) burns
- Involve epidermis and some portion of dermis
  
- \_\_\_\_\_-thickness ( \_\_\_\_\_-degree) burns
- Extend through all layers of skin

### Extent of Burns

\_\_\_\_\_ Burns (1 of 2)

- \_\_\_\_\_ - \_\_\_\_\_ burns involving hands, feet, face, upper airway, genitalia, or circumferential burns of other areas
- \_\_\_\_\_-thickness burns covering more than \_\_\_\_\_ of total body surface area
- \_\_\_\_\_-thickness burns covering more than \_\_\_\_\_ of total body surface area
- Burns associated with \_\_\_\_\_ injury
- Burns complicated by \_\_\_\_\_
- Burns on patients younger than \_\_\_\_\_ years old or older than \_\_\_\_\_ years old that would be classified as moderate on young adults

### \_\_\_\_\_ Burns

- Full-thickness burns involving \_\_\_\_\_ to \_\_\_\_\_ of total body surface area excluding hands, feet, face, upper airway, or genitalia
- Partial-thickness burns covering \_\_\_\_\_ to \_\_\_\_\_ of total body surface area
- Superficial burns covering more than \_\_\_\_\_ of total body surface area

### Minor Burns

- Full-thickness burns involving less than \_\_\_\_\_ of the total body surface area
- Partial-thickness burns covering less than \_\_\_\_\_ of the total body surface area
- Superficial burns covering less than \_\_\_\_\_ of the total body surface area

### Pediatric Needs

- Burns to \_\_\_\_\_ are considered \_\_\_\_\_ serious than burns to adults.
- Children have more \_\_\_\_\_ relative to \_\_\_\_\_ than adults.
- Many burns result from \_\_\_\_\_.
- \_\_\_\_\_ all suspect cases of abuse to the authorities.

### Critical Burns in Infants and Children

- Full-thickness burns covering more than \_\_\_\_\_ of total body surface area
- Burns involving \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

### **Moderate Burns in Infants and Children**

- Partial-thickness burns covering \_\_\_\_\_ to \_\_\_\_\_ of total body surface area

### **Minor Burns in Infants and Children**

- Partial-thickness burns covering less than \_\_\_\_\_ of total body surface area

### **You are the provider**

- You arrive to an auto repair station for a 27-year-old man with burns from an accident. The dispatcher indicated possible entrapment.
- The man is supine on the floor in a pool of antifreeze.
- He is complaining of pain to his right thigh and ankle.
- Owner says he heard a crashing noise followed by screams.
- He found employee with ankle pinned under tire, while other side of car was still on the jack.
- He used the jack to lift the car off the employee, then pulled patient clear of car.
- Hot antifreeze drained over patient's thigh.
- Patient denies loss of consciousness.

### **Scene Size-up**

- In addition to BSI, what are some considerations at the scene?
- Are there any other hazards?
- What is the MOI?

### **You are the provider continued (1 of 3)**

- His respiratory effort is rapid and lips are pursed.
- Inspection and palpation of the chest is unremarkable.
- A quick check of radial pulse indicates that it is rapid.
- There is no obvious external bleeding.
- You and your partner opt to perform a rapid physical exam.
- Partner maintains c-spine precautions.
- You determine no life-threatening injuries.
- You expose his burns.
- One thigh is completely reddened with a fist-sized blister.
- Patient denies taking medications.
- States he is allergic to penicillin and has no past medical history
- At what point would you take vital signs?

- When should you start oxygen?
- How much would you administer?
- What type of device would you use?
- What degree of burn does the patient have?
- Given the location and area, is this burn life threatening?
- How do you treat this burn?

### **Initial Assessment**

- General impression
  - Look for clues about how serious the injury is.
  - If patient has a hoarse voice or was in an enclosed space with fire or heat source, this is significant MOI.
  - Singed facial hair can indicate a potential airway/breathing problem.
  - Be suspicious for child or elder abuse.
- This is a 27-year-old male who was entrapped under a car that he was working on.
- Sustained burn due to hot antifreeze
- Has soft-tissue and musculoskeletal injuries due to the car that fell on his leg
- There are no other hazards on the scene.

### **Airway and Breathing**

- Ensure patent airway.
- Patient may have a respiratory burn if he has singed facial hair, copious secretions, or frequent coughing.
- Quickly assess for adequate breathing.
- Palpate chest wall for DCAP-BTLS.
- Check breath sounds and provide high-flow oxygen.
- Burn patients are trauma patients; evaluate and treat for spinal injuries.
- Ensure that airway is open. There were no noted airway abnormalities.
- Breathing is rapid, indicating need for oxygen therapy and respiratory support.
- Quickly inspect and palpate chest.
- Observe for use of accessory chest muscles.
- Patient's lips are pursed and breathing is rapid.
- You start oxygen using a nonrebreathing mask at 10 to 15 L/min.

## **Circulation**

- Quickly assess pulse.
- Control significant bleeding.
- Shock is common in burn patients.
- Support by elevating arms and legs or placing in Trendelenburg position.
- Damaged skin has limited ability to regulate skin temperature.

## **You are the provider continued**

- Patient's pulse is rapid.
- Patient's skin is clammy.
- Signs suggest patient might be in compensated shock.
- You see no external bleeding.

## **Transport Decision**

- Quickly transport patients who have airway/breathing problems, significant burn injuries, significant bleeding.
- Consider ALS rendezvous.

## **You are the provider continued**

- You determine that patient is high-priority transport due to respiratory status.

## **Focused History and Physical Exam**

- Patient has significant MOI; perform rapid physical exam.
- Dress burn with appropriate bandage.
- Note location and estimate size of injury.
- Use DCAP-BTLS to identify and correct life threats.
- Use Rule of Nines to roughly estimate extent of burned area.
- Obtain baseline vital signs and SAMPLE history.

## **Interventions**

- Stop the burning process.
- Assess and treat ABCs.
- Provide spinal stabilization.
- Provide oxygen.
- Treat aggressively for shock.

- Provide rapid transport.
- Cover burns according to local protocol.

**You are the provider continued**

- Rinse patient with water.
- Apply sterile dressing as per local protocols.
- Place patient on long backboard.
- Ankle should be splinted with a pillow splint.

**Detailed Physical Exam**

- Perform if patient is stable and time allows.

**Ongoing Assessment**

- Repeat initial assessment and vital signs.
- Communication and documentation
  - Describe how burn occurred.
  - Include extent of burn.
  - Indicate if any special areas were involved (genitalia, feet, hands, face, or circumferential).

**Emergency Care for Burns (1 of 3)**

- Follow proper \_\_\_\_\_ precautions.
- \_\_\_\_\_ patient away from burning area.
- \_\_\_\_\_ affected area in \_\_\_\_\_  
 \_\_\_\_\_ or \_\_\_\_\_ solution and cover with \_\_\_\_\_,  
 \_\_\_\_\_.
- Provide \_\_\_\_\_ - \_\_\_\_\_.
- \_\_\_\_\_ body heat loss.
- Rapidly estimate the \_\_\_\_\_.
- Check for \_\_\_\_\_ injuries.
- Treat the patient for \_\_\_\_\_.
- Provide \_\_\_\_\_ transport.

## Chemical Burns

- Occur whenever a \_\_\_\_\_ contacts the body
- \_\_\_\_\_ are particularly vulnerable.
- \_\_\_\_\_ can cause burns.
- To prevent exposure, wear appropriate \_\_\_\_\_ and \_\_\_\_\_ protection.

## Care for Chemical Burns (1 of 2)

- \_\_\_\_\_ the chemical from the patient.
- If it is a \_\_\_\_\_ chemical, \_\_\_\_\_ off first.
- \_\_\_\_\_ all contaminated clothing.
- \_\_\_\_\_ burned area with \_\_\_\_\_ amounts of water for about \_\_\_\_\_ to \_\_\_\_\_ minutes.
- Transport \_\_\_\_\_.

## Chemical Burn to the Eye

- \_\_\_\_\_ open eyelid while \_\_\_\_\_ eye with a \_\_\_\_\_ stream of \_\_\_\_\_.
- \_\_\_\_\_ flushing en route to hospital.

## Electrical Burns

- Make sure \_\_\_\_\_ before touching patient.
- There will be \_\_\_\_\_ wounds (an \_\_\_\_\_ and an \_\_\_\_\_ wound) to bandage.
- Transport patient and be prepared to administer \_\_\_\_\_.

## Small Animal Bites

- All \_\_\_\_\_ bites should be considered potentially \_\_\_\_\_.
- Occasionally bites require \_\_\_\_\_ repair.
- Apply a \_\_\_\_\_, \_\_\_\_\_ and transport.

## **Rabies**

- Potentially fatal \_\_\_\_\_
- May be transmitted through \_\_\_\_\_ or \_\_\_\_\_ an infected wound
- Some common carriers are bats, squirrels, skunks, foxes, raccoons, and stray dogs.
- Refer to local resources for identification and capture.
- \_\_\_\_\_ patients with \_\_\_\_\_ need \_\_\_\_\_ attention.

## **Human Bites**

- Very serious injury
- Promptly immobilize with a splint or bandage.
- Apply a dry, sterile dressing.
- Provide transport.

## **Functions of Dressing and Bandaging**

- Control bleeding.
- Protect wound.
- Prevent contamination.

## **Dressings and Bandages**

- Sterile dressings
  - Used to cover wounds
- Bandaging
  - Used to keep dressing in place