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 commons 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