Disaster Medical Operations — Part 2

CERT Basic Training

Unit 4

FEMA

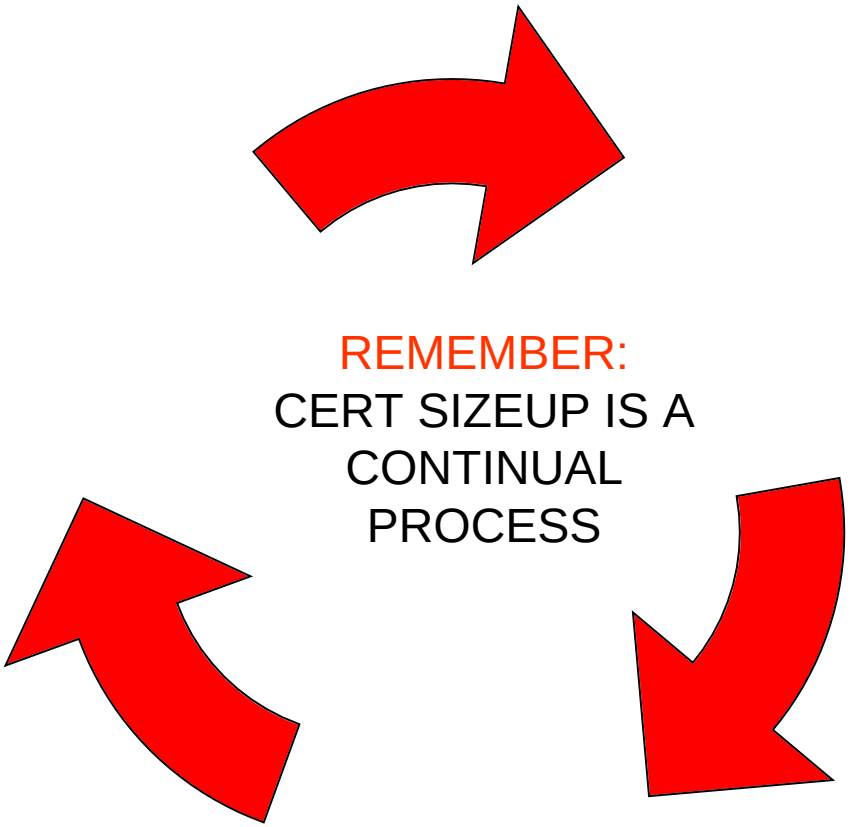
citizen corps

Unit 3 Review

- 3 “Killers”
  - Airway obstruction
  - Excessive bleeding
  - Shock

CERT Sizeup

1. Gather Facts
2. Assess Damage
3. Consider Probabilities
4. Assess Your Situation
5. Establish Priorities
6. Make Decisions
7. Develop Plan of Action
8. Take Action
9. Evaluate Progress



REMEMBER:
CERT SIZEUP IS A CONTINUAL PROCESS

Unit Objectives

- Take appropriate sanitation measures to help protect public health
- Perform head-to-toe patient assessments
- Establish a treatment area
- Apply splints to suspected fractures and sprains
- Employ basic treatments for other injuries

Unit Topics

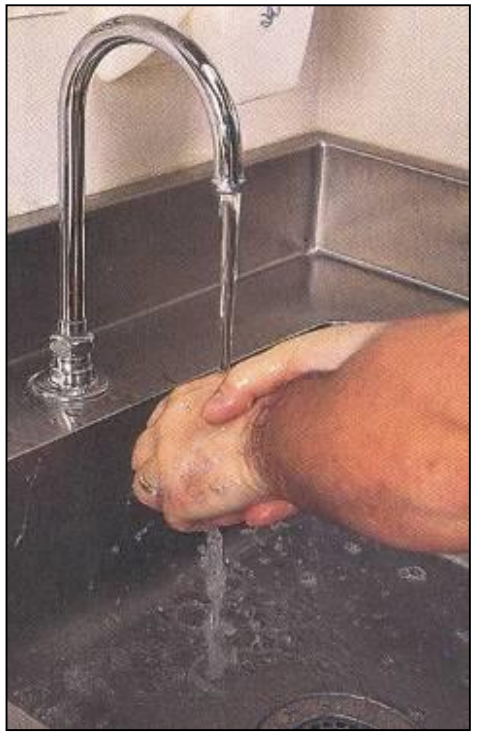
- Public Health Considerations
- Functions of Disaster Medical Operations
- Establishing Medical Treatment Areas
- Conducting Head-to-Toe Assessments
- Treating Burns
- Wound Care
- Treating Fractures, Dislocations, Sprains, and Strains
- Nasal Injuries
- Treating Cold-Related Injuries
- Treating Heat-Related Injuries
- Bites and Stings

Public Health Considerations

- Maintaining proper hygiene
- Maintaining proper sanitation
- Purifying water (if necessary)
- Preventing spread of disease

Maintaining Hygiene

- Wash hands frequently
  - Or use alcohol-based hand sanitizer
- Wear non-latex exam gloves
- Wear N95 mask and goggles
- Keep dressings sterile
- Avoid contact with body fluids
  - "If it is warm, wet, and not yours, don't touch it!"



Maintain Sanitation

- Control disposal of bacterial sources
- Put waste products in plastic bags
  - Tie off bags and mark them as medical waste
- Bury human waste

Water Sanitation Methods

- Boil water for 1 minute
- Water purification tablets
- Non-perfumed liquid bleach
  - 8 drops/gal of water
  - 16 drops/gal if water is cloudy
  - Let stand for 30 minutes before use

Functions of Disaster Medical Operations

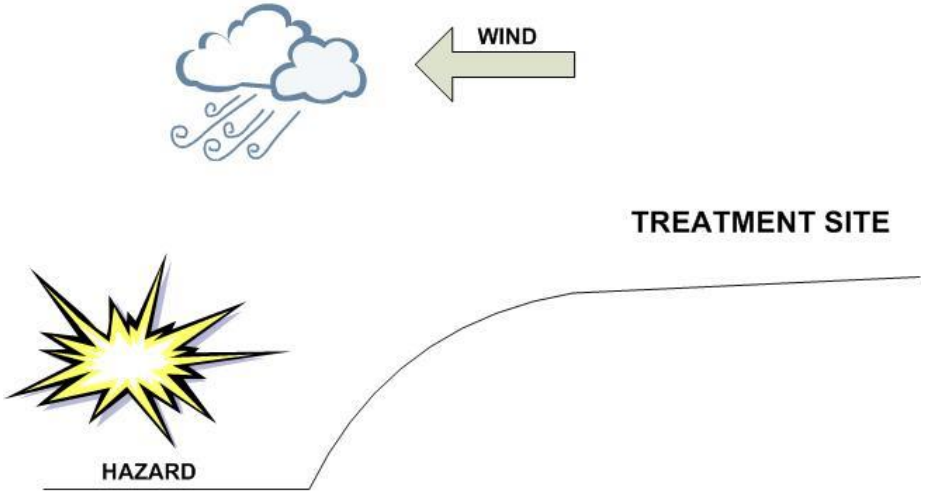
- Triage
- Treatment
- Transport
- Morgue
- Supply

Establish a Medical Treatment Area

- Select site and set up treatment area as soon as injured victims are confirmed
- When determining best location(s) for treatment area, consider:
  - Safety of rescuers and victims
  - Most effective use of resources

Treatment Area Site Selection

- The site selected should be:
  - In a safe area, free of hazards and debris
  - Upwind, uphill, and upstream (if possible) from hazard zone(s)
  - Accessible by transportation vehicles
  - Expandable



The treatment site should be uphill and upwind from the hazard.

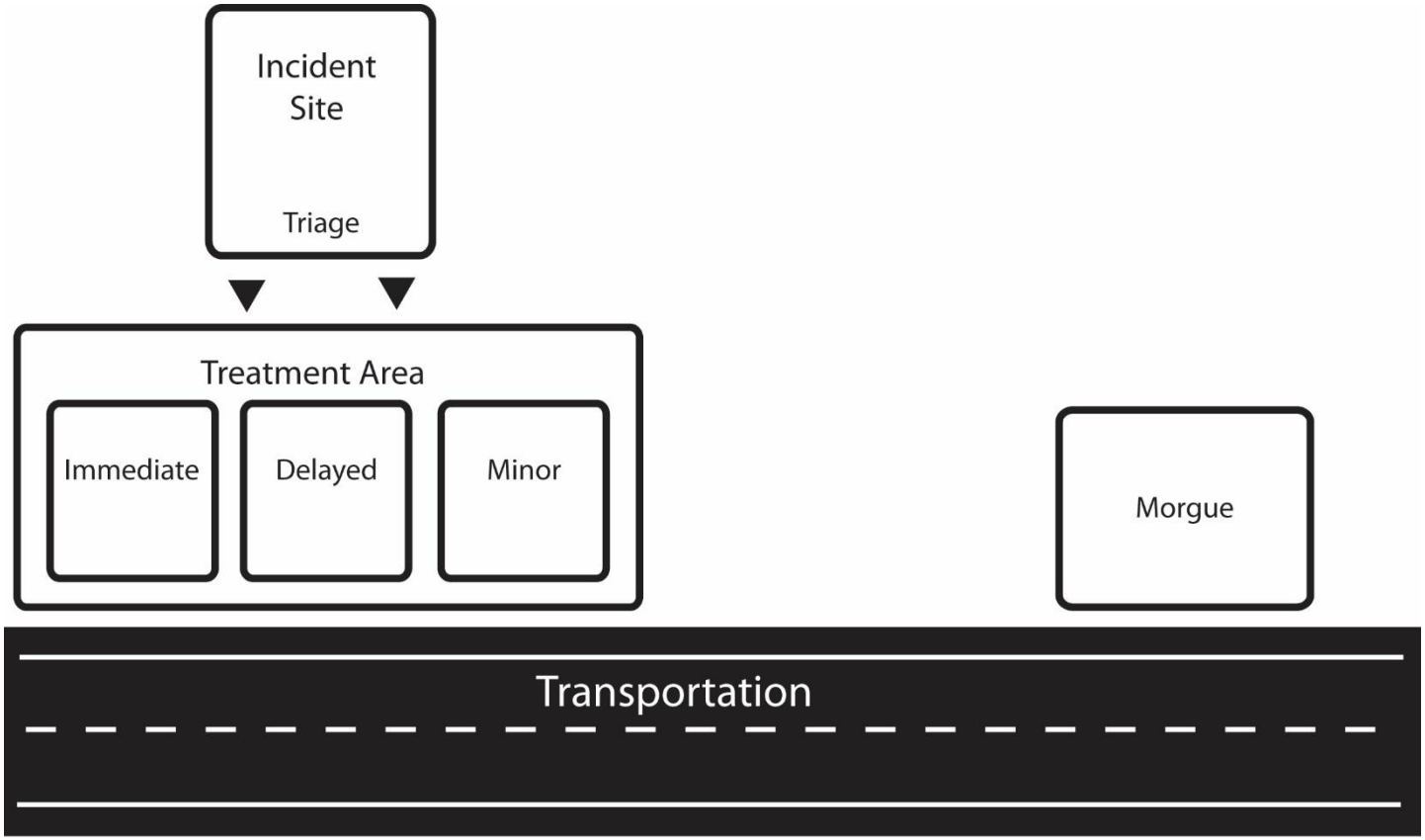
Most Effective Use of CERT Resources

- To help meet the challenge of limited resources, CERT may need to establish:
  - Decentralized medical treatment location (more than one location)
  - Centralized medical treatment location (one location)

Treatment Area Layout

- Four treatment areas:
  - "I" for Immediate care
  - "D" for Delayed care
  - "M" for Minor injuries/walking wounded
  - "DEAD" for the morgue

Treatment Area Layout



Treatment area layout, showing the organization for the incident site, triage, transportation, and morgue

Treatment Area Organization

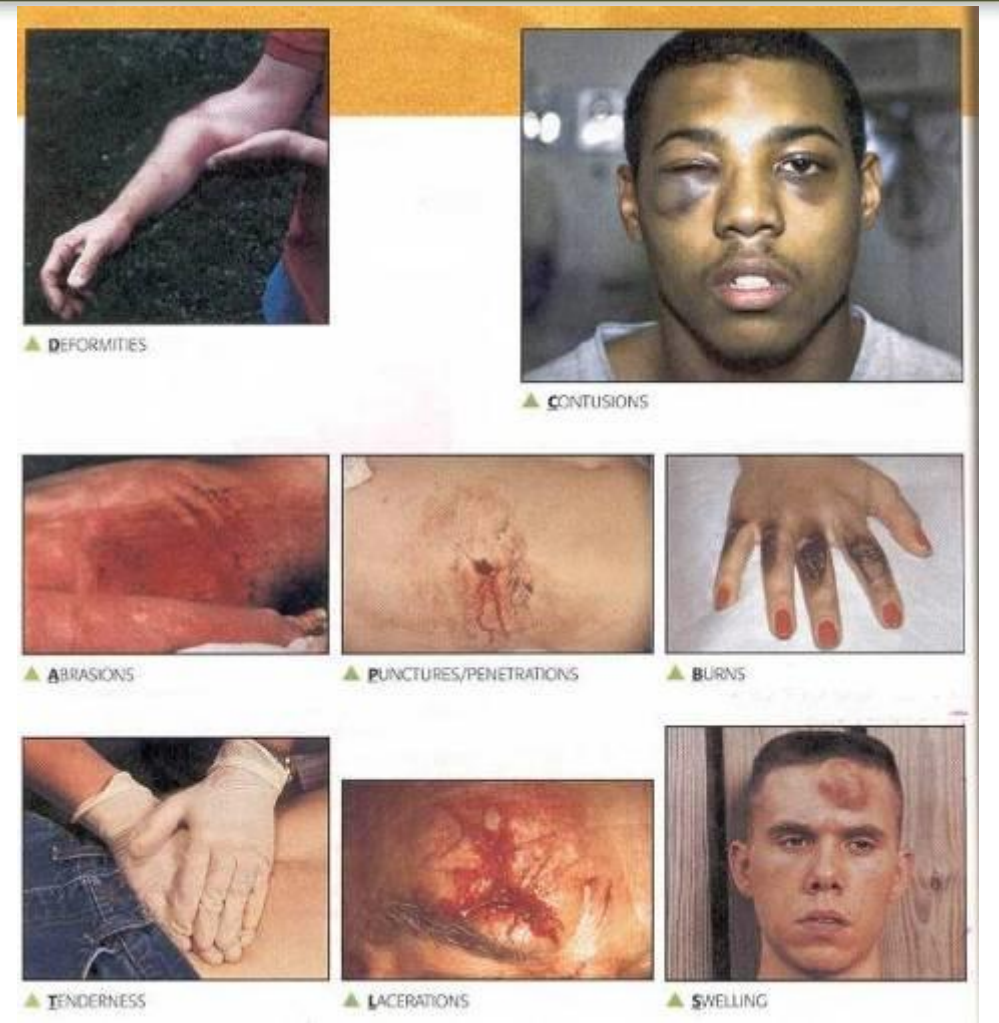
- Assign treatment leader to each treatment area
- Document thoroughly
  - Available identifying information
  - Description (age, sex, body build, estimated height)
  - Clothing
  - Injuries
  - Treatment
  - Transfer location

Head-to-Toe Assessment

- Objectives of head-to-toe assessment:
  - Determine extent of injuries
  - Determine type of treatment needed
  - Document injuries

DCAP-BTLS

- Deformities
- Contusions
- Abrasions
- Punctures
- Burns
- Tenderness
- Lacerations
- Swelling



Where and When

- Light damage: assess in place
- Moderate damage: move to treatment area first
- Assess and tag everyone
- Both verbal and hands on

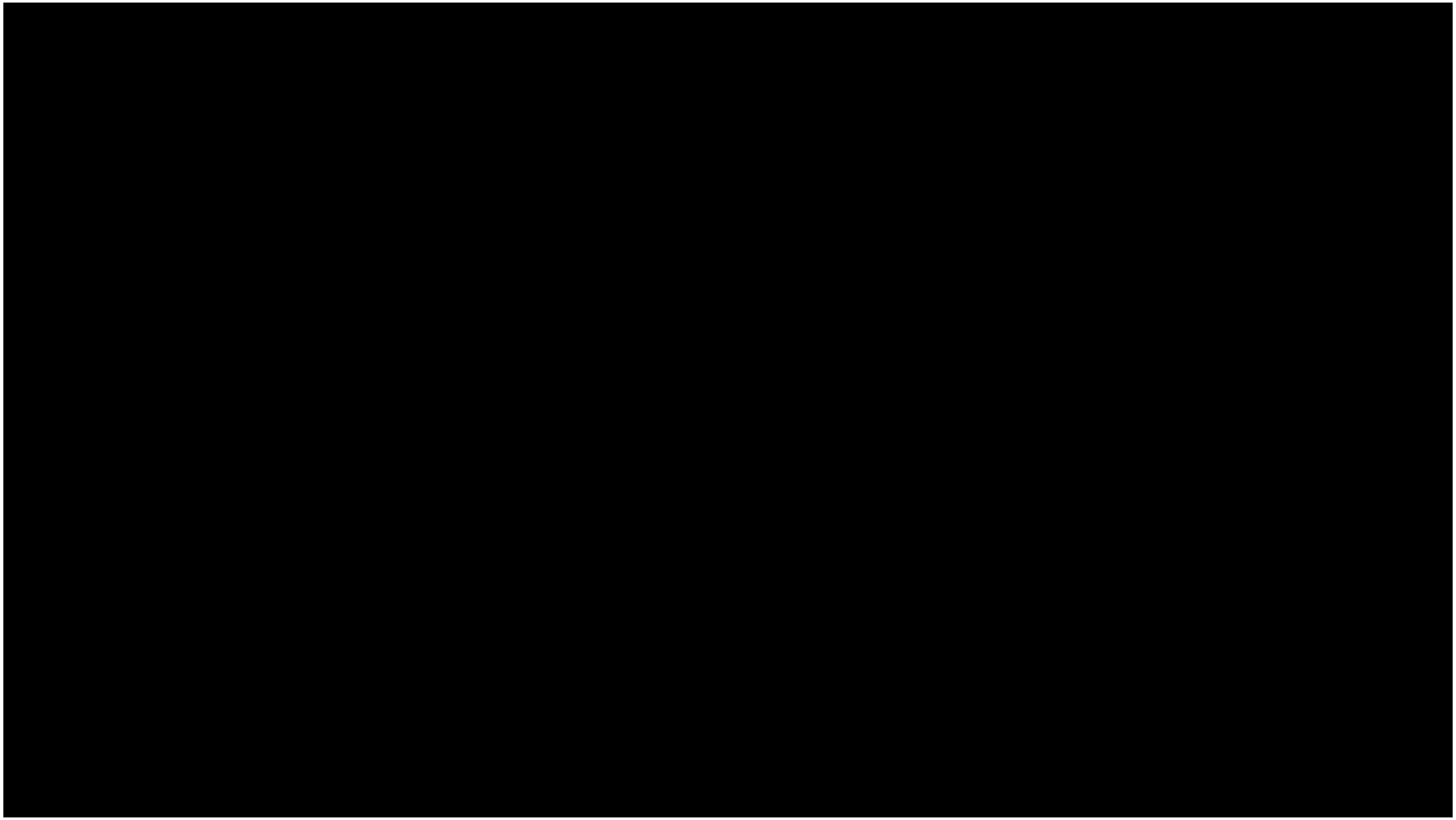
Conducting Head-to-Toe Assessment

- Pay careful attention
- Look, listen, and feel
- Check own hands for patient bleeding
- If you suspect a spinal injury in unconscious victims, treat accordingly
- Check PMS in all extremities
- Look for medical identification

Order of Assessment

1. Head
2. Neck
3. Shoulders
4. Chest
5. Arms
6. Abdomen
7. Pelvis
8. Legs

Head to Toe Assessment Video



Closed-Head, Neck, Spinal Injuries

- Do no harm
  - Minimize movement of head and neck
- Keep spine in straight line
- Stabilize head

Treating Burns

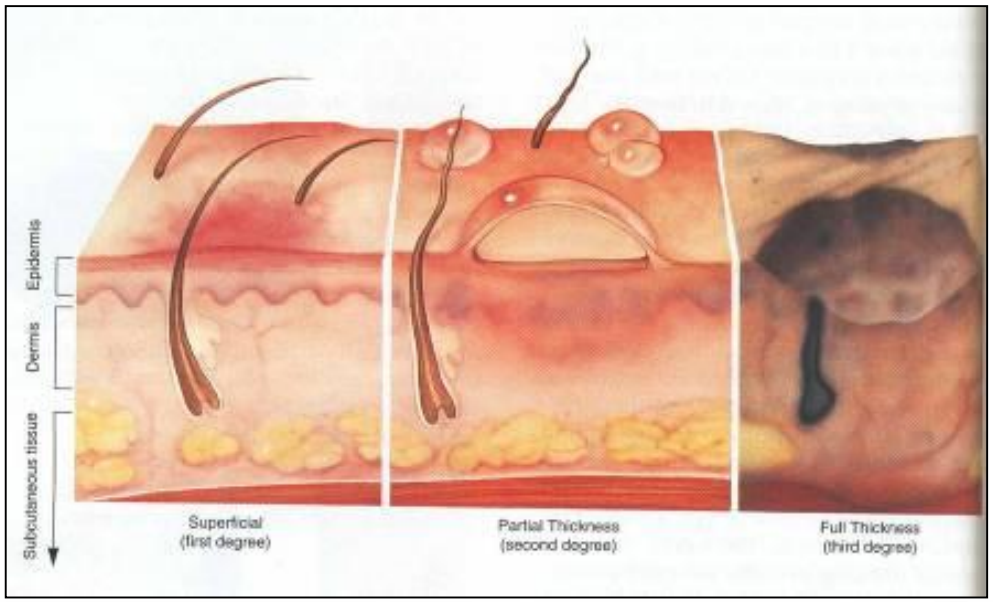
- Conduct thorough sizeup
- Treat with first aid
  - Cool burned area
  - Cover with sterile cloth to reduce risk of infection

Burn Severity

- Factors that affect burn severity:
  - Temperature of burning agent
  - Period of time victim exposed
  - Area of body affected
  - Size of area burned
  - Depth of burn

Burn Classifications

- Superficial: epidermis
- Partial Thickness: dermis and epidermis
- Full Thickness: subcutaneous layer and all layers above



Burn Treatment: DOs

- When treating a burn victim, DO:
  - Cool skin or clothing if they are still hot
  - Cover burn loosely with dry, sterile dressings to keep air out, reduce pain, and prevent infection
  - Elevate burned extremities

Burn Treatment: DON'Ts

- When treating a burn victim, DO NOT:
  - Use ice
  - Apply antiseptics, ointments, or other remedies
  - Remove shreds of tissue, break blisters, or remove adhered particles of clothing

Treatment for Chemical Burns

- Remove cause of burn + affected clothing/jewelry
- If irritant is dry, gently brush away as much as possible
  - Always brush away from eyes, victim, and you
- Flush with lots of cool running water
- Apply cool, wet compress to relieve pain
- Cover wound loosely with dry, sterile or clean dressing
- Treat for shock if appropriate

Inhalation Burns Signs and Symptoms

- Sudden loss of consciousness
- Evidence of respiratory distress or upper airway obstruction
- Soot around mouth or nose
- Singed facial hair
- Burns around face or neck

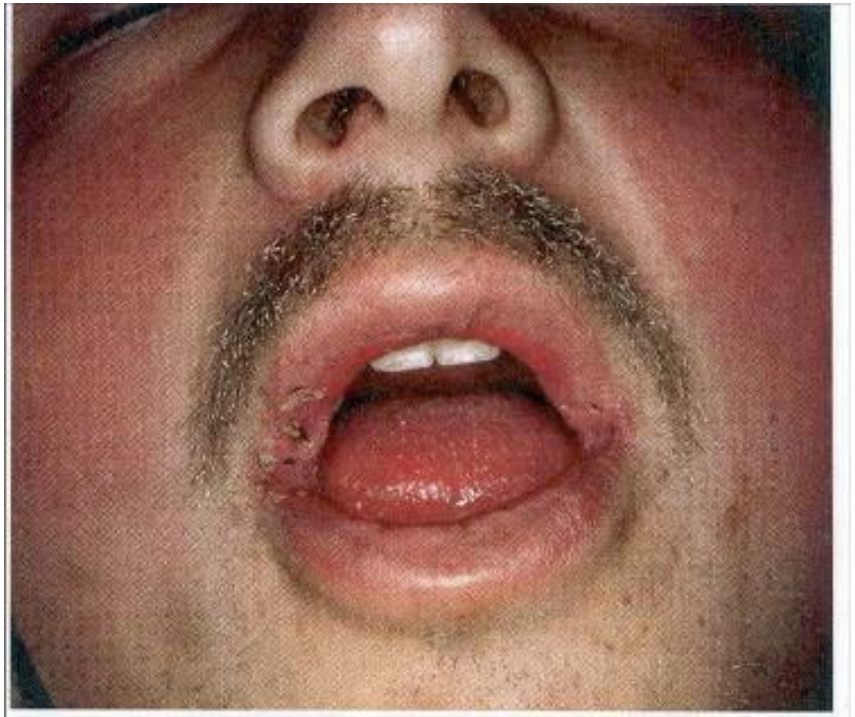


Figure 27-26 A singed mustache and burns to the tip of the tongue signal danger of airway burns or burns to the eyes.

Wound Care

- Control bleeding
- Clean wound
- Apply dressing and bandage

Cleaning and Bandaging Wounds

- Clean by irrigating with clean, room temperature water
  - NEVER use hydrogen peroxide
  - Irrigate but do not scrub
- Apply dressing and bandage
  - Dressing applied directly to wound
  - Bandage holds dressing in place

Rules of Dressing

- If active bleeding:
  - Redress OVER existing dressing
- If no active bleeding:
  - Remove bandage and dressing to flush wound
  - Check for infection every 4-6 hours

Signs of Infection

- Signs of possible infection
  - Swelling around wound site
  - Discoloration
  - Discharge from wound
  - Red striations from wound site

Amputations

- Control bleeding; treat shock
- If amputated body part is found:
  - Save tissue parts, wrapped in clean material and placed in plastic bag
  - Keep tissue parts cool, but NOT directly on ice
  - Keep severed part with victim

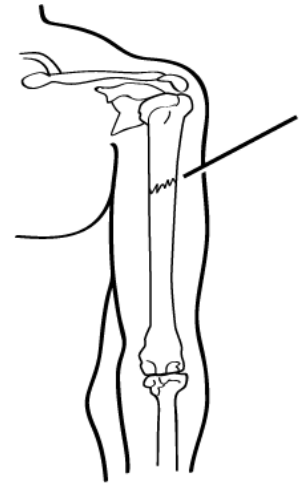
Impaled Objects

- When foreign object is impaled in patient's body:
  - Immobilize affected body part
  - Do not attempt to move or remove
  - Try to control bleeding at entrance wound
  - Clean and dress wound, making sure to stabilize impaled object

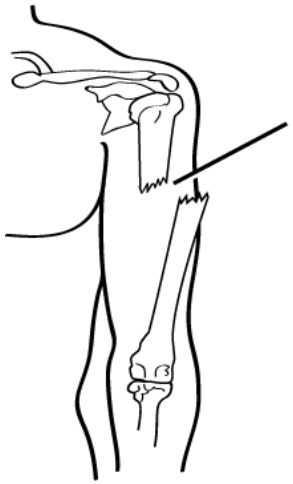
Fractures, Dislocations, Sprains, Strains

- Immobilize injury and joints immediately above and below injury site
- If uncertain of injury type, treat as fracture

Types of Fractures



Closed Fracture
Closed Fracture in which the fracture does not puncture the skin.

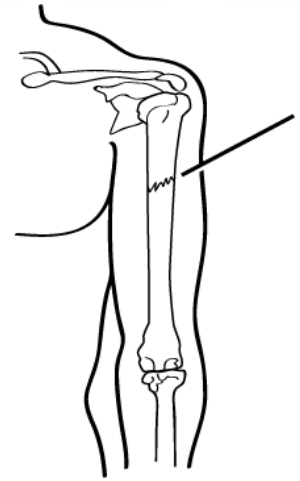


Open Fracture
Open Fracture in which the bone protrudes through the skin.

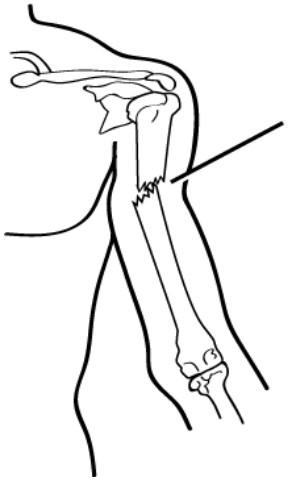
Treating Open Fractures

- Do not draw exposed bone ends back into tissue
- Do not irrigate wound
- Cover wound with sterile dressing
- Splint fracture without disturbing wound
- Place moist dressing over bone end

Displaced and Nondisplaced Fractures



Nondisplaced Fracture
Nondisplaced fracture, in which the fractured bone remains aligned.



Displaced Fracture
Displaced fracture in which the fractured bone is no longer aligned.

Dislocations

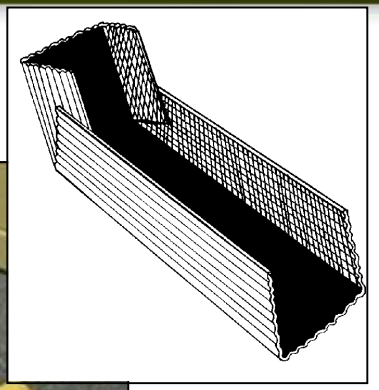
- Dislocation is injury to ligaments around joint
  - So severe that it permits separation of bone from its normal position in joint
- Treatment
  - Immobilize; do NOT relocate
  - Check PMS before and after splinting/ immobilization

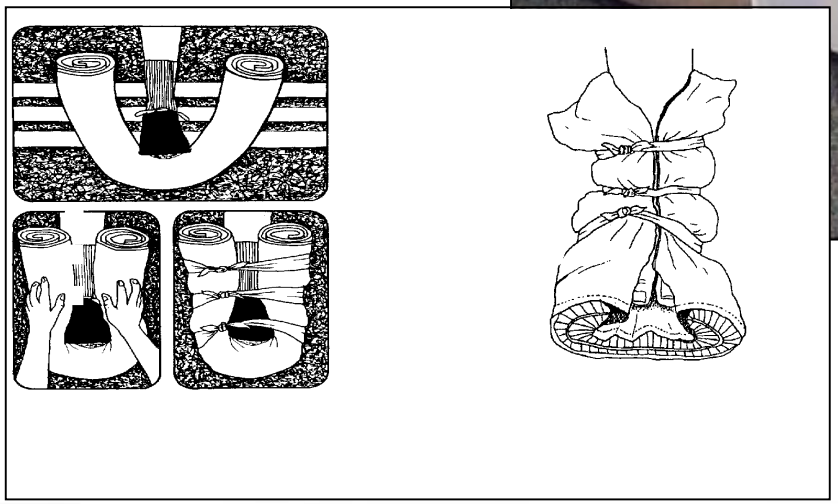
Signs of Sprain

- Tenderness at site
- Swelling and bruising
- Restricted use or loss of use

Damaged vessels from an ankle sprain can cause bruising

Splinting





Splinting Guidelines

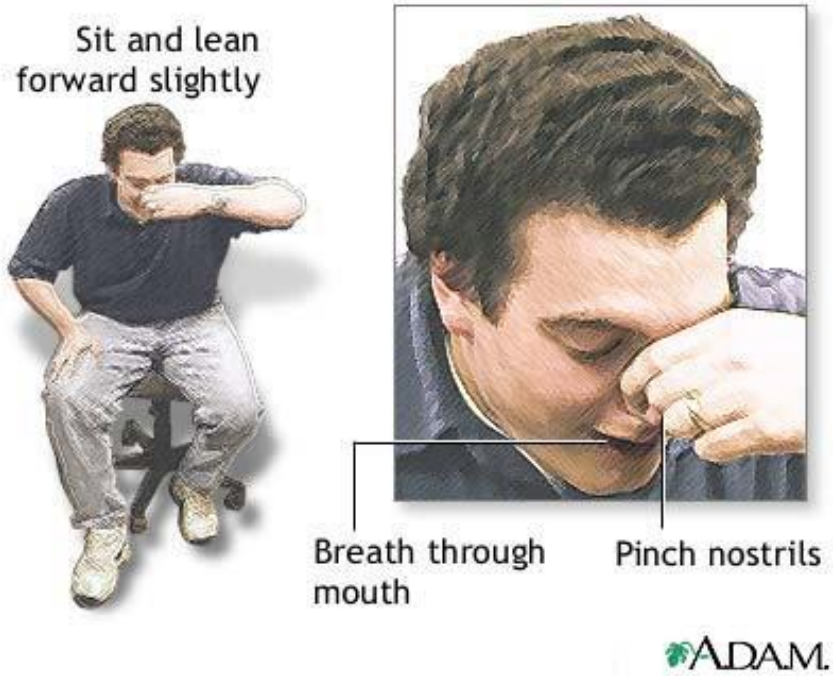
1. Support injured area above and below injury
2. Assess PMS in extremity
3. Splint injury in position that you find it
4. Don’t try to realign bones or joints
5. Fill voids to stabilize and immobilize
6. Immobilize above and below injury
7. After splinting, reassess PMS

Nasal Injuries

- Causes
  - Blunt force to nose
  - Skull fracture
  - Nontrauma conditions, e.g., sinus infections, high blood pressure, and bleeding disorders
- Cautions
  - Large blood loss from nosebleed can lead to shock
  - Actual blood loss may not be evident because victim will swallow some amount of blood

Treatment of Nasal Injuries

- Control nasal bleeding:
  - Pinch nostrils or put pressure on upper lip under nose
  - Have victim sit with head forward, NOT back
- Ensure that airway remains open
- Keep victim calm



Cold-Related Injuries

- Hypothermia :
  - Occurs when body's temperature drops below normal
- Frostbite:
  - Occurs when extreme cold shuts down blood flow to extremities, causing tissue death

Symptoms of Hypothermia

- Body temperature of 95° F or lower
- Redness or blueness of skin
- Numbness and shivering
- Slurred speech
- Unpredictable behavior
- Listlessness

Hypothermia Treatment

- Remove wet clothing
- Wrap victim in blanket
- Protect victim from weather
- Provide food and drink to conscious victims
- Do not attempt to massage to warm body
- Place unconscious victim in recovery position
- Place victim in warm bath

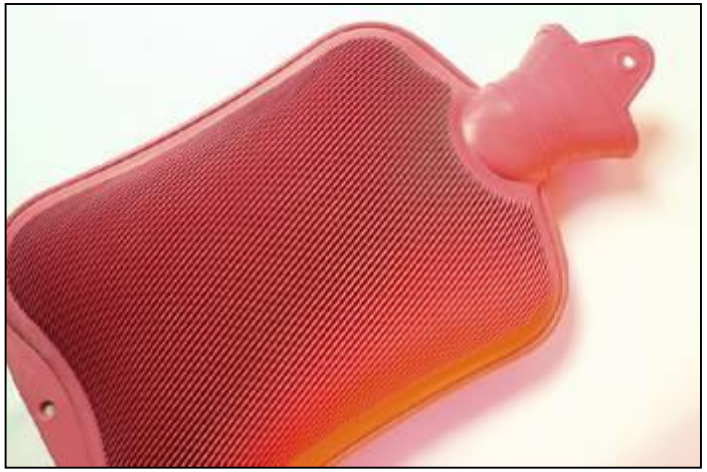
Symptoms of Frostbite

- Skin discoloration
- Burning or tingling sensation
- Partial or complete numbness

FIGURE 29-8 ▲ Edema and blister formation 24 hours after frostbite injury in an area covered by a tightly fitted boot. (From Auerbach PS: *Wilderness medicine*, ed 4, St Louis, 2001, Mosby.)

Frostbite Treatment

- Immerse injured area in warm (NOT hot) water
  - Warm slowly!
- Do NOT allow part to re-freeze
- Do NOT attempt to use massage
- Wrap affected body parts in dry, sterile dressing



Heat-Related Injuries

- Heat cramps:
  - Muscle spasms brought on by over-exertion in extreme heat
- Heat exhaustion:
  - Occurs when exercising or working in extreme heat results in loss of body fluids
- Heat stroke:
  - Victim's temperature control system shuts down
  - Body temperature rises so high that brain damage and death may result

Symptoms of Heat Exhaustion

- Cool, moist, pale or flushed skin
- Heavy sweating
- Headache
- Nausea or vomiting
- Dizziness
- Exhaustion

Symptoms of Heat Stroke

- Hot, red skin
- Lack of perspiration
- Changes in consciousness
- Rapid, weak pulse and rapid, shallow breathing

Treatment of Heat-Related Injuries

- Remove from heat to cool environment
- Cool body slowly
- Have the victim drink water, SLOWLY
- No food or drink if victim is experiencing vomiting, cramping, or is losing consciousness

Treatment for Bites/Stings

- If bite or sting is suspected, and situation is non-emergency:
  - Remove stinger if still present by scraping edge of credit card or other stiff, straight-edged object across stinger
  - Wash site thoroughly with soap and water
  - Place ice on site for 10 minutes on and 10 minutes off

Anaphylaxis

- Check airway and breathing
- Calm individual
- Remove constrictive clothing and jewelry
- Find and help administer victim's Epi-pen
- Watch for signs of shock and treat appropriately

Unit Summary

- Public health concerns related to sanitation, hygiene, and water purification
- Organization of disaster medical operations
- Establishing treatment areas
- Conducting head-to-toe assessments
- Treating wounds, fractures, sprains, and other common injuries

Homework Assignment

- Read unit to be covered in next session
- Bring necessary supplies for next session
- Wear appropriate clothes for next session
- Practice complete head-to-toe assessment on friend or family member