DISASTER MEDICAL OPERATIONS

GUIDELINES & TREATMENT PROTOCOL MANUAL

ASHLAND FIRE & RESCUE
CITY OF ASHLAND, OREGON

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DISASTER MEDICAL OPERATIONS

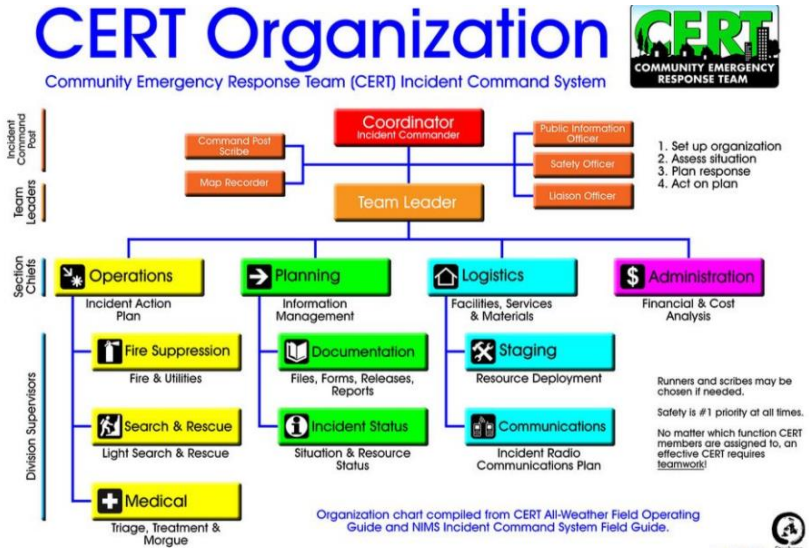
Ashland Fire & Rescue is responsible for and can handle day-to-day calls for service; they may even rely on mutual aid agreements with neighboring agencies. In some instances, such as mass casualty incidents, CERT volunteers will need to assist the wounded. The priority of CERT volunteers assisting in disaster medical operations is to attend to life-threatening conditions by controlling bleeding, positioning a patient so they can breathe, and helping to maintain a patient in shock. CERT volunteers are trained to recognize and categorize injuries through TRIAGE, and to treat as necessary and capable. CERTs are trained to use creative methods when treating and extricating patients. The CERT motto is to “do the greatest good for most people.”

The Ashland CERT Medical Operations Treatment Guidebook replicates the FEMA CERT information and standards while addressing other common injuries the CERT member may encounter. The guidebook serves as a quick reference for medical basics. The guidebook should be referenced often (*before disaster strikes*) to strengthen skills.

INCIDENT COMMAND SYSTEM

Ashland CERT operations align with the Incident Command System (ICS). Ashland CERT members shall be familiar with the structure and able to operate together within the ICS parameters. Bases may operate distinctly and separately within their operational areas. Incident Command Team Leaders at each base shall be responsible for following communication protocols outlined in the Communications Plan.

Upon establishing command, Disaster Medical Operations shall also be established. Volunteers may encounter and need to treat many injuries in their neighborhood before reporting to their base and need to keep their first aid supplies up-to-date.



Structure depends on situation

PERSONAL PROTECTIVE EQUIPMENT

**** MUST ALWAYS BE WORN. ****

When activated, CERT volunteers must be recognizable to authorities and be properly equipped to carry out their assignments safely. Personal protective equipment (PPE) includes the basic indoor/outdoor disaster response gear and any other equipment required for a specific emergency activation.

Required PPE:

- Ashland CERT ID
- CERT Vest
- CERT Hard Hat
- Long sleeve shirt and long pants
- Sturdy close-toed shoes or boots
- Flashlight and/or headlamp
- Safety glasses
- Work gloves (heavy leather preferred)
- Personal needs kit (meds, reading glasses, etc.)
- First aid kit(s)
- Nitrile gloves, or latex (several sets)
- Extra clothing appropriate for weather (rain gear, coat, gloves, etc.)
- Rehab (food and water)
- Wrench (utilities shut-off tool)
- Whistle
- Multi-knife / tool
- N95 mask

FIRST AID KIT SUPPLIES

Ashland CERT members shall have a personal first aid kit (in case of personal injury) in addition to supplies to treat others. The following is a recommendation of minimum supplies needed to treat others immediately after a disaster. Volunteers may also consider medications such as pain relievers, anti-inflammatories, laxatives, and anti-diarrheal medications in their kits.

- 10% household bleach to disinfect (1 bottle)
- 4” sterile gauze pads (several)
- 4” gauze pads for bandaging large cuts
- Ace bandage (4 +)
- Adhesive tape 2” wide (2 rolls +)
- Antiseptic hand cleaning towels
- Assorted sized sterile adhesive bandages / Band-Aids for small cuts (10 – 12 assorted +)
- Biohazard bags 3-5 gallon-size
- Cold compress(s)
- Eye dropper
- Nitrile medical exam gloves (6 pair +)
- Roller bandage 2” wide (2 +)
- Space blanket
- Scissors (good pair of medical scissors)
- Thermometer
- Tourniquet
- Triangular bandages (4 +)
- Tweezers
- Wire SAM splint

DISASTER OPERATIONS BASE MEDICAL SUPPLIES

Base supplies are limited. Disasters are chaotic and limited supplies may be rapidly depleted due to number of injuries. Community members may be a source of additional supplies. Expect spontaneous volunteers and always request the best way they can help is with medical needs donations.

HYGEINE

Proper protocol includes changing medical exam gloves between patients. In the event gloves are scarce, you can use a diluted bleach solution to clean gloves. Use 1-part bleach to 10-parts water. Once the bleach smell dissipates you need to discard and make a fresh batch. Be sure not to immerse gloves so that water fills into gloved hand.

APPROACHING A PATIENT

Volunteers must identify themselves with their name and agency affiliation when approaching a patient even if the patient is unconscious. Volunteers must obtain verbal permission to treat a conscious patient. If consent is denied move onto next patient. Document everything.

TRIAGE CATEGORIES

Immediate (RED)

Patient has a life-threatening injury

Delayed (YELLOW)

Patient's injuries do not jeopardize his/her life
Treatment can be delayed

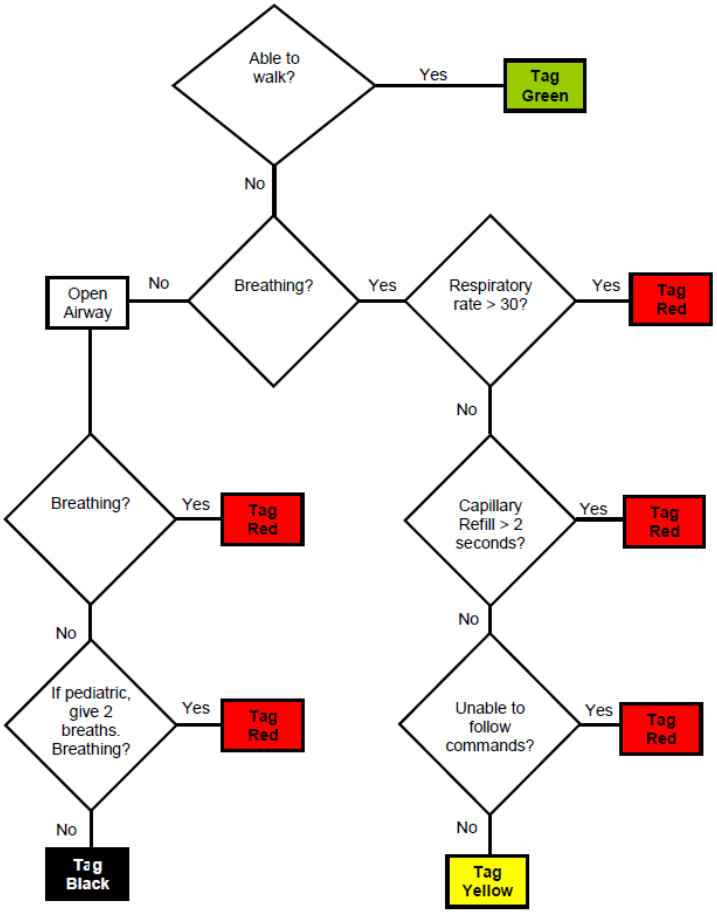
Minor (GREEN)

Coined "walking wounded"
Generally ambulatory

Dead (BLACK)

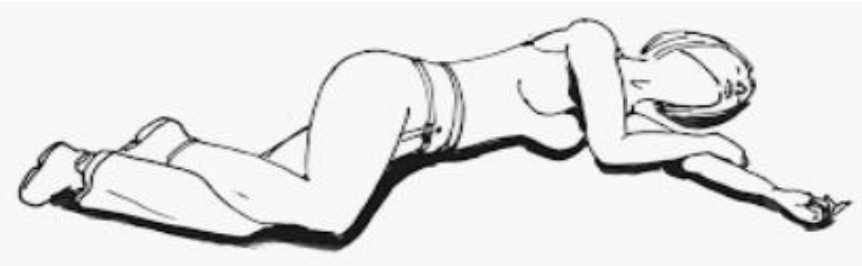
no respirations, even after two attempts to open the airway

SIMPLE TRIAGE AND RAPID TREATMENT
(S.T.A.R.T.)



Recovery Position:

Body: Laid on its side
Bottom Arm: Reached outward
Top Arm: Rest hand on bicep of bottom arm
Head: Rest on hand
Legs: Bent slightly
Chin: Raised forward
Mouth: Pointed downward



PATIENT ASSESSMENT

When performing Patient Assessments, you should obtain as much information as possible (especially during the initial assessment). Some patients may be unable to talk or otherwise respond; however, if the patient is responsive you will need to obtain permission. Ask the patient something like, “is it okay if I assess your injuries?” If patient is unconscious / unresponsive, presume they want help and permission to treat.

Document:
Patient name, clothing, other identifiable information (such as tattoos), time & date

Head-to-Toe - Systematic approach – any pain, tenderness, bleeding, etc.
Frequently inspect gloves for blood or other patient fluid

Obtain Vitals including:
BP – Blood Pressure
Is the radial pulse present, not present/absent
HR – Heart Rate
Normal heart rate = ranges from 60-100 beats per minute
Is it present, not present/absent
RR – Respiratory Rate
Normal respiration rate for an adult at rest is 12-20 breaths per minute
LOR – Level of Responsiveness
Pupils – are they equal and according to lighting
Temperature - if thermometer is available
Skin – clammy, dry, cold, hot, pale, flushed

Medical History:
Symptoms
Allergies
Medications
Last eat / drink

PATIENT BELONGINGS

If you remove shoes, jewelry, or other personal items while treating a patient you must ensure patient’s belongings stay with them. If the patient does not have a pocket to keep them in, then you should provide a bag for the patient’s belongings; *be sure to mark the patient’s name on the bag legibly.*

BREATHING / Respiratory conditions

Blocked or Occluded Airway:

With patient lying on back, attempt to open airway with:

Head-Tilt, Chin Lift

You can use the jaw thrust if a spinal injury *is* suspected

Patient is Immediate/RED.

Respiratory Distress: Life-threatening emergency. DO NOT lay patient down flat. Place patient in position of most comfort or in the recovery position. Attempt to calm the patient, monitor for hyperventilation. Patient is Immediate/RED

WOUND CARE

The main treatment for wounds includes:

- Control bleeding ~ Life-threatening injuries priority (Major wounds)
  - Apply direct pressure
  - If bleeding on limb, elevate limb while maintaining pressure
  - Cover the wound with more dressings as needed until bleeding stops.
  - If bleeding is severe and persistent on a limb apply a tourniquet 2-3 inches above wound – document time and date

Minor wounds:

- Clean the wound if bleeding is minimal. Do not clean the wound if profuse bleeding requiring a pressure bandage or tourniquet to stop the bleeding is used. Cleaning the wound may cause the wound to start bleeding again.
- Apply dressing and bandage

Wounds may be rinsed by irrigating with clean room temperature water only. Do NOT scrub wounds. When the wound is thoroughly rinsed, apply a dressing and bandage to help keep it clean and control bleeding. Before and after applying a bandage, always check circulation, sensation, and perfusion in the affected arm or leg.

There is a difference between a dressing and a bandage:

- A dressing is applied directly to the wound.
- When possible, a dressing should be sterile.
- A bandage holds the dressing in place.
- If a wound continues to bleed, place direct pressure over the bandage to control bleeding without interfering with circulation.
- Use additional dressings (and bandages) as needed

Follow these procedures to dress a wound:

- If there is active bleeding (if the dressing is soaked with blood), redress over the existing dressing and maintain direct pressure and elevation to control bleeding.
- Continue to evaluate LOR (level of responsiveness).

Observe wound for possible signs of infection - Signs of possible infection include:

- Pain & Swelling around the wound site
- Discoloration
- Discharge from the wound
- Red striations/streaks going upward or centrally from the wound site

Based on re-Assessment, and, if ANY signs of infection are noted, change patient status to Red, and treatment/transport priority (e.g., from Delayed/YELLOW to Immediate/RED.

AMPUTATIONS

Amputations are a life-threatening emergency. Treatments for an amputation (the traumatic severing of a limb or other body part) may require a tourniquet in addition to:

- Control bleeding IMMEDIATELY with Pressure on the wound
    - May also apply pressure over major artery between the amputation and the Heart
- Treat for Shock, as necessary
- Patient Triage status is Immediate/RED
- Requires Immediate Transport to Trauma Care Level Medical Facility when available.

When the severed body part can be located, CERT volunteer should:

- Save tissue parts, wrapped in gauze and placed in a plastic bag, then place that bag into another bag with ice, if available.
- Label them with the date, time, and patient's name.
- Keep the tissue parts cool, but NOT in direct contact with ice
- Keep the severed part with the patient

Tourniquets

Life-threatening bleeding from an extremity that cannot be controlled by direct pressure may require tourniquet application. Wide-band commercial-grade tourniquets are recommended. Remove patient's clothing to expose bleeding wound on extremity. Tourniquet needs to be applied roughly two inches from wound if possible and between wound body core. If bleeding still persists a second tourniquet can be applied proximal to the first. NEVER loosen or remove tourniquets.

IMPALED / Foreign Objects

Impaled objects should only be removed in the hospital by a qualified expert. CERT Volunteers may encounter patients who have foreign objects lodged in their bodies — usually as the result of flying debris during the disaster (such as glass, wood, metal, etc.)

When a foreign object is impaled in a patient's body, follow these steps:

Immobilize the affected body part

- Do Not attempt to move or remove the object, unless it is obstructing the airway
- Try to control bleeding at the entrance wound without placing undue pressure on the foreign object (*apply pressure around the object*)
- Cautiously clean if able and dress the wound making sure to stabilize the impaled object.
- Wrap bulky dressings around the object to keep it from moving, if necessary.
- Secure the bulky dressings with a bandage that does not impair the patient's airway or place direct pressure on the object.
- Evaluate LOR (level of responsiveness)

SHOCK

Shock is the result of ineffective circulation of blood. The circulatory system distributes blood to all parts of the body, carrying oxygen and nutrients to the tissues. If the circulatory system fails, and sufficient oxygen fails to reach the tissues, the medical condition known as Shock occurs. If the condition is not treated quickly, the vital organs can fail, ultimately causing death. Shock is made worse by fear and pain. Remaining in shock will lead to death of Cells, Tissues and Entire organs

As shock develops, there may be:

- Weakness and giddiness.
- Nausea and sometimes vomiting.
- Thirst.
- Rapid, shallow breathing. (More than 30 breaths per minute)
- When the radial pulse (at the wrist) disappears, fluid loss may be significant.

As the oxygenated blood supply to the brain diminishes:

- The patient may become restless, anxious and aggressive.
- The patient may yawn and gasp for air ('air hunger').
- The patient will eventually become unconscious.
- Finally, the heart will stop.

CAUSES of SHOCK

Shock can develop when the heart pump fails to work properly, causing a reduction in the pressure of the circulating blood. The most common cause of this type of shock is a heart attack. Shock can develop as a result of a reduction in the volume of fluid circulating throughout the body. The most common examples of this are external or internal bleeding, or loss of other bodily fluids through severe diarrhea, vomiting, or burns. The blood supply is diverted from the surface to the core of the body. The main symptoms and signs of shock relate to such redistribution of the circulation from periphery to vital organs.

Main Signs & Symptoms of Shock

- Rapid and/or shallow breathing – more than 30 breaths per minute
- Capillary refill of greater than 2 seconds - If pressure is applied to a fingernail or earlobe, it will not regain its color within 2 seconds.
- Change in skin color; especially inside the lips. Check the color or absence of color of the lips in the mouth. ** The blanch test is not valid in children.
- Sweating and cold, clammy skin (sweat does not evaporate).
- Failure to follow simple commands, such as “squeeze my hand”

TREATMENT for SHOCK

- Maintain an open airway.
- DO NOT let the patient eat, drink, or smoke or move around unnecessarily,
- DO NOT leave the patient unattended if possible. Reassure the patient continually.
- Treat any cause of shock which can be remedied (such as external bleeding with direct pressure on the wound and Dressing to apply pressure).
- Lay the patient down, keeping the head low. Position in recovery position, or the position that is most comfortable for the patient.
- Raise and support the patient’s legs (be careful if suspecting a fracture).
- Loosen tight clothing, braces, straps or belts, in order to reduce constriction at the neck, chest and waist.
- Insulate the patient from cold, both above and below (maintain body temperature).
- Avoid rough or excessive handling.

Patients of Shock should be Triaged as Immediate/RED and prioritized for transport to medical facility with higher level of intervention available. Check and record Respirations per minute (breathing), Perfusion, and Level of Responsiveness (vital signs) every 30-minutes, or more frequently if the situation dictates.

ANAPHYLAXIS

Shock due to **ANAPHYLAXIS**: Anaphylaxis occurs when an allergic reaction becomes so severe that the airway is compromised. Use patient's own single-use epinephrine (Epi -Pen); CERT Volunteer may assist patient with self-administration of inhalers or Epi pens, as needed. If Epi Pen is administered, arrange for immediate transport to higher level of care, if possible. The therapeutic effect of the Epi-Pen is short lived, and, often more than one administration of the Epi-Pen is necessary, so observe the patient after the administration of the Epi-Pen in case the anaphylaxis returns.

FRACTURES, DISLOCATIONS, SPRAINS, STRAINS

The objective when treating a suspected fracture, sprain, or strain is to immobilize the injury site by immobilizing the joints immediately above and below the injury site.

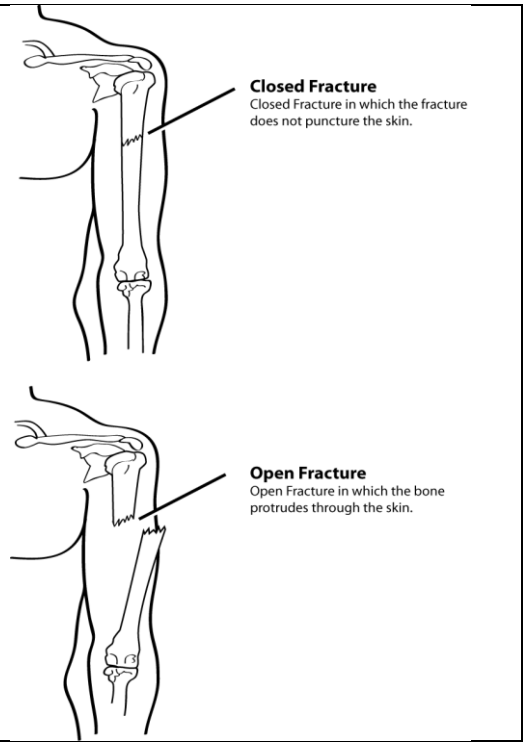
It is difficult to distinguish among fractures, sprains, or strains, without proper medical testing. CERT volunteers should treat the injury as a fracture and immobilize the extremity above and below the injury.

With these types of injuries, there will be swelling. Remove restrictive clothing, shoes, and jewelry when necessary to prevent these items from acting as unintended tourniquets. Check circulation, sensation, and motion; both before and after applying the splint.

FRACTURES

A fracture is a complete break, a chip, or a crack in a bone.

There are two types of fractures CERT volunteers can somewhat distinguish. The diagram below shows both open and closed fracture types:

Closed and Open Fractures	

No fracture should be reduced or realigned by CERT personnel (splint as is / found). A closed fracture is a broken bone with no associated wound. First aid treatment for closed fractures may require only splinting. Check circulation, sensation, and motion; both before and after applying the splint.

An open fracture is a broken bone with a wound which punctures the skin and allows contaminants to enter into or around the fracture site. When splinting this type of fracture, it is important to splint the fracture while protecting the exposed bone with damp/moist dressings. DO NOT attempt to retract the bone back into place.

More on Open-Fractures

Open fractures are more dangerous than closed fractures because they pose a significant risk of severe bleeding and infection. Therefore, they are a higher priority and need to be checked more frequently.

When treating an open fracture, DO NOT:

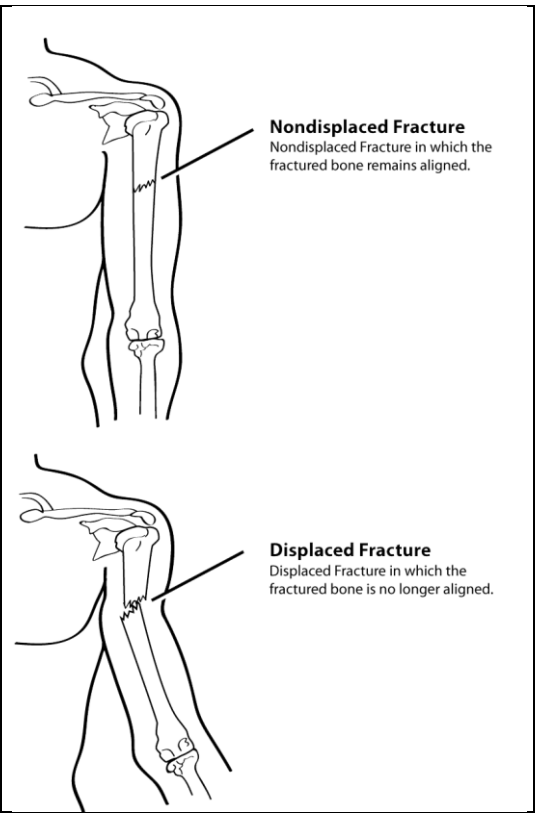
- Draw the exposed bone ends back into the tissue
- Irrigate the wound
- Realign or manipulate

Treat an Open-Fracture by:

- Place a moistened 4 by 4-inch dressing over the bone end to keep it from drying out. (Moisten with potable sterile water, if available)
- Cover the wound with a sterile dressing
- Splint the fracture without disturbing the wound
- If the limb is angled, then this injury is also considered a displaced fracture.

Displaced fractures may be described by the degree of displacement of the bone fragments.

Nondisplaced fractures are difficult to identify, with the main signs being pain and swelling. Displaced and Non-displaced fractures are diagramed on below.

Displaced and Non-displaced Fractures	

DISLOCATIONS

Dislocations are another common injury in disaster situations.

A dislocation is an injury to the ligaments around a joint that is so severe that it permits a separation of the bone from its normal position in a joint.

The signs of a dislocation are similar to those of a fracture, and a suspected dislocation shall be treated like a fracture.

If dislocation is suspected, be sure to evaluate circulation, sensation, and motion in the affected limb before and after splinting/immobilization. If either seems to be compromised, the patient's treatment priority is elevated to Immediate/RED to prevent loss of limb due to inadequate circulation.

DO NOT try to relocate/ realign/ reduce a suspected dislocation.

DO stabilize the injury and immobilize the joint above and below the injury until professional medical help is available.

SPRAINS and STRAINS

A sprain involves a stretching or tearing of ligaments at a joint and is usually caused by stretching or extending the joint beyond its normal limits. A sprain is considered a partial dislocation, although the bone either remains in place or is able to fall back into place after the injury. The signs of a sprain are similar to those of a non-displaced fracture. Therefore, you should not try to treat the injury other than by immobilization and elevation.

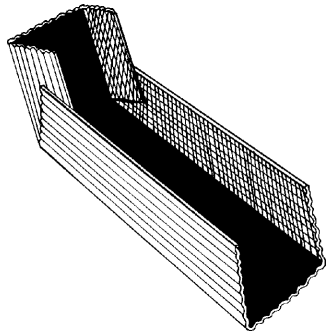
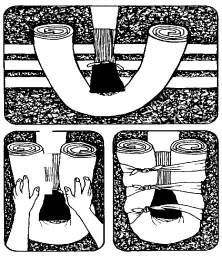
A strain involves a stretching and/or tearing of muscles or tendons. Strains most often involve the muscles in the neck, back, thigh, or calf. In some cases, strains may be difficult to distinguish from sprains or fractures. Whether an injury is a strain, sprain, or fracture, treat the injury as if it is a fracture.

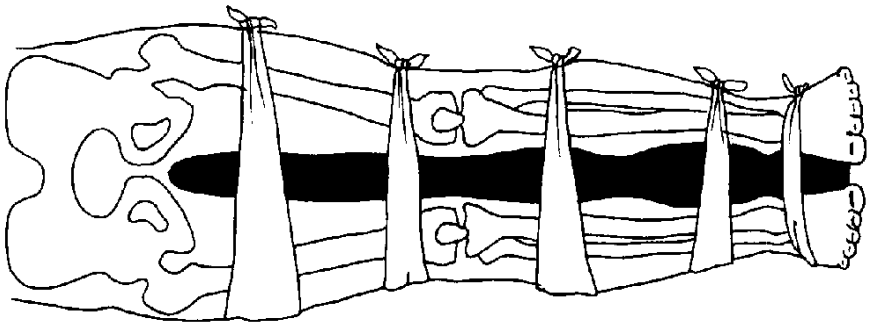
The most common signs of sprains and strains include:

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

SPLINTING

Splinting is the most common treatment for immobilizing an injury. Cardboard is the material typically used for makeshift splints, but other materials can be used, including: Soft materials; towels, blankets, or pillows, tied with bandaging materials or soft cloths Rigid materials; A board, metal strip, folded magazine or newspaper, or other rigid item(s)

Splint Illustrations	
Cardboard Splint Edges of the cardboard are turned up to form a “mold” in which the injured limb can rest.	
  Splinting with Pillow, Blanket, and Magazine.	



Anatomical splints may also be created by securing a fractured bone to an adjacent unfractured bone. Anatomical splints are usually reserved for fingers and toes, but, in an emergency, legs may also be splinted together. Use Soft materials to fill the gap between the splinting material and the body part.

HEAD INJURY

Evaluate Level of Responsiveness: (ability to follow simple commands, personal orientation), ability to speak, move, and identify sensation during initial Triage.

Document the Following on patient card:

A+Ox4	Alert and orientated to Person, Place, Time and Event
A+Ox3	Alert and orientated to Person, Place and Time
A+Ox2	Alert and orientated to Person and Place
A+Ox1	Alert and orientated to Person
A+Ox0	Awake but not responding appropriately
V	Responsive to Verbal. Not awake. Responds to verbal stimulus
P	Responsive only to Pain. Not awake. Responds only to a painful stimulus
U	Unresponsive. Patient does not respond to any stimulus

If head injury is suspected, document findings and monitor Mental Status *frequently/ every 30 minutes (more often if practical)*, even if mental status improves. A decline in mental status, such as change in level of responsiveness or inability to follow simple commands, warrants transport to a medical facility with higher level of intervention available, if possible. *Note, this patient is Immediate/RED.

Closed-Head, Neck, and Spinal Injuries

When conducting patient Triage and Head-to-Toe Assessment, CERT Volunteers may come across patients who have or may have suffered closed-head, neck, or spinal injuries.

A closed-head injury can be a concussion-type injury, as opposed to a laceration, although lacerations and bruising can be an indication that the patient has suffered a closed-head injury.

The main objective when CERT Volunteers encounter suspected Injuries to the head, neck, or spine is to **DO NO HARM**.

Signs of Closed-Head, Neck or Spinal Injury:

- LOR ~ Change in Level of Responsiveness
- Inability to move one or more body parts
- Severe pain or pressure in the head, neck or back
- Tingling or numbness in extremities
- Difficulty breathing or seeing
- Heavy bleeding, bruising, or deformity of the head or spine
- Blood or fluid in the nose or ears
- Bruising behind the ear
- “Raccoon” eyes (bruising around the eyes)
- “Uneven” pupils
- Seizures
- Nausea and/or vomiting
- Patient found under collapsed building material or heavy debris

Stabilize Minimize movement of the head, neck, and spine while treating any other life-threatening conditions. Stabilize the affected areas as below.

Stabilizing the Head, Neck, and Spine

In a disaster, ideal equipment is rarely available. *CERT volunteers may need to adapt.* Look for materials to use as a backboard to stabilize patient’s head, neck, spine such as a door, desktop, building materials — anything that is available to stabilize patient. Also locate items that can be used to stabilize the head while on the board such as towels, draperies, or clothing — by tucking them snugly on either side of the head to immobilize it. Use these materials to pad the board for patient comfort including under the knees.

Remember: Moving patients with suspected head, neck, or spinal injury requires sufficient patient stabilization. If either the CERT volunteer(s) or the patient is in immediate danger, safety is more important than any potential spinal injury; and the volunteer(s) may move the patient from the area as quickly as possible.

***** Prolonged back-boarding may cause further harm; consider possibilities. *****
**** New science indicates patients left strapped on a backboard for extended periods of time, which varies among patients, may experience further related complications. ****

DO NO HARM

BURNS

Burns are classified according to the depth of the layers of skin affected by the burn. Burn classification include the following, are designated by skin layers affected.

Superficial: (1st Degree) Epidermis

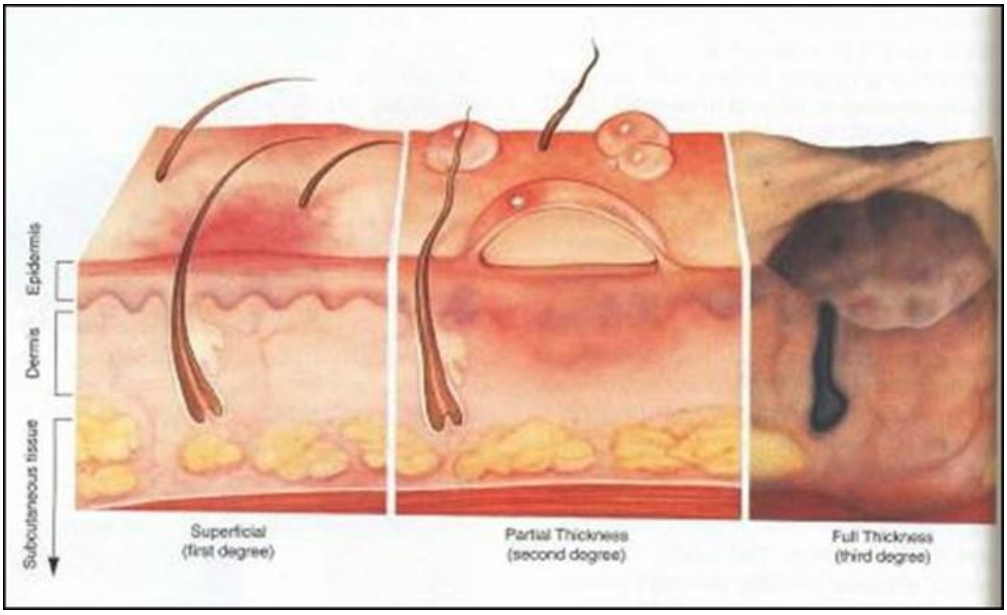
- Signs & Symptoms: Reddened dry skin, Pain, Swelling (possible)
- Treatment: Apply cold water until pain stops and skin is cool to touch. Apply cold packs for 10-20 minutes every 20-30 minutes. Do not directly apply ice to burn, wrap in cloth or dressing. Apply dry sterile dressing as needed.

Partial Thickness: (2nd Degree) Epidermis Partial destruction of dermis,

- Signs & Symptoms: Reddened, blistered skin, Wet appearance, Pain, Swelling (probable)
- Treatment: Apply cold water until pain stops, do not break blisters or use ice packs. Cover with a dry sterile dressing and bandage.

Full Thickness: (3rd Degree) Complete destruction of epidermis and dermis. Possible subcutaneous damage (destroys all skin layers/some or all underlying structures)

- Signs & Symptoms: Whitened, leathery, or charred (brown/black), Painful or relatively painless
- Treatment: Check for open airway. Cover burn area with dry sterile dressing cloth and evaluate and treat for shock. Do not use cold packs / ice. Patient should be assigned as Immediate/RED prioritized for transport to medical facility with a Burn Unit and higher level of intervention available.



BURN TREATMENT BASICS

- Remove the patient from the burning source. Put out any flames and remove smoldering clothing unless it is stuck to the skin.
- Evaluate extent of burn, check for breathing and bleeding and treat all patients of full thickness burns for shock. (see SHOCK section)
- Cool skin or clothing, if they are still hot, by immersing them in cool water for not more than 1 minute or covering with clean compresses that have been soaked in cool water and wrung out. Cooling sources include water from the bathroom or kitchen; garden hose; and soaked towels, sheets, or other cloths. Do not use Ice or ice water. *exception: full-thickness burns.
- Cover burn area loosely with dry, sterile dressings to keep air out, reduce pain, and prevent infection.
- Wrap fingers and toes loosely and individually when treating severe burns to the hands and feet.
- Loosen clothing near the affected area. Remove jewelry if necessary, taking care to document what was removed, and follow patient belongings protocols.
- Elevate burned extremities if able comfortably
- DO NOT remove shreds of tissue, break blisters or remove adhered portions of clothing (Cut clothing around the burn).
- DO NOT use ointments or other remedies.

Treating Chemical and Inhalation Burns

Chemical and inhalation burns vary from traditional heat-related burns in their origin and treatment. These are life-threatening injuries. Evidence of either chemical or inhalation burns, elevates patient's status to "Immediate/RED."

Inhalation Burns-Guidelines:
60 to 80% of fire fatalities are the result of smoke inhalation. If fire and/or smoke are present, evaluate patients for signs and symptoms of smoke inhalation.

These are indicators that an inhalation burn is present:

- Sudden loss of consciousness
- Evidence of respiratory distress or upper airway occlusion/closure/obstruction
- Soot around the mouth or nose.,
- Singed facial hair.,
- Burns around the face or neck

The patient may not present some of these signs and symptoms until hours (sometimes up to 24 hours) after the injury occurred.
Smoke inhalation is the number one fire-related cause of death. For smoke inhalation, ensure the airway is maintained, and transport to a medical facility as soon as possible.

Chemical Burns

Unlike more traditional burns, chemical burns do not result from extreme heat, and therefore treatment differs greatly.

Chemical burns are not always obvious. You should consider chemical burns as a possibility if the patient's skin is burning and there is no sign of a fire. If chemical burns are suspected:

- Situational awareness / scene size-up considerations necessary - Protect yourself from contact with the substance. Use your protective gear — especially goggles, mask, and gloves.
- Ensure that affected clothing or jewelry on patient is removed. Document what was removed, when, and to whom it was given. Bag & Tag Clothing.
- If the chemical irritant is a dry substance, gently brush away as much as possible. Always brush away from the eyes and away from the patient and you.
- Use lots of cool running water to flush the chemical from the skin for 15 minutes.
- Apply cool, wet compress to relieve pain.
- Cover the wound very loosely with a dry, sterile or clean cloth so that the cloth will not stick to the wound.
- Evaluate and treat for shock if appropriate.

When treating a burn patient, DO:

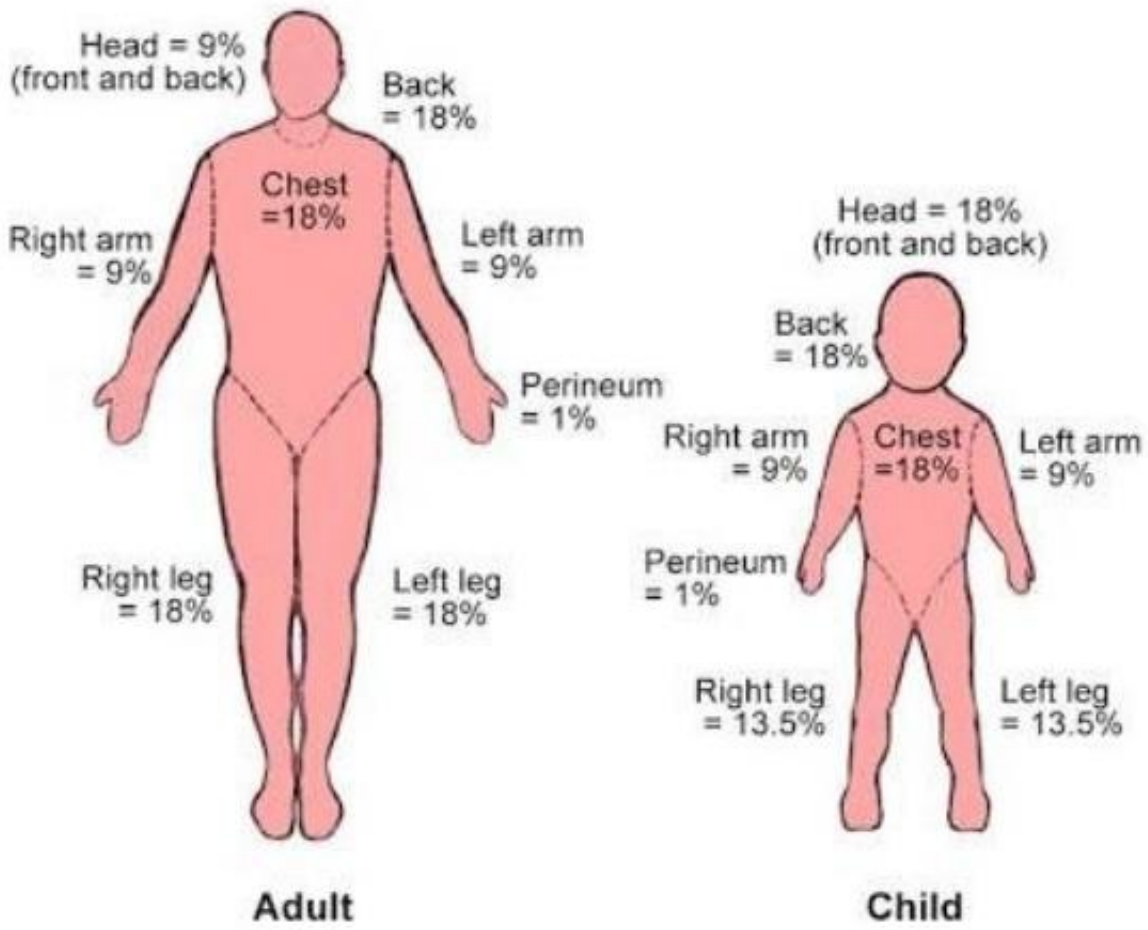
- Cool skin or clothing if they are still hot.
- Cover loosely with dry/sterile dressings- keep air out, reduce pain, prevent infection.
- Elevate burned extremities higher than the heart (*if appropriate*).

A rule of thumb is do not cool more than 15% of the body surface area (the size of one arm) at once, to prevent hypothermia.

When treating a burn patient, DO NOT:

- Use ice. Ice causes vessel constriction.
- Apply antiseptics, ointments, or other remedies.
- Remove shreds of tissue, break blisters, or remove adhered particles of clothing. (Do not cut burned-in clothing around the burn.)

Infants, young children, older persons, and persons with severe burns are more susceptible to hypothermia. Therefore, rescuers should use caution when applying cool dressings on such persons.


Head = 9%
(front and back)
Back
= 18%
Chest
=18%
Right arm
= 9%
Left arm
= 9%
Perineum
= 1%
Right leg
= 18%
Left leg
= 18%
Adult
Head = 18%
(front and back)
Back
= 18%
Right arm
= 9%
Chest
=18%
Left arm
= 9%
Perineum
= 1%
Right leg
= 13.5%
Left leg
= 13.5%
Child

HEAT-RELATED INJURIES

There are four types of heat-related injuries that you may encounter in a disaster:

- Heat cramps are muscle spasms brought on by over-exertion in extreme heat.
- Heat Stress can be due to dehydration, increased activity and warm or hot weather. It is important to emphasize this and NOT panic, do NOT call this heat stroke or dehydration, as it tends to make non-medical people panic.
- Heat exhaustion occurs when an individual exercises or works in extreme heat, resulting in loss of body fluids through heavy sweating. Blood flow to the skin increases, causing blood flow to decrease to the vital organs. This results in a mild form of shock.
- Heat stroke is life-threatening. The patient's temperature control system shuts down. Body temperature can rise so high that brain damage and death may result.

Heat Cramps

Heat cramps are non-life-threatening; however, when left untreated could worsen. Signs/symptoms of heat cramps include cramps in the legs, calf and abdomen and/or muscle spasms in the abdomen (pain can be severe).

Treatment for heat cramps includes having the patient rest, lie flat, and/or elevate legs (general comfort), hydrate, and attempting to straighten cramped limb(s) gently on their own. DO NOT massage as this may make the cramps worse.

Heat Stress

Is difficult to discern; however, if patient is experiencing unexplained tunnel vision, vertigo, nausea, sweating, weakness, or sudden fainting the patient may suffering heat stress which can worsen leading to heat exhaustion if not treated.

Treatment of heat stress includes having the patient lie down while elevate legs and hydrate.

Heat Exhaustion

A patient suffering heat exhaustion will have a near normal body temperature. If left untreated, heat exhaustion may develop into heat stroke.
The symptoms of heat exhaustion are:

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

Treatment of Heat Exhaustion:

- Rest,
- Avoiding further heat stress,
- Hydration and
- Gentle stretching.

Heat Stroke

In a heat stroke patient, body temperature can be very high. If a patient with heat stroke is not treated, death can result.
The symptoms below are common in Heat stroke:

- Hot, red skin
- Lack of perspiration
- Changes in Mental Status, disorientated, irritable and combative,
- Rapid, weak pulse and rapid
- Shallow breathing

Treatment of a patient in Heat Stroke includes:

- Take the patient out of the heat and place in a cool environment.
- Aggressively cool the body with cool, wet towels or wet sheets. If possible, put the patient in a cool bath.
- Ensure airway does not become obstructed
- If the patient is conscious and alert, have the patient drink water, SLOWLY, at the rate of approximately half a glass of water every 15 minutes. Consuming too much water too quickly will cause nausea and vomiting in a patient with heat stroke.
- DO NOT administer food or drink if the patient is experiencing vomiting, cramping, or is losing consciousness. Continue checking LOR (level of responsiveness) until advanced medical help is available.

COLD-RELATED INJURIES

Cold-related injuries include:

- Hypothermia: occurs when the body's temperature drops below normal; where normal brain and/or muscle function is impaired.
- Frostbite: occurs if cold shuts down blood flow to extremities, causing tissue death
- Non-freezing cold injuries where tissue is injured, but not frozen

Hypothermia

Hypothermia may be caused by exposure to cold air or water or by inadequate food combined with inadequate clothing and/or heat, especially in older people.

The primary signs and symptoms of hypothermia are:

- Cold, mottled skin tone
- Body temperature of 95 degrees or lower
- Redness or blueness of the skin
- Numbness accompanied by shivering

In later stages, hypothermia will be accompanied by:

- Slurred speech
- Unpredictable behavior
- Listlessness
- Disorientated, combative and irritable.

TREATMENT OF Hypothermia

Because hypothermia can set in within only a few minutes, you should treat all patients who have been rescued from cold air or water environments for hypothermia, Triage as Immediate/RED.

- Remove wet clothing.
- Handle the patient gently as rough handling can cause cardiac problems
- Wrap the patient in a blanket or sleeping bag (burrito wrap) and cover the head and neck.
- Protect the patient against the weather.
- Provide warm, sweet drinks and food to conscious patients. Do not provide alcohol, alcoholic beverages, caffeinated coffee, or teas.
- DO NOT attempt to use massage to warm affected body parts.
- Place an unconscious patient in the recovery position
- If the patient is conscious, place him / her in a warm bath or burrito wrap.

- Do not allow the patient to walk around even when he or she appears to be fully recovered. If the patient must be moved outdoors, cover the patient's head and face.

Frostbite

Blood vessels constrict in cold weather in an effort to preserve body heat. In extreme cold, the body will further constrict blood vessels in the extremities in an effort to shunt blood toward the core organs (brain, heart, lungs, intestines, etc.). The combination of inadequate circulation and extreme cold will cause tissue in the extremities to freeze, and in some cases, tissue death will result. Frostbite is most common in hands, nose, ears, and feet.

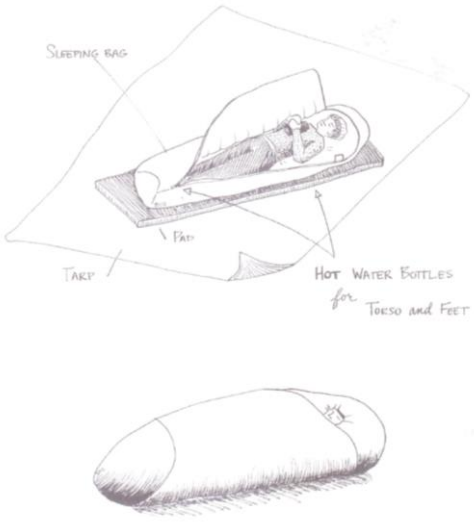
There are several key signs and symptoms of frostbite:

- Skin discoloration (red, white, purple, black)
- Burning or tingling sensation, at times not localized to the injury site
- Partial or complete numbness

A patient suffering from frostbite must be warmed slowly! Thawing the frozen extremity too rapidly can cause chilled blood to flow to the heart, shocking and potentially stopping it.

Immerse injured area in warm (NOT hot) water,

- DO NOT allow the body part to re-freeze as this will exacerbate the injury.
- DO NOT attempt to use massage to warm body parts.
- For the muscle cramping, encourage gentle stretching of the affected body part.



NON-FREEZING COLD INJURIES

Non-freezing Cold Injury:

- A non-freezing cold injury results from exposure to continued cold, wet conditions for an extended period of time.
- It commonly affects toes and fingers.
- The tissue is cold, but NOT frozen.
- Cold and wet conditions, even the dampness from socks can worsen the injury.
- The ensuing injury may range from a few weeks of sore feet to permanent muscle and nerve damage. Some pain may last for months or longer.

Signs and Symptoms:

- The skin is cold, swollen, shiny and/or mottled.
- Tingling, numbness or pain may be present.
- Capillary refill time is slow.
- After warming, skin may be warm, red, swollen, numb and/or painful.
- After warming, itch and pain are the most prominent symptoms.
- In severe cases, blisters, ulcers and gangrene may develop.
- The appearance is similar to MILD frostbite injury.

Treatment:

- Warm the affected area slowly at room temperature, **DO NOT RUB**.
- Air dry and elevate.
- Consider pain medication, OTC medication like Ibuprofen or acetaminophen.
    a. Allow patient only to administer medications to themselves.
- Avoid constriction and further injury.
- Healing takes weeks and pain and temperature sensitivity may last years.

NASAL INJURIES

Bleeding from the nose can have several causes such as:

- Blunt force to the nose
- Skull fracture
- Non-trauma-related conditions: e.g. sinus infections, high blood pressure, and bleeding disorders

Extensive blood loss from a nosebleed can lead to shock. Actual blood loss may not be evident because the patient will swallow some amount of blood. Those who have swallowed some and/or large amounts of blood may become nauseated and vomit.

These are methods for controlling nasal bleeding:

- Have the patient sit with the head slightly forward so that blood trickling down the throat will not be breathed into the lungs.
- **DO NOT** tilt or have them put their head back.
- Pinch the nostrils together and apply steady pressure with gauze pads on both sides of nostrils for 10 minutes. Time it!!
- Place ice/cold cloth on back of neck, forehead, and bridge of nose.

If bleeding continues after the patient has held it for 10 minutes and a CERT volunteer holds it an additional 10 minutes, the patient's status shall escalate to Immediate/RED. Ensure that the patient's airway remains open. Keep the patient calm. Anxiety can and will increase blood flow.

DENTAL INJURIES

Teeth can be dislodged accidentally playing sports, vehicle accidents and the like. Fast action is required to save the tooth. Contact a dentist right away. Tips for patient support:

- Hold the tooth by the crown only
- Rinse the tooth with water
- The patient should rinse their mouth with water
- If possible, patient should store the tooth in a bag of their own saliva, or milk
- Patient may appreciate cold ice pack for face

Remember all dental accidents require a dental visit as soon as possible.

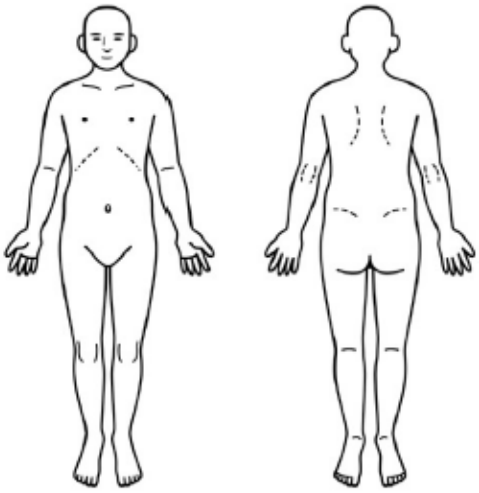
SPLINTERS

Clean skin with water. For multiple small splinters; clean, - dry and cover. Do not attempt to remove. Clean, cover. Large splinters are to be treated as impaled objects and the procedure *above* is to be followed.

PATIENT EXAM CARD

Name/ID_____

Date		Time	
Age		Sex M F	
Permission to treat: Y N			Respiration
Oriented Disoriented Unconscious			-30 +30
Can Do Can't Do		Cap Refill -2 +2	
Time	Pulse	Cap Refill	Respiration
Chief Complaint			
Cause			
Notes			
Examiner _____			



DECEASED (BLACK)

IMMEDIATE (RED)

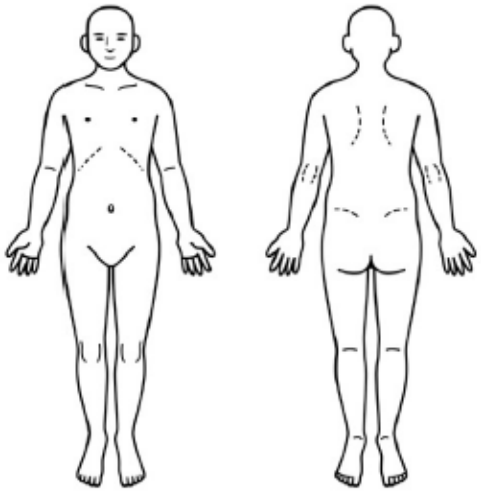
DELAYED (YELLOW)

MINOR (GREEN) ACERT-EXAM 2017-10-18

PATIENT EXAM CARD

Name/ID_____

Date		Time	
Age		Sex M F	
Permission to treat: Y N			Respiration
Oriented Disoriented Unconscious			-30 +30
Can Do Can't Do		Cap Refill -2 +2	
Time	Pulse	Cap Refill	Respiration
Chief Complaint			
Cause			
Notes			
Examiner _____			



DECEASED (BLACK)

IMMEDIATE (RED)

DELAYED (YELLOW)

MINOR (GREEN) ACERT-EXAM 2017-10-18

PATIENT STATION LOG				BASE					DATE TIME	
LOCATION										
TIME IN	NAME	AGE	SEX	IMMEDIATE	DELAY	MINOR	DEAD	CONDITION - TREATMENT - NOTE (DETAILS ON PATIENT INFORMATION SHEET)	MOVED TO	TIME OUT
			M F	R	Y	G	Bk			
			M F	R	Y	G	Bk			
			M F	R	Y	G	Bk			
			M F	R	Y	G	Bk			
			M F	R	Y	G	Bk			
			M F	R	Y	G	Bk			
			M F	R	Y	G	Bk			
			M F	R	Y	G	Bk			

Prepared by _____

Page _____

Ashland CERT Patient Station Log 7/24/12