

**WALNUT CREEK, CA COMMUNITY EMERGENCY
RESPONSE TEAMS (CERT)**



CERT DISASTER MEDICAL OPERATIONS

**GUIDELINES & TREATMENT PROTOCOL
TRAINING MANUAL**

October, 2013

Walnut Creek Community Emergency Response Teams (CERT) Disaster Medical Operations Guidelines & Treatment Protocol Training Manual

CERT Disaster Medical Operations (CERT MED OPS) Mission Statement

Mission: To provide the greatest good for the greatest number of people. Following a major disaster, CERT volunteers will be called upon to Triage and provide basic first aid care to members of the community that sustain injury of all types and levels of severity.

Policy: CERT Medical Operations will function and provide care consistent with national CERT Training guidelines. The CERT Volunteers will function within these guidelines.

Structure: CERT Medical Operations (CERT MED OPS) reports to Operations Section.

CERT MED OPS Volunteer Requirements

CERT MED OPS volunteers will Triage and assess each victim, as needed, according to the RPM & Simple Triage and Rapid Treatment (START) techniques that they learned during CERT training. They will treat airway obstruction, bleeding, and shock by using START techniques. They will treat the victims according to the CERT training guidelines and CERT skills limitations.

CERT MED OPS volunteers will also evaluate each victim by conducting a Head-To-Toe Assessment, and perform basic first aid in a safe and sanitary manner.

CERT MED OPS volunteers will ensure that victim care is documented so information can be communicated to advanced medical care when and as it becomes available.

CERT MED OPS volunteers understand that **CPR is not initiated in Disaster Medical Operations** e.g., mass casualty disaster situations. The utmost of care and compassion will be undertaken with family members to assist them with their grieving process. The focus must be on the living and giving those requiring immediate treatment the greatest chance for survival.

CERT MED OPS volunteers will maintain their basic level of education with regard to first aid and medical operations and will seek out CERT-approved Continuing Education to improve their level of knowledge and standard of care - within the scope of CERT training. As Disaster Service Workers, CERT Volunteers will re-certify according to the program.

CERT MED OPS volunteers will support safe public health practices and will notify the Med Ops Group Supervisor if any public health issues (i.e. communicable diseases or other reportable events) arise.

Introduction:

Welcome to CERT's Medical Operations. As you begin your work as a Disaster Medical Operations (DMO) volunteer, you will find that your responsibilities include administration, public health, Triage, Head-to-Toe Assessment, treatment, transport, and morgue.

Job Descriptions: All CERT Volunteers need to be sworn in as Disaster Service Workers. If that has not occurred, contact the Area Coordinator, Incident Commander, or Operations Chief. There are various roles and responsibilities attached to Med Ops. The following job descriptions are designed to identify and categorize the nature of each.

CERT MED OPS Supervisors (or designee) will be provided with FRS Radio communications on the following Channels to be designated by Communications Section: At time of need, use space below to fill in designated channels.

Heather Farm – Channel____

Buena Vista – Channel____

Civic Park – Channel____

La Rieu – Channel____

Rossmoor – Channel____

Sugarloaf – Channel____

Northgate – Channel____

Tice Valley – Channel____

Medical Operations Group Supervisor

The Medical Operations (Med Ops) Group Supervisor is responsible for the overall management and condition of the DMO area. Tasks include but are not limited to:

1. Management of treatment areas (Immediate, Delayed, Minor) and Morgue
2. Maintaining inventory of supplies (replacing as needed/available through Logistics)
3. Maintaining public health practices, sanitation and cleanliness
4. Orientation of incoming DMO volunteer staff
5. Interfacing with Incident Command, First Responders & Medical Professionals
6. Maintenance of DMO Documentation
7. Interacting with family members of victims

The Med Ops Group Supervisor will delegate any of the above functions as needed. The Med Ops Group Supervisor reports directly to the Operations Chief. If a Med Ops Group Supervisor has not been designated prior to an event or is not available, the Operations Chief will designate one.

Treatment Area Leads:

Leads will be assigned by the Med Ops Group Supervisor, if prior designation has not been determined. Leads are responsible for treatment areas and will direct volunteers in the management of victims. Treatment Area Leads report directly to the Med Ops Group Supervisor and are assigned to one of the following areas:

- **Immediate Treatment**
- **Delayed Treatment**
- **Minor Treatment**
- **Morgue**

CERT Medical Operations Volunteer:

CERT Med Ops Volunteers will follow the techniques taught in CERT training and those described in CERT protocols below. Volunteers will work in pairs, if possible; one working on the victim and the other documenting actions taken. Volunteers will first Triage the victim, conduct a Head-to-Toe Assessment, provide appropriate treatment, document findings and actions taken on the victim, and communicate with the Lead and Med Ops Group Supervisor for further direction. Volunteers will attempt to calm friends and/or relatives bringing victims, if necessary. Additional assistance may be requested, as needed, through the Med Ops Supervisor. Should any disagreement or conflict arise between any of the Med Ops volunteers, the chain of command will be followed up through the MED OPS Supervisor, OPS Chief, Incident Commander to evaluate and mediate.

CERT Med Ops Volunteers may not dispense medication but may assist victim self administer victim’s medication previously prescribed by a Healthcare Provider.

Scribe: Scribes may assist volunteers in Med Ops by documenting initial Intake, Triage status, Head-to-Toe Assessments of victims and each treatment areas, and morgue. If the Med Ops area is short on volunteers, “non-medical’ scribes may be requested

Volunteer Orientation

Each Med Ops volunteer **must be sworn in as a Disaster Service Worker** by an authorized Walnut Creek Representative prior to volunteering in CERT Med Ops in order to conduct Triage, Head-to-Toe Assessment or victim treatment.

Med_Ops volunteer orientation will be provided to include the set up/location of:

- **Treatment areas and morgue**
- **Flow of victims: Intake, Triage, Head-to-Toe Assessment, Treatment**
- **Familiarization of documentation forms and supplies**
- **Basic operating procedures and identification of assigned volunteers**
- **Processing of victims to higher level of medical care**

All new volunteers need to understand CERT limitations of care & protocols before assignment in MED OPS. Volunteers will be assigned tasks based on their skill level and willingness to participate.

This document provides MED OPS Guidelines & Treatment Protocols and provides CERT MED OPS Volunteer Training beyond Basic CERT Training.

Victim Documentation Forms

The CERT MED OPS Volunteers documents – to the best of their ability - any information about special victim medical needs or problems, including allergies to medications or specific foods, existing medical conditions and medication information as it becomes available. It is vital that all CERT MED OPS volunteers be made aware of victims with special needs or concerns. Document information for continuity of care in order to provide First Responders with current victim status.

Each victim will be given an arm band which will identify them with the level of care required (**'I' Immediate**, **'D' Delayed**, **'M' Minor**, **'D' Dead to Morgue**), and other identifying information such as name, DOB, allergies, special needs/concerns.

All information gathered during the care and treatment of any victim will remain confidential and will not be shared outside of Medical Operations. Med Ops Group Supervisor decides any information that is necessary to share in the best interest of the victim's survival.

Med Ops Documentation:

CERT MED OPS is responsible for accurately documenting the victim's status/care. Initial documentation and victim tracking is done on the **Intake Form**. **Triage Tags** will be kept.

On Intake to Med Ops, each victim will be Triageed and a Head-to-Toe Assessment conducted. Findings are documented on the **Treatment form**. This form will remain with victim until transferred out of the Med Ops area to another facility. Form is on NCR paper (non-carbon). The top copy will travel with victim. One copy will remain in the Med Ops for documentation of care (for authorized representative of the City of Walnut Creek when the disaster and subsequent care have been resolved).

Ongoing treatment will be recorded on the **Treatment form**. If more than 1 sheet is needed, pages will be sequentially numbered in the space provided. Every assessment and treatment of the victim is documented with date, time, problem, and treatment given. The volunteer providing treatment will initial ALL entries.

If victim self-administers medication, or if they state they self-administered medication, document what they state the medication is or state if the medication is unknown.

Any injury to a CERT MED OPS volunteer must be reported to the Lead who will report to the Medical Operations Supervisor and up the CERT chain of command as necessary.

PUBLIC HEALTH CONSIDERATIONS

Medical Operations procedures will follow the CERT Participant Manual Training regarding the control of blood-borne pathogens and the protection of disaster service workers. This includes the wearing of Personal Protective Equipment (PPE) such as gloves, masks,

goggles or gowns, as appropriate when there is the reasonable likelihood of coming in contact with any blood, body fluids, or potentially infectious victim. CERT Med Ops need to know particular health risks concerning exposure to bodily fluids such as blood, vomit, urine, feces. "If it is wet and not yours - Don't Touch It!"

When disaster victims are sheltered together, public health issues may be a concern. **Recommended Public Health measures** include, but are not limited to the following:

1. All Volunteers **MUST** wash hands or use hand sanitizer between victim encounters
2. Maintain separate waste containers for trash, bio-hazardous waste, sharps, and human waste
3. Set up a separate isolated treatment area for victims that are potentially infectious as directed by the Leads and/or Med Ops Group Supervisor
4. Help to prevent the spread of disease causing pathogens by:
5. Ensure personal public health precautions
 - Maintaining proper hygiene – wearing non-latex gloves for all victim contact
 - Maintaining proper sanitation
 - Preparing a basic bleach solution for sanitation
 - Purifying water (if necessary)
 - Use health promotion precautions, such as hand-washing and not sharing personal items, to prevent disease transmission.
6. All body fluids - vomit, urine, feces, and blood - are potentially infectious: **WEAR GLOVES. Goggles and masks** may be necessary if bodily fluid can be reasonably expected to splatter for any reason (movement, coughing, etc.)
7. **Wash hands with soap and water (or disinfectant)** before and after you have any contact with body secretions from anyone, even though you wear gloves.

CERT Med Ops may need to know particular victim health information. All information is considered confidential. Procedure for distributing this information will be agreed upon by the Med Ops Group Supervisor, Operations Chief and Incident Commander as necessary.

All self-administered medications, syringes (if victim carries them e.g., diabetic), and all medical/health care devices and equipment will be kept with the victim in Med Ops Treatment Area until victim is discharged.

Med Ops will coordinate transportation of victims (either to other facilities or, within Med Ops – green to yellow). All victims leaving Med Ops must be signed out by a CERT MED OPS Volunteer. All transfers between Minor, Delayed, Immediate and Morgue must be documented and time noted/initialed. Each discharge/transfer of a victim out of Med Ops is documented.

Personal Protective Equipment (PPE)

CERT volunteers must use some or all PPE: non-latex exam gloves, goggles, and an N95 mask, during all victim contact when the likelihood of coming in contact with blood or bodily fluids is present. If CERT volunteer has open wounds, cover all open wounds.

Guidelines for Victim Care:

All Med Ops intake must be documented in the Intake binder. The victims will be assessed (or re-assessed) once they have been admitted to Medical Triage.

Whenever a victim is in the Med Ops Intake or Treatment area, there must be a CERT MED OPS volunteer in the area at all times.

If a victim is deemed to be potentially contagious, every effort will be made to separate him/her from the “well, but injured” treatment groups. Anyone with a suspected communicable condition should likewise be separated.

Visiting: While visiting the sick and injured is an important value, the circumstances of an emergency can require limitations. CERT MED OPS Volunteers need to exercise care in determining who may be visited, by whom, and when. Common sense prescribes that victims with infectious illnesses should have limited visitation, as should those needing rest. If victims request spiritual support, contact Logistics to see who is available. If security issues arise, contact Logistics immediately and remain with victim.

REGARDING MEDICATION ADMINISTRATION

CERT MED OPS Volunteers do not administer victim medications. Victim medications contained in properly labeled container can be kept by the victim. **Victims may self-administer their own prescriptions and medications.**

If a life-threatening condition, such as severe allergic reaction (Anaphylaxis), **CERT MED OPS Volunteer may ASSIST Victims in the SELF-ADMINISTRATION of an Epi-pen.**

Maintaining Hygiene

Maintenance of proper personal hygiene is critical even in disaster-response conditions. Some steps **that individuals should take to maintain hygiene** are to: **Wash hands frequently** using soap and water or hand sanitizer. Hand washing should be thorough (at least 15 to 20 seconds of vigorous rubbing on all surfaces of the hand). Alcohol-based hand sanitizers — which don't require water — are a good alternative to hand washing. The Centers for Disease Control (CDC) recommends products that are at least 60% alcohol. To use an alcohol-based hand sanitizer, apply about ½ teaspoon of the product to the palm of your hand. Rub your hands together, covering all surfaces, until hands are dry.

Wear appropriate Personal Protective Equipment (PPE) if volunteer is at risk of contact with blood/bodily fluids, use N95 Mask, goggles, gown as appropriate.

Use Non-latex exam gloves. Change or disinfect gloves after examining and/or treating each victim. If gloves are in short supply, volunteers can use rubber gloves that are sterilized between treating victims using bleach/ water (1 part bleach to 10 parts water).

Keep dressings sterile (if possible). Do not remove the over wrap from dressing's package until use. After opening, use the entire package of dressing, if possible. Thoroughly wash areas of the Med Ops section or personnel that come in contact with body fluids with soap and water or diluted bleach as soon as possible. ALL Spills must be reported to the Treatment Area Lead.

Maintaining Sanitation: Biohazard Waste and Sharps Disposal

CERT Medical Operations volunteers can maintain and/or improve sanitary conditions by:

1. Controlling the disposal of bacterial sources (e.g., soiled exam gloves, dressings.)
2. Putting waste products in plastic bags, tying off the bags, and marking them as medical waste.
3. Keep BioHazardous waste separate from other trash; dispose of it as Bio Hazardous waste.

All trash that has come in contact with bodily fluids is potentially infectious material and must be discarded in an appropriately marked bag. This bag can be RED or must have an



emblem on it that signifies that it contains Bio-Hazardous material.

Burying BioHazardous human waste: Select a burial site away from the Command Post Operations area and mark the burial site for later cleanup.

SHARPS DISPOSAL

Dispose of all items considered to be “sharps” in approved SHARPS CONTAINER.

Contact Logistics for SHARPS Container if needed.

Improper management of discarded needles and other sharps can pose a health risk to the public and CERT volunteers. For example, discarded needles may expose victims and volunteers to potential needle stick injuries/potential infection when containers break open inside garbage bags. PPE such as gloves will NOT PROTECT from a needle stick.

Sharps are devices or objects with corners, edges, or projections capable of cutting or piercing skin or regular waste bags. Ensure appropriate disposal of sharps to protect waste handlers from physical injury and/or risk of contamination. **Examples of sharps include:**

- Hypodermic needles, syringes, tubing
- Blades (scissors, razors)
- Broken glass , sharp metal objects

WATER TREATMENT

CERT Volunteers should not put any substance on wounds other than purified water.

Potable water is often in short supply or are not available in a disaster. Water can be treated for drinking, cooking, and CERT Medical Ops use by heating it to a rolling boil for 1 minute or by using water purification tablets or non-perfumed liquid bleach. In emergency, boil water for 1 minute. When boiling is not possible, filter water to let suspended particles settle out. Pour off the clear water and add Liquid Chlorine Bleach (LCB) as follows:

The bleach to water ratio is:

- **1 teaspoon LB per 5 gallons water**
- **16 drops LB per 1 gallon water**
- **4 drops LB per 1 quart water**

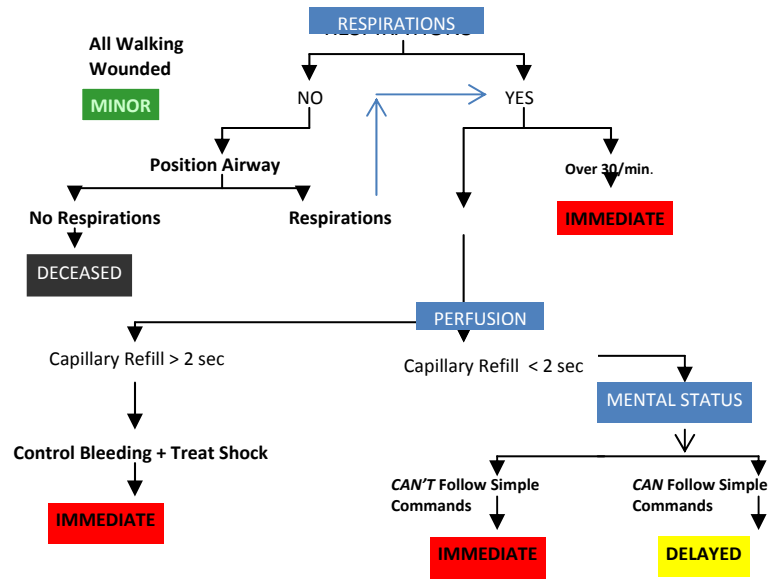
Wait 30 minutes. The water should have a slight chlorine odor. If not, repeat treatment and wait 15 minutes, then sniff again. Use only unscented Liquid Bleach, not scented bleach.

INTAKE & TRIAGE PROCEDURE FOR DISASTER MEDICAL OPERATIONS

On initial intake, the following are CERT Med OPS steps that you will take with a victim to be able to conduct Triage and rapid treatment.

1. Victims need to be sorted according to the severity of their condition, by Triage. The process of Triage is diagramed in the **START Flow Chart** on the next page.
2. TRIAGE * means to Sort Victims : **Immediate (I)**, **Delayed (D)**, **Minor (M)**, **Dead (D)**.
3. **Immediate (I)** Victim Emergencies include, but are not limited to:
 - Obstructed Airway, Loss of Breathing,
 - Profuse bleeding, Loss of Pulse, Shock
 - Acute Allergic Reaction, Anaphylaxis
 - Limb Amputation
 - Head Injury with altered Mental Status

START TRIAGE FLOWCHART: Check Respiration, Perfusion, Mental Status - RPM



- **S.T.A.R.T.** is the acronym for: **Simple Triage And Rapid Treatment**
- **STart = Simple Triage:** Categorize victims according to status of RPM's:
 - R = RESPIRATION,
 - P = PERFUSION,
 - M = MENTAL STATUS.
- **stART = And Rapid Treatment**
 - Victims Treatment is Prioritized according to RPM findings:
- **TRIAGE PROCESS CHECK R P M's:**
 - Respirations - Airway & Breathing
 - Perfusion - Circulation & Bleeding
 - Mental Status – can/cannot follow simple commands
- **REMEMBER: “30, 2, CAN DO”**

TRIAGE CATEGORIES

Victims' are triaged, and prioritized into the following four TRIAGE categories: Triage Tag from the 'field' accompany incoming victims based on priority of treatment (R, Y, G, B).

1. **Immediate (I)**: Victim has life-threatening injuries (airway, bleeding, shock) that demand immediate attention to save her/his life; rapid, lifesaving treatment is urgent. **Mark as Red or "I"**
2. **Delayed (D)**: Injuries do not jeopardize victim's life. Victim may require professional care, but treatment can be delayed. **Mark as Yellow or "D"**.
3. **Minor (M)**: Walking wounded, generally able to walk. **Mark as Green or "M"**.
4. **Dead (DEAD)**: No respirations after two attempts to open airway. CPR is not performed. **Mark as Black or "DEAD"**.

Conducting Head-to-Toe Assessments

After each victim has been Triaged (and moved to a treatment area designated and marked **Red**, **Yellow**, **Green** and **Black** Triage status), CERT Med Ops volunteers will **conduct a thorough Head-to-Toe- Assessment** of each victim:

Keep an eye out for "the killers":

- **Airway obstruction**
- **Excessive bleeding**
- **Signs of shock**

The entire Head-to-Toe-Assessment can be performed before initiating treatment. During the Assessment, look for **Deformities, Contusions/Bruising, Abrasions, Punctures, Burns, Tenderness, Lacerations, Swelling**.

(The Acronym for this assessment process is **DCAP-BTLS**). Document what you find.

- ✓ **D - Deformities**
- ✓ **C - Contusions (bruising)**
- ✓ **A - Abrasions**
- ✓ **P - Punctures**
- ✓ **B - Burns**
- ✓ **T - Tenderness**
- ✓ **L - Lacerations**
- ✓ **S - Swelling**

HOW TO CONDUCT A HEAD-TO-TOE ASSESSMENT

Whenever possible, ask the person about any injuries, pain, bleeding, or other symptoms. If the victim is conscious, the CERT volunteer should always ask permission to conduct the assessment. The victim has the right to refuse treatment. Talking with the conscious Victim and explaining why you are doing an Assessment reduces anxiety.

Head-To-Toe Assessments are conducted to determine the injury extent/type & should be:

1. **Conducted on all victims**, Red first, Yellow next, then Green, even those who seem all right
2. **Verbally** (if the patient is able to hear & speak). Explain who you are/what to expect.
3. **Hands-on**. Do not be afraid to remove clothing to look – however, please maintain victim's privacy as able. If clothing must be removed, you must have a second CERT volunteer with you for documentation and safety.
4. **Documented** – Please document all ABNORMAL findings, injuries and anomalies
5. **Systematically**; doing so will make the procedure quicker and more accurate with each assessment. Remember to:
 - Pay careful attention looking, feeling, touching for any unusual findings
 - Suspect a head and/or spinal injury in all unconscious victims and treat accordingly
 - Check your own hands for victim's bleeding as you perform the Head-To-Toe Assessment

ORDER OF ASSESSMENT:

Check body parts from the top to the bottom for continuity of bones and soft tissue injuries (remembering to document all Deformities, Contusions, Abrasions, Punctures, Burns, Tenderness, Lacerations, Swelling (e.g. DCAP - BTLs findings) in the following order:

- ✓ Head
- ✓ Neck
- ✓ Shoulders
- ✓ Chest
- ✓ Abdomen
- ✓ Pelvis
- ✓ Legs
- ✓ Arms
- ✓ Back of Head, Back, Back of Extremities

Check for & document absence/ presence of:

- ✓ **PMS (Pulse, Movement, Sensation) in all extremities**
- ✓ **Medical ID emblems on bracelet or on neck chain**

During the initial Head-to-Toe Assessment, or on follow-up assessments, the victim's status may change. The wristband can be changed and if Med Ops is using a White Board or T-Card Board to track & document numbers of RED, Yellow, Green, black victims, be sure to update all tracking formats. If victim status changes, Inform Treatment Lead for each category involved.

CERT MED OPS TREATMENT PROTOCOLS

The following conditions are described with typical signs & symptoms.
CERT Med Ops Treatment Protocols are also listed for reference.

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

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 immediately.
- ✓ Pale, grey skin, especially inside the lips. Check the color or absence of color of the gums in the mouth.
- ✓ sweating and cold, clammy skin (sweat does not evaporate).
- ✓ Failure to follow simple commands, such as “Squeeze my hand”

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

TREATMENT FOR SHOCK

1. DO NOT let the victim eat, drink, or smoke or move around unnecessarily,
2. DO NOT leave the victim unattended. Reassure the victim constantly.
3. Treat any cause of shock which can be remedied (such as external bleeding with direct pressure on the wound and Dressing to apply pressure).
4. Lay the victim down, keeping the head low. Position in recovery position.
5. Raise and support the victim's legs (be careful if suspecting a fracture).
6. Loosen tight clothing, braces, straps or belts, in order to reduce constriction at the neck, chest and waist.
7. Insulate the victim from cold, both above and below.

Victims of Shock should be **Triaged as "I (Immediate)"** and prioritized for transport to medical facility with higher level of intervention available.
Inform the Med Ops Supervisor of **Red Victims** and their current status.
Check and record Respirations per minute (breathing), Perfusion, and Mental Status.

HEAD INJURY

Evaluate Mental Status: (ability to follow simple commands, level of orientation), ability to speak, move, and identify sensation during initial Triage.

If head injury is suspected, document findings and monitor Mental Status frequently, even if mental status improves. A decline in mental status, such as vomiting, change in level of consciousness or inability to follow simple commands, warrants transport to medical facility with higher level of intervention available, if possible. Inform the Med Ops Supervisor of **Red Victims with suspected head injury** - to report Red Victim(s) to Incident Command.

Closed-Head, Neck, and Spinal Injuries

When conducting victim Triage and Head-to-Toe Assessment, CERT Volunteers may come across victims 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 can be an indication that the victim 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.**

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 victim's head, neck, spine such as a door, desktop, building materials — anything that available to stabilize victim. Items can be used to stabilize the head on the board — towels, draperies, or clothing — by tucking them snugly on either side of the head to immobilize it.

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

Respiratory Conditions

Blocked or Occluded Airway: With victim lying on back, attempt to open airway with:

- Head-Tilt, Chin Lift **Victim is Immediate (I).**

Shock due to ANAPHYLAXIS: Anaphylaxis occurs when an allergic reaction becomes so severe that the airway is compromised. Use victim's own epinephrine (Epi -Pen); CERT Volunteer may assist victim with self administration of inhalers or Epi pens, as needed. If **Epi Pen is administered, arrange for immediate transport** to higher level of care.

Respiratory Distress: Life-threatening emergency. Do NOT lay victim down flat. Attempt to calm the victim, monitor for hyperventilation. **Victim is Immediate (I).**

Wound Care

The main treatment for wounds includes:

- ✓ Control bleeding
- ✓ Clean the wound
- ✓ Apply dressing and bandage

Cleaning and Bandaging Wounds

Wounds should be cleaned by irrigating with clean, purified, room temperature water ONLY. CERT volunteers will NOT use any substance but purified water to irrigate the wound. Do not scrub the wound. When the wound is thoroughly cleaned, apply a dressing and bandage to help keep it clean and control bleeding.

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.

Dressing A WOUND

Follow these procedures to dress a wound:

If there is active bleeding (i.e., if the dressing is soaked with blood), redress over the existing dressing and maintain direct pressure and elevation to control bleeding. If bleeding persists, check for Shock.

In the absence of active bleeding, remove the dressings, flush the wound, and then check for signs of infection at least every 12 to 24 hours.

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 possible signs of infection are noted, change victim status to Red**, and treatment/transport priority (e.g., from Delayed (D) **to Immediate (I)**).

Amputations

Treatments for an amputation (the traumatic severing of a limb or other body part) are to:

- ✓ Control bleeding IMMEDIATELY with Pressure over major artery between the amputation and the Heart
- ✓ Treat for Shock, Life Threatening Emergency
- ✓ **Victim Triage status is Red, Immediate (I)**,
- ✓ Requires Immediate Transport to Trauma Care Level Medical Facility

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

- Save tissue parts, wrapped in clean material and placed in a plastic bag, if available. Label them with the date, time, and victim's name.
- Keep the tissue parts cool, but NOT in direct contact with ice
- Keep the severed part with the victim

Lacerations

Minor

To clean a lacerated wound, irrigate with sterile or purified water only, using sterile gauze. Lacerations that need cleaning may be irrigated. Steri-strip (or similar) application will help keep wound edges closed.

Impaled Objects

CERT Volunteers may encounter victims who have foreign objects lodged in their bodies — usually as the result of flying debris during the disaster. (Such as glass, etc.)

FOREIGN OBJECT

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

- ✓ Immobilize the affected body part
- ✓ 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
- ✓ Clean and dress the wound making sure to stabilize the impaled object.
- ✓ Wrap bulky dressings around the object to keep it from moving.

SPLINTERS

Clean skin with purified or sterile water. For multiple small splinters - dry and cover. Change dressing daily and note signs/symptoms of infection. Do not use sterile needle or tweezers to remove. Clean, cover. Large splinters are to be treated as impaled objects and procedure above to be followed.

Treating Fractures, Dislocations, Sprains, and 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.

If it is difficult to distinguish among fractures, sprains, or strains, if uncertain of the type of injury, CERT volunteers should treat the injury as a fracture and immobilize the extremity.

Fractures

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

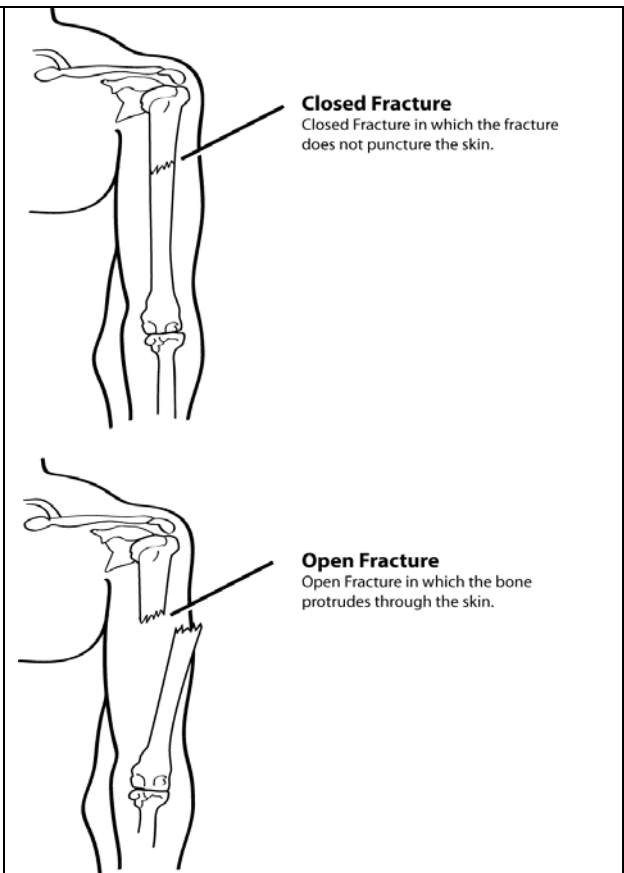
There are several types of fractures.

A **closed fracture** is a broken bone with no associated wound. First aid treatment for closed fractures may require only splinting.

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.

The diagram below shows both open and closed fracture types.

Closed and Open Fractures



Treating an Open Fracture

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.

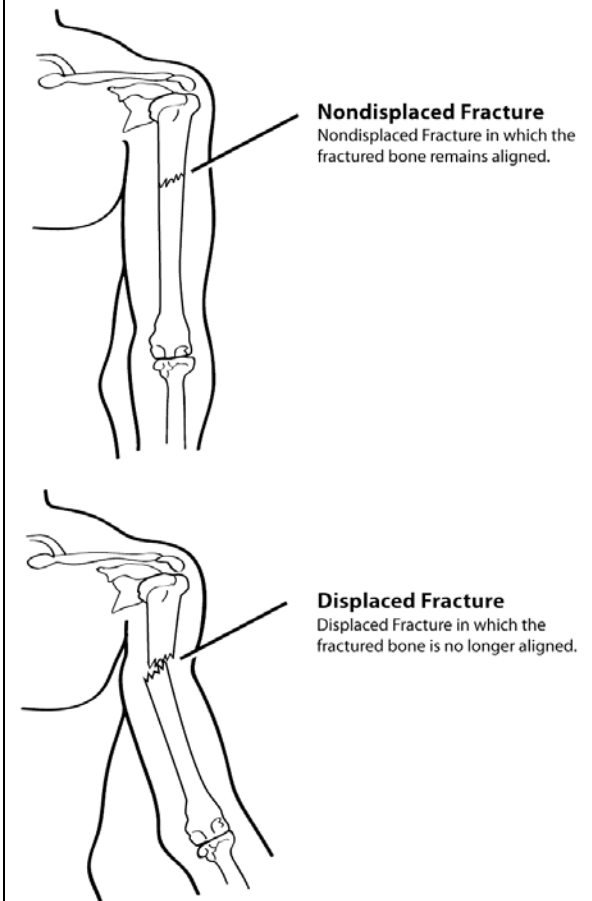
When treating an open fracture, **DO NOT**:

- Draw the exposed bone ends back into the tissue.
- Irrigate the wound.

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 sterile water, if available)
- ✓ Cover the wound with a sterile dressing
- ✓ Splint the fracture without disturbing the wound
- ✓ If the limb is angled, then there is 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 should be treated like a fracture.**

If dislocation is suspected, be sure to evaluate PMS (Pulse, Movement, and Sensation) in the affected limb before and after splinting/immobilization. If PMS (Pulse, or Movement, or Sensation) are compromised, victim's treatment priority is elevated to **"I." (Immediate)** to prevent loss of limb due to inadequate circulation.

DO NOT try to relocate a suspected dislocation.

DO stabilize the injury and immobilize the joint 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 most common signs of a sprain are:

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

Splinting

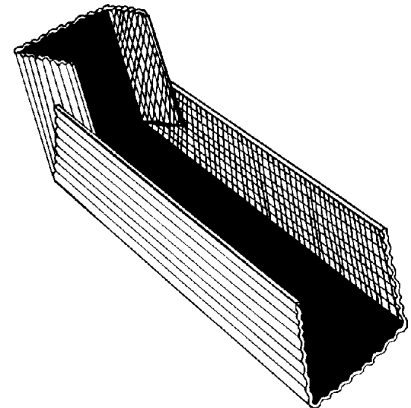
Splinting is the most common treatment for immobilizing an injury. Cardboard is the material typically used for makeshift splints but other materials can be used, including:
Soft materials; Towels, blankets, or pillows, tied with bandaging materials or soft cloths
Rigid materials; A board, metal strip,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

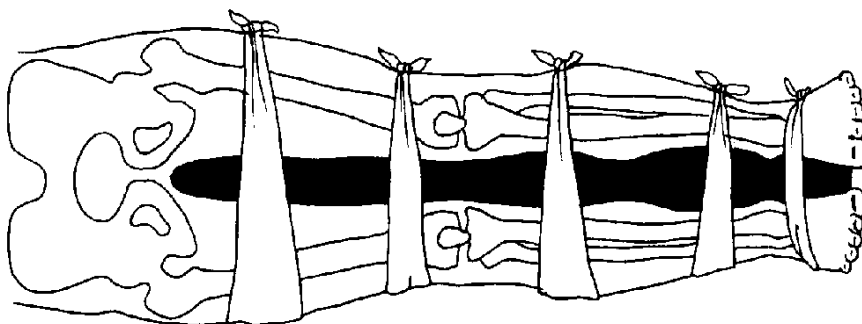
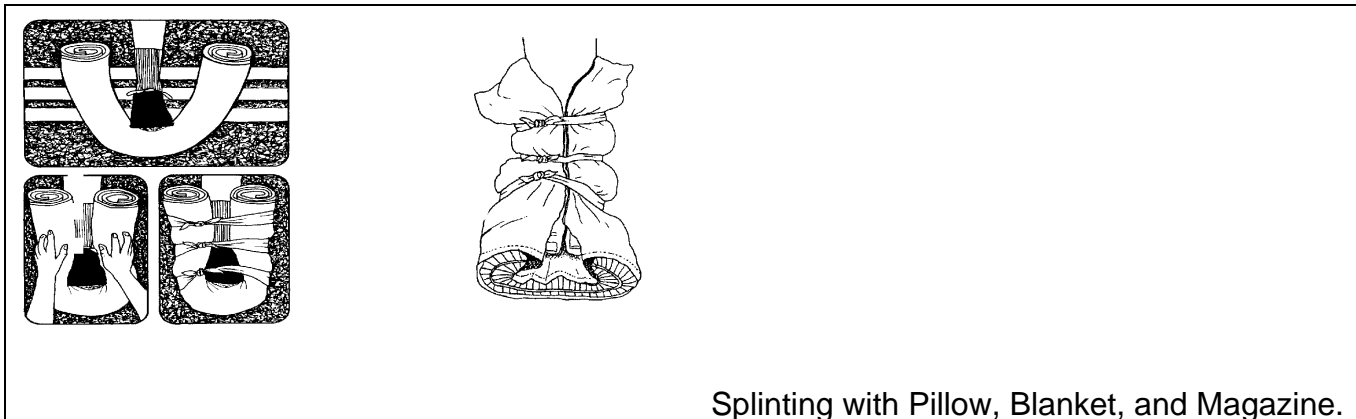
Anatomical splints may also be created by securing a fractured bone to an adjacent unfractured bone. Anatomical splints are usually reserved for fingers and toes, but, in an emergency, legs may also be splinted together. Use Soft materials to fill the gap between the splinting material and the body part. With this type of injury, there will be swelling. Remove restrictive clothing, shoes, and jewelry when necessary to prevent these items from acting as unintended tourniquets. Check peripheral circulation and sensation to ensure proper circulation in splinting.

Splint Illustrations

Cardboard Splint

Edges of the cardboard are turned up to form a “mold” in which the injured limb can rest.





Anatomical Splint

Anatomical splint is used when the injured leg is tied at intervals to the non-injured leg, using a blanket as padding for stabilization between the legs.

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

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

These are methods for controlling nasal bleeding:

- ✓ Place victim sitting up with head tilted forward. Have the victim sit with the head slightly forward so that blood trickling down the throat will not be breathed into the lungs. Do not put the head back.
- ✓ Pinch the nostrils together. 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 10 minutes of victim holding it and then 10 minutes of MedOps volunteer holding, escalate the status to **"I Immediate)"**. Ensure that the victim's airway remains open, Keep the victim quiet. Anxiety will increase blood flow.

DENTAL EMERGENCIES

If teeth are knocked out, put teeth into milk in cup (if available) or in moist gauze if milk is not available and then make arrangements for dental treatment. Rinse mouth with water and apply ice to jaw and face area.

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)

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

- Signs & Symptoms: Reddened, blistered skin, Wet appearance, Pain, Swelling (possible)

Full Thickness: (3rd Degree) Complete destruction of epidermis and dermis

- Possible subcutaneous damage (destroys all skin layers/some or all underlying structures)
- Sign & Symptoms: Whitened, leathery, or charred (brown/black), Painful or relatively painless

BURN TREATMENT: Dos and Don'ts of Burn Treatment

When treating a burn victim, 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.

When treating a burn victim, 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. 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.

More on BURN TREATMENT

- ✓ Remove the victim 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 victims of full thickness burns for shock. (see section SHOCK)
- ✓ 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.
- ✓ 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, when, and to whom it was given.

Burn Treatment can be specific, according to degree of skin layers involved, such as:

Superficial [1st degree]:

- ✓ 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. Apply dry sterile dressing as needed.

Partial-thickness-superficial [2nd degree]:

- ✓ Apply cold water until pain stops, do not break blisters. Cover with sterile dressing and bandage.

Partial thickness-deep or full thickness [3rd degree]:

- ✓ Check for open airway. Cover burn area with sterile cloth, evaluate and **treat for shock**, **Victim should be assigned as "I (Immediate)" prioritized for transport to medical facility** with a Burn Unit and higher level of intervention available.

Treating Chemical and Inhalation Burns

Chemical and inhalation burns vary from traditional heat-related burns in their origin and treatment. Evidence of either chemical or inhalation burns elevates victim's **status to "I."**

Inhalation Burns-Guidelines

60 to 80% of fire fatalities are the result of smoke inhalation. If fire and/or smoke are present, evaluate victims 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 these with 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 airway is maintained, and transport to 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 victim's skin is burning and there is no sign of a fire. If chemical burns are suspected:

- ✓ Protect yourself from contact with the substance. Use your protective gear — especially goggles, mask, and gloves.
- ✓ Ensure that affected clothing or jewelry on victim 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 victim 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.

Cold-Related Injuries

Cold-related injuries include:

Hypothermia: occurs when the body's temperature drops below normal

Frostbite: occurs if cold shuts down blood flow to extremities, causing tissue death

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
- Redness or blueness of the skin
- Numbness accompanied by shivering

In later stages, hypothermia will be accompanied by:

- Slurred speech
- Unpredictable behavior
- Listlessness

TREATMENT OF Hypothermia

Because hypothermia can set in within only a few minutes, you should treat victims who have been rescued from cold air or water environments,

Triage as Red, Immediate (I).

- ✓ Remove wet clothing.
- ✓ Wrap the victim in a blanket or sleeping bag and cover the head and neck.
- ✓ Protect the victim against the weather.
- ✓ Provide warm, sweet drinks and food to conscious victims. Do not offer alcohol.
- ✓ Do not attempt to use massage to warm affected body parts.
- ✓ Place an unconscious victim in the recovery position:
- ✓ Place the victim's arm that is nearest to you at a right angle against the ground, with the palm facing up.
- ✓ Move the victim's other arm across his or her chest and neck, with the back of the victim's hand resting against his or her cheek.
- ✓ Grab a hold of the knee furthest from you and pull it up until the knee is bent and the foot is flat on the floor.
- ✓ Pull the knee toward you and over the victim's body while holding the victim's hand in place against his or her cheek.
- ✓ Position the victim's leg at a right angle against the floor so that the victim is lying on his or her side.
- ✓ If the victim is conscious, place him or her in a warm bath.
- ✓ Do not allow the victim to walk around even when he or she appears to be fully recovered. If the victim must be moved outdoors, cover the victim'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 (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.

There are several 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 de-hydration, 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 victim's temperature control system shuts down. Body temperature can rise so high that brain damage and death may result.

Heat Exhaustion

The symptoms of heat exhaustion are:

- Cool, moist, pale, or flushed skin
- Heavy sweating
- Headache
- Nausea or vomiting
- Dizziness
- Exhaustion
- A patient suffering heat exhaustion will have a near normal body temperature. If left untreated, heat exhaustion may develop into heat stroke.

Heat Stroke

In a heat stroke victim, body temperature can be very high. If a victim 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
- Rapid, weak pulse and rapid
- Shallow breathing

Treatment of a victim in Heat Stroke includes:

- ✓ Treatment is similar for both heat exhaustion and heat stroke.
- ✓ Take the victim out of the heat and place in a cool environment.
- ✓ Cool the body slowly with cool, wet towels or wet sheets. If possible, put the victim in a cool bath.
- ✓ Have the victim 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 victim of heat sickness.
- ✓ If the victim is experiencing vomiting, cramping, or is losing consciousness, DO NOT administer food or drink. Keep a close watch on the individual until advanced medical help is available.

DISASTER-RELATED TRAUMA & EMOTIONAL ISSUES

In a disaster situation, emotional issues are bound to arise for victims experiencing trauma. Several guidelines are listed, but each situation must be dealt with individually.

- Maintain confidentiality in the context of safety and security of victim and volunteer.
- CERT volunteer involvement with a victim experiencing an emotional issue, when possible, may be limited to one person for consistency and trust.
- Seek consultation with healthcare or mental health professionals if available.
- If there is a potential for harm to self or others, REQUEST SECURITY to the CERT MED OPS area. Constant vigilance is required until the situation is resolved safely.
- Document the victim's situation and continue to consider victim confidentiality.

Miscellaneous Conditions- Alphabetical

CHICKEN POX: Isolate victim, notify Incident Command, separate from others ASAP.

DIARRHEA: Ascertain victim/staff definition of diarrhea. One or two looser than normal stools per day are NOT considered diarrhea. Diarrhea is more than six stools per day that are pure water. Try bananas, rice, and dry toast if diarrhea is occurring only a few times. If the diarrhea is going on more than 24 hours, monitor for dehydration and, if possible, transfer out. OK to offer sports drink/electrolyte replacement drink if available.

LICE: Any victim found with lice will be isolated until treated. All clothing and material that has come in contact with this person(s) should be bagged and brought to Med_Ops.

NAUSEA: Ice chips (if available), Clear liquids, and rest as needed.

SNAKE BITES: Evaluate victim at site of possible snake bite. Place wet ice pack on area, evaluate for Fang marks, attempt to identify type of snake (if possible), keep victim calm. If it is a poisonous snake, swelling and stinging of the site may begin immediately after the bite. Keep the victim calm; keep the extremity lower than the heart. If possible, transport the victim to the Med Ops area. Keep the bitten area covered with wet ice pack to minimize blood flow from the area, and keep the victim calm to prevent increased heart rate from hysteria causing increased circulation and spreading of venom systemically.

STINGS & BITES: Insect bites and stings may be more common than is typical as these creatures, like people, are under additional stress.

When conducting a head-to-toe Assessment, look for signs of insect bites and stings. Specific symptoms vary depending on the type of creature, generally, bites and stings will be accompanied by redness and itching, tingling or burning at the site of the injury, and often a welt on the skin at the site. Monitor for allergic reactions and treat accordingly.

Treatment for insect bites and stings follows these steps:

Remove the stinger, if still present, by scraping the edge of a credit card or other stiff, straight-edged object across the stinger. Do not use tweezers; these may squeeze the venom sac and increase the amount of venom released.

Wash the site thoroughly with purified water.

Place ice (wrapped in a washcloth) on the site of the sting for 10 minutes and then off for 10 minutes. Repeat this process.

If victim is known to have a severe allergy to a sting, he/she may have an Epi Pen on them. The victim may self administer their own allergy medicine (Epi Pen, Benadryl), CERT volunteer may assist but NOT dispense medications.

VOMITING: Ascertain a good symptom history, e.g., was vomiting secondary to coughing or spontaneous, Was there a large emesis or small? For persistent vomiting, more than 3 episodes make sure the victim takes nothing by mouth for 1-2 hours and rest. Then start 2 tsp water every 15-30 min. Upgrade to clear liquids after 2-4 hrs. Sips of water or Ice chips are best to start on, but do not force anything on victim if vomiting. If vomiting continues, monitor for dehydration, and transport out as soon as possible.

QUESTIONS OF CERT VOLUNTEER

If a MED OPS CERT Volunteer has questions of a legal nature, the CERT Program Manager needs to be consulted.

The link to the national CERT Program CERT LIABILITY GUIDE is:

http://www.fema.gov/media-library-data/20130726-1844-25045-0834/cert_liability_guide.pdf