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CERT
COMMUNITY EMERGENCY RESPONSE TEAM

FIELD OPERATIONS GUIDE

CaliforniaVolunteers

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INTRODUCTION

CaliforniaVolunteers is the state administrator of the Citizen Corps Program in California.

This Community Emergency Response Team (CERT) Field Operations Guide is intended for CERT volunteers who have completed the Federal Emergency Management Agency (FEMA) standard CERT basic training course.

Designed to provide you with quick access to critical information, this guide will assist you in helping your community respond to an emergency situation.

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CERT Goal

Do the greatest good for the greatest number – in the shortest amount of time.

Important Safety Precautions

1. Always remember that your safety is paramount. Never attempt any actions that you are not trained for or that will put you at risk.
2. Always conduct a CERT sizeup before attempting any action.
3. Always work with a buddy.
4. Always wear safety equipment (gloves, helmet, goggles, N-95 mask and sturdy shoes or boots).

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CERT EQUIPMENT CHECKLIST

Personal Protective Equipment (PPE)

The following items are recommended as minimum safety equipment for all CERT members:

☐ Nylon or canvas bag with shoulder strap	☐ Non-latex exam gloves (10 pair min.)
☐ Hard hat	☐ Sturdy shoes or boots
☐ Protective eyewear (safety goggles)	☐ Long pants
☐ Leather work gloves	☐ Long-sleeved shirt
☐ N-95 mask	☐ Reflective vest

Equipment and Supplies

The following equipment and supplies are recommended items for each CERT member:

Tools	
☐ Flashlight or miner's lamp	☐ Multitool for utility shutoff
☐ Batteries and extra bulbs	☐ Pry bar
☐ Secondary flashlight	☐ Whistle
☐ Voltage tick meter	☐ Duct tape
☐ Utility knife and blades	☐ Masking tape
☐ Carabiners	☐ Folding saw
☐ Rope or 1″tubular webbing	☐ Scissors
☐ Cyalume sticks (glow sticks)	☐ Non-sparking crescent wrench – 12″

First Aid	
☐ 4″x 4″gauze dressings (6 min.)	☐ Abdominal pads (4 min.)
☐ Triangular bandages (4 min.)	☐ Band-Aids
☐ Roller bandage	☐ Antibiotic ointment
☐ Triage tape	☐ Antiseptic hand sanitizer

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Message Supplies

- ☐ Note pads
- ☐ Pens/markers (thin and thick)
- ☐ Orange spray paint
- ☐ ICS Forms
- ☐ Clipboard

Personal Clothing

- ☐ Wristwatch
- ☐ Hat (suitable for the climate)
- ☐ Poncho or rain wear
- ☐ Extra socks
- ☐ Knee pads
- ☐ Extra underwear

Personal Items

- ☐ Water (2 canteens or bottles)
- ☐ Personal medications
- ☐ Water purification tablets
- ☐ Sunblock SPF 30+
- ☐ Dehydrated food
- ☐ Sunglasses
- ☐ Moist towlettes
- ☐ Spare eyeglasses
- ☐ Toilet paper
- ☐ Feminine hygiene items
- ☐ Blanket/pillow/books
- ☐ Cash and ID
- ☐ ICE card with emergency contacts
- ☐ USB drive with important documents
- ☐ Wheelchair charger
- ☐ Extra batteries (general)
- ☐ Extra batteries (specific applications; e.g., hearing aids)

Extras

- ☐ Pet supplies (leash, food, etc.)

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HOW TO SIZE UP

Before responding to a disaster, size up the situation. Sizeup is a continual process of examining and evaluating the damage in an environment. It will enable you to make decisions and respond appropriately in the areas of greatest need.

CERT Sizeup Steps

1 Gather facts

- What has happened?
- How many people appear to be involved?
- What is the current situation?

2 Assess and communicate the damage

- What has happened?
- What is happening?
- What could happen (i.e., how bad could things get)?

3 Consider probabilities

- What is likely to happen?
- What could happen through cascading events?

4 Assess your own situation

- Are you in immediate danger?
- Have you been trained to handle the situation?
- Do you have the equipment that you need?

5 Establish priorities

- Are lives at risk?
- Can you help? Remember, life safety is the first priority!

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6 Make decisions

- Base your decisions on an assessment of the situation and in accordance with the priorities that you established.

7 Develop a plan of action

- Create a plan that will achieve your priorities.
- Simple plans may be verbal, but more complex plans should always be written.

8 Take action

- Execute your plan, documenting any deviations and status changes so that you can report the situation accurately to first responders.

9 Evaluate progress

- Evaluate your progress in accomplishing the objectives in your plan of action to determine what is working and what changes you may have to make to stabilize the situation.

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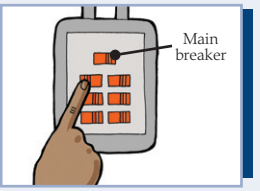
UTILITY SHUTOFF

Electricity Shutoff

In the event of an electrical emergency, locate the circuit breakers or fuses and shut off the power.

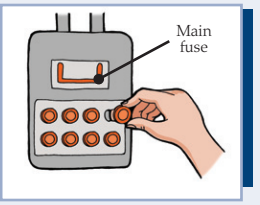
Circuit Box

1. Shut off individual breakers.
2. Shut off main breaker.



Fuse Box

1. Pull out individual fuses.
2. Pull out main fuse block. Use caution, metal parts may be hot.



Electricity Turn-on

When turning the power back on, turn on the main switch or breaker first, then screw in the fuses or switch on the smaller breakers, one at a time.

Do not enter a flooded basement or standing water to shut off the electrical supply. Water conducts electricity and you could be electrocuted.

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Gas Meter and Shutoff Valve

In the event of an emergency, locate the main gas service shutoff valve and shut off the gas.

Outside Meters

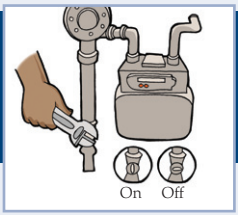
Gas meters and gas service shutoff valves are usually located on the side or in front of a building.

Cabinet Meters

In some cases, gas meters may be located in a cabinet enclosure built into the building or located inside the building, with the shutoff valve located outside on a section of gas pipe next to the building.

Shutoff

Use a non-sparking wrench to turn the valve clockwise one-quarter turn.



Gas Turn-on

Natural gas flow should only be turned on by a licensed technician.

Do not shut off the gas unless you smell gas, hear gas escaping, see a broken gas line or suspect a gas leak.

If you are unsure whether a gas meter has a shutoff device, contact the gas service company.

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SANDBAGGING

Use sandbags to form barriers that prevent flood water from entering spaces.

Filling Sandbags

1. Team member 1 holds an empty sandbag open on the ground in front of his or her feet.
2. Team member 2 empties shovelfuls of sand (or dirt or gravel) into the open bag, until the bag is 1/3 to 2/3 full.
3. Team member 3 stacks and stockpiles the filled sandbags.

Sandbags do not need to be tied, although they can be tied loosely at the top. Untied sandbags form a tighter seal when stacked.

For larger operations, bag-holding racks, funnels on the back of trucks and other power-loading equipment (if available) may be used to speed the process.

Moving Sandbags

Sandbags are typically moved using a passing line.

To set up a diagonal-passing line:

1. Team members stand side-by-side in a line.
2. Every second team member takes a small step back.
3. Unmoved team members turn around to face the members who took a step back.

When constructing a barrier on an incline, taller team members should be at the end of the line that is farthest from the barrier.

Use your knees and not your back when lifting sandbags.

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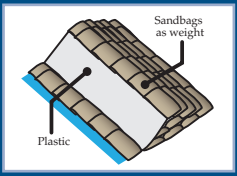
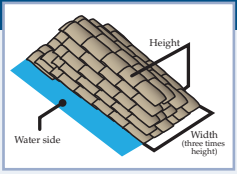
Building a Sandbag Barrier

1. Clear any debris from the area where sandbags are to be placed.
2. Dig a trench four to six inches deep and two sandbags wide.
3. Line the trench with heavy-duty plastic (poly), extending the plastic across the trench and away from the bottom row of sandbags and toward the water.



4. Place a row of sandbags lengthways and parallel to the direction of the flow around the edge of the plastic to anchor it. Overlap sandbags, tucking the open end under the bottom end of the next sandbag.
5. Stagger the second layer of bags perpendicular to the first layer. Layer the barrier like a brick wall with each sandbag overlapping the one below by half.
6. Stamp sandbags firmly into place to eliminate gaps and create a tight seal.
7. Roll the plastic over the anchoring row of sandbags and anchor again.
8. Place additional layers of sandbags in alternating directions.
9. Once the barrier is at the appropriate level, fold the plastic over the top of the barrier and anchor it with extra sandbags.

Barriers more than three layers high should be layered in a pyramid structure using a ratio of 3:1. For every foot in height, the base must be three feet wide.



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TREATING DRINKING WATER

If you have doubts about the quality of water, treat it before drinking.

Water Purification

Water can be purified for drinking, cooking and medical use by heating it to a rolling boil for 1 minute or by using water purification tablets or liquid bleach.

Liquid Bleach (unscented)

Following the ratios in the tables below, add bleach to the water and let it stand for 30 minutes. If the solution does not smell or taste of bleach, add another 6 drops of bleach and let the solution stand for 15 minutes before consuming/using.

Purification of Clear Water	
Water Quantity	**Bleach Added**
1 Quart	2 Drops
1 Gallon	8 Drops
5 Gallons	½ Teaspoon

Purification of Cloudy Water	
Water Quantity	**Bleach Added**
1 Quart	4 Drops
1 Gallon	16 Drops
5 Gallons	1 Teaspoon

These ratios are for normal bleach solutions (4%-6% chlorine). Adjust ratios as necessary if using higher concentration solutions.

Use only purified water on wounds. The use of other solutions (e.g., hydrogen peroxide) on wounds must be the decision of trained medical personnel.

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RADIO USE

Before venturing out, test the radios in your group to make sure they all work and that everyone can communicate using them.

Remember to also check the battery levels to ensure you have enough battery power for the duration you need to be in contact.

Team members with functional needs will require radios and/or services that enable accessibility.

Receiving Messages

1. Listen carefully, especially to messages.
2. Acknowledge all transmissions addressed to you.

Transmitting Messages

1. Do not interrupt another person's message.
2. Identify yourself when talking.
3. When talking, hold the radio close to your mouth with the antenna vertical.
4. Speak clearly and slowly.
5. Use the phonetic alphabet to spell out words.
6. Keep transmissions short – about 10 seconds.

Phonetic Alphabet

A	Alpha	J	Juliet	S	Sierra
B	Bravo	K	Kilo	T	Tango
C	Charlie	L	Lima	U	Uniform
D	Delta	M	Mike	V	Victor
E	Echo	N	November	W	Whiskey
F	Foxtrot	O	Oscar	X	X-ray
G	Golf	P	Papa	Y	Yankee
H	Hotel	Q	Quebec	Z	Zulu
I	Indigo	R	Romeo		

Team members who are deaf or hard of hearing will need a radio with assistive technology (e.g., radio with text messaging capability) or the services of a sign language interpreter.

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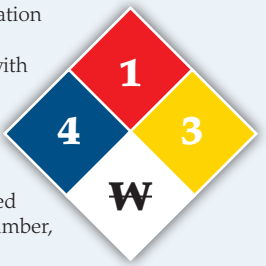
HAZARDOUS MATERIAL PLACARDS

Facilities and vehicles that store, use and/or transport hazardous materials (hazmats) will display placards that signify the type of material contained and its hazard.

NFPA 704 Diamond

The National Fire Protection Association (NFPA) 704 Diamond is a means of identifying the hazards associated with specific materials.



NFPA 704 Diamonds are divided into four colored quadrants, each with a rating number inside that indicates the degree of risk associated with the material. The higher the number, the higher the risk.

NFPA 704 Legend	
Red	Level of flammability
Blue	Degree of health hazard
Yellow	Level of reactivity
White	Type of special precaution to take: **ALK:** Alkaline **ACID:** Acidic **COR:** Corrosive **OX:** Oxidizing **W:** Reacts with water

If you see a hazmat placard, STOP and call 911 for assistance. When necessary, evacuate people who are downwind to an uphill and upwind location.

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DOT Warning Placards

When in transit, hazmat containers must be labeled with the type of substance contained and its hazard risk. There are 3 systems for displaying and identifying the hazmat being transported:

1. Department of Transportation (DOT) warning placards
2. The United Nations system
3. The North American warning placards

The DOT warning placards are the most widely used system.

Hazmat Procedures

In the event of a hazmat release:

1. Stay upwind.
2. Call 911 for assistance.
3. If authorities cannot be reached, evacuate people and isolate the area.
4. Do not attempt to rescue any injured persons until the situation has been assessed.
5. Do not walk into or touch any spilled material. Avoid inhaling fumes, smoke and vapors.

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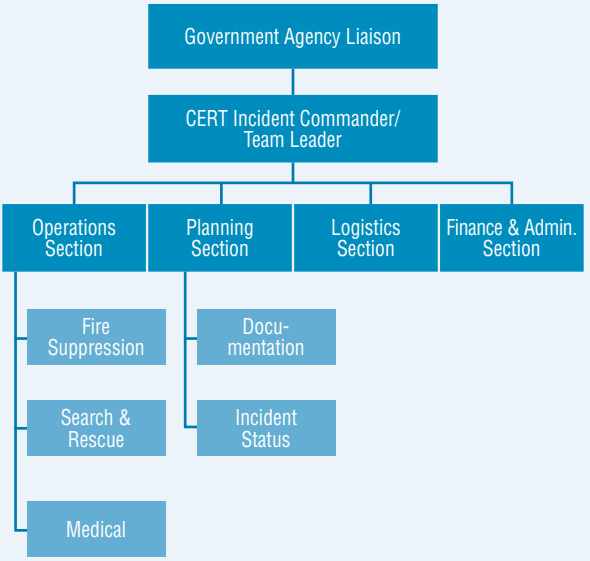
CERT ORGANIZATION

Incident Command System (ICS)

ICS is the system used by emergency response agencies to structure, organize and manage emergency operations.



As an incident evolves, the structure expands and sections and functions are assigned to CERT members.

CERT members report through a chain of command to the CERT Incident Commander/Team Leader.

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CERT ACTIVATION

When CERTs are activated, they become part of the Incident Command System (ICS), offering support to operations, planning, logistics and administration functions.

The first CERT member to arrive on-scene assumes the role of Incident Commander. Once a professional responder arrives, the CERT Incident Commander transfers command to him or her and then assumes the role of Team Leader.

CERT Team Leaders report to the first fire or law enforcement official at their location and take direction from that official until otherwise directed or the CERT member is relieved.

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Activation Principles

CERTs are activated according to the principles of ICS:

- Each CERT must establish a command structure.
- A Command Post must be established for the CERT to command and control activities.
- Team activities are directed by the CERT Incident Commander:
  - The first person at a predesignated staging area assumes the Incident Commander role, which may be delegated to a predesignated leader when that person arrives.
  - The Incident Commander stays in the Command Post. If they must leave, the responsibility of Incident Commander must be delegated to someone at the Command Post.
- Each unit must have an identified leader to supervise tasks, account for team members and report information to his or her designated leader.

All media inquiries should be directed to the CERT Incident Commander/ Team Leader, who will then refer the media to the responding agency's Public Information Officer.

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Team Configurations

Manageable teams consist of between three and seven team members reporting to one designated leader.

Operations Teams

Operations should always be assigned teams consisting of at least three to four people:

- One person will serve as runner and communicate with the Command Post.
- Two people will "buddy up" to respond to the immediate needs.

Search and Rescue Teams

Search and rescue teams must include at least four people:

- One safety person will remain outside the area that is to be searched.
- Two people, minimum, will conduct the search.

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Responsibility Checklist

CERT Incident Commander/Team Leader

- ☐ Provide overall leadership for incident response.
- ☐ Ensure incident safety.
- ☐ Establish incident objectives.
- ☐ Establish a Command Post and staging area.
- ☐ Assign functions and delegate authority to others.
- ☐ Provide information to internal and external parties.
- ☐ Establish and maintain liaisons with other responders (e.g., fire, law enforcement, public works, other CERTs).
- ☐ Take direction from agency officials.

Operations Section

- ☐ Direct and coordinate all incident tactical operations:
  - ☐ Fire suppression
  - ☐ Medical operations
  - ☐ Search and rescue

Planning Section

- ☐ Collect and disseminate information.
- ☐ Collect and compile documentation.
- ☐ Track the status of resources and personnel.
- ☐ Track the status of a situation.
- ☐ Prepare the Team's action plan.
- ☐ Develop alternative strategies.

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Logistics Section

- ☐ Manage resources, services and supplies.
- ☐ Provide communications.
- ☐ Provide food and medical support to team members.
- ☐ Manage supplies and facilities.

Finance and Administration Section

- ☐ Negotiate and monitor contracts.
- ☐ Timekeeping.
- ☐ Prepare cost analysis.
- ☐ Process compensation claims for injury or damage to property.

CERT members are not frequently involved in finance and administration ICS functions.

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CERT MOBILIZATION

When an incident occurs, CERTs are mobilized in steps. Immediately following an incident, CERT members take care of themselves, their families, their homes and their neighbors.

Personal Safety

In a disaster, your first responsibility is your personal safety and that of your family (including any pets).

- Ensure that you and your family are safe.
- Text or call your out-of-state contact.
- Locate your CERT equipment and keep it with you.
- Inspect your house for damage.
- Inspect and turn off utilities if necessary and safe to do so.
- Open your family disaster supply kit if needed.

Neighborhood Safety

Once you have secured the safety and welfare of your family, assist your immediate neighbors if it is safe to do so.

- Conduct an immediate neighborhood damage assessment.
- Identify and aid neighbors who might need assistance.
- Do not start out beyond your immediate neighborhood on your own. Work with a buddy.

Community Safety

If you have been requested to assist emergency response personnel, report to your predesignated CERT staging area or contact your local CERT leader.

- Follow local protocols, extinguish small fires, treat injuries, perform light search and rescues and relieve survivor stress.
- Document all messages and activities.
- Keep track of personnel at all times.

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DOCUMENTATION

It is extremely important to document and communicate information about the disaster situation and resource status.

Each level of organization has documentation responsibilities:

- Section Chiefs must provide the Command Post with ongoing information about damage assessment, group status and ongoing needs.
- The Command Post is responsible for documenting the situation status, including:
  - Incident locations
  - Access routes
  - Identified hazards
  - Support locations

Documentation Forms

Form		Used by
CERT 1	Damage Assessment	Operations
CERT 2	Personnel Resources Sign-in	Logistics/staging personnel
CERT 3	Incident/Assignment Tracking Log	Command Post
CERT 4	Briefing Assignment	Command Post
CERT 5	Victim Treatment Area Record	Medical personnel
CERT 6	Communications Log	Radio operator
CERT 7	Equipment Inventory	Logistics
CERT 8	General Message	All – to exchange messages

CERT forms are not essential to use, so long as the person documenting activities takes detailed notes of all actions.

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FIRE SUPPRESSION

Fire Sizeup

Size up the fire situation before attempting to contain or extinguish a fire.

Gather Facts

- Does the time of day or week affect how a fire is suppressed?
- Will the weather conditions affect your safety?
- Will the weather conditions affect the fire situation?
- What material is the building/structure made of?
- Is the building occupied? Can people be evacuated? Are there any special considerations (e.g., people with functional needs)?
- Are there hazardous materials present?

Assess and Communicate the Damage

- Survey all sides of the building – Is the danger beyond the CERT's capability?

Consider Probabilities

- Are there life-threatening hazards?
- Does the fire's path jeopardize other areas?
- Is there potential for more disaster activity that will impact your personal safety?

Assess Your Own Situation

- What equipment is available to suppress the fire?
- Are there other resources available to help suppress the fire?
- Can you safely suppress the fire? If not, do not attempt to suppress the fire.

Establish Priorities

- Is the fire the main priority?
- Are there other, more pressing, needs at the moment?

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Make Decisions

- How should resources be applied to do the most good?

Develop a Plan of Action

- Prepare how personnel and resources should be used.

Take Action

- Put your plan into effect.

Evaluate Progress

- Has the scope of the problem changed?
- Are there new safety risks?
- Are there more resources available or have any resources become unavailable?

Use the sizeup process to determine if:

- You and your buddy have the right equipment.
- There are other hazards.
- The building is structurally damaged or sound.
- You and your buddy can escape.
- You and your buddy can fight the fire safely.

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FIREFIGHTING RESOURCES

The most common firefighting resources are:

- Portable fire extinguishers
- Interior wet standpipes

The type of fuel that is burning will determine which resource to select to fight a fire.

Classes of Fire

Fires are categorized into classes based on the type of fuel that is burning. Identify the type of fuel feeding the fire to select the correct method and agent for extinguishing the fire.

Class	Symbol	Fuel Type
A		Ordinary material, such as paper, cloth, wood, rubber and many plastics.
B		Flammable liquids, such as gasoline, oil, lighter fluid and many paints.
C		Live electrical equipment, such as a plugged-in toaster, computer, etc.
D		Combustible metals, such as aluminum, magnesium and titanium. **Note:** *Extinguisher must match the type of metal that is burning. Read the label for a list of metals that match the unit's extinguishing agent.*
K		Cooking oils and fats.

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Types of Fire Extinguishers

There are four types of extinguishers:

1. Water
2. Dry chemical
3. Carbon dioxide (CO_2)
4. Specialized

While still in use, CO_2 and other specialized extinguishers are becoming less common.

Water Extinguishers

Use extreme caution when using a water extinguisher to ensure that the water does not scatter lightweight materials and spread the fire.

Capacity	Standard size is 2.5 gallons
Range	Standard range is 30-40 feet
Pressure	Standard pressure is 110 pounds per square inch

Chemical Extinguishers

Dry chemical extinguishers have a sodium bicarbonate base and are effective on class B and C fires.

Multipurpose dry chemical extinguishers have a monoammonium phosphate base and are effective on class A, B and C fires.

Capacity	Around 10-20 seconds discharge time
Range	Standard range is 8-12 feet
Pressure	Standard pressure is 175-250 pounds per square inch

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WHEN TO USE A FIRE EXTINGUISHER

Before attempting to suppress a fire using a fire extinguisher, you need to decide if it is safe to do so. The flowchart below represents the decision-making process for determining whether to use an extinguisher.

Can you escape quickly and safely from the area if you try to extinguish the fire? Are there two exits?

- NO → **LEAVE IMMEDIATELY!**
- YES ↓

Do you have the right extinguisher for the type of fire?

- NO → **LEAVE IMMEDIATELY!**
- YES ↓

Is the extinguisher large enough to suppress the fire?

- NO → **LEAVE IMMEDIATELY!**
- YES ↓

Is the area free from other dangers, such as falling debris and hazmat?

- NO → **LEAVE IMMEDIATELY!**
- YES ↓

Begin to extinguish the fire.
Is the fire extinguished within five seconds?

- NO → **LEAVE IMMEDIATELY!**
- YES ↓

Overhaul the fire if the area is safe.

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Answer Is "No"

If you answered "no" to any of these questions, or if you have been unable to suppress the fire in five seconds using the extinguisher:

- Leave the building immediately.
- Shut all doors as you leave to slow the spread of the fire.

Answer Is "Yes"

If you answered "yes" to all the questions, you may attempt to extinguish the fire.

If you answered "yes" to all of these questions but are unable to extinguish the fire, leave immediately.

Overhauling

Overhauling is the process of searching a fire scene for hidden fire or sparks to prevent the fire from rekindling.

If the fire is extinguished in five seconds and the area is safe, stay and overhaul the fire. When overhauling, remember to cool, soak and separate.

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FIRE SUPPRESSION OPERATIONS

If it is safe to suppress a fire, use a buddy system.

Fire Extinguisher

- Team member 1 puts out a fire with an extinguisher.
- Team member 2 watches for hazards and ensures the safety of both team members.

Interior Wet Standpipes

- Team member 1 removes the hose from the cabinet and unwinds the line. When ready, he or she gives the go-ahead to team member 2 to open the water valve.
- Team member 2 opens the water valve once team member 1 has signaled he or she is ready. Team member 2 then helps team member 1 at the nozzle.

Procedures for Suppressing Small Fires with Portable Extinguishers

Step 1

- Assume the ready position.
- With the pin pulled, team member 1 holds the extinguisher aimed and upright, approximately 20-25 feet from the fire for small fires.

Step 2

- When ready to approach the fire, team member 1 should say, "Ready."
- Team member 2 should repeat, "Ready."

Step 3

- As team member 1 begins to move forward, he or she should say, "Going in."
- Team member 2 should repeat the command and stay within reach of team member 1.

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Step 4

- Both team members should walk toward the fire.
- Team member 1 should watch the fire and team member 2 should stay close to team member 1, keeping his or her hand on team member 1's shoulder.
- Team member 2's job is to protect team member 1.

Step 5

- When team member 1 is exiting the fire area, he or she should say, "Backing out."
- Team member 2 should repeat the command.

Step 6

- Team member 2 should guide team member 1 from the area with his or her hands as team member 1 continues facing the fire and looking for other hazards.
- Team member 1 must never turn his or her back on the fire scene.

Operating a Fire Extinguisher – P.A.S.S.

P **PULL** the pin and test the extinguisher.

A **AIM** the nozzle or horn* low, at the base of the fire.

S **SQUEEZE** the handle to release the agent.

S **SWEEP** from side-to-side at the base of the fire until it appears to be out.

***Note:** Do not touch the plastic discharge horn on CO_2 extinguishers; it gets very cold and may damage skin.

Lay down and store depleted fire extinguishers on their side, so no attempt will be made to use them until they are recharged.

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FIRE SAFETY RULES

You **must** follow all fire suppression safety rules.

Use Safety Equipment at All Times

- Wear your helmet, goggles, dust mask, leather gloves and sturdy shoes or boots.
- If you are not equipped to protect your personal safety, leave the building.

Work with a Buddy

- Buddies serve an important purpose. They protect your safety. Don't ever try to fight a fire alone.
- Have a backup team. A backup team can support your fire suppression efforts and provide help if you need it.

Always Have Two Ways to Exit the Fire Area

- Fires spread much faster than you might think.
- Always have a backup escape plan in case your main exit route becomes blocked.

Look at the Door

- If air is being sucked under the door or smoke is coming out over the top of the door, do not touch the door.

Feel Closed Doors

- Working from the bottom of the door up, use the back of your hand to feel the door for heat.
- If the door is hot, there is fire behind it. Do not enter! Opening the door will feed additional oxygen to the fire.
- Do not touch the door handle before feeling the door.

Confine the Fire

- Whenever possible, close doors and keep them closed.

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Stay Low to the Ground

- Smoke will naturally rise. Keeping low to the ground will provide you with cleaner air to breathe.

Maintain a Safe Distance

- Remember the effective range of your fire extinguisher.
- Don't get closer than necessary to extinguish the fire.

Overhaul the Fire

- Make sure the fire is extinguished and stays extinguished.

NEVER

- Never turn your back on a fire when backing out.
- Never get too close. Stay near the outer range of your extinguisher. If you feel the heat, you are too close.
- Never try to fight a fire alone. Your first priority is your personal safety.
- Never try to suppress large fires. Learn the capability of your equipment, and do not try to suppress a fire that is clearly too large for the equipment at hand.
- Never enter smoke-filled areas. Suppressing fires in smoke-filled areas requires equipment that CERTs don't have.
- Never try to suppress fires where hazmat is present. Flip to "Hazmats" for illustrations of warning placards.

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SEARCH AND RESCUE OPERATIONS

Search and Rescue Sizeup

Size up the situation before attempting to search for and rescue missing or injured people.

Gather Facts

- Does the time of day or week affect search and rescue efforts?
- Will the weather conditions affect your safety?
- Will the weather conditions affect the search and rescue mission?
- What type of structure/building/terrain is involved?
- Is the building occupied? Will people be affected? Are there any special considerations (e.g., people with functional needs)?
- Are there hazmats present?
- Are there any other types of hazards involved?

Assess and Communicate the Damage

- For structural searches, do an initial lap around. Look and listen for signs of danger – Is the danger beyond the CERT's capability?

Consider Probabilities

- Is the situation stable?
- Is there potential for more disaster activity that will impact your personal safety?

Assess Your Own Situation

- What equipment and tools are available to help with rescues?
- Are there other resources available to help search and rescue operations?

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Establish Priorities

- Can a search and rescue be safely conducted?
- Is the search and rescue the main priority?
- Are there other, more pressing, needs at the moment?

Make Decisions

- How should resources be deployed to do the most good?

Develop a Plan of Action

- Prepare how personnel, tools and equipment should be deployed.

Take Action

- Put your plan into effect.

Evaluate Progress

- Has the scope of the problem changed?
- Are there new safety risks?
- Are there more resources available or have any resources become unavailable?

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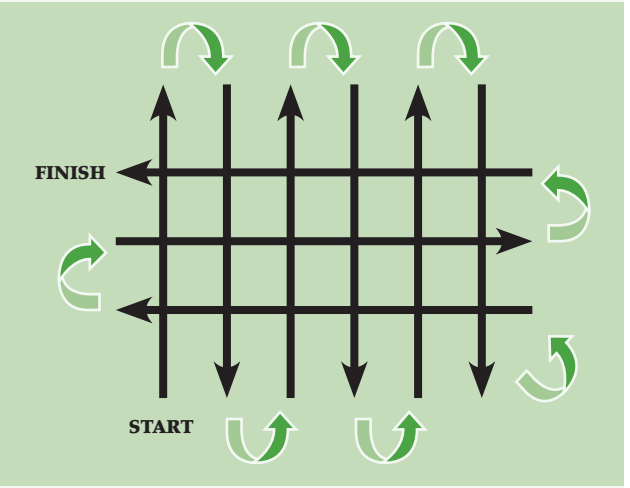
SEARCH METHODS

Exterior Searches

Grid patterns are typically used to search large or small areas when hands and knees searches are conducted.

- Set up a grid pattern with searchers initially positioned at one side of the grid.



- Set distances between searchers according to visibility and debris. Searchers must remain within line of sight and voice contact with searchers on either side. Search areas must also overlap between searchers on either side.
- Search in straight lines across the entire search area.
- Mark and record the areas that have been searched.

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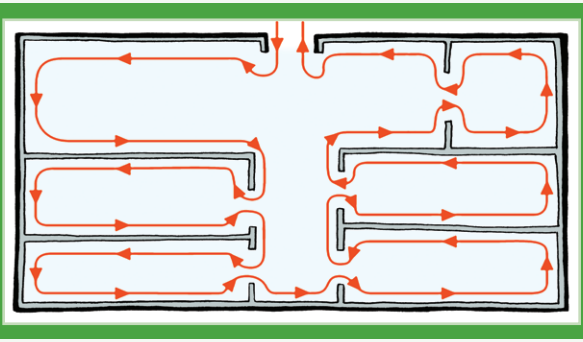
Interior Searches

- Set up a systematic search pattern, such as bottom-up/top-down (for multistory buildings), or right wall/left wall (for single-story buildings).
- Move in a counterclockwise pattern through rooms.
  - Check each wall, the floor and the ceiling for damage.
  - Check spaces where victims may have sought protection: under desks, inside cabinets, in bathtubs, under beds, under closets.



- Call out to victims when entering each space or room.
- Listen for responses – voices, tapping, movement.
- Ask victims who respond for more information – about the building, others who might be trapped, etc.
- Triangulate when a victim's location is obscured: Using three rescuers, form a triangle around the area and direct flashlights into the area.
- Be prepared for victims who may be in shock or confused.
- Mark and record the rooms that have been searched.
- Report results of victims who were located and removed and victims who remain trapped or are dead.

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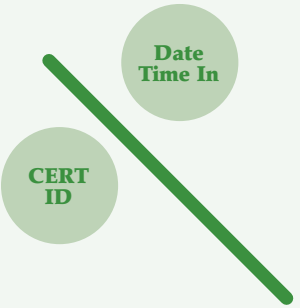
SEARCH MARKINGS

The areas that have been searched need to be marked for quick identification.

When Entering a Search Area

- Make a mark next to the door to indicate that you are entering.
- Make a single slash and write the agency or group ID at the "9 o'clock" position.
- Write the date and "time in" at the "12 o'clock" position.
- Do not make the mark on the door or on the wall where the door swings.



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When Exiting the Search Area

- Make another slash to form an "X" (the agency or group ID will be in the left quadrant).
- Enter the search "time out" in the top quadrant.

Right Quadrant

- Enter the areas of the structure that were searched and any specific information about hazards.

Lower Quadrant

- Enter information about the victims found in the searched area.
  - "L" represents living victims.
  - "D" represents dead victims.
- Search markings on the front of a structure or building will contain the total number of victims.
- Search markings inside the structure or building will include victim totals for specific search areas.
- Indicate the location where victims have been taken.

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APPROACHING VICTIMS

There are several steps to take when ready to approach a victim:

1. If the victim is conscious, be sure he or she can see you.
2. Identify yourself by giving your name and indicating the organization with which you are affiliated.
3. Always request permission to treat an individual. If the individual is unconscious, he or she is assumed to have given "implied consent," and you may treat him or her. Ask a parent or guardian for permission to treat a child, if possible.
4. Whenever possible, respect cultural differences. For example, in some Muslim traditions it is customary to address the male when requesting permission to treat a female member of his family.
5. Always be mindful and respectful of the privacy of a victim's medical condition. Remember, all medical patients are legally entitled to confidentiality (HIPAA).
6. Be aware that victims may have access and functional needs. For victims who appear unable to hear or understand you, write notes or draw pictures or symbols to communicate. For victims who appear unable to see you, ask how you can assist them.

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RESCUE METHODS

Rescues involve three primary functions:

1. Moving objects and debris (leveraging and cribbing) to free victims and create a safe rescue environment.
2. Triaging victims – checking for airway obstructions, major bleeding and shock. For more information on triage, flip to the "Life-Threatening Aid" tab.
3. Removing victims (extrication) as safely and quickly as possible.

Rescue Precautions

Use precautions to minimize risk and maximize rescue efforts.

Know Limitations

- Pay attention to and respect your own physical and mental limitations.
- Eat, drink and rest to conserve your energy and stay focused.

Follow Established Procedures

- Use and wear proper safety equipment.
- Work in pairs.
- Triage and treat victims in lightly damaged buildings.
- Triage and remove victims from moderately damaged buildings.
- Never enter an unstable structure.
- Lift objects by bending your knees, keeping your back straight and pushing up with your legs.
- Carry objects close to your body.
- Lift and carry only what you are able to and what is reasonable.

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Rescue Procedures

1	Size up the scene.
2	Identify how and where to lift and crib, and determine how to remove victims from under debris.
3	Gather necessary materials for lifting/cribbing operations: lever, fulcrum, cribbing blocks and spacers/wedges.
4	Stabilize the object prior to lifting using cribbing material.
5	Distribute cribbing materials for ready accessibility during the lifting operation.
6	Prepare to lift the object: Assemble the lever and fulcrum at the previously identified location.
7	Assign a team member to monitor and be ready to remove victims as soon as possible.
8	Initiate the lift using the lever and fulcrum for mechanical advantage.
9	As the object is lifted, add cribbing as needed, one layer at a time.
10	Remove the lever and fulcrum when the object is well supported.
11	Remove victims. If you must remove debris to locate a victim, use a human chain and pass the debris from one person to the next.
12	Reinitiate the lift and begin removing cribbing materials, reversing the process by which the crib was built.
13	Lower the object to the ground gradually. Always return heavy objects to a stable position unless you have to evacuate immediately.
14	Before you leave, collect all lifting/cribbing supplies to be reused for additional operations.

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LEVERAGING AND CRIBBING

Leveraging and cribbing are used in combination to lift heavy objects and stabilize them until a rescue is complete.

Safety Rule

Leveraging and cribbing must be gradual – lift an inch, crib an inch.

Leveraging

Leveraging is used to lift heavy debris.

- A lever is wedged under an obstructing object, with a stationary object underneath it to act as a fulcrum (pivot point). The lever and fulcrum must be perpendicular (90°) to the edge of the object being lifted.
- When the lever is forced down over the fulcrum, the far end of the lever will lift the object.

Cribbing

Cribbing is used to support or strengthen a leveraged object.

Materials of uniform length (e.g., planks of wood, tires, structural debris) are arranged in pairs to form a stable rectangle framework.

Box Cribbing

Box cribbing is the most reliable method of stabilizing lifted objects.

Step 1

Position two pieces of wood parallel to each other on either side of the collapse.

Step 2

Place two pieces of wood perpendicularly across the base pieces.

Step 3-4

Add additional layers of wood, with each perpendicular to the previous level.

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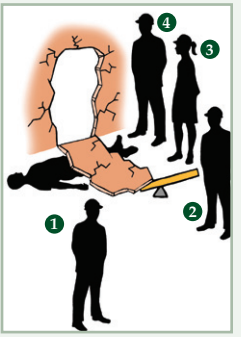
Cribbing Guidelines

- Stabilize the object to be lifted.
- Use shims to match the angle of a surface.
- As the object is lifted, add cribbing as needed; build on the foundation of the box crib.
- Don't crib higher than 3 times the length of the lumber being used.
- Support the load by as many intersections as possible.
  - A box of 4"x4" Douglas fir will hold 6,000 lbs per intersection.
  - A 2x2 box of 4"x4" will have 4 intersections, 24,000 lbs capacity. A 3x3 box holds 54,000 lbs.
- Fulcrums are like other crib boxes.
  - If you are using 4x4, 2x4 and 1x4 box cribs to build your fulcrum box, always have a 4"x4" as the top layer of your lever.

Leveraging with Cribbing Demonstration



1. **Group Leader:** In front of collapse, positioned so that he/she can view the entire operation while remaining out of the rescuers' way.
2. **Lever Person:** At the front edge of the collapsed wall, positioned so that he/she can place a fulcrum and lever under the wall.
3. **Crib Persons:** On either side of the collapsed wall, positioned to enable the placement of cribbing as the wall is raised with the lever.
4. **Medical Care/Victim Removal Person:** Next to the Crib Person who is closest to the victim's head.

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EXTRICATION METHODS

There are two basic methods of removing victims from debris:

1. Self-removal or assisted
2. Carry and drag

Choose an extrication method based on:

- General stability of the immediate environment
- Number of rescuers available
- Strength and ability of the rescuers
- Condition or ability of the victim

If a victim appears to have or states that he or she has a disability, ask about the limitations of the disability before moving him or her. It may be necessary for a first responder or medical professional to move the victim.

Note: Freed victims may be weak or injured and may need assistance to exit the structure.

Self-Removal

Allow victims who are capable of walking to extricate (get out) themselves.

Carry and Drag

Carrying or dragging a victim free of entrapment should only be used when the victim is not suspected of having a spinal injury or closed head injury.

If a victim appears to have a spinal or closed head injury, use a backboard to stabilize the victim's spine in transit. You can use doors, tables and similar material as improvised backboards. Use teamwork and communication to coordinate the move, keeping the victim's spine in a straight position.

When safety and time allow, do not use carries and drags to remove victims with closed head or spinal injuries.

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Carrying Methods

One Person

Arm Carry

If you are physically able and the victim is small:

1. Reach around the victim's back and under the knees.
2. Lift the victim while keeping your back straight and using your legs.

Pack-Strap Carry

Use for moving a victim quickly over a short distance:

1. Stand with your back to the victim.
2. Place the victim's arms over your shoulders and grab his or her hands, which should be in front of your chest.
3. Hoist the victim by bending slightly forward, until the victim's feet just clear the floor.

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Two Persons

Arm Carrying

It is easier to remove a victim using two rescuers. The rescuer with greater body strength should be positioned at the victim's upper body, as the upper body weighs more than the lower body.

Rescuer 1 – Upper Body

- Squat at the victim's head and grasp the victim from behind around the midsection.
- Reach under the arms and grasp the victim's left wrist with your right hand, and vice versa.
- Cross your wrists for a more secure hold on the victim. This also pulls the victim's arms and elbows closer to his or her body, which will be helpful if the victim is carried through any narrow passages.

Rescuer 2 – Lower Body

- Squat between the victim's knees, facing either toward or away from the victim.
- Grasp the outside of the victim's legs at the knees.

Both rescuers then rise to a standing position simultaneously, keeping their backs straight and using their legs to lift.

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Chair Carry

Rescuers can remove a victim by seating him or her on a chair (use a sturdy, non-swivel chair).

Rescuer 1 – Upper Body

- Cross the victim's arms in his or her lap.
- Facing the back of the chair, grasp the back upright.

Rescuer 2 – Lower Body

- Grasp the two front legs of the chair.

Both rescuers then tilt the chair back, lift it simultaneously and walk out.

If rescuers are carrying a victim over uneven areas, such as stairs, the rescuers will need to face each other.

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Blanket Carry

Use the blanket carry for victims who cannot be removed by other means. A variety of materials, such as blankets, carpets and folded tables, can be used as improvised stretchers.

You will need four to six rescuers to ensure stability for the victim – one rescuer must be designated the lead person.

Lifting the Victim

- Position a blanket next to the victim, ensuring that the blanket will extend under the victim's head.
- Tuck the blanket under the victim and assist the victim in moving to the center of the blanket. If necessary, use the log rolling technique to position him or her on the blanket.
- With three rescuers squatting on each side, roll up the edges of the blanket against the victim to grasp a "handle." The lead person checks the team for even weight distribution and correct lifting position.
- The lead person calls out, "Ready to lift on the count of three: One, two, three, lift."
- The team lifts and stands in unison – keeping the victim level – and carries the victim feet first.

Lowering the Victim

- The lead person calls out, "Ready to lower on the count of three: One, two, three, lower."
- The team lowers the victim in unison, exercising caution to keep the victim level.

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Dragging Methods

Dragging a victim from the lower body will be easier than from the upper body, as the upper body weighs more.

Blanket Dragging

- Wrap the victim in a blanket.
- Squat down and grasp an edge of the blanket.
- Drag the victim across the floor.

By the Shoulders

- Squat at the victim's head and grasp the victim from under his or her shoulders, supporting the victim's head using your forearms.
- Lift the victim's head and neck and rise by straightening your legs, keeping your knees slightly bent.
- Drag the victim as smoothly as possible.

By the Ankles

- Squat at the victim's feet and grasp the outside of his or her ankles.
- Lift the victim's feet and rise by straightening your legs, keeping your knees slightly bent.
- Drag the victim as smoothly as possible.

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SEARCH AND RESCUE SAFETY RULES

You **must** follow all search and rescue safety rules.

The two most frequent causes of rescuer deaths are:

1. Disorientation
2. Secondary collapse

Search and Rescue Guidelines

Use a Buddy System

» Successful search and rescue depends on teamwork.

Be Alert for Hazards

» You should never attempt to search an area where water is rising or there are fallen power lines, natural gas leaks, leaking hazmat, collapsed floors or walls, etc.

Use Safety Equipment

» Wear gloves and a helmet to protect your hands and head.

» Wear a dust mask to filter out all harmful materials.

» Evacuate to an upwind location if there is hazmat present, and notify professional responders.

Have Backup Teams Available

» Rotate teams to prevent fatigue.

» Have teams drink fluids and eat regularly to stay energized.

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MEDICAL OPERATIONS

During a disaster, it is critical to saving lives that CERT members know how to rapidly conduct triage evaluations and to treat life-threatening conditions.

CERT members also need to know basic first aid treatment to alleviate the discomfort of nonlife-threatening conditions.

Triage Procedure

Triage is the process of evaluating a victim's injuries and prioritizing the urgency of treatment.

Wear proper personal protective equipment (PPE) at all times to avoid endangering your own health.

1 Stop, Look, Listen and Think

- Size up the situation by looking around and listening.
- If it is safe to proceed, quickly make a plan for your approach.

2 Conduct Voice Triage

- Call out loudly and clearly, "Community emergency response team. If you can walk, come to the sound of my voice."
- Tag ambulatory (able to walk) survivors with "M" and direct them to a designated location.
- If the number of victims overwhelms rescuers' resources, ask survivors for assistance.
- Ask survivors for information on the location of victims.

3 Start Where You Stand and Follow a Systematic Route

- Evaluate the medical condition of the closest victim.
- Work outwards in a systematic pattern, evaluating the next closest victim and so on.

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4 Evaluate and Tag Each Victim

- If victims are conscious, identify yourself and ask for permission to treat their injuries. For more information, flip to "Approach/Rescue Methods."
- Remember to evaluate the ambulatory wounded as well as nonambulatory victims.
- Categorize the victim's condition based on how urgently he or she requires treatment. Flip to the "Triage Evaluation" tab for more information.

5 Treat Victims Tagged "I" Immediately

- Apply first aid to category "I" victims with life-threatening injuries.

6 Document Triage Results

- Note where resources have been deployed.
- Mark the location of victims.
- List the number of casualties by degree of severity.

Triage Categories

In mass casualty events, categorize the priority of treatment.

Tag	Category	Condition
"I" or red tag	Immediate	Victim has life-threatening injuries that demand immediate attention and treatment.
"D" or yellow tag	Delayed	Victim's injuries do not jeopardize his or her life. Treatment can be delayed.
"M" or green tag	Minor	Victim has minor or superficial injuries. Victims are usually ambulatory.
"DEAD" or black tag	Deceased	Victim has no respiration after two attempts to open the airways.*

* As CPR is one-on-one labor intensive, CPR is not performed when there are many more victims than rescuers.

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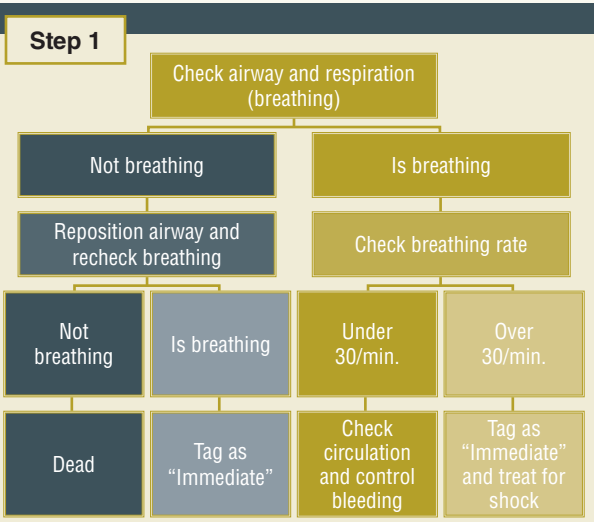
TRIAGE EVALUATION

The procedure for conducting triage evaluations involves checking the following:

1. Airway and breathing rate
2. Circulation and bleeding
3. Mental status

Triage Decision Flowchart



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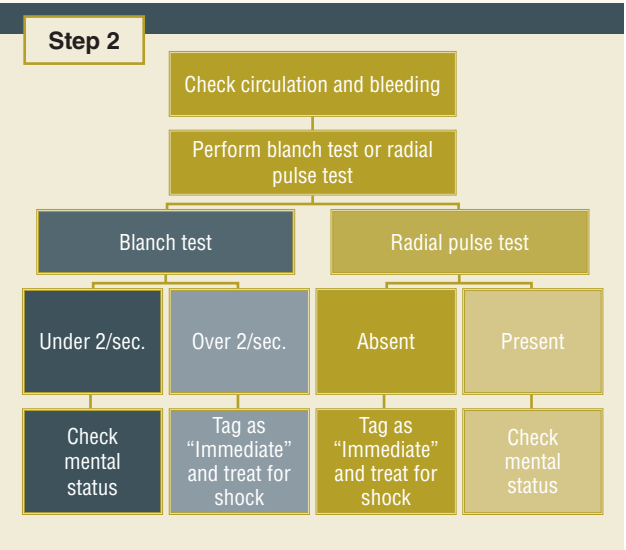

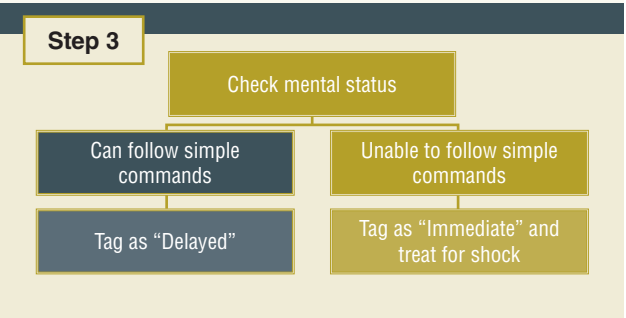

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TREATING LIFE-THREATENING CONDITIONS

For victims tagged "**Immediate**," CERT members must know how to:

- Open the airway.
- Control excessive bleeding.
- Treat for shock.

Open the Airway

Check the airway of victims first for obstructions and use the head-tilt/chin-lift method to open the airway.

Check for Consciousness

- Make contact with the victim by touching his or her shoulder and asking, "Can you hear me?"

Tilt the Victim's Head and Lift the Chin

- If the victim does not or cannot respond, place one of your palms on his or her forehead.
- Place two fingers of your other hand under his or her chin, and tilt the jaw upward while tilting the head back slightly.

Check for Respiration

- Place your ear close to the victim's mouth, looking toward the victim's feet, and place a hand on the victim's abdomen.
- *Look* for the chest rising.
- *Listen* for air exchange. Document if you hear unusual lung sounds (e.g., wheezing, gasping, gurgling).
- *Feel* for abdominal movement.

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Maintain a Clear Airway

- If breathing has been restored, keep the victim's head tilted back.
- If breathing has not been restored, reposition the airway by repeating the steps for tilting the head and lifting the chin, then recheck for respiration.

Check Circulation

- Once breathing has been restored, check the rate of circulation: Perform a blanch test or radial pulse test.
- Blanch Test
  - Lightly squeeze the skin until the skin lightens in color.
  - Release and count the seconds until the skin returns to normal color. Target time is 2 seconds.
- Radial Pulse Test
  - Place your middle and ring finger over the interior of the victim's wrist where the thumb meets the arm.
  - Feel for a pulse and count the beats. A normal pulse rate is 60-100 beats per minute.

Control Excessive Bleeding

If bleeding is not controlled, the victim will go into shock within a short period of time.

The three main methods for controlling bleeding involve:

1. Applying direct pressure to the origin of the bleeding.
2. Elevating the limb/body part with the wound to above the level of the heart.
3. Applying pressure to the pressure points nearest the wound.

Direct pressure and elevation will control bleeding in 95% of cases.

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Control Excessive Bleeding (Cont'd)

Direct Pressure

- Apply direct pressure on the wound by putting a clean dressing over the wound and pressing firmly.
- Maintain pressure on the dressing over the wound by wrapping the wound firmly with a pressure bandage and tying it with a bow. If the victim's limb is turning blue or becoming numb underneath the bandage, loosen the bandage.

Elevation

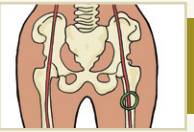
- Raise the wound above the level of the heart.
- For profuse bleeding, use direct pressure along with elevation. Direct pressure and elevation can take five to seven minutes to stop the bleeding completely.

Pressure Points

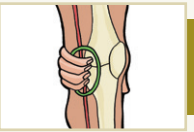
- Put pressure on the nearest pressure point to slow the flow of blood to the wound.
- The correct pressure point is between the wound and the heart:

Brachial point for bleeding in the arm

Femoral point for bleeding in the leg



Popliteal point for bleeding in the lower leg



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Treat for Shock

When a victim goes into shock, blood does not circulate around the body efficiently to provide sufficient oxygen and nutrients to tissue and organs. Cells, tissue and organs can shut down completely.

Checking for Symptoms of Shock

CERT members must be able to quickly identify the signs of shock.

1 Rapid and Shallow Breathing

» Check the victim's breathing rate – is it more than 30 breaths per minute?

2 Capillary Refill Time Greater than Two Seconds

» Check the victim's circulation – use the blanch test or the radial pulse test.

3 Failure to Follow Simple Commands

» Check the victim's mental status – give a simple command (e.g.,"Squeeze my hand").

Controlling Shock

1. Maintain an open airway.
2. Control obvious and excessive bleeding.
3. Maintain body temperature (e.g., cover the victim with a blanket).

Note: Avoid rough or excessive handling of the victim. Do not provide the victim with food or drink.

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TRIAGE SAFETY RULES

You **must** follow all triage safety rules.

Be Alert to Hazards

- Never attempt to conduct triage in an area where there are hazardous materials. CERT members should leave the scene to avoid harm to themselves and to reduce the risk of contamination.

Use Safety Equipment

- Wear gloves and a helmet to protect your hands and head.
- Wear a N-95 mask to filter out all harmful materials and bacteria.
- Wear sturdy shoes or boots to protect your feet.
- Use non-latex exam gloves when examining victims. Use a new pair for each victim when possible or sterilize your exam gloves between treating victims using a ratio of 1:10 bleach to water.
- Tip: Wear exam gloves under your work gloves to save time.

Cover All Open Wounds

- Cover any open wounds with clean dressings to prevent the spread of disease.

Have Backup Teams Available

- Rotate teams to prevent fatigue.
- Have teams drink fluids and eat regularly to keep themselves energized.

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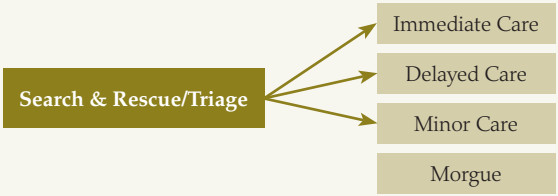
ESTABLISH A TREATMENT SITE

As victims are located, rescued and triaged, they are moved to a location where they can be treated.



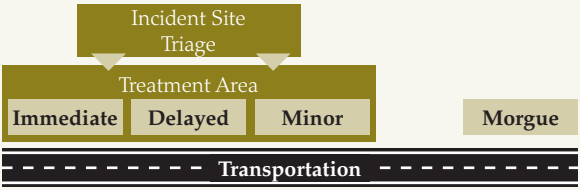
One centralized medical treatment site should be established to minimize transportation between rescue locations and treatment facilities.

The location of medical treatment sites should be:

- Free of hazards and debris
- Close to the hazard zone but uphill and upwind from the hazard
- Accessible to transport and expandable

Medical Treatment Area Site Layout

The medical treatment site must have designated and clearly labeled areas for each triage category.



"Immediate" and "Delayed" areas should be relatively close to each other.

The Morgue should be secure and away from (not visible from) the treatment areas.

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Medical Treatment Area Organization

CERT leaders must assign leaders to each category/subdivision within the medical treatment area to manage the care of victims and personnel operations.

Patient Configuration

- Position patients in a head-to-toe configuration, allowing for two to three feet between victims.
- When CERT members finish one head-to-toe assessment, they can turn around and be at the head of the next patient.

Patient Documentation

CERT members must document a victim's information:

- Name, address and phone number
- Description (age, sex, body build, estimated height)
- Clothing
- Injuries
- Treatment
- Transfer location

Victims assessed with minor injuries may choose to stay at or leave the medical treatment area.

- If they stay, they can assist CERT personnel.
- If they leave, it should be documented.

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HEAD-TO-TOE ASSESSMENT

After all victims in an area have been triaged and moved to a medical treatment area, CERT members will begin a thorough head-to-toe assessment of each victim's condition.

What to Look For

Follow the acronym DCAP-BTLS and look for signs in all body parts.

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

Body Parts to Check

- Head
- Neck
- Shoulders
- Chest
- Arms
- Abdomen
- Pelvis
- Legs

Check all extremities for Pulse, Movement and Sensation (PMS).

Look out for medical ID emblems on bracelets or on neck chains.

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Conducting a Head-to-Toe Assessment

Assessments should be conducted on all victims, even those who seem well.

If the victim is conscious:

- Ask for permission to conduct an assessment.
- Ask about any injuries, pain, bleeding or other symptoms.
- Ask about any pre-existing disability or medical condition.

Conduct head-to-toe assessments:

- Verbally (if the victim is able to speak)
- Hands-on (do not be afraid to remove clothing)
- Systematically (in the same sequence)
- Carefully (pay close attention, look, listen and feel for anything unusual)

Remember to check your own hands for signs of patient bleeding as you conduct the assessment.

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TREATING INJURIES

Closed Head, Neck and Spinal Injuries

A closed head injury is a concussion-type injury, as opposed to an open wound, such as a laceration.

Signs of a Closed Head, Neck or Spinal Injury

- Change in consciousness
- Inability to move one or more body parts
- Severe pain or pressure in 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 eyes)
- Uneven pupil size
- Seizures
- Nausea or vomiting
- Victim found under collapsed building material or heavy debris

Any of these signs could indicate a closed head, neck or spinal injury and should be treated accordingly.

Stabilizing the Head

- Use a backboard to support the head, neck or spine – materials could include: a door, a desktop or building materials.
- Use padding to hold the head, neck or spine in place – materials could include: towels, draperies and clothing. Tuck padding snugly on either side of the body part to immobilize it.

If the rescuer or victim is in immediate danger, safety is more important than any potential spinal injury. The rescuer should move the victim from the area as quickly as possible.

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Burn Injuries

The severity of a burn depends on the following:

- Temperature of the burning agent
- Period of time that the victim was exposed
- Area of the body that was affected
- Size of the burned area
- Depth of the burn

The depth of a burn can penetrate all three layers of skin:

1. The *epidermis*, or outer layer of skin, contains nerve endings and is penetrated by hairs = superficial burn.
2. The *dermis*, or middle layer of skin, contains blood vessels, oil glands, hair follicles and sweat glands = partial thickness burn.
3. The *subcutaneous layer*, or innermost layer, contains blood vessels and overlies the muscles = full thickness burn.

Treating Burns

- Immerse burned body parts in water for one minute or cover with compresses that are wet with cold water. Do not use ice: Ice causes vessels to constrict.
- Infants, young children, older people and people with severe burns are more susceptible to hypothermia. To reduce the chances of hypothermia, cool no more than 15% of the body surface area (the size of one arm) at once.

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- Cover burns loosely with dry, sterile dressings to keep air out, reduce pain and prevent infection. Do not apply antiseptics, ointments or other remedies.
- Wrap fingers and toes loosely and individually when treating burns to the hands and feet.
- Loosen clothing near the affected area. Do not remove shreds of tissue, break blisters or remove adhered particles of clothing. (Cut burned-in clothing around the burn.)
- Remove jewelry if necessary, taking care to document what was removed, when and to whom it was given.
- Elevate burned extremities higher than the heart.

Treat all victims of full thickness burns for shock.

Chemical Burns

Chemical burns do not result from extreme heat and are not always obvious.

If the skin is burning but there is no sign of fire, suspect a chemical burn.

- Protect yourself from contact with the substance. Use your personal protective equipment (PPE).
- Remove any affected clothing or jewelry, documenting what was removed.
- If the irritant is dry, gently brush away as much as possible. Brush away from the eyes and away from the victim and you.
- Flush the chemical using cool running water for 15 minutes. The running water will dilute the chemical fast enough to prevent the injury from becoming worse.
- Apply cool, wet compresses to relieve pain.
- Cover the wound loosely with a dry, sterile or clean cloth so that the cloth will not stick to the wound.

Treat victims for shock if appropriate.

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Inhalation Burns

When fire and smoke are present, check victims for symptoms of smoke inhalation. The majority of fire fatalities (60%-80%) are the result of smoke inhalation.

Symptoms may not appear until hours after the injury occurred – sometimes up to 24 hours.

Smoke Inhalation Symptoms

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

Response

- Maintain an open airway – flip to the "Life-Threatening Aid" tab for more information.
- Alert a medical professional as soon as possible.

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Fractures, Dislocations, Sprains and Strains

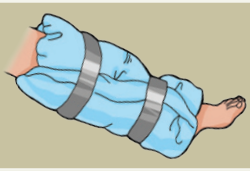
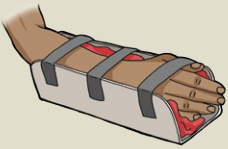
For fractures, dislocations, sprains and strains, immobilize the injury and joint immediately above and below the injury site.

With this type of injury, there will be swelling. Remove restrictive clothing, shoes and jewelry when necessary to prevent the loss of blood circulation.

Splinting

Splinting is the most common method of immobilizing an injury.

Splinting materials can include the following:

Soft materials Towels, blankets or pillows tied with bandaging material or soft cloth.	
Rigid materials Cardboard, metal strip, folded magazine or newspaper.	
Anatomical splints Usually used for fingers and toes but can be used for legs; secure a fractured bone to an adjacent unfractured bone. Fill the gap between the splinting material and the body part with soft materials.	

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Nosebleeds

Bleeding from the nose can be caused by:

- Blunt force to the nose
- Skull fracture
- Nontrauma-related conditions, such as 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.

Control Nasal Bleeding

- Sit the victim with his or her head slightly forward. Do not tilt the head back.
- Pinch the nostrils together.
- Put pressure on the upper lip just under the nose.
- Keep the victim quiet. Anxiety will increase the blood flow.

Wound Care

The main treatment for wounds includes:

- Controlling bleeding.
- Cleaning the wound.
- Applying dressings and bandages.

Control Bleeding

For more information on controlling excessive bleeding, flip to the "Life-Threatening Aid" tab.

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Cleaning a Wound

- Irrigate the wound with clean, room temperature water. Never use hydrogen peroxide.
- Use a bulb syringe to irrigate wounds. Never scrub the wound.

Dressing and Bandaging a Wound

- Apply a sterile dressing directly to the wound.
  - If there is active bleeding, reapply dressing over the existing dressing and maintain pressure and elevation to control the bleeding.
  - If there is no active bleeding, remove the dressing, flush the wound and check for signs of infection every four to six hours.

- Bandage the wound to keep the dressing in place.

Signs of Infection

- Swelling around the wound site
- Discoloration
- Discharge from the wound
- Red striations from the wound site

Amputations

When the severed body part can be located, take the following actions:

- Save tissue parts: Wrap in clean material and place in a plastic bag – label with the date, time and victim's name.
- Keep tissue parts cool, but not in direct contact with ice.
- Keep the severed part with the victim.

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TREATING BODY TEMPERATURE CONDITIONS

Hypothermia

Hypothermia can be caused by exposure to cold air or water, or by inadequate food combined with inadequate clothing and/or heat.

Initial Signs of Hypothermia

- A body temperature of 95°F or lower
- Redness or blueness of the skin
- Numbness accompanied by shivering

Delayed Signs of Hypothermia

- Slurred speech
- Unpredictable behavior
- Listlessness

Response

- 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 use massage to warm the affected body parts.
- Place conscious victims in a warm bath.
- Place unconscious victims in the recovery position.

Recovery Position

- Place the victim's arm nearest you at a right angle against the ground, with his or her 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.

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- Grab ahold of the knee furthest from you. 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.

Frostbite

Frostbite can be caused by blood vessels constricting to preserve body heat in response to extreme cold weather. The combination of inadequate circulation and extreme temperatures will cause tissue to freeze in body extremities.

Signs of Frostbite

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

Response

- Warm the victim slowly. Immerse him or her in warm (not hot) water – about 107.6°F.
- Wrap the affected body parts carefully in a dry, sterile dressing.
- Do not use massage to warm the affected body parts.
- Do not allow the body parts to refreeze as this will make the injury worse.

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Heat Exhaustion

Heat exhaustion can be caused by the loss of fluids through heavy sweating (often resulting from physical activity in extreme heat). The flow of blood to vital organs decreases and can result in a mild form of shock.

Signs of Heat Exhaustion

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

If heat exhaustion remains untreated, it may develop into heat stroke.

Heat Stroke

Heat stroke occurs when the body's temperature control system shuts down and the body's temperature rises to a high degree (above 103°F) that can cause brain damage.

Signs of Heat Stroke

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

Response

Treatment is similar for both heat exhaustion and heat stroke.

- Place the victim in a cool environment.
- Cool the body slowly with cool, wet towels or sheets.
- Give the victim water to gradually and slowly drink at the rate of half a glass every 15 minutes.
- If the victim is vomiting, having cramps or losing consciousness, do not give food or drink. Alert a medical professional immediately.

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ALLERGIC REACTIONS

Allergic reactions can be so severe that they cause the airway to close. This condition is anaphylaxis.

Allergic reactions can be due to environmental irritants, food intolerances, certain medications and bites or stings from insects.

Signs of Anaphylaxis

- Difficulty breathing or noisy breathing
- Swelling of the tongue
- Swelling/tightness in the throat
- Difficulty talking and/or a hoarse voice
- Wheezing or persistent coughing
- Rapid pulse
- Loss of consciousness and/or collapse
- Abdominal pain or vomiting (when associated with an allergic reaction to an insect sting or bite)

Response

- Calm the victim.
- Check the victim's airway and breathing.
- Remove constrictive clothing and jewelry as the body often swells in response to the allergen.
- If possible, find and help administer the victim's epinephrine (e.g., EpiPen, Adrenaclick, Twinjet). Do not administer medicine other than epinephrine. This includes pain relievers, allergy medicine, etc.
- Watch for signs of shock and treat the victim appropriately.

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DISASTER PSYCHOLOGY

Rescuers and victims can both be affected psychologically by trauma from a disaster.

Psychological trauma may be direct or indirect:

- Directly – CERT members may see or hear extremely unpleasant incidents that distress them.
- Indirectly – CERT members may take on the feelings of a victim or survivor.

Possible Psychological Symptoms

- Irritability or anger
- Self-blame or the blaming of others
- Isolation and withdrawal
- Fear of recurrence
- Feeling stunned, numb or overwhelmed
- Feeling helpless
- Mood swings
- Sadness, depression and grief
- Denial
- Concentration and memory problems
- Relationship conflicts/marital discord

Possible Physiological Symptoms

- Loss of appetite
- Headaches or chest pain
- Diarrhea, stomach pain or nausea
- Hyperactivity
- Increase in alcohol or drug use
- Nightmares
- Inability to sleep
- Fatigue or low energy

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SURVIVOR TRAUMA

Crisis survivors go through distinct emotional phases following a disaster.

Impact Phase	*During the actual disaster*

- Survivors generally do not panic and may be emotionless.

Inventory Phase	*Immediately after the disaster*

- Survivors assess damage and try to locate others.
- Functional relationships are formed in order to perform response activities.

Rescue Phase	*Period when emergency personnel respond*

- Survivors are willing to work with emergency service personnel to locate and rescue others.

Recovery Phase	*Period after search and rescue*

- Survivors can turn on rescuers, expressing anger or blame towards rescuers.

You should not take survivors' surface attitudes personally. Survivors' responses will mostly be due to the psychological impact of the event and not because of anything you have said or done.

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PSYCHOLOGICALLY STABILIZING VICTIMS

CERT members should aim to stabilize the incident scene by stabilizing individuals.

While medical needs must be addressed first, you can provide psychological intervention in the following ways:

- Observe victims to determine their level of responsiveness and whether they pose a danger to themselves or to others.
- Involve uninjured people in helping. Engaging survivors in focused activity helps them cope, so give them constructive jobs to do, such as organizing supplies.
- Help survivors connect to natural support systems, such as family, friends or clergy.
- Provide support by:
  - Listening to them talk about their feelings and their physical needs.
  - Empathizing with their feelings of pain and grief.

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EMPATHETIC LISTENING

Listen and let the victim talk.

- Draw upon your own past experiences and try to imagine how the speaker is feeling. Be careful not to take on the speaker's feelings.
- Listen for meaning, not just words, and pay close attention to the speaker's nonverbal communication, such as body language, facial expressions and tone of voice.
- Paraphrase the speaker periodically to make sure that you have fully understood what the speaker has said and to indicate to the speaker that you are listening. This reinforces the communication process.

Survivors that appear suicidal, psychotic or unable to care for themselves should be referred to mental health professionals for support.

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What Not to Say

Avoid saying phrases that may be misinterpreted.

"I understand."

In most situations, we cannot understand unless we have had the same experience.

"Don't feel bad."

The survivor has a right to feel bad and will need time to feel differently.

"You're strong" or
"You'll get through this."

Many survivors do not feel strong and question if they will recover from the loss.

"Don't cry."

It is OK to cry.

"It's God's will."

With a person you do not know, giving religious meaning to an event may insult or anger the person.

"It could be worse,"
"At least you still have …" or
"Everything will be OK."

It is up to the individual to decide whether things could be worse or if everything can be OK.

Rather than provide comfort, these types of responses could elicit a strong negative response or distance the survivor from you.

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MANAGING THE DEATH SCENE

CERT members may need to deal with a casualty who dies while under the team's care.

- Cover the body; treat it with respect. Wrap mutilated bodies tightly.
- If the casualty died while at the treatment area, move the body to your team's temporary morgue.
- If the casualty was tagged as "dead" during triage, do not remove the body from the incident area.
- Follow local laws and protocols for handling the deceased.
- Talk with local authorities to determine a plan.

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Informing Family and Friends of a Death

CERT members may have to inform family or friends of the death of a loved one or friend.

- Separate the family member(s) and friend(s) from others, and move them to a quiet, private place.
- Have the person(s) sit down, if possible.
- Make eye contact and use a calm, kind voice.
- Use the following words to tell the family members and friends about the death:

"I'm sorry, but your family member has died. I am so sorry."

- It is OK to reference the deceased person's name or their relation to the survivor if you know it.
- Let the family and friends grieve.

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EMERGENCY CONTACTS

Name/Organization	Contact Number

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CERT
COMMUNITY EMERGENCY RESPONSE TEAM

FIELD OPERATIONS GUIDE

The information included in this field operations guide is based on information found directly in the Community Emergency Response Team (CERT) Basic Manual, CERT Basic PowerPoint Presentations and contributions from the California CERT Advisory Workgroup. It is written for CERT volunteers who have completed the Federal Emergency Management Agency (FEMA) standard CERT basic training course.

www.fema.gov/community-emergency-response-teams

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