UNIT 3: DISASTER MEDICAL OPERATIONS—PART 1

In this unit you will learn about:

- **Life-threatening Conditions:** How to recognize and treat an airway obstruction, bleeding, and shock.
- **Triage:** Principles of triage and how to conduct triage evaluations.

UNIT 3: DISASTER MEDICAL OPERATIONS—PART 1

OBJECTIVES

At the conclusion of this unit, the participants should be able to:

- Identify the "killers."
- Apply techniques for opening airways, controlling bleeding, and treating for shock.
- Conduct triage under simulated disaster conditions.

SCOPE

The scope of this unit will include:

- Introduction and Unit Overview.
- Treating Life-Threatening Conditions.
- Triage.
- Unit Summary.

ESTIMATED COMPLETION TIME

2 hours 30 minutes

TRAINING METHODS

The lead Instructor will begin this session by welcoming the participants to Unit 3: Disaster Medical Operations—Part 1, and will introduce the Instructors for the session. The Instructor will then provide an overview of the topics included in the unit: Treatment of life-threatening conditions that may be encountered (airway obstruction, bleeding, and shock) and conducting triage.

Next, the Instructor will discuss and demonstrate the immediate procedures required for opening the airway, controlling bleeding, and treating shock. The participants will have the opportunity to practice techniques for treating each of these conditions. During this period, some discussion will take place about the differences between disaster medical operations and the participants' image of everyday first aid. (For example, mouth-to-mouth resuscitation and cardiopulmonary resuscitation (CPR) lose some of their importance in disaster situations when there are multiple casualties needing immediate attention and limited resources.)

The next topic of this session will deal with triage. The Instructor will open with a discussion of the meaning and goal of triage and provide background from the military's experience using triage for prioritizing treatment in multicasualty situations. This background will lead to comparisons of triage in disaster circumstances and the steps that CERT members will follow when conducting triage.

Finally, the participants will practice triage evaluation and immediate treatment in a simulated multicasualty exercise. This exercise will illustrate the need to conduct triage effectively and expeditiously under pressure and to focus on rescuer safety.

RESOURCES REQUIRED

- *Community Emergency Response Team* Instructor Guide
- *Community Emergency Response Team* Participant Manual
- Visuals 3.1 through 3.5

EQUIPMENT

In addition to the equipment listed at the front of this Instructor Guide, you will need the following equipment for this unit:

- A computer with PowerPoint software
- A computer projector and screen
- 1 mannequin
- 1 box of latex examination gloves
- 4" × 4" dressings (1 dressing for every 2 students)
- 1 triangular bandage per person
- Notecards, markers, and masking tape

Note: Some participants may be allergic to latex examination gloves. If you are aware of anyone in the class who has a latex allergy, either provide hypoallergenic gloves or suggest that the participant bring a pair of thin cotton gloves to wear underneath the examination gloves.

PREPARATION

The triage exercise near the end of this session requires materials prepared in advance of the activity. Prepare note cards listing the injuries of six "victims." The class will be divided into groups of six, and each group will need a copy of the set of cards. See page 3-34 for details.

NOTES

A suggested time plan for this unit is as follows:

Introduction and Unit Overview .....10 minutes
Treating Life-Threatening Conditions .....90 minutes
Triage .....45 minutes
Unit Summary .....5 minutes

Total Time: 2 hours 30 minutes

REMARKS

Be sure to emphasize throughout the session the importance of rescuer safety (e.g., using safety equipment, working with a buddy, and doing a thorough sizeup). These points cannot be made too often or too strongly. CERT members cannot help anyone if they become victims.

UNIT 3: DISASTER MEDICAL OPERATIONS—PART 1

INTRODUCTION AND UNIT OVERVIEW

INTRODUCE UNIT

Introduce this unit by welcoming the participants to Unit 3 of the CERT training program.

Introduce the new instructors for this unit and ask each to describe briefly his or her experience in medical operations.

Briefly review the fire safety lessons, covering the key points listed below.

- There are different classes of fire, and the method used to extinguish each must be appropriate for the type of fire.
- Before making the decision to extinguish a fire, CERTs should complete a thorough sizeup.
- CERTs should never attempt to enter smoke-filled buildings and should never attempt to extinguish large fires.
- Hazardous materials can be stored or transported and are common in both the home and workplace. CERT members should ensure that hazardous materials in the home are stored (or discarded) properly. In a disaster situation, CERTs should treat hazardous materials placards as a stop sign.

Answer any questions that the students may have about fire safety. Then, continue with the session.

EXPLAIN ASSUMPTIONS

Explain that the need for disaster medical operations is based on two assumptions:

- The number of victims will exceed the local capacity for treatment.
- Survivors will assist others. They will do whatever they know how to do. They need to know lifesaving first aid or post-disaster survival techniques.

INTRODUCTION AND UNIT OVERVIEW (CONTINUED)

Emphasize the need for neighborhood-level medical operations by describing the three phases of death from trauma:

- Phase 1: Death within minutes as a result of overwhelming and irreversible damage to vital organs
- Phase 2: Death within several hours as a result of excessive bleeding
- Phase 3: Death in several days or weeks as a result of infection or multiple-organ failure (i.e., complications from the injury)

FYI **INSTRUCTOR'S NOTE**

Explain that these phases underlie why disaster medical operations are conducted as they are (by identifying those with the most serious injuries as soon as possible and treating those with life-threatening injuries first).

Point out that Peter Safer's research after earthquakes in Chile, Peru, and Italy indicated that more than 40 percent of disaster victims in the second and third phases of death could be saved by providing simple medical care.

Add that CERT personnel are trained to provide:

- Treatment for life-threatening conditions—airway obstruction, bleeding, and shock—and for other less urgent conditions.
- The greatest good for the greatest number of victims by conducting simple triage and rapid treatment.

Remind the group that, in a disaster there will be more victims than rescuers and that immediate help will not be available to function quickly and efficiently to save lives.

Introduce the concept of Simple Triage And Rapid Treatment (START) when initially dealing with casualties in a disaster.

Poll the group to see how many have taken first aid courses.

INTRODUCTION AND UNIT OVERVIEW (CONTINUED)

OBJECTIVES

INSTRUCTOR'S NOTES

Note that those who have taken first aid courses will need to understand that CERT covers disaster medical operations where time is critical to conduct triage and treat many victims. CPR is not taught in this course because it is labor-intensive and not appropriate when there are many victims and professional help will be delayed.

VISUAL 3.1

Unit Objectives

1. Identify the "killers."
2. Apply techniques for opening airways, controlling bleeding, and treating for shock.
3. Conduct triage under simulated disaster conditions.

Visual 3.1

Tell the group that at the end of this unit, they should be able to:

- Identify the "killers."
- Apply techniques for opening the airway, controlling bleeding, and treating for shock.
- Conduct triage under simulated disaster conditions.

Stress once more that the goal of disaster medical operations is to do the greatest good for the greatest number. In a disaster with many victims, time will be critical. CERT members will need to work quickly and efficiently to help as many victims as possible.

INTRODUCTION AND UNIT OVERVIEW (CONTINUED)

Reiterate that this session will introduce the participants to treating the "three killers" and the principles of triage. Tell the group that, throughout the unit, they will have opportunities to practice the treatment techniques and, at the end of the unit, they will have the opportunity to conduct triage evaluations in a simulated disaster.

INSTRUCTOR'S NOTE

Ask the participants if anyone has any questions.

Explain that the first section will deal with treatment for life-threatening conditions: Airway obstruction, excessive bleeding, and shock.

TREATING LIFE-THREATENING CONDITIONS

VISUAL 3.2

Treatment of Life-Threatening Conditions

The "killers":

- Airway obstruction
- Excessive bleeding
- Shock

Visual 3.2

INTRODUCE TOPIC

Tell the group that, in emergency medicine, airway obstruction, bleeding, and shock are "killers." The first priority of medical operations is to attend to those potential killers by:

- Opening the airway.
- Controlling excessive bleeding.
- Treating for shock.

Explain that this section will train the group to recognize the "killers" by recognizing their symptoms and their effects on the body.

TREATING LIFE-THREATENING CONDITIONS (CONTINUED)

Remind the participants to wear safety equipment: Helmet, goggles, gloves, mask, and boots. Tell them that a time-saving technique is to wear latex gloves under their work gloves. Then, when they find a victim, they can remove their work gloves and are ready to work with the victim.

OPENING THE AIRWAY

INTRODUCE OPENING THE AIRWAY

Point out that the respiratory system includes airways, lungs, and muscles.

VISUAL 3.3

Treatment of Life-Threatening Conditions

Components of a respiratory system:

- Lung
- Bronchus
- Larynx
- Pharynx
- Nasal Air Passage
- Trachea

Visual 3.3

ASK QUESTION

Does anyone know what the most common airway obstruction is?

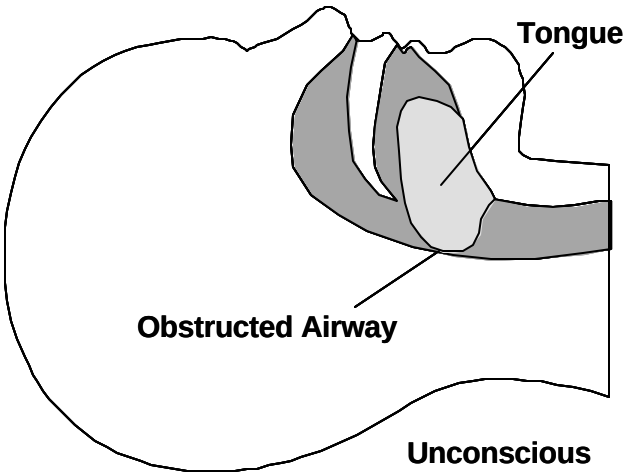
PM, P. 3-4

If not mentioned, tell the group that the most common airway obstruction is the tongue. Refer the participants to the illustration titled, *Airway Obstructed by the Tongue,* in the Participant Manual. Explain that, in an unconscious or semiconscious victim, especially one positioned on his or her back, the tongue—which is a muscle—may relax and block the airway. A victim with a suspected airway obstruction must be checked immediately for breathing and, if necessary, the airway must be opened.

PM, P. 3-4

Explain that when an airway obstruction is suspected, CERT members should clear the airway using the Head-Tilt/Chin-Lift method. Refer the participants to the table titled, *Head-Tilt/Chin-Lift Method for Opening an Airway*, in the Participant Manual.

	PM, P. 3-4	Airway Obstructed by the Tongue



	PM, P. 3-4	**Head-Tilt/Chin-Lift Method for Opening an Airway**

Step	Action
1	At an arm's distance, shake the victim by touching the shoulder and shout, "Can you hear me?"
2	If the victim does not or cannot respond, place the palm of one hand on the forehead.
3	Place two fingers of the other hand under the chin and tilt the jaw upward while tilting the head back slightly.
4	Place your ear over the victim's mouth, looking toward the victim's feet, and place a hand on the victim's abdomen.
5	*Look* for chest rise.
6	*Listen* for air exchange.
7	*Feel* for abdominal movement.

FYI

INSTRUCTOR'S NOTES

TREATING LIFE-THREATENING CONDITIONS (CONTINUED)

Demonstrate each step slowly using an instructor or participant as the victim. Explain that proper technique is important, but so is speed if there are multiple victims. Be sure to wear gloves while demonstrating to reinforce the need for protective equipment.

Explain that this method causes little or no cervical-spine manipulation because only the head is manipulated.

This method involves the following seven steps:

- Step 1: Positioning one's self at an arm's distance, shake the victim and shout, "Can you hear me?"
- Step 2: If the victim does not or cannot respond, place the palm of one hand on the victim's forehead.
- Step 3: Place two fingers of the other hand under the chin and tilt the jaw upward while tilting the head backward slightly.
- Step 4: Place your ear over the victim's mouth, looking toward the victim's feet, and place a hand on the victim's abdomen.
- Step 5: Look for chest rise.
- Step 6: Listen for air exchange.
- Step 7: Feel for abdominal movement.

TREATING LIFE-THREATENING CONDITIONS (CONTINUED)

EXERCISE: OPENING THE AIRWAY

CONDUCT EXERCISE

Purpose: This exercise allows the participants to practice using the Head-Tilt/Chin-Lift method on each other. It is important to have other instructors who can help observe. Make sure that you all agree on the proper procedure.

Instructions: Follow the steps below to conduct this exercise:

1. Assign the group to pairs.
2. Ask the person on the right to be the victim and the person on the left to be the rescuer.
3. Ask the victims to lie on the floor on their backs and close their eyes.
4. Ask the rescuer to use the Head-Tilt/Chin-Lift method on the victim to open the airway.

FYI

INSTRUCTOR'S NOTE

Observe each group and correct improper technique.

5. After the rescuer has made two or three attempts at using the Head-Tilt/Chin-Lift method, ask the victim and the rescuer to change roles.
6. Allow each rescuer two or three observed attempts to use the Head-Tilt/Chin-Lift method.

After all of the participants have had the opportunity to be the rescuer, discuss any problems or incorrect techniques that were observed. Explain how to avoid these problems in the future.

TREATING LIFE-THREATENING CONDITIONS (CONTINUED)

FYI **INSTRUCTOR'S NOTE**

Teach this skill in accordance with your local protocols.

Remind the participants that part of their mission is to do the greatest good for the greatest number of people. For that reason, if breathing is not restored on the first try using the Head-Tilt/Chin-Lift method, CERT members should try again using the same method. If breathing cannot be restored on the second try, CERT members must move on to the next victim.

Tell the group that, if breathing has been restored, the airway still must be maintained. One option is to use a volunteer or walking wounded to hold the head in place. The airway also can be maintained by placing soft objects under the victim's shoulders to elevate the shoulders slightly and keep the airway open.

FYI **INSTRUCTOR'S NOTES**

Demonstrate both techniques.

Ask the participants if anyone has any questions about recognizing and clearing airway obstructions.

Tell the group that they should always be concerned with head, neck, or spinal injuries (all of which are common in structural collapses). Used properly, the head-tilt/chin-lift method for opening an airway causes little spinal manipulation because the head pivots on the spine.

Remind the group of the importance of opening the airway as quickly as possible.

Tell the participants that in the next section, they will learn to recognize and treat uncontrolled bleeding.

FYI **INSTRUCTOR'S NOTE**

Explain that head injury refers to concussion, not head or facial cuts, although these may be indicators of head injury.

TREATING LIFE-THREATENING CONDITIONS (CONTINUED)

CONTROLLING BLEEDING

INTRODUCE CONTROLLING BLEEDING

Introduce this section by telling the group that uncontrolled bleeding initially causes weakness. If bleeding is not controlled, the victim will go into shock within a short period of time, and finally will die. An adult has about five liters of blood. Losing one liter can result in death.

INSTRUCTOR'S NOTES

Show the class a one-liter bottle to illustrate this learning point.

Explain to the group that there are three types of bleeding and the type can usually be identified by how fast the blood flows:

- Arterial bleeding. Arteries transport blood under high pressure. Bleeding from an artery is spurting bleeding.
- Venous bleeding. Veins transport blood under low pressure. Bleeding from a vein is flowing bleeding.
- Capillary bleeding. Capillaries also carry blood under low pressure. Bleeding from capillaries is oozing bleeding.

Tell the group that there are three main methods for controlling bleeding:

- Direct pressure
- Elevation
- Pressure points

PM, PP. 3-7

Refer the participants to the table titled, *Procedures for Controlling Bleeding*, in the Participant Manual.

INSTRUCTOR'S NOTE

Demonstrate each procedure on the mannequin or on another instructor.

	PM, PP. 3-7	Procedures for Controlling Bleeding

Method	Procedures
Direct Pressure	▪ Place direct pressure over 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.
Elevation	▪ Elevate the wound above the level of the heart.
Pressure Points	▪ Put pressure on the nearest pressure point to slow the flow of blood to the wound. Use the: • Brachial point for bleeding in the arm. • Femoral point for bleeding in the leg. (Page 3-8 in the Participant Manual contains illustrations of these pressure points.) There are other pressure points that the Instructor may demonstrate.

TREATING LIFE-THREATENING CONDITIONS (CONTINUED)

Explain to the group that direct pressure combined with elevation will address most bleeding. Demonstrate the procedure for controlling bleeding through direct pressure:

- Step 1: Place direct pressure over the wound by putting a clean dressing over the wound and pressing firmly.
- Step 2: Maintain pressure on the dressing over the wound by wrapping firmly with a pressure bandage.

Stress that direct pressure and elevation can take 5 to 7 minutes to stop the bleeding completely. The use of a dressing and pressure bandage allows the rescuer to move on to the next victim.

Explain that a pressure bandage should be tied with a bow, so that it can be loosened—rather than cut—to examine the wound, and then retied. This procedure helps to conserve supplies and saves time.

FYI **INSTRUCTOR'S NOTE**

Explain that the bandage maintains the direct pressure needed to stop the bleeding. CERT members continue to assess the victim's status. If the victim's limb is turning blue or becoming numb below the bandage, then it should be loosened.

Ask if anyone has any questions about applying a pressure bandage.

Demonstrate the procedure for controlling bleeding through elevation: Elevating the wound above the level of the heart. Elevation is used in combination with direct pressure.

Tell the participants that there are also pressure points that can be used to stem the flow of bleeding.

TREATING LIFE-THREATENING CONDITIONS (CONTINUED)

INSTRUCTOR'S NOTE

Point out the major pressure points using an instructor or participant.

The pressure points most often used are the:

- Brachial point in the arm.
- Femoral point in the leg.

PM, PP. 3-8 & 3-9

Refer the participants to the illustrations of these pressure points and the figure titled, *Methods for Controlling Bleeding*, in the Participant Manual. Motivate the participants to get victims to help themselves, whenever possible.

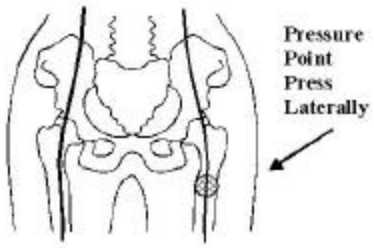
INSTRUCTOR'S NOTE

Ask if anyone has any questions about controlling bleeding.

	PM, PP. 3-8 & 3-9	Methods for Controlling Bleeding

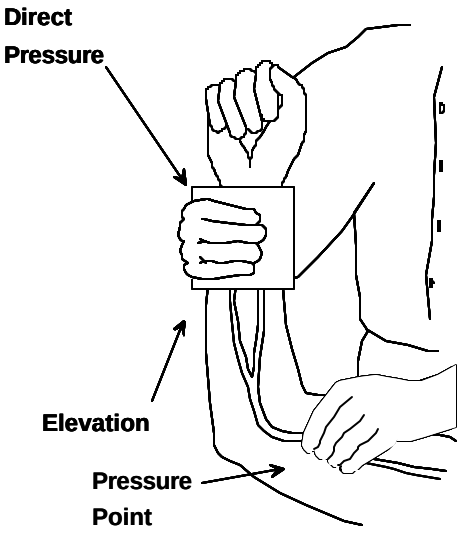
Brachial Pressure Point

Brachial Pressure Point, just above the elbow.



Femoral Pressure Point

Femoral Pressure Point, in the Upper thigh.



Methods For Controlling Bleeding by using direct pressure on wound, elevation, and pressure points.

TREATING LIFE-THREATENING CONDITIONS (CONTINUED)

EXERCISE: CONTROLLING BLEEDING

CONDUCT EXERCISE

Purpose: This exercise allows the participants to practice the techniques for controlling bleeding on each other.

Instructions: Follow the steps below to conduct this exercise:

1. Assign the group to pairs.
2. Ask the older person to be the victim and the younger person to be the rescuer.
3. Ask the victims to lie on the floor on their backs and close their eyes.
4. Ask the rescuer to use direct pressure to control bleeding from a simulated wound on the right forearm just below the elbow. Have the rescuer:
   - Apply a pressure bandage.
   - Elevate the arm.
   - Repeat these two steps.
   - Repeat the two steps for speed.

FYI

INSTRUCTOR'S NOTE

Observe each group and correct any improper techniques. Common errors include bandages that are too loose, tying a knot instead of a bow, or elevation that cannot be maintained with comfort.

5. After the rescuer has made at least three attempts at using each technique, ask the victim and the rescuer to change roles. (Note: The three attempts should emphasize a progression of slow to fast in applying the skill.)
6. Allow each rescuer at least one observed attempt to use each technique.

After all of the participants have had the opportunity to be the rescuer, discuss any problems or incorrect techniques that were observed. Explain how to avoid the problems in the future.

TREATING LIFE-THREATENING CONDITIONS (CONTINUED)

FYI **INSTRUCTOR'S NOTE**

Demonstrate use of the brachial pressure point by applying pressure to your own arm. Then, have the participants apply pressure to their own arms so that they can feel the effect of this method.

Note: The following section on tourniquets is optional and can be added at the Instructor's discretion.

In a disaster setting, especially following an earthquake, response resources will be delayed in meeting many immediate needs. CERTs will use direct pressure/elevation and pressure points to manage most bleeding. However, if bleeding cannot be stopped using these methods and professionals will be delayed in responding, a tourniquet may be a viable option to save a person from bleeding to death.

A tourniquet is a last resort (life or limb) when other means have failed to control bleeding in an arm or a leg. While the use of a tourniquet is extremely rare, it may have a use when part of an extremity is amputated or crushed and bleeding cannot be stopped by any other preferred means.

Explain the proper use of a tourniquet and demonstrate its application, making the following points.

- A tourniquet is a bandage which, when placed around a limb and tightened, cuts off the blood supply to the part of the limb beyond it.
- A tourniquet can do harm to the limb, but it can halt severe blood loss when all other means have failed and professional help will not arrive in time to help stop the bleeding before the person dies.
- Use any long, flat, soft material (bandage, neck tie, belt, or stocking). Do not use materials like rope, wire, or string, that can cut into the patient's flesh.

TREATING LIFE-THREATENING CONDITIONS (CONTINUED)

- General rules for using a tourniquet include:

  - Place the tourniquet between the wound and the heart.
  - Use wide and soft material.
  - Tie a knot and using a stick, pen, ruler, etc., as a lever, tighten the bandage until bleeding stops, and secure the lever to maintain pressure.
  - Mark the patient is a way that will inform first responders that a tourniquet was used and what time it was applied.
  - Only proper medical authorities can remove a tourniquet.

Reiterate the three main ways to control excessive bleeding:

- Direct pressure
- Elevation
- Pressure points

Stress that bleeding must be controlled as quickly as possible so as not to endanger the victim's life from blood loss. A tourniquet may be used only as a last resort.

Remind the group that they should always wear their latex gloves, goggles, and a mask as a protection against blood-borne pathogens, such as hepatitis and HIV.

ASK QUESTION

Ask if anyone has any questions about controlling excessive bleeding.

Tell the group that the next section will deal with recognizing and treating shock.

TREATING LIFE-THREATENING CONDITIONS (CONTINUED)

RECOGNIZING AND TREATING SHOCK

INTRODUCE RECOGNIZING AND TREATING SHOCK

Introduce this section by explaining that shock is a disorder resulting from ineffective circulation of blood. Remaining in shock will lead to the death of:

- Cells.
- Tissues.
- Entire organs.

Stress that the body will initially compensate for blood loss and mask the symptoms of shock. Stress the importance of continually evaluating patients for shock and monitoring their condition.

Tell the group that the main signs of shock that CERT members should look for are:

- Rapid and shallow breathing.
- Capillary refill of greater than 2 seconds.
- Failure to follow simple commands, such as "Squeeze my hand."

INSTRUCTOR'S NOTE

To demonstrate rapid, shallow breathing, ask two participants to come to the front of the room. Tell one to breathe normally. Tell the other to "pant" (i.e., 30 or more breaths per minute). Point out the audible difference to the class. Make sure that the participant who is "panting" is sitting during the demonstration.

Ask the participants to check their own capillary refill by pushing down on the palm of their hand and then releasing. Tell them to watch what happens. Ask one of the participants to explain. Tell the group that this is referred to as the "blanch test."

TREATING LIFE-THREATENING CONDITIONS (CONTINUED)

PM, P. 3-12

Demonstrate the procedure for treating victims of shock. Refer the participants to the chart titled, *Procedures for Controlling Shock*, in the Participant Manual.

- Step 1: If necessary, place a blanket or other material under the victim to provide protection from extreme ground temperatures (hot or cold). Position the victim on his or her back. Elevate the feet 6-10 inches above the level of the heart. Maintain an open airway.
- Step 2: Control obvious bleeding.
- Step 3: Maintain body temperature.
- Step 4: Avoid rough or excessive handling.

ASK QUESTION

Ask if anyone has a question about the signs or treatment of shock.

Emphasize that, although victims who are suffering from shock may be thirsty, they should not eat or drink anything initially because they may also be nauseated.

	PM, P. 3-12	**Procedures for Controlling Shock**

Step	Action
1	▪ Lay the victim on his or her back. ▪ Elevate the feet 6-10 inches above the level of the heart. ▪ Maintain an open airway.
2	▪ Control obvious bleeding.
3	▪ Maintain body temperature (e.g., cover the ground and the victim with a blanket if necessary).
4	▪ Avoid rough or excessive handling unless the rescuer and victim are in immediate danger.

TREATING LIFE-THREATENING CONDITIONS (CONTINUED)

EXERCISE: TREATING SHOCK

CONDUCT EXERCISE

Purpose: This exercise allows the participants to practice the steps for treating shock on each other.

Instructions: Follow the steps below to conduct this exercise:

1. Assign the group to the same pairs as in the previous exercises.
2. Ask the person who was the rescuer first in the last exercise to be the victim first.
3. Ask the victims to lie on the floor on their backs and close their eyes.
4. Explain the following scenario to the rescuers:
   - You have come upon this victim who has been bleeding profusely from a wound of the upper arm for an undetermined period of time.
   - The victim is now unconscious.
5. Ask the rescuer to treat the victim.

FYI

INSTRUCTOR'S NOTE

Observe each rescuer as he or she treats for shock. Do not let the students put a blanket under the victim's feet. Blankets are scarce during a disaster response and should not be used for nonessential purposes.

6. When each rescuer has been observed treating for shock, ask the victim and the rescuer to switch roles.

When all of the rescuers have had the opportunity to treat their victims, lead a discussion about any incorrect techniques observed and how to correct them in the future.

Reiterate the key points about recognizing and treating shock:

- A victim may display one or more signs of shock.
- If there is any reason to suspect shock, apply immediate treatment.

ASK QUESTION

TREATING LIFE-THREATENING CONDITIONS (CONTINUED)

Ask if anyone has a question about the signs of shock or its treatment.

Tell the group that, in a disaster scenario, they may have many victims requiring attention and few resources to use. The next section will use the skills just learned for prioritizing victim treatment, called triage.

TRIAGE

INTRODUCE TOPIC

Introduce this topic by asking the group how many remember the scenes from the television series *M*A*S*H* where the helicopters arrived and the doctors and nurses quickly examined each patient to determine the priority for treatment.

INSTRUCTOR'S NOTE

The point of this discussion is to get the participants thinking about multiple casualties.

During these scenes, the medical personnel:

- Identified the dead and those who were too severely injured to be saved.
- Sent those with relatively minor injuries and wounds to a holding area to await treatment.
- Identified those who would die without immediate treatment and sent them to the operating room.

Tell the participants that these scenes showed medical personnel conducting triage—a French term meaning "to sort."

Explain that during triage, victims are evaluated, sorted by the urgency of the treatment needed, and set up for immediate or delayed treatment.

Explain further that triage was, in fact, initiated by the military and that experience has shown that triage is an effective strategy in situations where:

- There are many more victims than rescuers.
- There are limited resources.
- Time is critical.

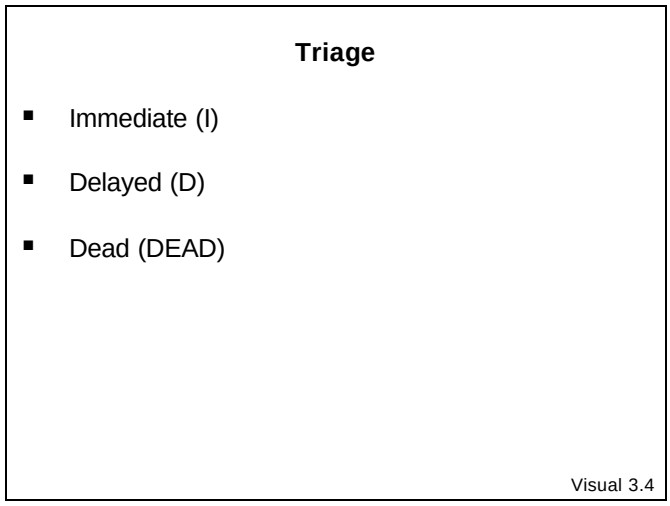
TRIAGE (CONTINUED)

INSTRUCTOR'S NOTE

Remind the group that, if hazardous materials are present or if the incident involves a chemical or biological terrorist attack, rescuer safety is paramount. CERT members should leave the scene to avoid harm to themselves, and to reduce the risk of spreading the contamination.

Point out that triage occurs as quickly as possible after a victim is located or rescued.

VISUAL 3.4



During triage, victims' conditions are evaluated and the victims are prioritized into three categories:

- Immediate (I): The victim has life-threatening (airway, bleeding, or shock) injuries that demand immediate attention to save his or her life; rapid, life-saving treatment is urgent.
- Delayed (D): Injuries do not jeopardize the victim's life. The victim may require professional care, but treatment can be delayed.

TRIAGE (CONTINUED)

- Dead (DEAD): No respiration after two attempts to open the airway. Because CPR is one-on-one care and is labor-intensive, CPR is not performed when there are many more victims than rescuers.

Remind the group that the CERT program goal is to do the greatest good for the greatest number.

FYI **INSTRUCTOR'S NOTE**

Some participants may respond negatively to not performing CPR. Explain that CPR is a maintenance therapy that requires time and rescuers that may not be available when dealing with multiple casualties after a disaster. In the event that multiple casualties are not encountered, CPR may be administered by available trained personnel.

Explain that, from triage, victims are taken to the designated medical treatment area (immediate care, delayed care, or the morgue).

FYI **INSTRUCTOR'S NOTE**

Emphasize the need for rescuer safety during triage. Rescuers must wear all safety equipment, including latex gloves, goggles, a helmet, and a dust mask (preferably one labeled, "M95," which will filter particles as small as 3 microns) when examining victims and should try to change gloves between victims. Because of limited supplies, it may not be possible to use a new pair of gloves for every victim. If this is the case, gloves may be sterilized between treating victims using 1 part bleach to 10 parts water. Tell the group that their disaster kits should have a box of latex gloves.

Demonstrate the methods for changing latex gloves without contaminating oneself by pinching the glove at the top and rolling it off while turning it inside out as it comes off. To remove the second glove, tuck two fingers inside the glove and roll the glove off, being careful not to touch the outside.

TRIAGE (CONTINUED)

TRIAGE IN A DISASTER ENVIRONMENT

INTRODUCE TRIAGE IN A DISASTER ENVIRONMENT

Introduce this section by explaining the general procedure for conducting triage:

- Step 1: Stop, Look, Listen, and Think. Before you start, stop and size up the situation by looking around and listening. THINK about your safety, capability, and limitations, and decide if you will approach the situation and how.

- Step 2: Conduct voice triage. Begin by calling out, "Emergency Response Team. If you can walk, come to the sound of my voice." If there are survivors who are ambulatory, instruct them to remain at a designated location, and continue with the triage operation. (If rescuers need assistance and there are ambulatory survivors, then these survivors should be asked to provide assistance.) These persons may also provide useful information about the location of the victims.

- Step 3: Start where you stand, and follow a systematic route. Start with the closest victims and work outward in a systematic fashion.

- Step 4: Evaluate each victim and tag them "**I**" (immediate), "**D**" (delayed), or **DEAD.** Remember to evaluate the walking wounded.

- Step 5: Treat **I** victims immediately. Initiate airway management, bleeding control, and/or treatment for shock for Category **I** victims.

- Step 6: Document triage results for:

  - Effective deployment of resources.
  - Information on the victims' locations.
  - A quick record of the number of casualties by degree of severity.

Emphasize that the rescuer's safety is paramount during triage. Remind the participants to wear proper protective equipment so as not to endanger their own health.

TRIAGE (CONTINUED)

PERFORMING A TRIAGE EVALUATION

INSTRUCTOR'S NOTE

The goal of this activity is to complete triage in 15 to 30 seconds. Each student should repeat these tasks three times, progressing from slow to fast.

INTRODUCE TRIAGE EVALUATION

Refer the participants to the table titled, *Triage Procedures*, in the Participant Manual. The goal of triage is to identify and treat victims who need immediate care as rapidly as possible. Introduce this section explaining that when conducting a triage evaluation, they should:

PM, P. 3-15

- Start with the airway. Positioning oneself at an arm's distance, shake the victim and shout. If the victim does not respond, then:
  - Position the airway.
  - Look, listen, and feel.
  - Check breathing (greater than 30 should be marked "**I**").
  - If the victim is not breathing after two attempts to open the airway, then tag the victim "**DEAD**."
- Check for bleeding.
  - Stop uncontrolled bleeding.
  - Perform blanch test (greater than 2 seconds should be marked "**I**").

INSTRUCTOR'S NOTE

Explain that the blanch test is not valid in children, and that mental status should be used instead as the main indicator.

- Check mental status. Ask the victim to follow a simple command (such as squeezing your hand). If no response, the victim's status is "**I**."

If the victim passes all tests, his or her status is "**D**." If the victim fails one test, status is "**I**." Remember that everyone gets a tag.

	PM, P. 3-15	**Triage Procedures**

Step	Procedures
1	Check airway/breathing. At an arm's distance, shake the victim and shout. If the victim does not respond: ▪ Position the airway. ▪ Look, listen, and feel. ▪ Check breathing rate. Abnormally rapid respiration (above 30 per minute) indicates shock. Treat for shock and tag "I." ▪ If below 30 per minute, then move to Step 2. ▪ If the victim is not breathing after 2 attempts to open airway, then tag "DEAD."
2	▪ Check circulation/bleeding. ▪ Take immediate action to control severe bleeding. ▪ Check circulation using the blanch test (for capillary refill). • Press on an area of skin until normal skin color is gone. A good place to do this is on the palm of the hand. The nailbeds are sometimes used. • Time how long it takes for normal color to return. ▪ Treat for shock if normal color takes longer than 2 seconds to return, and tag "I."
3	Check mental status. Give a simple command, such as "Squeeze my hand." Inability to respond indicates that immediate treatment for shock is necessary. Treat for shock and tag "I."

TRIAGE (CONTINUED)

DOCUMENTING TRIAGE

PM, P. 3-16

Refer the participants to the *Sample Triage Documentation* figure in the Participant Manual.

Explain how to document victims during triage (the number of people tagged "Immediate," "Delayed," and "Dead") and their location. Also explain to the group how useful such information can be to professional responders.

INSTRUCTOR'S NOTE

Demonstrate—either on a mannequin or on another instructor—the procedure for conducting a head-to-toe assessment

	PM, P. 3-16	Sample Triage Documentation

Status	Location			
	A	B	C	D
I	1	2	0	1
D	0	2	5	3
Dead	3	7	1	0

TRIAGE (CONTINUED)

PM, P. 3-17

Refer the participants to the flowchart titled, *Triage Decision Flowchart*, in the Participant Manual and recommend that they study the flowchart outside of this session until they are very familiar with triage procedures. (Point out that "2 seconds" refers to the results of the capillary refill test.)

Stress that time will be critical in a disaster. The participants will not be able to spend very much time with any single victim.

Stress also that the participants should take advantage of local exercises as a means of maintaining their triage skills and to help them avoid the triage pitfalls.

VISUAL 3.5

Triage Pitfalls

- No team plan, organization, or goal
- Indecisive leadership
- Too much focus on one injury
- Treatment (rather than triage) performed

Visual 3.5

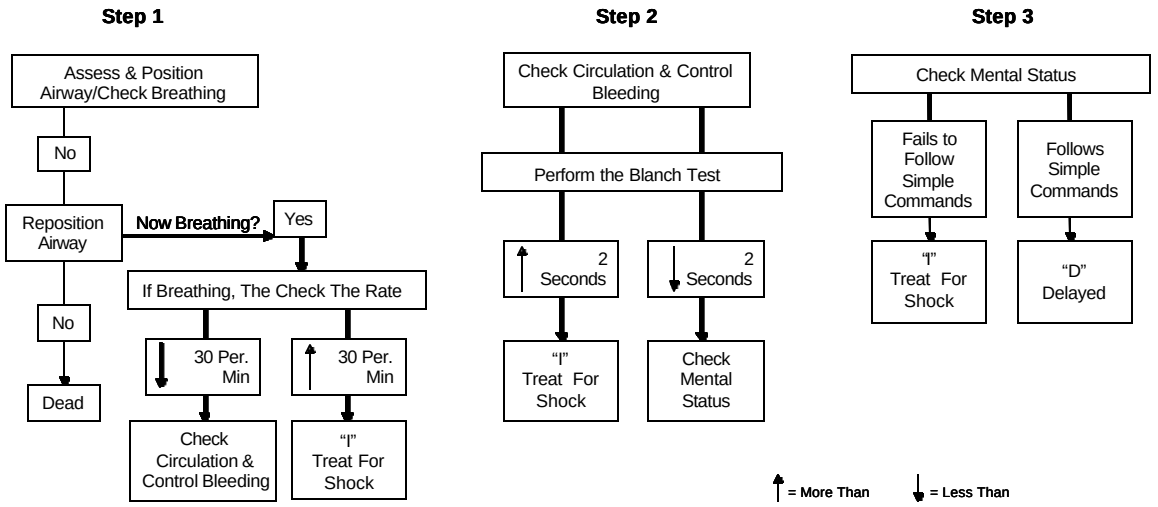
Triage pitfalls include:

- No team plan, organization, or goal.
- Indecisive leadership.
- Too much focus on one injury.
- Treatment (rather than triage) performed.

INSTRUCTOR'S NOTE

Ask the group if anyone has any questions on how to perform triage.

	PM, P. 3-17	Triage Decision Flowchart



Triage Decision Flowchart, showing the three steps in the triage process. Step 1: assess and position the airway and check breathing; Step 2: Check circulation and control bleeding; Step 3: Check mental status.

TRIAGE (CONTINUED)

EXERCISE: CONDUCTING TRIAGE

CONDUCT EXERCISE

Purpose: This exercise is intended to allow the participants to practice conducting triage in a high-pressure situation.

Instructions: Follow the steps below to conduct this exercise:

1. Before the session, prepare six cards, each documenting the status of one disaster victim, as follows:

   - Victim #1: Ambulatory—responds to voice triage.
     Minor bleeding.
     Normal blanch.
   - Victim #2: Bleeding extremity.
     Unconscious.
     After two attempts to open airway, still not breathing.
   - Victim #3: Standing, but does not respond to voice commands.
   - Victim #4: No signs of bleeding.
     Unconscious.
     Blanch takes 5 seconds.
   - Victim #5: No bleeding.
     Conscious.
     Doesn't squeeze hand when asked.
   - Victim #6: Minor bleeding.
     Conscious but disoriented.
     Breathing rate is 40 per minute.

2. Assign the class to 6-person groups. Have enough sets of cards so that there will be one set for each group. In each group, three participants will act as victims, and three will act as search and rescue team members (two rescuers and one runner).

3. Ask the "victims" to select a card from their set and tape it to their shirts.

4. Designate a "disaster" area for each group and ask the victims to arrange themselves within the designated area.

TRIAGE (CONTINUED)

FYI **INSTRUCTOR'S NOTE**

Remind the participants to bring their blankets to the disaster area.

5. Explain to the participants that the three "rescuers" will have 5 minutes to:

   - Conduct triage on each of the victims and determine how each should be tagged and treated.
   - Document the number of victims in each category of triage (immediate, delayed, dead).

6. Begin the activity. Observe the rescuers as they plan for and conduct triage.

7. At the end of the time period, call the groups together and conduct a 5-minute discussion with each group on the results of the triage exercise. Discuss:

   - Problems that the rescuers encountered during triage.
   - How it felt to be under pressure to conduct triage within such a short period of time.

   Relate the rescuers' feelings about their time constraints to the pressure they will feel under actual conditions. Explain that they will learn ways to control some of their stresses in a later session.

8. Have the group members switch roles and repeat the activity, with the three new victims using the three unused cards, so that each participant has a chance to be a rescuer once.

FYI **INSTRUCTOR'S NOTES**

Ask the participants if they have any questions about triage.

Be sensitive to the participants and the difficulty of these decisions during a catastrophic event. Emphasize that planning and organization are necessary to do the greatest good for the greatest number of victims.

SUMMARIZE THE KEY POINTS

UNIT SUMMARY

Summarize the key points from this unit:

- CERT members' ability to open airways, control bleeding, and treat shock is critical to saving lives.
  - Use the Head-Tilt/Chin-Lift method for opening airways.
  - Control bleeding using direct pressure, elevation, and/or pressure points.
  - If there is a question about whether a victim is in shock, treat for shock.
- Triage is a system for rapidly evaluating victims' injuries and prioritizing them for treatment. The procedure for conducting triage evaluations involves checking:
  - The airway and breathing rate.
  - Circulation and bleeding.
  - Mental status.

Remind the participants that disaster medical operations require careful planning, teamwork, and practice. Urge them to take advantage of participating in community-wide disaster exercises whenever they are scheduled.

HOMEWORK ASSIGNMENT

Ask the participants to read and become familiar with Unit 4: Disaster Medical Operations— Part 2 before the next session.

Remind the participants to bring a blanket, roller gauze, adhesive tape, and cardboard to the next session.

Thank everyone for attending this session.