

Instructor Guide to Unit Five:
Disaster Medical Operations
Part Two

1. The goal of this unit is to understand medical operations from a public health perspective, learn how to establish treatment areas and do basic medical treatments.

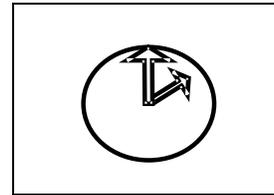
2. This is the content for Unit Five:

- a. Public Health Considerations
- b. Functions of Disaster Medical Operations
- c. Establishing Treatment Areas
- d. Conducting Head-to-Toe Assessments
- e. Closed-Head, Neck, and Spinal Injuries
- f. Exercise: Conducting Head-to-Toe Assessments
- g. Treating Burns
- h. Wound Care
- i. Amputations
- j. Treating Fractures, Dislocations, Sprains and Strains
- k. Splinting
- l. Exercise: Splinting
- m. Nasal Injuries
- n. Treating Hypothermia

3. Supplies needed for Unit Five:

- LCD projector
- Computer linked to LCD projector
- Computer disk containing Unit Five power point presentation
- Instructor Guide for Unit Five
- Participant's Manual for CERT

4. Instructional staffing requirements:
One instructor is required for this unit. Team teaching is encouraged.



5. Unit Five is scheduled for 4 hours and 15 minutes .

This is the suggested time-line:

- a. 15 minutes
- b. 15 minutes
- c. 15 minutes
- d. 15 minutes →
- e. 15 minutes → 15 min. break
- f. 15 minutes
- g. 15 minutes →
- h. 15 minutes → 15 min. break
- i. 15 minutes
- j. 15 minutes
- k. 15 minutes
- l. 15 minutes
- m. 15 minutes → 15 min. break
- n. 15 minutes

4 hours and 15 minutes



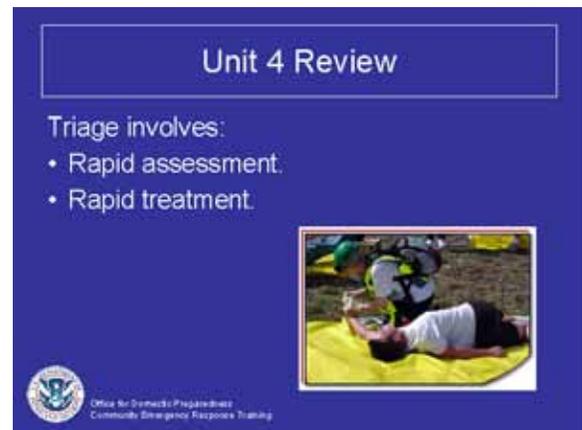
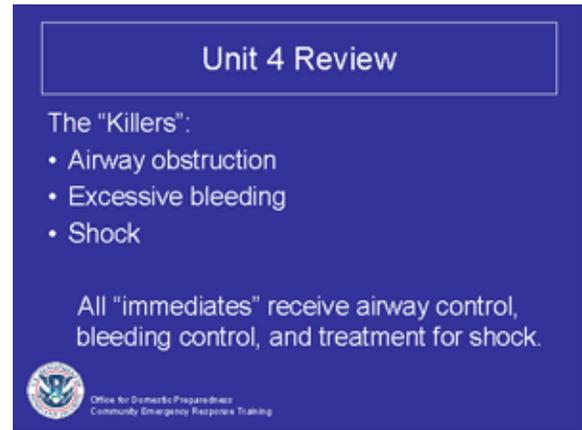
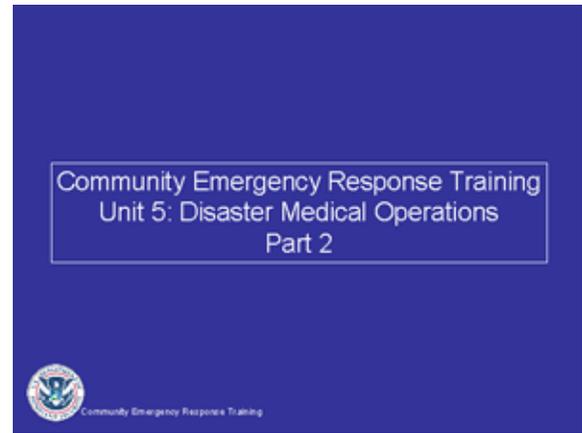
The clock is found throughout the instructor guide it indicates how many minutes it is suggested be spent on each subject area.

Time spent on each unit can be maneuvered by dropping content and referring to its placement in the take-home materials. This permits flexibility on the part of the instructor and encourages participants to question or discuss course matters. It also holds the instructor to the time limit for the unit without expecting participants to stay overtime or to have instructors who follow to give up their time.



15 minutes has been slated for the first 8 slides.

Have participants review the answers to the unit four review out loud in class as a basis for the fifth unit to follow.



When disaster victims are sheltered together for treatment one of the public health concerns is to avoid the spread of disease. This unit will address public health concerns related to sanitation, hygiene, and water purification.

Treatment areas must be established as soon as casualties are confirmed. This unit will explain how to organize disaster medical operations and establish treatment areas.

To do the most good for the greatest amount of people, individuals who receive CERT training will be able to employ basic treatments for wounds, fractures sprains and other common injuries. This unit will build upon information learned in Part 1 of Disaster Medical Operations (Unit 4).

When disaster victims are sheltered together for treatment, public health becomes a concern. Measures must be taken, both by CERT members and programmatically, to avoid the spread of disease. Primary public health measures include: maintaining proper hygiene, maintaining proper sanitation, and purifying water if necessary.

Unit 5 Introduction

Topics:

- Public health concerns
- Organization of disaster medical operations
- Establishing treatment areas
- Conducting head-to-toe assessments
- Treating injuries



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Unit 5 Objectives

- Take appropriate measures to protect public health.
- Perform head-to-toe patient assessments.
- Establish a treatment area.
- Apply splints to suspected fractures and sprains, and employ basic treatments for other wounds.



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Public Health Considerations

- Maintain proper hygiene.
- Maintain proper sanitation.
- Purify water (if necessary).



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Maintenance of proper hygiene is critical even under makeshift conditions. Wash hands frequently using soap and water. Hand washing should be thorough, at least 12 to 15 seconds, with an antibacterial scrub if possible. Wear a mask and goggles. If possible, wear a mask that is rated "N95."

Steps to Maintain Hygiene

- Wash hands frequently using soap and water.
- Wear latex gloves; change or disinfect after each patient.
- Wear a mask and goggles.
- Keep dressings sterile.
- Avoid contact with body fluids.



Appropriate disposal of human waste:

- Burying
- Keep away from water
- Stored in covered buckets

Use of diapers and other waste collecting pads

Maintaining Sanitation

- Control disposal of bacterial sources.
- Put waste products in plastic bags, tie off, and mark as medical waste.
- Bury human waste.



Triage: The initial assessment and sorting of victims for treatment based on the severity of their injuries

Treatment: The area in which disaster medical services are provided to victims.

Transport: The movement of victims from the triage area to the treatment area. If professional help will be delayed, for efficiency of operations, victims can be transported to the treatment area by CERT members

Functions of Disaster Medical Operations

- Triage
- Treatment
- Transport
- Morgue



Morgue: The temporary holding area for victims who have died as a result of their injuries.

Supply: Is a holding area for materials procured



Site selection for medical treatment - Because time is critical during a disaster, CERT medical operations personnel will need to select a site and set up a treatment area as soon as injured victims are confirmed. The treatment area is the location where the most advanced medical care possible will be given to victims.

The treatment area must be protected and clearly marked using a ground cover or tarp. A clearly marked treatment area will help people transport victims to the correct location. Signs should identify the subdivisions of the area: I for immediate care, D for delayed care, DEAD for morgue.

Patients in the treatment area should be positioned in a head-to-toe configuration with two to three feet of space between victims.

The *Immediate Care* and *Delayed Care* divisions should be relatively close to each other to allow:

- Verbal and visual communication between workers in the two areas.
- Shared access to medical supplies which should be securely stored in a central location.
- Easy transfer of patients whose status has changed.

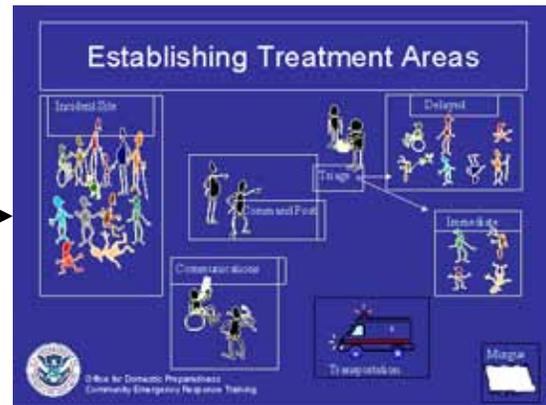
Establish Treatment Areas

The site selected should be:

- In a safe area
- Close to (but upwind and uphill from) the hazard
- Accessible by transportation vehicles
- Expandable




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Indicators of Injury

- Bruising
- Swelling
- Severe pain
- Disfigurement

Provide immediate treatment for life-threatening injuries!



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The first steps that you will take when working with a victim will be to conduct a triage and rapid treatment. During triage, you looked for 'the killers': airway obstruction, excessive bleeding and signs of shock. After all victims in an area have been triaged, CERT members will begin a thorough head-to-toe assessment of the victim's condition. A head-to-toe assessment goes beyond 'the killers' to try to gain more information to determine the nature of the victim's injury.

If the victim is conscious, CERT members should always ask permission to conduct the assessment. The victim has the right to refuse treatment.



1. Change in consciousness.
2. Inability to move one or more body parts.
3. Severe pain or pressure in the head, neck, or back.
4. Tingling or numbness in extremities.
5. Difficulty breathing or seeing.
6. Heavy bleeding, bruising, or deformity of the head or spine.
7. Blood or fluid in the nose or ears.
8. Bruising behind the ear.
9. "Raccoon" eyes (bruising around eyes).
10. "Uneven" pupils.
11. Seizures.
12. Nausea or vomiting.
13. Victim found under collapsed building material or heavy debris.

Conducting Victim Assessment

A head-to-toe assessment:

- Determines the extent of injuries and treatment.
- Determines the type of treatment needed.
- Documents injuries.



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Head-to-Toe Assessment

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



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Closed-Head, Neck, and Spinal Injuries

- The main objective when CERT members encounter suspected injuries to the head or spine is to do no harm.
- Minimize movement of the head and spine, while treating any other life-threatening conditions.
- Review the 13 possible signs of closed-head, neck and spinal injuries



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. Exercise: Conducting Head-to-Toe Assessments

A. Purpose: This exercise allows you to practice conducting head-to-toe assessments.

B. Instructions: Follow the steps below to complete this exercise:

1. Work in three-person teams of one victim and two rescuers.
2. The victim should lie on the floor on their back and with closed eyes. If the victim can not lie on the floor, remain in their chair or wheelchair with closed eyes.
3. The rescuers should conduct a head-to-toe assessment on the victim following the procedures explained in this unit.
4. After the rescuers have made at least two observed head-to-toe assessments, the victim and rescuers should change roles.



Exercise

- Conducting head-to-toe assessments
- After the rescuers have made at least two observed head-to-toe assessments, the victim and rescuers should change roles



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The objectives of first aid treatment for burns are to: cool the burned area and reduce the risk of infection. Burns may be caused by heat, chemicals, electrical current, and radiation.

1. First Degree Burn - The epidermis, or outer layer of skin, contains nerve endings and is penetrated by hairs.

2. Second Degree Burn - The dermis, or middle layer of skin, contains blood vessels, oil glands, hair follicles, and sweat glands.

3. Third Degree Burn - The subcutaneous layer, or innermost layer, contains blood vessels and overlies the muscle and skin cells.



Open Wounds- can be classified as: incision, avulsion, puncture, abrasion and laceration. These are all different types of wounds to the skin that produce bleeding.

Layers of Skin

- Epidermis
- Dermis
- Subcutaneous

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Classification of Burns

- First degree
- Second degree
- Third degree

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Wound Care

- Control bleeding
- Prevent secondary infection
- Clean wound—don't scrub
- Apply dressing and bandage

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The objective of dealing with the many types of open wounds (incisions, avulsions, punctures, abrasions, and lacerations) is to focus on cleaning and bandaging to control infection



An amputation is the process of cutting off a limb or other appendage, either by surgical operation or by traumatic injury. The objective in treating an amputation is to control bleeding and treating for shock

Impaled Objects - You may also encounter some victims who have foreign objects lodged in their bodies, usually as the result of flying debris during the disaster

Rules of Dressing

1. In the absence of active bleeding, remove dressing and flush, check wound at least every 4-6 hours.
2. If there is active bleeding, redress over existing dressing and maintain pressure and elevation.



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Treating Amputations

- Control bleeding
- Treat for shock
- Save tissue parts, wrapped in clean cloth
- Keep tissue cool
- Keep tissue with the victim



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Treating Impaled Objects

Impaled Objects:

- Immobilize.
- Don't move or remove.
- Control bleeding.
- Clean and dress wound.
- Wrap.



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It is difficult to distinguish among fractures, sprains, or strains, if you are uncertain of the type of injury, treat the injury as a fracture which is a complete break, a chip, or a crack in a bone. There are several types of fractures: closed, open, displaced and nondisplaced.

An open fracture is a broken bone with some kind of wound that allows contaminants to enter into or around the fracture site. Therefore, they are a higher priority and need to be checked more frequently

Treating Fractures, Dislocations, Sprains, and Strains

- Objective: Immobilize the injury and joints above and below the injury.
- If questionable, treat as a fracture.



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Treating an Open Fracture

- Do not draw exposed bones back into tissue.
- Do not irrigate wound.



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Treating an Open Fracture

DO:

- Cover wound.
- Splint fracture without disturbing wound.
- Place a moist 4" x 4" dressing over bone end to prevent drying.



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An open fracture is a broken bone with some kind of wound that allows contaminants to enter into or around the fracture site. Therefore, they are a higher priority and need to be checked more frequently.

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

A splint is a device made of rigid material used to keep a broken bone or injured body part from moving. Splinting is the most common procedure for immobilizing an injury. There are several forms of material you can use to create a splint in times of emergency

Exercise: Splinting

1. Instructions: Follow the steps below to complete this exercise which will allow you to practice the procedures for splinting:
2. Working in three-person teams, one person will be the victim and two persons will be the rescuers. Victims should lie on the floor on their backs or sit in a chair. The rescuer should apply a splint on the victim's upper arm using the procedure demonstrated earlier. Then, the rescuer should apply a splint to the victim's lower leg.
3. The victim and the rescuers should change roles.



Signs of Sprain

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

Immobilize and elevate

Guidelines for Splinting

1. Support the injured area.
2. Splint injury in the position that you find it.
3. Don't try to realign bones.
4. Check for color, warmth, and sensation.
5. Immobilize above and below the injury.

The methods for controlling nasal bleeding include:

1. Pinching the nostrils together.
2. Putting pressure on the upper lip just under the nose.



Hypothermia is a condition that occurs when the body's temperature drops below normal. Hypothermia may be caused by exposure to cold air or water or by inadequate food combined with inadequate clothing and/or heat, especially in older people.

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

1. Removing wet clothing.
2. Wrapping the victim in a blanket or sleeping bag and covering the head and neck.
3. Protecting the victim against the weather.
4. Providing warm, sweet drinks and food to conscious victims.
5. **Do not** offer alcohol or massage.
6. Placing an unconscious victim in the recovery position.
7. Placing the victim in a warm bath if the victim is conscious.
8. **Do not** allow the victim to walk around even when he or she appears to be fully recovered.
9. If the victim must be moved outdoors, you should cover the victim's head and face.

Nasal Bleeding

- Causes:
 - Blunt force
 - Skull fracture
 - Nontrauma-related conditions
- Blood loss can lead to shock.
- Victims may become nauseated and vomit if they swallow blood.



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Symptoms of Hypothermia

Primary signs and symptoms:

- A body temperature of 95° Fahrenheit (37° Celsius) or less
- Redness or blueness of the skin
- Numbness accompanied by shivering



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Symptoms of Hypothermia

At later stages, hypothermia will be accompanied by:

- Slurred speech.
- Unpredictable behavior.
- Listlessness.



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1. If your CERT class continues on the same day, take your break and return to this classroom.
2. If your CERT class continues on another day (next week or next month) your **Homework Assignment** is to:
 - a. Read and familiarize yourself with Unit 6: Light Search and Rescue Operations before the next session.
 - b. Obtain a blanket for use during Unit 6.

