
UNIT 4: DISASTER MEDICAL OPERATIONS

— PART 2

In this unit you will learn about:

- **Public Health Considerations:** How to maintain hygiene and sanitation.
- **Functions of Disaster Medical Operations:** What the five major functions of disaster medical operations are and how they are set up.
- **Disaster Medical Treatment Areas:** How to establish them and what their functions are.
- **Patient Evaluation:** How to perform a head-to-toe assessment to identify and treat injuries.
- **Basic Treatment — How to:**
 - Treat burns
 - Dress and bandage wounds
 - Treat fractures, dislocations, sprains, and strains
 - Treat hypothermia
 - Treat heat-related injuries
 - Control nasal bleeding
 - Treat bites and stings

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**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

OBJECTIVES	<p>At the conclusion of this unit, the participants should be able to:</p> <ul style="list-style-type: none">▪ Take appropriate sanitation measures to help 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 injuries.
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SCOPE	<p>The scope of this unit will include:</p> <ul style="list-style-type: none">▪ Introduction and Unit Overview▪ Public Health Considerations▪ Functions of Disaster Medical Operations▪ Establishing Medical Treatment Areas▪ Conducting Head-to-Toe Assessments▪ Treating Burns▪ Wound Care▪ Treating Fractures, Dislocations, Sprains, and Strains▪ Nasal Injuries▪ Treating Cold-Related Injuries▪ Treating Heat-Related Injuries▪ Bites and Stings▪ Unit Summary
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ESTIMATED COMPLETION TIME	3 hours
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TRAINING METHODS	<p>The lead instructor will begin this session by welcoming the participants to Unit 4: Disaster Medical Operations — Part 2, and will introduce the instructors for the session. The instructor will then present a brief review of Disaster Medical Operations — Part 1, covering the “killers” and triage procedures. Next, the instructor will present a brief overview of the unit topics. This section will end with a presentation of the unit learning objectives.</p>
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COMMUNITY EMERGENCY RESPONSE TEAM
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**TRAINING
METHODS
(CONTINUED)**

Then, the instructor will present the public health considerations for disaster medical operations, including sanitation, hygiene, and water purification.

Then, the instructor will present an overview of how disaster medical operations are organized and the responsibilities of each operational function.

The instructor will then discuss where to establish a treatment area and how the treatment area should be organized.

Next, the instructor will explain and demonstrate the procedures for conducting head-to-toe patient assessments using another instructor, a participant, or a mannequin. The participants will then be assigned into pairs so that they can practice head-to-toe patient assessments under observation. The instructors will observe the participants to ensure that they are performing the skills as taught.

Next, the instructor will describe the treatment of burns and the care of wounds to avoid infections. Topics will include the difference between bandages and dressings and bandaging techniques. The instructor will demonstrate using dressings to control bleeding and bandaging techniques using the mannequin.

The next section will deal with the treatment of fractures, sprains, and strains. An exercise will give the participants the opportunity to practice applying splints. The exercise will be followed by segments on nasal injuries, how to diagnose and treat hypothermia, heat-related injuries, and insect bites and stings. The unit will conclude with a summary.

**RESOURCES
REQUIRED**

- *Community Emergency Response Team Instructor Guide*
 - *Community Emergency Response Team Participant Manual*
 - PowerPoint slides 4-0 through 4-57
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COMMUNITY EMERGENCY RESPONSE TEAM
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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
- One mannequin (optional)
- One stretcher
- Non-latex examination gloves (1 pair per participant)
- 4- by 4-inch dressings (1 for each participant)
- One triangular bandage per participant
- Splinting material (cardboard, magazines, pieces of lath, pillows, towels, etc.)
- Note cards
- Duct tape

PREPARATION

Working with a representative of the community in which you will be teaching, identify any potentially culturally sensitive topics in this module. Develop strategies for presenting such topics in ways that will be engaging and appropriate for the participants.

For example, in some cultures, discussing death is taboo. Physical contact is another potentially sensitive topic that participants will encounter in this module with the *head-to-toe assessment* activity.

Prepare participants by introducing such topics gradually and with an awareness of the sensitivity of the audience. Avoid making jokes or being flippant regarding such topics.

**COMMUNITY EMERGENCY RESPONSE TEAM
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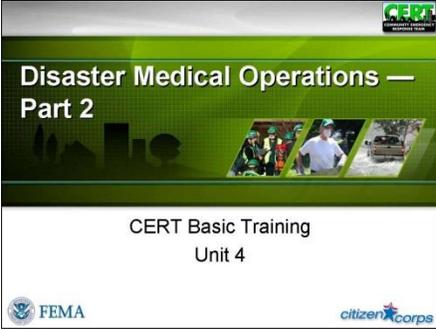
NOTES

A suggested time plan for this unit is as follows:

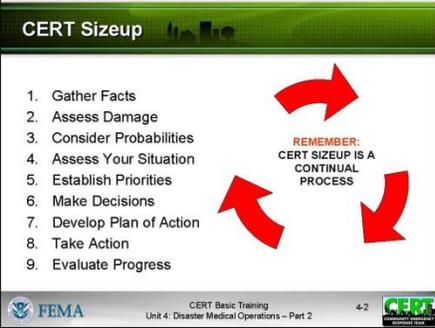
Introduction and Unit Overview.....	15 minutes
Public Health Considerations.....	5 minutes
Functions of Disaster Medical Operations	5 minutes
Establishing Medical Treatment Areas	15 minutes
Conducting Head-to-Toe Assessments	25 minutes
Treating Burns.....	20 minutes
Wound Care	20 minutes
Treating Fractures, Dislocations, Sprains, and Strains.....	40 minutes
Nasal Injuries.....	10 minutes
Treating Cold-Related Injuries.....	5 minutes
Treating Heat-Related Injuries.....	5 minutes
Insect Bites and Stings	5 minutes
Unit Summary.....	5 minutes

Total Time: 3 hours

Unit 4: Disaster Medical Operations — Part 2

INSTRUCTOR GUIDANCE	CONTENT
 <p>Display Slide 4-0</p>  <p>Display Slide 4-1</p>	<p><i>Introductions and Unit Overview</i></p> <p>Welcome Introduce this unit by welcoming the participants to Unit 4 of the <i>CERT Basic Training</i>.</p> <p>Introduce the instructors for this session and ask any new instructors to describe briefly their experience in medical operations.</p> <p>Review the main points from Unit 3:</p> <p>Airway obstruction, excessive bleeding, and shock are “killers.” Survivors with signs of these life-threatening conditions must receive <u>immediate</u> treatment.</p>

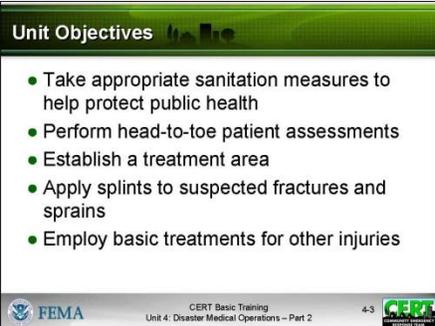
**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART2**

INSTRUCTOR GUIDANCE	CONTENT
<p data-bbox="191 369 626 697"></p> <p data-bbox="191 737 444 772">Display Slide 4-2</p> <p data-bbox="191 1226 266 1297"></p> <p data-bbox="191 1337 444 1371">Correct response:</p> <p data-bbox="191 1409 444 1442">Head-Tilt/Chin-Lift</p> <p data-bbox="191 1486 266 1558"></p> <p data-bbox="191 1598 444 1631">Correct response:</p> <p data-bbox="191 1669 423 1703">Survey the area.</p>	<p data-bbox="659 369 1398 478">Triage has proven to be an effective way to evaluate and prioritize the treatment of mass casualties in a disaster situation.</p> <p data-bbox="659 518 1382 590">Remind the participants that, as always, sizeup is a critical component of any disaster operation:</p> <ul data-bbox="659 606 1092 1060" style="list-style-type: none">▪ Gather Facts▪ Assess and Communicate▪ Consider Probabilities▪ Assess Your Own Situation▪ Establish Priorities▪ Make Decisions▪ Develop Plan of Action▪ Take Action▪ Evaluate Progress <p data-bbox="659 1115 1398 1148">Briefly review Disaster Medical Operations — Part 1.</p> <p data-bbox="659 1226 1333 1297">What method is used to open the airway of a survivor?</p> <p data-bbox="659 1486 1430 1558">What is the first action to take when approaching a survivor?</p>

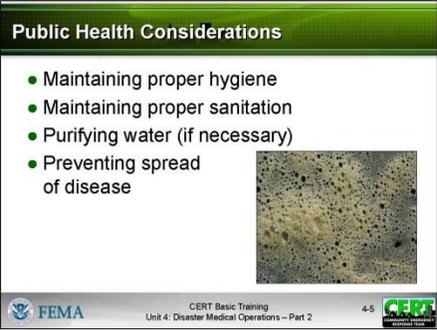
COMMUNITY EMERGENCY RESPONSE TEAM
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INSTRUCTOR GUIDANCE	CONTENT
 Correct responses: Direct pressure Elevation Pressure points	What techniques are available to aid in the control of bleeding?
 Correct response: Introduce yourself. Name your affiliation. Ask permission to treat.	When approaching a survivor, you should always do three things before treatment. What should you do?
 Correct responses: Helmet Goggles Gloves (work and non-latex exam) N95 mask Sturdy shoes or boots	What safety equipment should CERT members ALWAYS wear?
	Does anyone have questions about the information presented in the previous unit?

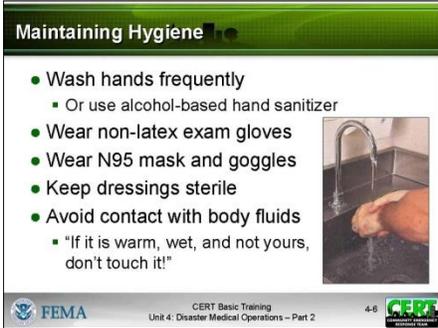
**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART2**

INSTRUCTOR GUIDANCE	CONTENT
 <p>Unit Objectives</p> <ul style="list-style-type: none">• Take appropriate sanitation measures to help protect public health• Perform head-to-toe patient assessments• Establish a treatment area• Apply splints to suspected fractures and sprains• Employ basic treatments for other injuries <p>FEMA CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-3</p> <p>Display Slide 4-3</p>	<p>Unit Objectives</p> <p>Tell the group that at the end of this unit, they should be able to:</p> <ul style="list-style-type: none">▪ Take appropriate sanitation measures to help protect public health.▪ Perform head-to-toe patient assessments.▪ Establish a treatment area.▪ Apply splints to suspected fractures and sprains.▪ Employ basic treatments for other injuries. <p>Unit Topics</p> <p>Introduce the unit topics by telling the participants that this unit will provide them with the information for performing treatment, setting up a medical treatment area, and transporting survivors.</p>
 <p>Unit Topics</p> <ul style="list-style-type: none">• Public Health Considerations• Functions of Disaster Medical Operations• Establishing Medical Treatment Areas• Conducting Head-to-Toe Assessments• Treating Burns• Wound Care• Treating Fractures, Dislocations, Sprains, and Strains• Nasal Injuries• Treating Cold-Related Injuries• Treating Heat-Related Injuries• Bites and Stings <p>FEMA CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-4</p> <p>Display Slide 4-4</p>	<p>Explain that the unit topics are:</p> <ul style="list-style-type: none">▪ Public Health Considerations▪ Functions of Disaster Medical Operations▪ Establishing Medical Treatment Areas▪ Conducting Head-to-Toe Assessments▪ Treating Burns▪ Wound Care▪ Treating Fractures, Dislocations, Sprains, and Strains▪ Nasal Injuries▪ Treating Cold-Related Injuries▪ Treating Heat-Related Injuries▪ Bites and Stings

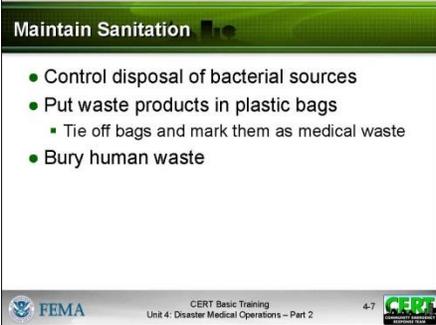
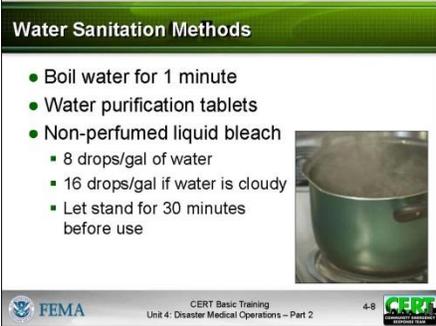
COMMUNITY EMERGENCY RESPONSE TEAM
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INSTRUCTOR GUIDANCE	CONTENT
  <p>Display Slide 4-5</p>	<p>Emphasize the need for practice by telling the participants that they will have the opportunity to practice many of the treatment techniques that they will learn.</p> <p>Does anyone have any questions about what will be covered in this unit?</p> <p><i>Public Health Considerations</i></p> <p>Introduce this topic by reminding the group that, when disaster survivors are sheltered together for treatment, public health becomes a concern. Measures must be taken, both by individual CERT members and CERT programs, to avoid the spread of disease.</p> <p>Explain that the primary public health measures include:</p> <ul style="list-style-type: none">▪ Maintaining proper hygiene▪ Maintaining proper sanitation▪ Purifying water (if necessary)▪ Preventing the spread of disease

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INSTRUCTOR GUIDANCE	CONTENT
<div data-bbox="188 459 626 787"><p>Maintaining Hygiene</p><ul style="list-style-type: none">● Wash hands frequently<ul style="list-style-type: none">■ Or use alcohol-based hand sanitizer● Wear non-latex exam gloves● Wear N95 mask and goggles● Keep dressings sterile● Avoid contact with body fluids<ul style="list-style-type: none">■ "If it is warm, wet, and not yours, don't touch it!"<p>FEMA CERT Basic Training Unit 4: Disaster Medical Operations - Part 2 4-6</p></div> <p data-bbox="188 808 446 840">Display Slide 4-6</p>	<h3 data-bbox="657 388 966 420">Maintaining Hygiene</h3> <p data-bbox="657 462 1437 556">Introduce hygiene by telling the group that maintenance of proper personal hygiene is critical even under makeshift conditions.</p> <p data-bbox="657 598 1404 661">Tell the group that some steps that individuals should take to maintain hygiene are to:</p> <ul data-bbox="657 682 1437 1732" style="list-style-type: none">■ <u>Wash hands frequently</u> using soap and water. Hand washing should be thorough (at least 15 to 20 seconds of vigorous rubbing on all surfaces of the hand).<ul style="list-style-type: none">● Alcohol-based hand sanitizers — which don't require water — are a good alternative to hand washing. The Centers for Disease Control (CDC) recommends products that are at least 60% alcohol. To use an alcohol-based hand sanitizer, apply about ½ teaspoon of the product to the palm of your hand. Rub your hands together, covering all surfaces, until hands are dry.■ <u>Wear non-latex exam gloves at all times</u>. Change or disinfect gloves after examining and/or treating each patient. As explained earlier, under field conditions, individuals can use rubber gloves that are sterilized between treating survivors using bleach and water (one part bleach to 10 parts water).■ <u>Wear an N95 mask and goggles</u>.■ <u>Keep dressings sterile</u>. Do not remove the overwrap from dressings until use. After opening, use the entire package of dressing, if possible.■ <u>Thoroughly wash areas that come in contact with body fluids</u> with soap and water or diluted bleach as soon as possible. <p data-bbox="657 1795 1372 1858">Stress the importance of practicing proper hygiene techniques even during exercises.</p>

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INSTRUCTOR GUIDANCE	CONTENT
 <p>Maintain Sanitation</p> <ul style="list-style-type: none">● Control disposal of bacterial sources● Put waste products in plastic bags<ul style="list-style-type: none">▪ Tie off bags and mark them as medical waste● Bury human waste <p>FEMA CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-7</p>	<h3>Maintaining Sanitation</h3> <p>Introduce proper sanitation by cautioning the group that poor sanitation is also a major cause of infection.</p> <p>Explain that CERT medical operations personnel can maintain sanitary conditions by:</p> <ul style="list-style-type: none">▪ Controlling the disposal of bacterial sources (e.g., soiled exam gloves, dressings, etc.)▪ Putting waste products in plastic bags, tying off the bags, and marking them as medical waste. Keep medical waste separate from other trash, and dispose of it as hazardous waste.▪ Burying human waste. Select a burial site away from the operations area and mark the burial site for later cleanup. <p>Again, stress the need to practice proper sanitation, even during exercises.</p>
 <p>Water Sanitation Methods</p> <ul style="list-style-type: none">● Boil water for 1 minute● Water purification tablets● Non-perfumed liquid bleach<ul style="list-style-type: none">▪ 8 drops/gal of water▪ 16 drops/gal if water is cloudy▪ Let stand for 30 minutes before use  <p>FEMA CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-8</p>	<h3>Water Purification</h3> <p>Introduce water purification by pointing out to the group that potable water supplies are often in short supply or are not available in a disaster. Remind the group to purify water for drinking, cooking, and medical use by heating it to a rolling boil for 1 minute or by using water purification tablets or non-perfumed liquid bleach.</p> <p>The bleach to water ratios are:</p> <ul style="list-style-type: none">▪ 8 drops of bleach per gallon of water▪ 16 drops per gallon if the water is cloudy or dirty <p>Let the bleach and water solution stand for 30 minutes. Note that if the solution does not smell or taste of bleach, add another six drops of bleach, and let the solution stand for 15 minutes before using.</p>

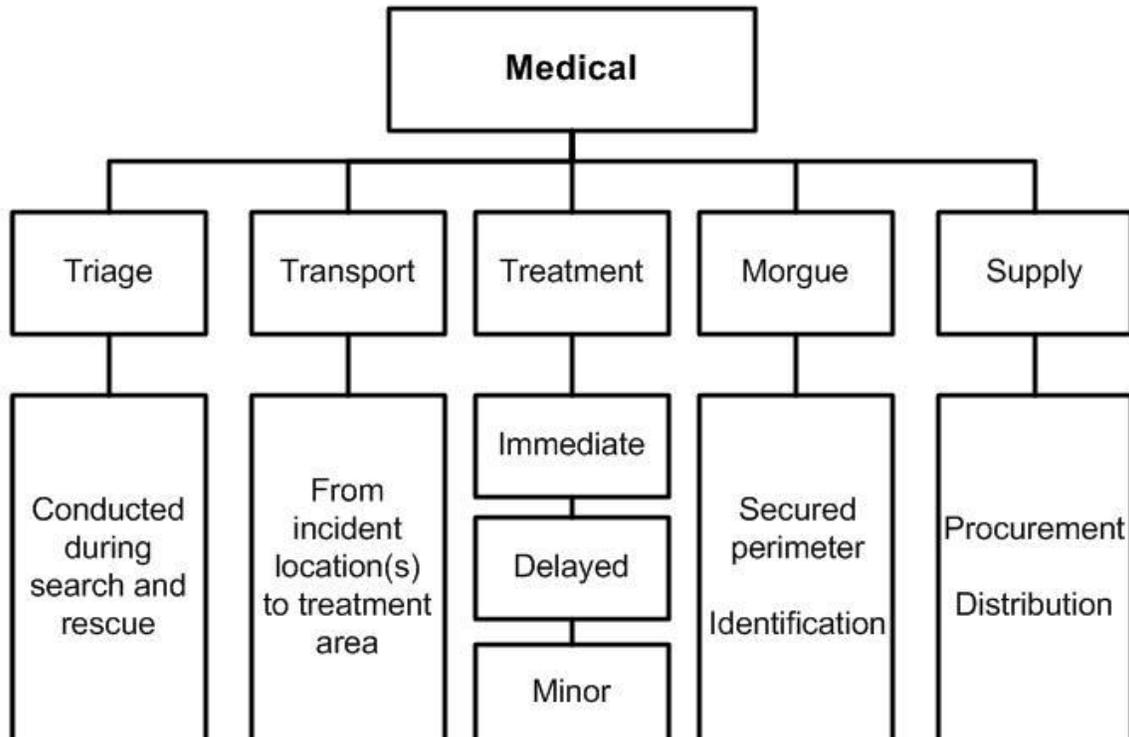
**COMMUNITY EMERGENCY RESPONSE TEAM
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INSTRUCTOR GUIDANCE	CONTENT
<div style="text-align: center; margin-bottom: 20px;">  </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 20px;"> <p style="background-color: #4F81BD; color: white; padding: 2px;">Functions of Disaster Medical Operations</p> <ul style="list-style-type: none"> ● Triage ● Treatment ● Transport ● Morgue ● Supply  </div> <div style="display: flex; justify-content: space-between; align-items: center; font-size: small;">  <div style="text-align: center;"> <p>CERT Basic Training Unit 4: Disaster Medical Operations – Part 2</p> </div> <div style="text-align: right;"> <p>4-9 </p> </div> </div> <p>Display Slide 4-9</p>	<p>Also tell the participants that rescuers should not put anything on wounds other than purified water. The use of other solutions (e.g., hydrogen peroxide) on wounds must be the decision of trained medical personnel.</p> <p>Preventing the Spread of Disease</p> <p>Stress that CERT members <u>must use non-latex exam gloves, goggles, and an N95 mask during all medical operations</u> and that they must cover all open wounds as a way of preventing the spread of infection.</p> <p>Does anyone have any questions about the public health considerations related to disaster medical operations?</p> <p><i>Functions of Disaster Medical Operations</i></p> <p>Point out that there are five major functions of disaster medical operations:</p> <ul style="list-style-type: none"> ▪ <u>Triage</u>: The initial assessment and sorting of survivors for treatment based on the severity of their injuries ▪ <u>Treatment</u>: The disaster medical services provided to survivors ▪ <u>Transport</u>: The movement of survivors from incident location to the treatment area ▪ <u>Morgue</u>: The temporary holding area for victims who have died at the treatment area. Those who are tagged as “Dead” during triage are not removed from the incident site. ▪ <u>Supply</u>: The hub for crucial supply procurement and distribution

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INSTRUCTOR GUIDANCE	CONTENT
PM, P. 4-5	<p>Refer the participants to the <i>Disaster Medical Operations Organization</i> chart in the Participant Manual.</p> <p>Explain that triage and transport are functions of both search and rescue operations and medical operations.</p>
PM, P. 4-5	Disaster Medical Operations Organization

Disaster Medical Operations Organization



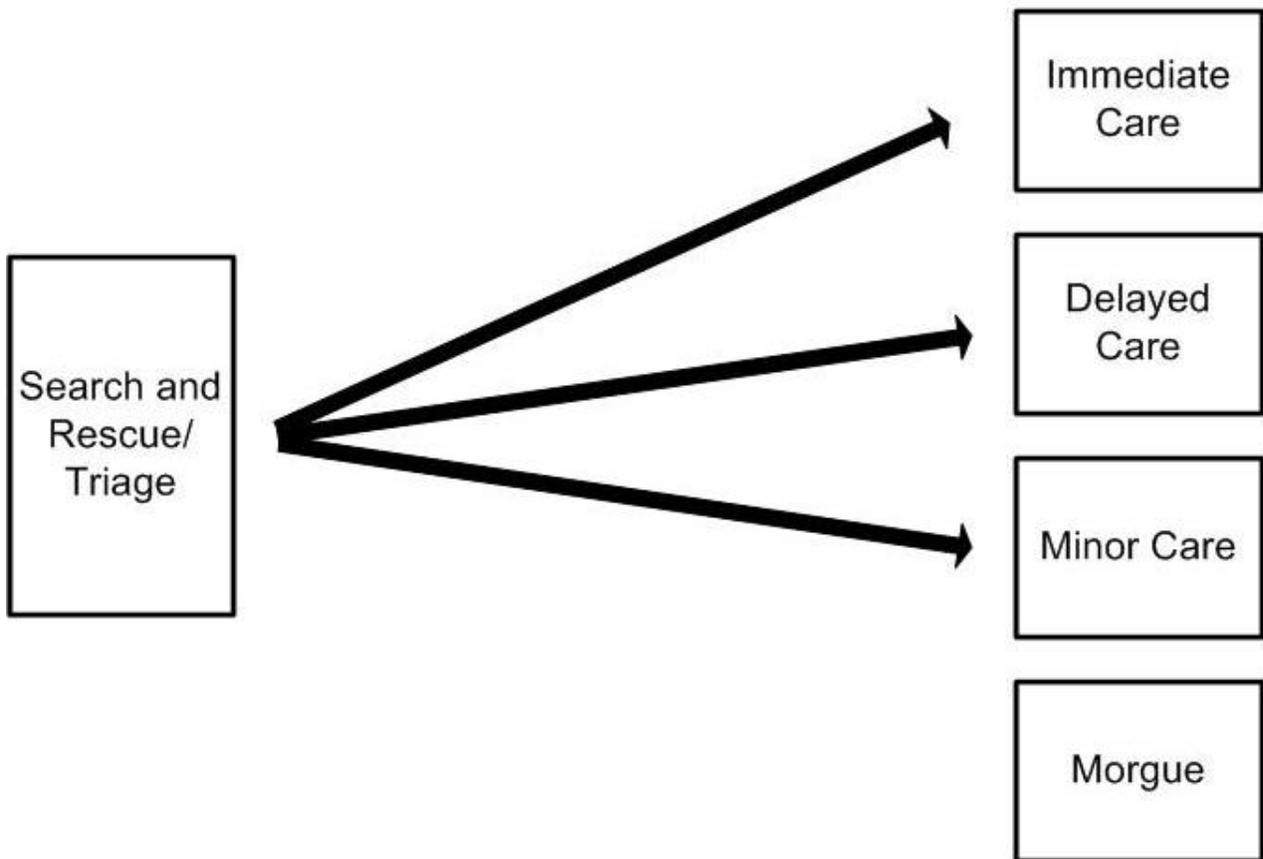
Disaster Medical Operations Organization showing the functions of disaster medical operations: Triage, Transport, Treatment, Morgue, and Supply

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INSTRUCTOR GUIDANCE	CONTENT
<p data-bbox="196 453 631 779"></p> <p data-bbox="188 800 461 835">Display Slide 4-10</p> <p data-bbox="188 926 626 1073">Present some “what-if” situations to illustrate the principles demonstrated by the graphic.</p>	<p data-bbox="659 369 1333 405"><i>Establishing Medical Treatment Areas</i></p> <p data-bbox="659 468 1438 604">Tell participants that because time is critical when CERTs activate, CERT medical operations personnel will need to select a site and set up a treatment area as soon as injured survivors are confirmed.</p> <p data-bbox="659 625 1365 730">Determining the best location(s) for the CERT treatment area should include the following overall considerations:</p> <ul data-bbox="659 751 1341 873" style="list-style-type: none">▪ Safety for rescuers and survivors▪ Most effective use of resources, e.g., CERT members themselves, time, medical supplies <p data-bbox="659 947 1179 982">Safety for Rescuers and Survivors</p> <p data-bbox="659 1020 1438 1272">Explain that as survivors are located, rescued, and triaged, they are moved to a location where they can be treated. The severity of the damage and the safety of the immediate environment determine where the initial CERT treatment area should be located. Remind participants that in all cases their individual safety is the number one priority.</p> <ul data-bbox="659 1293 1438 1703" style="list-style-type: none">▪ In structures with light damage, CERT members triage the survivors as they are located. Further medical treatment is performed in a safe location inside the structure where survivors are organized according to the extent of their injuries.▪ In structures with moderate damage, CERT members also triage the survivors as they are located; however, survivors are sent to a medical treatment location that is a safe distance from the incident location. Survivors are organized according to the extent of their injuries.

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INSTRUCTOR GUIDANCE	CONTENT
<p>PM, P. 4-7</p>	<p>Tell participants that whether the treatment area is set up inside or a safe distance from the structure, a morgue may need to be set up as a temporary holding area for victims who die at the treatment area.</p> <p>Refer the participants to the <i>Flow of Patients</i> chart in the Participant Manual.</p>
<p>PM, P. 4-7</p>	<p align="center">Flow of Patients</p>



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INSTRUCTOR GUIDANCE	CONTENT
<p>Treatment Area Site Selection</p> <ul style="list-style-type: none">• The site selected should be:<ul style="list-style-type: none">▪ In a safe area, free of hazards and debris▪ Upwind, uphill, and upstream (if possible) from hazard zone(s)▪ Accessible by transportation vehicles▪ Expandable  <p style="font-size: small;">The treatment site should be uphill and upwind from the hazard.</p> <p style="font-size: x-small;">FEMA CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-11</p>	<p>Explain that in addition to the severity of the damage to the structure where survivors are found, there are two other important safety considerations:</p> <ul style="list-style-type: none">▪ The treatment area itself must be free of hazards and debris.▪ The site should be close to but uphill and upwind from the hazard zone. <p>Most Effective Use of CERT Resources</p> <p>Explain that, in addition to the safety of rescuers and survivors, a second overall consideration for setting up treatment areas is how to make the best use of CERT resources, e.g., CERT members themselves, time, medical supplies, and equipment.</p> <p>Tell participants that, to help meet the challenge of limited resources, particularly if initial treatment operations will continue for some time, CERT may need decentralized treatment locations and/or may establish one central medical treatment location, depending on the circumstances.</p>
<p>Display Slide 4-11</p> <p>Most Effective Use of CERT Resources</p> <ul style="list-style-type: none">• To help meet the challenge of limited resources, CERT may need to establish:<ul style="list-style-type: none">▪ Decentralized medical treatment location (more than one location)▪ Centralized medical treatment location (one location) <p style="font-size: x-small;">FEMA CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-12</p>	

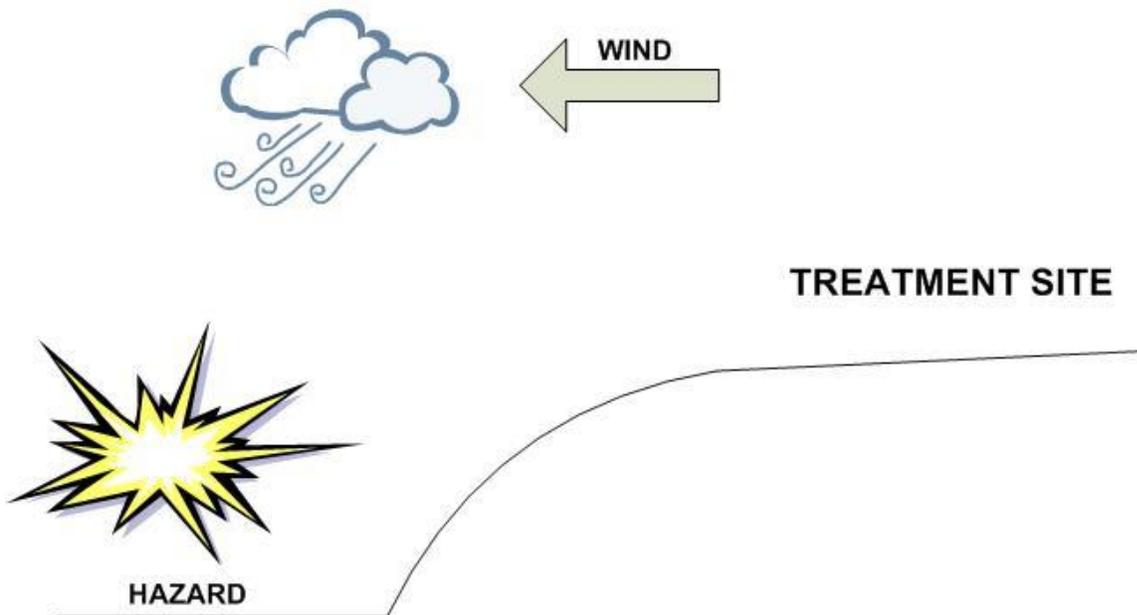
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INSTRUCTOR GUIDANCE	CONTENT
	<p>The CERT may need to include one or both in their medical operations plan:</p> <ul style="list-style-type: none">▪ Decentralized Treatment Sites: In a widespread event with many injured, it is sometimes necessary to set up and maintain more than one medical treatment location, especially when a central treatment location would be a considerable distance from the initial treatment site.<ul style="list-style-type: none">• A medical treatment location would be set up close to, but a safe distance from, each of the damage sites. Each of the treatment locations would include areas for Immediate, Delayed, and Minor survivors and a morgue.• Survivors remain under treatment at the location until they can be transported to a location for professional medical care or to the CERT's main treatment area. ▪ Centralized Treatment Site: In an event with one or a few injured survivors at each of a number of sites, the CERT may need to establish <u>one central medical treatment location</u>. A centralized location may need to be set up even when there are decentralized sites established.<ul style="list-style-type: none">• The location would include treatment areas for Immediate, Delayed, and Minor survivors, and a morgue.• Survivors are moved from where they were rescued, triaged, and initially treated to the central location, and remain under treatment there until they can be transported to a location for professional medical treatment.• A central medical treatment location allows for effective use of resources since a limited number of CERT medical operation personnel in one location can take care of a greater number of survivors.

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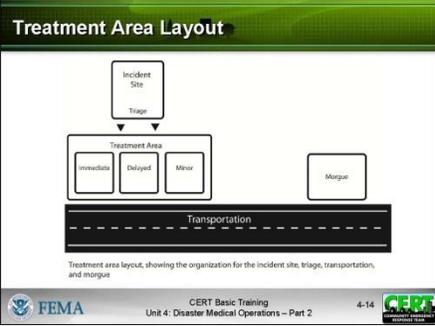
INSTRUCTOR GUIDANCE	CONTENT
<p>PM, P. 4-10</p>	<ul style="list-style-type: none"> • EMS or other medical professionals will generally be able to transport the injured more efficiently from one central location than from multiple decentralized locations. ▪ Whether a treatment site is centralized or one of a number of decentralized sites, the location(s) selected should be: <ul style="list-style-type: none"> • Accessible by transportation vehicles (ambulances, trucks, helicopters, etc.) • Expandable <p>Refer the participants to the <i>Treatment Area Site Selection</i> diagram in the Participant Manual.</p>

PM, P. 4-10	Treatment Area Site Selection
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The treatment site should be uphill and upwind from the hazard.

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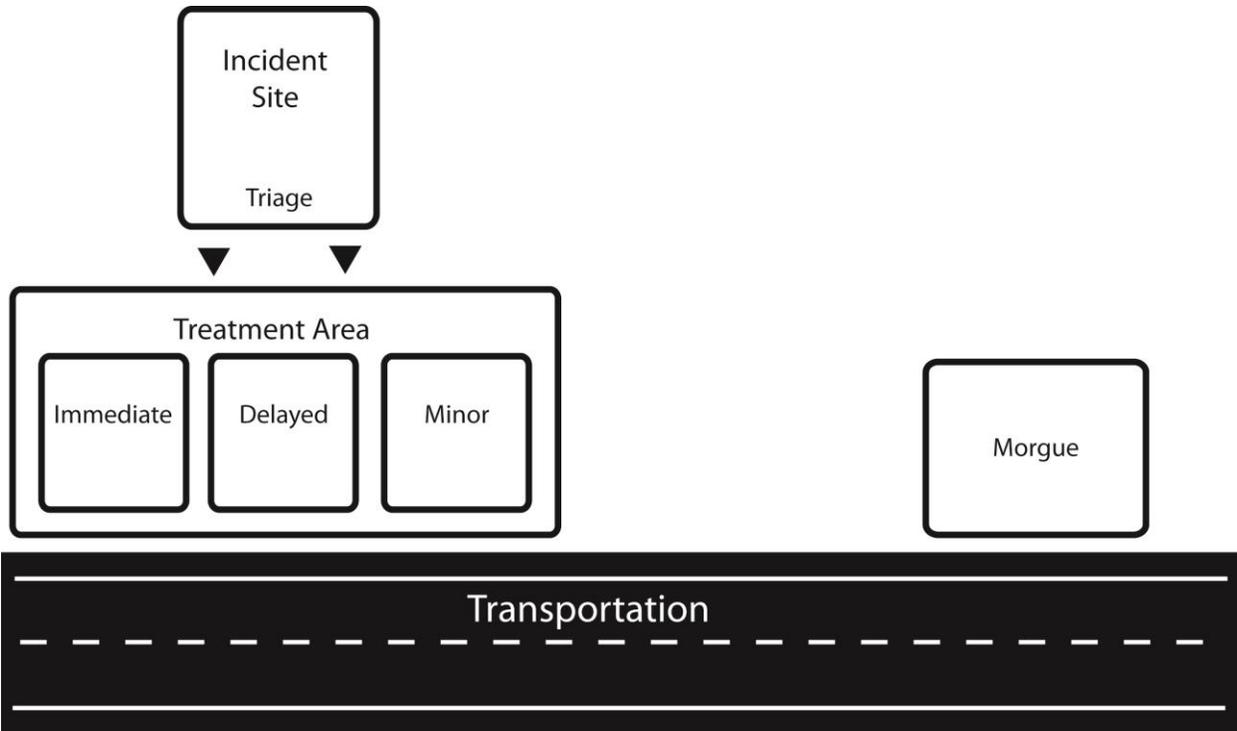
INSTRUCTOR GUIDANCE	CONTENT
<p data-bbox="191 445 626 772"></p> <p data-bbox="191 793 626 827">Display Slide 4-13</p> <p data-bbox="191 869 626 1012">If your program uses colored tarps to delineate medical treatment areas, explain the use of the tarps.</p> <p data-bbox="191 1054 626 1381"></p> <p data-bbox="191 1402 626 1436">Display Slide 4-14</p>	<p data-bbox="659 373 1006 407">Treatment Area Layout</p> <p data-bbox="659 449 1425 550">Introduce this section by stressing that the treatment area must be protected and clearly delineated. Signs should be used to identify the subdivisions of the area:</p> <ul data-bbox="659 571 1250 751" style="list-style-type: none">▪ “I” for Immediate care▪ “D” for Delayed care▪ “M” for Minor injuries/walking wounded▪ “DEAD” for the morgue <p data-bbox="659 869 1425 936">Point out that a clearly marked treatment area will help in placing survivors in the correct location.</p> <p data-bbox="659 1054 1403 1121">Explain that the “I” and “D” areas should be relatively close to each other to allow:</p> <ul data-bbox="659 1142 1435 1339" style="list-style-type: none">▪ Verbal communication between workers in the treatment areas▪ Shared access to medical supplies (which should be cached in a central location)▪ Easy transfer of patients whose status has changed <p data-bbox="659 1360 1442 1495">Emphasize that survivors who have been identified with minor injuries may choose to stay at the treatment area or leave. If they stay, they can assist CERT personnel. If they leave, it should be documented.</p> <p data-bbox="659 1537 1393 1638">Explain that patients in the treatment area should be positioned in a head-to-toe configuration, with 2 to 3 feet between survivors.</p> <p data-bbox="659 1680 1403 1780">Stress to the participants that the morgue site should be secure, away from and not visible from the treatment area.</p>

**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART2**

INSTRUCTOR GUIDANCE	CONTENT
<p>PM, P. 4-12</p>	<p>Finally, explain that this system will provide:</p> <ul style="list-style-type: none">▪ Effective use of space▪ Effective use of available personnel. As a worker finishes one head-to-toe assessment, he or she turns around and finds the head of the next patient. <p>Refer the participants to the <i>Treatment Area Layout</i> diagram in the Participant Manual.</p> <p>Note that the distance shown between the Incident Site/Triage and the Treatment Area will depend on whether or not the treatment location is site specific or more centralized in the CERT's service area.</p>

COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2

PM, P. 4-12	Treatment Area Site Layout
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Treatment area layout, showing the organization for the incident site, triage, transportation, and morgue

COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2

INSTRUCTOR GUIDANCE	CONTENT
<p data-bbox="188 737 628 1066"></p> <p data-bbox="188 1083 461 1119">Display Slide 4-15</p> 	<p data-bbox="657 369 1096 405">Treatment Area Organization</p> <p data-bbox="657 438 1435 541">Introduce this section by telling the participants that the CERT must assign leaders to maintain control in each of the medical treatment areas. These leaders will:</p> <ul data-bbox="657 562 1268 680" style="list-style-type: none">▪ Ensure orderly survivor placement▪ Direct assistants to conduct head-to-toe assessments <p data-bbox="657 737 1385 806">Emphasize the need for thorough documentation of survivors in the treatment area, including:</p> <ul data-bbox="657 827 1430 1108" style="list-style-type: none">▪ Available identifying information▪ Description (age, sex, body build, estimated height)▪ Clothing▪ Injuries▪ Treatment▪ Transfer location <p data-bbox="657 1165 1414 1304">Recommend strongly that the participants take part in practice exercises so that they can develop a good operational plan and practice rapid treatment area setup.</p> <p data-bbox="657 1346 1414 1415">Does anyone have any questions about treatment area site selection or organization?</p> <p data-bbox="657 1472 1360 1541">Tell the participants that next they will learn about head-to-toe assessments.</p> <p data-bbox="657 1577 1360 1688">Explain that the last unit dealt with the procedures conducted in triage and that this unit will focus on treatment of triaged survivors.</p>

**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

INSTRUCTOR GUIDANCE	CONTENT
	<p data-bbox="659 369 1344 411"><i>Conducting Head-to-Toe Assessments</i></p> <p data-bbox="659 453 1430 705">Introduce this topic by telling the group that the first steps that they will take when working with a survivor will be to conduct triage and rapid treatment. After all survivors in an area have been triaged and moved to a medical treatment area, CERT members will begin a thorough head-to-toe assessment of the survivor's condition.</p> <p data-bbox="659 747 1344 810">Note that techniques for moving survivors will be covered in Unit 5.</p> <p data-bbox="659 852 1398 915">Remind the group that, during triage, they looked for "the killers."</p> <ul data-bbox="659 936 980 1083" style="list-style-type: none">▪ Airway obstruction▪ Excessive bleeding▪ Signs of shock <p data-bbox="659 1125 1430 1272">Stress that a head-to-toe assessment goes beyond the "killers" to try to gain more information to determine the nature of the survivor's injury. The entire assessment must be performed before initiating treatment.</p>

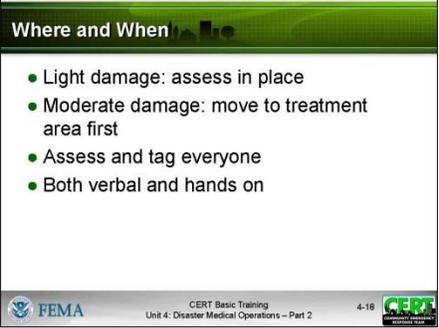
**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

INSTRUCTOR GUIDANCE	CONTENT
<p data-bbox="196 380 626 695">Head-to-Toe Assessment</p> <ul style="list-style-type: none">● Objectives of head-to-toe assessment:<ul style="list-style-type: none">▪ Determine extent of injuries▪ Determine type of treatment needed▪ Document injuries  <p data-bbox="196 663 626 695">FEMA CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-16 CERT</p> <p data-bbox="188 720 626 1115">Display Slide 4-16 (Field Conditions) If you wish, suggest that, if the medical team runs out of non-latex exam gloves, they can use rubber gloves and clean them between treating survivors in a bucket of bleach-and-water solution (1 part bleach to 10 parts water) to reduce the risk of cross contamination.</p>	<p data-bbox="659 369 1268 405">Objectives of Head-to-Toe Assessments</p> <p data-bbox="659 436 1453 506">Explain that the objectives of a head-to-toe assessment are to:</p> <ul style="list-style-type: none">▪ Determine, as clearly as possible, the extent of injuries▪ Determine what type of treatment is needed▪ Document injuries <p data-bbox="659 747 1453 816">Stress the importance of wearing safety equipment when conducting head-to-toe assessments.</p>

**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

INSTRUCTOR GUIDANCE	CONTENT
 <p>Display Slide 4-17</p>	<h3>What to Look for in Head-to-Toe Assessments</h3> <p>Tell the participants that the medical community uses the acronym DCAP-BTLS to remember what to look for when conducting a rapid assessment. DCAP-BTLS stands for the following:</p> <ul style="list-style-type: none">▪ Deformities▪ Contusions (bruising)▪ Abrasions▪ Punctures▪ Burns▪ Tenderness▪ Lacerations▪ Swelling <p>Explain that, when conducting a head-to-toe assessment, CERT members should look for DCAP-BTLS in all parts of the body.</p> <p>Remind the participants to provide IMMEDIATE treatment for life-threatening injuries.</p> <p>Emphasize that the participants should pay careful attention to how people have been hurt (the mechanism of injury) because it provides insight to probable injuries suffered.</p>

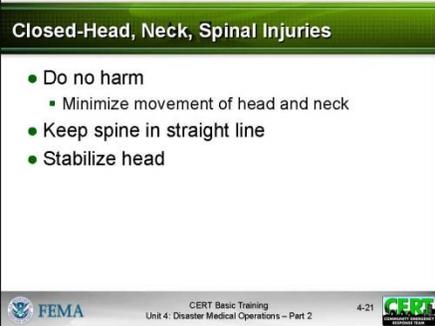
**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

INSTRUCTOR GUIDANCE	CONTENT
<div data-bbox="191 478 630 806"></div> <p data-bbox="191 827 630 968">Display Slide 4-18 Tell the students that you will discuss light, moderate, and heavy damage in Unit 5.</p>	<p data-bbox="659 369 1437 436">Where and When to Conduct a Head-to-Toe Assessment</p> <p data-bbox="659 478 1437 657">Explain that a head-to-toe assessment can be done in place in a lightly damaged building. If the building is moderately damaged, the survivor should be moved to a safe zone or to the treatment area for the head-to-toe assessment.</p> <p data-bbox="659 1010 1437 1041">How to Conduct a Head-to-Toe Assessment</p> <p data-bbox="659 1083 1437 1283">Tell the participants that, whenever possible, they should ask the person about any injuries, pain, bleeding, or other symptoms. Stress that, if the survivor is conscious, CERT members should always ask permission to conduct the assessment. The survivor has the right to refuse treatment.</p> <p data-bbox="659 1325 1437 1398">Emphasize the importance of talking with the conscious patient to reduce anxiety.</p> <p data-bbox="659 1440 1437 1472">Explain that head-to-toe assessments should be:</p> <ul data-bbox="659 1482 1437 1692" style="list-style-type: none">▪ Conducted on all survivors, even those who seem all right▪ Verbal (if the patient is able to speak)▪ Hands-on. Do not be afraid to remove clothing to look.

**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

INSTRUCTOR GUIDANCE	CONTENT
<p>Conducting Head-to-Toe Assessment</p> <ul style="list-style-type: none">• Pay careful attention• Look, listen, and feel• Check own hands for patient bleeding• If you suspect a spinal injury in unconscious survivors, treat accordingly• Check PMS in all extremities• Look for medical identification <p> CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-19 </p> <p>Display Slide 4-19</p> <p>Order of Assessment</p> <ol style="list-style-type: none">1. Head2. Neck3. Shoulders4. Chest5. Arms6. Abdomen7. Pelvis8. Legs <p></p> <p> CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-20 </p> <p>Display Slide 4-20</p>	<p>Stress the need for conducting head-to-toe assessments systematically; doing so will make the procedure quicker and more accurate with each assessment. Remember to:</p> <ul style="list-style-type: none">▪ Pay careful attention▪ Look, listen, and feel for anything unusual▪ Suspect a spinal injury in all unconscious survivors and treat accordingly <p>Remind the group to check their own hands for patient bleeding as they perform the head-to-toe assessment.</p> <p>Check body parts from the top to the bottom for continuity of bones and soft tissue injuries (DCAP-BTLS) in the following order:</p> <ol style="list-style-type: none">1. Head2. Neck3. Shoulders4. Chest5. Arms6. Abdomen7. Pelvis8. Legs <p>Tell the participants that while conducting a head-to-toe assessment, CERT members should always check for:</p> <ul style="list-style-type: none">▪ PMS (Pulse, Movement, Sensation) in all extremities▪ Medical ID emblems on bracelet or on neck chain

COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2

INSTRUCTOR GUIDANCE	CONTENT
 <p>Display Slide 4-21</p>	<h3>Closed-Head, Neck, and Spinal Injuries</h3> <p>Introduce this section by explaining that when conducting head-to-toe assessments, rescuers may come across survivors who have or may have suffered closed-head, neck, or spinal injuries.</p> <p>Define a closed-head injury for the participants as a concussion-type injury, as opposed to a laceration, although lacerations can be an indication that the survivor has suffered a closed-head injury.</p> <p>Tell the group that the main objective when CERT members encounter suspected injuries to the head or spine is to <u>do no harm</u>. They should minimize movement of the head and spine while treating any other life-threatening conditions.</p> <p>Tell the group to keep the spine in a straight line when doing the head-to-toe assessment.</p> <p>Tell the participants that the signs of a closed-head, neck, or spinal injury most often include:</p> <ul style="list-style-type: none">▪ 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)

**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

INSTRUCTOR GUIDANCE	CONTENT
<p>PM, P. 4-18</p>	<ul style="list-style-type: none">▪ “Uneven” pupils▪ Seizures▪ Nausea or vomiting▪ Survivor found under collapsed building material or heavy debris <p>Stress that if the survivor is exhibiting any of these signs, he or she should be treated as having a closed-head, neck, or spinal injury.</p> <p>Refer the participants to the list of signs in the Participant Manual.</p>

PM, P. 4-18

Signs of a Closed-Head, Neck, or Spinal Injury

The signs of a closed-head, neck, or spinal injury most often include:

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

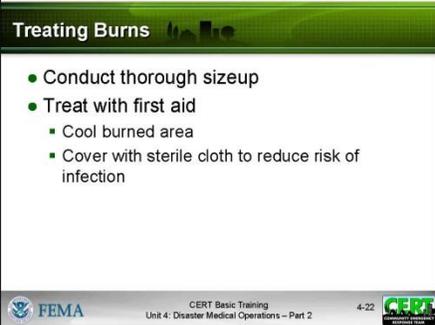
**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

INSTRUCTOR GUIDANCE	CONTENT
<p>Demonstrate “creative” in-line stabilization, using a table and towels.</p> <p>Ask the participants to brainstorm about materials in the classroom or in their vehicles that they might use to stabilize a head on a board.</p>	<p>Stabilizing the Head</p> <p>Explain that in a disaster environment, ideal equipment is rarely available. CERT members may need to be creative by:</p> <ul style="list-style-type: none">▪ Looking for materials that can be used as a backboard — a door, desktop, building materials — anything that might be available▪ Looking for items that can be used to stabilize the head on the board — towels, draperies, or clothing — by tucking them snugly on either side of the head to immobilize it <p>Moving survivors should only be done for the safety of the rescuer and survivor or when professional help will be delayed and a medical treatment area is established to care for multiple survivors.</p> <p>Stress that triage and head-to-toe assessments in a disaster setting are not day-to-day operations. Explain that, if the rescuer or survivor is in immediate danger, safety is more important than any potential spinal injury. Rescuer and survivor safety is the priority.</p> <p>Explain that techniques for moving survivors with suspected spinal injury will be covered in Unit 5.</p> <p>Introduce the head-to-toe assessment demonstration.</p>

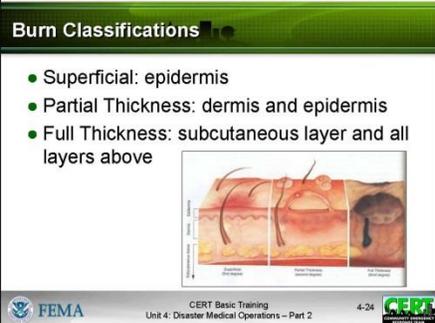
**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART2**

INSTRUCTOR GUIDANCE	CONTENT
<p>Ask the group if someone would volunteer to be the “survivor” in your demonstration of a head-to-toe assessment. Another instructor could also be the “survivor.”</p>  <p>This exercise should be completed as many times as possible with different “survivors.”</p>	<p>Demonstrate Head-to-Toe Assessment</p> <p>Demonstrate the head-to-toe assessment procedure, explaining each step to the class. Describe what the rescuer should look for at each step, and how and where the rescuer should place his or her hands in each step to best identify any injuries. Emphasize the importance of doing the procedure in the same order on every survivor.</p> <p>Does anyone have any questions about the head-to-toe assessment?</p> <p>Tell the group that they will now practice the procedure.</p> <p>Exercise: Conducting Head-to-Toe Assessments</p> <p><u>Purpose:</u> This exercise allows the participants to practice conducting head-to-toe assessments on each other.</p> <p><u>Instructions:</u> Follow the steps below to facilitate this exercise:</p> <ol style="list-style-type: none">1. Assign the group to work in pairs. Attempt to pair each participant with someone with whom he or she is relatively unfamiliar. This helps to simulate a head-to-toe assessment in a disaster environment.2. Ask the person on the right to be the survivor and the person on the left to be the rescuer.

**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

INSTRUCTOR GUIDANCE	CONTENT
 <p>Treating Burns</p> <ul style="list-style-type: none">● Conduct thorough sizeup● Treat with first aid<ul style="list-style-type: none">■ Cool burned area■ Cover with sterile cloth to reduce risk of infection <p>FEMA CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-22</p> <p>Display Slide 4-22</p>	<h3><i>Treating Burns</i></h3> <p>Remind the participants that, as always, the first step in treating burns is to conduct a thorough sizeup.</p> <p>A few examples of burn-related sizeup questions to ask are:</p> <ul style="list-style-type: none">■ What caused the burn?■ Is the danger still present?■ When did the burning cease? <p>Tell the group that the objectives of first aid treatment for burns are to:</p> <ul style="list-style-type: none">■ Cool the burned area■ Cover with a sterile cloth to reduce the risk of infection (by keeping fluids in and germs out)
 <p>Burn Severity</p> <ul style="list-style-type: none">● Factors that affect burn severity:<ul style="list-style-type: none">■ Temperature of burning agent■ Period of time survivor exposed■ Area of body affected■ Size of area burned■ Depth of burn  <p>FEMA CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-23</p> <p>Display Slide 4-23</p>	<p>Explain that burns may be caused by heat, chemicals, electrical current, and radiation. The severity of a burn depends on the:</p> <ul style="list-style-type: none">■ Temperature of the burning agent■ Period of time that the survivor was exposed■ Area of the body that was affected■ Size of the area burned■ Depth of the burn <p>Tell the group to exercise extreme caution around survivors who appear to have burns when there is no obvious cause for the burns. These burns may indicate chemical burns, which present a risk to the rescuer.</p>

COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2

INSTRUCTOR GUIDANCE	CONTENT
 <p>Display Slide 4-24</p> <p>PM, P. 4-21</p> <p>PM, P. 4-22</p>	<h3>Burn Classifications</h3> <p>Explain that the skin has three layers:</p> <ul style="list-style-type: none">▪ The <u>epidermis</u>, or outer layer of skin, contains nerve endings and is penetrated by hairs.▪ The <u>dermis</u>, or middle layer of skin, contains blood vessels, oil glands, hair follicles, and sweat glands.▪ The <u>subcutaneous layer</u>, or innermost layer, contains blood vessels and overlies the muscles. <p>Depending on the severity, burns may affect all three layers of skin.</p> <p>Refer the participants to the chart titled <i>Burn Classification</i>, in the Participant Manual. Tell the group that burns are classified as superficial, partial thickness, and full thickness depending on their severity.</p> <p>Refer the group to the <i>List of Guidelines for Treating Burns</i> in the Participant Manual. Review the guidelines with the group.</p>

**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART2**

PM, P. 4-21	Burn Classification	
Classification	Skin Layers Affected	Signs
Superficial	<ul style="list-style-type: none">▪ Epidermis	<ul style="list-style-type: none">▪ Reddened, dry skin▪ Pain▪ Swelling (possible)
Partial Thickness	<ul style="list-style-type: none">▪ Epidermis▪ Partial destruction of dermis	<ul style="list-style-type: none">▪ Reddened, blistered skin▪ Wet appearance▪ Pain▪ Swelling (possible)
Full Thickness	<ul style="list-style-type: none">▪ Complete destruction of epidermis and dermis▪ Possible subcutaneous damage (destroys all layers of skin and some or all underlying structures)	<ul style="list-style-type: none">▪ Whitened, leathery, or charred (brown or black)▪ Painful or relatively painless

**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

PM, P. 22

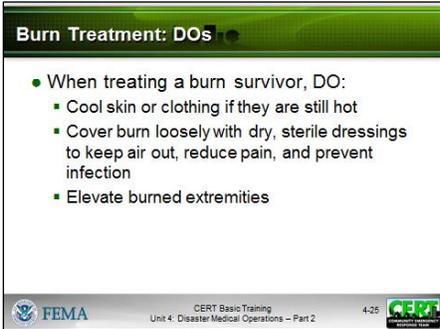
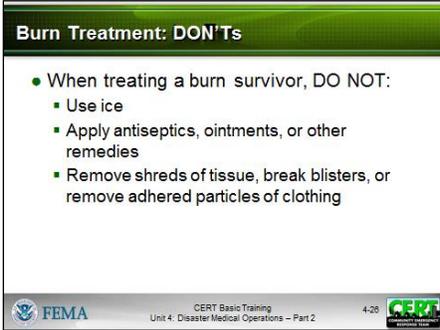
List of Guidelines for Treating Burns

- Remove the survivor from the burning source. Put out any flames and remove smoldering clothing unless it is stuck to the skin.
- Cool skin or clothing, if they are still hot, by immersing them in cool water for not more than 1 minute or covering with clean compresses that have been soaked in cool water and wrung out. Cooling sources include water from the bathroom or kitchen; garden hose; and soaked towels, sheets, or other cloths. Treat all survivors of full thickness burns for shock.

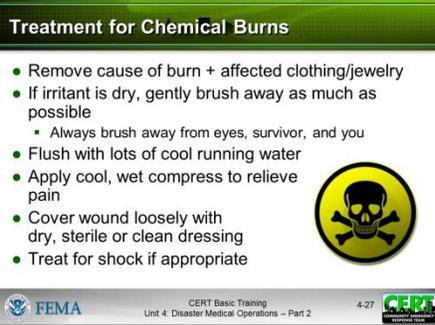
Infants, young children, and older persons, and persons with severe burns, are more susceptible to hypothermia. Therefore, rescuers should use caution when applying cool dressings on such persons. A rule of thumb is do not cool more than 15% of the body surface area (the size of one arm) at once, to reduce the chances of hypothermia.

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

**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

INSTRUCTOR GUIDANCE	CONTENT
<div data-bbox="191 443 631 772"></div> <p data-bbox="191 793 462 827">Display Slide 4-25</p> <div data-bbox="191 869 631 1199"></div> <p data-bbox="191 1205 462 1239">Display Slide 4-26</p> <p data-bbox="191 1281 631 1459">Debunk the myth about using any ointment or salve on a burn. Salve will hold heat in the burn area and later have to be scrubbed off.</p>	<p data-bbox="659 369 1203 403">DOs and DON'Ts of Burn Treatment</p> <p data-bbox="659 443 1154 476">When treating a burn survivor, DO:</p> <ul data-bbox="659 495 1425 663" style="list-style-type: none">▪ Cool skin or clothing if they are still hot.▪ Cover loosely with dry, sterile dressings to keep air out, reduce pain, and prevent infection.▪ Elevate burned extremities higher than the heart. <p data-bbox="659 869 1084 903">When treating a burn survivor:</p> <ul data-bbox="659 921 1446 1157" style="list-style-type: none">▪ Do NOT use ice. Ice causes vessel constriction.▪ Do NOT apply antiseptics, ointments, or other remedies.▪ Do NOT remove shreds of tissue, break blisters, or remove adhered particles of clothing. (Cut burned-in clothing around the burn.) <p data-bbox="659 1503 1433 1759">Caution the group that infants, young children, and older persons, and persons with severe burns, are more susceptible to hypothermia. Therefore, rescuers should use caution when applying cool dressings on such persons. A rule of thumb is do not cool more than 15% of the body surface area (the size of one arm) at once, to prevent hypothermia.</p>

**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

INSTRUCTOR GUIDANCE	CONTENT
<p data-bbox="196 695 631 1020"></p> <p data-bbox="191 1041 461 1073">Display Slide 4-27</p>	<p data-bbox="659 369 1382 436">Guidelines for Treating Chemical and Inhalation Burns</p> <p data-bbox="659 478 1382 646">State that chemical and inhalation burns vary from traditional heat-related burns in their origin and treatment. Keep in mind that suspicion of either chemical or inhalation burns elevates the survivor’s status to “I.”</p> <p data-bbox="659 688 886 720"><i>Chemical Burns</i></p> <p data-bbox="659 762 1382 863">Explain that unlike more traditional burns, chemical burns do not result from extreme heat, and therefore treatment differs greatly.</p> <p data-bbox="659 905 1382 1035">Tell the participants that such burns are not always obvious. They should consider chemical burns as a possibility if the survivor’s skin is burning and there is no sign of a fire. If chemical burns are suspected:</p> <ol data-bbox="659 1056 1442 1738" style="list-style-type: none">1. Protect yourself from contact with the substance. Use your protective gear — especially goggles, mask, and gloves.2. Ensure that any affected clothing or jewelry is removed.3. If the irritant is dry, gently brush away as much as possible. Always brush away from the eyes and away from the survivor and you.4. Use lots of cool running water to flush the chemical from the skin for 15 minutes until emergency help arrives. The running water will dilute the chemical fast enough to prevent the injury from getting worse.5. Apply cool, wet compress to relieve pain.6. Cover the wound very loosely with a dry, sterile or clean cloth so that the cloth will not stick to the wound.7. Treat for shock if appropriate.

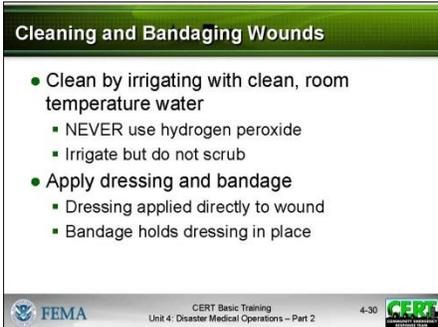
COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2

INSTRUCTOR GUIDANCE	CONTENT
<p data-bbox="199 386 626 415">Inhalation Burns Signs and Symptoms</p> <ul data-bbox="215 436 391 625" style="list-style-type: none">• Sudden loss of consciousness• Evidence of respiratory distress or upper airway obstruction• Soot around mouth or nose• Singed facial hair• Burns around face or neck  <p data-bbox="420 604 610 632">Figure 27-26 A singed mustache and burns to the tip of the tongue signal danger of airway burns or burns to the eyes.</p> <p data-bbox="199 663 626 695">FEMA CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-28 CERT</p> <p data-bbox="188 716 459 751">Display Slide 4-28</p> 	<p data-bbox="659 369 889 405"><i>Inhalation Burns</i></p> <p data-bbox="659 436 1425 611">Remind the group that 60 to 80% of fire fatalities are the result of smoke inhalation. Whenever fire and/or smoke is present, CERT members should assess survivors for signs and symptoms of smoke inhalation. These are indicators that an inhalation burn is present:</p> <ul data-bbox="659 632 1382 898" style="list-style-type: none">▪ 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 <p data-bbox="659 957 1438 1125">Emphasize that the patient may not present these signs and symptoms until hours (sometimes up to a full 24 hours) after the injury occurred, and such symptoms may be overlooked when treating more obvious signs of trauma.</p> <p data-bbox="659 1167 1430 1335">Reiterate that smoke inhalation is the number one fire-related cause of death. If CERT members have reason to suspect smoke inhalation, be sure the airway is maintained, and alert a medical professional as soon as possible.</p> <p data-bbox="659 1377 1414 1444">Does anyone have a question about the treatment for burns?</p>

**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

INSTRUCTOR GUIDANCE	CONTENT
	<p>Explain that in the next section, the participants will learn to treat other injuries that are common after disasters:</p> <ul style="list-style-type: none">▪ Lacerations▪ Amputations and impaled objects▪ Fractures, dislocations, sprains, and strains▪ Nasal injuries▪ Cold-related injuries▪ Heat-related injuries▪ Insect bites/stings

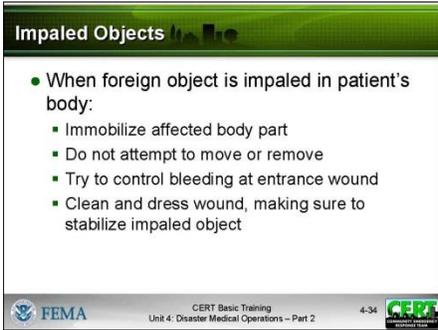
**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

INSTRUCTOR GUIDANCE	CONTENT
<div data-bbox="188 447 626 774"></div> <p data-bbox="188 793 461 829">Display Slide 4-29</p> <div data-bbox="188 972 626 1299"></div> <p data-bbox="188 1318 461 1354">Display Slide 4-30</p> <p data-bbox="188 1394 623 1539">Remind the participants that to sterilize water using non-perfumed bleach, they should use the following ratios:</p> <ul data-bbox="188 1541 560 1686" style="list-style-type: none">▪ 8 drops of bleach per gallon of water▪ 16 drops if the water is cloudy <p data-bbox="188 1688 599 1755">Allow the mixture to sit for 30 minutes before use.</p>	<p data-bbox="657 369 878 405"><i>Wound Care</i></p> <p data-bbox="657 447 1395 514">This section will focus on cleaning and bandaging to control infection.</p> <p data-bbox="657 552 1357 619">Tell the group that the main treatment for wounds includes:</p> <ul data-bbox="657 638 1109 772" style="list-style-type: none">▪ Control bleeding▪ Clean the wound▪ Apply dressing and bandage <p data-bbox="657 791 1440 934">Add the reminder that treatment for controlling bleeding was covered during the last session. Explain that the focus of this section is on cleaning and bandaging, which will help to prevent secondary infection.</p> <p data-bbox="657 972 1166 1008">Cleaning and Bandaging Wounds</p> <p data-bbox="657 1045 1386 1113">Explain that wounds should be cleaned by irrigating with clean, room temperature water.</p> <p data-bbox="657 1150 1408 1186">NEVER use hydrogen peroxide to irrigate the wound.</p>

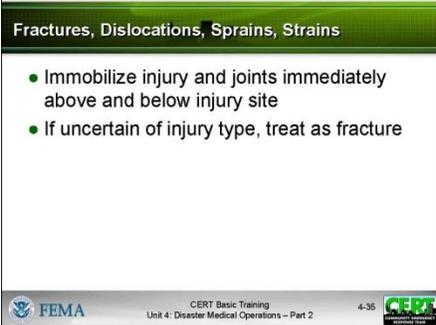
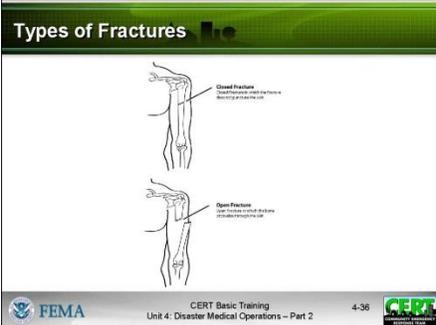
**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

INSTRUCTOR GUIDANCE	CONTENT
<p data-bbox="199 384 626 422">Signs of Infection</p> <ul data-bbox="215 436 402 598" style="list-style-type: none">● Signs of possible infection<ul style="list-style-type: none">▪ Swelling around wound site▪ Discoloration▪ Discharge from wound▪ Red striations from wound site  <p data-bbox="199 667 626 695">FEMA CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-32</p>	<p data-bbox="659 369 1146 405">Signs of possible infection include:</p> <ul data-bbox="659 422 1187 604" style="list-style-type: none">▪ Swelling around the wound site▪ Discoloration▪ Discharge from the wound▪ Red striations from the wound site <p data-bbox="659 621 1422 720">If necessary and based on reassessment and signs of infection, change the treatment priority (e.g., from Delayed to Immediate).</p> <p data-bbox="659 789 854 825">Amputations</p> <p data-bbox="659 863 1438 961">Emphasize that the main treatments for an amputation (the traumatic severing of a limb or other body part) are to:</p> <ul data-bbox="659 982 938 1066" style="list-style-type: none">▪ Control bleeding▪ Treat shock
<p data-bbox="199 1140 626 1178">Amputations</p> <ul data-bbox="215 1192 594 1354" style="list-style-type: none">● Control bleeding; treat shock● If amputated body part is found:<ul style="list-style-type: none">▪ Save tissue parts, wrapped in clean material and placed in plastic bag▪ Keep tissue parts cool, but NOT directly on ice▪ Keep severed part with survivor <p data-bbox="199 1423 626 1451">FEMA CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-33</p>	<p data-bbox="659 1125 1438 1192">Stress that when the severed body part can be located, CERT members should:</p> <ul data-bbox="659 1209 1438 1451" style="list-style-type: none">▪ Save tissue parts, wrapped in clean material and placed in a plastic bag, if available. Label them with the date, time, and survivor's name.▪ Keep the tissue parts cool, but NOT in direct contact with ice▪ Keep the severed part with the survivor

**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

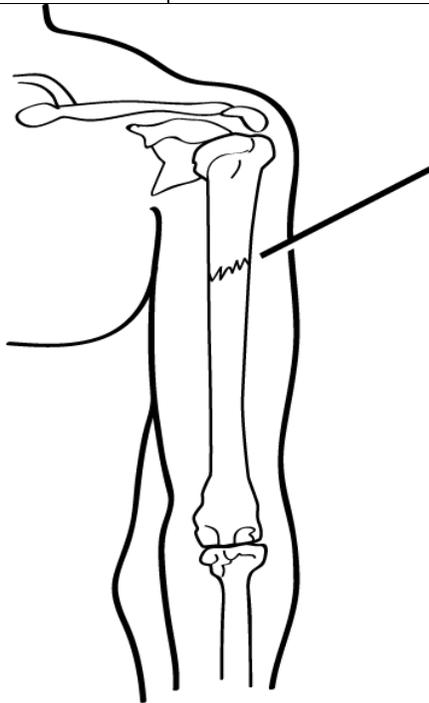
INSTRUCTOR GUIDANCE	CONTENT
<div data-bbox="188 617 626 947"></div> <p data-bbox="188 963 461 999">Display Slide 4-34</p> <div data-bbox="188 1125 266 1199"></div>	<p data-bbox="657 369 906 405">Impaled Objects</p> <p data-bbox="657 443 1396 579">Tell the group that they may also encounter some survivors who have foreign objects lodged in their bodies — usually as the result of flying debris during the disaster.</p> <p data-bbox="657 621 1360 688">Explain that, when a foreign object is impaled in a patient's body, the participants should:</p> <ul data-bbox="657 705 1437 1066" style="list-style-type: none">▪ Immobilize the affected body part▪ <u>Not</u> attempt to move or remove the object, unless it is obstructing the airway▪ Try to control bleeding at the entrance wound without placing undue pressure on the foreign object▪ Clean and dress the wound making sure to stabilize the impaled object. Wrap bulky dressings around the object to keep it from moving. <p data-bbox="657 1121 1399 1157">Does anyone have questions about wound care?</p> <p data-bbox="657 1236 1373 1344">Tell the participants that the next topic will address treatment for fractures, dislocations, sprains, and strains.</p>

COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2

INSTRUCTOR GUIDANCE	CONTENT
 <p>Display Slide 4-35</p> <p>PM, P. 4-28</p>  <p>Display Slide 4-36</p>	<p><i>Treating Fractures, Dislocations, Sprains, and Strains</i></p> <p>Tell the group that the objective when treating a suspected fracture, sprain, or strain is to immobilize the injury and the joints immediately above and below the injury site.</p> <p>Point out that because it is difficult to distinguish among fractures, sprains, or strains, if uncertain of the type of injury, CERT members should treat the injury as a fracture.</p> <p>Fractures</p> <p>Introduce this section by explaining that a fracture is a complete break, a chip, or a crack in a bone. There are several types of fractures (refer the participants to the illustrations titled <i>Closed and Open Fractures</i> in the Participant Manual):</p> <ul style="list-style-type: none">▪ A <u>closed fracture</u> is a broken bone with no associated wound. First aid treatment for closed fractures may require only splinting.▪ An <u>open fracture</u> is a broken bone with some kind of wound that allows contaminants to enter into or around the fracture site.

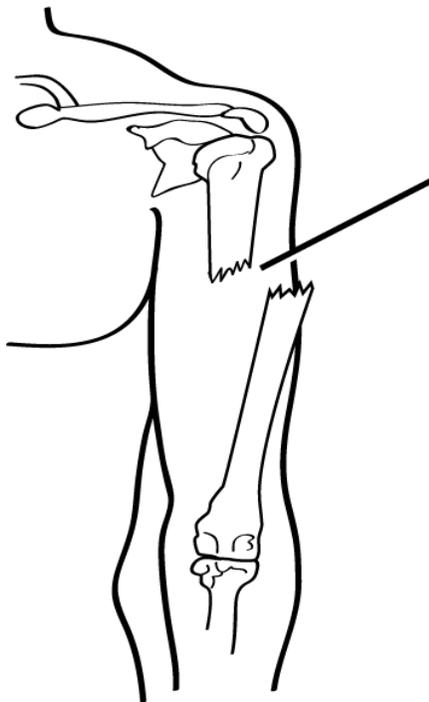
PM, P. 4-28

Closed and Open Fractures



Closed Fracture

Closed Fracture in which the fracture does not puncture the skin.



Open Fracture

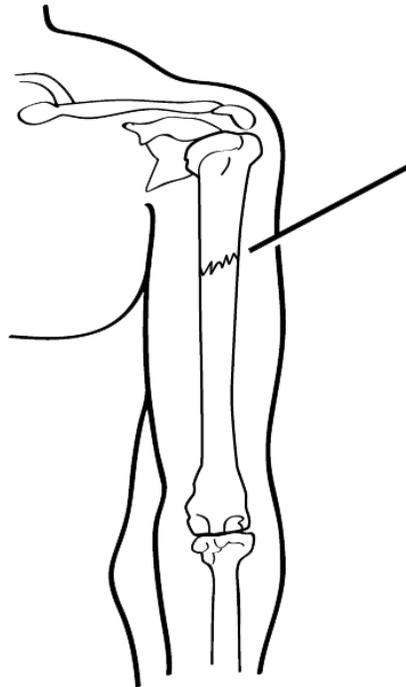
Open Fracture in which the bone protrudes through the skin.

**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

INSTRUCTOR GUIDANCE	CONTENT
<p data-bbox="199 653 428 678">Treating Open Fractures</p> <ul data-bbox="215 701 599 863" style="list-style-type: none">● Do not draw exposed bone ends back into tissue● Do not irrigate wound● Cover wound with sterile dressing● Splint fracture without disturbing wound● Place moist dressing over bone end <p data-bbox="191 932 630 961">FEMA CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-37</p> <p data-bbox="191 982 459 1014">Display Slide 4-37</p> <p data-bbox="191 1230 358 1262">PM, P. 4-30</p> <p data-bbox="199 1461 561 1486">Displaced and Nondisplaced Fractures</p>  <p data-bbox="191 1738 630 1768">FEMA CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-38</p> <p data-bbox="191 1789 459 1820">Display Slide 4-38</p>	<p data-bbox="659 369 1057 401">Treating an Open Fracture</p> <p data-bbox="659 438 1438 579">Explain that open fractures are more dangerous than closed fractures because they pose a significant risk of severe bleeding and infection. Therefore, they are a higher priority and need to be checked more frequently.</p> <p data-bbox="659 653 1260 684">Stress that when treating an open fracture:</p> <ul data-bbox="659 705 1406 831" style="list-style-type: none">▪ Do <u>not</u> draw the exposed bone ends back into the tissue.▪ Do <u>not</u> irrigate the wound. <p data-bbox="659 978 1308 1010">Continue by telling the group that they <u>should</u>:</p> <ul data-bbox="659 1041 1406 1209" style="list-style-type: none">▪ Cover the wound with a sterile dressing▪ Splint the fracture without disturbing the wound▪ Place a moist 4 by 4-inch dressing over the bone end to keep it from drying out <p data-bbox="659 1230 1438 1293">Tell the group that splinting procedures will be covered later in this unit.</p> <p data-bbox="659 1314 1292 1419">Refer the participants to the illustrations titled <i>Displaced and Nondisplaced Fractures</i> in the Participant Manual.</p> <p data-bbox="659 1461 1438 1608">Explain that if the limb is angled, then there is a <u>displaced fracture</u>. Explain that displaced fractures may be described by the degree of displacement of the bone fragments.</p> <p data-bbox="659 1629 1406 1797">Explain that <u>nondisplaced fractures</u> are difficult to identify, with the main signs being pain and swelling. Stress that the participants should treat a suspected fracture as a fracture until professional treatment is available.</p>

PM, P. 4-30

Displaced and Nondisplaced Fractures



Nondisplaced Fracture

Nondisplaced Fracture in which the fractured bone remains aligned.



Displaced Fracture

Displaced Fracture in which the fractured bone is no longer aligned.

**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART2**

INSTRUCTOR GUIDANCE	CONTENT
 <p>Display Slide 4-39</p>	<p>Dislocations</p> <p>Introduce this section by telling the group that dislocations are another common injury in emergencies.</p> <p>Explain that a dislocation is an injury to the ligaments around a joint that is so severe that it permits a separation of the bone from its normal position in a joint.</p> <p>Tell the participants that the signs of a dislocation are similar to those of a fracture and that a suspected dislocation should be treated like a fracture.</p> <p>Emphasize that, if dislocation is suspected, be sure to assess PMS (Pulse, Movement, Sensation) in the affected limb before and after splinting/immobilization. If PMS is compromised, the patient's treatment priority is elevated to "I."</p> <p>Stress that the participants should <u>not</u> try to relocate a suspected dislocation. They should immobilize the joint until professional medical help is available.</p> <p>Sprains and Strains</p> <p>Introduce this section by explaining that a sprain involves a stretching or tearing of ligaments at a joint and is usually caused by stretching or extending the joint beyond its normal limits.</p> <p>Point out that a <u>sprain</u> is considered a partial dislocation, although the bone either remains in place or is able to fall back into place after the injury.</p>

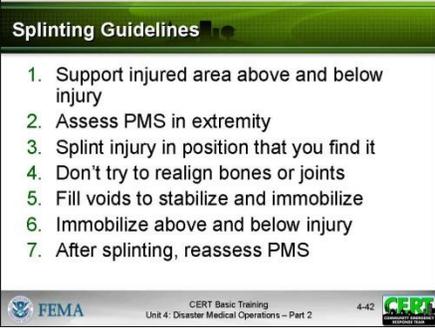
COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2

INSTRUCTOR GUIDANCE	CONTENT
<p data-bbox="199 386 427 415">Signs of Sprain</p> <ul data-bbox="215 436 418 541" style="list-style-type: none">• Tenderness at site• Swelling and bruising• Restricted use or loss of use  <p data-bbox="199 667 626 695">FEMA CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-40</p> <p data-bbox="191 720 459 751">Display Slide 4-40</p> 	<p data-bbox="659 373 1417 436">Tell the group that the most common signs of a sprain are:</p> <ul data-bbox="659 457 1198 594" style="list-style-type: none">▪ Tenderness at the site of the injury▪ Swelling and/or bruising▪ Restricted use or loss of use <p data-bbox="659 793 1417 930">Remind the group that the signs of a sprain are similar to those of a nondisplaced fracture. Therefore, they should <u>not</u> try to treat the injury other than by immobilization and elevation.</p> <p data-bbox="659 961 1417 1066">Tell the group that a <u>strain</u> involves a stretching and/or tearing of muscles or tendons. Strains most often involve the muscles in the neck, back, thigh, or calf.</p> <p data-bbox="659 1098 1417 1245">Point out that in some cases, strains may be difficult to distinguish from sprains or fractures. Whether an injury is a strain, sprain, or fracture, treat the injury as if it is a fracture.</p> <p data-bbox="659 1276 1417 1350">Does anyone have any questions about fractures, dislocations, sprains, or strains?</p>

COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2

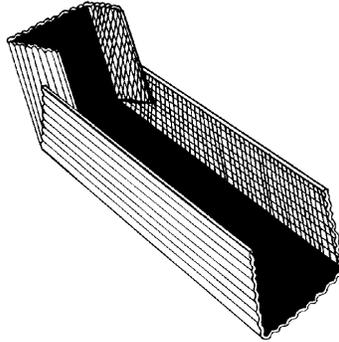
INSTRUCTOR GUIDANCE	CONTENT
 <p>Display Slide 4-41</p> <p>Remind the participants to be creative when looking for splinting materials. For example, consider using the survivor's t-shirt as a makeshift sling. Remove the shirt and cut the lower portion of the shirt from armpit to armpit. Use the remaining band of fabric as a sling by placing one end under the injured arm and the other end over the survivor's head.</p>	<p>Splinting</p> <p>Introduce this topic by explaining that splinting is the most common procedure for immobilizing an injury.</p> <p>Point out that cardboard is the material typically used for makeshift splints but a variety of materials can be used, including:</p> <ul style="list-style-type: none">▪ Soft materials. Towels, blankets, or pillows, tied with bandaging materials or soft cloths▪ Rigid materials. A board, metal strip, folded magazine or newspaper, or other rigid item <p>Add that <u>anatomical splints</u> may also be created by securing a fractured bone to an adjacent unfractured bone. Anatomical splints are usually reserved for fingers and toes, but, in an emergency, legs may also be splinted together.</p> <p>Soft materials should be used to fill the gap between the splinting material and the body part.</p>

**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

INSTRUCTOR GUIDANCE	CONTENT
<p>Demonstrate the correct procedures for splinting the upper and lower leg.</p>  <p>Display Slide 4-42</p> <p>PM, PP. 4-33 and 4-34</p>	<p>During the demonstration, be sure to point out the guidelines for splinting:</p> <ol style="list-style-type: none">1. Support the injured area above and below the site of the injury, including the joints.2. Assess PMS in the extremity before initiating the splint.3. If possible, splint the injury in the position that you find it.4. Don't try to realign bones or joints.5. Fill the voids to further stabilize and immobilize the injury.6. Immobilize above and below the injury.7. After splinting, reassess PMS and evaluate against initial PMS assessment. <p>Tell the participants that, with this type of injury, there will be swelling. They should remove restrictive clothing, shoes, and jewelry when necessary to prevent these items from acting as unintended tourniquets.</p> <p>Refer the participants to the pages titled <i>Splint Illustrations</i> in the Participant Manual.</p>

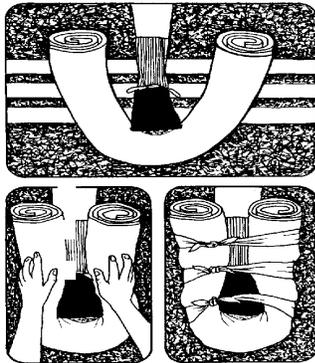
PM, PP. 4-33 and 4-34

Splint Illustrations



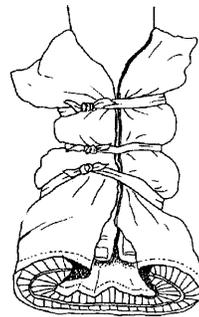
Cardboard Splint

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



Splinting Using a Towel

Splinting using a towel, in which the towel is rolled up and wrapped around the limb, then tied in place.

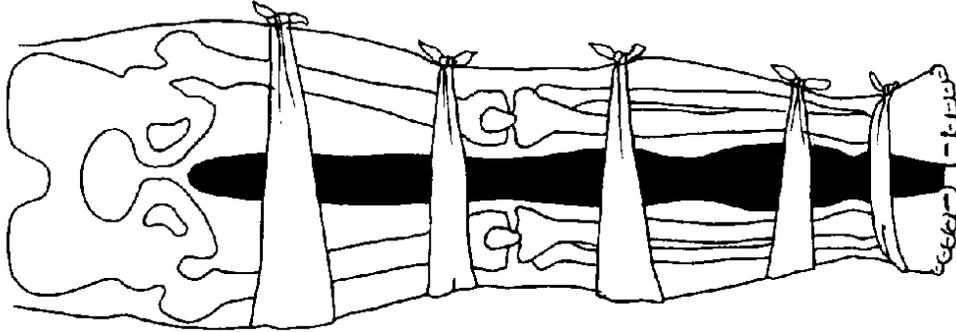


Pillow splint

Pillow splint, in which the pillow is wrapped around the limb and tied.

PM, PP. 4-33 and 4-34

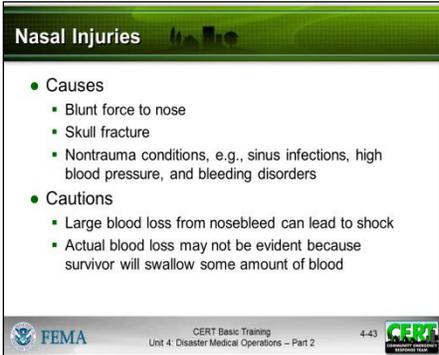
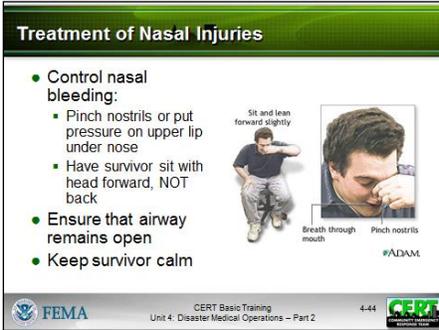
Splint Illustrations



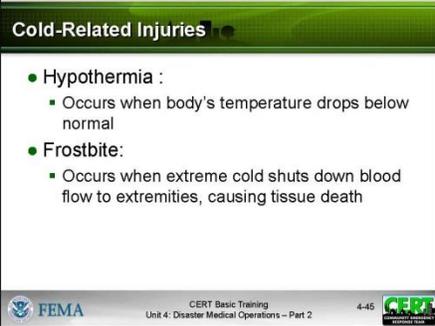
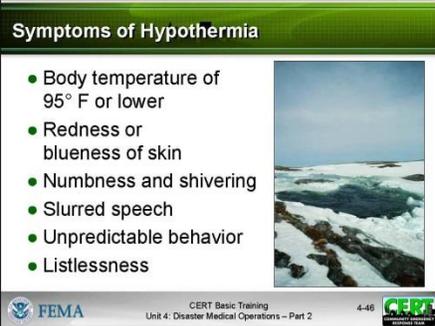
Anatomical Splint

Anatomical splint in which the injured leg is tied at intervals to the non-injured leg, using a blanket as padding between the legs.

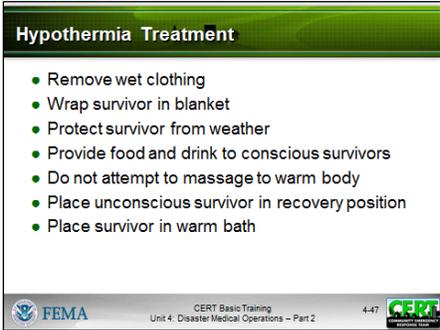
**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

INSTRUCTOR GUIDANCE	CONTENT
<p data-bbox="191 449 630 804"></p> <p data-bbox="191 814 462 846">Display Slide 4-43</p> <p data-bbox="191 1213 625 1287">Demonstrate the correct procedures on the mannequin.</p> <p data-bbox="191 1440 630 1770"></p> <p data-bbox="191 1787 462 1818">Display Slide 4-44</p>	<p data-bbox="659 369 906 411"><i>Nasal Injuries</i></p> <p data-bbox="659 449 1430 516">Introduce this section by telling the group that bleeding from the nose can have several causes.</p> <p data-bbox="659 554 1425 590">Explain that bleeding from the nose can be caused by:</p> <ul data-bbox="659 604 1339 804" style="list-style-type: none">▪ Blunt force to the nose▪ Skull fracture▪ Nontrauma-related conditions such as sinus infections, high blood pressure, and bleeding disorders <p data-bbox="659 884 984 919">Caution the group that:</p> <ul data-bbox="659 934 1409 1087" style="list-style-type: none">▪ A large blood loss from a nosebleed can lead to shock▪ Actual blood loss may not be evident because the survivor will swallow some amount of blood <p data-bbox="659 1104 1409 1178">Point out that those who have swallowed large amounts of blood may become nauseated and vomit.</p> <p data-bbox="659 1213 1312 1287">Demonstrate the methods for controlling nasal bleeding:</p> <ul data-bbox="659 1302 1398 1381" style="list-style-type: none">▪ Pinch the nostrils together▪ Put pressure on the upper lip just under the nose <p data-bbox="659 1440 1430 1507">Tell the participants that, while treating for nosebleeds, they should:</p> <ul data-bbox="659 1524 1425 1759" style="list-style-type: none">▪ Have the survivor sit with the head slightly forward so that blood trickling down the throat will not be breathed into the lungs. Do not put the head back.▪ Ensure that the survivor's airway remains open▪ Keep the survivor quiet. Anxiety will increase blood flow.

COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2

INSTRUCTOR GUIDANCE	CONTENT
<p data-bbox="191 380 266 447"></p> <p data-bbox="191 705 626 1031"> Cold-Related Injuries</p> <ul data-bbox="215 772 602 911" style="list-style-type: none">● Hypothermia :<ul style="list-style-type: none">■ Occurs when body's temperature drops below normal● Frostbite:<ul style="list-style-type: none">■ Occurs when extreme cold shuts down blood flow to extremities, causing tissue death <p data-bbox="191 1052 461 1083">Display Slide 4-45</p> <p data-bbox="191 1377 626 1703"> Symptoms of Hypothermia</p> <ul data-bbox="215 1444 448 1654" style="list-style-type: none">● Body temperature of 95° F or lower● Redness or blueness of skin● Numbness and shivering● Slurred speech● Unpredictable behavior● Listlessness  <p data-bbox="191 1724 461 1755">Display Slide 4-46</p>	<p data-bbox="659 373 1414 436">Does anyone have any questions about any of the injuries covered to this point in the unit?</p> <p data-bbox="659 485 1321 548">Tell the group that the next section will address treatment for cold-related injuries.</p> <p data-bbox="659 625 1187 663"><i>Treating Cold-Related Injuries</i></p> <p data-bbox="659 705 1357 768">Introduce this topic by explaining that cold-related injuries include:</p> <ul data-bbox="659 793 1430 978" style="list-style-type: none">■ <u>Hypothermia</u>, which is a condition that occurs when the body's temperature drops below normal■ <u>Frostbite</u>, which occurs when extreme cold shuts down blood flow to extremities, causing tissue death <p data-bbox="659 1125 854 1157">Hypothermia</p> <p data-bbox="659 1199 1373 1335">Tell the group that 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.</p> <p data-bbox="659 1377 1349 1440">Point out that the primary signs and symptoms of hypothermia are:</p> <ul data-bbox="659 1465 1341 1598" style="list-style-type: none">■ A body temperature of 95° F (37° C) or lower■ Redness or blueness of the skin■ Numbness accompanied by shivering

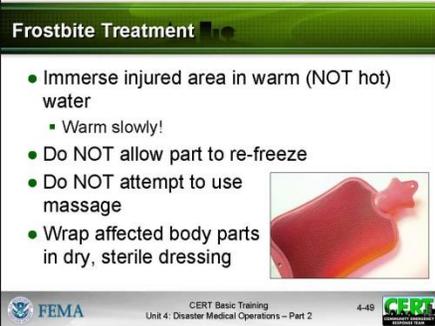
**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART 2**

INSTRUCTOR GUIDANCE	CONTENT
<div data-bbox="191 646 631 976"><p>Hypothermia Treatment</p><ul style="list-style-type: none">• Remove wet clothing• Wrap survivor in blanket• Protect survivor from weather• Provide food and drink to conscious survivors• Do not attempt to massage to warm body• Place unconscious survivor in recovery position• Place survivor in warm bath<p>FEMA CERT CERT Basic Training Unit 4: Disaster Medical Operations - Part 2 4-47</p></div> <p>Display Slide 4-47</p>	<p>Add that, in later stages, hypothermia will be accompanied by:</p> <ul style="list-style-type: none">▪ Slurred speech▪ Unpredictable behavior▪ Listlessness <p>Explain that because hypothermia can set in within only a few minutes, participants should treat survivors who have been rescued from cold air or water environments.</p> <ul style="list-style-type: none">▪ Remove wet clothing.▪ Wrap the survivor in a blanket or sleeping bag and cover the head and neck.▪ Protect the survivor against the weather.▪ Provide warm, sweet drinks and food to conscious survivors. <u>Do not offer alcohol.</u>▪ Do not attempt to use massage to warm affected body parts.▪ Place an unconscious survivor in the recovery position:<ol style="list-style-type: none">1. Place the survivor's arm that is nearest to you at a right angle against the ground, with the palm facing up.2. Move the survivor's other arm across his or her chest and neck, with the back of the survivor's hand resting against his or her cheek.3. Grab a hold of the knee furthest from you and pull it up until the knee is bent and the foot is flat on the floor.4. Pull the knee toward you and over the survivor's body while holding the survivor's hand in place against his or her cheek.5. Position the survivor's leg at a right angle against the floor so that the survivor is lying on his or her side.

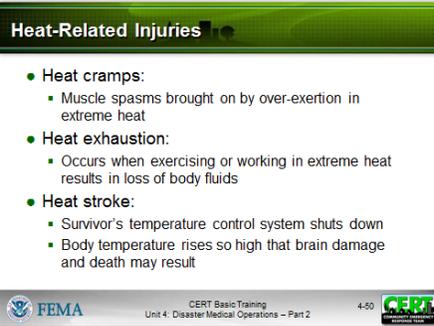
**COMMUNITY EMERGENCY RESPONSE TEAM
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INSTRUCTOR GUIDANCE	CONTENT
 <p>Display Slide 4-48</p>	<ul style="list-style-type: none">▪ If the survivor is conscious, place him or her in a warm bath. <p>Tell the participants not to allow the survivor to walk around even when he or she appears to be fully recovered. If the survivor must be moved outdoors, they should cover the survivor's head and face.</p> <p>Frostbite</p> <p>Explain to the group that a person's blood vessels constrict in cold weather in an effort to preserve body heat. In extreme cold, the body will further constrict blood vessels in the extremities in an effort to shunt blood toward the core organs (heart, lungs, intestines, etc.). The combination of inadequate circulation and extreme temperatures will cause tissue in these extremities to freeze, and, in some cases, tissue death will result. Frostbite is most common in the hands, nose, ears, and feet.</p> <p>Tell the participants that there are several key signs and symptoms of frostbite:</p> <ul style="list-style-type: none">▪ Skin discoloration (red, white, purple, black)▪ Burning or tingling sensation, at times not localized to the injury site▪ Partial or complete numbness

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INSTRUCTOR GUIDANCE	CONTENT
<p data-bbox="196 369 626 695">A slide titled "Frostbite Treatment" with a green header. It lists four bullet points: "Immerse injured area in warm (NOT hot) water" (with sub-bullet "Warm slowly!"), "Do NOT allow part to re-freeze", "Do NOT attempt to use massage", and "Wrap affected body parts in dry, sterile dressing". There is a small image of a red, swollen, and blistered frostbitten hand. The slide footer includes FEMA, CERT Basic Training, Unit 4: Disaster Medical Operations - Part 2, 4-49, and a CERT logo.</p> <p data-bbox="191 716 461 751">Display Slide 4-49</p> <p data-bbox="191 999 266 1073">A black square icon with a white question mark and a white lightning bolt above it.</p>	<p data-bbox="659 369 1422 506">Explain to the participants that a patient suffering from frostbite must be warmed slowly! Thawing the frozen extremity too rapidly can cause chilled blood to flow to the heart, shocking and potentially stopping it.</p> <ul data-bbox="659 527 1422 768" style="list-style-type: none">▪ Immerse injured area in warm (NOT hot) water, approximately 107.6° F.▪ Do NOT allow the body part to re-freeze as this will exacerbate the injury.▪ Do NOT attempt to use massage to warm affected body parts. <p data-bbox="659 789 1422 957">Tell the participants to wrap affected body parts in dry, sterile dressing. Again, it is vital this task be completed carefully. Frostbite results in the formation of ice crystals in the tissue; rubbing could potentially cause a great deal of damage!</p> <p data-bbox="659 999 1341 1062">Does anyone have any questions about cold-related injuries?</p> <p data-bbox="659 1104 1390 1178">Explain that heat-related injuries will be discussed in the next section.</p>

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INSTRUCTOR GUIDANCE	CONTENT
<p data-bbox="196 453 630 779">A slide titled "Heat-Related Injuries" with a green header. It lists three types of injuries: Heat cramps (muscle spasms from over-exertion), Heat exhaustion (occurs when exercising in extreme heat, leading to fluid loss), and Heat stroke (survivor's temperature control system shuts down, leading to brain damage and death). The slide includes FEMA and CERT logos and the text "CERT Basic Training Unit 4: Disaster Medical Operations - Part 2 4-50".</p> <p data-bbox="188 800 459 831">Display Slide 4-50</p> <p data-bbox="196 1073 630 1398">A slide titled "Symptoms of Heat Exhaustion" with a green header. It lists symptoms: Cool, moist, pale or flushed skin; Heavy sweating; Headache; Nausea or vomiting; Dizziness; and Exhaustion. A photograph of a man with a red neckerchief is shown on the right. The slide includes FEMA and CERT logos and the text "CERT Basic Training Unit 4: Disaster Medical Operations - Part 2 4-51".</p> <p data-bbox="188 1419 459 1451">Display Slide 4-51</p>	<p data-bbox="659 369 1187 411"><i>Treating Heat-Related Injuries</i></p> <p data-bbox="659 453 1365 548">Tell the participants that there are several types of heat-related injuries that they may encounter in a disaster scenario:</p> <ul data-bbox="659 569 1438 1020" style="list-style-type: none">▪ <u>Heat cramps</u> are muscle spasms brought on by over-exertion in extreme heat.▪ <u>Heat exhaustion</u> occurs when an individual exercises or works in extreme heat, resulting in loss of body fluids through heavy sweating. Blood flow to the skin increases, causing blood flow to decrease to the vital organs. This results in a mild form of shock.▪ <u>Heat stroke</u> is life threatening. The survivor's temperature control system shuts down, and body temperature can rise so high that brain damage and death may result. <p data-bbox="659 1073 906 1104">Heat Exhaustion</p> <p data-bbox="659 1146 1438 1209">Explain to the group that the following are symptoms of heat exhaustion:</p> <ul data-bbox="659 1230 1166 1514" style="list-style-type: none">▪ Cool, moist, pale, or flushed skin▪ Heavy sweating▪ Headache▪ Nausea or vomiting▪ Dizziness▪ Exhaustion <p data-bbox="659 1535 1382 1629">A patient suffering heat exhaustion will have a near normal body temperature. If left untreated, heat exhaustion will develop into heat stroke.</p>

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INSTRUCTOR GUIDANCE	CONTENT
<div data-bbox="191 369 626 695"><p>Symptoms of Heat Stroke</p><ul style="list-style-type: none">• Hot, red skin• Lack of perspiration• Changes in consciousness• Rapid, weak pulse and rapid, shallow breathing<p><small>FEMA CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-52</small></p></div> <p data-bbox="191 716 461 751">Display Slide 4-52</p> <div data-bbox="191 947 626 1272"><p>Treatment of Heat-Related Injuries</p><ul style="list-style-type: none">• Remove from heat to cool environment• Cool body slowly• Have the survivor drink water, SLOWLY• No food or drink if survivor is experiencing vomiting, cramping, or is losing consciousness<p><small>FEMA CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-53</small></p></div> <p data-bbox="191 1293 461 1329">Display Slide 4-53</p> 	<h3 data-bbox="659 369 837 405">Heat Stroke</h3> <p data-bbox="659 436 1438 510">Tell the participants that heat stroke is characterized by some or all of the following symptoms:</p> <ul data-bbox="659 527 1373 709" style="list-style-type: none">▪ Hot, red skin▪ Lack of perspiration▪ Changes in consciousness▪ Rapid, weak pulse and rapid, shallow breathing <p data-bbox="659 726 1438 831">In a heat stroke survivor, body temperature can be very high — as high as 105° F. If an individual suffering from heat stroke is not treated, death can result!</p> <h3 data-bbox="659 867 813 903">Treatment</h3> <p data-bbox="659 940 1292 1014">Explain that treatment is similar for both heat exhaustion and heat stroke.</p> <ol data-bbox="659 1031 1438 1566" style="list-style-type: none">1. Take the survivor out of the heat and place in a cool environment.2. Cool the body slowly with cool, wet towels or sheets. If possible, put the survivor in a cool bath.3. Have the survivor drink water, SLOWLY, at the rate of approximately half a glass of water every 15 minutes. Consuming too much water too quickly will cause nausea and vomiting in a survivor of heat sickness.4. If the survivor is experiencing vomiting, cramping, or is losing consciousness, DO NOT administer food or drink. Alert a medical professional as soon as possible, and keep a close watch on the individual until professional help is available. <p data-bbox="659 1619 1422 1692">Does anyone have any questions about any of the heat-related injuries covered in this section?</p> <p data-bbox="659 1734 1325 1797">Tell the group that the next section will address treatment for insect bites and stings.</p>

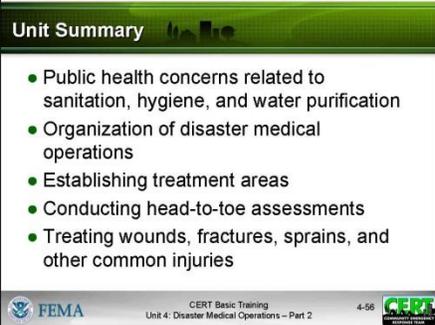
**COMMUNITY EMERGENCY RESPONSE TEAM
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INSTRUCTOR GUIDANCE	CONTENT
<p>Discuss insects and/or animals that pose a particular threat to your locality.</p> <div data-bbox="191 940 626 1268"></div> <p>Display Slide 4-54</p>	<p><i>Bites and Stings</i></p> <p>Remind the participants that in a disaster environment, everything is shaken from normalcy, including insects and animals. In this time of chaos, insect bites and stings may be more common than is typical as these creatures, like people, are under additional stress.</p> <p>Tell the group that, when conducting a head-to-toe assessment, they should look for signs of insect bites and stings. The specific symptoms vary depending on the type of creature, but, generally, bites and stings will be accompanied by redness and itching, tingling or burning at the site of the injury, and often a welt on the skin at the site.</p> <p>Explain that, in general, treatment for insect bites and stings follows these steps:</p> <ol style="list-style-type: none">1. Remove the stinger if still present by scraping the edge of a credit card or other stiff, straight-edged object across the stinger. Do not use tweezers; these may squeeze the venom sac and increase the amount of venom released.2. Wash the site thoroughly with soap and water.3. Place ice (wrapped in a washcloth) on the site of the sting for 10 minutes and then off for 10 minutes. Repeat this process. <p>Tell the participants that they may help the survivor take his or her own allergy medicine (Benadryl, etc.), but that they may NOT dispense medications.</p>

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INSTRUCTOR GUIDANCE	CONTENT
<div data-bbox="191 447 631 774"></div> <p data-bbox="191 814 461 848">Display Slide 4-55</p> <p data-bbox="191 890 617 1066">Demonstrate how to administer an Epi-pen. If possible, pass one around the room to familiarize the group with it.</p> <p data-bbox="191 1108 602 1398">Emphasize that CERT members do not administer medications, including over-the-counter products such as aspirin. CERT members can assist survivors in administering their own medications (e.g., Epi-pen).</p> <div data-bbox="191 1440 266 1514"></div>	<p data-bbox="659 369 1260 403">Bites and Stings and Allergic Reactions</p> <p data-bbox="659 445 1422 617">Tell the participants that the greatest concern with any insect bite or sting is a severe allergic reaction, or anaphylaxis. Anaphylaxis occurs when an allergic reaction becomes so severe that the airway is compromised. If you suspect anaphylaxis:</p> <ol data-bbox="659 638 1430 1096" style="list-style-type: none">1. Check airway and breathing.2. Calm the individual.3. Remove constrictive clothing and jewelry as the body often swells in response to the allergen.4. If possible, find and help administer a survivor's Epi-pen. Many severe allergy sufferers carry one at all times.<ol data-bbox="756 940 1430 1045" style="list-style-type: none">a. DO NOT administer medicine aside from the Epi-pen. This includes pain relievers, allergy medicine, etc.5. Watch for signs of shock and treat appropriately. <p data-bbox="659 1117 1406 1213">Remind the participants to keep a close watch on the individual's airway and breathing. Seek professional medical help as soon as possible.</p> <p data-bbox="659 1440 1414 1507">Does anyone have any questions about any of the injuries covered in this section?</p>

**COMMUNITY EMERGENCY RESPONSE TEAM
UNIT 4: DISASTER MEDICAL OPERATIONS — PART2**

INSTRUCTOR GUIDANCE	CONTENT
 <p>Unit Summary</p> <ul style="list-style-type: none">● Public health concerns related to sanitation, hygiene, and water purification● Organization of disaster medical operations● Establishing treatment areas● Conducting head-to-toe assessments● Treating wounds, fractures, sprains, and other common injuries <p>FEMA CERT Basic Training Unit 4: Disaster Medical Operations – Part 2 4-56</p> <p>Display Slide 4-56</p>	<p><i>Unit Summary</i></p> <p>Begin the summary by first congratulating the group on completing the disaster medical operations sessions. Remind them that they have learned an enormous amount about how to recognize and treat life-threatening and other common disaster-related injuries — and that they have proven their knowledge and skills in high-pressure exercises.</p> <p>Summarize the key points of this unit:</p> <ul style="list-style-type: none">▪ To safeguard public health, take measures to maintain proper hygiene and sanitation, and purify water if necessary. All public health measures should be planned in advance and practiced during exercises.▪ Disaster medical operations include five functions:<ul style="list-style-type: none">• Triage• Treatment• Transport• Morgue• Supply▪ Treatment areas must be established as soon as casualties are confirmed. Treatment areas should be:<ul style="list-style-type: none">• In a safe area that is close to, but uphill, upwind, and, if possible, upstream from the hazard area• Accessible by transportation vehicles• Expandable

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INSTRUCTOR GUIDANCE	CONTENT
	<p>Depending on the circumstances, a CERT may establish a central medical treatment location and/or treatment locations at incident sites where many survivors have been injured.</p> <ul style="list-style-type: none">▪ Head-to-toe assessments should be verbal and hands-on. Always conduct head-to-toe assessments in the same way — beginning with the head and moving toward the feet. If injuries to the head, neck, or spine are suspected, the main objective is to not cause additional injury. Use in-line stabilization and a backboard if the survivor must be moved.▪ Burns are classified as superficial, partial thickness, or full thickness depending on severity and the depth of skin layers involved. Treatment for burns involves removing the source of the burn, cooling the burn, and covering it. For full thickness burns, always treat for shock.▪ The main first aid treatment for wounds consists of:<ul style="list-style-type: none">• Controlling bleeding• Cleaning• Dressing and bandaging▪ In the absence of active bleeding, dressings must be removed and the wound checked for infection at least every 4 to 6 hours. If there is active bleeding, a new dressing should be placed <u>over</u> the existing dressing.▪ Fractures, dislocations, sprains, and strains may have similar signs. Treat all suspected fractures, sprains, and strains by immobilizing the affected area using a splint.▪ The key to treatment of cold-related injuries such as hypothermia and frostbite is to warm the survivor slowly.

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INSTRUCTOR GUIDANCE	CONTENT
	<ul style="list-style-type: none">▪ Anaphylaxis is the most critical concern when an insect bite is suspected. Be prepared to assist the survivor in using an Epi-pen and make sure to monitor the survivor's airway until professional help arrives. <p>Remind the group that there is much more to learn about medical operations than could possibly be presented in two 2- to 3-hour sessions. Recommend strongly that the participants attend additional training that is offered through the American Red Cross or through community colleges.</p> <p>Remind the group also that disaster medical operations is a team effort and that, like all teams, they must practice together so that they can function as a team under pressure. Encourage the participants to attend exercise simulations whenever they are offered locally.</p>

