

Disaster Medical Operations Part 2



CERT Basic Training Unit 4

Unit Topics



Medical Operations Unit 1

Identify and treat the 3 killers -

Airway obstruction, Bleeding, Shock

Basic First Aid for:

- Treating Burns
- Wound Care
- Treat Fractures, Dislocations, Sprains, & Strains
- Nasal Injuries
- Bites and Stings
- Treating Cold-Related Injuries
- Treating Heat-Related Injuries

Medical Operations Unit 2

approach to:

Mass Casualty Incident

- Functions of Disaster Medical Operations
- Triage
- Establishing Medical Treatment Areas
- Conducting Head-to-Toe Assessments
- CERT Health Considerations



Brief review of Disaster Medical Operations — Part 1

- What is the first action to take before approaching a survivor?
- When approaching a survivor, you should always do three things **before** treatment. What should you do?
- What are the 3 Killers? Survivors with signs of these life-threatening conditions must receive immediate treatment

Unit Objectives

- Understand the approach to a Mass Casualty Incident
- Triage
- Establish a treatment area
- Perform head-to-toe patient assessments
 - Review the 3 Killers
- Take appropriate hygiene measures to help protect health

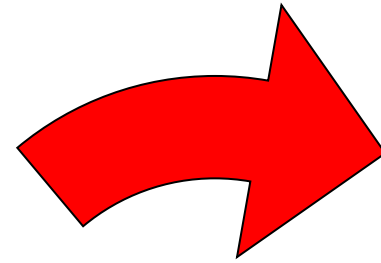


Rescuer Safety During Triage

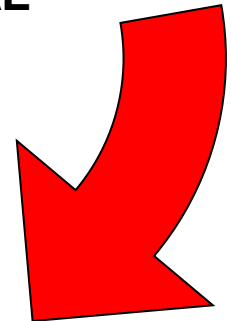
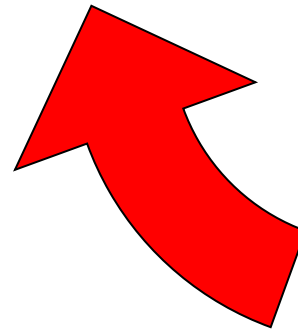
- ALWAYS wear PPE:
 - Hard Hat
 - Goggles
 - N95, KN95, KF94 or equivalent mask
 - Non-latex exam gloves
 - Work gloves
 - Sturdy shoes or boots
- If a **hazmat or terrorist event** is suspected, CERT members **DO NOT respond**
 - Evacuate as safely as possible

CERT Size-up

1. Gather Facts
2. Assess Damage
3. Consider Probabilities
4. Assess Your Situation
5. Establish Priorities
6. Make Decisions
7. Develop Plan of Action
8. Take Action
9. Evaluate Progress



REMEMBER:
CERT SIZE-UP IS
A CONTINUAL
PROCESS



CERT Size-up Simplified

1. **Facts** (Gather Facts)
2. **Anticipate** (Consider facts, gauge the future)
3. **Plan** (direction before action)
4. **Take action**
5. **Review** (Continually re-evaluate)

Disaster Medical Operations in a Mass Casualty Incident

- Triage
- Treatment
- Transport

- Morgue



Responding to Mass Casualty Incident

★ Is the scene safe?

- Make & follow a plan
- Document your actions throughout



What Is Triage?

Process for managing a Mass Casualty Incident (MCI)

1. Survivors are evaluated
2. Survivors are sorted by urgency of treatment needed
3. Survivors are placed in immediate or delayed treatment or minor injury areas

Triage: Urgency of Treatment

- Immediate (I): Survivor has life-threatening injuries (airway, bleeding, or shock)
- Delayed (D): Injuries do not jeopardize survivor's life; treatment can be delayed
- Minor (M): Walking wounded and generally ambulatory
- Dead (DEAD): No respiration after two attempts to open airway

Triage Process

- Step 1: Stop, Look, Listen, and **Think**
- Step 2: Conduct voice triage: “If you can walk, come to the sound of my voice”
- Step 3: Start where you stand; follow systematic route
- Step 4: Evaluate each survivor and tag
- Step 5: Treat “**I**” survivors immediately
- Step 6: Document triage results

Evaluate Victims

- Check **A**irway and breathing
- Check **B**leeding
- Check **C**irculation (perfusion, pulse)
- Check Mental Status
 - Squeeze my hand, what's your name, what city do you live in

Remember 30-2-Can Do

Triage Video Example



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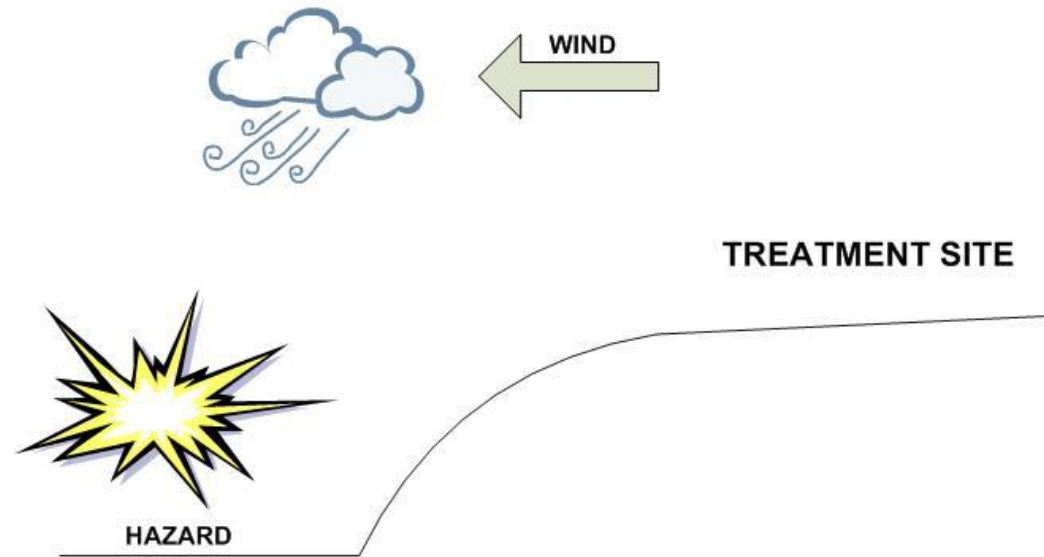
Treatment After Triage

- Select a site and set up the medical treatment area as soon as injured survivors are confirmed
- When determining best location(s) for treatment area, consider:
 - Safety of rescuers and survivors
 - Most effective use of resources



Treatment Area Site Selection

- The site selected should be:
 - In a safe area, free of hazards and debris
 - Upwind, uphill, and upstream (if possible) from hazard zone(s)
 - Accessible by transportation vehicles
 - Expandable



The treatment site should be uphill and upwind from the hazard.

Most Effective Use of CERT Resources

- To most effectively use CERT members themselves, time, medical supplies, and equipment, CERT may need to establish:
 - **Decentralized** medical treatment location (more than one location; large area of action)
 - **Centralized** medical treatment location (one location; smaller area of action such as a neighborhood)

Treatment Area Layout

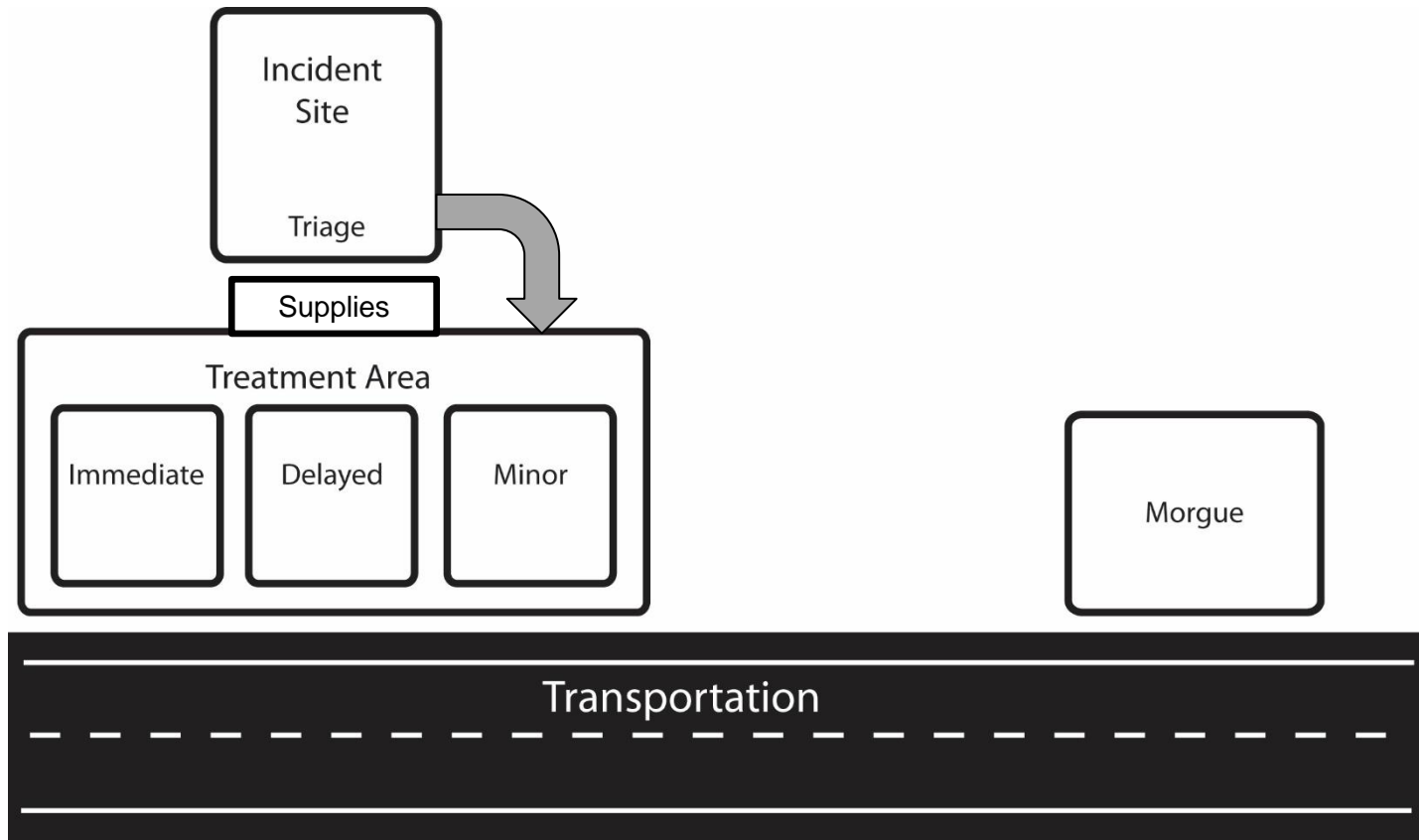
- Three treatment areas:

- “I” for Immediate care
- “D” for Delayed care
- “M” for Minor injuries/
walking wounded



- And “DEAD” for the morgue

Treatment Area Layout



Treatment area layout, showing the organization for the incident site, triage, transportation, and morgue

Treatment Area Organization

- Assign Treatment Leader to each treatment area
- Document thoroughly
 - Available identifying information
 - Description (age, sex, body build, estimated height)
 - Clothing
 - Injuries
 - Treatment
 - Transfer location



Triage Pitfalls

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



Exercise 4.1 Tabletop Triage

- Each group gets the list of victims to triage.
- Sort according to:
 - Red** = Immediate
 - Yellow** = Delay
 - Green** = Minor

 - Black** = Dead

Head-to-Toe Assessment

- Objectives of head-to-toe assessment:
 - Determine **Extent of Injuries**
 - Determine type of **Treatment Needed**
 - Document injuries



Order of Assessment

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



Conducting Head-to-Toe Assessment

- 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 (pulse, movement, sensation) in all extremities
- Look for medical identification tags



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



Closed-Head, Neck, Spinal Injuries

- **Do No Harm**
 - Minimize movement of head and neck
 - Work with a team
- Keep spine in straight line
- Stabilize head
- If Survivors are found under heavy debris, treat them as having closed-head, neck, or spinal injury

Stabilizing the Head

- Looking for materials that can be used as a backboard — a door, desktop, building materials or 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
- 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

Head to Toe Assessment



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Exercise 4.2

- Demo
- Practice Head-to-Toe Assessment

Review: Order of Assessment

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



CERT Health Considerations

- Maintaining proper hygiene
- Maintaining proper Sanitation
- Purifying water (if necessary)
- Preventing spread of disease



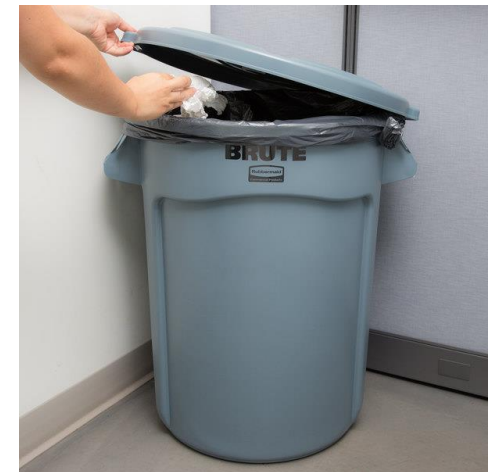
Maintaining Hygiene

- Wash hands frequently or use alcohol-based hand sanitizer
- Wear N95 mask (or = KN95, KF94)
- Protective glasses or goggles
- Wear non-latex exam gloves
- Avoid contact with body fluids
 - “If it is warm, wet, and not yours, don’t touch it without gloves!”
- Keep dressings sterile



Maintain Sanitation

- Control disposal of bacterial sources
- Put waste products in plastic bags
 - Tie off bags and mark them as medical waste
- Line toilets with plastic bags and kitty litter
- Separate containers for trash and human waste



Water Purification Methods - For Drinking

- Boil water for 1 minute or
- Water purification tablets or
- Non-perfumed liquid bleach
 - 8 drops/gal in clear water
(8 drops = 0.4 ml)
 - 16 drops/gal and filter **if** water is **cloudy**
 - Let stand for 30 minutes



Water **Sterilization** Method

- Mix Fresh Daily (good for 24 hours).
- Do **NOT** mix with other cleaning solutions
e.g., Bleach + Ammonia creates a deadly gas!!!
- Mix bleach & water outdoors with ventilation
- Sterilize for medical instruments or wiping down surfaces, like tarps, with:
1 Part Bleach to 10 parts water = 1.6 cups/gal
---**Not for Drinking!!**



Unit Summary

- Organization of disaster medical operations
- Triage
- Establishing treatment areas
- Conducting head-to-toe assessments
- Methods for hygiene and sanitation; water purification and sterilization