Disaster Medical Operations — Part 2

CERT Basic Training
Unit 4
Spring 2018

Unit 3 Review

- RPM, 30-2-Can Do
- 3 "Killers"
  - Airway obstruction
  - Excessive Bleeding
  - Shock (Circulatory)

In this unit you will learn about

- Public Health Considerations: How to maintain hygiene and sanitation
- Functions of Disaster Medical Operations: What the 5 major functions of disaster medical operations are and how they are set up.
- Victim 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, & strains
- Treat hypothermia (cold-related injuries)
- Treat heat-related injuries
- Control nasal bleeding
- Treat bites and stings

STAY SAFE - WEAR YOUR PPE!

When participating in MED OPS, you MUST protect yourself, your team and your victim at the same time
Public Health Considerations

Maintaining
- Proper hygiene
- Proper sanitation
- Drinkable water
- Health by preventing spread of disease

Maintaining Hygiene

- Wear your PPE
- Wash hands and change exam gloves between victims
  - Soap & water or unexpired hand sanitizer
- Keep dressings sterile and change dressings as needed to keep clean
- Avoid contact with body fluids
  - "If it is wet and not yours, don’t touch it!"

Maintain Sanitation

- What is Medical Waste?
  - Contaminated with body fluids
- Control disposal/Transport/Storage of biohazardous waste
  - Put medical waste in red plastic bags
  - Tie off bags
  - Mark as medical waste
  - When is it OK to leave on site?
- Bury human waste - Mark the spot

Disinfection of drinking water

- Boil for 1 minute – rolling boil
- Water purification tablets
- Bleach
  - No soaps or scents in bleach
    - Use 8 drops of bleach per gallon of clear water
    - Use 16 drops of bleach per gallon of cloudy water
  - Let solution stand for 30 minutes before use

Functions of Disaster Medical Operations

- Triage
- Treatment
- Transport
- Morgue
- Supply

Most Effective Use of CERT Resources

To help meet the challenge of limited resources, CERT may need to establish:

- Decentralized medical treatment location (more than one location)
- Centralized medical treatment location (one location)
Establish a Medical Treatment Area

- Select site and set up treatment area as soon as injured victims are confirmed
- When determining best location(s) for treatment area, consider:
  - Safety of rescuers and victims
  - 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

Treatment Area Layout

Four treatment areas:

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

WC CERT – DOCUMENTATION

BECOME FAMILIAR WITH THESE FORMS
YOU HAVE A COPY IN YOUR BINDERS
WC CERT – Medical (Volunteer) Intake Form

Name and initials of CERT volunteers working in Medical Operations

Name: ____________________________ Initials: _______
Name: ____________________________ Initials: _______
Name: ____________________________ Initials: _______
Name: ____________________________ Initials: _______
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Name: ____________________________ Initials: _______
Name: ____________________________ Initials: _______

If you volunteer in Med Ops you need to sign in on this form before you start working patients. You will be including a set of forms and this sheet matches your initials with your name, to ease any questions arise about any of your documentation.

Medical Intake Form (Victims)

<table>
<thead>
<tr>
<th>Name of Patient</th>
<th>Initials</th>
<th>Age</th>
<th>Gender</th>
<th>Body Build</th>
<th>Height</th>
<th>Clothing</th>
<th>Injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer Smith</td>
<td>S.</td>
<td>25</td>
<td>Female</td>
<td>Normal</td>
<td>5'6</td>
<td>Jeans</td>
<td>Head</td>
</tr>
<tr>
<td>John Doe</td>
<td>J.</td>
<td>45</td>
<td>Male</td>
<td>Average</td>
<td>5'10</td>
<td>T-shirt</td>
<td>Leg</td>
</tr>
</tbody>
</table>

Head-to-Toe Assessment (HTTA)

- Objectives of head-to-toe assessment:
  - Determine extent of injuries
  - Document injuries
  - Determine type of treatment needed

Order of Head to Toe Assessment

1. RPM – treat the 3 killers immediately
2. Head
3. Neck
4. Shoulders
5. Chest/Back
6. Arms
7. Abdomen
8. Pelvis
9. Legs

Scribe/FOG can help you remember what to do

What to Look for: DCAP-BTLS

- Deformities
- Contusions
- Abrasions
- Punctures
- Burns
- Tenderness
- Lacerations
- Swelling

Conducting Head-to-Toe Assessment

- Talk to victim, ask about pain (scale: 0 -10)
- Pay careful attention
- Identify self
- Respect privacy
- Look for medical identification!!
- Look, listen, and feel
- Check own hands for victim bleeding
- Check color, feeling, warmth in all extremities
- If you suspect a spinal injury in unconscious victims, treat accordingly
**Closed-Head, Neck, Spinal Injuries**

- **DO NO HARM**
- Suspect head/neck/spine injury if
  - Unconscious or altered mental status
  - Severe pain directly over the spine
  - High impact, fall or impact/blow close to head
  - See FEMA manual Unit 4 DMO part 2 for other signs
- Move victim only if needed
  - Minimize movement of head and neck
  - Work with partner to maintain head and neck alignment, keep spine in straight line

**MED OPS DOCUMENTATION FORM**

Used to document individual victim’s status

**DOCUMENTATION – Don’t forget…**

- Write legibly – use print not script
- Use black or blue ink only
- Press hard
- Don’t make up abbreviations
- Don’t leave blank rows
  - NVI = “no visible injury”
- Make sure you signed the Med Ops Intake sign-in sheet
- De-glove properly before touching pen and clipboard

**Head to Toe Assessment - HTTA**

- During Search & Rescue – RPM not HTTA
  - Treat for 3 killers and tag everyone
  - Light damage: assess in place
  - Moderate damage: move to treatment area first
- TRANSPORT & MED OPS –RPM & HTTA

**Basic First Aid Overview**

- Treat Burns
- Dress and bandage wounds
- Treat fractures, dislocations, sprains, strains
- Treat hypothermia and frostbite
- Treat heat-related injuries
- Control nasal bleeding
- Treat insect bites and stings
### BURNS
- Heat
- Chemicals
- Electricity
- Radiation

As with all First Aid - **WEAR YOUR PPE**

### WHAT CAUSED THE BURN
Burns caused by electricity, chemicals, nuclear radiation or an explosion are considered **critical** burns.

### BURN SEVERITY
- A burn that covers more than 1 part of the body or covers a large percentage of the person’s total body area
- Burns that cover a person’s head, neck, hands, feet or groin
- If the person is younger than 5 years or older than 60 years (unless it is very minor)

**ARE CONSIDERED CRITICAL**
Hypothermia is a risk if burn area is large

### HOW DEEP IS THE BURN?
Burns can affect
- Only the top layer of skin red, nonblistered (sunburn)
- Or, they can extend into deeper layers of the skin - red, blisters, swelling
- Or, they can go into the fat, muscle or bone - white, leathery, dark brown, charred, may not be painful

*The deeper the burn, the greater the severity*

### BURNS - TREATMENT
To care for any type of burn remember 3 simple steps

**STOP**
**COOL**
**COVER**

After sizing up the scene

**STOP**
the burning by eliminating the cause of the burn
if it is safe to do so.
**BURNS - TREATMENT**

Next

**COOL**
the burn with cool or cold clean running water (if possible) for at least 10 minutes

**Finaly**

**COVER**
the burn loosely with a dry sterile dressing
If fingers involved, place gauze between the fingers

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**Treatment for Chemical Burns**

- Remove cause of burn + affected clothing/jewelry
- If irritant is dry, gently brush away as much as possible
  - Always brush away from eyes, victim, and you
- Flush with lots of cool running water
- Apply cool, wet compress to relieve pain
- Cover wound loosely with dry, sterile or clean dressing
- Treat for shock if appropriate

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**BURNS - Inhalation Burns Signs & Symptoms**

- 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

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**BURNS - Treatment DON'Ts**

- When treating a burn victim, **DO NOT**:  
  - Use ice
  - Apply antiseptics, ointments, or other remedies
  - Remove shreds of tissue, break blisters, or remove adhered particles of clothing

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**WOUND CARE – CAUTION: GRAPHIC PHOTOS**

**CAUTION – Wound photos are not easy to look at.**

- Control bleeding
- Clean wound
- Apply dressing and bandage
WOUND CARE – CAUTION: GRAPHIC PHOTOS

Cleaning and Bandaging

- Clean by irrigating with clean, room temperature water
  - NEVER use hydrogen peroxide
  - Irrigate but do not scrub
- Apply dressing and bandage
  - Assess CFW prior to bandaging
  - Dressing applied directly to wound – do not drag dressing from across nearby (contaminated) skin
  - Bandage holds dressing in place
  - Reassess CFW after bandaging

Cleaning and Bandaging Wounds

- If active bleeding:
  - Redress OVER existing dressing
- If no active bleeding:
  - Remove bandage and dressing to flush wound
  - Check for infection every 4-6 hours if possible

WOUND CARE - Signs of Infection

Signs of infection
- Pain
- Swelling
- Warm/Hot to touch
- Redness around wound site
- Discharge from wound
- Red striations from wound site
- Fever

AMPUTATIONS

- Control bleeding; prevent shock!
- If amputated body part is found:
  - Save tissue parts
    - wrap in clean damp material and place in plastic bag
    - label bag with victim name!
  - Keep bagged tissue parts cool (ice water OK), but NOT directly on ice
  - Keep severed part with victim
**IMPALED OBJECTS**

When foreign object is impaled in victim’s body:
- Do not attempt to move or remove!
- Immobilize affected body part
- Try to control bleeding
- Stabilize impaled object during bandaging

**INJURIES TO BONES, MUSCLES, AND JOINTS**

- Check color, feeling, warmth (CFW) below injury before and after treatment
- Immobilize areas immediately above and below injury site
  - Joint above and joint below a fracture
  - Bones above and bones below a joint injury
- If uncertain about injury severity, treat as fracture
  - Rest Ice Compression Elevation

**Types of Fractures**

- Displaced and Nondisplaced Fractures

**Dislocations**

- Dislocation is injury to ligaments around joint
  - So severe that it permits separation of bone from its normal position in joint
- Treatment
  - Immobilize; do NOT relocate
  - Check CFW before and after splinting/immobilization

MORE ABOUT SPLINTING LATER…

MORE ABOUT SPLINTING LATER…
### Signs of Sprain
- Tenderness at site
- Swelling and bruising
- Restricted use or loss of use
- Rest Ice Compression

### Splinting – Types of Splints
- **Anatomical**
  - Body part to body part
- **Soft**
  - Pillows, towels, socks, stuffed toys
- **Rigid**
  - Cardboard, sticks

### Splinting guidelines
- Splint before moving the victim
- Check CFW below injury before splinting
- Don’t use injured part as the template
- Splint in the position you find it or position of comfort
  - Don’t try to realign bones or joints
- Remove jewelry (if possible. Bag/tag)
- Support & immobilize areas above & below injury
- Fill voids to stabilize & provide comfort
- Reassess CFW after splinting

### How to Sling
- Place it lengthwise against the person’s body.
- Side closest to body goes over uninjured side
- Point of the bandage is towards elbow of injured arm
- Splint in position you find arm
- Fill in “voids” for support
- Tie the hanging end of the bandage behind the person’s neck – tie on the side of neck on uninjured side
- The injured arm should be comfortably supported in the sling
- Pin, tape or knot the “point” to prevent the arm from slipping out the back/elbow side of the sling.

### Cold-Related Injuries
- **Hypothermia**:
  - Occurs when body’s temperature drops below normal
- **Frostbite**:
  - Occurs when extreme cold shuts down blood flow to extremities, causing tissue death
Symptoms of Hypothermia

- Body temperature of 95°F or lower
- Redness or blueness of skin
- Numbness and shivering
- Slurred speech
- Unpredictable behavior
- Listlessness

Hypothermia Treatment

- Remove wet clothing
- Wrap victim in blanket/cover head
- Protect victim from weather
- Provide food and drink to conscious victims
- Do not attempt to massage to warm body
- Place victim in warm bath
- Place unconscious victim in recovery position

Symptoms of Frostbite

- Skin discoloration
- Burning or tingling sensation
- Partial or complete numbness

Frostbite Treatment

- Treat hypothermia
- Immerse injured area in warm (NOT hot) water - thawing complete when tissue soft, red/purple
  - Warm slowly
- Do NOT allow part to re-freeze
- Do NOT attempt to use massage
- Wrap affected body parts in dry, sterile dressing

Heat-Related Injuries

Heat cramps:
- Muscle spasms brought on by over-exertion in extreme heat

Heat exhaustion:
- Exercising/working in extreme heat results in loss of body fluids

Heat stroke:
- Temp control system shuts down
- Body temp rises so high that brain damage & death may result

Symptoms of Heat Exhaustion

- Cool, moist, pale or flushed skin
- Heavy sweating
- Headache
- Nausea or vomiting
- Dizziness
- Exhaustion
- **NOT CONFUSED**
Symptoms of Heat Stroke

- Hot, red skin
- Lack of perspiration
- CHANGES IN CONSCIOUSNESS
- Rapid, weak pulse and rapid, shallow breathing

Treatment of severe heat injury

- Remove from heat to cool environment
- Cool body – immediate evaporative cooling if heat stroke suspected – before transport
- Sports drink (not salt tablets) or water – slowly enough to avoid vomiting
- No food or drink if victim is experiencing vomiting, abdominal cramping, or is losing consciousness

Nosebleed

- Causes
  - Blunt force to nose
  - Skull fracture
  - Nontrauma conditions, e.g., sinus infections, high blood pressure, and bleeding disorders
- Cautions
  - Large blood loss from nosebleed can lead to shock
  - Actual blood loss may not be evident because victim will swallow some amount of blood

Control nasal bleeding:

- Pinch nostrils firmly
- Have victim sit with head forward, NOT back
- Ensure that airway remains open
- Keep victim calm

Treat Bites and Stings

- If a bite or sting is suspected, and the situation is a non-emergency (no indication of anaphylaxis)
  - If stinger is present remove it by scraping off with edge of credit card or other stiff, straight-edged object
  - Wash site thoroughly with soap and water
  - Place ice (wrapped in a towel) on site for 10 minutes on/10minutes off.
  - It is ok to draw a border around the reddened area so that you can monitor any reaction.

Anaphylaxis

- Severe allergic reaction – food, insect stings, medications, latex
- Itching, hives
- Short of breath, wheezing
- Swollen face, throat or tongue
- Nausea, vomiting
- Dizziness, confusion, weakness, weak pulse
- Ask victim if they have an Epi-Pen & hand it to victim if available
CERT members do not administer medications

- CERT members do not administer medications, including over-the-counter products such as aspirin.
- CERT members can assist victims in administering their own medications (e.g., Epi-pen).

MEDICAL PROTOCOLS MANUAL

IF YOU FORGET... LOOK IT UP
YOU EACH HAVE A MANUAL CALLED

GUIDELINES & TREATMENT PROTOCOL TRAINING MANUAL

DON'T FORGET

DOCUMENT!

- What you find
- Care you've given
- Where they went

QUESTIONS???

Unit Summary

- 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

DMO Acronyms

- ABS – Airway/Breathing, Bleeding, Shock
- CFW – Color, Feeling, Warmth
- DMO – Disaster Medical Operations
- HTTA – Head to Toe Assessment
- LLF – Look, Listen, Feel
- Med Ops – Medical Operations
- PPE – Personal Protective Equipment
- Ops – Operations
- RPM – Respiration, Perfusion, Mental status
- SAR – Search And Rescue
- STart = Simple Triage
- stART = And Rapid Treatment
# Homework Assignment

1. Read Unit 5, Light Search and Rescue, to be covered in next session
2. Wear appropriate clothes for hands on exercises on the floor at next session
3. Practice complete head-to-toe assessment on friend or family member
4. Do the homework handouts.