Florida Conference of Seventh-day Adventists
Florida Conference Brigade, Medical Cadet Corps
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Disaster First Aid Part 4: Basic Care

This section reviews a number of treatments for non-life-threatening injuries that MCC members may perform. However, only attempt to do that which you are trained and comfortable managing. As always, prayer for guidance is a priority for each situation that you encounter.

A quick look at treatment of common disaster injuries follows: Burns, Lacerations, Amputations, Cold and Heat Related Injuries. Fractures, dislocations, sprains are covered in a separate section. Also, Insect bites and stings have a separate section of training available.

Burns

The objectives of first aid for burns are to

- Prevent hypothermia
- Manage Pain
- Reduce the risk of infection

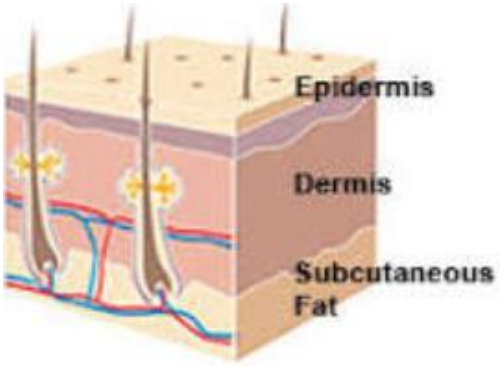
Be sure to assess the situation for safety to you and the patient. Check the time for when the burn event stopped. This can guide the next steps of intervention.

Burns can occur from Heat, chemicals, electrical current, or radiation. The severity of the burn depends on the

- Temperature of the burning agent
- Period of time the patient was exposed
- Area of the body that was affected
- Size of the area burned
- Depth of the burn

Classification of Burns

Burns can affect all three layers of the skin, and penetrate into muscle and bone layers.



The outer layer, epidermis, contains nerve endings and is penetrated by hairs. The dermis, or middle layer, contains blood vessels, oil glands, sweat glands, and hair follicles. The subcutaneous layer contains blood vessels and overlies the muscles.

Burns are classified according to the depth of the skin involved. The table below shows the affected areas and the signs of the different thicknesses.

Classification	Skin Layers Affected	Signs
Superficial	• Epidermis	• Reddened, dry skin • Pain • Swelling (possible)
Partial Thickness	• Epidermis • Partial destruction of dermis	• Reddened, blistered skin • Wet appearance • Pain • Swelling (possible)
Full Thickness	• Complete destruction of epidermis and dermis • Possible subcutaneous damage (destroys all layers of skin and some or all underlying structures)	• Whitened, leathery, or charred (brown or black) • Painful or relatively painless

Guidelines for treating Heat related Burns

Cool the burn

- Remove patient from burning source. Put out any flames
- Cool skin or clothing. If they are still hot, immersing in cool water for no longer than one minute can help. Covering the burn area with a cloth soaked in cool water and wrung out can cool the burn tissue. Note that rapid temperature changes can cause shock in the patient.
- Do not use ice which causes vessel constriction.

Dress the Burn

- Cover loosely with dry, sterile dressings to keep air and dirt out. This can reduce pain.
- Wrap fingers and toes loosely and individually.
- Loosen clothing near the affected area. Remove jewelry, if needed.
- Do not apply antiseptics, ointments.
- Do not remove shreds of tissue, break blisters or pull out pieces of clothing from the burn. Cut the clothing around the burn area as necessary.

Guidelines for treating chemical burns

Chemical burns are not always obvious. If there is no sign of a fire, suspect a chemical burn.

- Protect yourself from contact with the substance.
- Remove any affected clothing or jewelry.
- If the irritant is dry, try brushing it off.
- Use lots of cool running water to flush the chemical for at least 10 minutes
- Apply cool, wet compress to relieve pain
- Cover with a dry sterile or clean cloth.

Wound Care

This is the cleaning and bandaging of wounds to control infection. A dressing is applied directly to the wound. A bandage holds the dressing in place. The two layers make it easier to change and keep the wound itself clean. Some additional dressing care instruction is given in the module on **Treating Fractures**. If there are signs of infecting, more frequent changes of the dressing and cleansing of the wound even with just water will help control the infection.

Signs of infection:

- Swelling around the wound site
- Discoloration
- Discharge from the wound
- Red streaks from the wound site

Amputations

If it is possible to have further medical care and a severed body part can be located:

- Save tissue parts, wrapped in clean material and placed in a plastic bag. Label with date, time, and patient's name.
- Keep tissue parts cool, but NOT in direct contact with ice
- Keep the severed body part with the patient.

Impaled Objects

This is usually from flying debris during a disaster. This is really outside of the training of the MCC, but in the instance of necessity,

- Immobilize the affected part
- DO NOT attempt to remove or move the object, unless obstructing the airway.
- Clean and dress the wound stabilizing the object as part of the wound
- Wrap bulky dressings around the object to keep it from moving.

Treating Cold Injuries

Hypothermia

Hypothermia is when the body's temperature drops below 95 degrees F.

It may be caused by exposure to cold or by trauma. The primary signs and symptoms of hypothermia are:

- Body temperature below 95 degrees F
- Redness or blueness of the skin
- Numbness accompanied by shivering
- Slurred speech
- Unpredictable behavior
- Listlessness.

Hypothermia can set in within only a few minutes. So protecting from the cold air or cold water is important.

- Remove wet clothing
- Place something between the patient and the ground
- Wrap the patient with dry layers
- Shield the patient from wind
- Place unconscious patient in the recovery position
- DO NOT massage or use friction to warm affected parts

Frostbite

Cold weather causes the body to constrict blood vessels. In extreme cold, the body will further constrict blood vessels in the extremities in an effort to keep warmer blood toward the core (heart, lungs). The combination of inadequate circulation and extreme temperatures will cause tissue to freeze, and may it may die. There is formation of ice crystals in the tissue as it freezes. Rubbing will break the crystals and the cells involved, causing more damage. Frostbite is most common in the nose, ears, hands, and feet.

Signs and symptoms of frostbite are:

- Skin discoloration (red, white, purple, black)
- Burning or tingling sensation
- Partial or complete numbness.

Treatment:

- Warm the patient slowly.
- Immerse injured area in warm (NOT HOT) water at 106-107 degrees F
- Do not allow the body part to re-freeze.
- Do not use massage or friction to warm the body part
- Wrap the affected body parts in dry sterile dressing.

Treating Heat-related Injuries

There are three types of heat-related injuries: Heat Cramps, Heat Exhaustion, and Heat Stroke.

Heat Cramps: this is muscle spasms brought on by over-exertion in extreme heat. The best treatment is prevention by drinking water, and electrolyte replacement as needed.

Heat Exhaustion: This occurs when an individual working in extreme heat, losses body fluids causing a decrease of blood flow to vital organs. This results in a mild form of shock.

Symptoms:

- Cool, moist, pale or flushed skin
- Heavy sweating.
- Headache.
- Nausea or vomiting.
- Dizziness.
- Exhaustion.
- Near normal body temperature

Heat Stroke:

This is a life-threatening condition that occurs when the patient's temperature control system shuts down, and the temperature can rise so high that brain death can occur. The symptoms are:

- Hot, red skin
- Lack of perspiration
- Changes in consciousness
- Rapid, weak pulse
- Rapid, shallow breathing

The treatments for Heat Exhaustion and Heat Stroke are similar.

- Remove patient from the heat and place in a cool environment
- Cool the body slowly with chilled, wet towels or sheets. A tub can work well.
- A heat exhaustion patient can slowly drink water, at the rate of half a glass every 15 minutes.
- Avoid food or drink with vomiting, cramping or loss of consciousness.

Practice the following dressings:

_____Wrap fingers and toes separately

_____Dress a wound with a foreign object simulation

_____Dress and clean a burn wound covering an elbow or knee

_____Clean a wound with a powder applied to simulate a chemical event.

_____Dress a frostbit wound

Knowledge Assessment

Circle whether the statement is True or False.

True or **False** Chemical burns are a common injury in disasters.

True or **False** Removal of an impaled object can be done to enable dressing a wound.

True or **False** Superficial burns are painful and need a dressing applied.

True or **False** Cold injuries are treated with warming by massaging or friction techniques.

True or **False** Prevention of heat injuries is easier than treating heat injuries

True or **False** Leaving a burn wound open to air helps it heal without a scar.

Disaster First Aid Part 4: Basic Care

For course certification, the form must be filled out.

Member Name (Print) _____ Instructor Name (Print) _____

Member Position Number _____ Instructor Position Number _____

Member FEMA SID _____ Instructor FEMA SID_____

Date of Instruction _____

_____ Understand the principles of first aid for burns

_____ Define the three classifications for burns based on the depth of the skin involved.

_____ Define the guidelines for treating burns

_____ Demonstrate dressings for special wounds:

_____Burns _____Amputation of limb

_____Chemical burns _____Impaled object in wound

_____ Recognize the cold related injuries and the treatments for warming the body parts or person.

_____Hypothermia _____Frostbite

_____ Recognize the heat related injuries by its signs and symptoms. Know the means of remedy.

_____Heat Exhaustion _____Heat Stroke _____Heat Cramps

With a complete sheet of initials, the instructor's signature signifies certification of completion for the Disaster First Aid Part 4: Basic Care course.

Instructor Signature _____