Heat-Related Emergencies

- Burns
- Dehydration
- Heat Cramps
- Heat Exhaustion
- Heatstroke
- Sunburn

Burns

What is it?

> Tissue damage from hot liquids, the sun, flames, chemicals, electricity, steam and other causes.

Plan of Action:

Minor Burns

- **Cool the burn.** Hold the area under cool (not cold) running water for about 10 minutes. If the burn is on the face, apply a cool, wet cloth until the pain eases. For a mouth burn from hot food or drink, put a piece of ice in the mouth for a few minutes.
- **Remove rings or other tight items from the burned area.** Try to do this quickly and gently, before the area swells.
- **Don't break blisters.** Blisters help protect against infection. If a blister does break, gently clean the area with water and apply an antibiotic ointment.
- **Apply lotion.** After the burn is cooled, apply a lotion, such as one with aloe vera or cocoa butter. This helps prevent drying and provides relief.
- **Bandage the burn.** Cover the burn with a clean bandage. Wrap it loosely to avoid putting pressure on burned skin. Bandaging keeps air off the area, reduces pain and protects blistered skin.

- **If needed, take a nonprescription pain reliever,** such as ibuprofen (Advil, Motrin IB, others), naproxen sodium (Aleve) or acetaminophen (Tylenol, others).

For major burns until emergency help arrives:

- **Protect the burned person from further harm.** If you can do so safely, make sure the person you're helping is not in contact with the source of the burn. For electrical burns, make sure the power source is off before you approach the burned person. Don't try to remove clothing stuck in the burn.
- **Make certain that the person burned is breathing.** If needed, begin rescue breathing if you know how.
- **Remove jewelry, belts and other tight items,** especially from the burned area and the neck. Burned areas swell quickly.
- **Cover the burn.** Loosely cover the area with gauze or a clean cloth.
- **Raise the burned area.** Lift the wound above heart level if possible.
- **Watch for signs of shock.** Signs and symptoms include cool, clammy skin, weak pulse and shallow breathing.

When to seek emergency care:

Call 911 or seek immediate care for major burns, which:

- Are deep, involving all layers of the skin

- Cause the skin to be dry and leathery
- May appear charred or have patches of white, brown or black
- Are larger than 3 inches (about 8 centimeters) in diameter
- Cover the hands, feet, face, groin, buttocks or a major joint, or encircles an arm or leg
- Are accompanied by smoke inhalation
- Begin swelling very quickly

Electrical burns, including those caused by lightning, and major chemical burns need emergency medical care. A minor burn might need emergency care if it affects the eyes, mouth, hands or genital areas. Babies and older adults might need emergency care for minor burns as well.

Dehydration

What is it?

> When the body loses too much water or fluids.

What causes it?

- Heat exposure
- Too much exercise
- Vomiting
- Diarrhea
- Decreased fluid intake

Signs/Symptoms:

- Weakness
- Thirst or dry mouth
- Dizziness
- Confusion
- Less urination than usual

Plan of Action:

- Contact a healthcare provider if you suspect someone is dehydrated

The best first aid for dehydration is prevention: encourage everyone to drink enough to stay hydrated.

> If dehydration isn't addressed early enough, it can lead to life threatening medical conditions such as shock.

Heat Cramps

What is it?

> Painful, involuntary muscle spasms that usually occur during heavy exercise in hot environments. The spasms may be more intense and more prolonged than typical nighttime leg cramps.

Muscles most often affected include those of your calves, arms, abdominal wall and back, although heat cramps may involve any muscle group involved in exercise.

Plan of Action:

If you suspect heat cramps

- Rest briefly and cool down
- Drink clear juice or an electrolyte-containing sports drink
- Practice gentle, range-of-motion stretching and gentle massage of the affected muscle group
- Don't resume strenuous activity for several hours or longer after heat cramps go away
- Call your doctor if your cramps don't go away within one hour or so

Heat Exhaustion

What is it?

> The body's response to an excessive loss of water and salt, usually through excessive sweating.

Symptoms:

- Cool, moist skin with goose bumps when in the heat
- Heavy sweating
- Faintness
- Dizziness
- Fatigue
- Weak, rapid pulse
- Low blood pressure upon standing
- Muscle cramps
- Nausea or vomiting
- Headache
- Extreme thirst

- Mild confusion
- Decreased urine output

Plan of Action:

Untreated, heat exhaustion can lead to heatstroke, which is a life-threatening condition.

If you suspect heat exhaustion, take these steps immediately:

- Move the person out of the heat and into a shady or air-conditioned place.
- Lay the person down and elevate the legs and feet slightly.
- Remove tight or heavy clothing.
- Have the person sip chilled water, a decaffeinated sports drink containing electrolytes or other nonalcoholic beverage without caffeine.
- Cool the person by spraying or sponging with cool water and fanning.
- Monitor the person carefully.

> Contact a health care provider if signs or symptoms worsen or if the person doesn't improve after taking first-aid measures.

Call 911 or your local emergency number if the person's condition gets worse, especially if he or she experiences:

- Fainting
- Agitation
- Confusion
- Seizures
- Inability to drink
- Core body temperature — measured by rectal thermometer — of 104 F (40 C) (heatstroke)

Heatstroke

What is it?

> The most serious heat-related illness. It occurs when the body can no longer control it's temperature when exposed to excessively high temperatures.

Symptoms:

- Fever of 104 degrees Fahrenheit (40 degrees Celsius) or greater
- Changes in mental status or behavior, such as confusion, agitation and slurred speech
- Hot, dry skin or heavy sweating
- Nausea and vomiting
- Flushed skin
- Rapid pulse
- Rapid breathing
- Headache
- Fainting
- Seizure

- Coma

When to Seek Emergency Care:

> **If you suspect heatstroke, call 911 or your local emergency number.**

Move the person out of the heat right away. Cool the person by whatever means available. For example:

- Put the person in a cool tub of water or a cool shower.
- Spray the person with a garden hose.
- Sponge the person with cool water.
- Fan the person while misting with cool water.
- Place ice packs or cool wet towels on the neck, armpits, and groin.
- Cover the person with cool damp sheets.

If the person is conscious, offer chilled water, a sports drink containing electrolytes, or other nonalcoholic beverage without caffeine.

Begin CPR if the person loses consciousness and shows no signs of circulation, such as breathing, coughing, or movement.

Sunburn

What is it?

> To burn or discolor from the sun.

Symptoms:

The affected skin will be:

- Painful
- Inflamed
- Hot to the touch
- Blisters might develop
- You may also experience headache, fever or nausea

Plan of Action:

Seek immediate medical care if you are sunburned and experience:

- A fever over 103 degrees Fahrenheit (39.4 degrees Celsius) with vomiting
- Confusion
- An infection in the sunburned area

- Dehydration

If you have a sunburn:

- **Take a pain reliever** such as ibuprofen (Advil, Motrin IB, others) or acetaminophen (Tylenol, others) as soon as possible after getting too much sun. Or try a gel pain reliever that you rub on the skin.

- **Cool the skin.** Apply to the affected skin a clean towel dampened with cool tap water. Or take a cool bath with. Add about 2 ounces (60 grams) of baking soda to the tub. Cool the skin for about 10 minutes several times a day.

- **Apply a moisturizer, lotion or gel.** An aloe vera lotion or gel or calamine lotion can be soothing. Try cooling the product in the refrigerator before applying. Avoid products that contain alcohol.

- **Drink extra water** for a day to help prevent dehydration.

- **Leave blisters alone.** An intact blister can help the skin heal. If a blister does break, trim off the dead skin with a clean, small scissors. Gently clean the area with mild soap and water. Then apply an antibiotic ointment to the wound and cover it with a nonstick bandage.

- **Protect yourself from further sun exposure** while your skin heals from the sunburn.

- **Apply a soothing medicated cream.** For mild to moderate sunburn, apply nonprescription 1% hydrocortisone cream to the

affected area three times a day for three days. Try cooling the product in the refrigerator before applying.

- **Treat sunburned eyes** by covering them with a clean towel dampened with cool tap water. Don't wear contacts until your eye symptoms have gone away. Don't rub your eyes.

> Seek medical care for large blisters or those that form on the face, hands or genitals. Also seek medical help if you have worsening pain, headache, confusion, nausea, fever, chills, eye pain or vision changes, or signs of infection, such as blisters with swelling, pus or streaks.