

## ***Environmental Concerns***

In hot weather wear light clothing that breathes well, and allows for the evaporation of sweat.

"Sauna suits", "tummy wraps", and other products designed to encourage quick weight loss through sweat are particularly dangerous. The body can reach dangerous (or even fatal) core temperatures in very short periods of time. Any weight lost is simply water and will be regained as soon as water is ingested again.

Exercise at a reduced intensity during high humidity. The body is cooled by blood circulation and the evaporation of sweat. In a high humidity, evaporation becomes less effective at cooling, and the risk of heat-related injury is greater.

Adequate hydration is also key to safe exercise in the heat, as the body will produce large quantities of sweat. Ingest 1-2 cups of water before exercise and 4 oz every 10 to 15 minutes during exercise.

Thirst lags behind the body's need for fluid. By the time thirst is felt dehydration has occurred. Minor dehydration can affect performance, and severe dehydration can be life threatening.

Contrary to popular belief, water consumed during exercise will not contribute to cramping, so "swish and spit" should be avoided in favor of consuming small amounts of water steadily during the exercise session. Dehydration can actually contribute to cramping.

In the cold, dress in layers that will wick sweat away from the body. Remove outer layers as the body warms and replace during the cool-down to avoid an excessive chill.

### ***Heat Related Injuries***

High risk individuals are those who work or exercise outdoors, elderly people, young children, those with medical conditions that cause poor blood circulation, and those who take medications to get rid of water (diuretics).

### ***Heat Cramps***

Heat Cramps are the least severe and first sign of an impending heat problem and is manifested by painful muscle spasms usually in the legs and abdomen.

Have the victim rest in a cool place. Give them cool water or a commercial sports drink. Lightly stretch and gently massage the area. The victim should NOT take salt tablets or salt water. The can make the situation worse.

## ***Heat Exhaustion and Heat Stroke***

Heat Exhaustion is more severe and is symptomized a cool, moist, pale or flushed skin, headache, nausea, dizziness, weakness, and exhaustion.

Heat Stroke is the most severe heat emergency. The body systems are overwhelmed by heat and begin to stop functioning. Heat Stroke is a serious medical emergency that is manifested by red, hot, dry skin, loss of consciousness, a rapid, weak pulse, and rapid, shallow breathing.

Move the victim out of the heat. Loosen any tight clothing and apply cool, wet cloths. If the victim is conscious, give cool water to drink. Do NOT allow the victim to drink too quickly. Give about one glass (4 ounces) of water every 15 minutes. Let the victim rest in a comfortable position and watch carefully for changes in their condition. The victim should not resume normal activities the same day.

### ***Emergency Response***

Call 911 (or emergency services) if the victim refuses water, vomits, or losses consciousness. If the victim vomits, stop giving fluids and position the victim on their left side. Watch for signals of breathing problems. If you have ice packs or cold packs, place them on each of the victim's wrists, ankles, groin, armpit, and neck (a.k.a. pulse points). Do NOT apply rubbing (isopropyl alcohol).

### ***Temperature and Humidity***

Heat cramps, or heat exhaustion possible.

- \* 93 F (34 C), 20% humidity
- \* 87 F (31 C), 50% humidity
- \* 82 F (28 C), 100% humidity

Heat cramps or heat exhaustion likely.

- \* 105 F (41 C), 20% humidity
- \* 92 F (34 C), 60% humidity
- \* 87 F (31 C), 100% humidity

Heat Stroke imminent.

- \* 120 F (49 C), 20% humidity
- \* 108 F (43 C), 40% humidity
- \* 91 F (33 C), 100% humidity

Reference, 1993 American Red Cross Standard First Aid Manual

### ***Hypothermia and Frostbite***

Frostbite is the freezing of tissue. The skin becomes yellowish, and will be cold to the touch. Provide first aid by warming the affected area using warm water. Do NOT rub the area, as this can cause further tissue damage. A medical professional is required to access the extent of the damage.

Hypothermia is a life-threatening condition wherein the core body temperature has become dangerously low. Many of the same symptoms as heat exhaustion, including dizziness, nausea, loss of appetite, vision problems, etc., may be present. In the case of hypothermia it is important to call 911 immediately, and use any means present to warm the victim, such as removing wet clothing or putting them in a sleeping bag with an unaffected person who can provide body warmth until help arrives.

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