



# 101 Critical Days of Summer

## Safety Tip #3 – Heat and Exercise



As the weather warms up, outdoor sports become more popular. Here are some tips that can help people lessen the likelihood of injury and boost enjoyment.

### Condition the body.

Before jumping into summer sports, the body needs conditioning. Starting slowly helps build endurance.

### Warm up.

Before exercise, it is important to warm up the muscles for at least 10 minutes. Warm-up involves doing a gentle, repetitive activity such as brisk walking or gentle bike riding. These activities increase the blood flow to muscles, ligaments, and tendons and make them more pliable. Warming up before sports helps prevent sprained, strained, pulled, and torn muscles.

### Take heat precautions.

As exercise increases body temperature, a person sweats. If the sweat evaporates, the body cools down. But in climates with high humidity, evaporation cannot occur. Blood gets diverted from the muscles to the skin. That reduces blood volume, and [dehydration](#) can happen very quickly. If sweating continues, the body can lose too much water and electrolytes, and the result is [salt imbalance](#). Heat precautions include the following:

- Slowly acclimate to summer heat by doing only 50% of a normal workout the first day. Each day afterward, add 10% onto the workout until it can be fully completed by the sixth day. This is especially advisable when hotter, more humid weather arrives quickly.

- Take steps to prevent [heat emergencies](#). This can be done by exercising during cooler periods of the day, seeking out shade, and drinking water often.

- Drink plenty of liquids to replace the fluids lost from sweating. [Dehydration](#) should not be taken lightly. A mere 3% loss of body weight from dehydration has been shown to greatly reduce muscle endurance. As little as 4% can greatly reduce muscle strength.

- Choose sports drinks to help replace lost electrolytes to help prevent salt imbalance. These drinks also help prevent hypoglycemia, or low blood sugar.



### Practice safe sports.

Appropriate use of protective equipment is important.

- Helmets are important insurance against [head injuries](#) and [neck injuries](#). A helmet should be worn while riding a bike, motorcycle, or horse. A helmet should also be worn during any activity in which a person might fall at a high rate of speed. Helmets should not be tilted back. They should be placed high on the head to protect the frontal lobes of the brain.

- As well as a helmet, skateboarders and skaters should wear protective pads on knees and elbows.

- Falling correctly should be practiced. It is safest to roll with a fall. A person should try to relax. Stiffening up just makes things worse. The arms should not be used to break a fall.

### Choose the right clothing.

Loose-fitting, loosely woven clothing of light colors are best. Dark colors absorb the sun's heat.

### Avoid alcohol.

[Alcohol](#) lowers the body's tolerance for heat. It [dehydrates](#) the body and has many long-term effects such as brain degeneration, [confusion](#), [memory loss](#), and muscle damage. Studies have shown that even a single bottle of beer can affect a person's ability to run in hot weather.

**Eat small meals and eat more often.** Avoid foods that are high in protein which increase metabolic heat.

**Avoid using salt tablets unless directed to do so by a physician.**

**Take regular breaks** when engaged in physical activity on warm days. Take time out to find a cool place. If you recognize that you or someone else is showing the signals of a heat-related illness, stop activity and find a cool place. Remember, have fun, but stay cool!

**This document was derived from multiple sources. Sources are available upon request in the 157 ARW/SE Office.**

## Know what these heat related terms are...

**Heat Wave:** More than 48 hours of high heat (90°F or higher) and high humidity (80 percent relative humidity or higher) are expected.

**Heat Index:** A number in degrees Fahrenheit that tells how hot it really feels with the heat and humidity. Exposure to full sunshine can increase the heat index by 15° F.

**Heat cramps:** Heat cramps are muscular pains and spasms due to heavy exertion. They usually involve the abdominal muscles or the legs. It is generally thought that the loss of water and salt from heavy sweating causes the cramps.

**Heat Exhaustion:** Heat exhaustion is less dangerous than heat stroke. It typically occurs when people exercise heavily or work in a warm, humid place where body fluids are lost through heavy sweating. Fluid loss causes blood flow to decrease in the vital organs, resulting in a form of shock. With heat exhaustion, sweat does not evaporate as it should, possibly because of high humidity or too many layers of clothing. As a result, the body is not cooled properly. Signals include cool, moist, pale, flushed or red skin; heavy sweating; headache; nausea or vomiting; dizziness; and exhaustion. Body temperature will be near normal.

**Heat Stroke:** Also known as sunstroke, heat stroke is life-threatening. The victim's temperature control system, which produces sweating to cool the body, stops working. The body temperature can rise so high that brain damage and death may result if the body is not cooled quickly. Signals include hot, red and dry skin; changes in consciousness; rapid, weak pulse; and rapid, shallow breathing. Body temperature can be very high--sometimes as high as 105°F.

### Stages of Heat-Related Illness

Heat-related illness usually comes in stages. The signal of the first stage is heat cramps in muscles. These cramps can be very painful. If you are caring for a person who has heat cramps, have him or her stop activity and rest. If the person is fully awake and alert, have him or her drink small amounts of cool water or a commercial sports drink. Gently stretch the cramped muscle and hold the stretch for about 20 seconds, then gently massage the muscle. Repeat these steps if necessary. If the victim has no other signals of heat-related illness, the person may resume activity after the cramps stop.



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Your Risk  
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The signals of the next, more serious stage of a heat-related illness (often called **heat exhaustion**) include--

- + Cool, moist, pale skin (the skin may be red right after physical activity).
- + Headache.
- + Dizziness and weakness or exhaustion.
- + Nausea.
- + The skin may or may not feel hot.

The signals of the late stage of a heat-related illness (often called **heat stroke**) include--

- + Vomiting.
- + Decreased alertness level or complete loss of consciousness.
- + High body temperature (sometimes as high as 105°F).
- + Skin may still be moist or the victim may stop sweating and the skin may be red, hot and dry.
- + Rapid, weak pulse.
- + Rapid, shallow breathing.

This late stage of a heat-related illness is life threatening. Call 911.

### General Care for Heat Emergencies

1. **Cool the Body**
2. **Give Fluids**
3. **Minimize Shock**

**For heat cramps or heat exhaustion:** Get the person to a cooler place and have him or her rest in a comfortable position. If the person is fully awake and alert, give a half glass of cool water every 15 minutes. Do not let him or her drink too quickly. Do not give liquids with alcohol or caffeine in them, as they can make conditions worse. Remove or loosen tight clothing and apply cool, wet cloths such as towels or wet sheets. Call 911 if the person refuses water, vomits or loses consciousness.

**For heat stroke:** Heat stroke is a life-threatening situation! Help is needed fast. Call 911. Move the person to a cooler place. Quickly cool the body. Wrap wet sheets around the body and fan it. If you have ice packs or cold packs, wrap them in a cloth and place them on each of the victim's wrists and ankles, in the armpits and on the neck to cool the large blood vessels. (Do not use rubbing alcohol because it closes the skin's pores and prevents heat loss.) Watch for signals of breathing problems and make sure the airway is clear. **Keep the person lying down.**

Cool Info on a hot subject:

<http://www.erh.noaa.gov/er/lwx/heat.htm>