

# Summer Heat Safety Fact Sheet

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## Summer is the season for people to be outdoors.

Whether you are outside for work or play that hot summer sun will shine. With temperatures soaring near 90 degrees day after day, here are tips on how to avoid heat related illnesses, which may result from working or playing in the heat. There are three main types of heat related illnesses:

- Heat exhaustion
- Heat cramps
- Heatstroke

Heat exhaustion and heat cramps are common results of being exposed to high temperatures; heatstroke is a medical emergency, which could result in death. However, with a few precautions and helpful tactics, most heat-related illnesses can be avoided.

## Heat & Human Physiology

The ability to sweat is the most effective defense mechanism for cooling our body. When the human body becomes overheated, it begins to sweat and moisture collects on the outside of the skin. This moisture then evaporates, cooling the skin, blood, and eventually the entire body. However, in hot weather the moisture on the outside of the skin often does not evaporate quickly, and collects on the skin itself. Consequently, body temperature begins to rise, and the heart starts pumping more blood to the skin for added cooling. This in turn makes a person sweat profusely, and the loss of water and electrolytes, if not replaced, leads to one or more heat related illnesses. Humid conditions further increase the likelihood of heat-related illness. If a person stops sweating and the sun is hot, heatstroke may be imminent--seek medical attention immediately.

## Heat Cramps Due To Fluid Loss

Heat cramping, the most common heat related illness, occurs when a person has been doing a great deal of physical activity in a hot environment. Losing fluid and electrolytes (sodium, potassium, glucose, etc.) through sweating causes the muscles in the body to contract slowly, causing painful

muscle spasms.

Preventive Treatment:

- Drink plenty of fluids;
- Ensure adequate electrolyte intake by drinking fluids like Gatorade or Powerade;
- Rest frequently in a cooler, shaded environment

## Heat Exhaustion

Heat exhaustion usually occurs over a span of a few days, when a person works long periods of time outdoors in the heat, without drinking enough liquids. Over the course of this time, the person loses electrolytes and water.

### Symptoms:

- Nausea
- Headache
- Weakness
- Confusion
- Elevated temperature
- Accelerated pulse
- The victim may pass out

### Treatment:

- Lay the victim in a cool, shaded place
- Remove personal protective equipment
- If conscious, have the victim drink water or fluids such as Gatorade or Powerade
- Seek prompt medical attention

## Heatstroke

Heatstroke is a life threatening medical emergency and is the most deadly of the heat related illnesses. Again, prolonged exposure to heat and minimal consumption of liquids are both causes of heatstroke.

### Symptoms:

- Headache
- Slurred speech
- Dizziness
- Faintness
- Hallucinations
- Seizures

- Loss of consciousness
- The skin is hot and dry to the touch

#### **Treatment:**

- Seek immediate medical attention
- Lay the victim in a cool, shaded place
- Remove personal protective equipment
- If conscious, have the victim drink water or fluids such as Gatorade or Powerade

#### **Exertional Heatstroke**

Exertional heatstroke, may happen much more quickly, usually after a few hours of strenuous exercise. The skin is able to sweat, but due to the increased activity and heat, the body is unable to cool itself fast enough and body temperature rises to dangerous levels. Exertional heatstroke victims are usually young and relatively healthy people, such as runners. If you suspect someone has heatstroke, seek medical attention as soon as possible.

#### **Ways to prevent heatstroke:**

- Drink plenty of water—a pint to a quart every hour
- Take more frequent breaks as heat and humidity increase
- Work during the coolest part of the day, if possible
- Protect skin by wearing proper clothing. Shirts should have long sleeves. Wear a wide-brim hat
- Work at a reasonable pace

#### **Remember**

Our ability to cope with heat varies with age and physical condition. The young and very old are at particular risk of heat related illnesses. People who are overweight, physically unfit, drink too much alcohol, suffer from heart conditions, or are not used to hot summer weather may be at greater risk of heat stress and injury. The following guidelines can be used to keep cool and avoid the dangerous consequences of too much summer heat:

- Slow down. Avoid strenuous activity. If strenuous work is necessary, do it during the coolest part of the day, usually between 4 a.m. and 7 a.m.

- Stay indoors as much as possible. If air conditioning is not available, stay on the lowest floor and out of sunshine. Circulate air with fans. Electric fans do not cool the air, but they do help evaporate sweat, which cools the body.
- Wear lightweight and light-colored clothing. Light colors will reflect away some of the sun's energy.
- Drink plenty of water regularly and often. Water is the safest liquid to drink during heat emergencies. Avoid drinks with alcohol or caffeine. They can make you feel good briefly, but they make the heat's effects on your body worse. Drink plenty of fluids even if you do not feel thirsty. To replace the four to eight quarts of sweat that may be produced in hot weather, people require one-half to one cup of water every 20 minutes.
- Eat small meals more often. Also, avoid foods high in protein; they increase metabolic heat. Don't use salt tablets unless directed by a physician.
- Acclimate yourself if you must work outdoors. To achieve acclimation, a person must work in the heat at the activity level required by the job. Acclimatization involves a stepwise adjustment to heat over a period of a week or sometimes longer. On the first and second day, work one-third of the workday; on days three and four, work one-half of the workday; and on days five and six, work two-thirds of the workday. Repeat this procedure anytime you miss a week or more of work.
- Although heat related illnesses can be very serious and deadly, they can also be avoided. If the safety precautions are taken, the heat should not be limiting to your summer time activities. Remember to have fun in the sun safely.

For additional information see MU Guide Sheet G1966, contact your local Outreach and Extension Center or the MU Extension Rural Safety and Health Program at: 1.800.995.8503.

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