Heat Illness:
Signs, Symptoms, Prevention & Response

Risk Management and Safety
Camp Auburn Safety Annex
971 Camp Auburn Road
Auburn University, Alabama
Risk Factors

- High temperature and humidity
- Direct sun or heat - limited air movement
- Physical exertion
- Poor physical condition
- Some medications (high blood pressure, antihistamines, antidepressants, and others.)
- Inadequate tolerance
Four Types of Heat Illness

1. Heat Rash
2. Heat Cramps
3. Heat Exhaustion
4. Heat Stroke (most serious)

Each type of heat illness has its own set of symptoms, prevention techniques, and procedures to follow when affected.
Types of Heat Illness

1. **Heat Rash**: Skin irritation caused by excessive sweating during hot, humid weather.
   - Symptoms include the appearance of a rash that looks like red bumps or small blisters.
   - Frequently occurs on the neck, upper chest and elbow creases.
Heat Rash First Aid

- Try to work in a cooler, less humid environment when possible.
- Keep the affected area dry.
- Dusting powder may be used to increase comfort.
Types of Heat Illness

2. **Heat Cramps:** Usually affects workers who are sweating a lot. This sweating depletes the body’s salt and moisture levels, causing muscle cramps.

- Symptoms include muscle pain or spasms, usually in the abdomen, arms, or legs.
Heat Cramps First Aid

- Stop all activity, and sit somewhere cool.
- Drink water, clear juice or a sports beverage.
- Do not return to strenuous work for a few hours after the cramps subside.
3. Heat Exhaustion: The body’s response to an excessive loss of water and salt, usually through excessive sweating. Workers most prone to heat exhaustion are those that are elderly, have high blood pressure, and those working in hot environments.

- Symptoms include:
  - Headaches, dizziness, lightheadedness or fainting.
  - Mood changes such as irritability or confusion.
  - Upset stomach or vomiting.
  - Profuse sweating.
  - Muscle cramps.
Heat Exhaustion First Aid

- Rest in a cool, shaded or air-conditioned area.

- Drink plenty of water or other cool, nonalcoholic beverages.

- Spray, sponge, or shower with water.
4. **Heat Stroke**: The most serious heat-related disorder. Occurs when the body becomes unable to control its temperature.

The body’s temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. Heat stroke can cause the body temperature to rise to 106 degrees Fahrenheit or higher within 10 - 15 minutes.

**Heat stroke can cause death or permanent disability if emergency treatment is not given.**
Symptoms of Heat Stroke

- Dry, hot skin with no sweating
- Mental confusion or loss of consciousness
- Seizures or convulsions
- Throbbing headache
- Chills
Heat Stroke First Aid

- Call 911 immediately and notify your supervisor!
- Move to a cool, shaded area
- Soak clothing with water
- Spray, sponge, or shower with water
- Fan
- Elevate feet
Heat Stroke
1. Dry, hot skin
2. Very high body temperature

Heat Exhaustion
1. Moist clammy skin
2. Normal or subnormal temperature
Prevention of Heat Illness

**Employees** should avoid exposure to extreme heat, sun, and high humidity when possible. If you cannot do so, take the following steps to prevent heat illness:

- Wear light colored, loose fitting, breathable clothing such as cotton.
- Gradually build up to heavy work.
- Schedule heavy work during the coolest parts of the day.
Prevention of Heat Illness

- Take breaks in extreme heat and humidity in the shade or other cool areas.
- Drink water frequently and enough so that you never become thirsty.
- Avoid drinks with caffeine, alcohol, and large amounts of sugar.
- Be aware that protective clothing or personal protective equipment increases the risk of heat stress.
- Monitor your physical condition and that of your coworkers.
Prevention of Heat Illness

Supervisors should take the following steps to protect workers from heat stress:

- Ensure affected employees have received proper training.
- Schedule routine maintenance and repair jobs in hot areas for cooler months.
- Schedule hot jobs for the cooler part of the day.
- Acclimate workers by exposing them for progressively longer periods to hot work environments.
Prevention of Heat Illness

- Reduce the physical demands of workers.
- Use relief workers or assign extra workers for physically demanding jobs.
- Provide cool water or liquids to workers, avoiding drinks with caffeine, alcohol, or large amounts of sugar.
- Provide rest periods with water breaks in cool areas.
- Monitor workers who are at risk of heat stress.
Drink Plenty of Water

- Employees must have immediate access to clean drinking water and are encouraged to frequently consume small amounts of water throughout the day.
  - If plumbed, potable water is not readily accessible, portable water containers or bottled water should be made available.

- Any employee experiencing excessive sweating should drink up to 4 cups per hour when working in extreme heat conditions.
Take Time to Cool Off

- Employees in need of a recovery period from heat must be provided with a “cooling off” period of no less than five minutes. Access to shade must be permitted at all times.

- Other methods of cooling (other than shade) can be used if it can be demonstrated that these methods are at least as effective as shade.
Heat Acclimatization

- Occurs when a person becomes physiologically more tolerant to high environmental temperatures. During the process, resting pulse rate decreases, blood flow to the skin improves, and sweating increases.

- Heat-acclimatized individuals suffer less from nausea, dizziness, and discomfort in hot conditions.

- It is important for a person to become acclimatized to heat by gradually being exposed to heat for longer periods of time. This way, working in hot environments isn’t such a shock to the body.
Report to your Supervisor...

- **Immediately** if you suspect you or someone you work with has been affected by heat illness.

- Don’t wait until heat illness progresses to a dangerous level before talking to your supervisor! The best way to handle heat illness is to prevent it from occurring in the first place.
Contacting Emergency Medical Services

- Dial 911 and notify your supervisor immediately if you or someone you work with has been affected by heat stroke.

  - Heat stroke can be deadly! Know the signs and symptoms before starting your work day in the heat.
Additional Information

- [http://www.cdc.gov/niosh/topics/heatstress/](http://www.cdc.gov/niosh/topics/heatstress/)

- Contact Risk Management and Safety with any questions:
  
  Phone: 334-844-4870
  
  [www.auburn.edu/administration/rms](http://www.auburn.edu/administration/rms)