

# Heat Illness Prevention Program

May - 2022

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## OVERVIEW

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The purpose of this program is to provide managers and employees guidance for:

- Anticipating environmental conditions and personal risk factors that may contribute to heat illness
- Recognizing when work assignments place employees at risk
- Preventing heat illness
- Preparing for and managing heat-related emergencies

## References

OSHA's General Duty Clause



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# RESPONSIBILITIES

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## General Responsibilities

The Department of Institutional Compliance & Risk Management is responsible for reviewing the program on a regular basis and revising as necessary to ensure the program protects worker health and complies with regulatory standards.

## Management

- Train employees at least annually and as needed.
- Monitor local weather reports for heat waves and high heat conditions or sudden seasonal changes to warmer weather.
- Provide pre-shift messages on this topic each day during heat waves, high heat conditions or during seasonal changes to warmer weather.
- Allow for acclimatization periods and cool-down breaks. Do not expect maximum work capacity for unacclimatized workers during this period. Monitor employees closely during acclimatization periods and heat waves. Pace work activities and allow for cool-down breaks (at least 5 minutes duty free) as needed until workers adapt to working in the heat, especially:
  - During heat waves, high heat condition or sudden seasonal changes
  - With new employees
  - With employees returning to work after an extended leave
  - With employees who are performing job tasks when required to wear PPE such as chemical protective clothing, heavy work garments, etc.
  - For all outdoor work during the daytime when working in direct sunlight
- Encourage employees to hydrate before, during, and after the shift. Remind employees to drink small amounts of water frequently.
  - Provide potable drinking water in a sanitary manner
  - Encourage workers to continue to hydrate during off time
- Plan job tasks appropriately and allow extra time for breaks during heat waves.

- Rotate workers performing tasks that require moderate to heavy physical exertion, PPE or work outdoors in direct sunlight.
- When possible, schedule physical demanding job tasks for cooler parts of the day and during cooler seasons.
- Monitor workers and recognize signs and symptoms of heat illness (Appendix A).
- Encourage workers to monitor each other and report symptoms immediately to Management.
- No Retaliation. We prohibit retaliation against employees for asserting any of their rights under this program.
- Managers must prepare for and manage emergencies

**Note:** *Heat stroke is a medical emergency. If heat stroke is suspected, call 911.*

- Monitor individuals closely when heat illness is observed, reported, or suspected, and do not leave them alone or send them home until necessary action, if any, has been determined. For information about heat illness and first aid guidance see Appendix A.

## Employees

- Acclimatize. Acclimatization is most important for new employees starting in hot weather, when returning to work in hot weather after an extended absence, and when sudden changes in environment or temperature create a higher risk of heat illness. Pace yourself and take cool down breaks (at least 5 minutes) as needed until you adapt to working in the heat. It can take several days of working in the heat for you to become fully acclimated.

**Note:** *Know your limits. Take cool-down breaks as needed. Notify your manager immediately if you feel you need a cool-down break.*

- Hydrate. Drink plenty of water before coming to work and while working. Continue to hydrate in your off time. Remember; do not wait until you feel thirsty, as dehydration can occur quickly.
- Recognize and report signs or symptoms of heat illness. Monitor yourself and your co-workers. Report symptoms immediately to management.
- Understand your own personal risk factors for heat illness. An employees' age, weight, degree of physical fitness, tolerance for heat, use of drugs or alcohol, current medical condition, and other factors may affect sensitivity to heat.

**Note:** *PPE and protective clothing such as aprons, gloves, heavy work garments, etc., will increase your risk for heat illness. If your job requires you to use PPE including protective clothing, take extra cool-down breaks as needed.*

## **Environmental Health and Safety Manager**

The Environmental Health and Safety Manager is responsible for the review and maintenance of this program. The Environmental Health and Safety Manager's additional responsibilities include, but are not limited to:

- Conducts inspections to ensure that the procedures within this program are being followed
- Reviews this heat illness prevention program annually
- Provides resources and guidance for heat illness prevention

## GENERAL INFORMATION

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### What is Heat Illness?

Heat illness is a collection of negative effects on the body that may be experienced during work or physical exertion. Heat illness usually results from the body's inability to cope with a particular heat load. Heat illness can range from immediate medical emergencies such as heat stroke to minor, non-health threatening discomfort such as heat rash or mild muscle cramping.

### How Does Heat Illness Occur?

Heat stress is the total heat load that the body may experience. This is a combination of the air temperature, humidity, etc. (environmental heat), radiant heat sources (such as sunshine), and the heat the body generates internally while doing physical activity (metabolic heat).

Heat strain is the way that the body responds to heat stress. The body naturally tries to get rid of excess heat by means such as sweating. If it is too hot and/or humid, the body may not be able to get rid of the excess heat and may store heat causing the core body temperature to rise, sometimes to dangerous levels. Heat stress and heat strain, if not controlled, will result in heat illness.

Workers are more likely to experience heat illness if they are not accustomed to working in the heat. Acclimatization is the body's gradual adaptation that improves an individual ability to tolerate heat. It can take up to 14 days of working in the heat for at least 2 hours per day to become fully acclimatized.

Personal risk factors (such as elderly, overweight, high blood pressure/heart disease, and some medications) may put some workers at a higher risk of heat illness.

# RECOGNITION OF HEAT ILLNESS SIGNS AND SYMPTOMS

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Heat illnesses are classified in three main categories:

## Heat Stroke

IMMEDIATE MEDICAL EMERGENCY. CALL 911. The body stops sweating and is unable to get rid of excess heat. The body core temperature rises rapidly to dangerous levels and may result in permanent disability or death. Symptoms can include: Confusion, slurred speech, throbbing headache, fainting, seizures, and hot, dry, blotchy skin.

*Note: Heat stroke is a medical emergency. If heat stroke is suspected, call 911.*

## Heat Exhaustion

The body's response to excessive loss of moisture and salt due to heavy sweating. Symptoms can include: Heavy sweating, increased heart rate, headache, lightheadedness, nausea or vomiting, fatigue, thirst, irritability, and pale, clammy skin.

## Heat Cramps

May be a sign of heat exhaustion. Sweating during strenuous activity depletes the body's salt levels which results in cramping. Symptoms can include: Painful muscle spasms usually in the abdomen, arms, or legs.

*For more information, refer to Appendix A; the symptoms of heat illness and the recommended guidance for first aid.*

# HEAT ILLNESS PREVENTION METHODS

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Below are some of the ways that heat illness can be prevented or the risks of illness and serious harm can be reduced.

## Engineering Controls

Engineering controls can reduce heat stress by cooling the work environment or by reducing the external heat load on the body. Some examples may include:

- General ventilation using building HVAC and exhaust ventilation
- Increasing airflow where people are working by using localized fans and blowers
- Use of air-condition in work areas, break areas, and the cabs of work vehicles
- Reflective shields or insulating materials can be placed in areas where heat radiates from work surfaces
- Use of machines or tools that reduce a worker's metabolic heat generation during physical activity (Mechanical lifting devices for heavy items, carts, hand trucks, powered vehicles, powered tools instead of hand tools, etc.)

## Administrative Controls

Administrative controls or work practice controls reduce worker heat exposure. Some examples may include:

- Training in the personal and environmental risk factors for heat illness, how to prevent heat illness including acclimatization, how to recognize the signs and symptoms of heat illness, and how to plan for and manage heat-related emergencies
- Plan job tasks appropriately and allow extra time for breaks during extreme heat
- Rotate workers performing tasks that require heavy lifting or moderate to heavy physical exertion
- When possible, schedule physical demanding job tasks for cooler parts of the day and during cooler seasons

It is important to know that many commonly used forms of PPE (such as coveralls, aprons, gloves, flame-retardant clothing, etc.) increase the risks of heat illness. Take extra cool-down breaks when needed during work activities that require PPE.



# APPENDIX

## Appendix A

### Heat Illness Symptoms and First Aid Guidance

Illness	Symptoms	First Aid*
<b>Heat Stroke</b>	<ul style="list-style-type: none"> <li>● Confusion</li> <li>● Fainting</li> <li>● Seizures</li> <li>● Excessive sweating or red, hot, dry skin</li> <li>● Very high body temperature</li> </ul>	<ul style="list-style-type: none"> <li>● Call 911</li> <li>● While waiting for help:               <ul style="list-style-type: none"> <li>○ Place worker in shady, cool area</li> <li>○ Loosen clothing, remove outer clothing</li> <li>○ Fan air on worker; cold packs in armpits</li> <li>○ We worker with cool water; apply ice packs, cool compresses or ice if available</li> <li>○ Provide fluids (preferably water) as soon as possible</li> <li>○ Stay with worker until help arrives</li> </ul> </li> </ul>
<b>Heat Exhaustion</b>	<ul style="list-style-type: none"> <li>● Cool, moist skin</li> <li>● Heavy sweating</li> <li>● Headache</li> <li>● Nausea or vomiting</li> <li>● Dizziness</li> <li>● Lightheadedness</li> <li>● Weakness</li> <li>● Thirst</li> <li>● Irritability</li> <li>● Fast heartbeat</li> </ul>	<ul style="list-style-type: none"> <li>● Have worker sit or lie down in a cool, shady area</li> <li>● Give worker plenty of water or other cool beverages to drink</li> <li>● Cool worker with cold compresses/ice packs</li> <li>● Take to clinic or emergency room for medical evaluation or treatment if signs or symptoms worsen or do not improve within 60 minutes</li> <li>● Worker should not return to work same day</li> </ul>
<b>Heat Cramps</b>	<ul style="list-style-type: none"> <li>● Muscle spasms</li> <li>● Pain (Usually in abdomen, arms or legs)</li> </ul>	<ul style="list-style-type: none"> <li>● Have worker rest in shady, cool area</li> <li>● Worker should drink water or other cool beverages</li> <li>● Wait a few hours before allowing worker to return to strenuous work</li> <li>● Have worker seek medical attention if cramps do not go away</li> </ul>
<p><b>*Remember, if you are not a medical professional, use this information as a guide only to help workers in need.</b>            Source - OSHA occupational heat exposure web page (<a href="https://www.osha.gov/heat-exposure">https://www.osha.gov/heat-exposure</a>)</p>		