

Heat Illness Prevention Program

Effective Date:
Revision #:

OSHA

Reference Standard

California Code of Regulations, Title 8, Section 3395

Purpose

The purpose of the Heat Illness Prevention Program is to meet the requirements set forth in the Standard and to serve as a required supplement of the Injury and Illness Prevention (IIP) Program. This program establishes procedures and provides information to ensure that employees are knowledgeable in the prevention and recognition of heat stress to ensure their own safety and the safety of others.

Definitions

Acclimatization: The temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within 4 to 14 days of regular work for at least 2 hours per day in the heat.

Heat Illness: Refers to a serious medical condition resulting from the body's inability to cope with a particular heat load and includes heat cramps, heat exhaustion and heat stroke.

Environmental Risk Factors for Heat Illness: Working conditions that create the possibility that heat illness could occur include air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective equipment worn by workers.

Personal Risk Factors for Heat Illness: Risk factors, such as an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption and use of prescription medications, which affect the body's water retention or other physiological responses to heat.

Landscaping: Providing landscape care and maintenance services and/or installing trees, shrubs, plants, lawns or gardens, or providing these services in conjunction with the design of landscape plants and/or the construction/installation of walkways, retaining walls, decks, fences, ponds and similar structures, except for employment by an employer who operates a fixed establishment where the work is to be performed and where drinking water is plumbed.

Potentially Impacted Employees: Employees whose job tasks expose them to environmental risk factors for heat illness.

Shade: The blockage of direct sunlight. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. Shade may be provided by any natural or artificial means that do not expose employees to unsafe or unhealthy conditions and that does not deter or discourage access or use.

Temperature: Dry bulb temperature in degrees Fahrenheit (F°) obtainable by using a thermometer to measure the outdoor temperature in an area where there is no shade. While the measurement must be taken in an area with full sunlight, the bulb or sensor should be shielded from direct contact by sunlight while taking the measurement.

Responsibilities

Health & Safety Coordinator

- Establish and update the written Heat Illness Prevention Program;
- Provide consultation/training to departments who fall within the program; and
- Assist departments in determining when, where, and how shade and water is provided.

Supervisors

- Identify and maintain records of all tasks/employees that are required to work outdoors where potential heat illness could occur;
- Require all potentially impacted employees to receive proper training on heat illness prevention and comply with all appropriate procedures;
- Maintain training records;
- Ensure that adequate water is available at the beginning of each shift and throughout the work day;
- Ensure access to shade for purposes of a preventative recovery period is available during the work day; and
- Follow proper procedures to contact emergency medical services in the event medical assistance is required.

Employees

- Awareness and compliance with all appropriate heat illness prevention procedures while performing assigned duties;
- Employees are ultimately responsible for drinking adequate amounts of hydrating fluids when the environmental risk factors for heat illness are present;
- Ensure access to a shaded area is available to recover from heat-related symptoms;
- Inform their supervisor if shade and/or water are inadequate;
- Report symptoms of heat-related illness promptly to their supervisor; and
- Follow proper procedures in the event medical assistance is required.

Basic Requirements

Provision of Water

Employees will have access to potable drinking water. Water will be fresh, pure, suitably cool and provided to employees free of charge. The water will be located as close as practicable to the areas where employees are working. Where water is not plumbed, or otherwise continuously supplied, it will be provided in sufficient quantity at the beginning of the work shift. Sufficient quantity is defined as enough to provide one quart per employee per hour for drinking for the entire shift. The frequent drinking of water, as described in the training section, will be encouraged.

Access to Shade

When the temperature exceeds 80 F° the company will provide access to one or more shade areas. Shade areas will be large enough to accommodate the number of employees on recovery, meal breaks or rest periods so that they can sit in a normal posture fully in the shade, without having to be in physical contact with each other. Shade areas will be located as

close as practicable to the areas where employees are working. Shade areas will also be either open or provided with ventilation or cooling.

When the temperature is equal to or lower than 80 F°, the company will either provide shade as described above or provide timely access to shade upon employee request.

When infeasible or unsafe to have a shade structure, or otherwise to have shade present on a continuous basis, the company may utilize alternative procedures for providing access to shade. Alternative procedures will provide equivalent protection.

High-Heat Procedures

The following high-heat procedures will be implemented when the temperature exceeds 95 F°:

- Ensure that effective communication by voice, observation or electronic means is maintained so that employees at the work site can contact a supervisor when necessary. An electronic device, such as a cell phone or text messaging device, may be used for this purpose only if reception in the area is reliable;
- Observe employees for alertness and signs or symptoms of heat illness. The employer will ensure effective employee observation or monitoring by implementing one or more of the following:
 - o Supervisor or designee observation of 20 or fewer employees;
 - o Mandatory buddy system;
 - o Regular communication with sole employee (such as by radio or cellular phone); or
 - o Other effective means of observation;
- Designate one or more employees on each worksite to call for emergency medical services, and allow other employees to call for emergency services when no designated employee is available;
- Remind employees throughout the work shift to drink plenty of water; and
- Pre-shift meetings before the commencement of work must review high heat procedures, encourage employees to drink plenty of water and remind employees of their right to take a cool-down rest when necessary.

In addition, when temperatures reach 95 F°, agricultural employers must also ensure that their agricultural workers take a minimum 10-minute preventative cool-down rest period every two hours. The preventative cool-down rest period required by this paragraph may be provided concurrently with any other required meal or rest period.

Emergency Response Procedures.

The company will implement effective emergency response procedures, including:

- Ensure that effective communication by voice, observation, or electronic means is maintained so that employees at the work site can contact a supervisor or emergency medical services when necessary. An electronic device, such as a cell phone or text messaging device, may be used for this purpose if reception in the area is reliable. If an electronic device will not furnish reliable communication in the work area, the employer will ensure a means of summoning emergency medical services;
- Respond to signs and symptoms of possible heat illness, including but not limited to first aid measures and how emergency medical services will be provided. If a supervisor observes, or any employee reports, any signs or symptoms of heat illness in any employee, the supervisor will take immediate action commensurate with the severity of the illness. If the signs or symptoms are indicators of severe heat illness (such as, but not limited to, decreased level of consciousness, staggering, vomiting, disorientation, irrational behavior or convulsions), the employer will implement emergency response procedures. An employee exhibiting signs or symptoms of heat illness will be monitored and will not be left alone or sent home without being offered onsite first aid or being provided with emergency medical services in accordance with these procedures;

- Contact emergency medical services and, if necessary, transporting employees to a place where they can be reached by an emergency medical provider; and
- Ensure that, in the event of an emergency, clear and precise directions to the work site are provided as needed to emergency responders.

Acclimatization.

All employees will be closely observed by a supervisor or designee during a heat wave. For purposes of this program, "heat wave" means any day in which the predicted high temperature for the day will be at least 80 F° and at least 10 F° higher than the average high daily temperature in the preceding five days.

An employee who has been newly assigned to a high heat area will be closely observed by a supervisor or designee for the first 14 days of the employee's employment.

Training

Effective training will be provided for all potentially impacted employees working where environmental risk factors for heat illness are present. The training will take place before affected employees begin work that is reasonably anticipated to result in exposure to the risk of heat illness. All potentially impacted employees, and their supervisors, will be trained on the risks and prevention of heat illness, including how to recognize heat illness symptoms and how to respond when they appear. Training information will include, but is not limited to, the topics listed in the training section of this program.

Recordkeeping

A record of training given to employees and supervisors will be retained by the company for a minimum of (insert number of years) years. This can be accomplished by requiring employees to sign their name to a training roster when they receive the required training (see Appendix A).

Access to Records

All records will be provided upon request to employees, former employees and representatives of employees.

Procedures

Identification of Hazard

All employees who are required to work where environmental risk factors for heat illness are present will be identified. Identification of potentially impacted employees will take place at the department level, and notifications will be provided to the Health & Safety Coordinator.

Potentially Impacted Employees

Training will be provided for all potentially impacted employees and their supervisors. Training information will include, but is not limited to, the topics listed in the training section of this written program. All potentially impacted employees and their supervisors will be trained on the risk and prevention of heat illness, including how to recognize symptoms and how to respond should symptoms be present.

Employee Protection

- One quart per hour of drinking water will be available at all times, for each employee, for the duration of his or her shift, while working outdoors in the heat. Supervisors will remind employees to drink frequently;
- Employees will have access to a shaded area to prevent or recover from heat illness symptoms and where they can take rest breaks;
- When the temperature exceeds 85 degrees F, employees will have access to one or more areas with shade that are either open to the air or provided with ventilation or cooling;
- If these procedures are unfeasible or unsafe, the company will use alternative procedures for access to shade;

- When the temperature is less than 85 degrees F, shade will be provided upon request; and
- Whenever employees feel the need to do so, they can take a cool-down rest in the shade for a period of 5 minutes or more to protect themselves from overheating.

Training

All employees and supervisors working on job tasks where environmental risk factors for heat illness are present will receive training.

Supervisors

Supervisors that oversee employees performing work that should reasonably be anticipated to result in exposure to the risk of heat illness will receive effective training on the following topics prior to being assigned to supervise outdoor employees:

- The training information required of the employees, as detailed below;
- Procedures the supervisor is to follow to implement the provisions of this program;
- Procedures the supervisor must follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures; and
- How to monitor weather reports and how to respond to hot weather advisories.

Employees

Effective training will be provided for affected employees prior to being assigned to work tasks that should reasonably be anticipated to result in exposure to the risk of heat illness to include the following:

- The environmental and personal risk factors for heat illness, as well as the added burden of heat load on the body caused by exertion, clothing and personal protective equipment (PPE);
- Procedures for identifying, evaluating and controlling exposure to environmental risk factors for heat illness;
- The importance of frequent consumption of small quantities of water, up to four cups of water per hour, when environmental risk factors for heat illness are present;
- The importance of acclimatization;
- Different types of heat illness and the common signs and symptoms of heat illness (see Appendix B);
- The importance of immediately reporting symptoms or signs of heat illness, in themselves or in co-workers, to their supervisor;
- Understanding the procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by emergency medical service;
- Procedures to ensure that, in the event of an emergency, clear and precise direction to the work site is provided to emergency responders. These procedures will include designating a person to be available to ensure that emergency procedures are invoked when appropriate; and
- The different types of heat illness and the common signs and symptoms of heat illness. This training should be accompanied by appropriate instructions on first aid and emergency responses to the different types of heat illness and a discussion of how heat illness may progress quickly from mild symptoms and signs to serious and life threatening illness.

Program Audits

An audit of the Heat Illness Prevention Program will be performed annually to ensure that heat illness prevention procedures are in place and are being properly followed. The audit will ensure that a written plan is maintained in English and the language understood by the majority of the employees.

Appendix A
SAFETY TRAINING SIGN-IN LOG

Appendix B

OVERVIEW OF HEAT ILLNESS TYPES, SYMPTOMS AND PREVENTION

Overview of Heat Illness Types, Symptoms and Prevention

This describes the three major forms of heat illness, how to recognize them and what actions to take to provide first-aid before medical care is provided.

Heat Cramps

Heat cramps are the most common type of heat-related injury. Heat cramps are muscle spasms which usually affect the arms, legs or stomach. Heat cramps are caused by heavy sweating, especially when water is not replaced quickly enough. Frequently they do not occur until after work, at night or when relaxing. Although heat cramps can be quite painful, they usually don't result in permanent damage.

Prevention/First-Aid: Drink an electrolyte solution, such as sports drink, or plenty of water during the day, and try eating more fruits to help keep your body hydrated during hot weather.

Heat Exhaustion

Heat exhaustion is more serious than heat cramps. It occurs when the body's internal temperature regulating system is overworked, but has not completely shut down. In heat exhaustion, the surface blood vessels and capillaries, which originally enlarged to cool the blood, collapse from loss of body fluids and necessary minerals. This happens when you do not drink enough fluids to replace what you are sweating away.

Symptoms Include: Headache, heavy sweating, intense thirst, dizziness, fatigue, loss of coordination, nausea, impaired judgment, loss of appetite, hyperventilation, tingling in hands or feet, anxiety, cool moist skin, weak and rapid pulse (120-200), and low to normal blood pressure.

Prevention/First Aid: The employee suffering these symptoms should be moved to a cool location such as a shaded area or air-conditioned building. Have him or her lie down with the feet slightly elevated. Loosen their clothing, apply cool, wet cloths or fan them. Have them drink water or electrolyte drinks. Try to cool them down, and have them checked by medical personnel. Victims of heat exhaustion should avoid strenuous activity for at least a day, and they should continue to drink water to replace lost body fluids. Call 911 if the person becomes non-responsive, refuses water, vomits or loses consciousness

Heat Stroke

Heat stroke is a life-threatening illness with a high death rate. It occurs when the body has depleted its supply of water and salt, and the victim's core body temperature rises to deadly levels. A heat stroke victim may first suffer heat cramps and/or heat exhaustion before progressing into the heat stroke stage; however this is not always the case. It is important to note that heat stroke symptoms are similar to those of a heart attack. Therefore, it is very important to know how to recognize the signs and symptoms of heat stroke and to check for them any time an employee collapses while working in a hot environment.

Symptoms include: A high body temperature (103 degrees F); a distinct absence of sweating; hot red or flushed dry skin; rapid pulse; difficulty breathing; constricted pupils; any/all of the signs or symptoms of heat exhaustion such as dizziness, headache, nausea, vomiting or confusion; and possibly more severe systems including bizarre behavior and high blood pressure. Advanced symptoms may be seizure or convulsions, collapse, loss of consciousness and a body temperature of over 108 degrees F.

Prevention/First Aid: It is vital to lower a heat stroke victim's body temperature. Quick actions can mean the difference between life and death. Pour water on them, fan them or apply cold packs. Call 911 to get the person medical aid as soon as possible.

Appendix C

PRECAUTIONS TO PREVENT HEAT ILLNESSES

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- Condition yourself for working in hot environments. Start slowly and build up to more physical work. Allow your body to adjust over a few days (acclimatization).
- Drink plenty of liquids – hydration is a continuous process. Do not wait until you are thirsty! By then, there is a good chance that you are already on your way to being dehydrated. Electrolyte drinks, such as a sports drink, are good for replacing both water and minerals lost through sweating. Never drink alcohol, and avoid caffeinated beverages like coffee and soda, as these liquids can have the opposite effect and can actually increase the level of dehydration.
- Take frequent breaks, especially if you notice you are getting a headache or you start feeling overheated.
- Assure that adequate water and shade are available at the job site before work begins.
- Wear lightweight, light-colored clothing when working out in the sun.
- Immediately report all unsafe conditions and/or concerns to your supervisor or area manager.
- For additional information on heat illness prevention, contact your supervisor.