



Heat Illness Prevention Program

I. Policy

Employees working in outdoor places of employment or in other areas at times when the environmental risk factors for heat illness are present, are at risk for developing heat illnesses if they do not protect themselves appropriately. The objective of this program is employee awareness regarding heat illness symptoms, ways to prevent illness, and what to do if symptoms occur.

It is the policy of California State University, Fullerton that any employee who works outdoors in the heat, indoor areas that may radiate heat, and all individuals who supervise these employees, must comply with the procedures in this program and in the Injury and Illness Prevention Program.

II. Authority

Title 8 of the California Code of Regulations, Section 3395.

III. Scope

This program applies to employees and supervisors working in outdoor/indoor places of employment during times when the risk factors for heat illness are present.

IV. 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 four to fourteen days of regular work for about two hours per day in the heat.

Environmental risk factors for heat illness - The working conditions that create the possibility that heat illness could occur, including 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 employees.

Heat illness - A serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope, and heat stroke. See the appendix for specific information on the forms of heat illness.

Personal risk factors for heat illness - Factors such as an individual's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption,

and use of prescription medications that affect the body's water retention or other physiological responses to heat.

Preventative recovery period - A period of time to recover from the heat in order to prevent heat illness.

Shade - The blockage of direct sunlight. Canopies, umbrellas, and other temporary structures or devices may be used to provide shade. 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. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning.

Metal storage sheds and other outbuildings do not provide protection from sunlight, which meets the definition of shade, unless they provide a cooling environment comparable to shade in open air (i.e., they must be mechanically ventilated or open to air movement).

V. Accountability

A. Environmental Health and Safety

1. Prepare and maintain a written program, which complies with the requirements of Cal/OSHA Title 8, 3395.
2. Provide training to all potentially impacted employees and their supervisors on the risks and prevention of heat illness, including how to recognize symptoms and respond when they appear. Training should be provided annually, as a refresher, prior to the start of the summer season.

B. Directors, Managers, and Supervisors

1. Identify all employees who are required to work outdoors/indoors where potential heat illness could occur and identify the supervisor of the employees.
2. Ensure that adequate water and shade are available at a job site when the environmental risk factors for heat illness are present.
3. Ensure that all affected employees have received proper training on heat illness prevention.
4. Ensure that the requirements in this program are followed.
5. Contact CSUF Police to request emergency medical services in the event medical assistance is required. Police will direct emergency medical services to the work site.

C. Affected Employees

1. Comply with the provisions of the Heat Illness Prevention Program, as described in this document and in the training sessions they attend.
2. Ensure they have drinking water available at all times when the environmental risk factors for heat illness are present.
3. Ensure they have access to a shaded area to prevent or recover from heat related symptoms.
4. Report heat related illness symptoms to the supervisor or directly to the Service Center.
5. Look for the signs and symptoms of heat stress on your co-workers.

VI. Program

A. Access to Water

Employees must have access to potable drinking water, including but not limited to the requirements that it be fresh, pure, suitably cool, and provided to employees free of charge. The water shall be located as close as practicable to the areas where employees are working. Where drinking water is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity at the beginning of the work shift in water containers or bottled water. Employees shall be encouraged to frequently consume small amounts of water throughout the day – up to 4 cups per hour depending on heat conditions.

B. Access to Shade

- Shade shall be **present** when the temperature exceeds 80 degrees Fahrenheit. When the outdoor temperature in the work area exceeds 80 degrees Fahrenheit, the employer shall have and maintain one or more areas with shade at all times while employees are present that are either open to the air or provided with ventilation or cooling. The amount of shade present shall be at least enough to accommodate the number of employees on recovery or rest periods. The shade shall be located as close as practicable to the areas where employees are working. Subject to the same specifications, the amount of shade present during meal periods shall be at least enough to accommodate the number of employees on the meal period who remain onsite.
- Shade shall be **available** when the temperature does not exceed 80 degrees Fahrenheit. When the outdoor temperature in the work area does not exceed 80 degrees Fahrenheit, employers shall either provide shade or provide timely access to shade upon an employee's request

C. High Heat Procedures

The employer shall implement high-heat procedures when the temperature equals or exceeds 95 degrees Fahrenheit. These procedures shall include the following to the extent practicable:

- Ensure 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 shall ensure effective employee observation/monitoring by implementing one or more of the following:
 - Supervisor or designee observation of 20 or fewer employees, or
 - Mandatory buddy system, or
 - Regular communication with sole employee such as by radio or cellular phone, or
 - Other effective means of observation.
- Designating one or more employees on each worksite as authorized to call for emergency medical services, and allowing other employees to call for emergency services when no designated employee is available.
- Reminding employees throughout the work shift to drink plenty of water.
- Pre-shift meetings before the commencement of work to review the high heat procedures, encourage employees to drink plenty of water, and remind employees of their right to take a cool-down rest when necessary.
- For employees employed in landscape, the following shall also apply:
 - When temperatures reach 95 degrees or above, the employer shall ensure that the employee takes a minimum ten 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 meal or rest period.

D. Emergency Response Procedures

1. 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 only 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.

2. Responding to signs and symptoms of possible heat illness, including but not limited to first aid measures and how emergency medical services will be provided.
 - a. If a supervisor observes, or any employee reports, any signs or symptoms of heat illness in any employee, the supervisor shall take immediate action commensurate with the severity of the illness.
 - b. 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 must implement emergency response procedures.
 - c. An employee exhibiting signs or symptoms of heat illness shall be monitored and shall not be left alone or sent home without being offered onsite first aid and/or being provided with emergency medical services in accordance with the employer's procedures.
3. In the event of a medical emergency, dial 9-1-1 to get in contact with the CSUF Police Department.
4. Ensure that, in the event of an emergency, clear and precise directions to the work site can and will be provided as needed to emergency responders.

E. Acclimatization.

1. All employees shall be closely observed by a supervisor or designee during a heat wave. For purposes of this section only, "heat wave" means any day in which the predicted high temperature for the day will be at least 80 degrees Fahrenheit and at least ten degrees Fahrenheit higher than the average high daily temperature in the preceding five days.
2. An employee who has been newly assigned to a high heat area shall be closely observed by a supervisor or designee for the first 14 days of the employee's employment.

Appendix A Heat Stress Fact Sheet

Responsible Executive: Vice President for Administration and Finance

Responsible Office: Environmental Health and Safety

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Appendix A to Heat Illness Prevention Program

Heat Stress Fact Sheet

High temperatures and humidity stress the body's ability to cool itself, and heat illness becomes a special concern during hot weather. There are three major forms of heat illnesses: heat cramps, heat exhaustion, and heat stroke, with heat stroke being a life threatening condition.

Heat Cramps

Heat cramps are muscle spasms which usually affect the arms, legs, or stomach. Frequently they do not occur until sometime later after work, at night, or when relaxing. Heat cramps are caused by heavy sweating and inadequate consumption of fluids or electrolytes. Although heat cramps can be quite painful, they usually do not result in permanent damage. To prevent getting heat cramps, drink one liter of an electrolyte solution for every three liters of water.

Heat Exhaustion

Heat exhaustion is more serious than heat cramps. It occurs when the body's internal air-conditioning system is overworked, but has not completely shut down. In heat exhaustion, the surface blood vessels and capillaries, which enlarge 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.

The symptoms of heat exhaustion 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.

Somebody suffering these symptoms should be moved to a cool location such as a shaded area or air-conditioned building. Have them lie down with their 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.

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 body temperature rises to deadly levels. A heat stroke victim may first suffer heat cramps and/or the heat exhaustion before progressing into the heat stroke stage, but this is not always the case. It should be noted that, on the job, heat stroke is sometimes mistaken for heart attack. It is therefore very

important to be able to recognize the signs and symptoms of heat stroke - and to check for them anytime an employee collapses while working in a hot environment.

The early symptoms of heat stroke include a high body temperature (103 degrees Fahrenheit); a distinct absence of sweating (usually); hot red or flushed dry skin; rapid pulse; difficulty breathing; constricted pupils; any/all the signs or symptoms of heat exhaustion such as dizziness, headache, nausea, vomiting, or confusion, but more severe; bizarre behavior; and high blood pressure. Advance symptoms may be seizure or convulsions, collapse, loss of consciousness, and a body temperature of over 108 degrees Fahrenheit.

It is vital to lower a heat stroke victim's body temperature. Seconds count. Pour water on them, fan them, or apply cold packs. Call University Police (9-1-1) and get an ambulance on the way as soon as possible.

Take these precautions to prevent heat-related illnesses:

- Condition yourself for working in hot environments. Start slowly then build up to more physical work. Allow your body to adjust over a few days.
- Drink lots of liquids. 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 are good for replacing both water and minerals lost through sweating. Never drink alcohol, and avoid caffeinated beverages like coffee and soft drinks.
- Take frequent breaks, especially if you notice you are getting a headache or you start feeling overheated. Cool off for a few minutes before going back to work.
- Wear lightweight, light colored clothing when working out in the sun.
- Take advantage of fans and air-conditioners.
- With a little caution and a lot of common sense, you can avoid heat related illnesses.