
1.0 PURPOSE

The purpose of this program is to ensure that all Sacramento State University employees, working in outdoor places of employment or in other areas when environmental risk factors for heat illness are present, are protected from heat illness and are knowledgeable of heat illness symptoms, methods to prevent illness, and procedures to follow if symptoms occur.

All employees must ensure that the requirements of this Occupational Safety and Health (OSH) Program are followed. The University will strive to establish, implement and maintain an effective OSH Program as required by California Code of Regulations (CCR), Title 8, Article 10, Section 3395, federal, state and local regulations.

2.0 SCOPE

The Heat Illness Prevention Program applies to all University employees that may be at risk of heat illness and applies to all indoor and outdoor places of employment where environmental risk factors for heat illness are present.

3.0 DEFINITIONS

- 3.1 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 at least two hours per day in the heat.
- 3.2 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.
- 3.3 Environmental risk factors for heat illness** - 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.
- 3.4 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 affects the body's water retention or other physiological responses to heat.
- 3.5 Preventative recovery period** - A period of time, at least five minutes, used to recover from the heat in order to prevent further heat illness.
- 3.6 Shade** - 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. Shade may be provided by any natural or artificial means that does not expose employees to unsafe or unhealthy conditions and that does not deter or discourage access or use.

4.0 RESPONSIBILITIES

4.1 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 is inadequate
- Report symptoms of heat related illness promptly to their supervisor
- Call Public Safety at 278-6900 to request emergency medical services in the event medical assistance is required

4.2 Supervisors

- Identify and maintain records of all tasks/employees that are required to work outdoors where potential heat illness could occur
- Require all affected employees receive proper training on heat illness prevention and comply with all appropriate procedures
- Ensure that adequate water and shade are available at the job site when the environmental risk factors for heat illness are present
- Encourage employees to drink water frequently
- Call 278-6900 to request emergency medical services in the event medical assistance is required

4.3 Environmental Health and Safety (EH&S)

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

5.0 PROGRAM COMPONENTS

The following elements of the University's program for heat illness prevention provide specific information for departments and supervisors complying with the program:

5.1 Provision of Water

Whenever environmental risk factors for heat illness exist, supervisors are responsible to ensure that clean, fresh, and suitably cool potable water is readily available to employees.

Where unlimited drinking water is not immediately available from a plumbed system, supervisors must provide enough water for every employee to be able to drink one quart of water per hour for the entire shift (at least 2 gallons per employee for an 8-hour shift). Smaller quantities of water may be provided at the beginning of the shift if there are effective procedures for replenishing the water supply during the shift as needed.

Supervisors shall encourage employees to drink frequently. Employees must understand that thirst is not an effective indicator of a person's need for water and it is recommended



that individuals drink one quart of water, or four 8-ounce cups, per hour when working in hot environments.

Departments shall take one or more of the following steps to ensure employees have access to drinking water:

1. Provide access to drinking fountains
2. Supply water cooler/dispenser and single service cups
3. Supply sealed one time use water containers

Drinking water and water dispensers shall meet the following requirements:

- All sources of drinking water shall be maintained in a clean and sanitary condition
- Drinking water must always be kept cool. When temperatures exceed 90° F it is recommended that ice be provided to keep the water cool.
- Potable drinking water dispensers used to provide water to more than one person shall be equipped with a spigot or faucet
- Any container used to store or dispense drinking water shall be clearly marked as to the nature of its contents and shall not be used for any other purpose
- Dipping or pouring drinking water from containers, such as barrels, pails or tanks, is prohibited regardless of whether or not the containers are fitted with covers
- The use of shared cups, glasses or other vessels for drinking purposes is prohibited
- Non-potable water shall not be used for drinking
- Outlets for non-potable water shall be posted in a manner understandable to all employees that the water is unsafe for drinking

5.2 Access to Shade

Supervisors are responsible to ensure that employees have access to a shaded area. Shaded areas should be large enough to accommodate all of the employees on a shift and allow employees to sit in the shade without touching each other.

The nearest shaded area must be as close as practicable. Usually this will mean that shade must be reachable within a 2 1/2 minute walk, but in no case more than 1/4-mile or a five minute walk away, whichever is shorter.

Canopies, umbrellas or other temporary structures may be used to provide shade, provided they block direct sunlight. Trees and dense vines can provide shade if the canopy of the trees is sufficiently dense to provide substantially complete blockage of direct sunlight. Areas shaded by artificial or mechanical means, such as by a pop-up canopy as opposed to a tree, must provide means for employees to avoid contact with bare soil.

The interior of a vehicle may be used to provide shade if the vehicle is air-conditioned and the air conditioner is operating.

If the National Weather Service, as of 5 p.m. the previous day, forecasts the temperature to be over 80° F, shade structures must be available at the beginning of the shift and present throughout the day. Regardless of predicted temperatures, supervisors must always have the capability to provide shade promptly if it is requested by an employee. If the temperature exceeds 80° F, shade must actually be present regardless of the previous day's predicted temperature high.

5.3 Acclimatization

Supervisors are required to acclimatize employees and allow time to adapt when temperatures rise suddenly and employee risks for heat illness increase. Acclimatization is also required for new employees, employees working at temperatures to which they haven't been exposed for several weeks or longer, or employees assigned to new jobs in hot environments.

Generally, about four to fourteen days of daily heat exposure is needed for acclimatization. Heat acclimatization requires a minimum daily heat exposure of about two hours of work. Gradually increase the length of work each day until an appropriate schedule adapted to the required activity level for the work environment is achieved. This will allow the employee to acclimate to conditions of heat while reducing the risk of heat illness.

It should be noted that new employees are among those most at risk of suffering the consequences of inadequate acclimatization. Supervisors with new employees should be extra-vigilant in monitoring those individuals during the 14 day acclimatization period, and respond immediately to signs and symptoms of possible heat illness.

5.4 Preventive Cool-down Rest Periods

The purpose of the recovery period is prevention of heat illness. The supervisor is required to provide access to shade for employees who believe they need a preventive recovery period from the effects of heat and for any who exhibit indications of heat illness.

Access to shade must be allowed at all times, and employees must be allowed and encouraged cool-down rest in the shade when they feel they need to protect themselves from overheating. Employees who need a recovery period shall be monitored for symptoms and allowed to recover for no less than 5 minutes before being instructed to return to work.

The purpose of the preventive recovery period is to reduce heat stress on the employee. The preventive recovery period is not a substitute for medical treatment. If an employee exhibits signs or reports symptoms of heat illness while taking a preventative cool-down rest or during a preventative cool-down rest period, the supervisor shall provide appropriate first aid or emergency response.

5.5 Emergency Procedures

If an employee has any symptoms of heat illness, first-aid procedures should be initiated without delay. Common early signs and symptoms of heat illness include headache, muscle cramps, and unusual fatigue. However, progression to more serious illness can be rapid, and can include loss of consciousness, seizures, mental confusion, unusual behavior, nausea or vomiting, hot dry skin, or unusually profuse sweating.

Any employee exhibiting any of the above mentioned symptoms requires immediate attention. Employees exhibiting symptoms of severe heat illness must be attended to by emergency services by calling 278-6900. No employee with symptoms of possible serious heat illness should be left unattended or sent home without medical assessment and authorization.



Supervisors must be able to provide clear and precise directions to the worksite and should carry cell phones or other means of communication to ensure that emergency services can be called.

5.6 High Heat Procedures

When the temperature equals or exceeds 95° F, the following procedures shall be followed:

- Employees shall be observed for signs and symptoms of heat related illness by using the buddy system or regular communication with employees by radio, telephone or periodic drive-by.
- At least one employee shall have access to a radio or cell phone and instructed to contact Public Safety at 278-6900 in the event of serious heat related symptoms.
- Employees shall be reminded to drink plenty of water throughout the shift and their right to take a cool-down rest period.

6.0 REPORTING REQUIREMENTS

Constant awareness of and respect for heat illness prevention procedures and compliance with all applicable Sacramento State safety rules is mandatory.

Employees may report any safety concerns to their supervisor or EH&S.

Supervisors may issue warnings to employees and implement disciplinary actions up to and including termination for failure to follow the guidelines of this program.

Representatives of EH&S are authorized to issue safety warnings to departments, supervisors, and employees and stop unsafe work from continuing.

7.0 TRAINING AND COMMUNICATION

Training shall be provided by EH&S for all potentially impacted employees, and their supervisors, working where environmental risk factors for heat illness are present.

Training information shall include, but not be limited to:

- Environmental and personal risk factors for heat illness
- Procedures for identifying, evaluating, and controlling exposure to environmental risk factors for heat illness
- The importance of frequent consumption of hydrating fluids, up to 1 quart (4 cups of water) per hour, when environmental risk factors for heat illness are present. Particularly when employee is excessively sweating during the exposure
- The importance of acclimatization
- Different types of heat illness and the common signs and symptoms of heat illness
- 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 for ensuring that, in the event of an emergency, clear and precise direction to the work site can and will be provided to emergency responders



Supervisors shall receive training on the following topics prior to being assigned to supervise outdoor employees.

- The training information required of the employees, detailed above
- Procedures supervisors are to follow to implement the provisions of this program
- Procedures the supervisor shall follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures

Retraining will be required under any of the following conditions:

- Changes in the workplace render previous training obsolete
- Inadequacies in an employee's knowledge of heat illness prevention indicate that the employee has not retained the required training

Training records shall be maintained by EH&S for a minimum of 3 years.

8.0 REFERENCES AND RESOURCES

California Code of Regulations, Title 8, Article 10, Section 3395

<http://www.dir.ca.gov/title8/3395.html>

Heat Illness Prevention: What you need to know

<http://www.dir.ca.gov/dosh/HIPnews6-11-08.pdf>

Heat Illness Prevention enforcement Q&A

<http://www.dir.ca.gov/DOSH/heatIllnessQA.html>

Protect Yourself from Heat Illness

http://www.dir.ca.gov/dosh/dosh_publications/HeatIllnessEmployeeEngSpan.pdf