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Table of Contents

1.0    Policy, Authority, and Scope
2.0    Definitions
3.0    Accountability
4.0    Program
5.0    Records
6.0    Additional References
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1.0 Policy, Authority, and Scope

Policy

Employees working in the outdoors or in other spaces at times when environmental risk factors for heat illness are present are at greater risk for injury if they do not take the necessary steps to protect themselves. The objective of this program is to enhance employee awareness regarding heat illness symptoms, ways to prevent illness, and what to do if these symptoms occur.

It is the policy of University of Southern California (USC) that any employee who works outdoors in warm weather and all individuals who supervise these employees must comply with the procedures in this program in addition to those in the Injury and Illness Prevention Program.

Authority

California Code of Regulations, Title 8, Section 3395.

Scope

This program applies to employees who work in outdoor places of employment, and their supervisors, when the environmental risk factors for heat illness are present.
2.0 Definitions

**Acclimatization** is the beneficial physiological adaptations that occur during repeated exposure to a hot environment. These physiological adaptations include:

- Increased sweating efficiency (earlier onset of sweating, greater sweat production, and reduced electrolyte loss in sweat)
- Stabilization of blood circulation
- The ability to perform work with lower core temperature and heart rate
- Increased skin blood flow at a given core temperature

**Environmental risk factors for heat illness** - The cumulative effects of 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), tools, clothing and personnel protective equipment.

**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.

**Personal risk factors for heat illness** - Characteristics and lifestyle behaviors including age, degree of acclimatization, health, consumption (water, alcohol and caffeine) and prescription medications that affect the body’s retention of fluids and other physiological responses to heat.

**Preventative recovery period** - A period of time needed to “cool down” or restore the body’s vitals to restive numbers.

**Shade** – That which results from blocking direct sunlight. Canopies, umbrellas, and other temporary structures or devices may be used to block the sun and provide shade. Blockage is only sufficient when objects do not cast a shadow in the designated area for shade. An appropriate shade area must factor in both the lack of exposure to direct sunlight as well as a lower temperature. Both are essential for the body to cool.
3.0 Accountability

Environmental Health and Safety (EH&S) will:

- Prepare and maintain a written program which complies with the requirements of Cal/OSHA Title 8, 3395.
- Provide training to all potentially impacted employees and their supervisors on the risk factors of heat illness and ways to prevent it, including how to recognize symptoms and how to respond if they appear.

Supervisors who oversee personnel who work outdoors will:

- Identify all employees’ work duties, environments or health issues that put them at higher risk for heat illness.
- Make drinking water and shaded areas available and closely accessible to employees when access to a building’s amenities is beyond a short walk.
- Provide adequate water and shade when the risk factors for heat illness are present.
- Monitor the weather (current and forecast) and make any necessary adjustments to the work load or schedule in order to lower the risk for heat related illnesses to occur.
- Ensure that all employees receive proper training on heat illness prevention.
- Ensure that the requirements in this program are followed.
- Contact the Department of Public Safety (DPS) for a medical emergency or when medical assistance is required.
Employees will:

- Comply with the provisions of the Heat Illness Prevention Program and adhere to the instructions and guidelines that were covered and/or documented as part of any subject related training they completed.
- Have drinking water available and consume accordingly when risk factors for heat illness are present.
- Utilize shaded areas to prevent or recover from heat related symptoms.
- Report any heat related illness symptoms to their supervisor.
- Look out for the signs and symptoms of heat stress on co-workers.
- Inform your supervisor of any health issue that might affect your ability to work.
- Inform your supervisor if water or shade is not readily available.
4.0 Program

Access to Water

- Supervisors must provide employees with access to potable drinking water and encourage consumption of small amounts frequently throughout the workday.
- All workers, whether working individually or in groups, will have access to drinking water.
- If plumbed potable water is not readily accessible, portable water containers or bottled water must be made available before work can commence.
- All water storage containers, drinking vessels and support utensils must be kept in a condition that is both clean and sanitary.
- Water containers must be placed as close as possible to the workers to encourage frequent water intakes.
- When the work environment is such that water cannot be made closely accessible to the workers, bottled water or personal water containers must be made available.
- Storage containers must be refilled with cool water when water levels drop below 50%.
- When the aforementioned mandates cannot be met, work must cease and the workers must be moved into a controlled environment.
- During employee training, the importance of frequent water intake will be stressed.

Access to Shade

- Supervisors must provide access to shade promptly at temperatures less than 85 degrees Fahrenheit when requested by an employee.
- Access to open shade structures is required when temperatures equal or exceed 85 degrees Fahrenheit.
- Employees in need of a recovery period from the heat must be provided with access to shade that is either open to the air or provided with ventilation or mechanical cooling for a period of no less than five minutes.
- Alternative cooling methods may be used if they prove to be at least as effective as an appropriate shaded area.
- When access to open shade structures is required, the shade structures must be as close to the workers and work site as practical.
- During employee training, the importance of taking frequent rests breaks in the shade will be stressed.
Monitoring the Weather / Responding to Advisories

- Prior to each workday, the supervisors will monitor the forecast via either the National Weather Service, the Weather Channel, or a locally broadcasting television or radio station.
- Work scheduling and type of work performed must be respectful of the forecast and modified, if necessary, to prevent heat illness.
- A thermometer will be used to determine current temperatures at work locations.
- When the temperature equals or exceeds 95 degrees Fahrenheit, activities out of doors will be modified and those working outside will be assigned a “buddy” to be on the lookout for signs and symptoms of heat illness and initiate emergency procedures should they appear.
- Supervisors will remind workers before and during the work shift to take frequent shade breaks and drink plenty of water.

### Worker Acclimatization

- Supervisors of new employees must lesson the work load or intensity for the first two weeks and be extra vigilant for signs of heat related symptoms.
- Supervisors will remind workers before and during the work shift to take frequent shade breaks and to drink plenty of water.
- In the event of a sudden heat wave, supervisors must monitor the weather daily.
- In the event of a sudden heat wave or heat spike, the work day must be cut short or out of doors work details must be modified or rescheduled.

### Heat-Related Illness Response

- When an employee displays signs or symptoms of heat illness, move the victim to shade, provide cool water to drink, remove excess layers of clothing, place ice packs in the armpits and groin and fan the victim. Do not leave the victim unattended at any time.
- When an employee does not appear well or does not improve after drinking cool water and resting in the shade and displays signs or symptoms of heat illness (loss of consciousness, incoherent speech, convulsions, red and hot face), initiate medical emergency procedures.
- When an employee displays signs or symptoms of severe heat illness (loss of consciousness, incoherent speech, convulsions, red and hot face), initiate medical emergency procedures.
• When any of the above occurs at a location in which a hospital is greater than 20 minutes away, initiate medical emergency procedures and request an Air Ambulance.

Medical Emergency Procedures

• Notify the USC Department of Public Safety at (213) 740-4321.
• All other locations and work sites notify the local emergency medical response at 911.

Training

When environmental risk factors for heat illness are present in a job site or work location, heat illness training must be provided for employees assigned to work in those areas. Supervisors of those employees must also attend or complete subject appropriate training. Refresher training must be conducted annually. All training must be documented.

Employees

All employees working on job tasks where environmental risk factors for heat illness are present shall receive instruction before being assigned to work tasks. Training topics shall include the following:

• The environmental and personal risk factors related to heat illness.
• The procedures for identifying, evaluating, and controlling exposure to the risk factors.
• Employees who perspire excessively may require more frequent consumption of small quantities of water, up to 4 cups per hour when working in extreme heat conditions.
• The importance of acclimatization.
• The different types, signs and symptoms of heat illness.
• The importance of promptly reporting any symptoms of heat illness to their supervisor.
• How to respond to symptoms of heat illness, including how to request emergency medical services should they become necessary.

Supervisors and Affected Employees

Supervisors or their designees shall receive training from EH&S or an accredited outside source on the following topics prior to being assigned to supervise outdoor employees:

• Information as detailed above in the employee training requirements.
• How to effectively implement the provisions of this program.
• How to respond effectively when an employee exhibits or reports symptoms consistent with possible heat illness, to include requesting emergency medical services.
5.0 Records

**Records**

All training records (electronic or hard copy) prepared in association with the Heat Illness Prevention Program will be maintained by the host department.
Additional Resources

Cal/OSHA:
http://www.dir.ca.gov/dosh/heatillnessinfo.html

http://www.dir.ca.gov/dosh/heatillnessinfo.html

California Emergency Management Agency (Cal EMA):
http://www.calema.ca.gov/NewsandMedia/Pages/Current News and Events/Summer-Heat-Resources.aspx

National Weather Service:
http://www.nws.noaa.gov/view/states.php?state=CA&map=on