Outdoor Heat Illness Prevention Program

California State University Fresno
Office of Environmental Health, Safety, and Risk Management

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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, Fresno that any employee who works outdoors in the 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 places of employment during those times when the environmental 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 personnel 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 fact sheet 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.

V. Accountability

Environmental Health and Instructional Safety

A. Prepare and maintain a written program which complies with the requirements of Cal/OSHA Title 8, 3395.
B. 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.

Directors, Managers, and Supervisors

A. Identify all employees who are required to work outdoors where potential heat illness could occur and identify the supervisor of the employees.
B. Assure that adequate water and shade are available at a job site when the environmental risk factors for heat illness are present.
C. Ensure that all affected employees have received proper training on heat illness prevention.
D. Ensure that the requirements in this program are followed.
E. Contact University Police to request emergency medical services in the event medical assistance is required. Police will direct emergency medical services to the work site.
F. Ensure they have drinking water available at all times when the environmental risk factors for heat illness are present.
G. Ensure they have access to a cool-down area, which must be kept at a temperature below 82ºF, to prevent or recover from heat-related symptoms.
H. The cool-down area must be kept at less than 82ºF and shielded from other high-radiant heat sources.

Affected Employees

A. Comply with the provisions of the Heat Illness Prevention Program, as described in this document and in the training sessions they attend.
B. Report heat related illness symptoms to the supervisor or directly to the Service Center.
C. Look for the signs and symptoms of heat stress on your co-workers.

VI. Program

Access to Water

Employees must have access to potable drinking water and encouraged to frequently consume small amounts of water throughout the day – up to 4 cups per hour depending heat conditions. If plumbed potable water is not readily accessible, provide portable water containers or bottled water.

High-Heat Procedures
Have and implement procedures to deal with heat when the temperature equals or exceeds 95°F Procedures must include observing and communicating effectively with workers and reminding workers to drink water and take cool-down rest breaks.

Shade
Employees suffering from heat related illnesses or in need of a recovery period from the heat must be provided with access to an area with shade that is either open to the air or provided with ventilation or cooling for a period of no less than five minutes. Access to shade must be permitted at all times. Other methods of cooling, other than shade, can be used if it can be demonstrated that these methods are at least as effective as shade.

Training
Training must be provided for employees working on job tasks where environmental risk factors for heat illness are present, and training for their respective supervisors. Refresher training must be provided annually.

A. 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:
    1. Environmental and personal risk factors for heat illness.
    2. Procedures for identifying, evaluating, and controlling exposures to the environmental and personal risk factors for heat illness.
    3. Employees who experience excessive sweating require frequent consumption of small quantities of water, up to 4 cups per hour when working in extreme conditions of heat.
    4. Importance of acclimatization.
    5. Different types, signs, and symptoms of heat illness.
    6. Importance of immediately reporting symptoms or signs of heat illness in themselves or in coworkers to their supervisor.
    7. Procedures for responding to symptoms of possible heat illness, including how emergency medical services will be contacted and provided, should they become necessary.
    8. Campus procedures for contacting emergency medical services.

B. Supervisors and Affected Employees – Supervisors or their designees shall receive training on the following topics prior to being assigned to supervise outdoor employees:
    1. Information as detailed above in employee training requirements.
    2. Procedures the supervisor must follow to implement the provisions of this program.
    3. Procedures the supervisor must follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response.

VI. RECORDS

All training records prepared in association with the Heat Illness Prevention Program will be maintained by Environmental Health and Safety or the department.

HEAT STRESS FACT SHEET

Outdoor and indoor workers exposed to extreme heat or work in hot environments may be at risk for experiencing heat related illnesses. Heat-related illnesses include heat stroke, heat exhaustion, rhabdomyolysis, heat syncope, heat cramps, and heat rash.

Heat Cramps

Heat cramps usually affect workers who sweat a lot during strenuous activity. This sweating depletes the body's salt and moisture levels. Low salt levels in muscles cause painful cramps. Heat cramps may also be a symptom of heat exhaustion.

Symptoms include muscle cramps and, pain or spasms in the abdomen, arms, or legs.

First aid

Workers with heat cramps should do the following:

- Drink water and have a snack or a drink that replaces carbohydrates and electrolytes (such as sports drinks) every 15 to 20 minutes.
- Avoid salt tablets.
- Get medical help if the worker:
    - Has heart problems.
    - Is on a low sodium diet.
    - Has cramps that do not subside within 1 hour

Heat Exhaustion

Heat exhaustion is the body's response to an excessive loss of water and salt, usually through excessive sweating.

Symptoms of heat exhaustion include: headache, nausea, dizziness, weakness, irritability, thirst, heavy sweating, elevated body temperature and, decreased urine output.

First aid

Treat a worker who has heat exhaustion by doing the following:

- Take worker to a clinic or emergency room for medical evaluation and treatment.
- Call 911 if medical care is unavailable.
- Have someone stay with the worker until help arrives.
- Remove the worker from the hot area and give liquids to drink.
- Remove unnecessary clothing, including shoes and socks.

- Cool the worker with cold compresses or have the worker wash their head, face, and neck with cold water.

Heat Rash

Heat rash is a skin irritation caused by excessive sweating during hot, humid weather.

Symptoms of heat rash include: red clusters of pimples or small blisters, and usually appears on the neck, upper chest, groin, under the breasts, and in elbow creases.

First aid

Workers who have heat rash should:

- Work in a cooler, less humid environment, if possible.
- Keep the rash area dry.
- Apply powder to increase comfort.
- Don't use ointments and cream

Heat Stroke

Heat stroke is the most serious heat-related illness. It occurs when the body can no longer control its temperature: the body's temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. When heat stroke occurs, the body temperature can rise to 106°F or higher within 10 to 15 minutes. Heat stroke can cause permanent disability or death if the person does not receive emergency treatment.

Symptoms of a heat stroke include: confusion, altered mental status, slurred speech, loss of consciousness (coma), hot, dry skin or profuse sweating, Seizures, very high body temperature and, is fatal if treatment delayed.

First aid:

Take the following steps to treat a worker with heat stroke:

- Call 911 for emergency medical care.
- Stay with the worker until emergency medical services arrive.
- Move the worker to a shaded, cool area and remove outer clothing.
- Cool the worker quickly, using the following methods:
    - With a cold water or ice bath, if possible
    - Wet the skin
    - Place cold wet cloths on the skin
    - Soak clothing with cool water
- Circulate the air around the worker to speed cooling.
- Place cold wet cloths or ice on the head, neck, armpits, and groin; or soak the clothing with cool water.

Call University Police, 559.278.8400 and get an ambulance on the way as soon as possible.

Rhabdomyolysis

Rhabdomyolysis (rhabdo) is a medical condition associated with heat stress and prolonged physical exertion. Rhabdo causes the rapid breakdown, rupture, and death of muscle. When muscle tissue dies, electrolytes and large proteins are released into the bloodstream. This can cause irregular heart rhythms, seizures, and damage to the kidneys.

Symptoms of rhabdo include: Muscle cramps/pain, Abnormally dark (tea or cola-colored) urine, weakness, exercise intolerance or asymptomatic.

First aid

Workers with symptoms of rhabdo should:

- Stop activity
- Drink more liquids (water preferred)
- Seek immediate care at the nearest medical facility.
- Ask to be checked for rhabdomyolysis (i.e., blood sample analyzed for creatine kinase).

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. Don't wait until you're thirsty! By then, there's a good chance that you're already on your way to being dehydrated. Electrolyte drinks are good for replacing both water and minerals lost through sweating. Avoid drinking alcohol and caffeinated beverages like coffee and soft drinks.

- Take frequent breaks, especially if you notice you're 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.

Resources:

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

https://www.dir.ca.gov/title8/3396.html

https://www.cdc.gov/niosh/heat-stress/about/illnesses.html#print

Revision History

Revision	Date	Revised By	Description
0	10/28/2024	L. Renaud	Revision History, Heat Stress Fact Sheet, Resources