University of San Francisco

Heat Illness Prevention Plan

Environmental Health and Safety
University of San Francisco
2130 Fulton Street
San Francisco, CA
94117-1080
(415) 422-5884 [phone]
(415) 422-2998 [fax]
https://myusf.usfca.edu/environmental-health-safety/heat-illness-program

2024

November 2024

Table of Contents

PURPOSE

The purpose of this Heat Illness Prevention Plan ("HIPP" or "the Plan") is to protect University of San Francisco employees against heat illness. This includes raising awareness about the risks associated with heat exposure, establishing protocols regarding the provision of water, providing access to cool-down areas and shade, implementing high heat procedures, developing emergency response protocols, allowing acclimatization, increasing knowledge of heat illness symptoms, ways to prevent illness, and what to do if symptoms occur. This plan is written in accordance with the California Code of Regulations (CCR) Title 8, § 3395 and 3396.

REGULATORY REQUIREMENT

The Cal-OSHA regulation listed below requires University of San Francisco ("University") to establish, implement, and maintain, an effective HIPP due to employee exposure to indoor heat or outdoor heat as required by the following regulations:

Title 8 of the California Code of Regulations (CCR), General Industry Safety Orders (GISO) section 3396 Heat Illness Prevention in Indoor Places of Employment.

Title 8 of the California Code of Regulations (CCR), General Industry Safety Order (GISO section 3395. Heat Illness Prevention in Outdoor Places of Employment.

This program is written in the language understood by the majority of the employees and available on the Environmental Health and Safety (EHS) webpage.

SCOPE

The Plan applies to all University employees working in indoor and/or outdoor areas where environmental risk factors for heat illness are present and where they can be at risk for developing heat illnesses if they do not protect themselves appropriately. Cal-OSHA has identified temperature conditions, both for outdoor and indoor workplaces, where heat prevention protocols must be applied – see Appendix A.

RESPONSIBILITIES

Directors, Managers and Supervisors are responsible for the following:

- Identifying all personnel who are required to work in indoor and outdoor areas where conditions for potential heat illness are present.
- Assure that adequate water and shade or cool-down areas are available when risk factors for heat illness are present.
- Ensure that all affected employees have received proper training in heat illness prevention.

Environmental Health and Safety is responsible for the following:

- Conduct periodic review of this Plan.

- Complete and administer training to promote heat illness prevention.
- Site-specific checklists for Supervisors and Managers are posted here on the EHS website.

DEFINITIONS

Acclimatization – 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 or fourteen days of regular work for at least two hours per day in the heat.

Clothing that Restricts Heat Removal – Full-body clothing covering the arms, legs, and torso that is any of the following: Waterproof; designed to protect the wearer from chemical, biological, physical, radiological, fire hazard; or designed to protect the wearer from contamination.

Cool-Down Area – An indoor or outdoor area that is blocked from direct sunlight and shielded from other high radiant heat sources and is either open to the air or provided with ventilation or cooling. A cool-down area does not include areas where: environmental risk factors defeat the purpose of allowing the body to cool, employees are exposed to unsafe or unhealthy conditions, or employees are deterred or discouraged from accessing or using the cool-down area.

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; or 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 may include heat rash, heat cramps, heat exhaustion, and/or heat stroke.

Heat Index – A measure of heat stress developed by the National Weather Service for outdoor environments that considers the dry bulb temperature and the relative humidity. For purposes of this section, heat index refers to conditions in indoor work areas. Radiant heat is not included in the heat index.

Heat Wave – Any day in which the predicted high outdoor temperature for the day will be at least 80 degrees Fahrenheit AND at least ten degrees Fahrenheit greater than the average high daily outdoor temperature for the preceding five days.

High Radiant Heat Area – A work area where the warmth that radiates from direct sun is at least five degrees Fahrenheit greater than the general air temperature.

Indoor – A space that is under a ceiling or overhead covering that restricts airflow and is enclosed along its entire perimeter by walls, doors, windows, dividers, or other physical barriers that restrict airflow, whether open or closed. All work areas that are not indoors are considered outdoor.

Personal Heat-Protective Equipment – Equipment worn to protect the user against heat illness. Examples include water-cooled garments, air-cooled garments, cooling vests, wetted over-garments, heat-reflective clothing, and supplied-air personal cooling systems.

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

Preventative Cool-Down Rest – A rest taken in a cool-down area to prevent overheating.

Radiant Heat – Heat transmitted by electromagnetic waves and not transmitted by conduction or convection. Sources of radiant heat include the sun, hot objects, hot liquids, hot surfaces, and fire.

Relative Humidity – The amount of moisture in the air relative to the amount that would be present if the air were completely wet, such as during a rainstorm. The higher the humidity, the more moisture in the air.

Shade – Blockage of direct sunlight. One indicator that blockage is sufficient is when objects do not cast a shadow in blocked sunlight. Shade is not adequate when heat around 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.

Shielding – A physical barrier between radiant heat sources and employees that reduce the transmission of radiant heat.

Temperature – The dry bulb temperature in degrees Fahrenheit is obtainable by using a thermometer freely exposed to the air without considering humidity or radiant heat, to measure the temperature in the immediate area where employees are located.

[THIS AREA INTENTIONALLY BLANK]

OUTDOOR PLACES OF EMPLOYMENT

This section applies to employees whose job entails working outdoors, such as, but not limited to: Facilities Operations, Landscapers, Laborers, Athletic Coaches and Maintenance engineers. This Plan shall go into effect when the outdoor temperature equals or exceeds 80°F. When the outdoor temperature equals or exceeds 95°F, high heat procedures shall be activated. When temperatures exceed 80°F, supervisors/managers will conduct the Work Planning and Site Checklist-Outdoor Work (Appendix C) to ensure we are taking the necessary steps to prevent employee heat-related illness. Supervisors shall conduct discussions about how to proceed with work conditions while referencing both the Work Planning and Site Checklist-Outdoor Work and the Heat Illness Fact Sheet (Appendix B).

INDOOR PLACES OF EMPLOYMENT

This section applies to all indoor work areas where the temperature or heat index equals or exceeds 87°F when employees are present; or 82°F if employees must wear personal protective equipment that restricts heat removal. When temperatures exceed 80°F, Supervisors/managers will conduct the Work Planning and Site Checklist-Indoor Work (Appendix D) to ensure we are taking the necessary steps to prevent employee heat-related illness. Supervisors shall conduct discussions about how to proceed with work conditions while referencing both the Work Planning and Site Checklist- Indoor Work and the Heat Illness Fact Sheet (Appendix B).

TYPES OF HEAT ILLNESSES

It is important to recognize and know how to treat the most common heat illnesses.

Recognizing and Treating the Most Common Heat Illnesses		
Illness	**Signs & Symptoms**	**Treatment**
Heat Rash	• Itching/irritation of the skin from clogged sweat glands • Looks like a red cluster of pimples or small blisters • Most likely to occur in areas where it is hard for sweat to evaporate	• Keep affected area dry
Heat Cramps	• Heavy sweating which depletes salt levels • Painful cramps in arms, legs, abdomen	• Replenish electrolytes (water + electrolytes pack, sports drink) • Massage cramped areas • Rest in shade
Heat Exhaustion	• Heavy sweating, clammy skin, pale • Extreme weakness, dizziness, nausea • Muscle cramps, fast and shallow breathing • Slightly elevated body temperature	• Move to a cool, shaded area • Rest with legs elevated • Replenish electrolytes (water + electrolytes pack, sports drink)

Heat Stroke	• No sweating, dry skin, vomiting • Headache, seizures, unconsciousness, confusion • Very high body temperature, rapid heartbeat	• Call 911 along with Public Safety and provide exact location • Move victim to shade • Provide victim with drinking water, if conscious • Apply cool, wet towels to the victim's neck and under arms

PROVISION OF WATER

All employees shall have access to potable drinking water that meets the following requirements:

- Must be fresh, pure
- Suitably cool
- Provided free of charge
- Shall be located as close as practicable to immediate work areas and in indoor cool-down areas
- Where drinking water is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity at the beginning of the work shift to provide one quart per person per hour for drinking for the entire shift

ACCESS TO SHADE / COOL-DOWN AREAS

When the outdoor temperature is greater than or equal to 80 degrees Fahrenheit, shade shall be provided and maintained in one or more areas while workers are present that are either open to the air or provided with ventilation or cooling. When the outdoor temperature is less than 80 degrees Fahrenheit, shade shall be made available and provided upon request by an employee.

The shade or cool-down area shall be large enough to accommodate the number of workers on recovery or rest periods, so that they can sit in a normal posture without having to be in physical contact with each other. The shade or cool-down area shall be located as close as practicable to their work areas. A car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning. Most University vehicles are equipped with working air conditioning, except for golf/utility carts.

USF employees shall use air-conditioned buildings equipped with lobby areas/seating as cool- down areas. These indoor cool-down areas shall be always maintained at less than 82 degrees Fahrenheit while employees are present. Other building areas, such as decks, breezeways, courtyards, patios, shall be used as a shaded rest area, so long as structures or trees provide adequate shade from the sun. In the unlikely event that these areas are not near the work location, portable shade shall be used, such as canopies.

Cool-down areas(s) are located on the EHS website.

The size of the shade or cool-down area during meal periods shall be large enough to accommodate the number of on-site people during the meal period.

For employees working indoors where the indoor temperature or heat index equals or exceeds 87°F, or 82°F if employees wear clothing that restricts heat removal, at least one cool-down area that is kept below 82°F must be made available.

All employees will be allowed and encouraged to take a preventative cool-down rest in a shade or cool-down area when they feel the need to protect themselves from overheating.

An individual who takes a preventative cool-down rest will:

1. Be monitored and asked if they are experiencing heat illness symptoms.
2. Be encouraged to remain in the shade.
3. Will not be allowed to work until signs or symptoms of heat illness have abated.
4. If heat exhaustion/stroke is present, the supervisor will contact 911, along with Public Safety.

HIGH HEAT PROCEDURES

High heat procedures shall only apply to employees who work in outdoor conditions that are conducive to potential heat illness. Supervisors and Managers will implement high-heat procedures when:

- The outdoor temperature reaches or exceeds 95 degrees Fahrenheit.
- Employees must enter designated confined space areas for repair or maintenance.

These procedures include the following:

1. Communication will be maintained by voice, observation, or electronic means so that employees can contact a supervisor, if needed.
2. Employees will be observed for alertness and signs or symptoms of heat illness. Observation/monitoring will be done by one or more of the following:
    a. Supervisor or designee observation of 20 or fewer persons
    b. Mandatory buddy system
    c. Regular communications with a single worker with either a radio or cell phone
    d. Other effective means of observation.
3. Contact Public Safety (and/or 911) in the event of an emergency.
4. Remind workers to drink plenty of water during their workday.
5. Pre-shift meetings to review high heat procedures, encourage drinking plenty of water, and remind workers of their right to take a cool-down rest when necessary.

ASSESSMENT & CONTROL MEASURES FOR INDOOR AREAS

Indoor workplaces that have a potential for high temperature must be monitored for temperature and heat index. Whenever the temperature or heat index reaches 87°F (or 82°F for employees who must wear clothing that restricts heat removal or high-radiant-heat areas), control measures to keep workers safe must be implemented. Control measures include the following:

- Engineering Controls: This control measure shall be used to reduce and maintain the temperature/heat index to below the applicable threshold. If this is not feasible, engineering controls shall reduce the temperature to the lowest feasible level.
- Administrative Controls: Where feasible engineering controls are not sufficient to reduce and maintain the temperature to below the applicable threshold, administrative controls shall be used to minimize the risk of heat illness.
- Personal Heat Protective Equipment: Where feasible engineering controls and administrative controls are not sufficient to reduce and maintain the temperature to below the applicable threshold, personal heat protective equipment shall be used to minimize the risk of heat illness.

PROCEDURES FOR TEMPERATURE ASSESSMENT FOR INDOOR / OUTDOOR PLACES

A thermometer will be used throughout the workplace to monitor temperature or heat index. Monitoring instruments will be maintained according to the manufacturer's recommendations and the instruments used to measure the heat index shall be based on the heat index chart "National Weather Service" https://forecast.weather.gov/MapClick.php?textField1=37.77&textField2=-122.42 (link will direct you to our city's campus).

Refer to the website for guidance on choosing an appropriate thermometer with humidity reading capability.

Temperature measurements shall include:

- The records shall include
    - the date,
    - time, and
    - specific location of all measurements.

[THIS AREA INTENTIONALLY BLANK]

- Temperature and heat index measurements shall be taken as follows:
    - Initial measurements shall be taken where employees work and at times during the work shift when employee exposures are expected to be the greatest.
    - Measurements shall be taken again when they are reasonably expected to be 10 degrees or more above the previous measurements where employees work and at times during the work shift when employee exposures are expected to be the greatest.
    - Records shall be retained for 12 months or until the next measurements are taken, whichever is later.
    - The records shall be made available to employees and designated representatives including representatives of the department/school/college at the worksite and upon request.
- Instruments used to measure the temperature or heat index shall be used and maintained according to the manufacturers' recommendations.
    - Instruments used to measure the heat index shall provide the same results as those in the NWS heat index chart.

[THIS AREA INTENTIONALLY BLANK]

- The University shall have effective procedures to obtain the active involvement of employees and their union representatives in the following:
    - Planning, conducting, and recording the measurements of temperature or heat index, whichever is greater, as required by subsection (e)(1).
    - Identifying and evaluating all other environmental risk factors for heat illness.

Control measures will be implemented when either of the following occurs:

- Indoor temperature or heat index is 87 degrees Fahrenheit or higher.
- Indoor temperature is 82 degrees Fahrenheit or higher and workers are either:
- Wearing clothing that restricts heat removal or
- Working in an area with high radiant heat.

EMERGENCY RESPONSE PROCEDURES

USF will implement the following emergency response procedures:

1. Ensure that effective communications by voice, observation, or cell phone is maintained so a supervisor, Public Safety, or 911 can be contacted. If necessary, the emergency blue phone located on campus can be used to reach Public Safety.
2. Responding to signs and symptoms of heat illness and notification procedures to Public Safety/911.
    a. If a supervisor observes, or any employee reports, any signs or symptoms of severe heat illness, the Supervisor will take immediate action.
    b. If the signs or symptoms are consistent with those of Heat Stroke, Public Safety and 9-1-1 must be notified immediately.
    c. An individual showing signs or symptoms of heat illness will be monitored and not left alone or sent home without being offered medical assistance.
3. In the event of a non-life-threatening emergency, the person will be transported to the nearest hospital for transportation.
4. In the event of a life-threatening emergency, Public Safety will direct the San Francisco Fire Department to the individual's location.

ACCLIMATIZATION

Acclimatization is the gradual and temporary adaptation of the body to work in the heat. The body needs time to adapt when temperatures rise suddenly, and a worker risks heat illness by not taking it easy when a heat wave or heat spike strikes, or when starting a new job that exposes the worker to heat to which the worker's body hasn't yet adjusted. Inadequate acclimatization can be significantly more perilous in conditions of high heat and physical stress. The following are additional protective procedures that will be implemented when conditions result in sudden exposure to heat that workers are not accustomed to.

1. The weather will be monitored daily. The supervisor will be on the lookout for heat waves, heat spikes, or temperatures to which workers haven't been exposed for several weeks or longer.
2. Where no effective engineering controls are in use to control the effect of outdoor heat on indoor temperature, all employees will be closely observed by a supervisor or designee during a heat wave for heat illness signs or symptoms.
3. 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 employment. Gradually increase shift length over the first one to two weeks.
4. The intensity of the work will be lessened during a two-week break-in period by using procedures such as scheduling slower paced, less physically demanding work during the hot parts of the day and the heaviest work activities during the cooler parts of the day (early morning or evening). Steps taken to lessen the intensity of the workload for new workers will be documented.
5. In a work area where the temperature or heat index, whichever is greater, equals or exceeds 87 degrees Fahrenheit; or
6. In a work area where the temperature equals or exceeds 82 degrees Fahrenheit for employees who wear clothing that restricts heat removal; or
7. In a high radiant heat area where the temperature equals or exceeds 82 degrees Fahrenheit.
8. Employees and supervisors will be trained in the importance of acclimatization, how it is developed, and how these company procedures address it.

TRAINING

Effective training in the following topics shall be provided to employees prior to commencing work that should reasonably be anticipated to result in exposure to the risk of heat illness. In addition to initial training, workers will be retrained annually.

Site-specific checklists should be reviewed by Supervisors with employees and names and dates shall be filled in to document on-site training (Appendix C and Appendix D).

Training will include the following: (see EHS website for specific details about University procedures)

1. 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).
2. Procedures to provide water, shade, cool-down rests, and access to first aid, as well as the employees' right to exercise their rights under this standard without retaliation.
3. The importance of frequent consumption of small quantities of water, up to four cups per hour, when the work environment is hot, and workers are likely to sweat more than usual in

the performance of their duties.

4. The concept, importance, and methods of acclimatization.
5. The different types of heat illness, and the common signs and symptoms of heat illness, and appropriate first aid to the different types of heat illness, and that heat illness can progress quickly from mild symptoms and signs to serious and life-threatening illness.
6. The importance of immediately reporting signs and symptoms of heat illness in themselves or their co-workers to their appropriate Supervisor.
7. The procedures for responding to signs or symptoms of heat illness and how to notify emergency personnel.
8. The procedures for requesting the emergency personnel response to a life-threatening heat illness. These procedures will include designating a person to be available to ensure that emergency procedures are invoked.

PREVENTION

The importance of prevention cannot be overstated.

- Employees who wait until symptoms appear before seeking shade and recovery are at significant risk of developing heat illness.

The effects of heat stress can be managed through:

- Taking frequent rest breaks,
- Regularly replenishing lost fluids and electrolytes,
- Drink 8 to 16 ounces of fluid before and 4 ounces every 20 minutes thereafter.
- Avoid diuretic, caffeinated, and alcoholic drinks (coffee, tea, soda) because they dehydrate your body.
- Drink cool water because the body absorbs it easier.
- Closely observing and monitoring workers for signs and symptoms of heat stress.
- Allowing time for the body to acclimatize.

Preventive measures also include performing the heavy manual work during the early or later parts of the day when the temperature is cooler.

- Use of cooling devices such as cool vests greatly reduces the amount of heat stress.
- Choose clothing that is light colored.

Do not expose bare skin to sunlight.

- Bare skin absorbs more heat than skin covered by clothing.

DISCIPLINARY ACTION

It is a violation of the California Labor Code to discharge or discriminate in any manner against employees for exercising their rights under this or any other provision offering occupational safety and health protection to employees.

All employees and contractors are required to follow the Plan.

- Failure to follow the Plan may result in disciplinary action for employees and termination of contract for contractors.

[THIS AREA INTENTIONALLY BLANK]

APPENDIX A: REQUIREMENTS FOR INDOOR AND OUTDOOR HEAT ILLNESS PREVENTION STANDARDS

Requirement	Outdoor Heat (T8CCR 3395)	Indoor Heat (T8CCR 3396)
Scope and Application	• Applies to outdoor workplaces	• Applies to indoor workplaces when the indoor temperature is greater than 82°F
Provide Clean Drinking Water	• Provide access to potable water that is fresh, suitably cool, and free of charge • Located as close as possible to work areas	• Provide access to potable water that is fresh, suitably cool, and free of charge • Located as close as possible to work areas and cool-down areas
Access to Shade and Cool-Down Areas	• For outdoor workplaces, shade must be present when temperatures are greater than 80°F. When temperatures are less than 80°F, shade must be available upon request • For indoor workplaces, provide access to at least one cool-down area which must be kept at a temperature below 82°F • Shade and cool-down areas must be: • Blocked from direct sunlight • Large enough to accommodate the number of workers on rest breaks so they can sit comfortably without touching each other • Close as possible to the work areas • For indoor workplaces, the cool-down areas must be kept at less than 82°F and shielded from other high-radiant heat sources	
Cool-Down Rest Periods	• Encourage workers to take preventative cool-down rest periods • Allow workers who ask for a cool-down rest period to take one • Monitor workers taking such rest periods for symptoms of heat-related illness	
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 • Reminding workers to drink water and take cool-down rest breaks	• *Not applicable to Indoor Workplaces*
Assessment and Control Measures	• *Not applicable to Outdoor Workplaces*	• Measure the temperature and heat index and record whichever is greater whenever the temperature or heat index reaches 87°F (or temperature reaches 82°F for workers working in clothing that restricts heat removal or high-radiant-heat areas) • Implement control measures to keep workers safe. Feasible engineering controls must be implemented first.

Monitoring the Weather	• Monitor outdoor temperature and ensure that once the temperature exceeds 80°F, shade structures will be opened and made available to the workers • When it is at least 95°F, implement high-heat procedures • Train supervisors on how to check weather reports and how to respond to weather advisories	• For indoor workplaces that are affected by outdoor temperatures, train supervisors on how to check weather reports and how to respond to hot weather advisories
Emergency Response Procedures	• Provide first aid or emergency response to any workers showing heat illness signs or symptoms, including contacting emergency medical services and/or Public Safety	
Acclimatization	• Closely observe new workers and newly assigned workers working in hot areas during a 14- day acclimatization period, as well as all workers working during a heat wave	
Training	• Employers must provide training to both workers and supervisors	
Heat Illness Prevention Plan	• Establish, implement, and maintain an effective written Outdoor Heat Illness Prevention Plan that includes procedures for providing drinking water, shade, preventative rest periods, close observation during acclimatization, high-heat procedures, training, prompt emergency response	• Establish, implement, and maintain an effective written Indoor Heat Illness Prevention Plan that includes procedures for providing drinking water, cool-down areas, preventative rest periods, close observation during acclimatization, assessment and measurement of heat, training, prompt emergency response, and feasible control measures

Source: California Department of Industrial Relations, Division of Occupational Safety and Health. (2024). Comparison of Indoor and Outdoor Heat Illness Prevention Standards [Chart]. Cal/OSHA Heat Illness Prevention Guidance and Resources. https://www.dir.ca.gov/dosh/heatillnessinfo.html

APPENDIX B: Heat Illness Fact Sheet

Working in hot environments can result in heat illness, a group of medical conditions caused by the body's inability to cope with heat. Heat illness includes heat cramps, heat exhaustion, fainting, and heat stroke. All university employees who work outdoors may be at risk for heat illness including, but not limited to, field researchers, grounds crews, maintenance workers, and special event staff.

The Heat Illness Fact Sheet provides information about heat illness and establishes USF campus and field procedures for preventing and responding to it. Supervisors are responsible for ensuring that the following measures are taken to prevent heat illness among employees and completing the Work Planning and Site Checklist to document that controls are in place whenever temperatures are expected to reach 80° F or higher.

The fact sheet covers the following procedures:

- **Taking Breaks**
- **Allowing for Acclimatization**
- **Providing Access to Shade**
- **Drinking Water**
- **Identifying, Evaluating, and Controlling Exposures**
- **Monitoring Weather Conditions**
- **Additional Heat Controls**

In addition, the fact sheet also elaborates on the following symptoms of heat illness as well as their treatment:

- **Head Edema**
- **Heat Rash**
- **Heat Cramps**
- **Heat Exhaustion**
- **Heat Stroke**

Environmental Risk Factors

Working conditions that contribute to the risk of heat illness include air temperature, relative humidity, radiant heat from the sun or other sources, conductive heat from the ground or other sources, air movement, workload severity and duration, and clothing worn by employees

Personal Risk Factors

Factors such as an employee's age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications may affect the body's water retention and other physiological responses to heat. Employees suffering from heat illness, or believing a preventative recovery period is needed, must be provided 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. Such access must be permitted at all times.

Procedures for Responding to Heat Illness

Supervisors should reiterate to all employees the importance of immediately reporting any symptoms or signs of heat illness in themselves or co-workers and should remind employees what to do if emergency medical treatment is needed. Procedures for contacting emergency medical services, and if necessary, transporting employees to a point where they can be reached by an emergency medical provider, must be provided.

For any life-threatening emergency, call 911. In the event of an emergency, reach out to Public Safety through their emergency hotline at (415) 422-2911. The nearest emergency room to the campus is at St. Mary's, 2250 Hayes Street, Suite 302.

Obtaining Medical Services

Supervisors must ensure that employees are able to provide clear, concise directions to their work site. In remote field locations, developing procedures for emergency medical services may require extensive planning, and supervisors must ensure that employees are informed of exactly how and where medical attention may be received. At remote work sites, at least one member of your group must have current first aid training.

Documented Training

Supervisors and employees must be provided with training on the information summarized in this fact sheet before they begin work in hot environments. All such training must also be documented. Departments with employees who are likely at risk of heat illness should refer to this fact sheet as part of their Injury and Illness Prevention Program (IIPP).

Further Information

For additional information on heat illness, contact the Office of Environmental Health & Safety at (415) 422-5884, or by contacting Joe Murphy at murphyj@usfca.edu.

APPENDIX C: Work Planning & Site Checklist - Outdoor Work

When temperatures exceed 80°F, supervisors/managers will conduct the Work Planning and Site Checklist-Outdoor Work to ensure we are taking the necessary steps to prevent employee heat-related illness. Supervisors shall conduct discussions about how to proceed with work conditions while referencing both the Work Planning and Site Checklist-Outdoor Work and the Heat Illness Fact Sheet.

In order for workplaces to ensure safe workplace procedures outdoors during periods of high heat, they must meet the requirements for the fields listed below:

- **Drinking Water Availability**: At least one quart (4 cups) is required per employee per hour for the entire shift, i.e., an 8-hour shift requires 2 gallons per employee. Water must be fresh and suitably cool.
- **Shade**: Shall be made available when the temperature exceeds 80° F by any natural or artificial means that does not expose employees to unsafe or unhealthy conditions. Shade is not considered adequate when the heat in the area does not allow the body to cool (e.g., sitting in a hot car).
    - Employees are permitted and encouraged to take cool-down rest breaks in the shade when they feel the need to do so and shall be monitored for signs and symptoms of heat illness.
- **Emergency Medical Procedures**: All employees must be able to provide clear and precise directions to the work site
- **Established High Heat Procedures**: If possible, limit strenuous tasks to morning or late afternoon hours. Rest breaks in the shade must be provided at least 10 minutes every 2 hours (or more if needed). Effective means of communication, observation, and monitoring for signs of heat illness is required at all times.
    - This is required when temperatures are expected to exceed 95° F.

APPENDIX D: Work Planning & Site Checklist - Indoor Work

When temperatures exceed 80°F, Supervisors/managers will conduct the Work Planning and Site Checklist-Indoor Work to ensure we are taking the necessary steps to prevent employee heat-related illness. Supervisors shall conduct discussions about how to proceed with work conditions while referencing both the Work Planning and Site Checklist- Indoor Work and the Heat Illness Fact Sheet.

In order for workplaces to ensure safe workplace procedures outdoors during periods of high heat, they must meet the requirements for the fields listed below:

- **Drinking Water Availability**: Suitably cool, fresh water is provided as close as practicable to the work area as well as in indoor cool-down areas. At least one quart (4 cups) is required per employee per hour for the entire shift, i.e., an 8-hour shift requires 2 gallons per employee. Frequent consumption of water shall be encouraged.
- **Access to Cool-down Areas**: One or more cool-down areas less than 82 degrees Fahrenheit must be

provided when employees are present.

  - The area must be large enough to accommodate the number of employees resting, so they can sit in normal posture without physical contact with others. The area must be as close to the work site as practicable.
  - Employees shall be encouraged to take preventative rests. Supervisors shall monitor employees and ask if they are experiencing symptoms of heat illness.
  - If symptomatic, employees shall not return to work until symptoms have abated and they have remained in the cool-down area for at least 5 minutes. If an employee shows signs of heat illness, first aid or emergency response shall be provided.

- **Engineering Controls**: When indoor temperatures reach or exceed 87°F, engineering controls are used to reduce and maintain either, or both, the temperature and heat index in the work area to below 87°F (or lowest possible level) when employees are present, or reduce the temperature to below 82°F (or lowest possible level) when employees wear clothing that restricts heat removal or work in high radiant heat areas.
- **Administrative Controls**: When engineering controls are not possible, the following administrative controls have been applied to the work area:
  - **Acclimatization**: The supervisor closely observes new employees working in high-heat conditions until they are used to the temperature. Start with short work shifts and gradually increase the duration over 14 days.
  - **Workplace Modification**: Provide shorter work periods, rotation out of high-heat work areas, or work during cooler periods.
  - Work in pairs or groups to monitor each other for signs of heat illness
- **Personal Protective Equipment (PPE)**: When engineering and administrative controls are insufficient, cooling devices should be worn by employees to protect them.
- **Emergency Response Procedures**: Supervisors will provide for first aid treatment in the event of employee heat exhaustion, and are prepared to summon Emergency Medical Services (EMS) for severe heat illness, including heat stroke, or other conditions requiring immediate medical care. Means of effective communication have been established between employees and supervisors or emergency personnel when medical services are necessary.
- **Monitoring Employees with Symptoms**: Employees exhibiting 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.
- **Personal Risk Factors for Heat Illness**: Review with employees personal risk factors that may contribute to heat illness such as being overweight, diabetes, high blood pressure, heart disease, etc. (see the checklist for additional considerations).
- **First Aid and Emergency Response:** See link for descriptions of the two forms of Heat Illness (Heat Exhaustion and the more serious Heat Stroke).