

Heat Illness Prevention Plan

Objective: To protect employees who work outdoors or in hot environments from heat illness

Introduction

[**Organization Name**] understands that employees who work in hot environments for extended periods of time are at risk for heat-related illnesses and that every employee has the right to a heat-illness-free workplace.

[**Organization Name**] is committed to taking every precaution to protect employees who might be exposed to heat stress, including establishing safe work practices, heat illness prevention controls, and emergency preparedness, which will be detailed in this plan. [**Organization Name**] complies with local, state, and federal regulations and follows best practices.

Terms:

- **Heat stress:** Stress on the body due to high temperatures or exertion, which can lead to heat illness if unchecked
- **Heat illness:** Illnesses that develop as a result of heat stress, including heat cramps, heat exhaustion, and heat stroke
- **Acclimatization:** The physical process of adapting to a different thermal environment, allowing a better toleration of heat
- **Heat wave:** Consistent temperatures over 80°F or anytime the temperature is 10° higher than the average high daily temperature in the preceding five days

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Responsibilities

Management:

Management is responsible for the following:

- The formation and implementation of [**Organization Name's**] Heat Illness Prevention Plan
- Making the written plan available to all employees on site in both English and any other languages understood by the majority of employees
- Providing sufficient water, shade, rest areas, and other heat illness controls for employees
- Establishing work practices to minimize heat stress risks, such as acclimatization, required rest periods, employee monitoring, and strategic scheduling
- Providing access to first aid and emergency response procedures
- Assuring that employees will not experience retaliation for reporting heat illness symptoms or unaddressed heat stress hazards
- Designating a procedure for contacting emergency services, including who is responsible for contacting them
- Providing training to any employee who could possibly be exposed to the risk of heat illness before the employee starts work on:
 - Plan requirements
 - Work practices
 - Heat illness prevention, detection, and treatment
 - Who to contact in an emergency
- Providing to all supervisors a copy of this plan and training them in the following:
 - Requirements of the Heat Illness Prevention Plan and how to implement these requirements
 - Procedures that must be followed when an employee exhibits symptoms of a possible heat illness, including first aid and emergency procedures
 - How to monitor weather conditions, check extended weather forecasts, and respond to hot weather advisories

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Plan Administrator:

[Responsible Person] shall administrate the Heat Illness Prevention Plan for **[Organization Name]**. The Plan Administrator is responsible for the following tasks:

- Developing and overseeing the **[Organization Name]** Heat Illness Prevention Plan
- Conducting a heat stress hazard assessment of the grounds and facilities
- Determining control methods to eliminate or reduce the risks
- Maintaining plan records
- Reviewing this policy at least once a year and updating it as needed

Supervisors:

Supervisors are responsible for the following:

- Implementing the Heat Illness Prevention Plan as set out by the employer
- Completing all necessary heat illness prevention training
- Knowing how to monitor employees for the signs and symptoms of heat illness and how to follow emergency response procedures
- Knowing how to monitor weather reports and respond to heat advisories
- Reporting any heat stress hazards that need to be addressed

Employees:

Employees are responsible for the following:

- Understanding their right to a heat stress-free workplace and what heat stress mitigation steps to expect from their organization
- Receiving appropriate training from their employer
- Knowing their role in heat-illness prevention and following guidelines to mitigate their risks
- Being able to recognize the symptoms of heat illness and immediately reporting them
- Reporting heat stress hazards that have not been addressed by the heat illness prevention plan

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Hazard Assessment

[Responsible Person] shall conduct the hazard assessment for [Organization Name].

Conduct a heat stress hazard assessment of the workplace and do job hazard analyses.

Determine how much heat and exertion employees are likely to be exposed to based on their work.

Factors that can increase heat stress include the following:

- Temperatures at the worksite
- Humidity
- A lack of air movement and exchange
- The amount of time employees spend working in the heat
- The time of day work takes place
- Sources of radiant heat (e.g., sunlight, fire, or a hot furnace)
- Work that produces heat (e.g., welding)
- Physical contact with warm or hot objects or liquids
- The clothing and PPE employees are required to wear
- Physically strenuous work

Use the results to determine appropriate controls for mitigating hazards whenever possible, for planning acclimatization, and for using scheduling to limit employee exposure.

Worksite observations:

[Responsible Person] shall conduct worksite observations to assure that everyone follows heat illness prevention procedures and that hazards are sufficiently controlled.

Training

[Responsible Person] shall administrate the training program for [Organization Name] and keep training records.

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Training requirements:

Both employees and supervisors must be trained on the topics below prior to beginning work.

- Training must be in a language the employees and supervisors understand.
- Refresher training is required over time or if the program is not followed or remembered.
- If discrepancies are found between work practices and the information contained in the training, either the training or the work practices (as appropriate) must be updated to match the other.

Training topics:

- Employees' right to a heat-stress-free workplace
- The environmental, behavioral, and personal risk factors for heat illness, such as radiant heat sources, exertion, clothing and PPE, and use of alcohol or drugs
- Types of heat illnesses, common symptoms, and appropriate emergency response for each
- The knowledge that mild symptoms may quickly become more severe or life-threatening
- The importance of immediately reporting any signs or symptoms of heat illness to the supervisor
- The employer's responsibility to provide shade, water, access to first aid, and cool-down rests during work and the employee's freedom to exercise their rights under this standard without fear of retaliation
- The employer's heat stress plan and its procedures:
 - Procedures for employees who are newly assigned to work in high heat areas
 - The organization's acclimatization methods
 - Heat wave procedures
 - Heat illness and emergency response, including contact information
- The importance of frequent consumption of water and the taking of rest breaks
- How heat illness prevention applies to employees' specific tasks

Supervisors shall be additionally trained on the following procedures:

- How to respond to signs of heat illness in employees
- How to make use of weather reports and hot weather advisories
- How to assist the employer in enforcing the heat illness prevention plan

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Increasing training effectiveness:

- **[Designated Person]** will hold short daily meetings with employees and supervisors to go over basic safety information and specific hazards, such as the current weather. **[Note: This is an optional best practice.]**
- If a heat wave or high heat is anticipated, supervisors and employees should be warned prior to their shifts and reminded of the special high heat procedures in place.
- Training will include question and answer sessions and practical demonstrations to assure understanding. **[Note: This is an optional best practice.]**

Drinking Water

Employees must be given access to potable drinking water at no charge.

[Responsible person] is in charge of distributing and replenishing water. **[Note: This is an optional best practice.]**

Water shall be placed **[Insert Locations Here]**. **[Note: Locations should be as near as possible to where employees are working, and there should be enough locations so employees will have sufficient water. Placing water only in designated shade areas may not be enough.]**

The water shall have the following qualities:

- Fresh and pure
- Free of taste or smell that would discourage employees from drinking it
- Comfortably cool
- Obtained from an approved source (e.g., Hoses must be government-approved and wells must be tested.)

Further requirements:

- The water must be sufficient for the number of employees. Employers must provide at least one quart of water per employee per hour of work for the entire shift.
- The water must be replenished before employees need to report it or before they feel the need to ration their consumption.

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- During a heat wave, the water must be replenished more often to keep it available and cool.
- Water containers (and all spouts and levers) will be kept clean.
- Employers will provide single use drinking cups. **[Note: This is an optional best practice.]**
- Employers will provide accessible sanitation facilities. **[Note: This is an optional best practice.]**
- As needed, as employees move, water will be moved closer to them. **[Note: This is an optional best practice.]**

Supervisors are responsible for the following:

- Drink sufficient water during the shift.
- Also, drink sufficient water before and after work. **[Note: This is an optional best practice.]**
- Encourage the frequent drinking of small amounts of water throughout the shift. In high heat environments, remind employees that drinking extra water may be necessary.
- Discourage the choosing of drinks with caffeine or sugar that may possibly dehydrate employees instead of water. Also, discourage the drinking of alcohol.
- Monitor the water supply.
- If employees become dehydrated and are unable to alleviate symptoms with the steps below, get them immediate medical attention.

Employees are responsible to do the following:

- Drink up to 4 cups per hour, especially when the weather is hot.
- Also, drink sufficient water before and after work. **[Note: This is an optional best practice.]**
- Be aware that in high heat situations, you may need to drink more.
- Monitor yourself for signs of dehydration. If you feel dehydrated:
 - Inform your supervisor.
 - Rest in the shaded resting area.
 - Drink water in small amounts but frequently.

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Access to Shade

Access to shaded areas will be provided to employees as needed. Employees are encouraged to use these areas when they feel overheated. Use of shaded areas must always be permitted.

- **[Responsible Person]** shall oversee proper implementation of the shaded areas.
- **[Responsible Person]** will communicate to employees the current location of shaded areas every day. **[Note: This is an optional best practice.]**
- The type of shade provided is **[describe shaded areas here]**. **[Note: If multiple types of shade are provided or if it depends on the day, give an overview of the options that may be used.]**
- Shaded rest areas are located **[insert locations here]**. **[Note: If the locations are permanent, consider creating a map for employees. If the locations depend on the day, list the spots where they might be, or give an overview.]**

Shaded area requirements:

- Shade must be strong enough to cool employees down. Other shadows should not be visible in the shade.
- Shade will be provided by the employer when the air temperature exceeds 80°F.
- If the temperature is less than 80°F, shade should still be available and must be provided upon employee request.
- **[Responsible Person]** will monitor when the air will exceed (and is exceeding) 80°F.
 - Air will be monitored hourly at the worksite and the shade will be set up immediately if 80°F is exceeded. **[Note: This is one sample option.]**
 - If the temperature is expected to exceed 80°F, shade will be set up at 5:00 the previous night. **[Note: This is another sample option.]**
- It should be located as close as is practical to areas where employees are working.
- Shade must be easy to access.
- The shaded area must not be unsafe, unhealthy, or insufficiently cool. Nothing about it should discourage access or use.
- Shaded areas should be large enough to accommodate all employees who are on meal, rest, or recovery periods without crowding. (i.e., Employees should not be in contact with each other or unable to sit normally.)

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Shaded area requirements (continued):

- Employees will be provided with places to sit not directly on the ground, as this will allow better cooling. **[Note:** This is an optional best practice.]
- Employers and supervisors must not pressure employees to leave the site or use their air-conditioned vehicles for lunch: there must be enough room for all employees who wish to stay on-site for lunch.
- If shaded areas cannot be a permanent structure, alternate shade solutions that provide equivalent protection can be used. **[Note:** *Examples of shade types can be found here:* https://www.dir.ca.gov/dosh/etools/08-006/EWP_shade.htm]
- If natural vegetation is used for shade, **[Responsible Person]** will evaluate the shade for effectiveness.

Employee responsibilities:

Employees are responsible to do the following:

- Take ordinary rest breaks in the shaded area.
- Monitor themselves for signs of heat stress, and go to the shaded area when they need to cool down. (This is a “preventive cool-down rest period.”)
- Report any problems with the shaded area to **[Responsible Person]**.

When employees use shaded areas for a preventive cool-down:

- **[Responsible Person]** will do the following:
 - Encourage employees to stay in the shade until they feel better.
 - Monitor employees.
 - Ask them if they are experiencing symptoms of heat illness.
 - If an employee reports symptoms of heat illness, activate emergency services for the employee.
- The employee will not be sent back to work before symptoms have ended, and at a minimum given at least 5 minutes to rest.

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Monitoring and Scheduling

Monitoring:

- Monitor employees for signs of heat illness.
- **[Responsible Person]** will monitor when the air will exceed (and is exceeding) 80°F.
- Throughout the summer, weather and temperature will be monitored two weeks ahead, and the work schedule will be planned to accommodate the expected weather.

Scheduling:

- Scheduling accommodations may include:
 - Working during cooler hours
 - Working at night
 - Stopping work early
 - Rescheduling the entire job
 - Increased breaks
- In general, reschedule strenuous jobs for the coolest part of the day.
- Special precautions are required for temperatures about 80°F, temperatures above 95°F, and heat waves.

Acclimatization and New Employee Procedures

[Organization Name] requires employees to be acclimatized in order for them to better tolerate heat in the workplace.

Acclimatization is the physical process of adapting to a different thermal environment, allowing a better toleration of heat. Acclimatization procedures require gradual exposure that gives the employee time to adjust to each level of exposure.

Acclimatization is essential for new employees, but is necessary for all employees when the temperature significantly changes.

Heat stress is much more likely if these procedures are not followed.

[Responsible Person/the supervisor] is responsible for observing new employees during their first 14 days of employment in high heat areas.

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Re-acclimatization:

Re-acclimatization is necessary if:

- Employees are away for a week or more.
- The temperature increases significantly.

Heat Wave and Extreme Heat Procedures

Heat wave procedures:

- A heat wave is defined as consistent temperatures over 80°F or if the temperature is 10° higher than the average daily temperatures in the preceding 5 days.
- Assign supervisors to closely observe and monitor employees during a heat wave.
- Institute a ratio of one supervisor to 20 or fewer employees, a mandatory buddy system, or a consistent practice for supervisors to check on employees.
- Pre-shift meetings to review high heat procedures with employees are recommended.

Extreme heat procedures:

When work site temperatures equal or exceed 95°F, the employer will enact extreme heat procedures:

- Changes in normal emergency response procedures include **[Insert any changes, or delete this bullet if not applicable.]**.
- In high heat conditions, employees will be closely observed by **[their supervisor or designated person]** for signs of heat illness.
- New employees will be supervised for acclimatization. However, be aware that acclimatized employees are still at risk for heat illness.
- Employees' heart rates and body temperatures will be monitored. Shorten work cycles and increase rest periods if body temperatures are over 98.6°F or heart rates are over 110 beats per minute. **[Note: This is an optional best practice.]**

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- Effective communication and monitoring will be assured by **[Insert the method that will be used]**. Choose *at least one* of the following options: instituting a ratio of one supervisor to 20 or fewer employees, a mandatory buddy system which requires training, a communication system to remain in regular contact with each employee.].
- Communications between employees and supervisors will be established and maintained, so that employees can quickly contact a supervisor when necessary, by **[Insert the method that will be used]**. **Note:** *If cell phones are used, there must be reception.*]
- Mandatory 10-minute break periods are required for every two hours worked. Supervisors must enforce this rule.
- Pre-shift meetings will occur to review procedures and to remind employees to drink water and take cool-down rests if needed.
- Supervisors must remind employees to rest and drink water. Employees should drink more water than usual.
- Convective heat will be controlled by **[Insert the method that will be used]**. *For example, decreasing air velocity and wearing clothing to cover exposed skin are helpful.*]

Emergency Response Procedures

[Organization Name] is dedicated to providing appropriate care for all employees who report or show symptoms of heat illness.

Roles and contacts:

- The following persons are designated to call for emergency medical services: **[Responsible Persons]**
- In an emergency, if no designated person or supervisor is available to call for emergency services, all employees are permitted to do so directly.
- To call emergency services, **[Appropriate Directions, e.g., "Call 911"]**.
- Employees feeling or witnessing signs of heat stress should contact **[Designated Person or a Supervisor]** by **[Method of Contact]**. **[Note:** *If there is no reception for electronic devices, another method should be in place.*]
- The following individuals are able to provide first aid: **[Applicable Names]**

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- **[Responsible Person(s)]** will evaluate whether there is a language barrier at the worksite and make plans for how this will be overcome in an emergency. **[Note: This is an optional best practice.]**
- Medical facilities are located: **[Medical Facilities Used and Their Locations]**

Emergency preparation:

- The employer shall assure that effective communication is maintained with employees so that they can contact a supervisor or emergency medical services when necessary.
- Employers will assure that supervisors or designees are able to provide clear and precise directions to the worksite and have a reliable method of communication.
- Employers will assure that the work area is staffed with a person able to administer first aid.
- Employers will assure all designated individuals are trained and ready to respond to emergencies.
- Communication methods will be checked at the beginning of each shift. **[Note: This is an optional best practice.]**

Emergency response procedure:

- If an employee shows signs of heat illness, they will be monitored and shall not be left alone or sent home without being offered first aid or emergency medical services.
- If an employee reports symptoms of heat illness or if a supervisor or coworker sees evidence of the symptoms, the supervisor will take **immediate action** appropriate to the symptoms. **[If the supervisor will summon someone more experienced in first aid, include this here.]**
- If symptoms indicate **severe** heat illness, the employer will activate emergency response procedures.
- **[Insert information about who will respond to emergencies.]**
- **[If employees will need to be transported to a place where they can be reached by emergency personnel, insert information about how/where they will be transported.]**
- **[If mobile crews are used, include a description of how their location will be communicated to emergency responders, e.g., with maps.]**

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Heat Illness Detection and Response

Heat cramps:

This affects employees who have perspired so heavily that they have depleted the body's water and salt.

Symptoms:

- Muscle cramps
- Pain or spasms in the abdomen, arms, or legs

First aid:

The victim should do the following:

- Sit and rest in a cool place.
- Drink sports drinks, juice, or water combined with food.
- After recovery, do not begin strenuous work again for several hours.
- Seek medical help if you have heart problems, are on a low-sodium diet, or if you don't feel better after one hour.

Heat exhaustion:

This is the body's response to not being able to cool itself efficiently due to dehydration. Without prompt treatment, this condition can lead to heat stroke.

Symptoms:

- Rapid, weak pulse
- Headache
- Heavy sweating
- Extreme weakness
- Dizziness or fainting
- Irritability

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- Nausea or vomiting
- Cold, pale, clammy skin

First aid:

- Help the victim to do the following:
 - Sit and rest in a cool place.
 - Drink small amounts of cool water.
 - Take a cool shower or bath or apply ice packs.
- Monitor the victim carefully. If they do not improve within 30 minutes, get medical help.
- Confusion, vomiting, or fainting may indicate a more serious condition. Seek medical attention immediately in this case.

Heat stroke:

This condition occurs when the body is unable to control its temperature as a result of prolonged exposure or physical exertion in high temperatures. Untreated, it can quickly cause death or disability.

Symptoms:

- High body temperature
- Strong, rapid pulse
- Confusion
- Loss of coordination
- Hot, red, dry or moist skin
- Nausea and vomiting
- Seizure or unconsciousness

First aid:

- Contact emergency medical services immediately.
- Move the victim to a cool, shaded area.

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- Remove any excess clothing.
- Cool the victim's body as quickly as possible, using ice or cold water.
- If the victim is able to drink, give him or her cool fluids.

Other Heat Controls

[Insert information about engineering controls in place. Examples of controls that may be appropriate include:

- *Ventilation that cools and/or moves the air.*
- *Reflective screens or shields installed between the radiant heat source and the employee.*
- *Insulation for hot indoor surfaces.]*

Clothing and PPE:

[Note: *If the work has certain clothing requirements or restrictions, please alter this section.]*

- Employees should choose clothing that is reflective, light-colored, lightweight, loose-fitting, and breathable.
- Employee clothing should cover the exposed parts of the body.
- In direct sun, a hat with a wide brim or bill may be helpful.
- The organization shall provide **[insert any specialized cooling garments as applicable—e.g., ice vests, water-cooled garments, phase change liquid cooling vests, or cooling cloths made from special fabrics]**.

Managing employee risk factors:

Employees can do the following:

- Be aware of how your health can affect your risk of heat stress. The following increases risk:
 - A poor level of physical fitness
 - Obesity
 - Chronic or acute illnesses
 - Conditions such as diabetes, heart disease, or high blood pressure

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- Certain medications, such as diuretics
- Age, particularly if older than sixty
- Maintain your health outside of work.
- Be aware of the effects of your medications.
- Drink adequate amounts of water.
- Eat light, cool meals during work shifts, and save heavy meals until after the shift is over.
- Do not skip meals: food helps replace electrolytes lost when sweating.
- Take breaks as needed.
- Do not consume alcohol before working in a hot environment.

Note: While employees should be encouraged to discuss personal health risk factors with their healthcare providers, this information should be kept private and not discussed during training.