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| **Heat Illness Prevention Program** | **Revision Date**: 03-2021 |
| **Purpose**: This program is in place to protect all employees from heat hazards posed by working in the outdoor environment. | **Topics Covered*** Identifying work environments
* Monitoring weather conditions
* Employee acclimatization
* Providing clean drinking water
* Providing adequate shade
* Addressing high heat procedures
* Emergency procedures
* Training
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Heat Illness Prevention Program

When the body loses it’s ability to maintain an internal body temperature within a few degrees, the body starts to overheat if the heat is not released by sweating to cool the body. During sweating, the body can easily release one quart of water each hour, resulting in dehydration. The loss of water and salts needed for the muscles to work, may also result in muscle cramping. Prolonged periods of dehydration can cause the person to become weak, tired and confused.

We are committed to preventing heat-related illnesses that can occur to employees working outdoors by implementing the following key steps:

* Identifying outdoor work environments and conditions
* Monitoring weather conditions
* Monitoring employee acclimatization for working outdoors in heat
* Providing clean drinking water
* Providing adequate shade
* Addressing high-heat procedures
* Handling an ill employee and initiating emergency procedures
* Providing supervisor and employee training

**Assignment of Duties**

The following person(s) have the authority and responsibility for implementing the provisions of this program. (This may include the program administrator, safety coordinator, department supervisor(s), foreman, field supervisor, and crew leader.)

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**Identifying Outdoor Work Environments and Conditions**

The following positions have been identified as working in outdoor environments that could potentially expose employees to illnesses associated with high heat.

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| DEPARTMENT | JOB TITLE |
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**Monitoring the Weather**

*Weather forecast*

When environmental risk factors create the possibility for heat illness, the responsible person(s), identified in *assignment of duties*, will be trained and instructed to monitor the forecast for the work area with the aid of:

* Internet ([www.nws.noaa.gov](http://www.nws.noaa.gov)) or
* By calling the National Weather Service phone number (Los Angeles 805-988-6610, #1), or
* The Weather Channel TV Network

The work schedule should be planned in advance, taking into consideration whether high temperatures or a heat wave is expected (generally whenever the temperature is expected to reach 70 degrees Fahrenheit or height). Weather *monitoring will be conducted year-round*.

**The following procedures will be followed by the responsible person(s) to ensure safe worksites**:

1. Forecasted temperature and humidity for the worksite will be reviewed and compared against the National Weather Service Heat Index to evaluate the risk level for heat illness. A determination will be made of wehter or not employees will be exposed to a temperature and humidity characterized as either “extreme caution” or “extreme danger” for heat illnesses.
2. It is important to keep in mind that the temperature at which these warnings occur must be lowered as much as 15 degrees if the employees under consideration are in direct sunlight.
3. A thermometer will be used at the job site to monitor to sudden increase in temperature and to ensure that once the temperature exceeds 80 degrees Fahrenheit, shade structures will be opened and made available to the employees.
4. Once the temperature equals or exceeds 95° F, additional preventive measures such as the high-heat procedures are implemented.
5. Additional steps will be taken to address these hazards including increasing number of water and rest breaks, stopping work early, or working during cooler hours of the day.

**Providing Clean Drinking Water**

Fresh, pure, and suitably cool drinking water will be provided to all employees working in an outdoor environment when temperatures exceed 80 degrees Fahrenheit. Guidelines below are to be implemented at each work site:

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|[ ]  Dispensable water containers (5 to 10 gallons) will be brought to the site so that two quarts per employee are available at the start of the shift.  |
|[ ]  Paper cones or other disposable cups will be made available to employees and kept clean until ready to use.  |
|[ ]  Water levels will be checked every hour. When the water level within a container drops below 50 percent, containers will be refilled with cool water. |
|[ ]  Water containers will be located as close as practicable to where employees are working to encourage the frequent drinking of water (one quart or 4 cups per hour). |
|[ ]  Employees will be reminded of the location of water coolers and importance of drinking water frequently. |
|[ ]  On days when temperature exceeds 80 degrees Fahrenheit, or during a heat wave, pre-shift meetings will be conducted before commencement of work to remind employees:* Drink plenty of water
* Take a cool-down rest when necessary
* Water breaks will be increased
* Signs and symptoms of heat illness
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|[ ]  Water from non-approved or non-tested water sources is not acceptable. Hoses or connections used must be approved for potable drinking water systems as shown on manufacturer’s label. |

**Employee Acclimatization**

Acclimatization is the temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. The body needs time to adapt when temperatures rise suddenly. An employee 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 employee to heat.

1. The supervisor will monitor weather daily staying aware of high temperatures of 80 degrees Fahrenheit and at least 10 degrees higher than the average high daily temperature in the preceding five days) early in the season or increases in temperatures to which employees are unaccustomed for several weeks or longer.
2. When necessary, the workday will be cut short or rescheduled for another day.
3. During the summer months, the work shift may start earlier in the day or later in the evening to reduce exposure.
4. New employees who have been recently assigned to a high heat area will be closely observed by their supervisor or designee for the first 14 days. Work may be lessened during a two-week break-in period by scheduling slower-paced, less physically demanding work during hot portions of the day (early morning or evening). Steps taken to lessen the intensity of the workload for new employees will be documented.
5. New employees will be assigned a buddy or experienced co-wroker, so they can observe each other closely for discomfort or symptoms of heat illness.
6. During any heat wave, we will observe all employees closely (or maintain frequent communication via phone or radio) and watch for possible signs of heat illness.
7. Employees and supervisors/responsible persons will be trained on the importance of acclimitization, how it is developed, and how these company procedures address it.

**Providing Adequate Shade**

When the outdoor temperature in the work area exceeds 80° F, we will provide and maintain one or more areas with shade at all times while employees are present. These areas will either be open to the air or provided with ventilation or cooling. We will also provide shade when an employee specifically requests it, even when the temperature does not exceed 80° F. Employees will be allowed and encouraged to take a preventative cool-down rest in the shade for a period of no less than five minutes anytime they feel the need to protect themselves from overheating.

Depending on the worksite, shade may be provided by trees or buildings. When natural shade is not available, we will provide other acceptable means of shade such as umbrellas, tents, canopies, etc., to block the sunlight. In these instances, we will provide chairs, benches, sheets, towels, or any other items to allow employees to sit and rest without contacting the bare ground. We will also relocate the shade structure as the work environment or location changes.

The amount of shade present will be at least enough to accommodate the number of employees on recovery or rest periods, so they can sit in a normal posture, fully in the shade without having to be in physical contact with each other. The shaded area will be located as close as practicable to the areas where employees are working. Subject to the same specifications, the amount of shade present during meal periods shall be at least enough to accommodate the number of employees on the meal period who remain onsite.

In instances where natural shade is not available, supervisors/responsible persons will:

* Bring sufficient shade structures to the site
* Ensure sufficient shade structures are opened and placed as close as practical to the workers
* Point out the daily location of the shade structures to the workers, as well as allow and encourage employees to take a preventative cool-down rest in the shade when they feel the need to do so to protect themselves from overheating
* Ensure the shade structures are relocated to follow along with the crew and double-check they are as close as practical to the employees so access to shade is provided at all times

If it is infeasible or unsafe to have shade structures, or to have shade present on a continuous basis, we will provide alternative procedures with equivalent protection.

In situations where it is not safe to provide shade (example winds of more than 40 mph), we will document how the determination was made and identify what steps will be taken if someone requests shade, or we will identify other cooling measures with equivalent protection. Cooling measures other than shade may be used if they are as effective as shade in allowing employees to cool.

An employee who takes a preventative cool-down rest will be:

* Monitored and asked if he or she is experiecing symptoms of heat illness
* Encouraged to remain in the shade
* Instructed to remain in the shade until any signs or symptoms of heat illness have abated (not less than 5 minutes in addition to the time needed to access the shade)

If signs or symptoms of heat illness are exhibited in an employees while takinga preventative cool-down rest or during a preventative cool-down rest period, we will provide appropriate first aid or emergency response.

**Handling a Heat Wave**

A heat wave means any day in which the predicted high temperature for the day will be at least 80 degrees Fahrenheit **and** at least ten degrees Fahrenheit *higher than the average high daily temperature* in the preceding five days.

Select Procedures that will be implemented:

* During a heat wave or heat spike, the work day will be cut short or rescheduled (conducted at night or during cooler hours)
* During a heat wave or heat spike and before starting work, tailgate meetings will be held to review the company heat illness prevention procedures, the weather forecast, and emergency response procedures.
* In addition, the supervisor will provide workers with an increased number of water and rest breaks. The supervisor will ensure workers stop and take these breaks and closely observe all workers for signs of heat illness.
* The responsible person will also assign each employee a “buddy” to watch for signs and symptoms of heat illness and ensure emergency procedures are initiated when someone displays signs of heat illness.

**Addressing High-heat Procedures**

When the outdoor temperature equals or exceeds **95° F**, High Heat Procedures will be implemented.

Employees will be monitored for early signs and symptoms of heat illness to help ensure sick employees receive treatment immediately and progression to serious illness is prevented. Additional measures that will be taken include:

* **MEETINGS**: Pre-shift meetings will be held before work commences to review the high heat procedures.
* **WATER**: Supervisors will remind employees to drink plenty of water throughout the work shift and remind them to take preventative cool-down rest breaks when needed.
* **COMMUNICATION**: Effective communication either by voice, direct observation (work crews of 20 or fewer), or electronic means will be maintained so that employees at the worksite can contact a supervisor when necessary.
* **OBSERVATION:** One or more of the following will be selected in order to observe/monitor employees:
	+ Supervisor or designee observation of 20 or fewer employees, or
	+ Mandatory buddy system (when there are more than 20 employees at a site), or
	+ Regular communication with sole employee (by radio or cellular phone), or
* **AUTHORIZED EMPLOYEE**: Designating one or more employees at each worksite as authorized to call for emergency medical services, and allowing other employees to call for emergency services when no designated employee is available.
* **SUPERVISOR AVAILABILITY**: Supervisors must be available so employees at the work site can contact them when necessary; if a cell phone or two-way radio is used, reception must be validated.
* **SOLE EMPLOYEES**: Frequent communication will be maintained with employees working by themselves or in smaller groups (via phone or two-way radio), to be aware of possible symptoms of heat illness. The employee will be contacted regularly and as frequently as possible throughout the day since an employee in distress may not be able to summon help on their own.
* **NEWLY ASSIGNED EMPLOYEE**: A newly assigned employee to a high heat area will be closely observed by a supervisor or designee for the first 14 days of the employee’s employment. The employee’s work schedule and/or work-load may be reduced, in addition to more frequent breaks throughout the day.

**Emergency Response Procedures**

Prior to assigning a crew to a particular worksite, the supervisor will:

* Provide workers and the foreman a map along with clear and precise directions (such as streets or road names, distinguishing features, and distances to major roads) of the site to avoid a delay of emergency medical services
* For worksite locations without an infirmary, clinic or hospital nearby, the supervisor will ensure a qualified, appropriately trained, and equipped person will be available at the site to render first aid if necessary
* Ensure responsibility for calling emergency medical service is assigned to an English-speaking worker at the site
* Verify all foremen and supervisors carry cell phones or other means of communication to ensure emergency medical services may be called
* Ensure all communication devices are functional at the worksite prior to each shift (cell phone or text messaging device may be used for this purpose only if reception in the area is reliable).

When an employee displays possible signs or symptoms of heat illness (refer to Attachment B for a detailed list of heat illnesses) emergency service providers will need to be called. Keep the stricken employee cool and comfortable to prevent the progression to more serious illness. A sick employee will not be left along in the shade unattended.

**Procedures for Handling a Sick Employee**

The following procedures are to be followed when an employee shows signs or symptoms of heat illness. All employees and supervisors will be trained to recognize them.

***Emergency Service Providers will be called when***:

* An employee shows signs or symptoms of heat illness and no trained first aid employee or supervisor is available at the site.
* An employee displays signs or symptoms of severe heat illness (decreased level of consciousness, staggering, vomiting, disorientation, irrational behavior, incoherent speech, consulsions, red and hot face), does not look okay, or does not get better after drinking cool water and resting in the shade.
* First aid should be initiated (move employee to the shade, remove excess layers of clothing, place ice packs in the armpits and groin area, fan the victim).
	+ Do not allow the sick employee to leave the site
	+ If the worksite is located more than 20 minutes away from a hospital, an Air Ambulance will be requested.

**Supervisor and Employee Training**

*Employees*

All employees are required to attend a health and safety training session prior to beginning work that should be reasonably anticipated to result in exposure to the risk of heat illness and annually thereafter.

Training records will be maintained that includes the date, instructor name, attendees, and subjects covered.

The following information will be provided to ALL employees:

* 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
* Our procedures for complying with the requirements of the heat illness prevention regulation (water, shade, cool-down rests, access to first aid, employees’ right to exercise their rights without retaliation)
* The importance of frequent consumption of small quantities of water
* The concept, importance, and methods of acclimatization.
* The different types of heat illness, the common signs and symptoms of heat illness, and appropriate first aid and/or emergency responses. In addition, that heat illness may progress quickly from mild symptoms and signs to serious life threatening illness.
* The importance of employees *immediately* reporting symptoms or signs of heat illness for themselves and co-workers
* Our specific procedures for responding to possible heat illness, including how emergency medical services will be provided should they become necessary
* Our specific procedures for contacting emergency medical services and, if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider
* Our procedures for designating a person to be available to ensure emergency procedures are invoked when appropriate
* Our specific procedures for ensuring clear and precise directions to the work site will be provided as needed to emergency responders

*Supervisors*

In addition to obtaining the training required for employees listed above, supervisors will be trained before performing work that could be reasonably anticipated to result in exposure to heat illness. Training will include:

* All information provided during employee training
* How to monitor weather at the job site, how weather will be used to modify work schedules, increase number of water breaks, or cease work early if necessary
* Information about how to identify heat illness
* Oversee requirements for providing fresh, pure, and suitably cool drinking water, including assignment of checking levels each hour for sufficient levels and clean cups.
* Requirement to provide tailgate meetings when temperature is expected to exceed 80 degrees. Training will include drinking water frequently, where shade is available, take short breaks as needed to cool down, be on lookout for co-workers with signs and symptoms of heat illness
* First aid and/or emergency response to different types of heat illness
* Steps to take for emergency response to heat illness

**Definitions**

**Acclimatization** - means 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.

**Environmental risk factors for heat illness** - means 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.

**Heat Illness** - means 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** - means 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.

**Shade** - means blockage of direct sunlight. 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.

**Temperature** - means the dry bulb temperature in degrees Fahrenheit obtainable by using a thermometer to measure the outdoor temperature in an area where there is no shade. While the temperature measurement must be taken in an area with full sunlight, the bulb or sensor of the thermometer should be shielded while taking the measurement, e.g., with the hand or some other object, from direct contact by sunlight.

This Tribal First Risk Control Consulting fact sheet is not intended to be exhaustive. The discussion and best practices suggested herein should not be regarded as legal advice. Readers should pursue legal counsel or contact their insurance providers to gain more exhaustive advice. For more information on this topic, please contact Tribal First Risk Control Consulting at (888) 737-4752 or riskcontrol@tribalfirst.com.