## Cal/OSHA Heat Illness Prevention

1. **Purpose**

To ensure that employees are protected and precautions are taken from the hazards associated with heat-related injuries and illnesses. This safety program must be made available to all employees.

1. **Responsibility**

Supervisors shall take into consideration personal factors that contribute to heat related illness before assigning a task where there is the possibility of a heat-related illness occurring. Personal factors that can contribute to heat related illness are age, weight/fitness, drug/alcohol use, prior heat-related illness, etc.

Supervisors must receive training in the prevention of heat related illnesses prior to supervising employees working in heat.

1. **Prevention**

Adequate shade, water, and rest periods shall be provided to protect the employee against environmental factors such as temperature, humidity, radiant heat sources and air circulation. Adequate shade area(s) must be present at all times and must be large enough to accommodate all employees. Employees shall have access to potable drinking water. Where it is not plumbed or otherwise continuously supplied, it shall be provided in sufficient quantity throughout the work shift. The following guidelines shall be followed:

* Drink plenty of water throughout the work shift. Do not wait until you are thirsty to hydrate.
* Avoid liquids that contain alcohol, caffeine, or large amounts of sugar.
* Pace yourself and take regular breaks in shaded areas.

Physical factors that contribute to heat related illness should be taken into consideration before performing a task. The most common physical factors that can contribute to heat related illness are type of work, level of physical activity and duration, and clothing color, weight and breathability.

* Schedule the most physically demanding activities during the morning or evening hours.
* Wear lightweight, light-colored, loose fitting clothing and a wide-brimmed vented hat or use an umbrella.
* Clothing should be of loosely woven fibers such as cotton and linen as they are cooler than knits and synthetic fabrics.
* Employees who are returning to work from a prolonged absence or recent illness, recently moved from a cool to hot climate, or are working during the beginning stages of a heat wave shall allow time for their bodies to adjust to the change.

1. **Recommended Work Regimen**

The ACGIH recommends the following Work-Rest Regimens for work in hot (outdoor) environments.

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| **Work Load** | | | |
| **Work-Rest Regimen** | **Light** | **Moderate** | **Heavy** |
| Continuous Work | 86 °F | 80 °F | 77 °F |
| 75% Work  25% Rest, each hour | 87°F | 82°F | 78°F |
| 50% Work  50% Rest, each hour | 89°F | 85°F | 82°F |
| 25% Work  75% Rest, each hour | 90°F | 88°F | 86°F |

These TLV's are based on the assumption that nearly all acclimatized, fully clothed workers with adequate water and salt intake should be able to function effectively under the given working conditions without exceeding a deep body temperature of 38°C (100.4° F). They are also based on the assumption that the Wet Bulb Globe Temperature Index (WBGT) of the resting place is the same or very close to that of the workplace.

1. **High Heat Protocol**

When the ambient temperature reaches or is expected to reach or exceed 95 degrees Fahrenheit the following steps must be taken.

* An effective way of communicating with all employees at all times during the High Heat Protocol must be initiated. Communication by voice, non-verbal (hand-signal etc.) or by electronic means are acceptable.
* The supervisors must constantly observe their team for alertness and signs or symptoms of heat illness.
* Each work team must have at least one person that is authorized to call for emergency medical services in the event of an incident.
* Supervisors must remind their teams throughout the day to continually drink water.
* Before work begins each supervisor must remind their employees to drink water continually and that the employees have the right to take a cool-down break at any time.

1. **Signs and Symptoms**

Heat illness can affect a person’s awareness of their own symptoms. Work in coordination with other employees to monitor each other’s condition.

Employees suffering from heat illness or believing a preventative recovery period is needed shall be provided access to an area with shade that is either open to the air or provided with ventilation or cooling. Such access to shade shall be permitted at all times.

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| **Illness** | **Symptom** | **Treatment** |
| **Heat Stroke** -caused by a rapid rise in the body’s temperature and the body is unable to cool down. Can cause death or permanent disability. | Extremely high body temperature  Red, Hot, Dry Skin  Rapid Strong Pulse  Throbbing Headache  Dizziness  Nausea  Confusion  Unconsciousness | Call for immediate medical assistance.  Move the victim to a shady area.  Cool the victim down any way you can.  Do not give the victim fluids to drink. |
| **Heat Exhaustion** - caused by excessive loss of the water and salt contained in sweat. | Heavy Sweating  Paleness  Muscle Cramps  Tiredness / Weakness  Dizziness  Headache  Nausea / Vomiting  Fainting | Help the victim to cool off.  Remove unnecessary clothing.  Seek medical attention of the symptoms worsen of continue for more than an hour. |
| **Heat Cramps** - caused by excessive loss of the water and salt contained in sweat. Could be a symptom of Heat Exhaustion. | Muscle pains or spasms, usually in the abdomen, arms, or legs. | Sit in a cool place.  Drink water or sports beverage.  Do not return to strenuous activity for a few hours. This could lead to heat exhaustion.  Seek medical attention if they do not subside within an hour. |

1. **Training**

Supervisors and employees shall be trained in the heat illness procedures to prevent heat illness and procedures to follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.