

# INDUSTRY WIDE LABOR-MANAGEMENT SAFETY COMMITTEE

## **SAFETY BULLETIN #35**

### **SAFETY CONSIDERATIONS FOR THE PREVENTION OF OUTDOOR HEAT ILLNESS**

This bulletin addresses safety considerations when exposed to heat outdoors. Safeguards should be taken to prevent heat illness.

All efforts to prevent heat illness shall conform to all applicable laws, rules, and regulations, such as Title 8, Section 3395 of the California Code of Regulations (CCR). Moreover, in compliance with Section 3395 of the CCR, every employer/production in California shall have a Heat Illness Prevention Plan, provide site-specific training to all employees and supervisors, and implement emergency response procedures when necessary. Be sure to follow all applicable laws, rules, and regulations in the jurisdiction where the production takes place.

#### **INTRODUCTION**

**Heat illness can be fatal.** Because of the health risks, the symptoms of heat-related illness must be recognized. Excess heat buildup in the body can arise through physical exertion, as well as from hot and humid weather. This can place abnormal stress on the body that can result in one or more serious medical conditions, resulting from the body's inability to cope with a particular heat load.

#### **WHAT IS HEAT ILLNESS?**

The following are the commonly found forms of heat illness:

**Heat Cramps** affect people who sweat excessively during strenuous work activities. The sweating depletes the body's salt and fluids. The low salt level in the muscles can cause painful cramps.

**Heat Syncope** (Fainting) is caused by a lack of adequate blood supply to the brain, usually as the result of dehydration and lack of acclimatization to work in warm/humid weather.

**Heat Exhaustion** is caused by a loss of fluids from sweating and/or a lack of drinking proper fluids. Symptoms include but are not limited to sweating, cool or clammy skin, weakness, fatigue, nausea, vomiting, dizziness, headache, fast or weak pulse, and/or fast or slow breathing.

**Heat Stroke** is a life-threatening emergency that occurs when the body overheats to a point where its temperature control system shuts down and heat builds up internally.

The signs of impending heat stroke are altered behavior, convulsions, unconsciousness, and usually, lack of sweating. ***Should these symptoms occur, seek medical assistance immediately.***

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General  
Awareness



Supervisor  
Responsibilities

## **SYMPTOMS OF HEAT ILLNESS**

Early heat illness signs and symptoms may not always follow a progressive pattern from a mild condition such as heat rash up to the life-threatening condition of heatstroke. Thirst alone is a poor indicator of how the body is reacting to heat. Here are the symptoms of heat illness to watch for:

- Discomfort
- Headache
- Fatigue
- Loss of coordination
- Vomiting
- Seizures
- Fainting
- Blurry vision
- Confusion
- Dizziness
- Irritability
- Poor concentration
- Muscle pain/cramps
- Lack of sweating or excessive sweating
- Altered behavior

**It is important that employees immediately report to the employer, directly or through the employee's Supervisor, signs or symptoms of heat illness that they are experiencing or observing in others.**

## **HEAT ILLNESS RISK FACTORS**

There are many environmental and personal risk factors that increase susceptibility to heat illness.

Environmental risk factors for heat illness mean working in conditions that create the possibility that heat illness could occur, including the following:

- 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 are worn by employees

Personal risk factors for heat illness mean factors such as the following:

- An individual's age
- Degree of acclimatization
- Health
- Water consumption
- Alcohol and/or caffeine consumption
- Use of prescription medications that affect the body's water retention or other physiological responses to heat

**Employees should consult with a doctor if they are known to have risk factors for outdoor heat illness. HOW TO PREVENT HEAT ILLNESS**

## Acclimatization

Acclimatization is a 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 4 to 14 days of regular work for at least 2 hours per day in the heat. During this acclimatization period:

- Supervisors and employees should be aware that acclimatization to heat can take several days, and work/rest cycles should be scheduled accordingly.
- Report to a supervisor if returning to work after an absence or illness, or when changing from a cool to a hot and/or humid climate.

Start work slowly and increase the pace gradually. During a heatwave, there is still a risk of heat illness even if previously acclimatized.

## Water

Dehydration occurs quickly no matter how well one is acclimatized to the heat. The average person loses between 1 to 2 quarts of fluid an hour in perspiration during heavy exertion in hot weather. The only way to replace the loss (and help the body continue to cool itself) is to drink non-caffeinated, non-alcoholic fluids; water is best.

- Workers should frequently drink small quantities of water throughout the entire work shift. A minimum of 1 quart (four 8-oz cups) per hour is recommended.
- **Workers should not wait until thirsty to drink water.** Being thirsty is not a good signal for the need to hydrate.
- Workers should drink water before and after work, and while on breaks.
- Prior to the start of the work shift, consider arranging for water to be provided to the worksite location and then to each water station.
- Drinking water needs to be available for all employees at all work locations and located as close as practicable to the areas where employees are working.
- When employees are working across large areas, water should be placed in multiple stations.
- Employees are to be notified of the location(s) of the closest drinking water supplies and whom to contact for additional water (e.g. Craft Services).
- Water should be replenished for all outdoor work regardless of temperature.
- Choose the location of each water station, assign a responsible person(s) (e.g. Craft Services) to replenish the water at each station, and train the assigned person(s) to comply with these procedures.
- The initial supply of water should be replenished so that each employee has 1 quart (32 ounces) per hour of the work shift, by at least one of the methods indicated below:

- i. Fresh, pure, suitably cool water is continuously supplied at the work site.
- ii. Sufficient quantities of water have been brought to the work site at the beginning of the work shift.
- iii. If the required amount of water for the whole shift is not on-hand at the start of the shift, water will be brought to the location to meet the minimum hourly amount required.
- iv. The name(s) and contact information of the person(s) responsible for replenishing the water at each station should be recorded.

## Shade

When the outdoor temperature in the work area exceeds 80 degrees Fahrenheit (26.67°C), there should be one or more areas with shade at all times while employees are present. This shaded area should have the following features:

- Be either open to the air or provided with ventilation or cooling.
- Have enough shade present to at least accommodate the number of employees for rest periods, or on recovery, so that they can sit in a normal posture fully in the shade without having to be in physical contact with each other.
- Be located as close as practicable to the areas where employees are working.
- Have enough shade present during meal periods to at least accommodate the number of employees on the meal period who remain on-site.
- By way of examples, shade could include tents, canopies, large umbrellas, or the interior of air-conditioned buildings, lunch trucks, production vehicles, and similar cooled spaces.

## Preventative Cool-Down Rest Requirement

All employees are allowed and encouraged to take a preventative cool-down rest in the shade whenever they feel the need to do so to protect themselves from overheating. The Production shall permit such a preventative cool-down rest to be taken at all times.

## Recommended Precautions

Workers should adhere to the following safeguards:

- Know the nearest cool resting place(s). Get out of the sun or away from the source of heat and find a cool, preferably well-ventilated, resting place when you are starting to overheat or need to cool down.
- Wear a light-colored loose-fitting long-sleeved shirt and pants, and UV sunglasses, or, if appropriate, other protective equipment.
- Wear a wide-brim hat (baseball caps do not cover the ears and neck).
- Use sunscreen or sunblock and reapply as needed.

- Eat light meals. Hot, heavy meals add heat to the body.

## **HIGH HEAT PROCEDURES**

When temperatures reach or exceed 95 degrees Fahrenheit, the employer should follow all precautions in this bulletin and should also:

- Ensure there is an effective means of observing employees for signs and symptoms of heat illness.
- Conduct pre-shift safety meeting(s) to review heat illness prevention procedures.
- Remind employees throughout the work shift to drink plenty of water.

## **EMERGENCY RESPONSE PROCEDURES**

Supervisors should be aware of what to do if an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures, **as outlined below:**

- Making sure that effective communication by voice, observation, or electronic means is maintained so that employees at the worksite can contact a Supervisor or emergency medical services when necessary.
- Responding to signs and symptoms of possible heat illness, including but not limited to first aid measures and how emergency medical services will be provided.
- Contacting emergency medical services and, if necessary, transporting employees to a place where they can be reached by an emergency medical provider.
- Making sure that, in the event of an emergency, clear and precise directions to the work site can and will be provided as needed to emergency responders.
- Designating a person to ensure that emergency procedures are utilized when needed.
- The Production should document the Emergency Response Procedures (including location address, nearest hospital information, method(s) of communication, etc.).

**In the event of a heat-related illness emergency, contact the Medic (if available) or call 911 immediately.**

## **WEATHER MONITORING**

The Supervisor should monitor weather reports (using a reputable website such as [www.weather.gov](http://www.weather.gov) or by other means, such as an onsite thermometer, weather apps, etc.) and respond to hot weather advisories.

The Production should document the daily weather forecast and monitoring source.

## **DOCUMENTATION**

It is recommended that the Production record all heat illness training, using a sign-in sheet and/or notes

on the production report.

To serve as an additional reminder to all employees and supervisors, it is also recommended that the Production note on the call sheet whenever the Heat Illness Prevention Plan is currently in effect.

If available, it is recommended to use a checklist to document items such as the nearest hospital, communication with emergency responders, weather, shaded areas, water locations, and cool-down methods.

Productions are encouraged to post checklists, and applicable training documents, in workplace locations that are frequently visited by employees, such as near craft services, break rooms, etc.

### **SUMMARY**

Heat illness is preventable. Encourage employees to take time to adjust to the heat. Above all, employees should drink plenty of water and immediately report any signs of heat illness to themselves or others.