

RISK SIMPLIFIED

RESOURCES

[Title 8 CCR, Section 3395](#)

[Cal/OSHA Q&A](#)

[Cal/OSHA Sample Procedures](#)

[PRISMtv Webcast](#)

[Vector Solutions: PRISM Heat Illness Prevention](#)

[Safety Talks: A Tailgate /Toolbox Resource](#)

QUESTIONS

[Email PRISM Risk Control](#)
or call 916.850.7300

Heat Illness Prevention Standard

by Eric Lucero

According to the Center for Disease Control (CDC), each year an average of 658 people in the U.S. perish from heat illness with many more suffering from non-fatal symptoms. To prevent heat illness, in 2006 Cal/OSHA developed the nation's first regulation, Title 8 CCR, Section 3395, requiring employers to establish procedures to mitigate this hazard. To further protect employees, Cal/OSHA updated their requirements in 2015.

Heat illness is a serious medical condition resulting from the body's inability to cope with a particular heat load. There are several types including heat cramps, heat syncope (fainting), heat exhaustion, and heat stroke. Cal/OSHA's Heat Illness Prevention Standard applies to all outdoor places of employment.

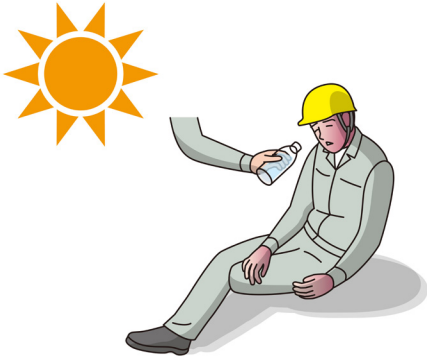
There are eight major components of the standard, and they can be summed up with the following "Water, Rest, Shade, and Planning." The following are examples of common mistakes that put employees at risk and could result in a Cal/OSHA citation:

Failing to have a written plan. A plan that is a little more than a restatement of the safety orders will not satisfy Cal/OSHA requirements. It cannot be vague and must be specific to agency operations. Minimally, the plan must include:

1. Procedures for the provision of water and access to shade
2. High-heat procedures
3. Emergency response procedures
4. Acclimatization methods and procedures



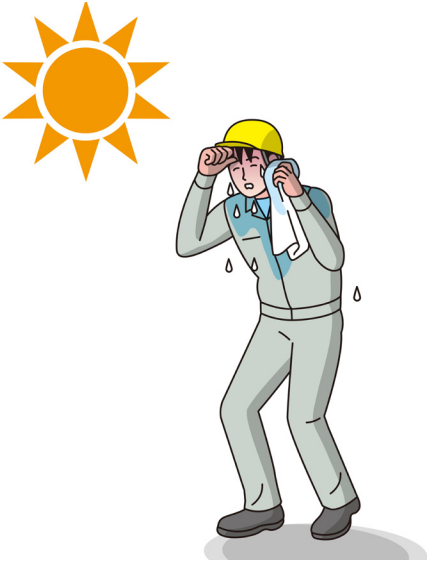
RISK SIMPLIFIED



Failure to provide sufficient quantities of water. At the start of the shift, agencies must ensure that at least two quarts of water for every employee is available in clean, potable containers or water bottles. Thereafter, there should be enough water for each employee to drink at least one quart of water every hour. The water must be fresh, pure, suitably cool, provided at no cost, and located as close as possible to workers. Water fountains nearby may suffice, but Cal/OSHA could issue a citation if they determine that the distance is too great.

Cal/OSHA does not specify a proximity to maintain between the placement of water containers and work crews. Instead, during an inspection, a Cal/OSHA inspector will ask the supervisor to describe the factors the agency considered in determining the placement of their water containers. Containers should be located so that an employee can easily drink water while working. If it is cumbersome for an employee to access water, chances decrease that the employee will drink enough to fully protect themselves against heat illness. Placing water only in designated shade areas or where toilet facilities are located may not be sufficient because water containers are smaller than shade structures and can be placed closer to employees.

Having ineffective water replenishment procedures. A Heat Illness Prevention Policy must include procedures for replenishing water sources before they become empty. Cal/OSHA could cite an agency if an inspector discovers an empty water container or if an agency's replenishment procedure is to refill the water container when an employee reports the container as empty.



Failure to provide shade. Whenever outdoor temperatures are 80 degrees Fahrenheit or higher, shade must be available at the worksite. Shade structures should be located as close as possible to workers, but the standard does not specify a proximity that must be maintained with employees. Instead, during a Cal/OSHA inspection, the inspector will ask the supervisor to describe the factors considered in determining the placement of their shade structures. It must be easy for employees to reach shade, and its location must not deter or discourage access or use. For example, employees should not have to cross traffic, nor should shade be located next to a portable toilet.

A vehicle may only be considered a source of shade if its air conditioner is on and properly functioning. Trees may be considered shade but only if both of the following conditions are met:

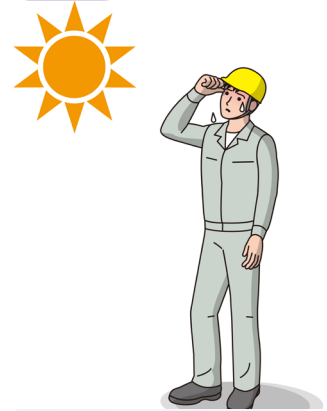
1. The canopy of the trees must be sufficiently dense to provide substantial blockage of direct sunlight (i.e., does not allow shadows to be cast), and
2. The branches from the trees must not be so low to the ground that employees must crouch or cannot sit up straight without contacting vegetation

RISK SIMPLIFIED

Not providing rest breaks. Whenever outdoor temperatures are 80 degrees Fahrenheit or higher, employees must be allowed to take a preventative cool-down rest in the shade, when requested. During this time, the employee must be monitored for heat illness symptoms and not ordered back to work until symptoms have abated.

Not complying with heat wave or high-heat procedures. Anytime there is a heat wave or temperatures are 95 degrees Fahrenheit or higher, additional safety measures must be implemented. These include:

1. Ensuring that effective communication by voice, observation, or electronic means is maintained so that employees at the worksite can contact a supervisor when necessary
2. Observing employees for alertness and symptoms of heat illness
3. Designating one or more employees on each worksite to call for emergency medical services, and allowing other employees to call for emergency services when no designated employee is available
4. Reminding employees throughout the work shift to consume water
5. Conducting pre-shift meetings before the commencement of work to review the agency's high heat procedures, encourage employees to drink plenty of water, and remind employees of their right to take a cool-down rest when necessary



A heat wave is defined as any day in which the predicted high temperature will be at least 80 degrees Fahrenheit and at least ten degrees Fahrenheit higher than the average daily high temperature in the preceding five days. Heat waves create similar conditions as extreme heat as our bodies acclimate to an increased heat load. During a heat wave the following measures should be taken:

1. Adjust the work schedule to perform work in the morning or evenings
2. Before starting work, conduct a tailgate safety meeting to review the agency's heat illness prevention procedures, emergency response procedures, and the weather forecast for the day
3. Assign a "buddy" to be on the lookout for signs and symptoms of heat illness to ensure that emergency procedures are properly initiated as appropriate

Heat waves and extreme heat increase the risk for heat illness, and failure to comply during this time will likely result in a citation classified as "serious" or "willful" by Cal/OSHA.

Failure to acclimatize new employees. Acclimatization is a process by which the body adjusts to an increased heat load. Simply put, the body needs time to adapt when working in hot environments, or an employee could develop heat illness. Acclimatization is fully achieved in most people within four to fourteen days of regular work involving at least two hours per day in the heat. During this time, close employee supervision or the use of a buddy system must be utilized.

RISK SIMPLIFIED



Lack of effective training. All employees and supervisors must be trained on nine specific topics relating to heat illness. They include:

1. Environmental and personal risk factors for heat illness
2. Agency procedures for complying with the requirements of the standard (e.g., the Agency's responsibility to provide water, shade cool-down rests, access to first aid, and employee protection from

employer retaliation)

3. The importance of frequent consumption of small quantities of water
4. The concept, importance, and methods for acclimatization
5. The signs and symptoms of the different types of heat illnesses, appropriate first aid measures, and how quickly mild symptoms can progress to a serious and life threatening condition
6. The importance of immediately conveying to their supervisor any symptoms or signs of heat illness observed in themselves or in co-workers
7. Agency procedures for emergency response
8. Agency procedures for contacting emergency medical services
9. Agency procedures for ensuring that clear and precise directions to the worksite can be provided

The standard also mandates that supervisors receive training on three additional components:

1. Agency Procedures for implementing the applicable provisions of the plan
2. Agency procedures to follow when an employee exhibits signs or reports symptoms of possible heat illness
3. How to monitor weather reports and how to respond to hot weather advisories

While it is not technically required to provide supervisory and employee training on an annual basis, PRISM recommends that this training be provided each April or May. If using an online learning management system such as [Vector Solutions](#), remember to also train employees on agency specific policy and procedures as required by Cal/OSHA.

Heat illness is a serious hazard for any public agency employee working outdoors. PRISM has various complimentary resources to assist agencies with preventing heat illness. Contact [PRISM Risk Control](#) if you have questions or need assistance regarding Cal/OSHA's Heat Illness Prevention Standard.

Updated 04/22

by Scarlett Sadler