



HEAT ILLNESS PREVENTION PLAN

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HEAT ILLNESS PREVENTION PLAN

1.0 INTRODUCTION

WHCCD makes every attempt to control and reduce the hazards of heat illness. The WHCCD Heat Illness Prevention Program is intended to prevent heat illness by establishing procedures, training supervisors, providing access to water and shade, and training employees who are at risk for environmental heat.

The elements reflected within this Heat Illness Prevention plan are those contained in Title 8 of the California code of Regulations, Section 3395 (T8 CCR 3395). These guidelines apply to outdoor workers that are exposed to environmental risk factors for heat illness.

2.0 GENERAL PROCEDURES

- 2.1 New employees will be trained on these procedures before exposing them to environmental heat.
- 2.2 Employees will be conditioned to working in hot environments through acclimatization. As outdoor temperatures rise in the spring, employees will follow the acclimatization guidelines mentioned below in this appendix. Supervisors will ensure that new employees are acclimatized prior to assigning them to working a full shift in hot temperatures.
- 2.3 For employees who are regularly working outdoors, there will be short, “tailgate” meetings periodically to remind them about the importance of frequent water consumption throughout the shift, seeking shade appropriately, and watching for heat illness in themselves and other employees.
- 2.4 Supervisors are responsible for ensuring that all employees who are at risk for heat illness are trained annually on this program.
- 2.5 Emergency response
- 2.6 When temperatures rise above 100 degrees, supervisors will modify work times and/or allow for more access to water and shade. Supervisors will continually check on employees and stay alert to the presence of heat related symptoms.
- 2.7 Employees will be encouraged to wear head gear when temperatures are over 100 degrees.

3.0 DEFINITIONS

- 3.1 Acclimatization: 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.
- 3.2 Heat Illness: 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.
- 3.3 Environmental Risk Factors for Heat Illness: Working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, and 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.
- 3.4 Personal Risk Factors for Heat Illness: Factors such as an individual’s age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use prescription medication that affect the body’s water retention or other physiological responses to heat.
- 3.5 Preventative Recovery Period: A period of time to recover from the heat in order to prevent heat illness.

- 3.6 Shade: Blockage of direct sunlight. Canopies, umbrellas and other temporary structures or devices may be used to provide shade. 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.

4.0 ACCLIMATIZATION

The ability to acclimatize varies among workers. Generally, individuals in good physical condition acclimatize more rapidly than those in poor condition. Approximately one week of gradually increasing the workload and time spent in the hot environment will usually lead to full acclimatization. On the first day the individual performs 50 percent of the normal workload and spends 50 percent of the time in the hot environment. Each day, an additional 10 percent of the normal workload and time is added so that by day six, the worker is performing the full workload for an entire day. The exposure time should be at least two hours per day for acclimatization to occur.

5.0 PROVISION OF WATER

The unit managers will provide access to potable drinking water for employees. When environmental risk factors for heat illness exist, and in those areas where water is not plumbed or otherwise continuously supplied, water shall be provided in sufficient quantity at the beginning of the work shift to provide one quart per employee per hour for drinking for the entire shift (one gallon every four hours). Employees may begin the shift with smaller quantities of water if they have effective procedures for replenishment during the shift as needed to allow employees to drink one quart or more per hour. The frequent drinking of water shall be encouraged. Employees are also encouraged to begin drinking water prior to work.

6.0 ACCESS TO SHADE

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 for a period of no less than five minutes. Such access to shade shall be permitted at all times. Examples of shade areas are offices or shop buildings or vehicles with air conditioning. When working in remote areas where shade is not readily available, supervisors shall ensure that vehicles with operative air conditioners are available at the remote worksite or an alternative device (canopy, umbrella) is available at the remote worksite.

7.0 HEAT ILLNESS SYMPTOMS AND FIRST AID

7.1 HEAT CRAMPS

7.1.1 Symptoms: Heat cramps are the most common type of heat related injury and probably have been experienced by nearly everyone at one time or another. Heat cramps are muscle spasms which usually affect the arms, legs, or stomach. Frequently, they do not occur until sometime later after work, at night, or when relaxing. Heat cramps are caused by heavy sweating, especially when water is not replaced quickly enough. Although heat cramps can be quite painful, they usually do not result in permanent damage.

7.1.2 Prevention: Individuals should drink electrolyte solutions such as gatorade or plenty of water during the day to help keep the body hydrated during hot weather and should try eating more fruits such as bananas to maintain electrolyte levels in the body.

7.1.3 First Aid: Get the victim to a cooler location. Lightly stretch and gently massage affected muscles to relieve spasms. Give sips of up to a half glass of cool water every 15 minutes (do not give liquids with caffeine or alcohol). Discontinue liquids if victim is nauseated.

7.2 HEAT SYNCOPE

7.2.1 Symptoms: Faintness, dizziness, headache, increased pulse rate, restlessness, nausea, vomiting, and brief loss of consciousness.

- 7.2.2 First Aid: Get the victim to lie down in the shade or cool area; elevate the feet; drink fluids; and refrain from vigorous activities.

7.3 HEAT EXHAUSTION

- 7.3.1 Symptoms: Heat exhaustion is more serious than heat cramps. Headache, heavy sweating, intense thirst, fainting or dizziness, fatigue, loss of coordination, nausea, vomiting, impaired judgment, loss of appetite, hyperventilation, tingling in hands or feet, anxiety, skin may be cool, pale or flushed, weak and rapid pulse (120-200), and low to normal blood pressure. Normal body temperature is possible, but temperature will likely rise.

- 7.3.2 First Aid: The employee suffering these symptoms should be moved to a cool location such as a shaded area or air-conditioned building. Treat him/her for shock; have him/her lie down with his/her feet lightly elevated. Loosen clothing, apply cool, wet cloths or fan him/her. Have the individual drink water or electrolyte drinks if he/she is mentally aware and capable. Be sure water is consumed slowly. Give half a glass of cool water every 15 minutes. Discontinue water if victim is nauseated. Try to cool him/her down, and have the victim checked by medical personnel. Victims of heat exhaustion should avoid strenuous activity for at least a day, and they should continue to drink appropriate fluids to replace lost body fluids. Call 911 if the person becomes non-responsive, refuses water, vomits, or loses consciousness.

7.4 HEAT STROKE

- 7.4.1 Symptoms: Heat stroke is a life threatening illness with a high death rate. High body temperature (105+); hot, red, dry skin; a distinct absence of sweating (usually); rapid, weak pulse; and rapid shallow breathing. Possible unconsciousness; constricted pupils; any/all the signs or symptoms of heat exhaustion such as dizziness, headache, nausea, vomiting, or confusion, and possibly more severe systems including; bizarre behavior; and high blood pressure. Advance symptoms may be seizure or convulsions, collapse, loss of consciousness, and a body temperature of over 108 degrees F!

A heat stroke victim may first suffer heat cramps and/or heat exhaustion before progressing into the heat stroke stage, but this is not always the case. Victim will probably not sweat unless victim was sweating from recent strenuous activity. It should be noted that, on the job, heat stroke may be mistaken for a heart attack. It is therefore very important to be able to recognize the signs and symptoms of heat stroke, and to check for them anytime an employee collapses while working in a hot environment.

- 7.4.2 First Aid: Call 911 or emergency medical services immediately or immediately get the victim to a hospital. Delay can be fatal. It is vital to lower a heat stroke victim's body temperature. Quick actions can mean the difference between life and death. Move victim to a cooler environment. Remove clothing. Pour water on him/her, fan him/her, or apply cold packs, behind the neck, in armpits, in the groin area. Watch for breathing problems.

8.0 PRECAUTIONS FOR PREVENTING HEAL ILLNESS

Awareness of heat illness symptoms can save your life or the life of a co-worker.

- 8.1 if you are coming back to work from an illness or an extended break or you are just starting a job working in the heat, it is important to be aware that you are more vulnerable to heat stress until your body has time to adjust. Let your employer know you are not used to the heat. It takes about 5 – 7 days for your body to adjust.
- 8.2 Drinking plenty of water frequently is vital to workers exposed to the heat. An individual may produce as much as 2 to 3 gallons of sweat per day. In order to replenish that fluid the worker should drink 3 to 4 cups of water every hour starting at the beginning of the shift.

- 8.3 Take frequent breaks in a cool, shaded area and allow time for recovery from the heat during the day, especially if you notice you're getting a headache or you start feeling overheated. Assure that adequate water and shade are available at the job site before work begins.
- 8.4 Avoid or limit the use of alcohol and caffeine during periods of extreme heat. Both dehydrate the body. Electrolyte drinks are good for replacing both water and minerals lost through sweating.
- 8.5 When working in the heat, be sure to pay extra attention to your co-workers and be sure you know how to call for medical attention. If you or a co-worker start to feel symptoms such as nausea, dizziness, weakness or unusual fatigue, let your supervisor know and rest in a cool shaded area. If symptoms persist or worsen seek immediate medical attention.
- 8.6 Whenever possible, wear clothing that provides protection from the sun but allows airflow to the body. Protect your head and shade your eyes when working outdoors.
- 8.7 You should immediately report all unsafe conditions and/or concerns to your supervisor or area manager.

9.0 TRAINING

Training is critical to help reduce the risk of heat related illnesses and to assist with obtaining emergency assistance without delay.

9.1 EMPLOYEE TRAINING:

Training in the following topics shall be provided to all supervisory and non-supervisory employees who have exposure to environmental risk factors for heat illness:

- 9.1.1 Environmental and personal risk factors for heat illness;
- 9.1.2 The WHCCD plan for dealing with heat illness;
- 9.1.3 The importance of frequent consumption of small quantities of water, up to four (4) cups per hour under extreme conditions of work and heat;
- 9.1.4 The importance of acclimatization;
- 9.1.5 The different types of heat illness and the common signs and symptoms of heat illness;
- 9.1.6 The importance of immediately reporting to the employer, directly or through the employee's supervisor, symptoms or signs of heat illness in themselves or in co-workers;
- 9.1.7 The procedures for responding to symptoms of possible heat illness;
- 9.1.8 Procedures for contacting emergency medical services and if necessary for transporting employees to a point where they can be reached by emergency medical services;
- 9.1.9 How to provide clear and precise directions to the worksite.

9.2 SUPERVISOR TRAINING:

Prior to assignment of employees working in the heat, training on the following topics shall be provided.

- 9.2.1 The information required to be provided by section 9.1 above;
- 9.2.2 The procedures the supervisor is to follow to implement the Heat Illness & Injury Prevention Plan.
- 9.2.3 The procedures the supervisor is to follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.