



# HEAT ILLNESS PREVENTION PLAN

## **1. Purpose**

The purpose of this plan is to protect City employees from the hazards of hot working environments. Work activities that could potentially expose our employees to heat related hazards.

## **2. Scope**

This standard applies whenever an employee performs work activities and the heat index (apparent temperature) equals or exceeds 80 degrees Fahrenheit. It does not apply to incidental exposure that exists when an employee is not required to perform covered work activity for more than 15 minutes in any sixty-minute period, nor does it apply to the transportation of employees inside vehicles when they are not otherwise performing work; all emergency operations that are directly involved in the protection of life or property, or the restoration of essential services, such as evacuation, rescue, medical, structural firefighting, law enforcement, utilities, and communications, when employees are engaged in those operations; buildings and structures that have a mechanical ventilation system that keeps the heat index below 80 degrees Fahrenheit; or employees who work from home (who are subject only to training requirements. When any other applicable standard addresses other hazards that may be present, both standards shall be followed. Where the requirements of one standard are more restrictive than the other, the more stringent requirements shall be followed.

## **3. Definitions**

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 seven to fourteen days of regular work for at least two hours per day in the heat. This time frame applies to fit individuals with no underlying medical conditions.

Drinking water - Potable water that is suitable to drink and that is cool (66°F - 77°F) or cold (35°F - 65°F). Drinking water packaged as a consumer product and electrolyte-replenishing beverages that do not contain caffeine (for example, sports drinks) are acceptable substitutes, but should not completely replace the required water.

Feasibility – refers to the ability of an employer to implement any requirement in a rule. Oregon OSHA rules never prohibit work. Whether feasibility is mentioned in a provision of the rule or not, if the employer can demonstrate that it is functionally impossible to comply or if doing so would prevent completion of the work, the employer need not comply, but must take any available reasonable alternative steps to protect the employees involved.

Heat Illnesses - medical conditions resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope and heat stroke.

Heat Index - The heat index, also known as the apparent temperature, is what the temperature feels like to the human body when relative humidity is combined with the air temperature. The heat index is calculated using equations published by the National Oceanic and Atmospheric Administration's National Weather Service. It can be readily determined using the OSHA-NIOSH Heat Safety Tool App that can be downloaded for free on smart phone.

(<https://www.cdc.gov/niosh/topics/heatstress/heatapp.html>) or the online calculator available from the National Weather Service (<https://www.wpc.ncep.noaa.gov/html/heatindex.shtml>).

For the purposes of this rule, the heat index in an indoor space can be calculated by substituting the measured indoor temperature in the calculation and leaving the humidity unchanged OR by substituting both the measured indoor temperature and the measured indoor humidity.

Relative humidity – the amount of water vapor present in air expressed as a percentage of the amount needed for saturation at the same temperature.

Shade – 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 working 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.

(e) Temperature-controlled environment – an indoor setting where the temperature is maintained with a mechanical cooling system.

#### **4. Policy**

It is the policy of the City of Woodburn to follow and adhere to Oregon OSHA rules addressing employee exposure to high ambient temperatures and heat illness prevention. Therefore, the City implements the following heat-related practices to help prevent employees from suffering from heat illness while at their work site(s).

#### **5. General Guidelines**

### **5.1. Access to shade**

Supervisors shall establish and maintain one or more shade areas when the heat index temperature in the work area equals or exceeds 80 degrees Fahrenheit for employees whose work activities are covered by this rule. 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. A shade area must meet the following:

1. The shade area must either be open to the air or provide mechanical ventilation for cooling.
2. The amount of shade present must be at least enough to accommodate the number of employees on recovery or rest periods, so that they can sit in a normal posture fully in the shade. Employees must remove any PPE that retains heat, such as chemical resistant suits, during recovery and rest periods.
3. The shade must be located as close as practical to the areas where employees are working.
4. Shade present during meal periods must be large enough to accommodate the number of employees on the meal period that remain onsite.
5. If trees or other vegetation are used to provide shade, such as in orchards or forests, the thickness and shape of the shaded area must provide sufficient shadow to protect employees.

If providing access to shade is not safe or it interferes with the ability of employers and employees to complete the necessary work in a particular situation (for example, during high winds or when an employee is walking through range land), then alternative cooling measures that provide equivalent protection such as providing cooling vests (either with fans or ice packs), water-dampened cotton clothing, or similar effective measures shall be identified and implemented. Supervisors shall ensure the care and maintenance of the alternative cooling methods in their work areas.

### **5.2. Drinking water**

Supervisors must ensure that an adequate supply of additional drinking water is readily accessible to employees whose work activities are covered by this rule at all times and at no cost when the heat index in the work area equals or exceeds 80 degrees Fahrenheit. Supplied drinking water must be either cool or cold.

1. Supervisors shall ensure enough water to enable employees to consume 32 ounces per hour shall be available.
2. Supervisors are not required to supply the entire quantity of drinking water needed to be supplied for all employees on a full shift at the beginning of the shift, but ensure effective procedures are established to replenish the water consumed during the shift. Drinking water packaged as a consumer product and electrolyte-replenishing beverages

that do not contain caffeine (for example, sports drinks) are acceptable substitutes, but should not completely replace required water supplies.

3. Supervisors must ensure that employees have ample opportunity to drink water supplied under this section. During moderate activity, in moderately hot conditions, employees should be instructed to drink 8 ounces of liquid every 15-20 minutes. Drinking extreme amounts of water can also be harmful (more than 12 quarts in a 24-hour period).
4. Supervisors should encourage employees to frequently drink small amounts of water before they become thirsty to stay hydrated. Employees can monitor their hydration with a urine chart. Urine should be clear or slightly colored; dark urine is a warning sign.
5. Supervisors should remind employees to eat regular meals and snacks as they provide enough salt and electrolytes to replace those lost through sweating as long as enough water is consumed.

### **5.3. Acclimatization**

When air temperatures are expected to rise quickly, Supervisors should gradually increase workloads and allow more frequent breaks during the first week of work so that employees become acclimatized to higher temperatures, especially those who are new to working in the heat or have been away from that work for a week or more. The City adopted the acclimatization plan developed by the Centers for Disease Control and Prevention and NIOSH as provided in Appendix A: Mandatory Information for Heat Illness Prevention.

### **5.4. High Heat Practices**

Supervisors must implement the following additional high heat practices when the ambient heat index exceeds 90 degrees Fahrenheit and when engineering controls (such as fans or air conditioning) and administrative controls (such as scheduling work during the cooler part of the day or limiting an employee's exposure) do not reduce an employee's exposure to a heat index of less than 90 degrees Fahrenheit.

- a. Effective communication by voice, observation, or electronic means is maintained so that employees at the work site can contact a supervisor when necessary. An electronic device, such as a cell phone or text messaging device, may be used for this purpose only if reception in the area is reliable. Communication must occur in a language and vocabulary readily understood by all employees, by voice, electronic, or other equally-effective means.
- b. Supervisors shall observe employees for alertness and signs and symptoms of heat illness and monitor to determine whether medical attention is necessary by implementing one or more of the following:
  1. Regular communication with employees working alone, such as by radio, cellular phone, or other alternative means, or

- 2. Create a mandatory buddy system, or
  - 3. Implement other equally effective means of observation or communication.
- c. One or more employees on each worksite shall be authorized to call for emergency medical services. Any employee can call for emergency services when designated employees are not immediately available. When employees work in buildings and structures that do not have a mechanical ventilation system, employers must:

(A) Directly measure the temperature and humidity in these places at the same time and location when occupied by employees to determine the current indoor heat index;

(B) Use the National Institute for Occupational Safety and Health’s (NIOSH) Heat Safety Tool app to determine the heat index outside of the building or structure and assume that it is the same inside; or

(C) If the structure is designed or otherwise known to be affected by outdoor humidity, for example, hoop houses and greenhouses, the employer must measure and use the actual humidity inside the structure.

d. Supervisors must protect employees from heat illness by following the heat illness prevention rest break schedule below.

Heat Index (o F)	Rest break durations and intervals
90 or greater	10 minutes every two hours
95 or greater	20 minutes every hour
100 or greater	30 minutes every hour
105 or greater	40 minutes every hour

The heat illness prevention rest breaks are only required during the specified heat index, and may be provided concurrently with any other meal or rest period required by policy, rule or law – if the timing of the preventative rest break coincides with the otherwise required meal or rest period. However, the heat illness prevention rest break must be calculated using only the time spent in the shade and when employees are not performing work other than “rest” or “light” work. The requirement for heat illness prevention rest breaks does not prohibit “rest” or “light” work-related activities conducted in a temperature-controlled environment, such as paperwork, at the discretion of the employee.

Heat illness prevention rest breaks are only required during the time of the shift that the heat index equals or exceeds 90 degrees Fahrenheit.

## 6. **Training**

All employees, including new employees, supervisory, and non-supervisory employees will be trained in the following topics, before employees begin work that can reasonably be anticipated to expose employees to a heat index equal to or in excess of 80 degrees Fahrenheit:

1. The environmental and personal risk factors (for example, chronic obstructive pulmonary disease, asthma, kidney disease, obesity, etc.) for heat illness that may limit an individual's tolerance to excessive heat, as well as the added burden of heat load on the body caused by exertion, clothing (See section 5 in Appendix A: Mandatory Information for Heat Illness Prevention), and personal protective equipment;
2. The procedures for complying with the requirements of this standard, including, but not limited to, the employer's responsibility to provide water, heat index information (including the risks to experiencing a heat-related illness), shade, preventative rest breaks, and access to first aid, as well as how employees can exercise their rights under this standard without fear of retaliation;
3. The importance of frequent consumption of small quantities of water, up to 32 ounces per hour, when the work environment is hot and employees are likely to be sweating more than usual in the performance of their duties;
4. The concept, importance, and methods of the acclimatization plan pursuant to the employer's procedures;
5. The different types of heat illness, the common signs and symptoms of heat illness, and the appropriate first aid and emergency response to the different types of heat illness, including how heat illness may progress quickly from mild signs and symptoms to a serious and life-threatening condition;
6. The importance for employees to immediately report to the employer, directly or through the employee's supervisor, signs and symptoms of heat illness in themselves or in others; and
7. The effects of non-occupational factors (drugs, alcohol, obesity, etc.) on tolerance to occupational heat stress.

Supervisors may utilize the fact sheets regarding heat illness prevention as provided in the Attachment B at the end of this policy.

## **7. Emergency Medical Plan**

When the ambient temperature exceeds the heat index of 90 degrees Fahrenheit, if a supervisor observes, or any employee reports, any signs or symptoms of heat illness in any employee, the supervisor must take immediate action appropriate to the severity of the illness:

1. All employees should report immediately any symptoms of heat illness in themselves or if they observe a co-worker to display them.

2. If a supervisor observes signs or an employee reports symptoms of heat illness, the employee must be relieved from duty and provided with a sufficient means to reduce body temperature. Examples include, but are not limited to: cooling blankets, cooling vests, and fans.
3. If the signs or symptoms are indicators of severe heat illness (such as, but not limited to, decreased level of consciousness, staggering, vomiting, disorientation, irrational behavior or convulsions), immediately implement emergency response procedures.
4. An employee exhibiting signs or symptoms of heat illness must be monitored and must not be left alone or sent home without being offered onsite first aid and/or being provided with emergency medical services in accordance with the employer's procedures.

Emergency Response Procedures include the following: Supervisor shall contact emergency medical services immediately and, if necessary and instructed to do so by the medical professionals, transport employees to a place where they can be reached by an emergency medical provider. While waiting for emergency responders to arrive, the supervisor may also cool the employee by moving them to an air-conditioned environment or a cool, shady area.

Supervisor shall ensure that, in the event of an emergency, clear and precise directions to the work site is provided for first responders to quickly navigate to the location of the affected worker.

## **8. References**

[OAR 437-002-0156 OR-OSHA Permanent Rule - Heat Illness Prevention](#)

[OAR 437-002-0161 \(4\) Emergency medical plans](#)

[OSHA Working in Outdoor and Indoor Heat Environments](#)

## **9. Review of Policy and Procedures**

This policy will be reviewed annually or as state and federal regulations are revised and necessitate a change in the policy or procedures.

Adopted: July 2021

Revised June 2022



# Heat exposure can be dangerous

## Signs of a medical emergency!



- Abnormal thinking or behavior
- Slurred speech
- Seizures
- Loss of consciousness

## Take these actions

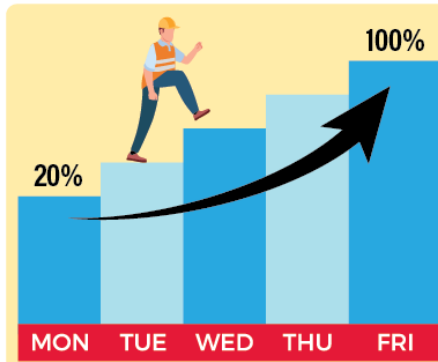
- 1** » CALL 911 IMMEDIATELY
- 2** » COOL THE WORKER RIGHT AWAY WITH WATER OR ICE
- 3** » STAY WITH THE WORKER UNTIL HELP ARRIVES







# Prevent Heat Illness at Work



**Ease into Work.** Nearly 3 out of 4 fatalities from heat illness happen during the first week of work.

Build a tolerance to heat by increasing intensity by 20% each day.



Drink cool water even if you are not thirsty



Rest for long enough to recover from the heat



Take breaks in a shady or cool area



Wear a hat and dress for the heat



Watch out for each other



Verbally check on workers wearing face coverings



# Heat illness signs and symptoms

**Watch for signs of heat illness and act quickly. When in doubt, call 911.**

## If a worker experiences:

Headache or nausea  
Weakness or dizziness  
Heavy sweating or hot, dry skin  
Elevated body temperature  
Thirst  
Decreased urine output



## Take these actions:

- » Give cool water to drink
- » Remove unnecessary clothing
- » Move to a cooler area
- » Cool with water, ice, or a fan
- » Do not leave alone
- » Seek medical care (if needed)

