

OSHA – National Emphasis Program Outdoor and Indoor Heat-Related Hazards

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- This information is a tool for addressing workplace hazards and is not an exhaustive statement of an employer's legal obligations, which are defined by statute, regulations, and standards.
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HEAT HAZARDS



Heat is a well-known occupational hazard for outdoor and indoor workers that can cause serious or fatal illness.



At a minimum, employers should provide adequate water, rest breaks, and shade or a cool rest area for employees.



Employees should be trained on heat illness prevention, signs of heat illness, and how to act if they or another employee appears to be suffering from a heat related illness.

HEAT HAZARDS

- Employees should be trained on heat illness prevention, signs of heat illness, and what to do if they or another employee appears to be suffering from a heat related illness.
- Managers should also be trained so they can identify and help prevent heat illness themselves.
- Employees who are new or returning to a high-heat workplace may need time to gradually get used to working in hot temperatures.



Heat Illness Prevention

[Heat](#) | [Employer Responsibilities](#) | [Information for Workers](#) | [More Resources](#) | [National Heat Contest](#)

Heat Illness Prevention

Every year, dozens of workers die and thousands more become ill while working in hot or humid conditions. OSHA's Heat Illness Prevention campaign educates employers and workers on heat hazards and provides resources to keep workers safe.



Employer Responsibilities

Employers can keep workers safe in the heat.

[Learn More](#)



Information for Workers

Understand workers' rights and what workers should know about heat illness.

[Learn More](#)



More Resources on Heat

Heat illness is serious, but you can prevent it.

[Learn More](#)

Featured Resources

[Heat Injury and Illness Prevention in Outdoor and Indoor Work Settings Rulemaking](#)
[OSHA National Emphasis Program – Outdoor and Indoor Heat-Related Hazards Young Workers and Heat Illness](#) (PDF)

NEW

[Safety in 5 - Plan and Respond to a Heat Emergency](#) (PDF) **NEW**
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Heat




Planning and Supervision >
Heat-Related Illnesses & First Aid >
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Heat-Related Illnesses and First Aid

Several heat-related illnesses can affect workers. Some of the symptoms are non-specific. This means that when a worker is performing physical labor in a warm environment, any unusual symptom can be a sign of overheating.

Heat-Related Illness	Symptoms and Signs
Heat stroke	<ul style="list-style-type: none">• Confusion• Slurred speech• Unconsciousness• Seizures• Heavy sweating or hot, dry skin• Very high body temperature• Rapid heart rate
Heat exhaustion	<ul style="list-style-type: none">• Fatigue• Irritability• Thirst• Nausea or vomiting• Dizziness or lightheadedness• Heavy sweating• Elevated body temperature or fast heart rate
Heat cramps	<ul style="list-style-type: none">• Muscle spasms or pain



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	<ul style="list-style-type: none"> • Usually in legs, arms, or trunk
Heat syncope	<ul style="list-style-type: none"> • Fainting • Dizziness
Heat rash	<ul style="list-style-type: none"> • Clusters of red bumps on skin • Often appears on neck, upper chest, and skin folds
Rhabdomyolysis (muscle breakdown)	<ul style="list-style-type: none"> • Muscle pain • Dark urine or reduced urine output • Weakness

Employers and workers should become familiar with the heat symptoms. When any of these symptoms is present, promptly provide first aid. Do not try to diagnose which illness is occurring. Diagnosis is often difficult because symptoms of multiple heat-related illnesses can occur together. Time is of the essence. These conditions can worsen quickly and result in fatalities.

When in doubt, cool the worker and call 911.

See below for further first aid recommendations.

First Aid

OSHA's [Medical Services and First Aid standard](#) and the [Medical Service and First Aid in Construction](#) require the ready availability of first aid personnel and equipment. First aid for heat-related illness involves the following principles:

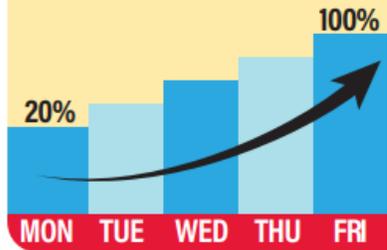
- Take the affected worker to a cooler area (e.g., shade or air conditioning).
- Cool the worker immediately. Use active cooling techniques such as:
 - Immerse the worker in cold water or an ice bath. Create the ice bath by placing all of the available ice into a large container with water, standard practice in sports. **This is the best method to cool workers rapidly in an emergency.**
 - Remove outer layers of clothing, especially heavy protective clothing.
 - Place ice or cold wet towels on the head, neck, trunk, armpits, and groin.
 - Use fans to circulate air around the worker.
- Never leave a worker with heat-related illness alone. The illness can rapidly become worse. Stay with the worker.
- When in doubt, call 911!



Confusion, slurred speech, or unconsciousness are signs of heat stroke. **When these types of symptoms are present, call 911 immediately and cool the worker with ice or cold water until help arrives.**

Ways to Protect Yourself and Others

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



- ✓ **New** and **returning** workers need to build tolerance to heat (acclimatize) and take frequent breaks.
- ✓ **Follow the 20% Rule.** On the first day, work no more than 20% of the shift's duration at full intensity in the heat. Increase the duration of time at full intensity by no more than 20% a day until workers are used to working in the heat.



Drink Cool Water

Drink cool water even if you are not thirsty — at least 1 cup every 20 minutes.



Take Rest Breaks

Take enough time to recover from heat given the temperature, humidity, and conditions.



Find Shade or a Cool Area

Take breaks in a designated shady or cool location.



Dress for the Heat

Wear a hat and light-colored, loose-fitting, and breathable clothing if possible.



Watch Out for Each Other

Monitor yourself and others for signs of heat illness.



If Wearing a Face Covering

Change your face covering if it gets wet or soiled. Verbally check on others frequently.

HEAT HAZARDS

The following are signs of a medical emergency!



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

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



OSHA HEAT NEP (NATIONAL EMPHASIS PROGRAM)

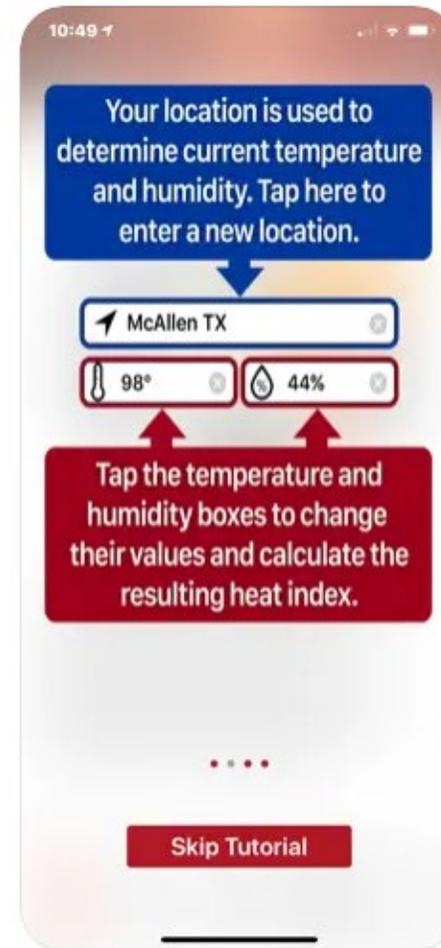
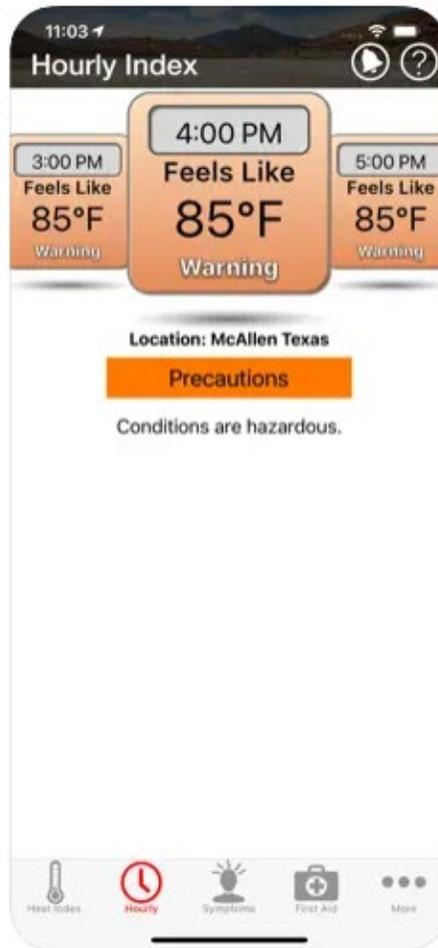
- The NEP was implemented in 2022.
- Preliminary data from heat NEP inspections found that most employers (95% or more) have available water and access to shade for their workers.
- However, we also found that there is room for improvement on training on the signs and symptoms of heat stress or providing first aid measures when needed.
- The Heat NEP has been extended through April 2026 and will continue while OSHA revises it.
- **Bottom line: NO ONE SHOULD RISK THEIR HEALTH OR LIFE FOR SIMPLY GOING TO WORK**
- OSHA will continue to perform compliance assistance visits as part of the NEP.

Heat Safety Tool

By U.S. Department of Labor (DOL), Occupational Safety and Health Administration (OSHA) and the Centers for Disease Control and Prevention (CDC), National Institute for Occupational Safety and Health (NIOSH)

Android

iPhone



Section 5(a)(1) violation

Under OSHA law, employers are responsible for providing workplaces free of known safety hazards like hot and humid conditions.

SEC.5.Duties

(a)Each employer --

- (1)shall furnish to each of his employees, employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
- (2)shall comply with occupational safety and health standards promulgated under this Act.

Resources & More Information

- OSHA Heat Illness Prevention www.osha.gov/heat
- OSHA Technical Manual www.osha.gov/otm
- NOAA's National Integrated Heat Health Information System (NIHHIS) www.heat.gov
- Working in Outdoor & Indoor Heat Environments www.osha.gov/heat-exposure
- Heat Illness Prevention for Managers www.osha.gov/heat-exposure/prevention
- OSHA Heat Exposure First Aid www.osha.gov/heat-exposure/illness-first-aid
- Protecting Workers from the Effects of Heat [Publication OSHA3743](#)
- **Temporary Worker Initiative- Exposure to Outdoor & Indoor Heat-Related Hazards**
[TWI Bulletin No. 12 – Publication OSHA4185](#)
- Protecting Temporary Workers [Publication OSHA3735](#)
- Remembering Tim: A life lost to heat illness at work (youtube.com)

Temporary Worker Initiative – Heat-Related Hazards

TWI BULLETIN NO. 12



Temporary Worker Initiative

Exposure to Outdoor and Indoor Heat-Related Hazards

This is part of a series of guidance documents developed under the Occupational Safety and Health Administration's (OSHA's) Temporary Worker Initiative (TWI). This Initiative focuses on compliance with safety and health requirements when **temporary workers** are employed under the joint employment of a **staffing agency** and a **host employer**.

Introduction

Temporary workers are entitled to the same protections under the Occupational Safety and Health Act of 1970 (the OSH Act) as all other covered workers. When a staffing agency supplies temporary workers to a business, typically, the staffing agency and the staffing firm client, commonly referred to as the host employer, are joint employers of those workers. Both employers are responsible for determining the conditions of employment and complying with the law. In these joint employment situations, there are common questions regarding how each employer can fulfill its duty to comply with the OSH Act and other applicable standards. This bulletin addresses what both the staffing agency and the host employer can do to ensure that temporary workers in high-hazard industries are protected from heat-related hazards.

Dangers of Exposure to Heat Hazards

Exposure to heat hazards both outdoors and indoors could lead to serious illness, injury, or death. Heat-related illnesses and injuries can happen at varying ambient temperatures, especially in cases where workers are not acclimated, perform moderate or higher physical activity, or wear heavy or bulky clothing or equipment, including personal protective equipment. Heat-related illnesses and injuries also

generally occur when body heat generated by physical work is performed in conditions of high ambient heat, especially when combined with humidity and inadequate cooling. See [Appendix A](#) for a list of serious heat-related illnesses, along with common signs and symptoms of exposure.¹ Heat-related fatalities have occurred with a heat index below 80°F, particularly when aggravating factors are present, and are usually the result of exertional heat stroke, where physical activity in hot environments causes the body temperature to reach 104°F or higher (normal body temperature is around 98.6°F).

Heat Index

The National Weather Service (NWS) uses a heat index (HI) to classify environmental heat into four categories:

- Caution (80°F – 90°F HI);
- Extreme Caution (91°F – 103°F HI);
- Danger (103°F – 124°F HI); and,
- Extreme Danger (126°F or higher HI).

The HI, sometimes referred to as the apparent temperature, is given in degrees Fahrenheit and is a measure of how hot it really feels when relative humidity is factored in with the actual air

temperature.² When the HI is 80°F or higher, serious occupational heat-related illnesses and injuries become more frequent, especially in workplaces where unacclimated workers are performing strenuous work (e.g., intense arm and back/lifting work, carrying, shoveling, manual sawing, pushing and pulling heavy loads, and walking at a fast pace), without easy access to cool water, or cool/shaded areas, when working in direct sunlight or areas where other radiant heat sources are present.

The OSHA-NIOSH [Heat Safety Tool App](#) is a resource for finding the forecasted and current heat index near your location. The Heat App indicates the hazard levels using the HI as:

- Caution less than 80°F HI;
- Warning 80°F to 94°F HI; and,
- Danger at 95°F HI or higher.

Currently OSHA does not have a specific standard addressing heat-related hazards. However, the agency recently issued an Exposure to Outdoor and Indoor Heat-Related Hazards National Emphasis Program (NEP) to protect workers from such hazards. The Heat NEP outlines policies and procedures to identify and eliminate or reduce worker exposures to occupational heat-related illnesses and injuries in general industry, construction, maritime, and agriculture. It targets specific high-hazard industries expected to have the highest exposures to heat-related hazards and resulting illnesses and deaths. On any day that the NWS announces a heat warning or advisory for the local area, compliance safety and health Officers (CSHOs) will conduct on-site inspections at these targeted high-hazard industries. Likewise, on a heat priority day, a day when the heat index for the day is expected to be 80°F or more, CSHOs will provide compliance assistance to employers when conducting on-site inspections, even if the establishment is not on the high-hazard industries list. On heat priority days, CSHOs are encouraged to be aware of heat hazards they may observe in their job-related travel and conduct compliance assistance or self-referrals for inspections.

Employers Responsibilities

All employers covered under the OSH Act must ensure that workers are protected from heat-related hazards. To protect their workers, employers should implement the following:

- Develop a program that outlines the steps the employer will take to protect their workers from heat hazards.
- Provide regular access to cool water and to cool and/or shaded areas for rest.
- Allow new and returning workers to acclimatize to working in the heat.

Acclimatization is a process by which a person gradually increases their exposure time to hot environmental conditions, causing beneficial physiological changes that improve body temperature regulation and minimize risk of HRIs by properly regulating body temperature that minimizes heat-related illnesses. It is therefore essential for employers to train new or returning workers on heat-related hazards including heat stress, gradually increase their workloads, ensure more frequent breaks as they acclimatize to ambient conditions, and monitor them for signs of heat illness.

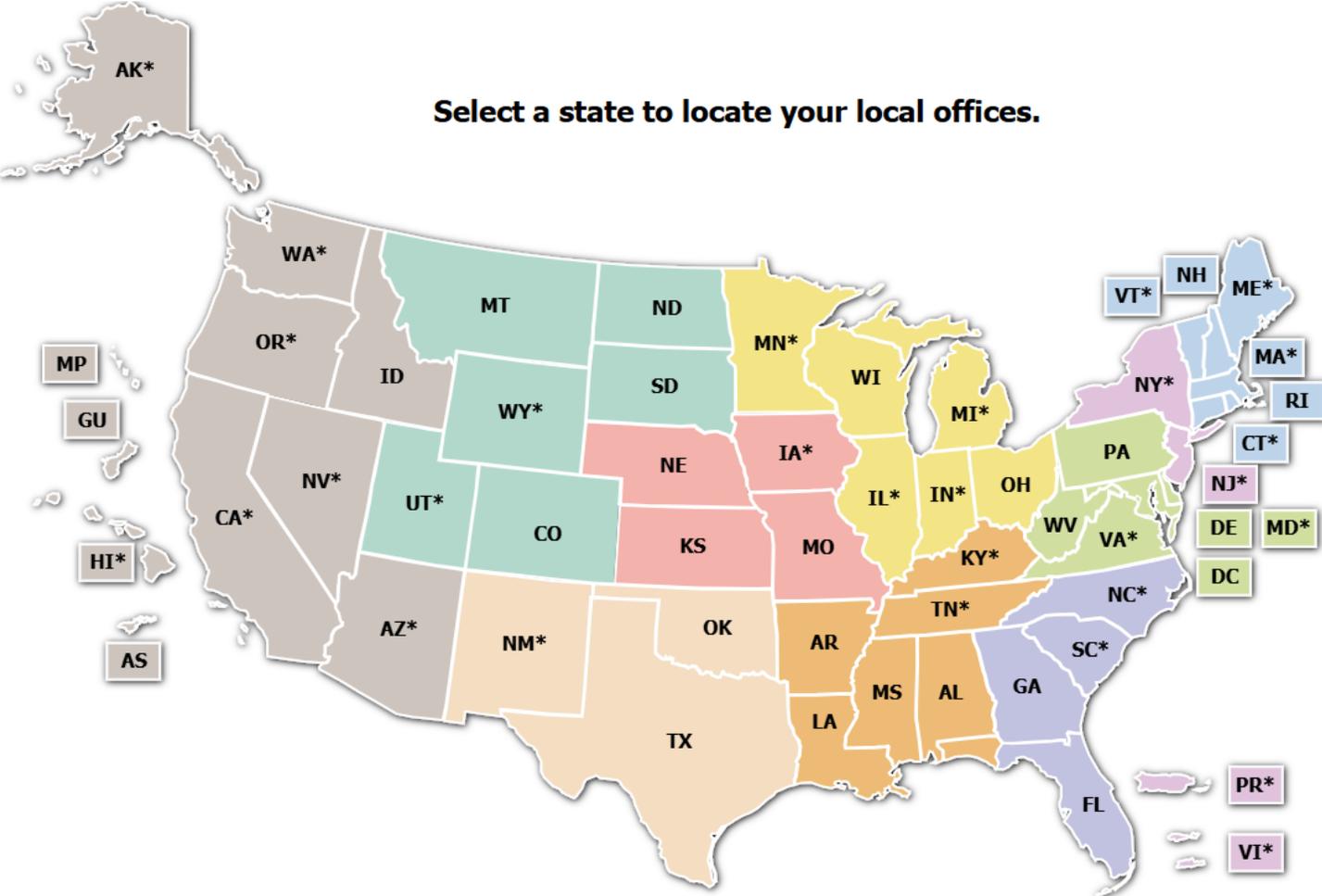
- Implement a “buddy” system.
- Buddy system entails pairing the workers so that they can recognize when symptoms are observed in each other and take the necessary steps before heat illness develops.
- Implement administrative controls (e.g., earlier start times, and employee/job rotation) to limit heat exposures.
- Train workers on heat illness signs, how to report signs and symptoms, first aid, how to contact emergency personnel, prevention methods, and the importance of hydration.
- Train supervisors on the Heat Illness Prevention Plan to include monitoring workers for signs and symptoms of HRIs, to monitor temperatures of outdoor sites, to remind workers to stay hydrated, and to establish and enforce rest and cool-down breaks.

Training must be done in a language the workers will understand.

1. Appendix F in the Heat NEP.

2. See www.weather.gov/bgm/heat.

OSHA Offices by State



Find Office By State

Select a State

- [Consultation Offices](#)
- [State Plans](#)
- [Worker Rights \(Complaints\)](#)
- [OSHA Office Directory](#)

OSHA Regional Offices

- [Boston](#)
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* This is one of the 29 OSHA-approved State Plans. Twenty-two State Plans (21 states and Puerto Rico) cover both private and state and local government workplaces. The other seven State Plans (Connecticut, Illinois, Maine, Massachusetts, New Jersey, New York, and the Virgin Islands) cover state and local government workers only.

Work Safely in Heat

Indoor and outdoor workers are at risk for heat illness.



Heat illness is preventable



Drink cool water



Take rest breaks



Find shade or a cool area



Wear light-colored, loose-fitting clothing where possible



Check on each other



Some equipment can increase your heat exposure

THANK YOU!

Questions?

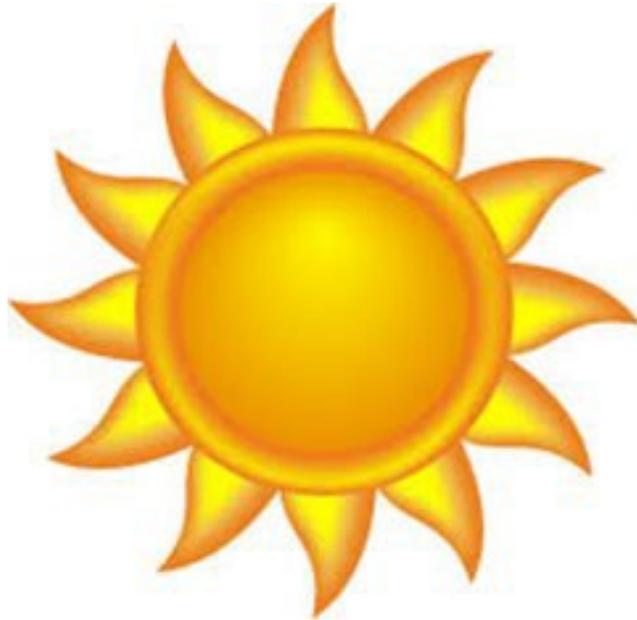
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**DON'T WAIT...
HYDRATE!**

**Prevent
heat illness
at work**

[osha.gov/heat](https://www.osha.gov/heat)

