

Protecting Your Employees From Extreme Heat

SUMMER 2024

Last year was the hottest in recorded history, and experts predict another record-breaking summer. As extreme heat events become more frequent and more severe in our changing climate, here's what you need to know about the risks to your workforce and business health.

Health Hazards of Extreme Heat

Nearly one in four Americans are vulnerable to health threats from high temperatures. In fact, heat kills more people in the U.S. every year than hurricanes, tornadoes and flooding combined.

Extreme heat impacts both indoor and outdoor workers across multiple industries, including mining, agriculture, construction, manufacturing, military, transportation and shipping, warehousing, emergency response and more.

In extreme heat, workers are at higher risk for health hazards, including:

- Workplace injuries
- Heat stroke, heat exhaustion and other heat illnesses
- Heart attack and stroke
- Rapid muscle breakdown
- Acute kidney injury
- Preeclampsia and preterm birth
- Dehydration
- Respiratory problems
- Mental health distress
- Poor mental processing
- Long-term cognitive decline
- Chronic kidney disease
- Complications from other preexisting chronic conditions



Extreme Heat Is Bad for Business



Workplace Injuries

Even small heat spikes result in higher risk of occupational injuries, and that risk increases with the temperature.



Occupational Illnesses

Every 2°F degree rise above 93°F leads to a 40% increase in medical expenses and a 74% increase in workdays missed due to occupational heat illnesses.



Reduced Productivity

As temperatures reach 90°F, worker productivity declines by 25%. Above 100°F, productivity decreases by 70%.



Absenteeism

Sustained heat increases absenteeism by 1-2% for every additional day of elevated temperatures.



Health Care Costs

Extreme heat drives up U.S. health care costs by \$1 billion each summer.

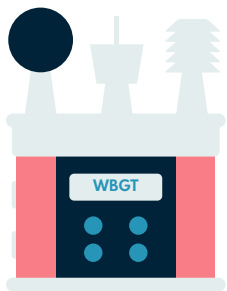


Economic Impact

Loss of labor due to heat exposure costs the U.S. economy an estimated \$100 billion annually, expected to grow to \$500 billion per year by 2050.

Heat Monitoring

Regularly check heat conditions and adjust your safety practices accordingly.



WBGT

An on-site wet bulb globe temperature meter is the most accurate heat stress measurement tool. It accounts for temperature, humidity, wind speed and solar radiation.

Heat Index

The heat index (HI) is how hot it feels outside based on air temperature and humidity. However, the HI doesn't account for radiation or air flow. The OSHA-NIOSH Heat Safety Tool App can tell you the current and forecasted heat index near your location.

The National Weather Service classifies dangerous heat conditions into four risk levels and outlines health hazards for each.

Heat Index	Risk Level	Health Impacts
80°F–90°F	Caution	Fatigue possible with prolonged exposure or physical activity
91°F–103°F	Extreme Caution	Heat cramps, heat exhaustion or heat stroke possible, heat cramps possible with prolonged exposure or physical activity
104°F–124°F	Danger	Heat cramps or heat exhaustion likely, and heat stroke possible with prolonged exposure or physical activity
125°F or higher	Extreme Danger	Heat stroke highly likely

Implement a Heat Stress Management Plan

While only a handful of states have developed heat safety regulations, a new [federal heat standard](#) proposed by the U.S. Occupational Safety and Health Administration (OSHA) would cover workers across the country. Business leaders can prepare for the new heat standard, instill a culture of safety and protect their workforce by prioritizing heat safety measures now.

Start by creating a heat stress plan that includes training, prevention strategies and emergency response. Involve employees in developing and reviewing the plan to ensure it's practical, and identify a point person or safety manager to oversee training and implementation. Post the plan in a highly visible location at the work site and on your intranet or employee portal.

Here are some key elements of an effective plan:

EMPLOYEE AND MANAGER TRAINING

Train all employees and front-line supervisors on heat safety guidelines, symptoms of [heat-related illnesses](#), first aid measures and emergency protocols. Sharing the Commission's "Employee Tip Sheet: Protecting Yourself From Extreme Heat" is a good first step.

ACCLIMATIZATION

[Almost half](#) of heat-related workplace deaths occur on a worker's very first day on the job, and [over 70%](#) occur during the first week. Help [new workers](#) build heat tolerance by [gradually](#) increasing workload and heat exposure over 1-2 weeks. Workers returning from an absence of a week or more will need to reacclimate.

SCHEDULING

For outdoor workers, plan strenuous activities for cooler parts of the day, especially when the heat index meets the "caution" threshold of 80°F.

HYDRATION

Provide easy access to cool drinking water. Remind workers to drink small amounts of water frequently — about [8 ounces](#) every 15-20 minutes.

SHADE

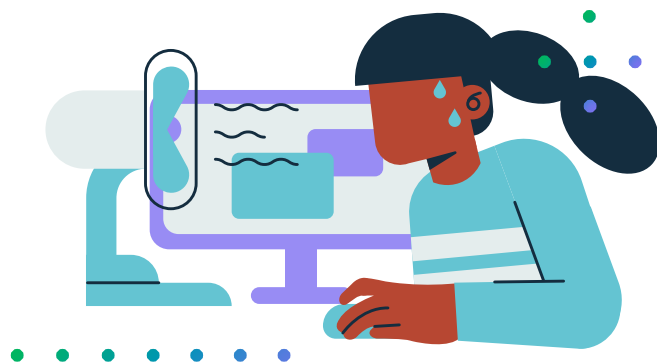
For outdoor workers, provide outdoor cooling fans, misters and air-conditioned or shaded cooling and rest stations large enough to accommodate all on-site employees.

REST

Enforce regular breaks for workers to rest and recover, ideally in a cool area. CDC's National Institute for Occupational Safety and Health (NIOSH) created a sample work/rest [schedule](#) based on the heat index and physical intensity of the work. Encourage employees to take a break as often as they need.

VENTILATION AND AC

For indoor workplaces, use fans, air conditioning and ventilation to lower temperatures, including in vehicles and warehouses. Make sure remote workers have adequate cooling in their home offices.



CLOTHING

Encourage lightweight, light-colored and loose-fitting clothing to help keep employees cool. If you supply uniforms, consider sourcing options that fit these criteria. Provide longer rest breaks for work that requires personal protective equipment (PPE) like boots and gloves, surgical gowns, respirators or face shields, which can increase heat stress.

PERSONAL COOLING EQUIPMENT

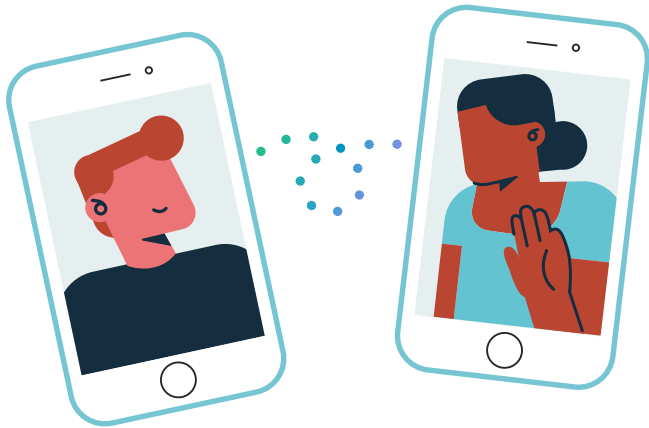
Invest in cooling vests, neck coolers, caps with built-in fans, misters and other personal cooling gear to help manage heat exposure.

WEARABLE TECH

With workers' consent, use wearable technology to monitor their vital signs and environmental conditions in real time so you can immediately initiate preventative or emergency heat stress protocols when needed.

CHECK-INS

Use a buddy system to pair workers who can monitor each other for signs of heat illness. For those who must work alone, such as delivery drivers, arrange regular check-ins via phone or radio. Supervisors should conduct frequent check-ins with all workers, especially during heat waves, to ensure everyone is safe in hot conditions.



EMERGENCY RESPONSE

Train employees and supervisors on handling heat-related emergencies, including when and where to seek immediate medical attention. If possible, provide on-site medical assistance.

SAFE REPORTING CHANNELS

Implement an anonymous reporting system for workers to share concerns about workplace health and safety practices, and make sure all workers know who to contact.

CONTINUOUS IMPROVEMENT

Regularly review and update heat safety programs based on feedback and changing conditions.



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In extreme heat, both indoor and outdoor workers are at higher risk for health hazards, including death, occupational injuries and serious long- and short-term illnesses. Here's what you need to know to protect yourself.

Monitor the Heat Index

The heat index is how hot it feels outside, based on temperature and humidity. Monitor the forecast via TV, radio or a weather app on your phone, and pay close attention to heat advisories. When the heat index is high, be extra cautious.

Heat Index	Risk Level	Health Impacts
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Tips for Staying Safe in Extreme Heat

Learn your company's heat stress management policies, including what to do in a medical emergency and who to contact about heat safety concerns. If your company does not have a policy, still take proactive steps to protect yourself.



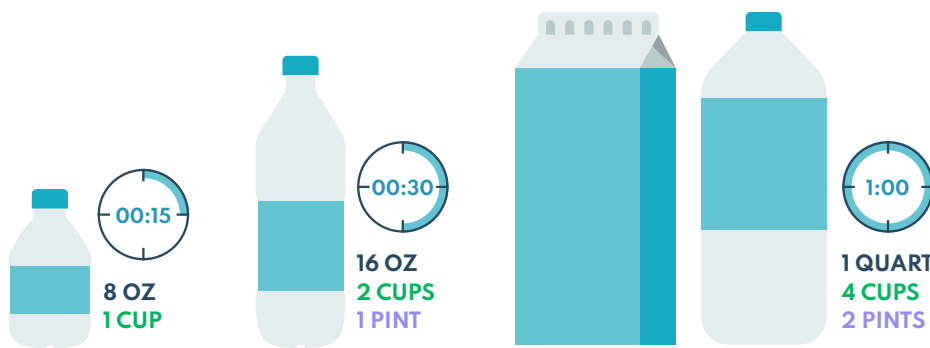
KNOW YOUR RISKS

Understand your personal risk factors, such as age, pregnancy, chronic conditions or medications (including diuretics, blood pressure pills and antidepressants) that can affect how your body deals with heat. Talk to your doctor about what precautions you should take.



STAY HYDRATED

Hydrate before work by drinking 2-3 cups of water a few hours before your shift. Drink small amounts of water frequently throughout the day before you get thirsty — about 8 ounces every 15-20 minutes, which is about 1 quart per hour. (Pale yellow urine is a sign you are drinking enough water.) Don't drink more than 1 1/2 quarts per hour, and maintain your electrolyte levels with regular, balanced meals. Avoid alcohol, soda and energy drinks, which can increase your risk of heat illness.



TAKE BREAKS

Take frequent breaks in shaded or air-conditioned areas. If possible, complete strenuous work during cooler times of the day.



WEAR PROTECTIVE CLOTHING

Wear lightweight, light-colored and loose-fitting clothing, as well as sunscreen, wide-brimmed hats, sunglasses, cooling vests, neck coolers and other protective gear.



WATCH FOR SYMPTOMS

Use a buddy system to monitor yourself and your co-workers for heat illness symptoms.



SEEK HELP

Seek immediate help and medical attention if you or a co-worker experience symptoms of heat illness. Report any concerns about workplace health and safety practices to your supervisor, safety manager, HR leader or other designated contact.

Recognizing Signs of Heat Illness

Monitor yourself and your colleagues for signs of heat illness, including sunburn, heat rash, heat cramps and dehydration. Pay special attention to signs of heat exhaustion and heat stroke, including physical symptoms and changes in behavior. If you see symptoms, act fast.

HEAT EXHAUSTION

Heat exhaustion occurs when the body loses too much water and salt, usually through excessive sweating.

Symptoms	Act Fast
<ul style="list-style-type: none">• Headache• Dizziness• Sweating profusely• Nausea or vomiting• Cold, pale and clammy skin• Rapid heartbeat, weak pulse• Muscle cramps• Fever, chills• Weakness, fatigue• Confusion• Passing out, fainting	<ul style="list-style-type: none">• Move to a cool place.• Take frequent sips of cool water.• Loosen or remove unnecessary clothing, including shoes and socks.• Use cool, wet cloths or wash your head, face and neck with cold water.• If your symptoms persist or worsen, get immediate medical attention on-site, go to your nearest urgent care clinic or emergency room, or call 911.

HEAT STROKE

Heat stroke is the most serious heat-related illness. When the body can no longer cool itself through sweating, body temperature can spike within minutes and lead to death or permanent disability.

Symptoms	Act Fast
<ul style="list-style-type: none">• Confusion, altered mental state• Slurred speech• High body temperature (103°F or higher)• Hot, red, dry skin• Passing out, fainting• Seizures, convulsions• Rapid heartbeat, strong pulse	<ul style="list-style-type: none">• CALL 911• Stay with the person until emergency medical care arrives.• Move the person to a cooler place and remove outer clothing.• Use a fan, cold water, ice, and wet cloths or soaked clothing to help cool the worker quickly.• Don't give a person with altered consciousness anything to drink, because they could inhale the liquid.



NATIONAL COMMISSION ON Climate and Workforce Health

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EDITORIAL NOTE: This tip sheet was developed by the Health Action Alliance and reviewed by members of the National Commission on Climate and Workforce Health; however, it is not endorsed by every Commission member or their affiliated organizations. The Health Action Alliance is solely responsible for the content of this tip sheet and maintains full editorial control of its resources. For more information about how we work with corporate sponsors, please refer to our Corporate Sponsorship Policy.

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