

Heat Illness Prevention

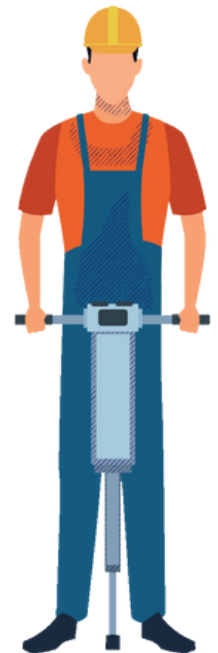
What Employers Can Do to Protect Workers from Heat



This toolkit equips Louisiana employers with the knowledge and resources to safeguard outdoor workers from the dangers of heat stress. With proper training and essential protections, employers can prevent serious illness or even death among employees.

Training

- Train ALL employees and supervisors on heat illness prevention.
- Heat safety training resources in this toolkit include:
- [Heat Illness Prevention: What Workers Need to Know](#): A guide to the core elements of worker trainings.
- [Heat Illness Prevention: Water, Rest and Shade](#): Details about the three essential prevention elements.
- [Heat Illness](#): Know how to recognize the symptoms and respond to heat illness.
- [Employer's Daily Checklist](#): Use this to reinforce trainings and safe work practices.
- Conduct trainings close to hot seasons (i.e., spring). Refresh trainings annually and during the hot season.
- Provide trainings in the language of workers.
- Ensure workplace settings and resources align with practices outlined in trainings.



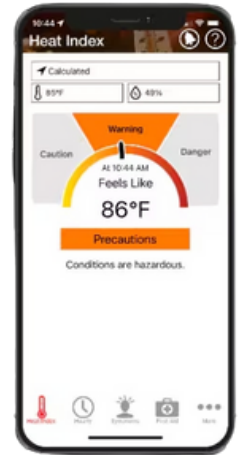
Scheduling

- Employers can use scheduling to prevent heat-related illness.
- Modify work schedules based on current worksite conditions.
 - Reduce physical demands during the hottest part of the day by moving heavy work to cooler times of the day or night.
 - Split up or rearrange shift work to earlier or later in the day to avoid the hottest hours.
 - Stagger job tasks and/or rotate workers to accommodate rest breaks.
- Remember: Physical labor increases the heat experienced by workers. Heat-related illness can occur at low to moderate temperatures when the workload is very heavy.



Monitoring

- Monitor heat hazards.
 - **Wet bulb globe temperature (WBGT):** WBGT is a parameter that estimates the effect of temperature, relative humidity, wind and solar radiation on humans. OSHA recommends the WBGT to measure workplace environmental heat and to establish activity modifications during outdoor work.
 - **OSHA-NIOSH Heat Safety Tool:** This app calculates heat index for worksites and displays a risk level for outdoor workers. Keep in mind that the app's weather data may not accurately reflect worksite conditions, and the heat index-based risk levels may not be sufficiently protective for all workers.



OSHA-NIOSH Heat Safety Tool

Acclimatization

- **WHAT is acclimatization?**
 - Acclimatization is the body's slow adjustment to working in heat that occurs as a person is gradually exposed to hot conditions.
 - Workers who are new to working in warm environments need time to adapt to working in hot conditions.
 - Acclimatization is fully achieved in most people within 4 to 14 days of gradually increasing the amount of work per day in the heat.
- **WHO needs to acclimatize?**
 - New, temporary or existing employees who start work activities:
 - In warm or hot environments
 - With increased physical activity
 - Wearing additional clothing (e.g., chemical protective clothing)
 - Workers returning to work after an absence for one week or more
 - Workers who work on days when the weather is significantly warmer than on previous days
 - Workers who continue to work through seasonal changes when temperatures first begin to increase in spring or early summer
- **WHY acclimatize?**
 - Workers are more likely to develop heat illness if they have not adjusted to working in hot conditions.
 - Over half of heat-related deaths occur on a worker's very first day.
 - Over 70% of heat-related deaths occur during a worker's first week.



• HOW to acclimatize:

- Schedule new workers to work shorter amounts of time working in the heat.
- Give new workers more frequent rest breaks.
- OSHA recommends the “Rule of 20%” for building heat tolerance.
 - **20% first day:** New workers should work only 20% of the normal duration on their first day.
 - **20% each additional day:** Increase work duration by 20% on subsequent days until the worker performs a normal schedule.
- Following the 20% rule, most new workers will be working a full schedule by the end of the first week.
- Other workers may require more time to adapt to heat — up to 14 days in some cases. When in doubt, give workers more days to acclimatize.
- Remember, to help workers build heat tolerance, reduce the duration of the work but not the intensity of the work.

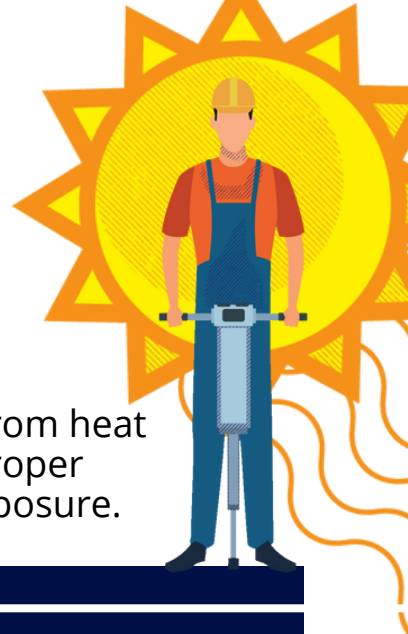
EXAMPLE ACCLIMATIZATION SCHEDULE

	DAY 1	DAY 2	DAY 3	DAY 4	DAY 5
Total Hours Worked	1.6 hours	3.2 hours	4.8 hours	6.4 hours	8 hours
Example	7 a.m. – 8:30 a.m.	7 a.m. – 10:15 a.m.	7 a.m. – 11:45 a.m.	7 a.m. – 1:20 p.m.	7 a.m. – 3 p.m.

Heat Illness Prevention

What Workers Need to Know

This guide provides the knowledge and tools to protect yourself from heat stress while working outdoors in Louisiana. With these tips and proper training, you can avoid serious illness or even death from heat exposure.



Prevention Practices

- Follow the [Heat Illness Prevention: Water, Rest and Shade](#) recommendations.
- Dress for the heat:
- Wear a hat.
- Wear light-colored, loose-fitting and breathable clothing.
- Wear long-sleeved shirts and pants.
- Apply sunscreen before and throughout your shift.
- Stay hydrated, even after work hours.
- Voice health concerns to co-workers and supervisors.

Risk Factors

- **Environmental conditions**
 - Air temperature, humidity, sunlight and wind.
 - Humidity makes it harder for the body to stay cool.
- **Physical activity**
 - Physical labor increases the body's heat.
 - Risk increases with duration and intensity of physical work.
 - Heat-related illness can occur at low to moderate temperatures when the workload is very heavy.
- **Clothing and personal protective equipment (PPE)**
 - Certain clothing and PPE can reduce the body's ability to cool (e.g, flame-resistant clothing).
- **Personal risk factors***
 - Chronic health conditions* put workers at an increased risk.
 - Heart disease
 - High blood pressure
 - Diabetes



- Use of medications and substances* can affect body's reaction to heat.
 - Diuretics
 - Antidepressants
 - Antihistamines
 - Antihypertensives (e.g., high blood pressure medications)
 - Benzodiazepines
 - Stimulants (amphetamines, cocaine, ecstasy)
 - Ethanol (drinking alcohol)

**Note: This is not a complete list of chronic conditions or medications.*

Know Signs and Symptoms and How to Respond

- **Ensure that workers know symptoms and treatments for heat illness.**
- **Implement a buddy system.**
 - Workers experiencing heat illness are often unaware they are experiencing symptoms.
 - It is recommended that workers work in pairs so they can monitor their partner's behavior for symptoms of heat illness.
 - If workers are wearing PPE that covers their faces, check in with them verbally.
- **Ensure workers know how to call for help.**
 - Call 911!
 - Call 911 immediately when suspecting serious heat illness.
 - Tell 911 the individual is experiencing heat stroke.
 - Provide first aid measures.
 - Prioritize cooling down the individual: Move him to shade, remove heavy clothing, and place ice or cool, wet cloths on the neck, armpits and groin area.
 - Workers experiencing heat illness should never be left alone.
 - Prepare to safely transport the individual.
- **Know your location and surroundings.**
 - If there is no cell service in the area, radio or walkie-talkie systems should be in place to contact someone who is able to call 911.
 - Ensure employees know how to direct emergency services to their location, especially when in a remote area.

Heat Illness Prevention

Water, Rest and Shade



Louisiana's heat can be brutal, especially for outdoor workers. Staying hydrated and taking breaks in the shade are essential to prevent heat illness and keep you safe on the job.

Water

Proper hydration is essential for preventing heat illness.

- Encourage workers to drink at least 1 cup of water every 15 minutes (1 quart per hour) while working in the heat.
 - This is equivalent to:
 - 2 standard 16-ounce water bottles an hour, or 1 every 30 minutes
 - 8 paper cones an hour, or 4 every 30 minutes
 - Ensure that enough water is available for all workers throughout their shift
 - Designate an employee to refill and transport water
- Equip all work areas with water that is:
 - Clean and potable
 - Free of charge
 - Cool (less than 60°F)
 - Close to the worksite and break areas
- Provide electrolyte drinks in addition to water when workers perform strenuous, sweating-producing tasks for extended periods.
- Encourage workers to hydrate continuously.
 - Water is the best way to stay hydrated.
 - Encourage workers to hydrate even if they are not thirsty.
 - Encourage workers to hydrate before, during and after work.
 - Motivate workers to keep a sealable bottle of cool water in their work area.

Rest

Workers need to rest in the shade to cool themselves and recover from the heat.

- Encourage frequent rest breaks that are long enough to recover from the heat and for the heart rate to slow (at least 5 minutes).
- Provide seating such as chairs or ice chests to prevent workers from absorbing heat from the ground.
- Workers should not wait until symptoms occur to rest



Shade

Workers need a shady or cool location to take breaks and recover from the heat.

- Provide shade when temperatures are 80°F and warmer.
- Shade needs to:
 - Block direct sunlight so that objects do not cast a shadow.
 - Cover all workers on the break.
 - Cover a large enough area for workers to be distanced from each other and comfortable underneath.
- If vehicles are used as a rest area, park the vehicle in the shade and cool it with air conditioning prior to using it.

Examples of Shade

Full and thick trees



Shade tarps or tents



Pop-ups



Canopies



Umbrellas



Buildings



Open-air or mechanically ventilated areas



Heat Illness

Heat illness can be mild or severe. Workers and employers need to know the symptoms and treatments to prevent serious heat illness and death.



TYPE	SYMPTOMS	WHAT TO DO
Heat Rash	<ul style="list-style-type: none"> Red, itchy bumps on the skin resembling pimples 	<ul style="list-style-type: none"> Move to a cool, dry place Keep rash dry Use baby powder or calamine lotion to soothe rash
Heat Cramps	<ul style="list-style-type: none"> Painful muscle spasms in the arms, legs and belly Involuntary movements 	<ul style="list-style-type: none"> Stop physical activity Water, rest, shade Inform co-workers, supervisor of symptoms Have a snack Wait for cramps to stop before continuing physical activity Get medical help right away if cramps last longer than an hour
Heat Exhaustion	<ul style="list-style-type: none"> Heavy sweating Cold, pale, clammy skin Nausea or vomiting Muscle cramps Tiredness/weakness Dizziness Headache Fainting/passing out 	<ul style="list-style-type: none"> Stop physical activity Water, rest, shade Inform co-workers, supervisor of symptoms Elevate legs Remove heavy clothing Put cool, wet cloths or ice on neck, armpits and groin area Turn on side if vomiting Do not return to work until symptoms subside Get medical help right away if: <ul style="list-style-type: none"> You are throwing up Symptoms get worse Symptoms last more than an hour
Heat Stroke	<ul style="list-style-type: none"> Very high body temperature (103 or higher) Hot, red, dry or damp skin Confusion Unconsciousness Slurred speech Seizures 	<ul style="list-style-type: none"> Heat stroke is a medical emergency — call 911 right away Move to a cool, shaded area Elevate legs DO NOT have water or other drinks Remove heavy clothing Place ice or cool, wet cloths on neck, armpits and groin area Turn to side if vomiting

**Ensure
Workers are
Protected From
Heat Stress**

Employer's Daily Checklist



Water	Is there fresh, cool drinking water located near workers?	<input type="checkbox"/>
	Are coolers refilled throughout the day?	<input type="checkbox"/>
Shade	Is shade available if workers need breaks or need to recover?	<input type="checkbox"/>
Training	Do workers know:	
	Common signs and symptoms of heat illness?	<input type="checkbox"/>
	Proper precautions to prevent heat illness?	<input type="checkbox"/>
	The importance of acclimatization?	<input type="checkbox"/>
	The importance of drinking water frequently (even when they are not thirsty)?	<input type="checkbox"/>
	Steps to take when someone is showing symptoms of heat illness?	<input type="checkbox"/>
Emergencies	Does everyone know who to notify in case of an emergency?	<input type="checkbox"/>
	Can workers explain their location if an ambulance is called?	<input type="checkbox"/>
	Does everyone know how to provide first aid?	<input type="checkbox"/>
Work Reminders	Drink water often.	<input type="checkbox"/>
	Rest in the shade.	<input type="checkbox"/>
	Report heat symptoms early.	<input type="checkbox"/>
	Know what to do in an emergency.	<input type="checkbox"/>