

Using the Heat Index: A Guide for Employers

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STEP 1: Develop a heat-related illness prevention plan before heat

STEP 3: Track the weather for the worksite daily and assess the risk to workers. Know how hot it will be during scheduled work activities and use this information to determine which preventive measures should be taken.

Check with the **National Weather Service** to get the current or predicted heat index values and see a map of areas under excessive heat warning across the U.S. The heat index is also announced by television and radio stations as part of the local weather. Monitor weather reports daily to remain prepared for high heat index levels. **Use OSHA's Heat Smartphone App** to check the heat index for your worksite and see reminders about the protective measures for the specified risk level.

STEP 4: Implement your plan when the heat index is at or above 80° Fahrenheit. Adjust risk level based on site conditions (direct sunlight vs. shaded, with breeze), work load, and type of protective clothing.



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Protective Measures to Take at Each Risk Level

Use the protective measures described for each risk level to help you plan ahead, and schedule and train your workers so that everyone is prepared to work safely as the heat index rises.

Actions for Low Risk Conditions: Heat Index Less Than 91°F

Actions for Moderate Risk Conditions: Heat Index is 91°F to 103°F

Actions for High Risk Conditions: Heat Index is 103°F to 115°F

Actions for Very High to Extreme Risk Conditions: Heat Index Greater Than 115°F

Summary of Risk Levels and Associated Protective Measures

The most critical actions employers should take to help prevent heat-related illness at each risk level:

Heat Index	Risk Level	Protective Measures
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hot outdoor work begins. **Train workers** on how to recognize symptoms of heat-related illness, individual risk factors for heat-related illness, how to prevent it, and what to do if someone has symptoms so they are prepared when hotter, higher-risk work conditions arise.

Encourage workers to wear sunscreen and use other protections from direct sunlight. Provide shade, hats, and sunscreen, when possible. Sunburn reduces the skin's ability to release excess heat, making the body more susceptible to heat-related illness.

Drinking Water

Water should have a palatable (pleasant and odor-free) taste and water temperature should be 50°F to 60°F, if possible.

Sanitation standard 29 CFR 1910.141 requires that employers provide "potable water" at work.

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Who to call for medical help
Who will provide first aid until the ambulance arrives

The resources under Educational Resources are useful training tools for daily meetings and toolbox talks.

Schedule frequent rest breaks in cool, shaded areas.

Provide air conditioned or shaded areas close to the work area.
Set up temporary shade when working in open fields or areas without easy

Ensure that adequate medical services are available. Where medical services (e.g., emergency medical services, clinic, hospital) are not available within 3-4 minutes, have appropriately trained personnel and adequate medical supplies on site. The trained personnel should have 27-hour certification for first aid and CPR, or equivalent training. (A first aid certificate is required at maritime and construction work sites.)

Respond to heat-related illness and medical emergencies without delay.
Workers who



Heat Index	Risk Level	Protective Measures
Less than 91°F	Lower (

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**Heat
exhaustion**

apply ice packs, cool compresses, or ice if available
Provide fluids (preferably water) as soon as possible
Stay with worker until help arrives

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About Work/Rest Schedules

Rather than being exposed to heat for extended periods of time during the course of a job, workers should, wherever possible, be permitted to distribute the workload evenly over the day and incorporate work/rest cycles. Work/rest cycles give the body an opportunity to get rid of excess heat, slow down the production of internal body heat, slow down the heart rate, and provide greater blood flow to the skin.

For the best protection from heat related illness, workers should spend the rest periods of the cycle in a cool place, for example in a lightly air conditioned room, trailer or vehicle, or if one is not available, then in full shade.

Rest periods do not necessarily mean that the workers are on break; these can be productive times. During the rest periods, workers may continue to perform mild or light work, such as completing paperwork, sorting small parts, attending a meeting, or receiving training (e.g., instructions for upcoming work, or a tailgate safety talk).

Have a knowledgeable person at the worksite that is well informed about heat related illness and able to modify work activities and the work/rest schedule as needed. When evaluating an appropriate work/rest schedule:

Shorten work periods and increase rest periods:

- As temperature rises
- As humidity increases
- When sun gets stronger
- When there is no air movement
- When protective clothing or gear is worn
- For heavier work

When an air conditioned space

a rest period of 15 minutes every hour during hot weather, but 45 minutes per hour when temperature and humidity are extreme. Individual requirements may vary greatly.

Setting a

Heavy

Intense arm and trunk
work
Carrying, shoveling,
manual sawing
Pushing or pulling heavy
loads
Walking at a fast pace (4
miles)

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Monitoring Workers at Risk of Heat-related Illness

NIOSH/OSHA/USCG/EPA Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, Chapter 8 (1985) offers guidance for performing physiological monitoring of workers at hot worksites. It describes the following options for worker monitoring to help manage the risk of heat-related illness:

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Examples of Monitoring Options

	after the work period	measure with an oral thermometer (available from drug stores)	drinks cool beverages frequently (as is recommended).
	Initial baseline and again after the work period	<i>Tympanic temperature</i> – measure with an infrared thermom2 Tm0 g[(m)]	

			methods.
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**Respiratory
(breathing)**

Metrosonics, no date. Manual #2039-003 Rev. C.

Mini Mitter, no date. VitalSense Integrated physiological