

Personal Risk Factors and Heat Exposure

Overview

Hot work environments can be dangerous for all workers, especially over long periods of time. Millions of workers are exposed to heat in their workplaces and thousands of workers are sickened each year from heat injuries or illnesses. Even workers who have built up tolerance to, or acclimated to, the heat need to be careful. This is because some workers feel the effects of heat differently than others. It's important to know what may make you more vulnerable to heat injury and illness.

This is a guide that will help you identify which factors may cause you to be more at risk for heat injury and illness. In addition to the environment you are working in, the clothes you are wearing, and type of work activities you are doing, certain health conditions, medications, and physical and behavioral characteristics may increase your risk for heat illness and injury.

Your work environment and activities may increase your risk of heat injury and illness. In addition, you may also have one or more personal risk factors that increase your risk.



Although you may be exposed to similar levels of heat and engaged in the same type of work as your coworkers, personal risk factors may cause you to be at greater risk for heat injury and illness. Ultimately, it is the employer's responsibility to ensure that the workplace is safe and healthful for workers; however, a heat injury and illness prevention plan needs the meaningful participation of workers and their representatives to be effective.

Personal Risk Factors

Use the following diagram to learn more about which factors may reduce your tolerance to heat.



Health conditions

Some **health conditions** may cause you to be less likely to sense and respond to changes in temperature.

- Diabetes
- High blood pressure
- Heart disease
- Kidney disease
- Mental health conditions
- Overweight or obese
- Respiratory diseases, like asthma and chronic obstructive pulmonary disease (COPD)



Medications

Certain **medications** may cause you to be less likely to feel heat conditions and/or limit your ability to sweat or retain water to cool your body.

- Antihistamines
- Blood pressure medications
- Diarrhea medications
- Diuretics (water pills)
- Muscle relaxants
- Psychiatric medications
- Sedatives



Physical characteristics

Some **physical characteristics** may cause you to become dehydrated faster and/or limit your ability to cool your body.

- Older age (60 years and older)
- Lower level of physical fitness
- Pregnancy
- History of prior heat illness
- Acclimatization status (i.e., if you have built up tolerance to the temperature you are working in)



Behavioral characteristics

Certain **decisions**, like what you consume and put in your body, may dehydrate you and impair the way your body normally regulates itself.

- Alcohol use within 24 hours of your shift
- Use of illicit drugs, such as opioids, methamphetamine, and cocaine
- Lower intake of water

Note: this list is not comprehensive. Other factors can also make you more susceptible to heat injury and illness. Talk to your doctor to see if any of your health conditions, medications, or other aspects of your life increase your risk of suffering a heat illness, and find out what methods you can take to reduce that risk.

Staying Safe

Heat injury and illness can be prevented, and you can prepare for working in hot environments. Use the tips below to help plan how you can stay safe at work:



Talk to your medical provider.

Discuss how you can best prepare for work in hot conditions.



Remember your acclimatization status.

When returning to work after time away or if conditions get hotter, gradually increase back to your normal workload.



Stay hydrated.

Drink 1 cup (8 oz.) of water every 15-20 minutes, even if you are not thirsty.



Know the signs and symptoms of heat illness.

If you feel ill, notify your supervisor and move to a cool space.



Take rest breaks.

It's best to rest in air-conditioned or cool, shaded areas.



Be a buddy.

Check on your coworkers, and if they show any signs of heat illness, report it to a supervisor. Cool them right away with water or ice, and stay with them until help arrives.



Wear clothing that is safe yet minimizes heat stress, if possible.

Loose fitting and light-colored clothing made of breathable fabric, like cotton, allow your body to cool more easily.



Know what to do in an emergency.

Ensure you know your workplace's emergency response protocols. When in doubt, call 911!



Additional Information

For more information on preventing heat injury and illness, check out the following resources:

[Building Heat Tolerance and Protecting New Workers](#)

[Signs and Symptoms of Heat-Related Illnesses and First Aid](#)

[Water, Rest, Shade](#)

Sources

OSHA: www.osha.gov/heat-exposure/

NIOSH: "Heat Stress Risk Factors" www.cdc.gov/niosh/mining/UserFiles/works/pdfs/2017-125.pdf

NIOSH: www.cdc.gov/niosh/topics/heatstress/recommendations.html

Federal law entitles workers to a safe workplace. Workers have the right to speak up about hazards without fear of retaliation. See www.osha.gov/workers for information about how to file a confidential complaint with OSHA and ask for an inspection.

1-800-321-OSHA (6742) | TTY 1-877-889-5627 | www.osha.gov/heat