

Weather and Thermal Stress Safety

Hot Temperature Exposure and Safety

What causes heat stress?

Working in hot environments, outdoors and indoors, can affect the body's cooling system. If the body is unable to cool itself, heat stress can occur. If not recognized early, this can quickly develop into more serious and life-threatening conditions. Physical exertion and outdoor activities increase this risk if precautions are not taken.

What are signs and symptoms?

As a worker's body heats up it loses fluids and salt through sweat. As workers dehydrate they are less able to cool themselves down. Workers in a hot environment should be aware of these warning signs of heat stress:

- Excessive sweating
- Dizziness
- Nausea

If heat stress is not recognized and treated early, it can lead to heat disorders, which have serious effects on the body. These include:

Heat cramps

- Painful muscle cramps
- Can lead to heat exhaustion if left untreated

Heat exhaustion

- Shallow breathing
- Increased heart rate
- Weak, rapid pulse
- Cool, pale, clammy skin
- Sweating
- Weakness, fatigue, dizziness
- Headache and nausea
- Fainting
- Muscle cramps
- Can lead to heat stroke if left untreated

Heat stroke

- Hot, dry, flushed skin
- No longer sweating
- Agitation and confusion
- Decreased level of consciousness and awareness

- Headache
- Nausea and vomiting
- Seizures
- Increase in breathing rate
- Irregular pulse
- Shock
- Cardiac arrest

How to prevent exposures?

First, if workers can be exposed to heat stress, a risk assessment must be done.

General guidance:

- Monitor heat conditions and require workers not to work alone.
- Ensure there is adequate first-aid coverage and emergency procedures are in place.
- Check the signs and symptoms for yourself and co-workers.

Review the hierarchy of controls:

- Move tasks to cooler environments or times (typically before 11 a.m.).
- Make physical modifications to facilities, equipment, processes to reduce exposure.
- Establish cooling areas with shade and water.
- Change work practices and policies to limit the risk.
- Determine appropriate work-rest cycles; when a worker feels ill it may be too late.
- Rotate work activities or use additional workers to reduce exposure.
- Drink plenty of water (one glass every 20 minutes).
- Take rest breaks in a cool, well-ventilated area.
- Wear light-coloured, loose-fitting clothing made of breathable fabric, such as cotton.

Outdoors

- Protect yourself from the sun by staying in the shade, avoiding direct sun mid-day, wearing a hat and protective clothing, using sunscreen, and wearing UV-protective eyewear.
- Seek cooler, breezier areas when outdoors, such as large parks near to water with lots of trees.
- Stay hydrated – drink water regularly, even more than you think you need.
- Take it slow with outdoor activities – rest and relax often if you feel fatigued.

- Temperatures can rise rapidly in enclosed vehicles, becoming much hotter than the outdoor temperature.

Indoors

- Make your space as comfortable as possible.
- Close blinds and shutters during the daytime and open them at night. Open windows at night to let in cooler air.
- If you have air conditioning, use it to take the edge off indoor heat.
- If you don't have air-conditioning, take shelter in the coolest room in your home and use a fan. Blowing a fan across a pan of ice water can create a cool breeze.
- Cool showers and misting yourself and your clothing with cool water will help keep you from overheating
- Stay hydrated---drink water regularly, even more than you think you need.
- Check in regularly with vulnerable people by phone or video.

What if someone is feeling ill from heat exposure?

Signs of progress to a heat stroke or concerns of are medical emergency and must call 911 and first aid.

Typically for heat disorders other than Heat Stroke, the individual can be moved to a cooler environment and call first aid.

Additional support, resources and references:

- [WorkSafeBC – Heat Stress](#)
- [BCCDC - Warm weather safety in a time of COVID-19](#)