

Heat-related Illness

What is heat-related illness?

Too much heat can be harmful to your health. Heat-related illness is the result of your body gaining heat faster than it can cool itself down. Heat-related illnesses can almost always be prevented.

Heat-related illness can lead to weakness, disorientation, and exhaustion. In severe cases, it can lead to heat stroke, also known as sunstroke. Heat stroke is a life-threatening medical emergency. The effects of heat are made worse if you do not drink enough fluids to stay hydrated.

What causes heat-related illness?

A healthy human body maintains a temperature of about 37°C (98.6°F). When your body temperature rises, heat is released through increased blood flow to the skin and increased sweating. This allows your body to cool and return to its normal temperature.

Being in a hot environment can make your body temperature go up. Examples of hot environments include the inside of a car or a tent on a hot day, the upper floors of a house on a sunny day, a hot tub or sauna, and heat from direct warmth or sunlight in the outdoors.

Heat-related illness occurs when your body is unable to properly cool itself. This occurs when you are overexposed to heat (indoors or outdoors), or during intense physical activity while it is hot.

Heat-related illnesses can also occur in your workplace if a hot environment is created by equipment or enclosed spaces. Examples include: bakeries, kitchens, laundries, boiler rooms, foundries and smelting operations, mines, and certain manufacturing plants.

What are the symptoms of heat-related illness?

The symptoms of heat-related illness can range from mild to severe. They include:

- Pale, cool, moist skin
- Heavy sweating
- Muscle cramps
- Rash
- Swelling, especially hands and feet
- Fatigue and weakness
- Dizziness and/or fainting
- Headache
- Nausea and/or vomiting
- Fever, particularly a core body temperature of 40°C (104°F) or more
- Confusion and decreased mental alertness
- Hallucinations
- Red, hot, dry skin (in the late stages of heat stroke)
- Seizures
- Unconsciousness/coma

Who is at higher risk of heat-related illness?

Those at increased risk for heat-related illness include:

- Infants and children up to 4 years of age who rely on adults to make sure their environments are comfortable and provide them with enough fluids.
- People 65 years of age or older who may not compensate for heat stress efficiently and are less likely to sense and respond to high temperatures.

- People who have heart problems and breathing difficulties.
- People who do intensive physical activity or work in a hot environment.

Other things that may increase your risk of heat-related illness include:

- Increased body mass
- Drinking too much alcohol or caffeine
- Chronic illnesses such as uncontrolled diabetes or hypertension, heart failure, emphysema, kidney failure, colitis, mental health issues, and cystic fibrosis
- Certain medications such as diuretics or water pills, and certain psychiatric medications
- Previous heat stroke
- High humidity
- Being unable to find a place to cool down
- Not drinking enough water during hot weather

How can I prevent heat-related illness?

There are many ways to reduce the risk of having a heat-related illness. These include:

- Never leave children alone in a parked car. Temperatures can rise to 52°C (125°F) within 20 minutes inside a vehicle when the outside temperature is 34°C (93°F). Leaving the car windows slightly open will not keep the inside of the vehicle at a safe temperature.
- Drink plenty of fluids. Drink extra water even before you feel thirsty and if you are active on a hot day. Ask your health care provider about how much water you should drink on hot days if you are on water pills or limiting your fluid intake.
- Keep cool. Stay indoors in air-conditioned buildings or take a cool bath or shower. At temperatures above 30°C (86°F), fans alone may not be able to prevent heat-related illness. Remember, sunscreen will protect against the sun's ultraviolet (UV) rays but not from the heat.
- Plan your outdoor activity before 10 a.m. or after 4 p.m., when the sun's Ultraviolet (UV) radiation is the weakest.

- Avoid tiring work or exercise in hot, humid environments. If you must work or exercise, drink 2 to 4 glasses of non-alcoholic fluids each hour. Rest breaks are important and should be taken in the shade.
- Avoid sunburn. Use a broad spectrum sunscreen with SPF 30 or higher on exposed skin and an SPF 30 lip balm.
- Wear lightweight, light-coloured, loose-fitting clothing and a wide brimmed hat, or use an umbrella for shade.
- Regularly check older adults, children and others for signs of heat-related illness and make sure they are keeping cool and drinking plenty of fluids. Check on those who are unable to leave their homes, and people with emotional or mental health concerns whose judgment may be impaired.

What are home treatments for mild heat-related illness?

When recognized early most mild heat-related illnesses, sometimes called heat exhaustion, can be treated at home. Note that mild heat exhaustion does not cause changes in mental alertness. Consult a health care provider about changes in mental alertness in someone who has been in, exercising or working in the heat.

Home treatment for mild heat exhaustion may include:

- Moving to a cooler environment
- Drinking plenty of cool, non-alcoholic fluids
- Resting
- Taking a cool shower or bath

If your symptoms are not mild, last longer than 1 hour, change, worsen, or cause you concern, contact a health care provider.



BC Centre for Disease Control
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