
Heat stress – preventing heatstroke

Summary

- Heatstroke is a life-threatening emergency that can be avoided by following simple prevention measures.
 - Older people, young children, pregnant or breastfeeding women, and people with heart disease, high blood pressure or lung disease are most at risk.
 - During hot weather, drink plenty of water, stay cool indoors or in the shade, and restrict activity, especially exercise, renovating and gardening.
 - Call Triple Zero (000) if you or a family member show any signs of heatstroke.
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Heat stress occurs when the body becomes dehydrated and is unable to cool itself enough to maintain a healthy temperature. If left untreated, this can lead to heatstroke, which is a life-threatening medical emergency.

Prevention is the best way to avoid heatstroke.

People most at risk of heatstroke

Anyone can suffer from heatstroke, but those most at risk are:

- People over 65 years, particularly those living alone or without air conditioning
- Babies and young children
- Pregnant and nursing mothers
- People who have existing medical conditions, especially with heart disease, high blood pressure or lung disease
- People on medications for mental illness.

Heatstroke can cause organ damage or death

Heatstroke occurs when the core body temperature rises above 40.5 °C and the body's internal systems start to shut down. Normally, sweating helps to maintain a healthy body temperature by increasing heat loss through evaporation. When a person becomes dehydrated, they do not sweat as much, their blood becomes concentrated and organ functioning is impaired.

Many organs in the body can suffer tissue damage and the body temperature must be reduced quickly. Most people will have profound central nervous system changes such as delirium, coma and seizures. As well as effects on the nervous system, there can be liver, kidney, muscle and heart damage.

Causes of heat stress

There are many factors which can cause heat stress and heat-related illness, including:

Dehydration – to keep healthy, our body temperature needs to stay around 37°C. The body cools itself by sweating, which normally accounts for 70 to 80 per cent of the body's heat loss. If a person becomes dehydrated, they don't sweat as much and their body temperature keeps rising. Dehydration may happen after strenuous exercise (especially in hot weather), severe diarrhoea or vomiting, drinking too much alcohol, taking certain medications (for example, diuretics) and not drinking enough water.

Lack of airflow – working in hot, poorly ventilated or confined areas.

Sun exposure – especially on hot days, between 11am and 3pm.

Hot and crowded conditions – people attending large events (concerts, dance parties or sporting events) in hot or crowded conditions may also experience heat stress that can result in illness.

Bushfires – exposure to radiant heat from bushfires can cause rapid dehydration and heat-related illness. Bushfires usually occur when the temperature is high, which adds to the risk.

Some drugs, such as ecstasy and speed, also raise the body's temperature, which can lead to heat stress.

Symptoms of heatstroke

Heatstroke may appear similar to heat exhaustion, but the skin may be dry with no sweating and the person's mental condition worsens. They may stagger, appear confused, fit, collapse and become unconscious.

Warning signs of heatstroke vary, but may include:

- Very high body temperature
- Red, hot, dry skin (no sweating)
- Dry swollen tongue
- Rapid pulse
- Throbbing headache
- Dizziness, confusion, nausea
- Collapse
- Eventual unconsciousness.

Preventing heatstroke

Suggestions for preventing heatstroke include:

- Drink plenty of water or other cool, non-alcoholic fluids even if you're not thirsty (check with your doctor if you are on limited fluids or fluid pills.) Avoid drinking extremely cold liquids as they can cause stomach cramps.
- Plan ahead. Reduce activity and avoid exercise in hot weather. If activity is unavoidable, try to schedule it for the cooler part of the day and rest often. Whenever possible, stay indoors or in the shade.
- Stay cool and keep air circulating around you. Draw your blinds or curtains and use a fan or air conditioning if possible. If you don't have air conditioning, consider visiting an air-conditioned shopping centre or public library.
- Eat smaller meals more often and cold meals such as salad.
- Wear light-coloured, loose-fitting clothing made from natural fibres like cotton and linen.
- Keep yourself cool by using wet towels, putting your feet in cold water and taking cool (not cold) showers.
- Check in on older, sick and frail family, friends and neighbours who may need help coping with the heat. Call them at least once a day on any extreme heat day.
- Never leave children, older people or pets in cars.

If you must be out in the heat:

- Limit outdoor activity to the coolest part of the day.
- Protect yourself from the sun and **'slip, slop, slap'** when outside by covering exposed skin, using sunscreen and wearing a hat.
- **'Seek'** shade and **'slide'** on some sunglasses.
- Rest regularly in the shade and drink fluids frequently.

Managing events or workplaces

If you are organising a large event or sports activity, managing workers in a hot environment or engaged in fire fighting:

- Develop and follow a heatstroke prevention plan.
- Don't rely on fans to cool people, unless there is adequate ventilation.
- Know the signs and symptoms of heatstroke and know how to respond.
- If drinks are confiscated from patrons at the entrances to large events (for security reasons), ensure there is plenty of free water available and easily accessible.

Heatstroke is a medical emergency

Every minute's delay in cooling a person with heatstroke increases the likelihood of permanent injury or death. Apply first aid and seek medical assistance immediately if you, or someone you are with, shows any sign of heat exhaustion or heatstroke.

For more first aid information, visit the [St John Ambulance Australia website](#).

What to do for heatstroke

If someone you are with develops heatstroke:

- Call triple zero (000) for an ambulance.
- While waiting for emergency medical help, get the person to a cool shady area and lay them down.
- Remove excess clothing and wet their skin with water or wrap in wet cloths, fanning continuously.
- Do not give the person fluids to drink.
- Position an unconscious person on their side and clear their airway.
- Monitor their body temperature where possible and continue cooling efforts until the body temperature drops below 38 °C.
- Wait for the ambulance to urgently transport the person to hospital, where more intensive cooling and support can be given.
- If medical attention is delayed, seek further instructions from ambulance or hospital emergency staff.

Where to get help

- In an emergency, call triple zero (000)
- Emergency department of your nearest hospital
- Your doctor
- NURSE-ON-CALL Tel. 1300 60 60 24 – for expert health information and advice (24 hours, 7 days)
- Maternal and Child Health Line, Victoria (24 hours) Tel. 132 229

Things to remember

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- Call Triple Zero (000) if you or a family member show any signs of heatstroke.

This page has been produced in consultation with and approved by:

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