

Heat stress - preventing heat stroke

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 heat stroke, which is a life-threatening medical emergency.

Prevention is the best way to avoid heat stroke.

People most at risk of heat stroke

Anyone can suffer from heat stroke, 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 are physically unwell, especially with heart disease or high blood pressure
- People on medications for mental illness.

Heat stroke can cause organ damage or death

Heat stroke occurs when the core body temperature rises above 40.5C 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 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 stroke

People attending large events (concerts, dance parties or sporting events), working in hot and poorly ventilated or confined areas, or engaging in vigorous physical activity in hot weather are at increased risk of dehydration and heat stroke. Bushfires usually occur on days of high temperature. Exposure to radiant heat from bushfires can cause rapid dehydration and heat-related illness.

To avoid dehydration, drink plenty of non-alcoholic fluids and avoid activities that will cause an increase in your body heat. Some drugs, such as ecstasy and speed, also raise the body's temperature, while alcohol dehydrates the body.

Symptoms

Heat stroke 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 heat stroke vary but may include:

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

Preventing heat stroke at home

Suggestions for preventing heat stroke include:

- Drink plenty of water or other cool, non-alcoholic fluids. (Check with your doctor if you are on limited fluids or fluid pills.) Avoid drinking extremely cold liquids as they can cause stomach cramps.
- Avoid heavy exertion. Reduce physical activity and avoid vigorous exercise in hot weather. If activity is unavoidable, rest often. Whenever possible, stay indoors or in the shade.
- Stay cool and keep air circulating around you. Use air-conditioning if possible. (If you don't have air-conditioning, consider visiting an air-conditioned shopping centre or public library.)
- Eat regular, light meals.
- Wear lightweight clothing.
- Take a cool shower, bath or sponge bath.
- Check on older, sick and frail people who may need help coping with the heat (at least twice a day).
- Never leave anyone or pets in a closed parked car.

If you must be out in the heat:

- Limit outdoor activity to morning or evening hours.
- 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 heat stroke prevention plan.
- Don't rely on fans to cool people unless there is adequate ventilation.
- Know the signs and symptoms of heat stroke 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.

Heat stroke is a medical emergency

Heat stroke is a medical emergency. Every minute's delay in cooling the person 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 heat stroke. For more first aid information, visit the St John Ambulance Australia website.

What to do for heat stroke

If someone you are with develops heat stroke:

- 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 clothing and wet 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 the body temperature 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, always call triple zero (000) for an ambulance
- The 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. 13 22 29

Things to remember

- Heat stroke is a life-threatening emergency that can be avoided by following simple prevention measures.
- Older people, children, pregnant or breastfeeding women, and people with heart disease or high blood pressure are most at risk.
- During hot weather, drink plenty of fluids, stay indoors or in the shade, and avoid vigorous exercise.
- Seek urgent medical assistance if you or a family member shows any signs of heat stroke.

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

Department of Health - Environmental Health Unit

This Better Health Channel fact sheet has passed through a rigorous approval process. The information provided was accurate at the time of publication and is not intended to take the place of medical advice. Please seek advice from a qualified health care professional.

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