

Heat-Related Illness including Heat Stroke

Heat-related illness can range from mild conditions such as dehydration or cramps to very serious conditions such as heat stroke. Heat can also worsen many existing medical conditions.

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In Australia, every year, hot weather and heat waves cause illness, hospitalisations and sometimes death. It is important that everybody is aware of the signs and symptoms of heat-related illness in order to recognise and treat affected people promptly.

The best way to prevent heat-related illness is to drink plenty of water and to stay as cool as possible. Remember the 4 key messages to keep you and others healthy in the heat:



What is heat-related illness?

Heat-related illness includes dehydration, heat cramps, heat exhaustion, heat stroke and worsening of existing medical conditions. If you have a medical condition such as heart disease, diabetes, or kidney disease and if you take certain medications, heat can make your symptoms worse.

How does heat affect the body?

It is very important that a person's body temperature stays in the range of 36.1 – 37.8°C. If body temperature rises above this, a person may develop heat-related illness. When the weather is very hot, the body has to work very hard and produce a lot of sweat to keep itself cool. It is more difficult for a person to sweat if it is humid, or if the person is already dehydrated.

Exposure to high temperatures can make existing illnesses seriously worse (for example trigger a heart attack), cause serious permanent injuries (damage to the brain or other vital organs) as a result of untreated heat stroke, and in extreme cases result in death.

What are the health effects and how are they treated?

Heat-related illness includes dehydration, heat cramps, heat exhaustion, heat stroke, and worsening of existing medical conditions. The most common health problem during periods of hot weather is worsening of existing medical conditions. The best way to prevent heat-related illness is to drink plenty of water and to stay as cool as possible.

Dehydration: Mild to moderate dehydration makes the heart work faster and leads to reduced fluid available for sweating.

Symptoms:

- Dizziness and tiredness
- Irritability
- Thirst
- Bright or dark yellow urine
- Loss of appetite
- Fainting

What to do – first aid

- Drink plenty of water or diluted fruit juice (1 part juice in 4 parts water) and avoid tea, coffee or alcohol
- Move somewhere cool, ideally air-conditioned
- If possible use a spray bottle with water to cool yourself down
- If you start to feel unwell, seek medical advice

Heat cramps: usually affects people who sweat a lot during strenuous activity (e.g. sport or gardening). The sweating causes the body to lose salt and water. The low salt levels in the muscles may be the cause of heat cramps and they can be a symptom of heat exhaustion.

Symptoms:

- Muscle pains
- Muscle spasms

What to do – first aid:

- Stop all activity and lie in a cool space, legs slightly raised
- Drink water or diluted fruit juice (1 part juice in 4 parts water)
- Have a cool shower or bath
- Massage your limbs to ease spasms, apply cool packs
- Do not return to strenuous activity for a few hours after the cramps subside (exertion may lead to heat exhaustion/heat stroke)
- Seek medical advice if there is no improvement

Heat exhaustion: the body's response to an excessive loss of water and salt contained in sweat. If heat exhaustion is not treated, it can turn into heat stroke.

Symptoms:

- Heavy sweating (cool and moist skin)
- Pale skin
- Fast and weak pulse rate
- Shallow and fast breathing
- Muscle weakness or cramps
- Tiredness and dizziness
- Headache
- Nausea or vomiting
- Fainting

What to do – first aid

- Move to a cool place, ideally air-conditioned and lie down
- Remove excess clothing
- Take small sips of cool fluids
- Take a cool shower, bath or sponge bath
- Put cool packs under armpits, on the groin, or on the back of the neck to reduce body heat
- If symptoms worsen or if there is no improvement, seek urgent medical advice and call an ambulance if necessary

Heat stroke: is a life-threatening emergency and occurs when the body temperature rises above 40.5°C. Immediate first aid is very important, aim to lower body temperature as quickly as possible.

Symptoms:

- Sudden rise in body temperature
- Red, hot and dry skin (sweating has stopped)
- Dry swollen tongue
- Rapid pulse
- Rapid shallow breathing
- Intense thirst
- Headache
- Nausea or vomiting
- Dizziness or confusion
- Poor coordination or slurred speech
- Aggressive or bizarre behaviour
- Loss of consciousness, seizures or coma

What to do – first aid

- Immediately call 000 and ask for an ambulance
- Get the person into the shade, lay them down, and keep them as still as possible
- Give small sips of cool fluids if conscious and able to drink
- Bring their temperature down using any method available (sponging with cool water, cool shower, spraying with cool water from a garden hose or soaking clothes with cool water)
- Put cool packs under armpits, on the groin, or on the back of the neck to reduce body heat
- Do not give aspirin or paracetamol; they do not help and may be harmful
- If unconscious, lay the person on their side (recovery position) and check they can breathe properly
- Perform CPR if needed

Who is at risk?

Everyone needs to take care in hot weather but some people are at greater risk of serious health effects from the heat than others, including:

- People over the age of 75
- Babies and young children, pregnant or breastfeeding women
- People who are overweight or obese
- People who are not very mobile
- People who live by themselves, are homeless or without social support
- People who work in a hot environment
- People who exercise vigorously in the heat
- People with chronic diseases (e.g. heart disease, high blood pressure, diabetes, kidney disease, mental illness, dementia, alcohol and other drug use)
- People who have an acute illness, such as an infection with a fever or gastroenteritis (diarrhoea and/or vomiting)
- People who take certain medications (for a list of medications, please see our webpage [Beat the Heat](#))

How to prevent heat related illness

Remember the 4 key messages to keep you and others healthy in the heat:



Further information

Visit our webpage Beat the Heat for further information on:

- How to stay healthy in the heat
- How to prepare yourself and your home for hot weather
- Tips for carers - a section for people who care for, support or assist people who are at risk of serious health effects from hot weather
- Tips for parents - Babies and young children in hot weather
- Information for Aboriginal families
- Information for health professionals
- Further available resources in English and other languages

In NSW call 1300 066 055 to talk to your local Public Health Unit