

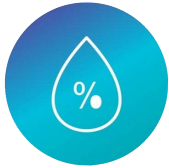
HEAT-RELATED ILLNESS FACT SHEET

WHS-PRO-INFO-030a

Heat stress poses serious health risks for many workers across Australia. Heat stress, if not controlled, can be the cause of a heat related illness such as **dehydration, heat rash, heat cramp, fainting or a heat stroke**. A heat related illness results when the body works too hard to keep cool and starts to overheat. If not controlled quickly, heat-related illness can be life threatening.

Heat Stress Factors

Heat Stress factors combine to create a total heat load on the body. Heat sources can come from:



HUMIDITY



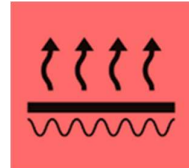
TEMPERATURE



PPE/CLOTHING



MEATABOLIC
HEAT



RADIANT HEAT



AIR MOVEMENT

Supervisors and workers should assess these factors and work to eliminate these risks or use other safety controls such as substitution, isolation, engineering or administrative actions to minimise the hazards. Refer to [WHS-PRO-002 WHS Risk Management Procedure \(Section 3\)](#) for more information and guidance on using these controls.

Who is at risk at JCU?

- Maintenance staff
- Staff and students participating in:
 - field trips on land and in the water
 - outdoor practicals and placements
 - animal care activities
- Age, certain medications and pre-existing conditions that can hinder the body's ability to produce sweat, may increase the individual's vulnerability to heat related illness
- Those who have recently recovered from a sickness that includes fever
- Staff/students who have not had an opportunity to acclimatise to the work environment

When?

In Northern Australia, generally the period between **November to February** is the time to be prepared for working safely in our hottest of days.

Do you remember?

BOM records the highest maximum temperatures for our region as:

Townsville	44.3°	07/09/1994
Cairns	42.6°	26/11/2018
Mount Isa	45.9°	29/01/1990
Charters Towers	44.9°	06/01/1994
Mackay	39.7°	26/11/2018

Heat Illness Signs - what to look for:

YOU

Self-monitor early warning symptoms

- Thirsty
- Dry lips and tongue
- Slowed mental function / low performance
- Reduced or dark urine

CO-WORKER

What to look for when monitoring others

- Inability to continue the activity
- High body temperature
- Dizziness and faintness
- Nausea, vomiting or diarrhoea
- Pale skin and other signs of shock
- Dry skin
- Poor muscle control or weakness
- Decreasing levels of consciousness, confusion or seizures

Refer to First Aid for the type of action depending on the symptoms.

A person with altered mental state in a hot environment has heat stroke until proven otherwise. Heat Stroke requires urgent cooling.

Heat Related Illness'

Heat induced illness presents with a spectrum of severity and can quickly become life threatening.

The best way to reduce your risk of a heat related illness is to;

- **Use WHS controls to reduce heat stress factors (see Page 2)**
- **Drink water often**
- **Keep your body as cool as possible**
- **Monitor yourself & your mates**
- **Know what to do in an Emergency**

HEAT RELATED ILLNESS FACT SHEET

What can I do to prevent illness?

Key controls:

- Schedule more physically demanding tasks for the cooler parts of the day during November to February
- Use equipment or plant to reduce physical demands (e.g. ride on mower instead of push mower)
- Install temporary shade
- Increase air movement using a fan
- Modify reflective surfaces
- Increase work break frequency, job rotation of tasks and slow down the pace of work if possible
- Wear loose fitting, lightweight clothes or self-cooling garments
- Keep an eye on new co-workers, who are not fully acclimatised to our extremes of temperatures
- Take breaks during the day in cool, shaded areas or airconditioned rooms to bring your core temperature down
- Monitor yourself and co-workers for signs of heat illness, act early

Useful Tools

Heat stress tools can be useful. These tools can provide an indication of the level of risk, suggesting that further control is required. They are not an indication of whether work should proceed or not.

[Sports Medicine Australia - Extreme Heat](#)

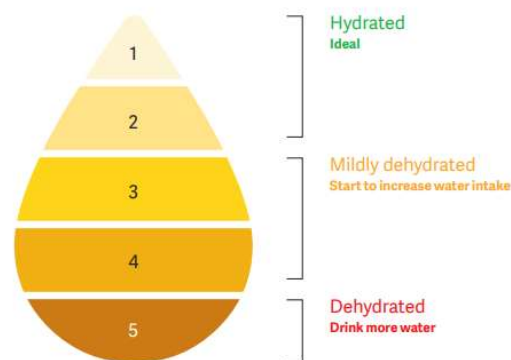
(A great resource developed by the leading Sports Medicine Organisation in the world. Discusses assessing heat related illness risk for various physical activities and cooling strategies amongst other topics.)

[Heat Stress Calculator - eTool from Work Health and Safety QLD](#)

(Online calculator to provide guidance on heat related illness looking at the heat stress factors for the task.)

Importance of Hydration:

- Drink regularly and keep fluids within an arm's reach to replace lost fluids
- Remember that thirst is satisfied before fluid loss is replaced
- Start your shift fully hydrated
- Learn to read your urine colour to tell if you are dehydrated - it will be clear if you are hydrated



<https://kidney.org.au/uploads/resources/KHA-Factsheet-drink-water-instead-2017.pdf>

- Limit your intake of diuretic drinks which make you pass more urine and therefore lose more fluid. Diuretic drinks = Coffee, Tea, Soft Drinks, Alcohol
- Ensure regular food breaks to replace lost electrolytes. Did you know that some foods can be more effective than electrolyte drinks!

Ideas to cool down quickly

- Try drinking cold fluids or ice slushies before physical activity. Note that cold water and ice slushy ingestion during physical activity is less effective for cooling!
- Water dousing – wetting your skin with cool water using a sponge or a spray bottle helps to increase evaporation
- Placing an ice pack or damp towel filled with crushed ice around your neck
- Wrapping in a tarp filled with ice slurry - ice water cooling (immersion and ice tarp 'taco') cools the core by 0.2°C per minute, which is twice as fast as enhancing evaporative cooling by covering the body in soaked towels. Great option for field work.



[TACO method link](#)

Unlike cold injury, where some caution is required when reverting towards normal temperature, heat-related illness requires rapid cooling of core temperature.

HEAT-RELATED ILLNESS FIRST AID

Suspected heat stroke requires immediate vigorous cooling to avoid neurological damage.

Ice-water immersion is the most effective means of cooling, working twice as fast as evaporative cooling using sprayed water and fans.

Symptoms		First Aid	Urgency
Heat rash	<ul style="list-style-type: none"> Itchy rash with small raised red spots on the face, neck, back, chest or thighs. 	<ul style="list-style-type: none"> Move to a cooler, less humid environment. Keep the affected area dry and remove unnecessary clothing, including PPE. Apply a cold compress. 	Seek medical advice if symptoms don't improve
Dehydration	<ul style="list-style-type: none"> Mild to severe thirst (remember that thirst is satisfied before fluid loss is fully replaced). Dry lips and tongue. Slowed mental function and lowered performance. Reduced or dark urine output. 	<ul style="list-style-type: none"> Drink water. Avoid caffeinated, carbonated and alcoholic drinks, and salt tablets. Loosen tight clothing and remove unnecessary clothing, including PPE. In cases of extreme heat or dehydration, replace electrolytes. 	Seek medical advice if symptoms don't improve or are severe.
Heat Cramps	<ul style="list-style-type: none"> Painful and often incapacitating cramps in muscles, particularly when undertaking demanding physical work. 	<ul style="list-style-type: none"> Stop activity and rest quietly in a cool place until recovered. Eat food or if unable to eat, drink an electrolyte solution. 	Seek medical advice if symptoms don't improve
Fainting	<ul style="list-style-type: none"> Fainting (heat syncope) can occur while standing or rising from a sitting position. 	<ul style="list-style-type: none"> Lie the Worker flat immediately with their legs slightly raised. Do not raise the head. Treat as for heat stroke and follow medical advice. 	Seek medical advice
Heat Stroke	<ul style="list-style-type: none"> Dehydration, thirst, and reduced or dark urine output. Sweating. The person stops sweating. Skin can be pink, warm and dry, or cool and blue. High body temperature above 39 C. Weakness or fatigue. Pounding, rapid pulse. Headache, dizziness and visual disturbances. Muscle cramps. Nausea and/or vomiting. Clumsiness or slower reaction times. Disorientation or impaired judgement. Tingling or numbness in fingers or toes. Rapid or short breathing. Rapid weak pulse or heart palpitations. Vomiting or an unwillingness to drink. Irritability and mental confusion. Collapse, seizures and unconsciousness. CARDIAC ARREST. 	<ul style="list-style-type: none"> Call 000 immediately. If cardiac arrest occurs follow DRSABCD action plan <p>While waiting for the ambulance:</p> <ul style="list-style-type: none"> Move the Worker to a cool place with circulating air. Loosen and remove excessive clothing, including PPE Immerse Worker in a bath of cold water (whole-body from the neck down) in a bath of cold water (preferably 1–7°) for 15 minutes. Continuously observe the Worker to ensure breathing and conscious. If immersion is not possible, use any combination of the options below: <ul style="list-style-type: none"> Cool the Worker by splashing cool or cold water on their skin or sponging their skin with a damp cloth. Make a wind tunnel by suspending sheets around, not on, the Worker's body. Use a fan to direct gentle airflow over the Worker's body. Fan continuously. Apply cold packs or wrapped ice to the Worker's neck, groin and armpits. If the Worker is conscious sit them up to drink cool fluid and electrolyte solution with sugar. Shivering will make the body temperature rise even further. If the Worker starts shivering, stop cooling immediately and cover them until they stop. Once they have stopped recommence first aid treatment. 	Call an ambulance immediately