

Working in Extreme Heat or Cold Procedures

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1. Governing Policy

[Work Health and Safety Policy](#)

[Work Health and Safety Management System](#)

2. Purpose

These procedures outline the responsibilities and requirements to enable workers, students and others to carry out work in extreme heat or cold without a risk to their health and safety so far as reasonably practicable.

3. Scope

These procedures apply to Flinders University workers, students and others who may be required to undertake work in extreme hot or cold conditions¹, on or off campus and including on University field trips.

4. Definitions

Heat-related illness

A range of medical conditions that can occur when the body cannot cool itself sufficiently in environments where there is high temperature (e.g. summer), high humidity (e.g. commercial kitchens), high level of physical activity (e.g. manual labour) or excessive or impervious clothing. These conditions include:

- dehydration
- fainting
- heat stroke (a life-threatening illness which requires immediate first aid and medical attention)

¹ Note: It is important to distinguish between a condition that threatens health and safety, and a feeling of discomfort. There is no legislation which specifies maximum or minimum temperatures in the workplace. Each situation must be assessed on a case-by-case basis taking into account the risk factors for heat and cold-related illnesses.

	<ul style="list-style-type: none"> • heat exhaustion • heat cramps • skin rashes • burns • heat fatigue • worsening of pre-existing illnesses and conditions.
Cold-related illness	<p>Occurs when the body is unable to cope when working in environments (including walk-in freezers and cool rooms) where the temperature is low (which will be aggravated by wind), immersion in water and working in wet clothing. These conditions include:</p> <ul style="list-style-type: none"> • hypothermia (a life-threatening illness which requires immediate first aid and medical attention) • frostbite • immersion foot • chilblain.

5. Risk Management

- a. Health and safety risks associated with working in extreme heat or cold must be managed in accordance with the [WHS Risk Management Procedures](#).
- b. Where extreme hot/cold hazards are identified, a risk assessment must be completed.

6. Identifying heat hazards

Key risk factors which must be taken into account include:

- i. air temperature
- ii. humidity
- iii. field work in hot climates
- iv. radiant heat (from the sun or other sources such as ovens)
- v. air movement or wind speed
- vi. workload (nature of work and duration)
- vii. physical fitness of the worker (including acclimatisation and any pre-existing conditions)
- viii. clothing
- ix. lack of shade.

7. Identifying cold hazards

Key risk factors which must be taken into account include:

- i. air temperature e.g., high altitudes
- ii. air movement or wind speed
- iii. wet weather

- iv. field work in cold climates
- v. cold from walk-in freezers and cold rooms
- vi. workload (nature of work and duration)
- vii. physical fitness of the worker (including acclimatisation and any pre-existing conditions)
- viii. clothing
- ix. lack of shelter.

8. Control measures

Where reasonably practicable to do so, eliminate risks associated with working in extreme hot / cold conditions. Where this cannot be achieved, the risk should be minimised as far as practicable in line with the hierarchy of controls. Appendix A sets out examples of possible control measures.

9. Safe work procedures

Safe work procedures must be written so that the control measures are documented and implemented.

10. Training

Workers, students and others who may be exposed to extreme hot or cold work/study environments must be trained in the hazards, risks and control measures and must be made aware of the early symptoms of heat or cold-related illness.

11. Signs and symptoms of heat or cold-related illness/health effects

- a. Appendix B sets out warning signs and symptoms of heat or cold-related illness/health effects.
- b. Immediate assistance must be provided if a worker, student or other person shows any of the warning signs or symptoms of heat or cold related illness.
- c. If the person's condition worsens, seek first aid and/or emergency assistance.

12. Responsibilities

Vice-Presidents and Executive Deans of College and Portfolio Heads	<ul style="list-style-type: none"> a. Ensure that these procedures are implemented in their College/Portfolio. b. Allocate sufficient resources for safe work in extreme heat or cold in their College/Portfolio.
Managers and supervisors	<ul style="list-style-type: none"> c. Implement these procedures in their area of responsibility, including. d. implement a systematic process for regular review of hazards associated with extreme hot or cold environments. e. ensure that control measures (including safe work procedures) are identified and implemented in consultation with relevant workers. f. ensure workers, students and others are aware of their responsibilities, and have adequate information, training and personal protective equipment (PPE) (e.g. hats, sunscreen, shelter, clothing).
Workers/students/others	<ul style="list-style-type: none"> g. Not place themselves or others at risk of injury.

	<ul style="list-style-type: none"> h. Adopt/use the required controls (e.g. wearing of PPE). i. Report conditions which may affect their work capability to their supervisor. j. Be able to recognise warning signs if their health is being affected by work in extreme hot or cold conditions.
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13. Related documents

[WHS Risk Management Procedures](#)

Code of Practice - [How to manage work health and safety risks](#)

Code of Practice - [Managing the work environment and facilities](#)

[Guidance Material – Managing the risks of working in heat](#)

[Guide on exposure to Solar Ultraviolet Radiation](#)

[Field trip guidelines](#)

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* Unless otherwise indicated, this policy or procedures still apply beyond the review date.

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Appendix A—Example control measures

a. Controls for extreme hot and/or humid weather

- i. If it is not possible to eliminate exposure to extreme heat and/or humidity, the risk of heat illness must be minimised so far as is reasonably practicable. For example:
 - increase air movement using fans/open windows
 - install air-conditioners or evaporative coolers to lower air temperature
 - isolate workers from indoor heat sources, for example by insulating plant, pipes and walls
 - remove heated air or steam from hot processes by using local exhaust ventilation
 - use mechanical aids to assist in carrying out manual tasks
 - alter work schedules so work is done at cooler times
 - use vehicles with air conditioning
 - find appropriate shelter
 - balance sun protection with the need to stay cool in hot conditions.
- ii. The following control measures should also be considered but are least effective if used on their own:
 - slow down the pace of work if possible
 - provide an appropriate supply of cool drinking water for the activity
 - provide a cool, well-ventilated area where workers and students can take rest breaks
 - implement work rotation strategies
 - provide opportunities for workers who are not used to working in hot conditions to acclimatise (e.g. job rotation and regular rest breaks)
 - ensure light clothing is worn to allow free movement of air and sweat evaporation
 - use personal protective equipment (e.g. hats, sunscreen).

b. Solar Radiation

Although exposure to solar ultraviolet radiation (UVR) and heat illness are separate hazards, both must be considered when assessing the risk of particular activities. Solar radiation poses a hazard even when conditions are not hot.

c. Controls for extreme cold weather

- i. If it is not possible to eliminate exposure to extreme cold, the risk of cold-related illness must be minimised so far as is reasonably practicable. For example:
 - provide localised appropriate and safe heating
 - provide protection from wind and rain, such as a hut or the cabin of a vehicle
 - implement work rotation strategies
 - limit handling of frozen or cold items to avoid hands losing feeling.
- ii. The following control measures should also be considered but are least effective if used on their own:
 - ensure warm and, if necessary, waterproof clothing (including hats and gloves) is worn

- provide opportunities for workers who are not used to working in cold conditions to acclimatise (e.g. job rotation and regular rest breaks)
- provide warm drinks
- use an appropriate rating sleeping bag.

d. Controls for working in cold-room and walk-in freezers

Control measures include:

- reducing worker exposure to the cold, where possible
- reducing the time workers are in cold-rooms/freezers – restrict to the shortest time period possible
- for periods of more than about 10 minutes, ensuring clothing suits the temperature and duration of activity and minimises skin exposure to the cold (e.g. thermal/fleece jumper, gloves, hat etc.)
- ensuring walk-in cold-room/freezer internal door opening mechanisms are in good working order and are regularly maintained and tested
- ensuring walk-in cold-rooms/freezers have emergency alarm buttons fitted and regularly tested so that anyone trapped inside can send for help
- using slip-resistant floor surfaces to reduce slip hazards
- maintaining good housekeeping practices when stacking and storing items to remove trip hazards
- ensuring adequate lighting is provided for the tasks in the workspace
- using a buddy system to provide an immediate support in the event of an emergency and avoiding people working in isolation
- having emergency response procedures in place with appropriate training and regular test drills
- having reliable communications systems in place that are tested regularly (note mobile phones may not work in cold rooms).
- assessing manual handling tasks and implementing systems to eliminate the risk of injury
- providing appropriate personal protective equipment (PPE) to suit the working conditions (e.g. footwear and clothing) and making sure workers wear it.

Appendix B—Warning signs and symbols

- a. **Extreme heat – symptoms of heat-related illness include (but not limited to)**
- Flushed skin
 - Mild to severe thirst
 - Reduced or dark urine output
 - Sweating
 - Absence of sweat; dry skin
 - Pounding, rapid pulse
 - Fatigue
 - Dizziness and fainting; collapse, seizures
 - Headaches
 - Nausea and vomiting
 - Weakness
 - Pale clammy skin
 - Muscle cramps
 - Hot red skin that looks sunburned
 - Mood changes, irritability, mental confusion, disorientation, inability to think clearly
 - Inability to revive from an unconscious state
- b. **Extreme cold – symptoms of hypothermia include (but not limited to)**
- Numbness of extremities (hands/feet)
 - Pale/blue skin
 - Uncontrolled shivering
 - Loss of fine motor skills
 - Stiffness or pain
 - Slurred speech or drowsiness
 - Difficulty in thinking clearly
 - Slow, irregular breathing and heartbeat/pulse
 - Irrational behaviour