



Heat and cold at work

Introduction

This guideline outlines methods for controlling risks from working in excessively hot or cold conditions.

Under the University WHS Procedure: **Managing Workplace Health and Safety Risks**, reasonable and practicable measures must be taken in workplaces to eliminate or minimise risks to staff or students from exposure to excessive heat or cold, as may be identified and assessed using form **WHS2 - General Risk Assessment**.

Definition

Heat stress is the total heat burden to which the body is subjected by both external and internal factors; whether it results in adverse effects depends on the level of heat stress and the effectiveness of the body's cooling mechanisms.

Assessing the risks

Several factors contribute to heat stress and an individual's ability to cope such as:

- air temperature
- radiant heat
- air movement and humidity
- physical exertion and metabolic heat production
- clothing
- physiological factors - degree of acclimatisation, physical fitness, age, dehydration and pathological conditions e.g. heart disease, fever and some medications.

Outside workers face the added hazard of exposure to ultraviolet radiation and consideration must be given to the provision of appropriate protective clothing, glasses and skin protectors.

Individuals respond differently to environmental and climatic variations. In cold conditions the body may be unable to acclimatise to cold and therefore must be protected from loss of heat. Depression of body core temperature (hypothermia) produces symptoms ranging from shivering to numbness, muscular weakness and cramps. Localised exposure to cold may cause frostbite and chilblains.

Control measures

Consideration should be given to using the following control measures:

- modify the rate at which work is performed, allowing self-regulation of work and self-limitation of exposure to prevent symptoms from occurring
- reschedule work to other days or limiting it to cooler periods of the day
- modify the hours of work
- rotate employees engaged in heavier tasks
- schedule regular rest breaks
- alter the location of work
- provide alternative work
- provide a supply of cool drinking water
- ensure appropriate fluid intake
- erect temporary shade covers to reduce effects of direct sun
- use air circulating fans or portable coolers at the work site
- provide suitable sunhats, provide light protective safety clothing where appropriate
- install roof and wall insulation in buildings
- insulate heat sources associated with furnaces or processes
- install fans
- install equipment to facilitate natural ventilation
- install ducting to remove hot exhausts
- install air conditioning or heating
- provide appropriate wet weather clothing for outdoor workers who may be exposed to inclement wet weather conditions
- ensure first aid is available to respond to heat or cold-induced conditions e.g. swelling, muscle cramps, heat exhaustion/stroke, hypothermia, frost bite, cryogenic burns.