

Work environment - heat stress >

For most workers in all parts of the Northern Territory, heat problems are associated with seasonal heat discomfort due to hot weather. This information bulletin identifies the causes, effects and ways to deal with heat stress.

Causes of heat stress

Heat stress (presence of excess of heat) is likely to affect people during summer months which in the top end of the Northern Territory are locally referred to as 'the wet' and also the seasons with discomforting humidity levels before and after ('build up' periods).

The many workplace factors affecting heat stress include:

- air temperature;
- relative humidity;
- air movement in the workplace;
- radiant heat from the surroundings;
- clothing worn;
- activity being carried out;
- acclimatisation of the worker;
- state of health of the worker; and
- requirement for protective clothing/equipment to be used.

There is no single factor such as a 'maximum allowable temperature' which should be applied in a workplace as a 'cease work' limit.

Effects of heat stress

Heat stress causes increased sweating, depleting the body's fluid content and reducing heat tolerance. This leads to work incapacity and inefficiency, and may increase the risk of accidents.

Other warning signs include tiredness, headache, nausea, loss of concentration, muscle cramps and dizziness.

putting safety first >



People most at risk from heat stress

Working in hot environments is more likely to produce adverse effects in people who are:

- overweight;
- medically unfit;
- unhealthy, particularly if suffering from disease of the heart, circulation, or skin;
- dehydrated, whether from alcohol hangovers, from failure to replace water and salt lost in sweating, or from medically-prescribed diuretic drugs; and
- unacclimatised to heat.

Control of heat stress in the workplace

Indoor

When indoors:

- open windows and doors to allow natural cross-ventilation or install air conditioning if practicable;
- provide quiet fans or ventilators to lower temperature and increase air movement;
- insulate roof, walls or other heat making equipment;
- duct hot steam and gases to outside to help reduce humidity and lower temperature; and
- install extraction ventilation around heat-producing equipment.

Outdoor

When outdoors:

- wear loose-fitting cotton clothing to promote good air circulation around the body and enhance the cooling evaporation of sweat;
- use:
 - broad-spectrum sunburn creams with a high sun protection factor, at least (SPF 15+),
 - broad-brimmed hats that shade head, neck, face and ears,
 - close-fitting sunglasses (labeled to show they meet the Australian Standard AS 1067), and
 - wetted scarf;
- provide shaded rest areas;
- provide ample supplies of cooled, non-alcoholic drinks and ensure their easy and ready access;
- consume small quantities of water at frequent intervals to avoid involuntary dehydration while experiencing heat stress conditions;
- reschedule heavier work to other days or to cooler periods of the day in order to avoid prolonged periods in the open under the sun; and
- where practicable, rotate schedules of workers engaged in the heavier tasks.

Personal care

General tips to assist in coping with heat stress:

- have rest breaks in a cool or well-ventilated place, under trees, shelters and umbrellas;

- do not consume alcoholic drinks or drinks containing caffeine as replacement fluids because it stimulates the body to eliminate fluids;
- salt tablets are not recommended although salt replacement is important. dietary salt intake is only likely to be inadequate at very high sweat rates; and
- maintain a health lifestyle.

Treatment of heat stress

The following action should be taken if someone has symptoms of heat injury:

- remove them from heat and rest them in the shade;
- cool them down with a fine spray of water and fan them;
- remove excess clothing (eg hard hat, boots, shirt);
- if conscious, give cool, but not cold, water to drink;
- do not give salt or alcohol; and
- contact a doctor, nurse or first aid officer immediately.

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