



SAFETY BULLETIN

Heat Stress in outdoor workers

Who needs to read this?

Outdoor workers at the University.

Background

Heat stress occurs when heat is absorbed from the environment faster than the body can get rid of it. Several factors may contribute to heat stress, such as the type of work activity, the surrounding air temperature/humidity level, and the physical condition of the individual.

Our bodies maintain a fairly constant internal temperature even though they may be exposed to varying environmental temperatures.

To keep internal body temperatures within safe limits in hot conditions, the body has to get rid of excess heat - and it does this by evaporating sweat and varying the blood flow to the skin. These responses are controlled by the brain and usually occur when the blood exceeds 37 degrees Celsius.

Information

Heat cramps are painful muscle cramps that can occur on their own or with other heat-related illness such as heat exhaustion. Lay the person in the shade, remove outer clothing, provide cool water and fan vigorously to increase evaporation.

Heat exhaustion is a serious condition that can develop into heat stroke. A person with heat exhaustion may complain of weakness, nausea and/or "giddiness". The person may look pale and be breathless. The skin is usually wet from sweating. Lay the person in the shade, remove outer clothing, provide cool water and fan vigorously to increase evaporation.

Heat stroke is a medical emergency, caused by a rise in core body temperature. A person suffering heat stroke becomes confused, and may stagger or collapse. The skin may be either dry or wet. Call an ambulance and apply urgent first aid. Remove outer clothing, wet the skin and fan vigorously to increase evaporation.

Prickly heat is an intense, itchy red skin rash. It is caused by a blockage of the sweat ducts from prolonged wetting of the skin. Treat by keeping the skin cool and dry, wearing suitable clothing and avoiding hot work.

Heat fainting occurs when blood vessels (particularly in the legs) dilate in order to increase heat transfer to the skin and cause reduced return blood flow to the heart. This response temporarily reduces blood flow to the brain, which can cause a person to faint. If a person faints, lay him/her in the shade, remove outer clothing, provide cool water and fan vigorously to increase evaporation.

Recommendations

It is recommended that outdoor workers:

- plan their outdoor work activities to take weather extremes into account



- use sun protection - hat, sunscreen and light sun-protective clothing
- drink at least one litre of cool water an hour when working in the sun
- take regular breaks during the day in cool shaded areas to enable a rapid return of core temperature to normal
- acclimatise to outdoor work gradually
- maintain their salt levels through food intake and electrolyte replacement if required
- avoid alcohol, caffeine and drugs which can increase urine output and therefore fluid loss.

Who do we call with questions?

If you have any queries, please contact Health and Safety on 9266 4900 or email healthandsafety@curtin.edu.au.

References

<https://www.commerce.wa.gov.au/worksafe/working-safely-hot-conditions-heat-stress>