VIEU Information Brochure
Hazards of Working in Heat

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This information Brochure is designed to assist Health and Safety Reps, Sub-Branch Reps and Members identify, assess and control the hazards of working in heat. The focus is on ways to modify the working environment so that the onset of heat stress and heat discomfort may be prevented.

What is heat stress?
Heat stress is a potentially serious medical condition and occurs when the human body takes in more heat than it releases. Heat is released from the body mainly by evaporation through sweating. When the temperature in the working environment increases it leads to a corresponding increase in body temperature. This triggers sweating and a flow of blood to the skin where it can be cooled by evaporation. Excessive sweating leads to a loss of water from the body, dehydration and loss of salt, resulting in potentially serious health effects including death. Outdoor workers such as grounds and maintenance staff are most at risk of heat stress.

What is heat discomfort?
Heat discomfort is not a medical condition. It is the discomfort felt by most people when it is hot. Although the level of risk of heat discomfort is not as significant as that of heat stress it is important to note that the working conditions which create heat stress will also cause heat discomfort. While teachers, school officers, school assistants, clerical and administrative staff are less likely to suffer heat stress, working in hot, stuffy and poorly ventilated rooms is very likely to cause heat discomfort.

Risk Factors
How the body is affected by heat is determined by a number of risk factors. The more factors present, the greater the level of risk.

- Air temperature, air movement and humidity will influence how efficiently the body is able to cool itself.
- Workload – in particular the level of physical exertion and control the employee has over the organisation and pace of work.
- Clothing – in particular whether or not it is essential to wear protective clothing or equipment while working.
- Level of fluid lost from the body and the rate of its replacement.
- Radiant heat from the sun and also from machinery or equipment used in the workplace such as ovens, kilns and furnaces.
- Acclimatisation – people generally do not acclimatise to rapidly changing seasonal heat such as heat waves.
- Personal factors – people who are overweight, recovering from illness, using certain medications, are physically unfit, have a pre-existing heart, circulatory or skin disease are dehydrated or pregnant may have a reduced tolerance to heat.

Legal Standards

- In Victoria, there are no regulations specifying standards for maximum temperatures in the workplace. However employers have a duty under the Occupational Health and Safety Act 2004 to so far as is reasonably practicable, provide and maintain for employees of the employer a working environment that is safe and without risks to health. The employer also has an obligation to monitor conditions in the workplace, including heat. The Act also imposes a duty upon employers to consult with their employees about the identification and assessment of hazards and the decisions taken to control the risks of those hazards. Guidance notes and codes of practice while not enforceable in their own right do add to the state of knowledge of the hazards of working in heat.

Action Plan for Health and Safety Reps
The focus must be on changing the work environment and/or the work arrangements to eliminate or reduce as much as possible the exposure to heat.

Identify the Hazard.

- Meet with the members of your designated work group and talk with them about heat and its effect of health. Identify areas of the workplace where heat is a problem and whether seasonal heat is a hazard, especially for grounds and maintenance staff.
- Examine and assess the effectiveness of any existing procedures or policies in the workplace for dealing with exposure to heat.

Assess the Risk

- Inspect areas of the workplace where heat stress has been identified as a problem. The easiest and most convenient methods of collecting temperature data throughout the course of the working day is to use a normal dry bulb thermometer. To collect humidity data a normal wet bulb thermometer is used. Measurements should be taken as close to the place where the work is being performed as possible.
- Meteorological data and past records of staff reporting problem areas can also be used to further assess the risk.
- The presence of other risk factors such as workload, clothing, radiant heat and personal factors should also be assessed.
- Use the risk assessment to prioritise areas of greatest concern.

Controlling the Risk

Once the level of risk has been determined it is important your employer adopts measures to eliminate or reduce that risk and that they consult with you as to how this will be done. Here are some measures which health and safety reps can suggest the employer implements.

- Indoor air temperatures should be maintained between 18 to 23 degrees celsius and humidity between 40 and 60%. This can be achieved through
  - Air conditioning or circulating fans to improve ventilation
  - Insulation in the roof and walls of buildings
  - Insulation or shielding of sources of radiant heat such as kilns
  - Exhaust ducts for venting hot air from rooms, particularly in workshops, wood and metal teaching areas.
  - Provision of shade trees, window tinting, eaves and verandahs to assist in temperature control.
- For outdoor work where it is very difficult to control temperature the risk to workers can be reduced through the use of shade cloths, shelters, tents, curtain walling and in the presence of hot, dry winds, windbreaks. The provision of light loose fitting clothing consisting of a collared shirt and long trousers, wide brimmed hats with neck guards, sunglasses and sunscreen may further reduce the risk from the sun's radiant heat. Work vehicles should also be air-conditioned.
- It is also important to examine ways to reduce the workload of grounds and maintenance staff to reduce the risk of heat stress. Where the outside temperature exceeds 26 degrees celsius it is necessary to consider measures to prevent to risk of heat stress. Some ways to do this are:
  - Reschedule tasks so the most demanding ones are performed in the coolest parts of the day.
  - Reduce the amount of time spent doing physically demanding tasks.
  - Arrange for more staff to complete a job.
  - Provide access to mechanical aids to reduce the level of exertion
  - Wear the lightest clothing that still provides the required level of protection

- Schedule extra rest breaks in a cool area with cool drinking water provided. During periods of excessive heat it is advisable to drink a cup of water every 15 – 20 minutes. Coffee and tea is best avoided as they have a dehydrating effect on the body.
- Lunch rooms should be maintained at a temperature between 18 – 23 degrees celsius.

- The following duration of rest breaks per hour for outdoor work may be used as a guide when the temperature reaches or exceeds the level shown:
  - 15 minutes – 30 degrees
  - 30 minutes – 32 degrees
  - 45 minutes – 34 degrees
  - cease work – 36 degrees
- Grounds and maintenance workers in particular, should also be provided with information, instruction and training by their employer in how to recognise heat stress and how to give emergency first aid to colleagues who may be effected.

Policy Development

Few schools have effective policies in place to deal with heat problems in the workplace. Often the issue is not raised until the onset of the first summer heat wave. This is the worst time to raise the matter with the Principal as any arrangements set in place are more likely to ad hoc and not well thought through. The health and safety rep should initiate the development of a policy or a review of the existing one. Whilst Initiated by the health and safety rep, this is a task best carried out by the OHS Committee and should have the involvement of everyone affected. Matters to be addressed by the policy have been covered in the action plan for health and safety reps. The policy should also be reviewed regularly.

More Information:

- VIEU Policy Statement on Thermal Stress in the Workplace
- ACTU Guidelines for Working in Seasonal Heat
- Victorian Trades Hall Council – Hazard Policy Seasonal Heat
- Victorian Code of Practice for Workplaces 1988 – WorkSafe Victoria
- Victorian WorkSafe Guidance Note – Hazards of Working in Heat
- Work in Hot or Cold Environments Code of Practice 2001 – WorkCover NSW