

# WORKING IN HEAT

By Paul Hannen

In warmer months, unexpected heat wave conditions can hit Sydney with temperatures reaching upwards of 42 degrees Celsius; temperatures often can surpass this range for long periods of time in the western parts of the state.



*After last summer's extreme heat events and bush fires, it's vital to be informed on working safely in hot weather.*

**W**orking in hot conditions can result in a number of adverse health effects ranging from discomfort to serious illnesses.

These various conditions are generally grouped together and called heat stress or heat stroke. In extreme circumstances this can lead to muscle meltdown or even death. A number of officers have suffered serious heat related conditions over the years.

In extreme heat, workers must be able to carry out their work without a risk to their health and safety so far as is reasonably practicable.

It is important to distinguish between a condition that threatens health and safety, and a feeling of discomfort.

The risk to the health of workers increases as conditions move further away from those generally accepted as comfortable. Heat strain can arise

from working in high air temperatures, exposure to high thermal radiation or high levels of humidity. This condition is potentially fatal.

Both personal and environmental factors should be considered when assessing the risks to health from working in a very hot environment.

Personal factors include the level of physical activity, the amount and type of clothing worn, and duration of exposure. Environmental factors include air temperature, the level of humidity, air movement and radiant heat.

Work should be carried out in an environment where a temperature range is comfortable for workers and suits the work they carry out. Air temperatures that are too high can contribute to fatigue and heat related illnesses.

Thermal comfort is affected by many factors, including air temperature,

air movement, floor temperature, humidity, clothing, the amount of physical exertion, average temperature of the surroundings and sun penetration.

Optimum comfort for sedentary work is between 20 and 26 degrees Celsius, depending on the time of year and clothing worn. Workers involved in physical exertion usually prefer a lower temperature range. The means of maintaining a comfortable temperature will depend on the working environment and the weather, and could include any of the following:

- air-conditioning
- fans
- open windows
- building insulation
- the layout of workstations
- direct sunlight control
- controlling air flow and the source of draughts.



Photos courtesy of Traffic & Highway Patrol Command and Wollongong Police District

If it is not possible to eliminate exposure to extreme heat, the risk of heat strain and heat exhaustion must be minimised so far as is reasonably practicable.

For example:

- increase air movement using fans
- install air-conditioners or evaporative coolers to lower air temperature
- use mechanical aids to assist in carrying out manual tasks
- alter work schedules so that work is done at cooler times.

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 a supply of cool drinking water
- provide a cool, well-ventilated area where workers can take rest breaks
- provide opportunities for workers who are not used to working in hot

conditions to acclimatise, for example job rotation and regular rest breaks

- ensure light clothing is worn to allow free movement of air and sweat evaporation.

Immediate assistance should be provided if any worker experiences any of the following symptoms of heat strain: dizziness, fatigue, headache, nausea, breathlessness, clammy skin or difficulty remaining alert.

When working outside remember to use sunglasses, sunscreen, long sleeved shirts and wide brimmed hats. All of these items should be provided by the Police Force to protect you. Remember to drink lots of cool water often, about 200mL every 15 to 20 minutes, and use air-conditioned vehicles for work breaks when temperatures become extreme.

When the temperature in the workplace reaches 30 degrees Celsius

the LAC, DO and Shift Supervisor should start to consider allowing staff to take rest breaks or even consider suspending work until conditions improve.

Humidity levels cannot be measured readily, but a standard thermometer can be used to give temperature readings. Therefore, recommendations for modifying work activities are based on temperature ranges.

When humidity is high, tolerance of high temperatures is reduced due to the decreased capacity for cooling from evaporation of sweat. Subjective feelings about humidity should be taken into account when considering modifying or suspending work.

Physically demanding work and work that involves safety-critical tasks require careful consideration by the LAC, DO and Supervisor in relation to allowing work breaks or suspension of work.

Note that the use of personal fans or heaters in an air-conditioned area where people are experiencing discomfort may exacerbate the situation. It can actually make the area hotter or colder due to interference with the automatic control system of the air conditioning system.

For example, a personal fan may cause a nearby air conditioning thermostat to falsely sense that the room is too cool, consequently increasing the warm air supplied to the room. This exacerbates the already uncomfortably warm environment.

Further information on working in heat can be found in:

- WHS Regulation 2011
- WorkCover Code of Practice Managing the Work Environment & Facilities
- WorkCover Fact Sheet "Working in Heat"
- A Discussion Paper on Heat Stress by David McFarlane
- ACTU Guidelines for Working in Seasonal Heat
- University of Sydney Indoor Thermal Heat & Ventilation Policy.
- Heat Stress Calculator via this link <https://fswqap.worksafe.qld.gov.au/etools/etool/heat-stress-basic-calculator-test/>

Or contact the Police Association on 02 9265 6777, EN 57070. ■

#### About the author:

Paul Hannen is PANSW's Assistant Secretary Organising & workplace safety officer.