

# Fire and Rescue NSW Safety Bulletin 2011/02 Preventing heat related illness



## Issue

The importance of preventing heat related illness has been highlighted by several recent cases among operational firefighters. The time available between arriving at the station and responding to your first incident may be inadequate to rehydrate, so starting the shift hydrated is crucial for preventing heat related illness.

## Contributing factors to dehydration and heat related illness

The following factors may contribute to you being dehydrated before starting your shift and increase the risk of heat related illness:

- High ambient temperatures and humidity
- Strenuous physical activity, sport, household jobs (lawn mowing, gardening etc) or other employment
- Illness (colds, virus, etc)
- Medications, including but not limited to:
  - Antihistamines (eg Actifed, Benadryl) – may impair the body's ability to perspire
  - Diuretics – promote fluid loss from the body
- Alcohol consumption.

## Indicators of dehydration and heat illness

All operational personnel should be aware of indicators that a person may be getting dehydrated and suffering the effects of heat illness. These include:

- a dark-yellow concentrated urine, or low or no urine output for several hours
- headache
- fatigue
- nausea
- muscle cramps.



## **WARNING**

Dizziness, disorientation and hot dry skin are more serious warning signs that require urgent medical attention.

Thirst is not a precise indicator of hydration and should be used as a back up to observing urine colour and output.

For further detail relating to the signs and treatment of heat illness refer to this [BLS training link](#).

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## Preventing heat related illness

### Preventative strategies

It is crucial that firefighters follow these strategies to help prevent heat related illness.

**Drink adequate fluid before commencing and during shift:** sound hydration practices should commence 12 hours before work. Plain water is the best choice for replacing fluids over the day, especially when you are not engaged in heavy or vigorous physical activity. As a guide, the following daily fluid requirements are recommended for a sedentary individual:

- for males approximately 2.6 litres (10 cups)
- for females approximately 2.1 litres (8 cups).

**Maintain hydration during strenuous physical activity:** When you are engaged in vigorous physical activity fluid intake should match fluid loss through sweating. As a guide the following fluid intakes are recommended:

- for males approximately 1 litre per hour of strenuous physical activity
- for females approximately 500 ml per hour of strenuous physical activity.

### Apply effective methods to actively cool the body at incidents:

- Rest in the shade.
- Recover in an area in front of a fan or in a breeze.
- Remove as much of your PPE as appropriately possible.
- Run cool water over your wrists.

**Communicate with your Incident Commander** on your levels of fatigue and sense of wellbeing.

**Incident Commanders should perform Dynamic Risk Assessments** to identify factors contributing to the risk of heat related illness and the requirement for additional crew rotations and rehabilitation strategies.

### References

Standard Operational Guideline 18.3, [Incident Ground Rehabilitation](#)

In Orders 2008/23, [Hydration and nutrition policy](#)

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	A	B	C	D	Other
<b>Noted: Station Commander</b>					
<b>Checked: Duty Commander</b>					

**Previous Safety Bulletin:** [2011/01, Solar panels affected by flood](#)