

EXTENDED WAKEFULNESS AND WORK PHYSIOLOGY OF WILDLAND FIREFIGHTERS

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Overview

To curtail the spread of bushfire, Australia's firefighters often work long hours with little rest between consecutive shifts. However, there is no information on the quantity and quality of a firefighters sleep during multi-day wildfire suppression. Additionally, the effects of extended periods of wakefulness on physical functioning and performance is unknown. This information is important to ensure firefighters are both safe and effective across multiple fireground shifts.

Aim

“To determine the quantity and quality of sleep obtained and the effect on physical functioning and performance during multi-day wildland fire suppression.”



Methods

Study 1

Thirty firefighters will wear activity monitors throughout the 2012/2013 fire season. These will give an output of the total number of hours of sleep obtained and the quality of this sleep during real wildfire suppression.

Study 2

Thirty male and female firefighters will be randomised into the **CONTROL** or **AWAKE** group. All participants will complete a 'four-day' simulated fireground tour comprising three consecutive fireground 'day' shifts. We will measure firefighters' performance, physiology and perception of effort across their 'work shifts'.

Control (n=15)



Sleep all nights: 8 hour opportunity

Awake (n=15)



Night One: 4 hour opportunity
Night Two: 4 hour opportunity
Night Three: 8 hour opportunity (recovery)



Outcomes:

“Help fire agencies understand and manage firefighter's physical workload, health and safety when they've had limited sleep”