

## SLEEP DEPRIVATION & STRESS RESPONSES

### Could emergency work have a negative impact on your health?

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#### Background

- Emergency work can expose personnel to sleep deprivation
- Sleep deprivation can elicit negative physiological & psychological responses, including;
  - Hormone & immune function
  - Mood & behaviour

#### What is known

Response	Duration of Sleep Deprivation and/or Restriction	
	≤ 1 Night	> 1 Night
Hormonal	×	↕
Immune	?	↕
Mood & Behavioural	?	↕
Psycho-physiological	?	?

× = no response; ↕ = response; ? = unknown response

#### What Does This Mean for Emergency Workers

- Emergency personnel exposed to
  - > 1 night of sleep deprivation and/or restriction demonstrate negative hormonal, immune or mood & behavioural responses
- Possible implications of these negative responses to;
  - Short-term health: Viral infections (e.g., colds), depressed mood & fatigue
  - Long-term health: Cardiovascular disease & mood disorders (e.g., depression & anxiety)

#### What isn't known

- If other occupational stressors are contributing to the reported responses
- The degree to which these acute responses are a risk factor to health

#### Why aren't these things known

- Previous research has
  - Lacked control over;
    - Sleep variables (e.g., duration & frequency)
    - Other occupational stressors (e.g., energy restriction & physical work)
- Investigated physiological & psychological changes in isolation

#### Research Priorities

- Future research should focus on
  - Controlled periods of sleep deprivation
  - Concurrent measurement of multiple responses
  - Psycho-physiological responses

#### Industry Implications

- **Future research will**
  - Help contextualise the significance of stress responses to consecutive nights of sleep deprivation
  - Determine if agencies need to take further action to protect personnel from adverse responses

References available on request