

Abstract

Pre-deployment heat acclimatisation guidelines for disaster responders

Introduction: Minimal preparation time is a feature of responding to sudden onset disasters. While equipment and supplies are prepared for deployment at short notice, less is known of the physical preparation of medical responders. With many disaster prone areas classified as tropical regions, there is potential for responders to endure a combination of high ambient temperatures and relative humidity during deployment. Heat acclimatisation, defined as the physiological and perceptual adaptations to frequent elevations of core body temperature, is a key strategy to improve tolerance of hot conditions by medical responders.

Methods: Pre-deployment heat acclimatisation guidelines were developed based upon the duration of physical training and subjective perception of physical exertion (session-RPE). An objective of individual training sessions was the perception of body temperature as warm to hot. The guidelines were implemented for Team Bravo (2nd rotation) of the Australian Medical Assistance Team (AusMAT) deployed to Tacloban, Philippines following Typhoon Haiyan in November, 2013. The guidelines were distributed electronically five to seven days prior to deployment, followed by a consultation. A group training session in hot conditions was undertaken prior to departure.

Results: The AusMAT deployees to utilise the guidelines were based in cool or temperate climates that required extra layers of clothing, training during warmer parts of the days or utilising warm indoor conditions to achieve session objectives. Deployees reported the guidelines were simple to use, applicable to their varied training regimens and having improved their confidence to work in the heat despite not completing the entire 14 day period.

Conclusion: The pre-deployment heat acclimatisation guidelines provided AusMAT responders the ability to quantify their physical training, and promote physiological adaptations to maximise health, safety and performance during deployment. While maintaining year round heat acclimatisation is considered essential for medical responders, these guidelines may facilitate beneficial adaptations once notified of deployment.