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Nigel A.S. Taylor

University of Wollongong, ntaylor@uow.edu.au

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When to, and when not to drink during exercise in the heat

Nigel A.S. Taylor

Centre for Human and Applied Physiology, University of Wollongong, Australia

There is no question that profound dehydration impairs human performance and is potentially lethal. However, there are circumstances when dehydration is desirable, and mild-moderate dehydration is well tolerated and it is even necessary to induce beneficial physiological adaptations. Indeed, it may be suggested that the obsessive prevention of dehydration is not a wise practise. It is equally certain that the over-consumption of water can be detrimental to one's health, and it too can be life threatening. Thus, somewhere between these two extremes there is a happy medium. But how does one know when to drink? Is the ideal level of fluid consumption the same for all people in all circumstances? And is it sufficient just to drink water, or do we need electrolyte and carbohydrate supplementation, and when are these supplements beneficial to athletes and workers? In this presentation, the following topics will be discussed: progressive and voluntary dehydration, the physiological consequences of dehydration, hyponatraemia, dehydration indices (blood, urinary, salivary and mass changes), the daily water and electrolyte requirement of adults across various work intensities, and evidence-based recommendations for fluid consumption in athletes, workers and sedentary individuals.