EDFL Injury Prevention and Management.
Hydration

Title: **Hydration**
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Hydration plays an integral role in sporting performance. Water constitutes approximately 60% of the human body. It plays a key role in many of the bodies vital functions, including lubrication, elimination of body waste and transporting nutrients and gases around the body. Hydration plays key roles in maintaining blood volume and regulating body temperature.

Inadequate hydration (i.e dehydration) may compromise blood flow to the working muscles, increasing susceptibility to muscle damage.

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Signs

A good indicator of fluid loss is reduction in body weight from start to finish of exercise.

Research indicates that a loss of 3-4% body weight through fluid loss will result in impaired athletic output, reduced urinary output and may show physical signs such as dry mouth, flushed skin, nausea and lethargy.

As body weight loss increases to 5-6% pulse rate and respiratory rate will increase and concentration is impaired.

At 8% weight loss dizziness, weakness and mental confusion may become apparent along with the above-mentioned signs and symptoms.

With increasing fluid loss, urine will become scant, more concentrated and darker.

Pre-Training/Game Drinking

Adequate hydration should always be maintained; in and out of competition. How much fluid and the type of fluid to take in before training/game depends on the athlete and type/length of exercise. Water can be consumed at any time leading into an event.

Taking in carbohydrates before exercise can provide an additional energy source during the event and the volume tolerated will vary from athlete to athlete, however, an intake of 200-600ml of a carbohydrate containing fluid 10-15 minutes before an event may be helpful for energy and hydration.

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Drinking during a Training/Game

Maintaining hydration throughout an event can be difficult for some athletes. Where possible, athletes should aim to replace 80% of fluid lost during exercise. For most athletes this will equate to approximately 100-150ml every 15 minutes. Generally, cooler water is preferable as it helps lowering the body's core temperature.

In events lasting more than 60 minutes, drinking carbohydrate-electrolyte replacement fluids will enhance physical performance. The ideal carbohydrate concentration of these drinks is between 4 and 8%.

Rehydration Post Training/Game

As noted in our recent article on Recovery; for an athlete participating in moderate exercise, cold water is an excellent drink to aid rehydration. The need for fluid replacement can be estimated by weighing the athlete before and after exercise. Every kilogram of body weight loss equates to approximately 1 litre of fluid lost. It is recommended that the athlete replace 150% of the fluid loss during the event in the first 4-6 hours post exercise.

Athletes training or playing at high intensities or high temperatures on a daily basis may suffer from a prolonged state of dehydration. In this instance, drinking fluids that contain sodium may help increase thirst and reduce fluid excretion to assist in rehydrating the athlete.

About the Author - Samuel Mayes:

Samuel Mayes *is a physiotherapist consulting at Physioworks Health Group Cranbourne and Pakenham clinics. He is the club Physiotherapist at the Pakenham Lions Football Club. This season he will again be the attending physio for the CCFNL rep teams, a role he performed in 2013.*

About Physioworks Health Group:

Physioworks Health Group *has a team of dedicated physiotherapists and health professionals providing a range of specialist health services at 'state of the art' clinics in Cranbourne, Pakenham and Camberwell. Physioworks is the Medical and Health Care partner of the EDFL. Physioworks Director David Francis is the Head Physiotherapist to the Collingwood Football Club.*