

Tips for water retention and maintaining hydration;

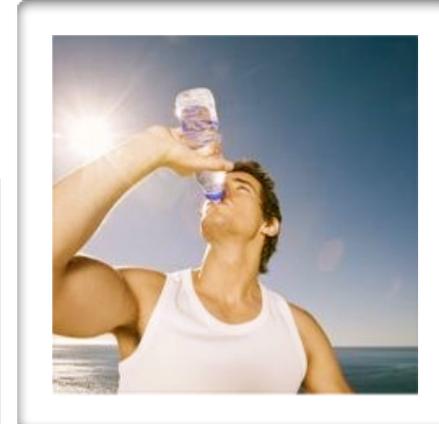
- I. Very pale to pale yellow urine means that you should be within 1% of your optimum hydration.
- II. A decrease in performance is seen if less than 80% of sweat lost is not replaced during exercise
- III. Weighing yourself before and after exercise can indicate the amount of water lost during exercise. I.e. each pound lost during exercise should be replaced with roughly 500ml of water.
- IV. A guide of water consumption says that you should aim to drink 1/2 your weight in pounds of water in ounces.
- V. A general guide suggests between 2-5 litres of water should be consumed during a day. The figure is variable due to the variable conditions an athlete may face, such as temperature, humidity and the level of exertion required in the activity.
- VI. Before exercise it is important to top up on fluids, drinking 400-500ml is prior to exercise is recommended.
- VII. There are a variety of different drinks available to aid performance, there is recent research to show that milk has a greater rehydration effects than water alone.



EXERCISE AND FLUID REPLACEMENT

Why do we need to keep hydrated?

At any level of sporting participation it is important to remain hydrated. This allows us to prevent any unnecessary stress to our body. As well as reducing the chance of side effects of dehydration such as headaches, vomiting, nausea and an overall decrease in performance. This is particularly important during hot and dry conditions, where sweating will be considerably greater - a mechanism of the body to reduce core temperature.



It is vital that you remain hydrated throughout exercise, as soon as you begin to feel thirsty you are already dehydrated, in which this needs to be corrected as soon as possible.

Guidance;

- The aim with fluid consumption within exercise is to replace all the water lost as a result of sweating and breathing.
- In humid or hot conditions it is vital that fluid uptake is increased.
- It is important to remember that it is difficult to over hydrate as excessive fluids will be excreted in urine. However drink as much as is comfortable as excess fluids can cause a feeling of nausea.
- Remember that drinking fluids should not be a chore, drinks are preferred at a temperature between 15-22°C.

The composition of a sports drink;

The precision of sports drinks is hugely important, the percentages of sodium ions as well as carbohydrates must be chosen very carefully to produce an effective drink. An 'optimum' drink should contain;

- A maximum of 8% of Carbohydrates, ideally 4%-8%, whether its simple carbohydrates (glucose) or complex one's (starch). They should not exceed this, or digestion may be slowed, as well as causing nausea and vomiting.

- A small amount of sodium ions should included - roughly .7g per litre of water, which will aid water retention and absorption.
- The drink should **not** contain any caffeine, recent new 'energy' drinks contain a high amount of caffeine. These drinks have not been developed with a sporting performance in mind, In the short term they act as a stimulant, providing heightened senses as well as a boost to energy levels. However as well as acting as a stimulant it also acts as a diuretic, in which it increases the rate of excretion of fluids from the body. Is so doing making the body far more dehydrated and therefore has a negative effect on the athletes performance.
- They should not be carbonated - the bubbles created can often cause stomach discomfort and



Exercise situation	Pre Exercise	During Exercise	Post Exercise
Less than 1 hour, Low - Moderate Intensity.	Drink roughly 500ml of water no closer than two hours before exercise and then another 100-200ml prior to commencing.	Small volumes of water must be drunk consistently throughout exercise. Aiming to match fluid loss from sweating with fluid intake. Drinking from the start is key.	The aim is to replace up to 150% of the fluid lost. With this, for every 1000Kcal lost, 1 litre of water should be consumed.
Less than 1 hour, Moderate Intensity.	Follow the information stated above, however a sports drink can also be used, especially if dehydration is already present prior to performance.	Guidelines recommend 100-200ml every 15min. The greater the duration and intensity of the exercise - the more important that this becomes.	Follow the information stated above. Weight lost is proportional to the required water consumption, so measuring weight prior and after performance is important.
Less than 1 hour, high Intensity - with multiple sessions per day.	Sports drinks have a greater purpose within this area. This is the case as they can provide sufficient energy to allow the body to sustain its performance.	It is recommended for high intensity activities that a high carbohydrate drink should be used and between 600-1000ml should be consumed within the hour.	As stated above it is important to replace 150% of fluids lost. Using a fluid with a small concentration of sodium ions is recommended.

