

PERFORMANCE ARTICLE: HOW MUCH TO DRINK ON A HOT DAY

By Rosie Shakespeare (CP Coach)

When the weather is hot it is awesome to get out and train in, but it is so easy to get dehydrated which impairs both our performance and recovery. It's a good time to reflect on our fluid intake while training. Especially for those who are really in a big phase coming into major events.

So....

Why do we sweat?

When we exercise, our muscles produce extra heat. In order to keep our core from heating up to much which can lead to heat stroke and heat exhaustion (see description below), we sweat to cool down. So the more you sweat the more blood volume you are losing so you need to replace this with drinking to avoid adverse effects.

Heat Exhaustion – “caused by the cardiovascular system’s inability to adequately meet the body’s needs as it becomes severely dehydrated” (4th Edition, Physiology of sport and exercise pg 265-6). You may feel really tired, dizzy, and nauseous or be vomiting and your pulse will be fast and weak.

Heat Stroke – “a life-threatening heat disorder...is caused by the failure of the body’s thermoregulatory mechanisms” (physiology of sport and exercise pg 266)

Your core temp will exceed 40deg, you won't be sweating, fast Pulse and breathing, you would be confused, disorientated or even be unconsciousness.

How much do I sweat?

This depends on how hard and long you are exercising, how hot or humid it is, and your own individual response to the above.

“During 1 hours’s exercise an average person could expect to lose around 1 litre of fluid – and even more in hot conditions” (The complete guide to sports Nutrition, Anita Bean, page 82)

What does this mean for me?

Although 1litre doesn't sound like much, this represents 1kg of body weight. So sorry to get a bit scientific but it's good to know:

Just 2% of loss of body weight will affect your performance. You will also have an increase in your heart rate and body temperature.

At 4% you may feel nauseous, start vomiting or get diarrhoea.

At 5%, you aerobic ability or capacity will decrease by 30%.

At 8% you are getting into big trouble, expect dizziness, finding it hard to breath, you will feel weak and may be confused. Anything further than this and you are getting into big trouble.....

How do I Minimise this?

- Make sure you are well hydrated before you start training.
- Be aware of the signs of dehydration (see above).
- You should be Peeing “very pale or clear urine”. If you are peeing dark coloured urine that means you are dehydrated and should consume more fluids.
- When you have started exercising, drink from early on and regularly. Don't wait until you are thirsty as this is not a good guide and means you are already dehydrated.
- Weigh yourself before and after you exercise to see if you have lost any fluid. Work on the basis that 1Kg of weight lost is 1L of fluid lost. The recommendation is that “you should consume approximately 1.5times (ie 150%) the fluid lost during exercise” (Bean, pg 85).
This is to allow for any continuing sweating and urine.

What should I be drinking?

I'm not here to endorse any product over another. I have given three examples of exercise below and I hope you find this helpful:

Low to moderate exercise lasting less than an hour:

As fluid loss through sweating is likely to be small, then water should be fine for this.

High Intensity exercise lasting less than an hour:

“A number of studies have found that drinking a sports drink rather than water may benefit your performance during high intensity exercise or interval training lasting less than one hour (Bean pg 87)”.

What you choose to drink is personal preference and also how hard you are exercising

High intensity exercise lasting longer than one hour:

Here you need fluid replacement and also fuel replacement. So you are combating dehydration but also low blood sugar.

The general advice given is “30-60g Carbohydrate/hour to maintain blood sugar levels and delay fatigue”.

Most commercial drinks have approx 40-80g carbohydrate per Litre. The key to this is finding the right drink that suits you, so experiment with different brands and find a taste you like and one that works for you in training and racing.

What about after exercise?

If you have high fluid losses through a hard session or a hot day or are training more than once a day, then a sports drink may be better for you than water. As I have mentioned below, drinking too much water can drop your sodium levels. This can stop you from feeling thirsty and increase your peeing, so you may stop drinking before you are fully hydrated again. “Sports drinks on the other hand, increase the urge to drink and decrease urine production (Bean pg 88)”.

Can I drink too much fluid?

The body usually gets rid of any extra fluid that it doesn't require. Excessive water can be a problem during prolonged strenuous exercise like a marathon or Iron Man; this is when you are sweating excessively and only drinking water. "If sodium is not replaced, there will be a rapid drop in blood sodium (hyponatraemia)....This can result in dizziness, nausea, mental confusion and, in severe cases, seizures, respiratory failure and even death, (Bean Pg 88)

"If you are sweating heavily for long periods of time, drink dilute electrolyte/carbohydrate drinks rather than plain water".

This is a very basic overview of why we sweat and what happens if we don't replace this fluid. There is a whole other kettle of fish about what type of fluid to drink depending on the duration and intensity of the exercise you are doing. I did talk briefly about this and I hope it was of some use to you.

If you have a coach, then talk with them about this or see a dietician for advice.

Happy training and hydrating for better training and recovery!!