The Importance of Hydration

Human beings are 70% water by weight and the brain is 80% water. The regulation of body's temperature from the skin and breath requires water. Namibia is a dry environment where sweating is essential to manage core temperature and avoid heat stroke. The commonest cause of cramping is dehydration.

Sweat also contains electrolytes, drinking water alone will not counter immediate electrolyte loss. Excessive water consumption can lead to dangerous drops in blood electrolyte levels.

Practical application

Hydration (drinking outside exercise)

Water upon waking is a great start and often races, competitions and training sessions are programmed earlier in the day. In Namibia the days exercise stats at daybreak. Don't start exercise dehydrated.

Get in the practice of drinking 1.5-2L water across the day, every day. The right measure of intake is shown by achieving a pale yellow colour in the urine. Urine colour is the best feedback you will get. If you are passing darker yellow urine, drink more.

Rehydration (the replacement of acute fluid loss during and after exercise)

It is important to understand that sweat rates and salt loss vary between individuals. This is also dependant on intensity of exercise, duration and conditions. A simple digital measure of body weight pre and post exercise is good practice in order to determine fluid lost in sweat. Assume 1kg = 1L and base your rehydration protocol on consuming 120% of what is lost. For example a 75 kg individual finishes exercise at 74kg, it is advised to take on between 1.2L. If you have lost more than 2kg replace at least 50% with electrolyte containing fluids. After a period of practice you will become adept at predicting losses and drinking appropriately without the need for weighing.

Sodium should be ingested during exercise when heavy losses are expected, a good sodium concentration in sports drinks to aim for is 300-500 mg/L. Rehydration plans that will suit most individuals in Namibia will typically be 0.5-1L an hour however this must be customised to the individual's tolerance, experience and opportunity to drink during exercise. Ensure you are voiding your bladder at least every 4-6 hours. If you are not making urine you are too dry. In general women have a smaller body size and lower sweat rates than males and appear to be at a greater risk of over-drinking plain water.

Ingestion of cold beverages may help reduce core temperature and improve exercise in the heat, in addition presence of flavoured drinks have been shown to increase palatability and voluntary intake during exercise. Sugar content from isotonic drinks such as lucozade sport and gatorade can help maintain energy levels during endurance events. Ready-to-drink preparations tend to be light on sodium.

Gastric emptying

Eat lightly and regularly during the days in Namibia and avoid high-concentration fluids unless interspersed with water. The stomach can delay emptying if filled with high fat food and high concentration fluids (eg. carb gels and coke). This can lead to gastric distress with nausea and even vomiting. This will make rehydration a bigger challenge!

After exercise -

When you have finished your exercise session you may be in a fluid deficit and will need to restore this in your recovery period. Drink water in training as long as the deficit is under 2L. In Namibia use an electrolyte rich drink whenever possible. Use urine colour and volume as affirmation you have rehydrated adequately.

The presence of sodium from normally seasoned food will make up the bulk of your sodium ingestion. There is rarely a need to increase salt intake at meals. Rehydrate properly before alcohol and recognise that alcohol will directly impair your sleep and recovery.

Summary points -

- Look to use 500ml-1L of fluids a hour in your training. Most of this can be done on water if training for less than 2 hrs
- Exercising in the heat - acclimatization is important, build up the time training in the heat if possible
- An individualised hydration plan is essential, learn what your body needs by pre and post weighing and by watching frequency and colour of urination
- Begin exercise hydrated and rehydrate within 1-2hrs at the end of exercise and certainly before considering alcohol
- Consuming cold fluids and sodium may help water retention and improve exercising in the heat
- If you stop sweating in the heat be careful, stop and rest. This is a precursor to heat stroke