

Water and Sports



We grew up with the notion that doctors' standard advice to drink eight glasses of water per day is cast in stone. For years we also believed that we – and particularly runners, walkers, hikers, sportspeople and recreational exercisers - should drink water even before we are thirsty, because by the time we feel truly thirsty, we are already quite dehydrated. There are three major research findings that lead to paradigm shifts that can help you to understand and prevent dehydration and heat illness.

The intensity of the exercise leads to a rise in body temperature - not the lack of water

Scientific research has revealed that dehydration is not the major factor in hypothermia or heat illness. In fact, heat stroke can occur even when the athlete is well hydrated.

- People running as fast as possible, even if they are adequately hydrated. The faster the person runs, the more heat is generated by his body, and this happens particularly in shorter distance races, like 10 km runs
- Heavier and fatter runners, walkers and hikers. The fatter and heavier the person, the more heat will be generated by his body
- Running, walking or hiking on hot, humid and windless days. In these conditions the cooling effect on the skin is less and these conditions attribute to heat stroke. Prevent your risk of heat stroke by slowing your pace as heat and humidity rise, regardless of how much you may be drinking.

Don't worry too much about dehydration

Becoming dehydrated to the extent that modern runners usually do, carries no documented medical risk. You get a bit thirsty and have a dry mouth. The body is adapted for conditions of mild dehydration.

Drinking too much water can do more harm than good to athletes doing prolonged exercise. In fact it can be fatal!

Hyponatremia, commonly known as water intoxication. This condition is characterised by too much water in the blood and too low levels of sodium (less than 130 mmol/L). When you sweat, you lose water and salt (sodium chloride). You need a certain minimum level of sodium (and other electrolytes) in your blood to sustain cell function. People, who run, walk or exercise longer than four hours at a time because they have more time to sweat and more time to drink lots of water. This includes slower runners at the middle and back of the race, and female runners that are on the road for longer than three to four hours while drinking water or commercial sports drinks at a rate of 1.2 litres per hour. Any sportsperson who drinks large volumes of fluid without adequate sodium intake.

Recognise the signs of water intoxication

It causes the body - and brain - to swell. The pressure of the brain against the skull increases, leading to convulsions, heart failure and cessation of breathing.

Water intoxication can mimic the signs of heat stroke such as nausea, vomiting, extreme fatigue, respiratory distress, dizziness, confusion, disorientation, coma and seizures.

Watch out for:

- A progressively worsening headache
- Body temperature rising higher than 39.9 degrees C during or immediately after exercise
- Swelling of the hands and feet (wedding bands, watches and shoes may feel tight)
- Coughing pink, frothy sputum.





How to prevent heat illness and/or water intoxication

- Runners should be sensitive to the onset of thirst as the signal to drink, rather than staying ahead of thirst.
- Elite runners should drink between 200 ml to 800 ml per hour, depending on individual requirements. Slower runners are less likely to “overheat” and should only drink when really thirsty.
- All athletes should also ensure adequate salt intake in the fluids they take on board during and after exercise to counteract salt losses in sweat.
- When training for the long race, increase your salt intake in the days leading up to the race by adding table salt to your food and your water.
- Drink a large glass of water one to two hours before a long walk or run, but remember that a human cannot really stock up water like a camel.

Visit www.reservoir.co.za for further information on water quality in your area.

