

# Drink to Success

We all watch the pros drinking regularly during matches, but adequate hydration for amateurs is often overlooked. **SARAH MORANTE**, a sports physiologist, explains identifying fluid requirements is a key to success.

**A**mid the blistering heat and uncomfortable humidity of summer, the issue of hydration becomes of increasing importance. The professional players at the Australian Open use all of the allocated two minutes at the change of ends to rest and consume fluids. However, amateur players – particularly juniors – are less likely to adopt this strategy and instead change ends with a quick sip from their drink bottle. This behaviour has the potential to adversely affect both player health and tennis performance. Therefore, it is important that coaches identify their players' fluid requirements in order to maintain optimum performance.

## The Dangers of Dehydration

Maintaining adequate hydration is essential for the functioning of the body since water is the major component. One of water's special properties is that it can absorb a large amount of heat with only a small change in temperature. This is important in the body's ability to maintain its temperature within narrow physiological limits, thereby preventing heat illness.

If a player were to become dehydrated, their body temperature would rise more rapidly and increase the risk of heat illness. Dehydration also increases the risk of reaching a critically high body temperature since it may become impossible to maintain sweating for the duration of a training session or match. If insufficient sweat is produced, there will also be insufficient evaporative cooling to control body temperature. Therefore, dehydration impairs the ability of the body to regulate its temperature, which poses a threat to player health and safety.

The second major consequence of dehydration relates to a player's tennis performance. Even relatively mild dehydration (one - two percent reduction in body mass) can cause a reduction in exercise performance. Considering around three percent of body water is already lost by the time thirst is triggered, tennis players cannot afford to become dehydrated. No player or coach wants to lose to an opponent with lesser skills and fitness simply because they have not maintained adequate hydration.

## Can You Drink Too Much?

Most people are very aware of the negative effects associated with dehydration and consequently ensure they drink on a regular basis, particularly during exercise. However, excessive water intake can cause a condition called hyponatremia or "water intoxication".

Hyponatremia is a low sodium concentration in the plasma component of blood. This occurs when a person is sweating profusely and losing sodium in this sweat whilst simultaneously drinking excessive water, which dilutes the blood. Tennis players have plenty of opportunities to drink during a match



Hydration is always first priority during breaks in professional matches.

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and have displayed gains in body mass as a result of over-hydration. Therefore, hyponatremia is a real concern to players, particularly those who include little salt in their diet. The symptoms of hyponatremia are regularly confused with those of heat exhaustion: headache, confusion, light-headedness, fatigue, nausea and cramping.

To minimize the risk of developing hyponatremia, players should consume a drink containing electrolytes in addition to water when exercising for longer than an hour in stressful environmental conditions.

## How Much to Drink?

Put simply, a player needs to replace their sweat losses to maintain hydration status. Published research has revealed tennis players sweat an average of 0.93 litres per hour and as high as 2.42 litres per hour. This equates to a total body water

