

Hydration Strategies

Sports science research conducted over a variety of sports contested in hot weather confirm that, when the athlete loses even as little as 2% of fluids, the performance may decline by as much as 10%.

Additional, research has shown that level of dehydration can slow 10-km run times by 6.3% compared to running in a hydrated state. That equates to a race time 3 minutes 15 seconds slower if you usually run a 50-minute 10k!

The stresses imposed on the human body in distance running are significant; hydration is supremely important to both athletic success and health. During exercise, fluids are lost, mainly through sweating (some water will also be attributable to respiratory water loss, which can be substantial during hard work in hot environments). Unless you consume fluid to replace these losses, a fluid deficit will occur.

The objective of all distance runners is to consume enough water during training sessions or competition to maintain 100% replacement of fluids lost through perspiration. This approach has replaced the older theory that it was important for a distance athlete to drink all that they can.

However there is no absolute amount as this depends on many idiosyncratic factors. Guidelines to establish a hydrated state suggest that regular consumption of relatively small quantities throughout the day which result in the occasional passing of clear to lightly coloured urine will indicate a generally acceptable level of hydration. Darker coloured urine generally indicates a dehydrated state, though again this will depend on the type of diet being followed.

In hotter temperatures and or drier climates greater sweat rates should indicate that water consumption should increase proportionately

Water absorption rates are also affected by our diet and as well as replenishing water levels, electrolytes are also essential in helping to absorb that water. Electrolytes are salts that help maintain essential cellular electrical activity and as they are used up, they need to be replaced. When the electrolyte supply is depleted, all muscular activity is impaired accordingly. Without the electrical switching enabled by electrolytes water cannot be absorbed through the stomach and we experience a sensation of "sloshing" and heaviness in the stomach

Electrolytes are added to sports drinks along with sugar and flavours and the electrolytes that need replacing the most are potassium and sodium.

Sensible hydration strategies assist you in maintaining fluid volumes, which in turn preserve cardiovascular capabilities and maintain optimal body temperature.

The best strategies will have the following components:

- **Daily hydration:** The body performs best when you have engaged in good day-to-day hydration practices, which includes regular water consumption through the course of each day, whether or not you are engaged in either training or a competition.
- **Pre-hydration:** Starting a race or a training run already slightly dehydrated can have an impact on performance. Make sure you start a training run or a race well hydrated and start hydrating at least 60-90 minutes before exercise if possible. Smaller amounts of fluids (200 to 500 ml) are more easily and quickly absorbed. For longer races such as marathons, there may be a slight risk of developing mild hyponatremia (low blood sodium) before the race. Liquids containing electrolytes may decrease this risk compared to hydrating only with water.
- **Race or event hydration:** Drink during the run – Get in the habit of drinking during longer runs. Try running with a water bottle or run a course that has water or other fluids available. If you don't like running with a water bottle, try a shorter loop course and leave the fluids at the start. Take a short break each time you pass the starting point. Set the timer on your watch for every 15 or 20 minutes to remind yourself to drink. Try a sports drink for runs lasting longer than 60 minutes to help replace sodium and carbohydrates. It is common for runners in hot weather to take on water or other fluids every 1-2 miles (2-3 km), in quantities of 200ml or more.
- **Post exercise rehydration:** This is also important for recovery. The best strategies include drinking smaller amounts of fluid over a period of time instead of drinking a large amount quickly once you finish the run. Sports drinks with electrolytes including sodium may help you to rehydrate quicker compared to water. A post-race meal higher in sodium will also help stimulate the urge to drink and replace lost fluids.