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Guidelines for drinking water during long-distance events

For recreational athletes in general, and especially for you who run a marathon in more than four hours, recent guidelines recommend taking in 100 percent of the fluids lost due to sweat during a race. This is a huge change from the current concept that runners should be drinking as much as possible and should be "drinking before you are thirsty."

Using thirst as your guide

Simply put, runners should use the "**start or onset of feeling thirsty**" as their signal to drink, rather than the "drinking before you get thirsty" rule. During a marathon, runners lose not only water, but significant amounts of sodium and other minerals while sweating. By consuming large quantities of water during races, runners can cause a drop in overall sodium (salt) levels in the body and, potentially experience hyponatremia (also called water intoxication).

Hyponatremia

Hyponatremia is a potentially dangerous condition that can lead to serious complications during or after a long run and can potentially be life-threatening. It has been reported that as many as 13% to 29% of runners at the end of a marathon or Ironman triathlon have developed hyponatremia. It isn't usually the fastest runners who are susceptible to this condition. In marathons, runners with this condition took between 4 hours and 6 hours and 34 minutes to complete their run. In addition, women are more likely to suffer from hyponatremia, not because of their gender, but because they seem to be more conscious about drinking plenty of fluids before race day and during the race.

To more accurately gauge replacing fluids and sodium

For runners who have no idea how much fluid they lose when running, the "100 per cent of fluids lost" guideline doesn't mean much. **I**f it is important for you to know exactly how much fluid that is, try the following. Plan to run for an hour in the conditions and at the pace that you expect to race. Weigh yourself, without clothes on, **before** starting this run and **do not drink** during the run. At the end of the run, towel off, and weigh yourself again with no clothes on. The difference in your weight (in ounces, if your scale is that accurate) is about the amount you sweat in one hour. If you multiple that number of ounces by the length of time you expect to race (e.g., 4 hours 30 minutes), then you will have the amount you should be drinking during that particular race. Weigh yourself occasionally before and after practice runs to make sure your estimate is fairly accurate. For example, if you begin a practice run weighing about 145 lbs and at the end of the run you weigh 142 lbs, you have lost about 2% of body weight in water. (Your running will suffer if you lose more than 2% of your body weight for any one run.) If your weight is greater than 145 lbs at the end of your run, then you probably drank too much during the run.

If you think the above preparations are too complicated, you can start your races drinking enough fluid so that your urine is clear. Then drink when you first experience thirst during your races, rather than drink constantly as has been advised in the past. For long distance running, a sports drink with sodium and other electrolytes is also recommended.

Signs and Symptoms

When sodium levels get low, runners can experience puffiness (e.g., swollen fingers, or a watch that has become too tight), nausea, a headache that gets increasingly worse, or a sense that you "just don't feel right." More serious symptoms include vomiting, confusion, agitation, irritability, or seizures. If hyponatremia is left untreated, it could lead to serious brain or lung swelling, coma, and even death.

Since it takes time for symptoms of hyponatremia to appear, runners should keep an eye out for these symptoms, **even up to a few hours after a race.**

(As a comparison, signs of dehydration include headache, thirst, dizziness, nausea, muscle cramps, weakness, abnormal chills, thick saliva (difficulty in spitting), irritability, and fatigue.)

Many scientists now view hyponatremia just as much of a threat to runners as heat illness and dehydration