Hydration for the Marathon and Half Marathon

Why the big fuss over hydration?

Proper hydration during endurance events like the marathon and half marathon is important for both safety and performance. If you maintain proper hydration not only will your performance improve but it will keep you out of the medical tent (or worse)!

Hydration depends on the balance between fluid losses (mostly sweat) and fluid intake. Dehydration occurs when fluid losses are not adequately replaced. Minor degrees of dehydration (< 1 – 2% body weight, 0.5 to 1.4 kg) are common in runners at the end of the marathon and usually are not significant. Greater degrees of dehydration may affect your performance and endanger your life.

Dehydration is more likely to occur:
- in warm weather (or when the temperature has unexpectedly increased over the usual temperature)
- in men
- when you run faster (more sweat)

How do I know I am dehydrated?

- Thirst, this is an important warning sign, if you are thirsty you should drink!
- There are many other non-specific signs including: headache, dizziness, nausea, muscle cramps, irritability, and fatigue.

How do I prevent dehydration?

The simplest way to prevent dehydration is to drink small amounts of fluids frequently throughout the race. Ideally you know how much to take before you become dehydrated.

How much should I drink?

It is impossible to give one perfect answer that will satisfy all runners’ needs. How much to drink depends on your size, level of training, air temperature, and how fast you are running. There is also individual variation; what works for another runner may not work for you. For many thirst is a good guide, by drinking when thirsty they will maintain adequate hydration. However some runners will find they do not recognize thirst as quickly as others, these runners need to learn how to adequately hydrate before the late symptom of thirst. You can (and should) develop your own strategy based on observations made during training. You can test yourself by weighing yourself (nude) before and after an hour long run (at race pace); the amount of weight you lose is approximately your hourly sweat rate (assuming you did not drink during the test run). You can use this information to guide your fluid replacement during the race. You should
not aim to weigh more at the end of the race than the start (this would put you at risk for fluid overload and hyponatremia).
Another indicator of hydration status is the colour of your urine. Your urine colour should be pale yellow (lemonade), if it is clear like water you could be overhydrated and if it is dark (apple juice) you may be dehydrated.

For those “I need a number” runners out there – 400- 800 ml/hour should prevent dehydration. These numbers may be less if you are weigh less, run slower (> 4 hour marathon), or if the weather is cool. Conversely these numbers may be higher if it is hot, you are running faster or if you are larger (hence the “test yourself” recommendation above).

**What should I drink?**

Sweat contains not only water but electrolytes, both need to be replaced. You should not drink just water; this puts you at risk for hyponatremia (which is very dangerous). Most sport drinks (Gatorade) contain a mixture of electrolytes and glucose; this helps in preventing hyponatremia and also provides energy. It is worthwhile testing the sport drink used at the race you are entering prior to the event; some runners have trouble tolerating certain drinks.

**What is this hyponatremia thing anyway?**

Hyponatremia is a condition in which the level of sodium in the body is low. Sodium is lost in sweat along with water. Hyponatremia is not common but can be life threatening. Typically it occurs in slower runners (> 4 hour marathon) who drink too much water before, during and/or after a marathon. Although sports drinks contain sodium and are preferable to just water, it is also possible to become hyponatremic by drinking too much of a sport drink. The key is not to overdrink; you do not want to finish the race with more fluid on board than when you started. It is important to drink enough to prevent dehydration but do not drink fluids “just because they are there”. Learn to recognize when you are thirsty, learn from your training runs what your fluid needs are and test yourself before race day.

Other risk factors for developing hyponatremia include:
- female gender
- small size
- using NSAID’s, these are anti-inflammatory drugs that may impair your ability to excrete water. These are medications like ibuprofen (Advil, Motrin), naproxen (Naprosyn, Anaprox) or Celebrex.

Symptoms of hyponatremia include:
- weight gain, puffiness, “not feeling right”, water sloshing in your stomach, feeling bloated, headache, confusion and seizures
When should I start hydrating?

For the few days preceding the race you should ensure that you are not dehydrated (drink normally, avoid exertion and alcohol). You should not be drinking litre after litre of extra fluids (particularly water alone) but ensuring normal hydration (check your urine). Salty foods will help to ensure normal sodium levels. In the 2-3 hours prior to the race consume approximately a litre of a sports drink. Do not take NSAID’s prior to the race (or immediately after).

What about after the race?

You will probably be at least slightly dehydrated after the race, replace this with fluids containing glucose and electrolytes. Check your urine colour, initially it will probably be darker but should become lemonade coloured after 2-6 hours. Check your weight post race to help determine the amount of fluid loss.

What do I do if it is smoking hot on race day?

Hot and humid weather increases the chances of dehydration, heat illness, and visiting the medical tent (not good). Taking precautions can make your day much more pleasant. Adequate hydration is only part of the answer to preventing heat illness.

- this is not the day to try for a PB, relax, enjoy the race
- you will need to increase your fluid intake
- when passing a water station you can always take one cup to drink and pour another over your head to cool down
- use the sponges at aid stations to cool yourself
- if you have friends or family watching you on the course they can bring ice cold liquids for you to drink or pour on yourself (assuming this does not break course rules and will disqualify you from a world record)
- dress appropriately (light weight, light coloured clothes)

If you do not feel well during or after the race please seek medical attention.