



Hyponatremia or Water Intoxication

While extremely rare, this condition has caused death during or after running long runs or marathons. Many runners become overly concerned about hyponatremia, and don't drink enough before during and after a long run. The result is dehydration, which is much more likely to cause medical problems, and increase recovery time after long runs. As in all training components, each runner must assume responsibility for their hydration and health, and use good common sense.

The underlying cause of hyponatremia is often severe dehydration, compounded by consuming only water in great quantities. Every marathoner should be aware of this condition, not only for self-protection. If you see someone who seems to be going through the symptoms, a little attention can bring them around relatively quickly. If a member of your running group shows any of the below symptoms, **stay in touch with them for the next few hours** to ensure that they are getting what they need and are not alone. As always, when in doubt, get medical advice and care. A physician will have to determine whether an IV will help or not.

Causes:

- Starting the run, already dehydrated, due to consuming alcohol the night before, not drinking enough fluid the day before, or eating a very salty meal the night before and/or
- Sweating excessively and continuously for more than 5 hours and/or
- Taking medication which messes up the fluid storage, and fluid balance systems, within 48 hours of a long run when
- Drinking too much water, in a period of 1-2 hours, once the body is dehydrated

Signs that you may have it

- Hands and/or feet swell up twice normal size (or more)
- Nausea that leads to vomiting, continuous or several times
- Diarrhea which is continuous or repeated every 10 min or so
- Mental disorientation and confusion
- Severe cramping of the muscles for several miles
- Disorientation with any of the above symptoms

How to avoid it

- The day before, drink a hydration drink, such as Accelerade, 6-8 oz an hour, unless you hear "sloshing" in your stomach
- Drink water in small doses during a long run—4-6 oz, no more often than every 20 minutes (12 min on a hot day)
- Don't drink if you hear a sloshing sound in your stomach
- After 2-3 hours of continuous, excessive sweating, eat salty pretzels, or mix a small packet of salt with your water, every 30 min or so
- Continue to eat or drink the salty food for an hour after a 5 hour plus long run
- Drink several sips of water or electrolyte drink (Accelerade recommended) with every pretzel, or put ½ tsp of table salt in a glass of water.
- At the end of long runs, and for hours afterward, even if you are very thirsty, don't drink more than 8 oz of water about every 20 min. It is better to drink some electrolyte beverage like Accelerade.
- The electrolyte beverages don't have enough sodium to get you back to balance, but the carbohydrate in them will slow down the absorption of the water.
- Keep eating salty foods for an hour or more after a 5 hour plus long run.

Specifics, from the American College of Sports Medicine

as verified by Biochemist Dr. Bill Vaughn, PhD

- Drink about 17 oz of fluid, prior to 2 hours before the start. This allows the fluid to get into the system, with time for the excess to be eliminated.
- Drink early and regularly during the long run, consuming 20-40 oz of fluid per hour. This is a lot less than many of our runners are drinking. This works out to 4-7 oz per mile for most runners.
- Some carbohydrate with the drink--as in the GU type products, will help the re-hydration process, but only a little is needed (in my experience, one-third to one fourth of a packet per mile of GU).
- Sodium is definitely recommended: 500-700mg per hour, in the form of pretzels, salt in the water or buffered salt tablets. (Succeed)
- On hot days, have a "weigh in" at the beginning and at the 3-4 hour and after marks. Weight loss of 6% or more has been a good indicator of serious problems.
- No medication, within 48 hours of the start of the long run, unless with a doctor's permission. There has been at least one death tied to ibuprophen.
- I continue to hear of problems when runners eat a big meal the night before. It's always best to snack from about noon until bedtime--and avoid alcohol.

The Death-Defying Warm-Down

It's never a good idea to suddenly stop running and stand around. Several runners who had undiagnosed heart disease have died when they finished the run and jumped immediately into a car or shower. Even if you have a very healthy heart, you'll speed up muscle recovery by gradually easing off the effort of the run.

- If it's an easy run, walk for 5-10 min before going to the car, shower, etc.
- At the end of a run that is fast, for you, jog slowly for 5 min, walk and jog for 5 min, and then walk for 5 min.
- When you're racing, avoid the temptation to stop at the finish line. Jog for 5 more min and follow the rest of the recommendations for a fast run listed above.