

## Hydration Needs

With the heat index on the rise it's a good time to review your hydration needs before, during and after exercise. You may have seen recent headlines suggesting that athletes need only use thirst as their guide on when to drink. The July 2015 publication by the Journal of Sports Medicine, "Statement of the Third International Exercise-Associated Hyponatremia Consensus Development Conference" has been misapplied to all athletes in many of the news briefs that followed. The original discussion and results was largely targeted at marathon, ultra marathon, Ironman triathletes and endurance cyclists. So which hydration guideline should you follow, **drink on a schedule or based on thirst?** How do you avoid hyponatremia but not wind up compromising your performance because you've gotten too deep into the dehydration zone?

### Dehydration vs. Hyponatremia

Dehydration	Hyponatremia
Occurs when fluid losses are not adequately replaced. Caused by not drinking enough fluid to keep up with sweat loss.	Hyponatremia occurs when a blood sodium concentration is < 135 mmol/L Caused by drinking too much fluid, diluting out blood sodium concentration
Symptoms: <ul style="list-style-type: none"><li>• Thirst</li><li>• Dizziness</li><li>• Headache</li><li>• Muscle cramps</li><li>• Weakness and/or fatigue</li><li>• Abnormal chills</li><li>• Irritability</li></ul>	Symptoms: <ul style="list-style-type: none"><li>• Weight gain</li><li>• Puffiness (swollen fingers, tight-fitting watches or rings)</li><li>• Nausea</li><li>• Vomiting</li><li>• Progressively worsening headache</li><li>• A sense of "not feeling right"</li></ul>

In general individuals running shorter distances that take < 4 hours should be more concerned with dehydration than developing hyponatremia. Those who are on the course for more than 4 hours, small built, female and use of NSAID (ibuprofen or naproxen) are more at risk for hyponatremia. The sodium in sports drinks may decrease your risk of hyponatremia when running longer distances, but even drinking too many sports drinks may put you at risk.

### **Hydration Guidelines**

These hydration guidelines are from the American College of Sports Medicine:

#### Before Exercise

- 16-20 ounces of water or sports beverage at least 4 hours before exercise
- 8-12 ounces of water or sports drink 10-15 minutes before exercise

#### During Exercise

- 3-8 ounces of water every 15-20 minutes when exercising < 60 minutes
- 3-8 ounces of sports beverage every 15-20 minutes when exercising > 60 minutes

#### After Exercise

- 20-24 ounces of water or sports beverage for every pound lost

### **Check Your Sweat Rate**

Sweating is a good sign that you are staying on top of your hydration needs. If you are in the habit of exercising for long periods of time in the summer, weigh yourself without clothing and after toweling off, before and after exercise to estimate your sweat loss. The majority of this weight loss will come from sweat comprised of water and electrolytes such as sodium. Use the guide below to measure your sweat loss.

### Percentage Change in Body Weight

Weight Gain	Potential Over Hydration
Minimal Dehydration	-1 to -3%
Significant Dehydration	-3 to -5%

Your performance can be negatively impacted by as little as a 2 to 3% weight loss. For a 150-pound person this equals 3 to 4.5 pounds. You're doing a good job of staying on top of your hydration needs if you limit weight loss to 1%.

Sweat rates for individuals vary based on the activity, temperature, humidity, body weight, genetics, acclimatization and metabolic efficiency. While some of these sweat factors are out of your control, don't underestimate the value of proper training. Untrained muscles create more heat in their attempt to perform the new activity. As they adapt through regular workouts, less sweat is created. However, remember that if you increase your time, intensity or length of training, your sweat rate will rise too.

#### **Check the Color of Your Urine**

It should be pale yellow like the color of lemonade. Urine that is dark yellow like apple juice or even orange and small in quantity is a symptom that you are dehydrated. Urine that is clear may be a sign that you over hydrated.

Don't copy other runners, you're unique so learn to pace your specific hydration needs during your training. Obey your thirst, follow the hydration guidelines and check your sweat rate and urine color. Hydrating correctly is a key driver to your optimal performance