

The Basics of Nutrition & Hydration A Brief Lecture for Runners and Walkers

WHY WATER?

Why is hydrating your body so important? Well to start off with, the human body is largely made up of water (65 – 70% water by weight). Fluid is responsible for keeping your body temperature regulated, blood volume correct, ridding your body of waste products, maintaining blood pressure and so much more. It is hard enough to get through a normal day when you are dehydrated (signs include: headaches, tiredness, nausea), but even more difficult to exercise in a dehydrated state. To insure your body is functioning at its best follow these simple guidelines.

1. Drink all day, every day.
2. Drink before you start. Top off your tank with 8 ounces 30 to 60 minutes before you exercise.
3. Carry fluid with you, drinking 4 ounces every 15 minutes.
4. Drink after you're done. Refill your system with 16 to 20 ounces while you cool down.
5. Be aware of your climate. Heat, humidity or even altitude can affect your fluid needs.
6. Know the signs of dehydration: nausea, dark yellow urine, dry/sticky mouth, and dizziness.

WHY NUTRITION?

The goal of athletic nutrition is to help the individual maintain even performance and an enjoyable feeling for the duration of the workout. If you find that you struggle towards the end of your workout, or if you feel like you need a nap directly thereafter, you need to listen up!

Let's start with what needs to become your new nutritional mantra: *WATER IS NOT ENOUGH!!* Yes, water is necessary, but as your sole source of athletic nutrition it will do you more harm than good. WHY? Because water does not contain the necessary components that will help you work out efficiently.

SO WHAT IS NEEDED AND WHY?

Well, effective athletic nutrition requires the following:

1. **CALORIC REPLACEMENT:** Without it you will "Bonk" or run out of gas (to the degree that even taking one more step is laborious).
2. **ELECTROLYTE REPLACEMENT:** Without it you may dehydrate or cramp, both debilitating conditions while running or walking.
3. **NUTRITIONAL RECOVERY:** Without it your taxed body will take longer to return to normal.

CALORIC REPLACEMENT:

- **WHEN TO TAKE:** 100 calories/hour during workout
- **HOW:** Sports gels, bars, or chewable blocks.

The general rule of thumb is that during exercise one requires 100 calories per hour. Anything you eat contains calories so in theory you could eat nearly anything to achieve this. The difference between eating a Twinkie and, say, a sports gel is in what creates these calories. "Good" calories come from complex carbohydrates (namely maltodextrin) and release energy into your system gradually and evenly. "Bad" calories typically come from sugars and tend to produce a spike of energy followed by sudden energy depletion (a "crash"). Most sports gels/bars/blocks (etc.) use maltodextrin as the main calorie-providing ingredient. Another benefit of using sports-minded products for calorie replacement is that they typically break down quickly in your stomach and don't strain your digestive system in the process. *Side Note: Products for diabetics DO exist. Visit the Hammer brand's website for more information.

ELECTROLYTE REPLACEMENT:

- **WHEN TO TAKE:** 20 ounces/hour alongside H₂O during workout.
- **HOW:** Powder form mixed in a water bottle.

So what the heck are Electrolytes? By definition they are elements that dissolve in a solution to aid in the cellular functioning of nerves and muscles. The more common electrolytes are Sodium and Potassium, but also important are Calcium, Magnesium, Chloride, Bicarbonate and Phosphate. Without making this into a science class, the long and the short of electrolyte intake is that consuming them in a water solution will help keep things "normal" – neglecting to do so will potentially cause cramping, stomach problems, GI issues and/or dehydration.

NUTRITIONAL RECOVERY:

- **WHEN TO TAKE:** 20 ounces within 30-minutes of the end of a workout.
- **HOW:** Usually powder form mixed in water bottle, sometimes edible.

Have you ever been sore after a workout? Felt fatigue? Had trouble mustering up the energy for a subsequent workout? If so, you've suffered from a poor workout recovery. Every workout requires some sort of recovery and it's in your best interest to help your body get there. Why? Because during a workout we breakdown our muscles and deplete them of glycogen (glycogen is what muscles use for energy). Our muscles will eventually recover on their own but we can help speed up the process by enlisting in a regiment of nutritional recovery. Optimal post-workout recovery nutrition is a drink that contains a 2:1 ratio of carbohydrates to protein. The carbohydrates help replenish glycogen stores, and the proteins are the building blocks for the building/rebuilding of muscle.

TRAIL RUNNING:

Running on trail, particularly more rural trails, poses some additional challenges. Unlike running the pavement in a more urban setting, you may not have access to ANY water for long periods of time when on the trail. Combine that with the fact that trail running is most often slower and has much more challenging terrain than the road and it's easy to get dehydrated and bonk somewhere out in the middle of nowhere.

When going on a trail run, plan your water strategy before you head out from the trailhead. Have an idea how long you'll be out there and where the next available water is on the trail. It may be a faucet at a trailhead, a store that's near the trail but requires a small side-trip, or it could be that you need to carry some type of water purifier (pump, Steripen, tablets) so you can get the water needed to stay hydrated during the run.

For hot summer days, it's best to carry 16 ounces per half hour of running. This is about the maximum your body can process when appropriately heat trained. How you carry the water is a runner choice. Hand bottles and fanny packs work well. Some like hydration packs as they can carry more fluid, but also tend to be hotter than the alternatives. Either way, it's good to run with a hand bottle as it reminds you to drink as you're running. A common mistake with trail runners is to carry water and then forget to drink. With a hand bottle, it's a regular reminder that is available and it's better to drink it than carry it around all day.

For electrolytes on the trail, there are two good alternatives. You can carry a powder and mix it as you refill your water bottle, or you can carry electrolyte tablets like S-Caps or Endurolytes. Or, do BOTH! It's important to drink something other than just water on long runs as you need to replace the electrolytes that being lost through perspiration and respiration, and the calories help fuel the engine. How much to use on any given day is determined by the product, the temperature on the day of the run (hotter days require more), and the level at which your body is heat-trained. Early in the year, when your body isn't accustomed to hot weather, your sweat will be more concentrated with electrolytes. Later in the summer, your body will have adapted to the hot weather and it'll sweat more efficiently and will conserve electrolytes.

One good way to understand whether you're drinking enough on a long trail run is to weigh yourself before and after the run. A difference in weight will indicate the amount of fluid you've lost during the run. As the saying goes, "A pint's a pound the world around". Each pound represents 16-ounces of lost fluid volume in the body. As your weight decreases, performance drops accordingly. Losing 2-3% of your body weight through sweating will have a significant impact on your ability to run at an optimal rate. Once dehydrated, it's difficult to get rehydrated without resting and spending time replacing lost fluids. Save yourself all the discomfort and carry sufficient water, drink early and often, and replace lost electrolytes so your body has what it needs to perform at a high level.

DISCLAIMER!!

*Everybody's nutritional needs are specific to them. What works best for you might not work best for me (and vice versa). Therefore, it's absolutely essential that you try out various products in various workout situations before you make them part of your workout. Nutrition IS NOT an exact science and the above stated dosages are merely recommendations!