

Eating and Drinking (AKA: Nutrition)

Nutrition is the proper term, but we prefer to “eat” rather than “nurture the body”. We don’t have nutrition degrees, nor do we possess the information that you could gather from the labels at a health food store, but we know what we have seen and what works for us. This is more of a guideline that we encourage you to tweak for yourself.

The basics, in order of importance, are: hydration, electrolytes, and fuel. It is important to note that hydration and electrolyte use are dependant on each other.

Hydration. We’re talking water. We encourage you to drink straight water in your bottles and nothing else. If you are in the habit of only putting water in your bottles, you are setting a solid foundation of consistency. Any event or race you ride in, any store you find on the roadside, and all garden hoses contain water. Also, if you look to the left and the right, you will see that your riding buddies also have water. It isn’t messy when spilled like drinks containing actual ingredients and it won’t stain your clothes. Water can also be used to wash your hands after throwing a chain or getting a flat and is great to irrigate scrapes and cuts. Water is good!

This doesn’t mean that water is the only thing you can or should drink, but it’s all we carry on the bike. At rest stops, we will drink many other things. The goal of hydration is, obviously, to keep the right amount of liquid in your body. There are many formulas out there to let you know how much you should drink and when, but there are simply too many variables for any of them to be relied on. Putting yourself on a strict liquid intake schedule is guaranteed to fail unless you have the experience, through trial and error, to know exactly what you require. Even then, unforeseen circumstances can falter the schedule, leaving you to use your hydration logic.

The most accurate method is to simply keep track of how much water is leaving your body. By this, we mean how often you have to pee. If you don’t have to pee every couple of hours or so, you are dehydrated or, at the very least, headed there. Consider this conversation between two cyclists on a double century. Cyclist A is 150 miles into the ride on a warm day, but he is not feeling good. Cyclist B is coming up from behind and when he catches him, they engage in polite conversation.

Cyclist A, “Hey, where’d you come from?”

Cyclist B, “Oh, just enjoying the sun and the birds. How are you holding out?”

Cyclist A, “Not so good, I feel like crap. I’ve got no power left and I’m getting a little hot.”

Cyclist B, “Have you been drinking enough?”

Cyclist A, “Sure have, I’ve drank a bottle every half hour.”

Cyclist B, “When was the last time that you went pee?”

Cyclist A, “Just before the start this morning.”

Cyclist B, “Think about that, Charlie.”

We have seen a million and two cyclists insist that they have been either drinking enough or possibly even too much. But, they still can't make any saliva in their mouth to help eat a sandwich and they haven't gone pee since 1976. The simple fact is that if you are drinking "enough", you will be going to the bathroom regularly.

On the surface it seems silly to rely on a method telling when you are becoming dehydrated, but it works and here's why. The human body has an amazing ability to both compensate and adapt. If you start a ride in good shape (hydration wise), you have plenty of extra water in your system. Even if you're only drinking a minimal amount of water on a hot day, your body is working just like it should. A short time into the ride, you will be sweating off more liquids than you are taking in. Your body will sense this and begin compensatory measures, like limiting the amount of liquid sent to the bladder. The body will still allow sweat to the skin surface since cooling is a vital function of the body and urine secretion is not. Your body does this **before** your performance is affected by dehydration; thus, it can be used as a reliable indicator. If you have ridden an hour or two and don't have the urge to pee then start drinking more water to pee in the next half hour. You should simply drink lots and lots and lots of water while being keenly aware of your pee habits. If you do this, then on a long ride, one of two things will happen; you'll either be stopping to pee every hour or so (good thing, trust me) or you'll notice that you haven't peed in a couple of hours and your bladder still doesn't feel like it will need to anytime soon. If the latter is the case, start drinking even more. If you still don't have to pee, drink more! If this has been the case for you, try upping your water intake significantly and you will see performance benefits that you didn't anticipate; most notably will be more power near the end of your ride and much speedier recovery. On some hot 114 degree summer days it is likely that we will be drinking 4 tall water bottles (That's about 1 gallon folks!) every hour we are on the bike.

An important note is that this hydration strategy works in *all* conditions. On a cool, rainy ride, you still sweat. If you are wearing a jacket that is waterproof, odds are you are sweating significantly. If it's cold and wet and you are shivering and miserable, you should still have to pee every couple of hours.

On shorter rides, this problem may never present itself; your body can compensate for about an hour on the hottest of days and most strenuous of efforts. But, hydration is a serious matter and can mean not only the difference between finishing and not finishing a ride, but life and death itself. Earlier it was stated that your body compensates when there is too little water intake. As your body does this, changes are taking place. As there becomes less and less fluid available for cooling (sweat), your temperature will start to rise and you are approaching a condition called Heat Exhaustion.

Heat exhaustion takes time to develop. Fluids and salt are vital for health. They are lost as sweat during prolonged rides. It is very important to drink copious amounts of liquids before, during, and after exercise in hot weather. As strange as it seems, people suffering from heat exhaustion have low, normal or only slightly elevated body temperatures.

Signs and Symptoms of heat exhaustion include:

- Cool, clammy, pale skin
- Sweating
- Dry mouth
- Fatigue, weakness
- Dizziness
- Headache
- Nausea, sometimes vomiting
- Muscle cramps
- Weak and rapid pulse

When your body loses its ability to compensate fluid loss it simply can't divert fluid to the skin for cooling. You are now in a Heat Stroke condition. Heat stroke, unlike heat exhaustion, strikes suddenly, and with little warning. When the body's cooling system fails, the body's temperature rises fast. This creates an emergency condition. This is when you call 9-1-1.

Signs of heat stroke include:

- Very high temperature (104 degrees F or higher)
- Hot, dry, red skin
- No sweating
- Deep breathing and fast pulse - then shallow breathing and weak pulse
- Dilated pupils
- Confusion, delirium, hallucinations
- Convulsions
- Loss of consciousness

The best way to avoid these conditions is through anticipation and prevention. Drink early, drink often, drink before you are thirsty, and take your electrolytes.

Electrolytes help regulate your body's fluid levels through osmosis, diffusion and other systems so complex that to fully understand it you have to use words like hypertonic. The basic principle is that your body is always trying to establish and maintain equilibrium. When your body sweats, both water and electrolytes are lost. If you attempt to replace them with a solution similar to the concentration of electrolytes that are naturally found in your body, then they will be absorbed more readily. This is the basic principle of sports drinks; give your body what it needs. The other main role of the elusive electrolyte is to help conduct electrical impulses from cell to cell. Electrolytes work the same way in a car battery. When the electrolyte balance is thrown off, mixed signals are sent to and throughout both the brain and your muscles. This will explain the nausea, altered level of consciousness, and cramping (misfiring) muscles.

Electrolyte use varies depending on the season, especially in hot climates. On short rides in hot or cold weather your body typically has enough sodium on hand to adjust according to your sweat levels. Your body gets the sodium from the foods you eat and drink. Electrolyte use begins playing a critical role on longer rides, hot days, and hard efforts when a large amount of sweating occurs.

Drinking large amounts of water without increasing your electrolyte use can lead to overhydration also known as hyponatremia. There have been stories of deaths, recently, in the running world attributed to this condition.

Overhydration occurs when you dilute the normal sodium level of the body. Signs and symptoms can include digestive problems, stomach distension, behavioral changes (altered level of consciousness) that include shouting or inattentiveness, brain damage, or coma. When consuming large amounts of water during bike rides you need to make sure electrolytes are also being taken to maintain the balance of sodium. The amount and form of the electrolyte will vary depending upon the situation. Consider this conversation between two cyclists on a double century. Cyclist A is 150 miles into the ride on a warm day, but he is not feeling good. Cyclist B is coming up from behind and when he catches him, they engage in polite conversation.

Cyclist A, "Hey, you look familiar."

Cyclist B, "Yeah, I saw you a few paragraphs ago. How are you holding out?"

Cyclist A, "Not so good, I feel nauseas. I've got no power left and I'm tired."

Cyclist B, "Your stomach looks bloated and you're covered in salt. Have you been taking any electrolytes?"

Cyclist A, "Naw, I've just been drinking water."

Cyclist B, "Think about that, Charlie."

Electrolytes are very useful on hot days and hard efforts when heavy sweating occurs. These are also the days when electrolyte use is optimal to prevent cramping and other physical problems. You'll find the sweat pouring off your face has a salty taste, which is a good indication that you are losing sodium and need to replace it. After some long heavy days it will look like you have ridden through a snowstorm of salt as it will be caked to your face, jersey, and shorts.

Electrolytes come in many forms: drinks, the salt put on your food, and in concentrated powders or liquids available at many sports stores. Which type you use is up to you. Consume salty beverages at rest stops as a handy way of incorporating electrolytes into your ride. You could also take the concentrated tablets or liquids at regular or periodic intervals. Consuming copious amounts of salt at the table is the least effective method since you are not exercising, not sweating, and do not need to compensate at that moment in time. One thing you are doing right at the table though, is getting fuel.

You should start your ride with a good meal before hand with plenty of time to allow digestion. Once on the bike, eat before you are hungry; eat until your arms fall off. If you keep plenty of calories on board you will find your performance can be maintained throughout the entire ride instead of dwindling out at the end. Odds are you have experienced a feeling of fatigue like you “have nothing left” and most dramatically when you “bonk.” Many cyclists report “feeling fuzzy,” as a first sign, even before they get weak, when they are starting to get behind the curve. This is a sure sign you have no fuel to continue pushing the pedals at your desired speed. Consider this conversation between two cyclists on a double century. Cyclist A is 150 miles into the ride on a warm day, but he is not feeling good. Cyclist B is coming up from behind and when he catches him, they engage in polite conversation.

Cyclist A, “You again!”

Cyclist B, “Yuppers, it’s me, Cyclist B. How are you holding out?”

Cyclist A, “Not so good, I feel empty. I’ve got no power left and I can’t hardly push the pedals. I’ve been drinking lots of water and taking my electrolytes.”

Cyclist B, “You’re right about hardly pushing the pedals, I’m about to fall over from going .0000001 miles per hour. Have you been taking on any fuel?”

Cyclist A, “No, I’ve been riding hard and don’t feel hungry.”

Cyclist B, “Think about that, Charlie.”

With what and when you fuel your body depends on your exertion level, taste, and diet. When working hard, you may not feel hungry but will start to feel fatigued and empty. This is a sure way to inform you to slow down and eat. Eating a small variety of food keeps eating from becoming monotonous when bananas, bananas, bananas, and more bananas start to lose their appeal. Try other fruits, crackers, cereal mixes, gels, sandwiches, and whatever else you get a hankering for on a ride. There is typically a reason why you crave some foods. Sometimes it could be for the salt content, the carbohydrates, or the protein. Don’t be afraid to slow down and eat.

Read that again, just because you are going to eat doesn’t mean you need to get off your bike. Slow down to a comfortable speed where you can chew your fuel without blowing it out your mouth and all over the road from labored breathing. Take the time to eat, give yourself a few minutes (five to fifteen) to digest, and go back to your pace. This equates to doing intervals where you will push your body until you start to feel fatigued and empty, then slow down and eat; repeat until you finish your ride.

These are a guideline to help you take the proper steps in eating and drinking to maintain performance on your rides. We are sure none of you want to finish a ride feeling empty, going abnormally slow, or in an ambulance. Take the time to practice these ideas for yourself to find out what will work for you. Keep the rubber side down.

--Scott Dakus and Erik Skramstad