

Fueling Properly for an Ultra

Ultrarunner and nutritionist Sunny Blende's advice

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Sunny Blende got into ultra running long before it was popular. The sports nutritionist who has worked with everyone from English Channel swimmers to ultra marathoners began her ultra career as a pacer in the 1981 Western States 100. Over the last 30 years she has watched the changing scene of endurance nutrition with great interest.

"Things were very different racing back then," says Blende. Instead of high tech sports drinks and gels, it was deffizzed Coca Cola and water with maple syrup and candy bars. "I remember at mile 60 of Western States they were handing the runners big plates of food that had cottage cheese, yogurt, dried fruit and all kinds of things," she says.

As endurance sports have gained in popularity, so have the products that fuel them. Since Blende's first race back in the early '80s, much research has been devoted to nutrition and optimal performance and, in particular, how to evade the dreaded "bonk." While not every race can be perfect, your chances of crossing that line in one piece hinge on your ability to fuel effectively during an ultra race.

Avoiding the bonk

Imagine your energy system is a wood-burning stove and the wood in the stove won't light until you come up with a match. In the same way, fat burns in the flame of carbohydrates; if you run out of carbohydrates you can't access your fat stores and your entire energy system shuts down, causing you to bonk. As a result of millions of years of genetic programming, our bodies are able to squeeze out a few more carbs by breaking down protein, not the kind we eat, but rather our own cells and tissues. It's like finding a few more matchsticks. This is why when you bonk, your pace slows, but you can keep going. As Blende says, "It's not a pretty picture."

It is important to note that while it is possible to avoid a complete energy meltdown, ultra running is a calorie-deficit sport. "The way our bodies metabolize foods, we just can't take in as much as we're expending," explains Blende. An average runner can only absorb about one gram of carbohydrates per minute (4 calories per gram) and about 240 calories per hour, while simultaneously burning around 100 calories per mile.

If you're coming into the race fully carbo-loaded, you won't need to begin fueling until 45 minutes to one hour into the race. Those pre-race carbs (10–12 g/kg/day, 36–48 hours) will help promote the storage of muscle glycogen, which allows a runner to go longer before fatiguing. After the first few miles of a race you'll want to start ingesting that 240 calories per hour, or closer to 200 calories for smaller runners. "Most runners are able to handle eating a lot more calories than they thought they could," says Blende. "Set your watch for every 15 minutes to remind yourself to eat a little and drink a little at a time."

The majority of those calories you are ingesting should be carbohydrates. The most common, and the most necessary, carb is glucose. Glucose is the matchstick that helps you burn fat, and also the only fuel your brain uses. It is also easily digested, so it will give you quick energy without making you feel sick. Runners can get glucose from a number of products. Look for brown rice syrup (in Clif products) or maltodextrin, which is a number of glucose molecules strung together.

Blende recommends that newer runners start with gels because they are the easiest product to ingest and they take the guesswork out of what you should be eating. More experienced ultra runners can train their bodies to handle solid foods. After four to eight hours (during a 50–100 miler), you may want to begin taking in a small amount of protein to help reduce muscle breakdown. Blende suggests one part protein to three or four parts carbohydrates, never exceeding 100 calories at a time. Blende's specialty is the peanut butter and gel sandwich, or PB&Gs.

Coming back from the bonk

The good news is, if your fueling plan goes awry, it is possible to recover from the depths of a bonk. "If you think of it as a line moving along and you're going below the line and starting to bonk, you can come back to the line," explains Blende. While you won't be able to go above the line and put money in the bank, your race is not a lost cause at this point.

As with training, when it comes to fueling, practice makes perfect. If you are feeling yourself slip, try refueling and see what makes you feel better. “When a runner gets to an aid station and they are feeling horrible and someone says, ‘Why don’t you try this potato dipped in salt,’ and they feel better, that’s their new miracle food. They just needed some salt and carbs,” says Blende. Most importantly, she says, “It’s all about knowing that even if you get into a slump, you can get back out of it; it doesn’t mean your race is over.”

Optimal hydration

“All sports nutrition advice can just be thrown out the window if you get dehydrated,” says Blende. “Your body just won’t work when it’s dehydrated.” In the same way you fuel with gels and foods, you must also take in liquids, and may get a large portion of your calories that way. What’s more, liquids are absorbed more quickly than solids. Although hyponatremia, which occurs when a runner’s blood gets diluted, is of concern for a few, the most recent research suggests that drinking water and sports drinks ad libitum is the way to go. Blende says that sports drinks are especially useful when you’re sweating a great deal. “The advantage of the sports drink over water is that the electrolytes make you drink more and the sodium helps you retain more liquids and carbs,” explains Blende.

One recent study published in the Clinical Journal of Sport Medicine found that dehydration in ultra marathoners tends to be the most prevalent the first eight hours of a race, so replacing the liquid lost through sweat is especially vital in the early stages. Since runners’ sweat rates vary between ½ liter to 3 liters per hour, the best way to determine how much you should be drinking is to figure out your individual sweat rate. To do this, Blende says, “Weigh yourself in the nude, go out and run for an hour and don’t eat or drink anything, towel off, go to the bathroom and weigh yourself again.” If you’ve lost 2 lbs, that equals about 1 liter of liquid, which is the average sweat rate.

Keep in mind that those 240 or so calories you should ingest per hour include solids, gels and liquids. This means that you might want to pair a gel or a sandwich with a sports drink to get in the necessary fuel. “You can combine your hydration and calories in any combination you want,” says Blende. “If you’re a really heavy sweater, you could drink all your calories, however that wouldn’t work for a lot of people because they’d end up with too much water.”

In general, if you find yourself underweight following a run, you need more electrolytes, and if you’re overweight, you need less. This being said, starting and finishing an ultra race at the same weight is overly optimistic; it is unlikely you’ll be able to stay on top of replenishing all that is expended, so aim to be within a couple pounds of your starting weight.

The intensity and duration you are running will always affect how much you should consume. The harder you’re running, the harder it is to consume food. Blende emphasizes, however, that runners are best served to avoid the bonk at all costs, and if you find yourself going down that road, act fast. “If you aren’t feeling good, your body will slow down for you. As you slow down, you’ll be able to digest more,” she says. Whether you subscribe to a fueling plan from the ‘80s or the aughts, find what works for you and stick with it. Your body will thank you.