

Fueling for Success

Half (70.3) or Full (140.6) Iron Distance Triathlon

This step-by-step fueling protocol is super easy to put together, it's just as easy to follow, it doesn't require that you carry a ton of stuff on your bike or body, it will save you time, and, best of all, it's highly effective.

While most of the text is under the Full-Iron Triathlon header, the advice is the same—with slight modifications—for a 70.3/Half-Iron Triathlon.

Before you get to the fueling protocol, here is some very important and useful information...

5 Simple Ways to Improve Athletic Performance Now

By: Steve Born

While there are numerous steps that you can (and should) take to optimize athletic performance, here are a couple of super easy ones. Start with these right away and you'll experience noticeably rapid improvement in your endurance.

1) Stay properly hydrated all day long. With approximately 60% of your body being comprised of water, it goes without saying that it's vitally important to maintain optimal hydration status all day long. Unfortunately, a lot of people—perhaps you?—live in a state of perpetual dehydration, and that negatively affects athletic performance and overall health. Starting now, gradually increase your fluid intake—primarily from pure, clean water—so that the total number of ounces you're drinking on a daily basis is equal to 0.5 to 0.6 of your body weight in pounds (e.g., 180-lb athlete should consume 90 – 108 ounces of fluids daily, in addition to what is being consumed during exercise). During exercise, drink 16-26 ounces per hour, and up to 28 ounces per hour during hot weather.

2) Fuel lean. It's interesting to know how many calories you're burning every hour during exercise; however, that amount isn't really a factor in terms of how many calories your body can accept in return from your fuel donation. The goal of caloric intake is to consume the least amount necessary to maintain energy levels where you want and need them to be hour after hour. For the majority of athletes, this represents an intake of 120-180 calories per hour. Larger athletes (200+ lbs.) can consume 200-or-slightly-more calories. And if you find that's not quite enough calories, that's an easy fix—you simply consume a few more. Remember, it is ALWAYS easier to fix a "not enough" problem than an "uh oh, I overdid it and now my stomach is rebelling" problem.

3) Ditch the sugar. Some fuels are comprised of a combination of simple sugars (glucose, sucrose, fructose, etc.) and complex carbohydrates (maltodextrin), formulated under the premise that your body will be able to produce more energy on a per-minute basis using multiple carbohydrate sources compared to a single

carbohydrate source. Remember, though, that the subjects in those “multi-carb” studies were exercising at such low intensities—a recovery pace, at best—that they could probably consume anything without issue. Instead, choose complex carbohydrates (maltodextrin), such as in Hammer Nutrition's [**Hammer Gel**](#), [**HEED**](#), [**Sustained Energy 2.0**](#) or [**Perpetuem 2.0**](#). Unlike simple sugars, complex carbohydrates provide quick-acting, longer-lasting energy and cause no stomach issues even at high intensity efforts.

4) Don't eat for 3 hours prior to your workouts and races. By refraining from consuming any calories in the 3-hour period prior to your workouts and races, you put your body in the ideal physiological state to use its finite stores of muscle glycogen most efficiently, while also utilizing the vast amounts of calories from body fat stores more effectively. Adopt this practice in all your workouts—even the early morning ones—and you'll start seeing massive improvements in your endurance in a relatively short time. Note: If you must have some calories prior to the start of exercise, consuming something that's easy to digest (e.g., a serving of [**Hammer Gel**](#)) 5-10 minutes prior to the start—but no further out—is acceptable.

5) “Refill the tank” ASAP after all your workouts. Your body wants to reward you for the efforts you made in training, strengthening the immune system, rebuilding muscle tissue stronger, and storing more minutes of readily available fuel (glycogen) in the muscles. All you have to do to enjoy all of these endurance-enhancing benefits is supply your body with the materials it needs right away—ideally within the first 30 minutes after exercise (the sooner the better)—meaning complex carbohydrates and high-quality protein such as found in [**Recoverite**](#) and [**Organic Vegan Recoverite**](#).

Full-Iron Triathlon

3.8-kilometer (2.4-mile) swim, 180.2-kilometer (112.0-mile) bike, and a 42.2-kilometer (26.2-mile/marathon) run

FUELING SUGGESTIONS

1) Success "during" starts "after"! It's absolutely vital that you "refill the tank" after all your workouts... this is a major key for noticeably enhancing athletic performance. When you begin a workout or event/race, the primary fuel your body uses for the first 60-90 minutes or so is known as muscle glycogen. The more consistent you are with ASAP post-exercise fueling—[**Recoverite**](#) or [**Organic Vegan Recoverite**](#) is ideal for that—among the many benefits you'll receive is more minutes of glycogen stored in the muscles—maxing out at somewhere between 60-90 minutes—ready to serve you in future workouts and races.

2) Finish all calorie consumption 3 hours prior to start. See #4 in the earlier article as to why this is so important.

3) “Pre-emptive strike” dose of [Endurolytes](#) or [Endurolytes Extreme](#). Taking a dose of Endurolytes or Endurolytes Extreme 15-30 minutes prior to the start will cover your electrolytic mineral needs during the swim portion. The dose can be anywhere from 1-6 capsules per hour, with most athletes using 2-4 capsules an hour, the amount dependent on body weight and temperature conditions. If you’re competing in hot-weather conditions—and especially if you’re not very acclimated to those conditions—use Endurolytes Extreme at the rate of 1-2 capsules hourly, with the first dose taken 15-30 minutes prior to the start. If you prefer to drink your electrolytes versus taking capsules, add 1-3 tablets of [Endurolytes Fizz](#) or 1-2 scoops of [Endurolytes Extreme Powder](#) to your water bottle. Take sips from 30 minutes to 10 minutes prior to the race to cover your electrolytic mineral needs for the swim portion.

4) Consume 1-2 servings of [Hammer Gel](#) 5-10 minutes prior to the race. Consuming 1-2 servings of Hammer Gel at this time will supply some calories to augment muscle glycogen stores during the swim portion, but without interfering with the efficiency of how your body will use its finite stores of muscle glycogen as a fuel source.

5) At T-1. Consume a “pre-emptive strike” dose of [Endurolytes](#) or [Endurolytes Extreme](#) along with a drink from multi-hour fuel bottle (see below), washed down with water. A few seconds spent at the transition to replenish electrolytes and consume a few calories will more than repay you during the ride because it allows you to focus solely on establishing a smooth pedaling rhythm during that crucial initial portion of the bike phase. To expedite the process, have the Endurolytes or Endurolytes Extreme ready in a small container such as a Hammer Nutrition [flip-top capsule dispenser](#). Again, if you prefer to drink your electrolytes versus taking capsules, 1-3 tablets of [Endurolytes Fizz](#) or 1-2 scoops of [Endurolytes Extreme Powder](#) added to your water bottles will be sufficient in fulfilling an hour’s worth of electrolytic mineral requirements.

6) Bike fuel. Use [Perpetuem 2.0](#) or [Sustained Energy 2.0](#) to fulfill calorie requirements via multi-hour bottle(s) of fuel (see below), water from another bottle or hydration system to take care of hydration needs (no sugary sports drinks!), and hourly doses of Endurolytes or Endurolytes Extreme—or sipping from bottles containing Endurolytes Fizz or Endurolytes Extreme Powder—to satisfy electrolytic mineral needs. Carry a couple packets of [Hammer Gel](#), just in case you’re out there longer than expected.

Each scoop of [Perpetuem 2.0](#) contains 90 calories. I (Steve Born) personally use 2.25 scoops of Perpetuem 2.0 an hour, which supplies 202.5 calories, an amount that works well for larger athletes like me (I’m 200 pounds). For light-weight athletes, 1.0 scoop (90 calories) to 1.25 scoops (112.5 calories) per hour works well. Medium-weight athletes will find that 1.50 scoops (135 calories) to 2.0 scoops (180 calories) per hour is an excellent amount.

Each scoop of Sustained Energy 2.0 contains 100 calories. I (Steve Born) personally use 2.0 scoops an hour, which supplies me with 200 calories. For light-weight athletes, 1.0 scoop (100 calories) to 1.25 scoops (125 calories) per hour works well. Medium-weight athletes will find that 1.50 scoops (150 calories) to 1.75 scoops (175 calories) per hour is an excellent amount.

The advantages of the multi-hour fuel bottle

As far as Perpetuem 2.0 and Sustained Energy 2.0 are concerned, instead of making a 1-hour bottle, which would mean I'd have to drink a full bottle of flavored/semi-flavored liquid hour after hour (which I wouldn't like), while also having to stop and make more (which burns up precious time), I would make a bottle of Perpetuem 2.0 or Sustained Energy 2.0 that contains a few hours' worth of fuel. To make (for example) a 4-hour bottle I'd start by using the smallest water bottle I have (less flavored drink mix I have to consume). Then, I fill that water bottle 1/3 full of water, add a couple of scoops of Perpetuem 2.0 or Sustained Energy 2.0, put the lid on, and shake well. I'll repeat the process until I've mixed the appropriate number of scoops in my one bottle (9 scoops for Perpetuem 2.0 and 8 scoops of Sustained Energy 2.0). Now, because I have 4 hours of fuel in one bottle, I only have to drink ¼ of that bottle every hour, augmenting that with water from another source to take care of my hydration needs.

Again, the benefits of using a multi-hour bottle of fuel:

- You get to drink and enjoy plain water from another source (another bottle or two, or an aero hydration system) to take care of hydration needs and to cleanse the palate. Yes, there is some actual liquid left in the multi-hour bottle of fuel. However, over the course of 3-4 hours it's pretty minimal so you can basically consider that bottle of fuel a "calories only" bottle.
- By making a multi-hour bottle of fuel you don't have to stop and make more along the way, which will save you time.
- By keeping your calories separate from your fluids you can keep track of your intake of both—calories and fluids—with greater precision. Why? Because you're taking care of those two areas of your fueling from sources that are independent of each other. Additionally, in hot weather races your ability to process calories may diminish while your fluid and electrolyte requirements may increase. Keeping the three entities of fueling—calories, fluids, and electrolytes—independent of each other will allow you greater flexibility with your dosing, making it easy to alter your intake of any or all of those fueling components whenever necessary.

If you need to, take a Sharpie pen and mark your bottle off into four equal sections. This will give you a visual as to how much to drink on a given hour.

How much fuel to make

For the sake of an even number:

- **For a half-iron distance race figure on a 3-4-hour bike time.**
- **For a full-iron distance race figure on a 6-7-hour bike time.**

For a half-iron distance race, 1 x 3-4-hour bottle of **Perpetuem 2.0** or **Sustained Energy 2.0** will most likely take care of calorie requirements completely, though remember to carry a couple packets of **Hammer Gel** in the event that you'll be out there for longer than 3-4 hours.

For a full-iron distance race make 1 x 4-hour bottle (for the first four hours) and 1 x 2-3-hour bottle (for the last two to three hours). Remember to carry a couple packets of Hammer Gel, just in case you're out there longer than expected.

Hot weather fuel preparation & consumption

If the weather is going to be warm you should, if possible, make up your bottle(s) of fuel the night before and freeze them. For an iron distance triathlon, you can put both bottles on the bike or leave one at Special Needs.

If it's going to be hot on race day, freeze your first bottle of fuel. Freeze the second bottle as well, but prior to putting it in the freezer, wrap a wet face cloth or rag around the bottle and secure with a couple rubber bands... then stick it in the freezer. This second bottle will end up having a frozen face cloth/rag around it, which provides extra insulation to help keep it cool. This second bottle will go to Special Needs.

If the weather is going to be extremely hot, make up and freeze your 4-hour bottle and have the second one (the one containing 2-3 hours' worth of fuel) waiting for you unmixed (powder only) at Special Needs. Yes, you'll have to stop and add cold water to the bottle and spend a little time getting it mixed. However, this is time well invested because you will have a fresh bottle of cold fuel to cover you for the last portion of the bike leg.

6a) Bike fuel during latter portion. Because you will be switching from a low-impact type of exercise (cycling) to a higher-impact type of exercise (running), consider cutting back on your calorie intake by 1/4 to 1/3 during the last hour. This is not an absolute requirement; however, this suggestion has helped many triathletes feel even better as they start the run portion of the race.

7) At T-2. "Pre-emptive strike" dose of Endurolytes or Endurolytes Extreme. Before you transition from cycling muscles to running muscles, replenishing your body with some electrolytes is a good idea if your last dose of Endurolytes or Endurolytes Extreme was 30+ minutes prior to T-2. If it was only

about 10-20 minutes or so prior to T-2 you can skip the dose at transition and start taking Endurolytes or Endurolytes Extreme during the run.

8) Run fuel. If you are able to keep a bottle of **Perpetuem 2.0** or **Sustained Energy 2.0** cold enough at T-2 (e.g., in a small, collapsible ice chest), or if you're willing to take a few moments to add cold water to a bottle of dry powder and mix, you could absolutely use either product during the run portion of your race. What may be a better option is to use a combination of Hammer Gel (carbohydrates) and **Endurance BCAA+** (key amino acids) combination.

8a) Run fuel. Continue to take **Endurolytes** or **Endurolytes Extreme** at regular intervals, and drink water only (no sugary sports drinks) from the aid stations to fulfill hydration requirements.

9) ASAP after the race. "Refill the tank" ASAP with Recoverite or Organic Vegan Recoverite. Refueling your body with two scoops of either product within the first 30 minutes after your races takes advantage of the glycogen synthase enzyme when it's most active. This allows the body to replenish and increase its stores of glycogen, while also providing the raw materials (the amino acids from protein) to help rebuild the muscle tissue and support the immune system.