



Fueling To Go Long

Article by Coach Sonni Dyer

MY car is faster than NASCAR star Jeff Gordon's car. It's true. Put 'em up side-by-side.....pole-position style, fill my tank with gas, empty his tank and see who gets to the 300mile mark first.

"Well of course it is!" you may say....."if his has no fuel". Yet many triathletes, after the 1st hour of a on long race will try to operate, maximally, this same way.

There is no question more frequently asked at this time of the year than, "What should I eat to get me through this long one coming up?"

First, let's break this down to the most basic parts.....the fuels themselves. Know that proteins, fats, vitamins, & minerals are all **BUILDING** materials used by the body. The function is to facilitate the **REPAIR** that takes place.

Carbohydrates, on the other hand, are mainly your bodies source of **FUEL**. Carbs are used on a short-term basis.....like gas in your tank. The critical keys to race success (especially in longer events) lies in the questions of **which** carbs, **when**, **how**, and **how much**.

Carbs also reduce the use of muscle protein being used as a fuel source, rather than as a repair material. If you can spare muscle protein, you can spare the muscle mass that propels you in a race.

Our goal should be to formulate your carb fueling with the primary goal to achieve the highest levels of muscle glycogen.....and then to MAINTAIN that level as much as possible before, during, and after training and racing.

Here are some fundamental rules for endurance fueling:

1-You Must take in between 250 and 450 grams of carbs for every hour after the 1st hour of exercise. 'How much?' depends on things like your weight, metabolism, racing heart-rate, and muscle mass. The bigger the engine.....the more fuel per hour you'll need. The faster the engine 'runs'....the more it needs, too.

Know that when an athlete slows in a long race, it is NOT because they've run out of enough blood-sugar to burn.....yet, it **IS** because they've run out of enough blood-sugar to facilitate FAT metabolism. The fuel your body uses when going long is a combination, or ratio, of fats and carbs. The higher the percentage of FAT in that ratio.....the more you spare the glycogen it takes to tap into the fat.....and the more **metabolically efficient** you are.

This is precisely the reason we limit heart-rate on long training sessions where the goal is to 'dial-in' the metabolism towards that ideal burn-ratio.

2-Eat complex carbs (NOT the simple sugars that fluctuate insulin levels) in small meals throughout the day. Complex carbs have a low "*glycemic index*".....which means they take longer to digest and enter the bloodstream. This is a GOOD thing.....because the insulin 'flow' is more steady and less erratic. [A favorite at the Dyer household is Grape-nuts cereal. Next time you're at the grocery store, look at it's complex carb count compared to it's low amount of those carbs as sugar. Check out non-instant oatmeal as well.]

3-Use a glycogen replacement drink (liquid form) that contain nearly **ALL** of their calories from COMPLEX carbs.....and not so much sugar.

Simple sugars slow the exit of the carbs from the stomach under the stress of racing and/or heavy training by changing the **osmolality** of the stomach and actually pulling water OUT of the working muscles to dilute the 'sweetness' and make it useable as fuel. Carb drinks that are primarily derived of **maltodextrin** are best for this reason.....little sweetness, lots of energy and very quick *passage*. Avoid those with sucrose and corn syrups.

4-Timing is everything! In a half-iron distance race, I tell our athletes to set the countdown timer on their watches to alarm and remind them **during** a race every 15 minutes to hydrate and replenish calories. Eighty calories every 15minutes gives you 360calories for the hour.

Before the race (or training), we recommend that an athlete start with a full tank. Trying to do so strictly with solid foods/carbs just isn't feasible due to gastric distress of breaking down the solids. One hour before the big race, take in 100 to 200 calories of your complex carb solution to stay "topped-off".



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5-After hard/long training or a race.....you **MUST** ingest the same complex carb solution to avoid muscle catabolism. A 'catabolic' process is one that breaks muscle tissue down to rob it of it's caloric value....This occurs when you're glycogen depleted and strips you of hard-won muscle mass. The "break-down", catabolic process is the opposite of the (more preferable) "build-up", ANABOLIC process which ensures adding strength, endurance and energy.

Do everything to STAY ANABOLIC & maintain good blood-sugar!

There you have it.....the basics of fueling. Realize that everyone's stomach and nutrition plan can be as different inside us as we all are on the outside. So practice your game-day fueling in training as you prepare to go long.

In the macro-view of a season, on occasion, I'll have an athlete who'll say, " I was training well and then, all of the sudden, I have felt tired almost daily." Often, this is an athlete who *thinks* that they're taking in enough calories.....yet isn't, and is generally underestimating how much fuel they're actually using in their training. The dead giveaway is when this same athlete says, " I always eat and yet am still hungry."

Almost always, we remedy this by having them take an additional 200 to 400 calories each day in the form of a complex carb "feeding" or drink. In a week.....energy levels are back up and we're back on the road to progress.

See you out there,

Coach Sonni Dyer

****For more information on the [Studio7MultiSport](http://www.Studio7MultiSport.com) training programs, you can visit our website at www.Studio7MultiSport.com or email Sonni at Sonni@Studio7multisport.com .