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Long Session Fuelling Principles

This is probably one of the most key aspects of your preparation for your long course event. Many athletes crumble when it comes to the 4th of the triathlon disciplines which is 'nutrition'.

It's a hard subject to nail down. Different environments call for different plans. I'm not talking wholesale changes but small variations to the 'master recipe'. The question is, do you have a master recipe for yourself based on testing or is it just blind hope?

As an athlete I have suffered the disappointments of races gone out the window due to incorrect fuelling and that hurts when you look back at the time, sweat and maybe some tears investment... hopefully no blood - but I have had that as well.

As a coach, it hurts me just as much. It kills me seeing our athletes doing so well and for it to all come crashing down and this is a reason why I keep researching and applying to come up with better strategies for my athletes.

We are continually learning and unfortunately it's "not a one size fits all approach" but there are more similarities than not when it comes to race nutrition.

Simplicity is needed and is attainable.

I now believe that our sports nutrition should fall into as much as a long term health focus as our day to day nutrition, meaning there is a lot of crap 'sports nutrition' products with all sorts of claims (great marketing) but filled with additives, preservatives, and a whole host of other shitty substances that increase free radicals (you know about these now- yeah those cell destroying inflammation producing tiny electrons).

I also firmly believe that many triathletes may just be heading down the pre-diabetic / diabetic path due to the excessive use of refined sugars.

The stark reality is that you're just an "experiment of one" and thus will have different needs. Take me for instance. One year training in Kona I got an additional nickname of



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“the sprinkler”. I sweat. A lot, and need a load of electrolytes, for me namely salt and some magnesium (and yes I’ve tried and tested the “hot shot” and it didn’t work for me. Thus we all need to come up with our own master recipe but we can simply do this by following the fundamental fuelling principles.

I just don’t see the point anymore in taking nutritional products that are sold as healthy but contain a lot of toxins, fillers, binders and highly refined sugars.

So this is the master recipe. The three keys to not having gastrointestinal stress come race day is optimized fat metabolism through fat adaptation, real hydration and simple, strategic exogenous carb intake. This is called an OFM program.

Again... by following our simple effective day to day fuelling advice and eating good healthy foods, you will likely be helping yourself get fat adapted via both the food and following our training protocols. In fact, this is where the easy bookends or complete easy/mod aerobic sessions are so important. It’s this combination of nutrition and training that help create you into a bonk proof athlete.

So with that being said below is my personal long session fuelling protocol, in fact the below is what I do before every session. It works exceptionally well with the basis of improving your fat adaptation and it has worked not only for our coached athletes, but many other athletes following this blueprint.

Here's my daily guide:

I am not a fan of rushing. That means I will give myself plenty of time to get up, wake up and be ready to do my session, whether leaving from the door or having to drive somewhere. I believe there is a positive mindset to giving yourself enough time to be ready to go. For me I need a minimum of one hour in the morning. So if my session is at 6am, I am up at 5am.

I have created a disciplined morning routine habit that helps me win the day, physically and mentally.



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1. I wash my face in the coldest possible water. This is not difficult living here in Whistler, but the cold water not only wakes you up, it makes you feel amazing.
2. Big glass of water (500ml / ~ 17oz) with a good pinch of Himalayan salt, and a wedge of lemon or lime squeezed in ... with the wedge going in too. *We need this to rehydrate and being hydrated helps us perform, and lessens chances of injury and illness.*
3. Fat Black Coffee - 1tbs butter from grass fed cows.

This not only helps the brain but kickstarts fat metabolism. If you don't drink coffee, try green tea with the butter and coconut oil or just coconut oil. Don't drink tea? Then have a tablespoon of coconut oil 'neat'.

4. I personally don't start fuelling in a session till somewhere between 60min to 2 hours. If the session is more intensity based I will start earlier with exogenous carbs intake. When you do some sessions fasted or atleast start some sessions fasted you'll also help teach your body to use fats as fuels efficiently while holding onto crucial glycogen stores.

I'm always playing around and seeing what works best for me. I suggest you experiment too as what really works for me (type of fuel, brand, amounts etc) may not work for you and visa versa.

I do try to keep my hydration needs separate from my fuelling. So if I'm drinking my calories I'm not counting those liquids towards my hydration needs. When it comes to electrolytes I'm a big fan of Salt Sticks electrolyte caps since I can control how much sodium I'm taking in easily.

As an example I used to use in training for Ironmans (my fueling is slightly different with ultra running).

Say on a solid effort 4h ride I'd got 90mins sans fuel (just plain water and Salt Sticks) in the easy porition. I then used a combo of Skratch-Labs (80 calories per 500ml bottle) and a bar (~30g/bar or 120 calories) as my fueling per hour. On top of that I had extra



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water and Salt Sticks. That gave me ~ 200cals an hour and I dripped those calories in between 90 mins and 4.5 hours. This worked perfectly well and I felt well fuelled and my output was very positive. I also ran very well off the bike. This has taken time (of becoming more fat adapted and metabolically efficient) and practice. Every long session provides an opportunity to improve. For athletes that haven't followed an OFM protocol start fuelling after 60 minutes on long sessions.

In my example about this was early on in a training build and not in the race specific phase, so I used the bars. However when I got more into race specifics I started to rely more on calories coming partially from a drink like Skratch Labs and Honey Stinger Chews or Gels.

For my long runs. I followed the same as above in regards to hydration (water + Salt Sticks), and had Honey Stingers or Gels to have after ~ 90 minutes of running. When it gets into race specific mode I start using coke/pepsi midway in my long runs to practice for race day. Through testing I found having enough i.e. a full 375ml can of full gas coke, gave me a huge energy kick. I also found I could handle the fizz and keep running at pace. The key here is test. Not once but multiple times to refine your strategy.

The absolute key to improving your fat adaptation is to go truly easy in your warm up and don't rush the process as this will get your fat burning grooved in. This is critically important. Regardless if you are following OFM or not.

5. When it is starting to get to the specifics of Ironman® Training I switch to a more race like fueling strategy.

My process is that I start fuelling within 20-30 minutes as I have had *no breakfast. Then I just simply drip in my fuelling with water. This drip, drip, drip of ingesting calories is essential to allowing these calories to absorb easily into the system.

The biggest mistake athletes make is over consuming carbs and not getting hydration right. Hydration means water and salt. The salt needs to be buffered (osmolarity and ion concentrations match the human body) so using Salt Sticks or S-Caps is optimal here.



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6. Fluid intake: Based on a lot of research and in the trenches testing, it has been found that for most athletes fluid needs sit around 590-740ml/hr (20-25 oz/hr) in most conditions. The key again is hydration (water + salt).

7. Depending on the weather, I'll take between 1-2 electrolyte tablets per hour in 'normal' conditions and up to 6+ in really hot/humid conditions (I'm like a sprinkler when it's hot and humid ;-). (I use full range electrolytes like Salt Sticks and not sodium only like "Topins" which can greatly throw out your balance and wreak havoc on your performance).

See Training/Racing Hydration article in resources section.

Why no breakfast?

Purely because I'm not getting up 3 hours before my long session starts to eat breakfast and ensure that my blood sugar and insulin levels are back to normal. Sleep is more important. And I want to improve my metabolic efficiency through fat adaptation.

However there is a lot of science backing up the 'no need to eat' breakfast before your long sessions.

What happens when you eat within 3 hours, is you burn through your muscles glycogen stores much more quickly and for long sessions and races- that's not optimal and it's not performance enhancing.

If you absolutely must have some 'breakfast' then you only need a minimal amount to take the hunger pangs away. You have not burnt and muscle glycogen overnight! I would advise having some fat with the fuel to limit the blood sugar/insulin response.

In saying that, I do recommend you take the leap of faith and practice the no breakfast in training. You'll thank me later for it. Come race day it will feel wrong to eat something. You'll just have the Fat Black (or black coffee) and hydrate, plus have a stomach feeling awesome on the race start and be ready to rock.



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There is a difference between feeling hungry and no fuel. You can *feel* hungry (learned response) and still be well fuelled. It is good to race hungry (pun intended).