



La Chute Road Runners

April, 2016

Keto **Jim Cunningham**

Keto? Does Supergirl have another superhero to defeat?

No, she already has a cape-full. The term actually refers using fat as fuel. How about this as a super fuel: coffee with coconut oil and heavy cream! Here is a link to [Phil Maffetone's fat burning coffee menu](#).

Sound crazy? Let us find out what this is all about and find out how we can use fat in our own training.

For starters, some athletes go totally without any fuel, save water; Torbjorn Sindballe is such a person. Of course, he did have fuel, he used the fat stores in his body and found a way to accel-

erate the fat-burning mechanism. This is a [link to his story](#).

This is counter to what we have been lead to believe; (carbs are king) what is the deal?

First of all having a fat diet sounds gross! What does such a diet look like? Tim Noakes provides an example:

- Eggs
- Fish
- Meat – organic or grass fed, not processed
- Dairy Produce – milk, cheese and yogurt – all full cream
- Vegetables – mainly leafy, low carbohydrate sources
- Nuts – macadamia and almonds especially but no peanuts or cashew nuts as these are high in carbohydrates
- Fruits – very occasionally and then only those which have a lower carbohydrate

content like apples and berries.

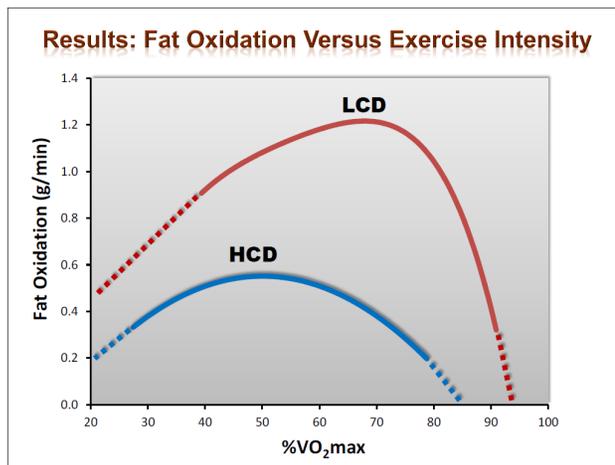
To borrow Rocky's words as he was being pummeled by the Russian, "Not so bad!"

Dr. Jeff Volek PhD, who not only trains athletes, but has studied their fuel, in particular, fat, says the following. "There is much information about sugar as our main fuel, it is important, but we use two fuels." Fat burning even ramps-up during high-intensity as [he continues here](#).

Why use fat as fuel? Jeff says, "Let's take a moment for a quick physiology review. When carbohydrates are ingested they are preferentially burned for fuel and provide 4 calories per gram of energy. When fats are ingested, or burned from body stores, they provide 9 calories per gram of fuel. You are

effectively doubling your fuel efficiency if you use fat as your primary fuel source from the outset. By maximizing your capacity to burn fat for fuel, you'll also be sparing precious muscle glycogen, the carbohydrate stores in your muscle. Lean individuals between 7-14% body-fat have 20,000-30,000 calories available for energy use in their fat stores.”

Check the chart. The HCD stands for a high carbohydrate diet, and the LCD stands for a low carbohydrate diet, (that is obvious but I had to look it up!) So as one can see, as exercise intensity increases, so does fat utilization; good news for the muscles!



Do muscles directly use fat as fuel? Of course not; muscles use glycogen, and the glycogen is processed in the muscles and liver from carbohydrates.

But when those glycogen levels drop (never start a sentence with a conjunction,) the brain messages the liver and the liver starts processing fat into glycerol which is a similar substance like glycogen. (The process is much more involved and abbreviated here.)

If an athlete deliberately and severely reduces his carbohydrates and replaces them with fat in his diet, it is said that he has a ketosis diet, or he is going keto. Here is a [link to additional research](#).

Some athletes take this a step further. Rather than going through the process of having the liver produce glycerol, they ingest keto salts directly and use those tablets during a endurance event.

How safe is that? A total keto diet has proved very effective some some ultra runners and Ironman. There is some

question of its long term use. Stacy Sims was curious and pasted this link on [Carbohydrate Dependence During Intense Exercise](#).

Here is a statement from that recent research: “Despite renewed interest in high-fat, low-CHO diets for endurance sport, fat-rich diets do not improve training capacity or performance, but directly impair rates of muscle glycogenolysis and energy flux, limiting high-intensity ATP production.”

So what is the best course for an athlete? It depends. It depends primarily on the length of time one is training

Race Links:

La Chute Road Runners

Adirondack Runners

Albany Running Exchange

Hudson Mohawk Road Runners

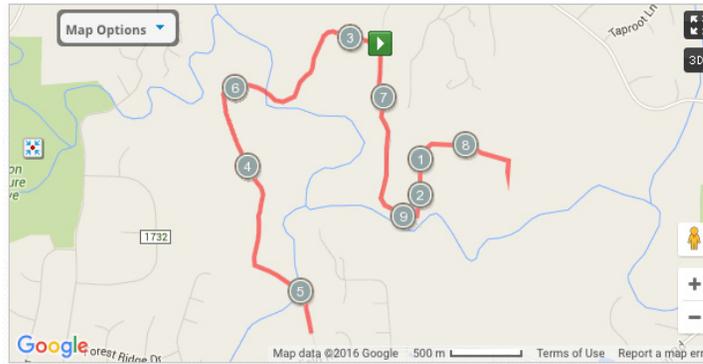
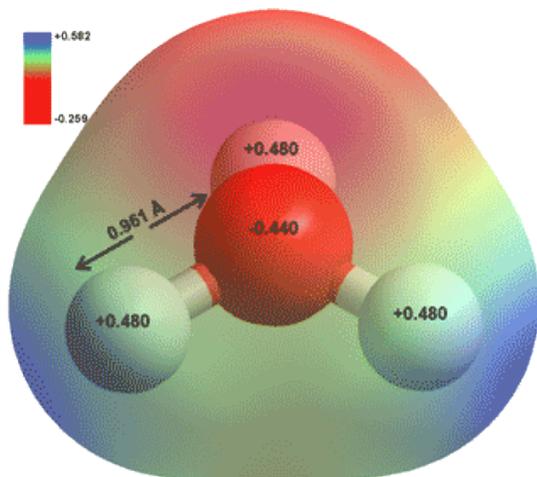
Saratoga Striders

and competing. If one does a relatively short race, more carbs than fat would be the choice, and visa versa. What is the ideal balance for an athlete? It depends!

Most coaches say that if one has been competing long enough, and has been experimenting, one is close to a personal solution.

So Supergirl doesn't have to worry about Keto, not when she has sunlight, and I will have my coffee strong, black, and hot!

Next time: hydrogen ions.



Race Ideas

Jim Cunningham

Here are a few interesting road races ideas.

One race, the Geezer Pleezer handicapped contestants. It was a 4 mile run in Durham, NC. The race “leveled the playing field” which did please the old geezers. Here is a link to the results (I didn't do this one)!

Another interesting idea I found at the Florence Forth 5K race again in Durham. Finishers received a medal attached to a ribbon. When the re-

sults were posted, competitors could check their results, and if they placed, they would go to the prize table and pick up a ribbon with a number corresponding to their place and also attach it as well. There was no awards ceremony.

Finally, there is a race called the Hard Climb Hill. There are three options: the 3-mile option, which includes Hard Climb Hill; the 7-mile option, which is the 3-mile course plus an additional 4 miles; and of course, the 10-mile option which allows you to experience the challenge of Hard Climb Hill twice. The competitor can chose when he or she wants to end the race. This is a trailrun conducted in Duke Forest.



La Chute Road Runners

Goals: Encourage the youth of the community to get involved in a beneficial activity. Provide competitive opportunities for its membership. Provide membership with educational and social opportunities.

Activities: Sponsor the Montcalm Mile, Resolution Run, Champlain Bridge 5K, and other races. Provide a Point Championship Series, hold an annual Awards Banquet, provide a newsletter, and organized training opportunities.

Club Membership Waiver of Participation

I agree that I am a member of the La Chute Road Runners, and I know that running in and volunteering for organized group runs, social events, and races with this club are potentially hazardous activities, which could cause injury or death. I will not participate in any club organized events, group training runs or social events, unless I am medically able and properly trained, and by my signature, I certify that I am medically able to perform all activities associated with the club and am in good health, and I am properly trained. I agree to abide by all rules established by the club, including the right of any official to deny or suspend my participation for any reason whatsoever. I attest that I have read the rules of the club agree to abide by them. I assume all risks associated with being a member of this club and participating in club activities which may include: falls, contact with other participants, the effects of the weather, including high heat and/or humidity, traffic and the conditions of the road, all such risks being known and appreciated by me. Having read this waiver and knowing these facts and in consideration of your accepting my membership, I, for myself and anyone entitled to act on my behalf, waive and release the La Chute Road Runners, and the Road Runners Club of America, all club sponsors, their representatives and successors from all claims or liabilities of any kind arising out of my participation with the club, even though that liability may arise out of negligence or carelessness on the part of the persons named in this waiver. I grant permission to all of the foregoing to use my photographs, motion pictures, recordings or any other record for any legitimate promotional purposes for the club.

Signature: _____

Date: _____

Parent's Signature if under 18 years: _____

Date: _____

Membership type:

Family \$10.00 ()

New () Renewal ()

Individual \$5.00 ()

Student \$2.00 ()

Name: _____

Address: _____

Mail to:

Fred Herbst

13 Lindbergh Landing

Ticonderoga, NY 12883

Email: _____

Checks:

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