



This newsletter is brought to you by crunchy snow, pink flags, and sumo citrus. If you enjoy it, I'd be grateful if you could share with one or two others!

Looking ahead!



Sometimes I find it hard to know what's coming up because news only seems to capture what has already happened.

On my radar for this week are the Black Canyon 100k (access the livestream on Saturday [here](#)) and the Super Bowl (on Sunday). There's also the Millrose Games, which is a big track and field meet held in New York City.

To follow up on the face-off from last week though, [this is probably a great article](#) that I couldn't access about the whys for each of the runners doing the Tempe Chipotle x Strava challenge! It was an epic showdown, with runners logging 700+ miles on a 0.3-mile city sidewalk segment.

Coaching snapshot: carb utilization!

[A few newsletters ago](#), I talked about the discovery in the 1980s that eating carbs during endurance exercise improved performance. I've gotten a few questions on why and how, so let's zoom out and talk about what's providing energy for exercise to begin with.

The two main sources of energy are fat and carbohydrates. At nearly all intensities of activity, we are using both (a higher proportion of fat at lower intensities, a higher proportion of carbs at higher intensities). Generally, we have sufficient fat stores such that we do not need to eat fat during exercise. On the other hand, we can only store enough carbs to fuel 2-3 hours of intense activity. This is one explanation for why inexperienced marathoners encounter the "bonk" at mile 20: they have run out of carbs for fuel and must lower their intensity to rely more on fat.

Carbohydrates are sugar molecules put together. (You might notice on nutrition labels that "total carbs" is not always equal to "sugar," and that is because fiber is also a carbohydrate, though it is not absorbed as energy by the body.) The sugars best absorbed and used during exercise are glucose and fructose. (Fun fact: table sugar is 50% glucose and 50% fructose.) Many sports drinks and gels (or chews... or waffles...) are made of glucose and fructose mixtures that can be easily absorbed and quickly converted into energy. Mostly, carbs not used immediately as energy go into storage as glycogen in muscles or in the liver.



Since the 1980s a lot more research on carb intake during and around exercise has been done! Some of the takeaways are:

- We can only absorb and use up to a certain amount of carbs per hour during exercise. This can be trained and is intensity-dependent, but ranges from [60-120+ grams of carbs per hour](#).
- Our [muscles can increase their carb storage capacity](#) ("supercompensate"), through training and adequate, timely (i.e. within 40 minutes) replenishment.
- Consuming carbs during exercise can [reduce deterioration of performance](#) and [reduce central, neuromuscular fatigue](#) the next day.

Reply to this newsletter or [email me](#) with questions, and I'll answer one in a few weeks!

Let your friends know that I'm taking more athletes! Send them to my [website](#) to submit an inquiry or just pass along my email. Thank you so much!

Sourdough starter!

What's insane with sourdough is that the little yeasties in the air are the yeast mixture it becomes -- truly a product of its environment!

Ingredients: water, flour.

Mix together 100g flour and 100g water to a sticky consistency. (A scale is highly recommended, but this is approximately ¾ cup of flour and a generous ½ cup of water.) Cover lightly and let sit at room temperature for 1 day. Each day for a week, add a bit of flour and a bit of water to reach a thick sticky consistency. It should be ready to use by then!

If at any point it gets a dark film of water or starts smelling strongly of vinegar, it's hungry. Feed it with a bunch more flour and it'll be happy. If you aren't ready to use it at 7 days, store in the fridge! It will keep for months, and I recommend feeding it once a month or so in the meantime.



The starter is ready to use when it's bubbly and gets stringy like this. It'll also float when you add water.

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