



This newsletter is brought to you by sumo citrus, extra muscle rub, and pasta (aka trying not to get sick, trying to get muscles to full happiness, and trying to carb load for the [TARC Fall Classic](#) race this weekend). Enjoy!

Paralympic stories

I'd never watched the Paralympics before, but I was interested this year particularly because I coach rowers who have disabilities. Naturally, I ended up watching not just rowing but also swimming, running, and triathlon. Also, [this website](#) does a great job explaining the different categories for each event! A few US stories:

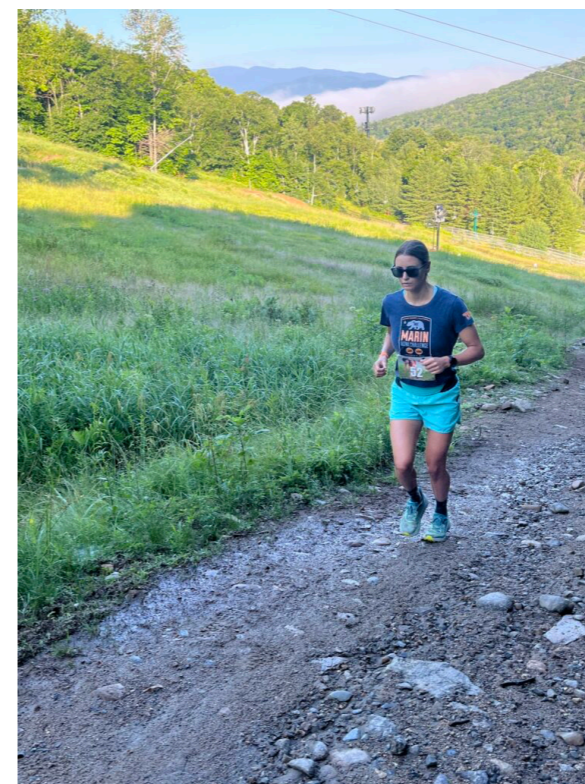
1. Ezra Frech had an epic lean at the line to [win gold](#) in the Men's 100m T63 track event.
2. Leanne Smith set a [new Paralympic record](#) in the Women's 100m freestyle S3 event. Really nice interview afterward too.
3. Hailey Danz [won gold](#) in the Women's Triathlon PTS2 event, a huge moment after bringing home silver in Rio and Tokyo.
4. Watch [this video](#) from 5:45 to 9:02 for the rowing highlights from Day 4, including a silver medal performance by the USA PR3 Mixed Coxed Four!

Not Paralympics related, but I do want to cover non-pro and non-"elite" athlete stories, so please email me if you've done a race or have a training story or idea you're grappling with that you'd like shared! There are fewer platforms sharing those equally meaningful and diverse experiences, and I want to be one of them.

Science snapshot!

Question: "Why would I do 20-second versus 30-second strides?"

Great question! But let's back-up a second... what even are "strides"? Also called "bursts" and "spin-ups" depending on the sport, these are short, ten- to thirty- second accelerations. I generally like to divide them into short strides with long recoveries (i.e. 20" hard, 3' easy) and long strides with short recoveries (i.e. 30" hard, 30" easy). Depending on the specific adaptations you're looking for, you may choose to focus on one or the other.



There are biomechanical (i.e. movement), neuromuscular (i.e. how the brain recruits and fires muscles), musculoskeletal (i.e. muscle, tendon, and bone resilience), and cardiovascular benefits to doing strides. When athletes I coach do traditional short strides, we are primarily targeting their neuromuscular and biomechanical systems to improve running economy. When we do longer strides, we are primarily targeting the cardiovascular system to improve cardiac output/blood transport. Novice to elite runners incorporate strides in their training, for good reason.

Let's take a look at this 2018 [article](#) published in *Physiological Reports*. Some key takeaways:

- 20 trained runners (male and female!) did 10 sessions of 5-10x30" maximal efforts over 40 days.
- Running economy and 10k time-trial performance improved.
- Adaptations in slow-twitch (aerobic endurance) muscle fibers may be the main drivers of improved running economy (rather than in fast-twitch (primarily anaerobic) muscle fibers).

Short, high-intensity intervals are well-studied in the cycling literature as well. There is also [recent research](#) showing improvement in VO2 max and maximal aerobic power in trained male cyclists after just 3 weeks of intervals.

For even more information on strides, I'd direct you to [this Trail Runner Magazine article](#) by David Roche, a well-established coach and elite trail runner.

What questions do you have about training and racing? Reply to this newsletter or email me below, and I'll answer one next week!

[Email me!](#)



Chocolate chip protein cookies

Psst... this recipe isn't on my website!

Ingredients: 5 tbsp cashew butter, 4 tbsp butter, 133g granulated sugar, 1 egg, 1 tsp vanilla, 70g protein powder, 90g oat flour, 57g chocolate chips.

Instructions: Mix butters and sugar. Add egg and vanilla. Add protein powder and oat flour. Add chocolate chips. If the dough is a bit tough, add a little water. (I have the benefit of a KitchenAid to do the mixing.) Flatten, score (optional but pretty), and bake 15-20 mins at 350F until golden and crispy!

New pickup system!

S.S. Endurance is done vending at the Harvard Farmers Market for 2024. Instead, I have a new pickup system! I am offering pickup **Tuesday mornings at 6:30am at Weeks Footbridge, Cambridge side** of the river. [Order online](#) by 8pm Sunday night for Tuesday pickup. For updates, make sure to follow me on Instagram [@coach_serena326](#). For questions, feel free to email me by responding to this email!

