



This newsletter is brought to you by more kitties, hot indoor biking, and new shoes that I haven't worn yet because of rain :/ If you enjoy it, I'd be grateful if you could share with one or two others!

## Courage at Cocodona!

Cocodona 250 (no, Apple, not "coconut") is a 255-mile trail race through Arizona. I've been trying to find time to watch this [documentary](#) from last year's race that I heard is really good. This year's racers went out really hot! Like, hours under course record time in the first 100 miles. At the level these runners are at, I think that opening speed is a testament to their courage rather than stupidity. Time will tell, but either way, these runners sure stepped into the pain cave early and it will be interesting to see how they manage these next few days. Here's the [livestream](#) from today (there are new links every ~12 hours on [Mountain Outpost](#)).



## Coaching snapshot: electrolytes!

*I know the importance of electrolytes during races, but how should we incorporate them daily? I do think I tend to sweat a lot so was curious if my lack of daily electrolyte intake could be making me feel tired at all?*

Electrolytes (i.e. sodium, potassium, chloride, calcium, magnesium... all those ions necessary for hydration and nerve and muscle function)! Let me start off by saying this is a highly individualized topic! It can be difficult to figure out how to hydrate appropriately (i.e. in a range that avoids under- or over- hydrating). It definitely takes experimentation and patience to figure out what works best for you individually. I start thinking about using electrolyte supplementation in general for activities over 90 minutes or activities in the heat.

Let's take a look at this 2022 [review article](#) published in the *International Journal of Environmental Research and Public Health* for some more information. Some key takeaways:

- Sodium is the key electrolyte lost in sweat and therefore the key one to replace. For exercise over 3 hours, potassium replacement can also be considered.
- Exercise-associated hyponatremia (low blood sodium) is a result of too much water intake with insufficient salt intake and can lead to dizziness, low urine, cramps, and vomiting.
- Sweat rates vary widely by individual, from 0.3-2.4 liters per hour. Sweat salt concentration also varies widely but averages around 1 gram per liter (range 200-2000mg per liter!).



My shirt was light gray at the start of this run!

Since the amount of fluid we sweat per hour depends on a lot of factors like heat, humidity, and training intensity, I recommend supplementing electrolytes per liter of fluid you're taking in rather than per hour of activity. For example, if you're exercising for 3 hours, drinking 800mL of water per hour, and want to replace 1000mg of sodium per liter of sweat, you will take in  $0.8\text{L}/\text{hour} \times 3\text{hours} = 2.4\text{L}$  total of water and  $1000\text{mg}/\text{L} \times 2.4\text{L} = 2400\text{mg}$  total of sodium.

In terms of daily electrolyte intake, as long as you're eating food with some salt in it (aka most food) and supplementing correctly during exercise over 90 minutes, you should be okay without any supplementation outside of exercise. However, if you are feeling dehydrated at all or if it motivates you to stay hydrated to have some electrolyte drink, experiment and see if that helps you feel better!

P.S. [Skratch](#) is one of my favorite companies for its hydration mix -- no artificial sweeteners (those can sometimes cause GI issues)!

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!**

## Carrot cake!

This carrot cake is packed with carrots and hits the perfect moisture level! Cream cheese icing enhances it if you're going for dessert, but in my opinion it isn't even needed.

Ingredients: (wet) 11 oz finely chopped/shredded carrots (I usually put them in the food processor briefly),  $\frac{3}{4}$  cup oil, 4 eggs, 3 tbsp molasses; (dry) 260g all purpose flour, 300g granulated sugar, 2 tsp baking soda, 2 tsp cinnamon, 2 tsp ginger, 1 tsp allspice,  $\frac{1}{4}$  tsp cloves,  $\frac{1}{2}$  tsp salt, 3 oz chopped walnuts (optional).

Preheat the oven to 350°F. Butter bundt pan. Process/shred/finely chop the carrots. In a mixing bowl, beat together oil, molasses, and sugar. Beat in eggs. Using a spatula, incorporate carrots. Combine all dry ingredients. Add the dry into the wet and stir until just combined. Bake ~40 minutes, until springy to the touch.



[Recipe](#)

## Help me grow!

As a small business, I rely on word of mouth to grow. Please share my [website](#) (ssendurance.com), [Instagram](#) (@coach\_serena326), or [newsletters](#) with anyone and/or over social media! Reach out with any questions or comments by responding to this email. Thank you all!

## Hi from Smokey!

Smokey is Ramona's uncle. He is the oldest of the crew, at 15 years old! He had some trauma in his early years before adoption and sometimes feels misunderstood, but at his heart he's very gentle and has a loud purr.



Trotting around his concrete jungle! He's also the king of the neighborhood and has big paws (and claws)!

