

Fueling Your Race – An Interview with the Gatorade Sport Science Institute (GSSI)

Co-race directors Cindy Lewis-Caballero and Sandie Orlando of Endurance Event Productions had a chat with Anthony Wolfe, Senior Researcher with Gatorade Sport Science Institute. Gatorade is a supporter of the Georgina Marathon and Georgina Spring Fling and provides the on-course hydration. You can listen to the entire discussion on our YouTube channel – or read the abbreviated version in the article.

[Anthony Wolfe, Senior Researcher](#)

Here is the YouTube link to the video interview.

<https://youtu.be/8sG7ypud178>

To learn more about GSSI – click on this link.

[GSSI – Gatorade Sport Science Institute](#)

Q – Tell us about GSSI and about your role there.

AW - We do science, education, and research into ways we can help athletes optimize their performance and health through nutrition and interventions such as recovery. I am a senior researcher at the Frisco Texas laboratory at The Star – home of Dallas Cowboys. My role is around looking at athlete readiness in team sports and with some of our more elite athletes. [Read more.](#)

Q – What products are available in Canada, and what are the differences among them?

AW - We have a spectrum portfolio of products in Canada: <https://gatorade.ca/pages/our-products>

Gatorade Base thirst quencher – 38g of carbs, 150 calories for sustained or high intensity activity

G2 – 12g of carbs, 50 calories for moderate intensity activity

G Zero – no (2g) of carbs 5-10 calories for lower intensity activity

Gatorlyte – Our newest product that has 14g of carbs and a specialized blend of electrolytes scientifically formulated for rapid rehydration to help retain the fluids taken in use them better, whether that's before, during or after exercise.

(Also, **Gatorade Whey Protein Bars** with 20g of whey and milk protein.)

Q - How do we know which one to use?

AW - Different factors play into this depending on the amount and type of exercise plus your personal physiology. For endurance athletes, the recommended amount of carbohydrates per hour established by institutes like the American College of Sports Medicine is 30-60 grams of carbs per hour, depending on the intensity and duration. The higher the intensity, the more we need to bring on board additional carbohydrates during exercise to be fueled for best performance, whether that's competition or practice.

The amount of sodium in products can also help dictate what's right. When we sweat, we lose more than just water. There is sodium, chloride, potassium, and other minerals, but the biggest loss is sodium. There is a spectrum for how much sodium an athlete might lose, we would have to know the sweat rate and how much sodium is lost. Generally, if a person sweats a lot and has a lot of white stains on their clothes when done exercising, that means they are losing a lot of sodium and that might push them towards the Gatorlyte product.

Q – For a person training for a marathon or half marathon, is it smart to take in the higher end of carbs during training?

AW - There are a few things to consider, such as Intensity of training. Don't start with 60g/hour if you've never had that many carbohydrates during your run before. You must train your gut to accept that amount of carbohydrates. We've all seen someone at a race that is suddenly taking in gels and lots of carbohydrates and has lots of GI distress. That's not to say that maybe they couldn't have taken in that much during their race, but maybe they haven't trained to take in that much, so they get to the race not used to it.

Q – That's a key thing – people think about training their body but not training their gut. Many athletes don't train with anything because they are trying to get lean, then do their race taking in Gatorade and gels. One thing I hope is driven home from this conversation is that people should train with calories - they should train with carbohydrates to get their body used to what they will take in on race day.

AW – Oh – 100 percent! How will you know how your body will perform on race day if you don't try it out during your training?

It's also good to take it in so you're fueled for your next training day. We have to replenish everything that we're losing. On each run, we're going to be burning glycogen and whatever sugar stores are in our bloodstream. We must replenish glycogen and sugar stores, so it makes sense to prepare for the next run and replenish while exercising.

Q – **Do you have a recommendation for recovery? Is there a recommended carbohydrate number? Is the Gatorade protein bar good for post run?**

AW – Some recent research came out that suggested endurance athletes may not need as much protein as, for example, a team sport athlete. But we know that's not true, in fact, endurance athletes might need more protein for recovery.

Following exercise, we like to get in around 0.03g/kilo of body weight (for example, someone who is 70 kilos might need 20-25g of protein) – and relatively soon after your exercise. If you can take whole foods, great, but – grab the protein bar if it's hard to get a meal in.

Q – They need to get that in within 30 mins?

AW - The anabolic window is a bit of a misnomer– research suggests the 30-minute window might not be accurate– maybe not as soon as we think. But the longer we wait – the less primed our body is to accept those nutrients. A good rule of thumb is to get it in within 60 minutes.

Q - So run, drink Gatorade, get 30-60g of carbs/hour, have a Gatorade Protein bar after, then a meal at home?

AW – Darn right – that's the way to do it!

Q – Are there different needs for a 5k or 10k runner – or elite runner? Is just water fine? How is it different from an age group, 4-hour marathoner?

The event you will compete in makes a difference. Nutrition guidelines/recommendations are based around time/intensity.

For a 5k under half an hour – carbohydrates the day before is more important to get glycogen stores topped up before vs during run. Maybe water is just fine.

For a longer duration – think about adding sodium and some carbohydrates.

Think about elite runners – if they are breaking 2 hours – don't want too much in stomach running that fast. For age groupers running a four-hour marathon – we want to make sure to keep hydrating. Running for 4 hours means losing 4 liters – will see performance decrements from dehydration.

Q – How much does weather play into hydration – either heat or cold?

Temperature and humidity play a major factor and is probably the number two factor in determining sweat rate – the amount of sweat we lose per hour. In hotter weather there is a larger performance decrement when dehydrated. With heat, losing 2% of body mass of fluid is when we start to see performance declines. We can tolerate a bit more dehydration in cold weather, maybe 3-4% of body weight loss from fluid before performance is affected. Performance is affected after losing 2% of body mass from dehydration.

Q – Is hyponatremia still a concern?

AW – Yes. A few ways hyponatremia happens – losing too much sodium or taking in too much fluid that doesn't have sodium. Gatorade has sodium, but for a very fast runner and just want water, it can be as simple as adding a bit of sea salt to water.

Q – It's more than just sodium – what are the other electrolytes for?

AW - Most Gatorade products have sodium chloride and some potassium. Sodium outstrips other minerals tenfold in how much we lose when sweating. Gatorlyte has five mineral blend – it's meant to mimic an oral rehydration solution. Gets into system quickly and helps retain it. A bit of sugar helps get fluid into blood stream and minerals help that fluid get into our cells and hang out there.

Q – So it aids recovery from sweat loss – and other reasons (like a wild night out!)

Q - Anything else we should talk about?

AW – We talked about protein for recovery, which is probably the number one focus, but carbohydrates are also important for recovery. Glycogen is depleted in exercise – taking in carbs while exercise to keep blood sugar high to prevent bonking. Taking it in afterwards, that's when we really start to replenish the glycogen stores for the next exercise.

Q/Q – (Lots of awkward Thank You's!) We have two months until the Georgina Marathon, so everyone has lots of time to practice taking in Gatorade to train and recover. It's widely available and backed by science.

To listen to a previous interview with GSSI where we talk about **The Impact of Hydration on Performance**, [click here](#) or visit our YouTube channel.

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