



# SPORTS NUTRITION MYTHS AND FACTS

**MYTH:** Athletes should not eat carbohydrate, specifically sugars, shortly before exercise because it might cause blood sugar to spike and crash, hurting performance.

**FACT:** While some athletes who eat carbohydrate shortly before beginning exercise may experience a rise in blood sugar followed by a “dip” after the onset of exercise, most do not feel an impact and research shows overall performance is not impaired. In fact, carbohydrate consumed within about the hour prior to exercise behaves the same metabolically as that consumed during exercise, and essentially begins during exercise fueling. This behavior may be especially important for athletes who do not have the opportunity to eat additional carbohydrate during exercise.<sup>1</sup>

**MYTH:** A large serving of protein will improve my muscle recovery after training and competition.

**FACT:** When it comes to protein, more isn’t better. Research shows that a small amount of high-quality protein (10-20 g) will stimulate muscle protein synthesis. Researchers have found that intakes greater than about 20 g of protein provide little or no further stimulus for muscle protein synthesis after exercise. Consuming more dietary protein will result in the protein being used as fuel instead of muscle building.<sup>2</sup>

**MYTH:** Consuming calories before, during and after training and competing will cause weight gain. Plus, they’ll cancel out what I burn while exercising.

**FACT:** Athletes need energy (calories) to fuel activity. The key to preventing weight gain is balancing the calories consumed through foods and fluids throughout the day with the proper amount of exercise and physical activity. Athletes have many choices to stay fueled and hydrated while maintaining weight, or even losing weight. For example, G2 offers 20 calories per bottle, while providing the same electrolytes as Gatorade Thirst Quencher.

**MYTH:** Athletes lose only water when they sweat.

**FACT:** If that were true, sweat wouldn’t taste salty and athletes in the heat probably wouldn’t cramp so often. Sweat contains mainly sodium (salt) and chloride but also other electrolytes like potassium and magnesium. As sodium is lost through sweat, the body’s supply is diminished and with large losses muscles are more likely to cramp up.<sup>3</sup> Sports drinks help keep the body hydrated because they contain electrolytes, particularly sodium, that help retain fluid and replenish what’s lost in sweat.<sup>4</sup> Water does not.

**MYTH:** Potassium is the most critical electrolyte.

**FACT:** Not true. Sodium is the primary electrolyte (mineral) required before, during and following sweaty exercise.<sup>4</sup> In fact, it’s possible for some athletes to lose more than 10 g of salt (sodium chloride) in just one day of hard training. Drinking a sports drink with sodium is important, because sodium helps maintain the physiological desire to drink, enhances fluid absorption and promotes fluid balance.<sup>5</sup>

**MYTH:** Sports drinks are only for endurance athletes or athletes working out or competing for more than an hour.

**FACT:** Sports drinks provide both fluid and electrolytes for hydration, as well as carbohydrate for energy. Regardless of duration, athletes should drink enough fluid during exercise to limit body weight changes to about 2%.<sup>4</sup> Including sodium with the fluid is important for the reasons described above. Additionally, some research has demonstrated that very small amounts of carbohydrate (even a mouth rinse)

may result in performance improvements for reasonably intense exercise of between 30-60 minutes.<sup>1</sup> As the duration of exercise increases, so does the amount of carbohydrate needed to improve performance.<sup>1</sup>

**MYTH:** Protein improves performance when it is ingested during exercise.

**FACT:** The most recent research shows that protein in a sports drink consumed during or before exercise does not provide any additional performance benefit.<sup>2</sup> In addition, research suggests that adding protein to a sports drink can slow gastric emptying and produce a “chalky” taste, which may make it challenging for athletes to drink enough to stay hydrated.<sup>6</sup> Especially when consumed with carbohydrates, it is better to consume protein after activity, because science has repeatedly shown that consuming protein close to the exercise bout, especially after exercise, helps with muscle protein synthesis.<sup>2</sup>

**MYTH:** Protein isolates are the best form of protein for recovery.

**FACT:** Proteins are incorporated into products as concentrates, isolates or hydrolysates. A concentrate contains protein and low levels of fat and other nutrients from the original protein source. Alternatively, an isolate is processed to remove the fat and other nutrients and is therefore considered the purest form. Hydrolysates are proteins that are partially broken down into smaller molecules which may in theory be more easily absorbed than an intact protein. However, little research has been conducted to directly compare these forms of protein in their ability to promote muscle recovery following exercise. With the lack of evidence, the use of form is driven by product attributes and individual choice. Likely the most important consideration is providing amino acids from protein to the muscle following exercise, regardless of the form.

**MYTH:** Milk protein is not as effective as whey protein for recovery.

**FACT:** Milk protein is a blend of whey and casein proteins, and has been shown in a body of research to be effective in stimulating the generation of new muscle proteins when consumed following exercise.<sup>2</sup> Both whey and milk proteins are high-quality protein sources that provide the essential amino acids, which are the amino acids the body cannot produce on its own.



## References:

- <sup>1</sup> Jeukendrup A. (2011). Nutrition for endurance sports: marathon, triathlon, and road cycling. *Journal of Sports Sciences*, 29 Suppl 1, S91-99.
- <sup>2</sup> Phillips, S. & Van Loon, L. (2011). Dietary protein for athletes: from requirements to optimum adaptation. *Journal of Sports Sciences*, 29 Suppl 1, S29-38.
- <sup>3</sup> Bergeron MF. Heat cramps: Fluids and electrolyte challenges during tennis in the heat. *J Sci Med Sport*. 2003;6:19-27.
- <sup>4</sup> Shirreffs, S. & Sawka M. (2011). Fluid and electrolyte needs for training, competition, and recovery. *Journal of Sports Sciences*, 29 Suppl 1, S39-46.
- <sup>5</sup> Maughan RJ and Murray R. Sports Drinks: Basic Science and Practical Aspects, Boca Raton, FL: CRC Press. 2001;7-8:183-224.
- <sup>6</sup> Maughan RJ, et al. Gastric emptying and fluid availability after ingestion of glucose and soy protein hydrolysate solution in man. *Exp Physiol*. 2004;89:101-108.