

Sports Drinks:

Their role in hydration for athletic performance



Why Do I Need to Drink During Exercise?

Anyone who exercises can be at risk for dehydration. When we exercise we produce heat, which our bodies can help to control through sweating. If our core body temperature climbs just a few degrees Celsius, then heat illness, heat stroke and even death can occur. When we sweat we can help cool our bodies but can become dehydrated. Many athletes can lose 0.4 to 2.0 L of sweat (1 to 4 lb loss) in just one hour, especially if exercising in the heat either intensely or for a long time.

How Much Should I Drink During Exercise?

You should drink to replace the amount you lose in sweat. Weigh yourself before and after exercise. Any change will be water weight and that is how much you have left to replace. As a guide, approximately 150-350 mL of fluid should be consumed every 15 to 20 minutes during exercise to minimize the potential of dehydration.

Even as little as 2% dehydration (e.g. a 3 lb. loss for a 150 lb individual) can hurt your athletic performance – but many athletes lose much more than this. You need to be sure to take your hydration seriously.

When Should I Choose a Sports Drink?

Sports drinks are specially designed to replace an athlete's losses and can benefit a wide variety of athletes, including those:

- With very high sweat rates (1L/h or more)
- Exercising either very hard or for a long time including endurance and team sport athletes
- Exercising in hot and humid conditions or while wearing protective sports equipment such as with hockey and football
- To speed up recover after exercise (replaces water, carbohydrates-energy and electrolytes).

What Should I Look for in a Sports Drink?

Water

This is the first and most important ingredient. Make sure your sports drink is not carbonated so that it is easy to drink and doesn't make you feel full or bloated.

Sodium

Sweat contains more than water. Have you ever noticed a white powder on your workout clothes or skin? That is the salt you lose in sweat. Adding salt to a sports drink can not only help to prevent muscle cramps, but it can actually help you to stay better hydrated. Sports drinks should contain at least 500 to 700 mg of sodium per liter although ultra-endurance athletes or athletes prone to cramping may require more.

Flavour

Adding flavour to a sports drink helps athletes drink more than when they are given water alone.

Carbohydrate (sugar)

Sugar improves the taste, helps you drink more, keeps blood glucose from dropping, and helps fuel active muscles so that you can exercise longer and harder. Carbohydrates help to keep you from "bonking" (hitting the wall), which occurs when muscles run out of fuel, usually after 2 or more hours of activity.

Consuming between 30-60 grams of carbohydrate per hour of activity can improve endurance and high-intensity stop and go sport performance, prolong time to exhaustion, improve power output and delay fatigue.

On the other hand, too much carbohydrate can upset your stomach and hurt your performance. To prevent stomach and intestinal upset be sure your drink has no more than 80 grams of carbohydrate per liter (40-80 grams/L is best). Note that juice, pop, and energy drinks like Red Bull all contain more than 100 grams of carbohydrate per litre, so they are not intended for using during exercise.

Look for a combination of carbohydrates, including glucose, sucrose, fructose and/or maltodextrin on the label, which helps to speed absorption versus taking just one type of carbohydrate.

Bottom Line

Many different types of athletes can benefit from the use of a sports drink that contains the appropriate amounts of carbohydrate (40-80 g/L) and sodium (500-700 mg/L) to help improve their athletic performance. It is always better to try a sports drink in training first before using it in competition so that athletes may determine which brands and flavours they prefer. Athletes who are concerned about selecting the appropriate sports drink should consult with a Registered Dietitian who specializes in sports nutrition to help them develop a hydration routine that meets their individual needs.

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