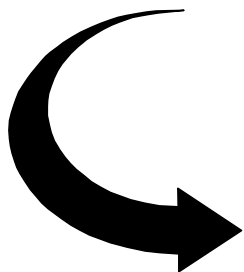


### How Sports Drinks Compare With Other Beverages

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#### **Key Points**

- ◆ Properly formulated sports drinks (6% carbohydrate or 14g/8oz) are more rapidly absorbed and are more effective at replacing fluids than water, soft drinks or juice.
- ◆ Carbonated and caffeinated beverages and those high in carbohydrate should be avoided during exercise.
- ◆ Research shows drinking a sports drink during endurance and stop-and-go sports can supply energy to working muscles and help improve performance.

#### Absorption: Sports Drinks vs. Other Beverages

- Plain water is often not enough for proper hydration. An accumulation of research shows that sports drinks are better for maintaining hydration than drinking water alone. Water “turns off” thirst before complete rehydration occurs. In fact, research shows that people will drink more of a lightly flavored beverage than plain water and therefore will stay better hydrated. Water also turns on the kidneys prematurely so you lose fluid in the form of urine much more quickly. The small amount of sodium in a sports drink like Gatorade -- no more than what is in an equal size glass of milk -- allows your body to hold onto the fluid you consume rather than losing it through urine.
- Carbonated and sweetened soft drinks (e.g. Coke and Pepsi) contain carbohydrates at a concentration of 10 to 11 percent. Compared to Gatorade (6% carbohydrate solution), such beverages are absorbed slowly. In addition, the carbonation turns into carbon dioxide gas in the stomach and can cause gastrointestinal distress. The caffeine found in many soft drinks actually increases fluid loss by stimulating urine production.
- Fruit juice is not an ideal fluid-replacement beverage for exercise because of its high carbohydrate and low sodium content. Once again, beverages with too much carbohydrate, like fruit juices, are absorbed more slowly and may cause stomach discomfort. Even when fruit juices are diluted they don't contain enough sodium to stimulate voluntary drinking or help maintain fluid balance.
- Properly formulated sports beverages contain about 6 percent carbohydrate (14g/8oz). Research shows the 6-percent carbohydrate concentration in Gatorade is absorbed as fast as water. This formulation also provides energy to the muscles. Water provides no energy.

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#### What Carbohydrates Do For You:

- During exercise, the body increases its use of carbohydrate energy. Low carbohydrate stores can affect performance and speed up the onset of fatigue.
- The carbohydrates in properly formulated sports drinks can help increase exercise duration by supplying energy to the muscles. Research now demonstrates that consuming carbohydrates can improve performance even during high-intensity exercise lasting less than an hour.

#### Rehydration: What Goes On In Your Body?

- The small intestine is well designed for fluid and nutrient absorption. Once absorbed, fluids and nutrients are circulated by the bloodstream to the body's muscles and organs.
- The speed at which a beverage travels from the stomach into the small intestine (the gastric emptying rate) depends on the energy content (calories) and volume (amount) of beverage consumed. A low concentration of carbohydrate will encourage rapid absorption. But too much carbohydrate will slow gastric emptying and can result in gastrointestinal distress.
- Glucose and sodium have been shown to enhance fluid absorption in the small intestine. Beverages with fructose as the sole source of carbohydrate have been reported to cause gastrointestinal distress because fructose is absorbed too slowly.
- Properly formulated sports beverages are the only fluids for complete and fast rehydration following exercise.