

The Duel: Water vs. Sports Beverages

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Indications for Sports Beverages

American Academy of Pediatrics Councils on Sports Medicine and Fitness and Nutrition
<http://pediatrics.aappublications.org/content/early/2011/05/25/peds.2011-0965.full.pdf>

- Sports drinks have a specific limited function
 - More rapid replenishment of carbohydrates and/or electrolytes **in combination with water** during prolonged sports
- Concerns over excessive sugar intake
 - Dental Erosion
 - Caloric Intake
 - Carbohydrate/sugar load
 - Weight Issues



Pre-Activity

- The Winner: **WATER**
- **WHY?**
 - Inexpensive, readily accessible and low-calorie option
 - Cold water better absorbed
 - For kids who won't drink water and prefer a flavored beverage, then sports drinks right before exercise are a sensible option.



Guidelines for Pre-Exercise Hydration

<http://www.acsm.org/docs/brochures/selecting-and-effectively-using-hydration-for-fitness.pdf>

- Drink 16-20 fluid ounces of water or sports beverage at least four hours before exercise.
- Drink 8-12 fluid ounces of water 10-15 minutes before exercise.



Other Pre-Exercise Hydration Thoughts

- Dehydration can affect quality of exercise, ability to maintain body temperature, and may lead to early fatigue and cramping.
- Keep an eye on body weight, especially in hot or humid environments, and in multiple exercise sessions with short recovery periods.
- More than 2% weight loss from regular weight suggests dehydration and requires adequate fluid intake (usually with water)



During Activity

- The winner: **Kinda Depends**
- **WHY?**
 - For most exercise *under an hour*, water is a very sensible
 - If the exercise *over an hour*, water is still a solid selection, but there is increased role for sports beverages to help replace carbohydrates and electrolytes
 - For those *salty sweaters* (white salt rings on headgear and uniforms, sweat has a distinct salt taste), sports beverages can help replace those sweat salt losses.



Maintaining Fluid Balance

“depending on tolerance”

- **Exercising for less than 60 minutes**
 - Drink 3-8 fluid ounces of water every 15- 20 minutes depending on tolerance
- **Exercising greater than 60 minutes**
 - Drink 3-8 fluid ounces of a sports beverage or water (5-8 percent carbohydrate with electrolytes) every 15- 20 minutes depending on tolerance

Risks of Over-Hydration

- Excessive water ingestion without adequate salt intake can lead to low serum sodium levels (hyponatremia) with risks of seizures, brain swelling and even death.
- Thus, many authorities recommend against rigid or forced consumption of water especially during ultra-endurance events such as marathons or triathlons.



Post-Activity

- The Winner: **Neither**
- **WHY?**
 - Cannot go wrong with water or measured amounts (again to reduce sugar/calorie burden) of sports drinks
 - **But** if the ultimate goal is optimizing immediate (first 30 minutes) recovery including rehydration....



Chocolate Milk

- Adequate fluids for rehydration, but also scientifically supported ratios of carbohydrate to protein that enhance muscle repair and recovery
- Delivers calcium and Vitamin D especially with indoor sport athletes that have reduced opportunity for Vitamin D absorption
- Almond, rice or soy-based chocolate milk can be used for those who don't tolerate or are allergic to cow's milk.
- Usually isn't much objection to the sweet taste.



Tart Cherry Juice

Kuehl K, [Med Sport Sci.](#) 2012;59:86-93

- Provides necessary fluid intake with collateral benefits of anti-inflammatory properties that could reduce both immediate and delayed muscle soreness and stiffness
- Might actually be able to reduce perceived need for non-steroidal anti-inflammatory medications after exercise



Guidelines for Use

- One 8-12 ounce serving of chocolate milk or tart cherry juice within 30 minutes of completing activity.
- Can use similar amount of sports beverage
- Measure weight after activity- for every one pound of weight loss, recommend consumption of 16-24 ounces of fluid, of which water should be the primary component.

