

The Sports Drink? It All Depends on What it Contains



Dr. Robert Silverman

Athletes always ask what to drink during exercise—water, sports drinks or nothing at all? How much should I drink? Which is the best drink on the market?

I have reviewed many beverage options that are available out there and have taken certain things into consideration as far as the best “sports drink” goes. The best kind of sports drink should contain carbohydrates, electrolytes and various other ingredients.

Carbohydrates

I recommend 30 to 60 grams of carbohydrates per hour in drinks or gels. This carbohydrate amount should alternate aspects of immunosuppression that occurs during intensive exercise. In addition, this level enables athletes to maintain blood glucose levels and optimize glucose uptake and oxidation in performance. Finally, replacing fluids with cho/electrolyte beverages prior to exercise assists in meeting fluid/cho needs and reduces dehydration, which

ultimately decreases performance.

Electrolytes

Sports drinks should contain electrolytes such as sodium, potassium, chloride and magnesium. Magnesium is a key electrolyte because it plays a key role in 300 enzymatic reactions. The best form of magnesium is bisglycinate. This means it is chelated (bonded) to an amino acid (glycine) to ensure increased absorption, allowing the magnesium to transfer easily across the intestinal wall. Most companies/brands do not formulate magnesium in this form and a large amount of magnesium in a non-bisglycinate form could cause diarrhea.

Other Ingredients

Malic acid is a great addition to a sport drink formulation. Malic acid with magnesium uses aerobic and anaerobic energy sources so energy production can be boosted. L-Taurine has many studies that show improvement in athletic performance. Taurine is an amino acid that helps regulate the level of water and mineral salts in the blood by keeping potassium and magnesium inside the cell while keeping excessive sodium out. And finally, another recommendation is L-carnosine, an amino acid that helps

fight fatigue and helps to minimize damage to body tissue during training.

What Kinds of Carbohydrates?

Research has shown that a combination of sugars maximizes absorption during exercise. Both glucose polymers and fructose should be present to maximize several pathways of absorption during exercise.

Literature review reveals that a glucose/fructose combination vs. water, or just glucose confirms increased power, performance time in running, increased time to fatigue during cycling and perceived higher level of exertion during strength and endurance exercise.

This begs the question: Which sports drink has the ingredients and formulations to aid in recovery?

Of the more popular brands I see consumed, Powerade has ingredients such as high fructose corn syrup and lacks electrolytes and any recovery ingredients. Gatorade has no vitamins and contains only sodium and potassium. Both of these only have glucose and no fructose. Vitamin Water has no sodium, chloride and has trace amounts of magnesium.

The new player on the market—coconut water—has very high levels of potassium without any sodium content

and low levels of magnesium. The most interesting feature of coconut is that the sugar content is dependent on the state of the nut that is harvested. If it is a tender coconut, the sugars are a combination of glucose and fructose. However, a mature coconut contains 90 percent sucrose (table sugar) and 10 percent glucose and fructose.

Endura has all four electrolytes in its ingredients and the proper ratio of glucose and fructose. In addition, magnesium in the bisglycinate form with all the above-mentioned added ingredients. I have used this with my high-school to professional athletes with outstanding results.

Remember to drink up!

Chappaqua resident Dr. Robert G. Silverman is a certified nutrition specialist, certified clinical nutritionist and certified strength and conditioning specialist. He is also a chiropractor and sports injury consultant with a practice in White Plains and serves as a member of the medical team of New York City's Triathlons and Marathons, Westchester Triathlon and multiple international Iron Man events, and local sports venues. Dr. Silverman can be reached at 914-287-6464 or by e-mail at info@DrRobertSilverman.com. Also visit www.DrRobertSilverman.com.

Happenings

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of Dagestan. Westchester Community College's Academic Arts Theatre, 75 Grasslands Rd., Valhalla. 8 p.m. \$22. Students and seniors: \$20. Children (under 13): \$16. Info and tickets: 914-606-6262 or visit www.sunywcc.edu.

Verdi's "Nabucco." Presented by the Taconic Opera. Yorktown Stage, 1974 Commerce St., Yorktown Heights. 8 p.m. \$32 to \$57. Students (with ID): \$15. Discounts for seniors. Also Oct. 22 at 8 p.m. and Oct. 23 at 2 p.m. Info and tickets: 1-855-886-7372 or e-mail taconicopera@gmail.com or visit www.taconicopera.org.

Saturday, Oct. 22

Rotary Club of Pleasantville Pancake Breakfast. To benefit the Pleasantville Community Scholarship Fund. Pleasantville Middle School, 40 Romer Ave., Pleasantville. 7 to 11 a.m. Adults: \$8. Seniors and children (under 12): \$5. Info: Contact Michael Brooks at 914-769-0501 or e-mail michaelb@guion.com.

Pleasantville Farmers Market. Join market music directors Andy Goodman and Stuart Vance and their friend David Harter for an acoustic guitar and vocal trio for the last music gig of the 2011 season. Also, decorate cupcakes with Flour and Sun Bakery. Memorial Plaza, Pleasantville. 8:30 a.m. to 1 p.m. Music begins at 9:30 a.m.

Bridge and Scrabble Club Guided Play and Instruction. Match wits with Manhattan Bridge Club owner Jeff

Bayone and Stan Kurzban. Bridge is not for beginners; singles, pairs and small groups welcome. Scrabble: All levels welcome. Chappaqua Public Library, 195 S. Greeley Ave., Chappaqua. 10 a.m. Free. Also Oct. 29. Info: 914-238-4779 or www.chappaqualibrary.org.

Bilingual Story Time. Stories and songs in both English and Spanish. Ruth Keeler Memorial Library, 276 Titicus Rd., North Salem. 10:30 a.m. Free. Also Nov. 5. Info: 914-669-5161 or www.ruthkeelermemoriallibrary.org.

Wolves of Yellowstone. A special talk about the wolves of Yellowstone National Park. Hear about wolf reintroduction, the beneficial ecological effect wolves have had on our nation's first national park and the debate that surrounds this controversial predator in the West. A visit to ambassador wolves Atka, Alawa and Zephyr and the critically endangered red wolves and Mexican gray wolves included. Wolf Conservation Center, South Salem. 11 a.m. Adults: \$13. Children (under 12): \$11. Pre-registration required. Info and registration: www.nywolf.org.

The Garden Conservancy's Open Days Program. Self-guided tours of the private garden at Rocky Hills, the garden of William and Henriette Suhr in Mount Kisco. Special highlights include specimen trees such as black walnut, ash, weeping beech, dawn redwood, stewartia, dogwood, magnolia and conifers. To benefit The Garden Conservancy. Rocky

Hills, 95 Old Roaring Brook Rd., Mount Kisco. 12 to 4 p.m. \$5 per person. Children (12 and under): Free. Info: 1-888-842-2442 or visit www.opendaysprogram.org.

Evening Howl for "Pups" of All Ages. Guests will enjoy visiting the wolves during their favorite time of day to learn about the biology and ecology of wolves in North America. Wolf Conservation Center, South Salem. 5 p.m. Adults: \$16. Children (under 12): \$13. Pre-registration required. Info and pre-registration: www.nywolf.org.

Ghost Stories and Marshmallows By the Fire. Get in the Halloween spirit with spooky stories. Bring flashlights and, if you like, hot dogs and a story to tell. Cranberry Lake Preserve, Old Orchard Street, North White Plains. 6 p.m. Free. Info: 914-428-1005.

Trio con Brio Copenhagen. The trio will perform Haydn's Trio No. 39 in G Major, Ravel's Piano Trio in A minor and Tchaikovsky's Piano Trio in A minor, Op. 50. Sleepy Hollow High School auditorium, 210 N. Broadway, Sleepy Hollow. 8 p.m. \$30. Students: \$15. Info and tickets: 914-861-5080 or visit www.friendsofmusicconcerts.org.

Sunday, Oct. 23

Mount Kisco Lions Club Gourmet Brunch. The Lions' 27th annual brunch with the finest fare from the area's finest food suppliers and dining establishments. Mount Kisco American Legion Hall, 1

Legion Way, Mount Kisco. 10 a.m. to 1 p.m. Adults: \$15. Seniors: \$12. Children (under 6): Free. Info: www.mountkiscolionsclub.org.

Wolves of North America. Learn about the mythology, biology and ecology of wolf families and discover why fall is a special time for packs in North America. Wolf Conservation Center, South Salem. 11 a.m. Adults: \$13. Children (under 12): \$11. Also Oct. 29. Pre-registration required. Info and pre-registration: www.nywolf.org.

Picture NYC: Book and Art Family Festival. A fun-filled day awaits families. Children will meet illustrators, create New York City-inspired art and participate in interactive family tours of the exhibition "Storied City: New York in Picture Book Art." Katonah Museum of Art, 134 Jay St., Katonah. 12 to 5 p.m. Members: Adults--Free. Children (over 3)--\$5. Non-members: Adults--\$5. Children (over 3): \$10. Info: 914-232-9555 ext. 0 or visit www.katonahmuseum.org.

Scarecrows and Pumpkins Parade. A fun Halloween event for young children. Come in costume and enjoy cider and treats, tattoos and more. Follow friendly scarecrows along the pumpkin trail. Greenburgh Nature Center, 99 Dromore Rd., Scarsdale. 1 to 3:30 p.m. Pre-registered (by Oct. 22): Members--\$4. Non-members--\$7 (on-line pre-registration only). Day of event: Members--\$6. Non-members--\$9. Info and pre-registration: 914-723-3470 or visit www.greenburghnaturecenter.org.