



Nutri-Facts Issue #6

In this issue: The Importance of Hydration During Physical Activity

Contents: The importance of proper hydration during physical activity
 Water vs. Sports Drinks (for consumers)
 News release: Sports Drinks vs. Water: Which is Best for Kids?

Greetings all!

Whether a person is a world class athlete or a "weekend warrior," proper hydration is a must. This involves maintaining a hydration schedule and rehydrating the body after engaging in physical activity. Unfortunately this doesn't often happen and can lead to dehydration, heat exhaustion (or worse), and injury.

We often see advertisements for sports drinks that can help athletes and non-athletes refuel and re-hydrate. What advantages do they offer in comparison to water? Are there times when a sports drink is preferred over water? What should one look for in a sports drink? Is there a way to save money and make your own sports drink at home?

This issue includes information on the importance of maintaining proper hydration, reasons why people use sports drinks, as well as situations where sports drinks may be preferred to water. For individuals who like the taste of sports drinks but not the high price, there is also a recipe for making sports drinks at home! For clientele, there is a one-page handout that stresses the importance of hydration, including the use and preparation of sports drinks. A news release is included as well.

As always, I appreciate any ideas/suggestions for future issues of Nutri-Facts.

Eat Well!
Jenna

The importance of proper hydration before and during physical activity

Fluid intake before and during physical activity is vital to help ensure energy production, the transportation of nutrients, and the maintenance of a healthy body temperature. Fluids that are located in the body's tissues and organs also serve as a protective mechanism during physical exercise. Last, but certainly not least, fluid intake plays an invaluable role in the prevention of dehydration.

During physical activity, fluids are lost through the skin as sweat, through the lungs during breathing and in the urine. Replacing those fluids is important when engaging in any type of physical activity, whether it is mowing the lawn, playing a game of soccer, or participating in a 10 mile run. Experts agree that consuming adequate fluids **before** beginning a physical activity is a must. In addition, consuming fluids **throughout** the physical activity is also very important. Don't rely on your thirst, a symptom of dehydration, to tell you that you need to drink more fluid.

Hydration tips when engaging in rigorous activity and sports: Schedule your hydration.

For individuals competing in rigorous physical activity, it is recommended that hydration be scheduled. The idea is to schedule hydration so that thirst does not occur. According to sports nutritionists, the following schedule for fluid intake can help athletes maintain adequate hydration:

When	How Much to Drink
Weigh yourself before the event or practice	-
2 hours before an event or practice	2 cups of fluid
15 minutes before the event or practice	1 to 2 cups of fluid
Every 15 minutes during activity	$\frac{1}{2}$ to 1 cup of fluid
After the activity, weigh yourself again	2 to 3 cups of fluid for each pound of body weight that is lost

Remember, that during warm humid days, sweat does not evaporate from our skin very quickly, making the need for scheduling hydration even more important.

For more information on hydration during physical activity, check out the *American Dietetic Association's Complete Food and Nutrition Guide*, 2nd edition, pages 479-480.

How do you know if you are adequately hydrated?

Probably one of the most practical ways to check hydration status (assuming a person is healthy) is to monitor the color, volume, and odor of the urine. Urine that is dark in color, low in volume (compared to what is normal for a person), and has a strong odor is a sign of dehydration. If this

is the case, intake of fluid should continue.

Water vs Sports Drinks - Which is Best?

What is the best fluid for staying hydrated during physical activity? According to nutrition experts, when exercising for less than 60 to 90 minutes, water should be adequate to meet one's fluid needs. For activities lasting longer than 60 to 90 minutes, sports drinks may be beneficial for two reasons: (1) provides fuel (carbohydrate) for muscles and (2) the sodium and glucose in the sports drink can help the body absorb the fluid. As a result, the extra fuel and fluid provided to the body during endurance events may actually enhance overall athletic performance.

Some experts suggest that sports drinks are better than water because the sports drinks taste better and will more likely be consumed than water. In fact, some research studies have shown that individuals maintain their hydration status better when given a flavored beverage. Still, it is important to remember that **sports drinks are not calorie free.**

What should one look for in a sports drink? Experts suggest that a sports drink should contain:

- A. **The right amount of carbohydrates, ranging from 4 to 8%.** If the beverage has more than 8% carbohydrate, the fluid in the drink won't be absorbed very quickly. In addition, high percentages of carbohydrates may cause an upset stomach.

To determine the % carbohydrate in your favorite sports drink, just do the math:

$$\frac{\# \text{ grams of carbohydrate}}{\text{milliliters}} \times 100 = \% \text{ carbohydrate milliliters of the beverage consumed}$$

Note: 1 cup = 240 milliliters; $\frac{1}{2}$ cup = 120 milliliters

Example: 1 cup of regular (not diet) cola has 27 grams of carbohydrates.

$$\frac{27 \text{ grams}}{240 \text{ milliliters}} \times 100 = 11.25\% \text{ carbohydrate}$$

This beverage would probably not make a good sports drink due to its high carbohydrate content.

B. **The right type of carbohydrates.** Some research suggests that beverages with high amounts of fructose levels can cause an upset stomach. This is one reason why some people dilute fruit juices for use as sports drinks. Look for beverages that contain more sucrose and glucose and less fructose. The Nutrition Facts panel on food labels can tell you this information.

C. **No carbonation and no caffeine.** Carbonated beverages can cause stomach upset.

D. **Lightly sweetened, lightly flavored beverage.**

Note: Sodium is also added to sports drinks because it makes the beverage taste better. Unless someone is exercising for long periods of time, there really is no need for extra sodium.

Is there a way to save money and make your own sports drink at home?

Sports drinks are not cheap! A recent survey of three popular sports drinks in Bryan/College Station found that, on average, sports drinks cost 28¢ per 8 ounces (1 cup). Considering that a 150 person can lose as little as 3-4 pounds of fluid during physical activity, the cost of sports drinks can add up quickly. To save money, consumers can make their own sports drinks at home for a fraction of the cost using the recipe below.

Ingredients

4 tablespoons sugar

$\frac{1}{4}$ teaspoons salt

$\frac{1}{4}$ cup boiling water

$\frac{1}{4}$ cup orange juice* **OR** 2 tablespoons lemon juice 3 and $\frac{3}{4}$ cups cold water

Directions

In the bottom of a pitcher, dissolve the sugar and salt in the boiling water. Add the juice and remaining water; chill. Makes 1 quart. Each 8 ounce glass of this sports beverage contains 12 grams of carbohydrate (5% glucose), provides approximately 55 calories, and costs about 7¢ to make (using store brand items).

* Canned orange sometimes has a metallic aftertaste, so consider using orange juice that is packaged in plastic jugs or paper cartons. You can also try adding small amounts of food coloring to the beverage so the "homemade" sports drink looks more like the popular commercial brands.

Young children can name their own sports drink after themselves (Bradley-ade, Kyle-ade . . .). If they play team sports, they can name the beverage after their team. Can you guess the name of the university that developed Gatorade? Answer: University of Florida (the Gators)

Possible activities for youth. Have a display of popular drinks consumed during sports events including Gatorade, Powerade, Allsport, colas, fruit juice, and water. Be sure to note the cost of the beverage. First have the youth calculate the unit price, then the cost of the beverage per 8 ounces. Then, let them calculate the percentage of carbohydrate using the formula above. Next, ask them to identify which beverage(s) would be most suitable for activities lasting less than 60 minutes. Finally, ask them which beverage would be most suitable for activities lasting longer than 60 minutes. Why would the cola and fruit juice make least suitable sports drinks (the percentage of carbohydrate is high and may delay the absorption of fluid and may also cause stomach upset).

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Water vs. Sports Drinks

Whether you are a world class athlete or a "weekend warrior," proper hydration is a must. To stay hydrated, some people turn to sports drinks. We often see their advertisements but what advantages do sports drink offer in comparison to water? What should one look for in a sports drink? Keep reading to learn the answers to these and other questions about sports drinks.

Water vs Sports Drinks

Water is a great source of fluid when exercising for less than 60 minutes. For activities that last longer than an hour, sports drinks may be a better choice because: (1) they provide fuel for muscles, and (2) the sodium and glucose in the beverage can help the body absorb the fluid.

When choosing a sports drink, look for:

A. the right amount of carbohydrates (12 to 15 grams per 8 ounce serving). If a beverage is too high in carbohydrate, the fluid won't be absorbed quickly.

B. the right type of carbohydrates. High amounts of fructose (the type of sugar found in fruit) may cause an upset stomach. Look for sports drinks that contain more sucrose and

glucose and less fructose. Fruit juice is okay as a sports drink if you dilute it with water. Use one part fruit juice and two parts water.

C. no carbonation, caffeine, or alcohol. For some people, carbonated beverages cause an upset stomach. Drinks with alcohol can **increase** fluid loss.

D. a lightly sweetened, light flavor.

Can I save money and make my own sports drink at home? Commercial sports drinks cost about 28¢ per cup. Since a 150 pound person loses as little as 3 to 4 pounds of fluid during physical activity, the cost of sports drinks can add up quickly. To save money, try making your own sports drinks using the recipe below.

What you need

4 tablespoons sugar $\frac{1}{4}$ teaspoons salt $\frac{1}{4}$ cup boiling water
 $\frac{1}{4}$ cup orange juice **OR** 2 tablespoons lemon juice 3 $\frac{3}{4}$ cups cold water

How to make it

In the bottom of a pitcher, dissolve the sugar and salt in the boiling water. Add the juice and cold water; chill. Makes 1 quart. Each 8-ounce glass of this sports beverage contains 12 grams of carbohydrate (5% glucose), provides about 55 calories, and costs about 7¢ to make.

A final note - hydrate before you participate

Remember, it is important to drink fluids when taking part in any type of physical activity, whether it is mowing the lawn, playing a game of soccer, or participating in a 10 mile run. Be sure to drink fluids **before, during, and after** being physically active. Don't rely on your thirst to tell you to when to drink fluids. By the time thirst sets in, so has dehydration!



News release

Whether a person is a world class athlete, a "weekend warrior," or employed in physically demanding jobs, fluid intake is a must. "Proper hydration before, during, and after physical activity helps the body produce energy, reduces the risk of dehydration, and helps lower the risk of injury," says Jenna Anding, PhD, RD, associate professor and Extension nutrition specialist with Texas Cooperative Extension. Although many people rely on thirst to tell them when they need to drink fluids, by the time thirst sets in dehydration is already occurring. "The key to maintaining proper hydration is to drink fluids before, during, and after physical activity," says Anding.

For individuals who are participating in strenuous physical activities, the key is to schedule hydration. Nutrition experts recommend drinking approximately 2 cups of fluid 2 hours before an event or practice. Right before the event or practice, drink another 1 to 2 cups of fluid. This helps to make sure that the body is adequately hydrated before the physical activity begins. During the activity, individuals should try to drink $\frac{1}{2}$ to 1 cup of fluid about every 15 minutes to maintain hydration status during the event. Finally, after the game or practice is ended, individuals should consume 2 to 3 cups of fluid for every pound of body weight that has been lost. This fluid replaces any fluids that have been lost during the activity.

Which type of fluid is best for maintaining hydration? Anding says that water is probably sufficient for maintaining hydration when individuals are engaged in physical activity for less than one hour. "However, when activities last longer than an hour, the use of sports drinks might be a better choice," says Anding. "That is because research has shown that individuals maintain their hydration status better when given a flavored beverage." Anding recommends selecting a sports drink that is no more than 8% carbohydrate, has a lightly sweetened flavor, and is non-carbonated. "Soda, alcohol, and full-strength fruit juices are not good choices for sports drinks," notes Anding. Commercially prepared sports drinks, on the other hand, often meet the needs of athletes and individuals who are engaged in strenuous physical activity.

For more information about sports drinks, including tips on how to prepare an inexpensive sports drink at home, contact _____, county Extension agent for Family and Consumer Sciences at _____(phone number).