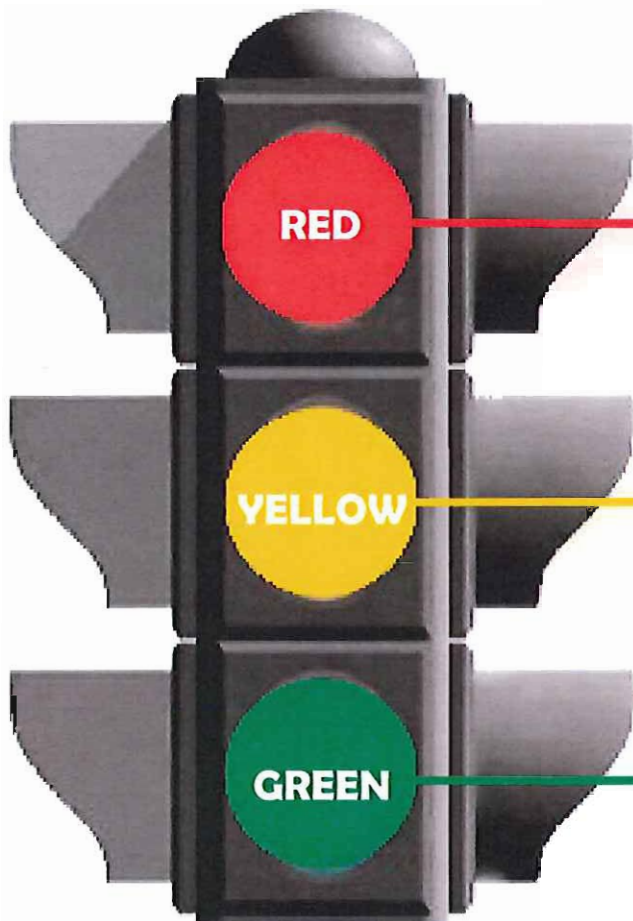


# STOP!

## Rethink your **DRINK**

## Go On **GREEN**



### Drink Rarely, if at all

- Regular Sodas
- Sports Drinks\*
- Sweetened Coffee Drinks
- Energy Drinks
- Sweetened Tea
- Fruit & Juice Drinks with added sugar

### Drink Sometimes

- Diet Sodas
- Diet Iced Tea
- 100% Juice
- Chocolate/Flavored Milk
- Low Calorie Drinks
- Low Sugar Drinks
- Low Calorie Sports Drinks (ex: G2)

### Drink Freely

- Water
- Seltzer Water
- Skim or 1% Milk
- Unsweetened Tea
- Unsweetened Coffee

\*Sports drinks are unnecessary for general consumption. They are for rehydration during high-intensity exertion such as marathon running or strenuous exercise outdoors on high heat index days (ex: summer soccer or football).

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# Eating Before Exercise

## Athlete Scenario

*The day of a football game, I often feel nervous and sometimes skip lunch, only to feel hungry later. Games are usually in the afternoon so I know I need to eat something beforehand. Playing both offense and defense, I rarely get a break. What foods can I eat and at what times to supply me with enough energy to perform well the entire game?*

## Goals of Nutrition Before Exercise

- Consume a carbohydrate-rich snack or meal before exercise to top off muscle stores. With pre-competition jitters, liquid meal replacements may be a better choice than whole foods.
- Include small amounts of protein in your pre-exercise meal(s). Protein helps build and repair muscle tissue. Adequate protein before exercise may help reduce post-exercise muscle soreness.
- Choose pre-exercise meal(s) that are low in fat and fiber to ensure optimal digestion.

## Pre-exercise Foods & Fluids

### 3–4 Hours Before Exercise

- Peanut butter & honey on toast + instant breakfast drink
- Fruit and yogurt smoothie + low-fat granola
- Oatmeal with brown sugar and almonds + skim milk + banana
- Low-fat cottage cheese + apple butter + crackers + fresh grapes
- *Lean* hamburger on bun with lettuce & tomato + side salad + yogurt-fruit parfait
- Turkey and Swiss sandwich + fruit + sports drink
- Low-fat tuna melt sandwich + fruit cup + fat-free yogurt

### 30–60 Minutes Before Exercise

- Sports drink or water
- Sports gel, sport beans or gummies, sports bar
- Piece of fruit or jam sandwich

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right.

## Tips to Take With You

1. Experiment with foods and drinks in practice and lower level competitions to determine the best timing and your tolerance for pre-exercise foods.
2. Practice! Figuring out what works best for you will boost confidence in eating before exercise.
3. Fuel muscles early with easily digestible carbohydrate-rich foods and beverages for training or competition later in the day.

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# Eating During Exercise

## Athlete Scenario

*In the three marathons I've run, I perform well the first half and then struggle to reach the finish line. I drink sports drink and eat energy gels throughout the race. After about 2 hours, I get stomach cramps that slow me down. Although I know that nutrition is important, I can't get it to work for me. How can I use nutrition to help me perform well throughout my marathon?*

## Goals of Nutrition Before Exercise

- Optimal fuel blend: Nutrition during prolonged exercise requires the proper mix and timing of fluids, carbohydrate, and electrolytes. Too little fluid or too much carbohydrate can result in cramping and other intestinal problems.
- Adequate fluids to replace sweat losses: Prevent excessive fluid loss (>2% body weight lost as fluid). Dehydration can cause fatigue and impair performance. Knowing your sweat rate will help you determine the right amount of fluid to drink.
- A plan tailored to YOUR needs: A nutrition plan based on YOUR needs can help maximize performance. Experiment with sport drinks and foods for different types of workouts and competitions. Record your tolerance to learn what works best.

## During Exercise Foods & Fluids

- Sports drinks that contain carbohydrate and electrolytes, while avoiding ingredients that may slow digestion.
- Easily digested carbohydrate-rich foods during endurance events, for example, banana, bread or roll with jam or honey, sports foods (gels, gummy chews), or bite-sized pieces of low-fat granola or sports bars.
- Fluids consumed with carbohydrate gels or carbohydrate-rich foods to speed fuel transport to muscles.



## Tips to Take With You

1. Start with a full tank. Begin exercise well hydrated and with adequate muscle fuel (carbohydrate).
2. Try new products and foods during training sessions to determine the type, amount, and timing of foods and fluids that work best for you.
3. Consume fluids early and consistently to replace sweat losses. Calculate your sweat rate and sweat losses to determine your fluid needs.

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# Eating for Recovery

## Athlete Scenario

*The day after a hard soccer practice, my legs feel heavy, I feel sluggish, and I'm often sore even if I didn't have a resistance training session the day before. My performance at practice suffers because I'm unable to put forth 100%. I usually drink water and sometimes a sports drink during practice and games, but afterward I don't usually feel like eating much. What can I do so I have more energy at practice and feel better about my performance?*

## The Goals of Recovery Nutrition Include

- Restore fluid and electrolytes (sodium and potassium) lost in sweat; weigh before and after exercise and replenish what was lost
- Replace muscle fuel (carbohydrate) utilized during practice
- Provide protein to aid in repair of damaged muscle tissue and to stimulate development of new tissue
- Begin nutrition recovery with a snack or meal within 15-60 minutes following practice or competition

## Rehydration Fluids

- Carbohydrate-electrolyte sport drink to replenish fluids and electrolytes lost in sweat

## Recovery Snack Ideas

- Smoothie made with yogurt and frozen berries
- Sports drink (carbohydrate, electrolyte, fluid) + sport bar (carbohydrate, protein)
- Graham crackers with peanut butter + low-fat chocolate milk + banana

## Recovery Meal Ideas

- Whole wheat pita sandwich with turkey and veggies + pretzels + low-fat milk
- Rice bowl with beans, cheese, salsa, avocado + whole grain tortilla chips or whole wheat tortilla
- Stir fry with lean steak, broccoli, bell peppers, carrots + brown rice

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## Tips to Take With You

1. If you have 2 training sessions per day or your next training session is within 8 hours, recovery nutrition is crucial
2. If you do not have an appetite following a training session, choose liquid foods that meet your recovery goals
3. Along with carbohydrate, fluid, and electrolytes, protein is an important part of recovery, particularly if you participate in high intensity training sessions that damage muscle tissue (resistance training, interval sessions, etc.)

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# Understanding Sweat Loss

## Athlete Scenario

*When training with my rowing team, we spend several hours on the water, often during the warmest part of the day with limited opportunities to drink fluid. I tend to sweat more than my teammates and I notice salt caked on my skin and clothing. Lately, I have been very tired after practice. Could I be eating too much salt or not drinking enough water? Should I do something during practice to have more energy and perform better?*

## Sweat Loss Considerations

- Sweat rate during exercise is individual and is influenced by genetics, gender, age, environmental temperature, exercise intensity, fitness, and acclimatization.
- Evaporation of sweat during exercise cools the body. Dehydration inhibits the body's ability to cool itself during exercise. Consuming fluid replaces sweat loss and aids cooling.
- Gauge your hydration status by monitoring urine color and volume. Urine that is dark in color and low in volume indicates dehydration; light yellow urine is ideal.
- Sodium helps your body retain fluid and stimulates thirst.

## Strategies for Managing Sweat Loss

- To perform at your best, avoid losing more than 2% of your body weight during exercise.
- Determine your individual fluid needs by calculating your body weight loss and sweat rate under different training conditions.
- When opportunities to replace fluid loss are limited, follow an individualized hydration plan surrounding exercise.
- If your sweat is salty and contains a high concentration of sodium, consume sodium (endurance-specific sports drinks or other sodium sources) during exercise; eat salty foods before and after prolonged (>2 hours) exercise.

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## Tips to Take With You

1. Fluid needs are highly individualized; avoid comparing your sweat and hydration patterns with teammates.
2. Replace fluid and electrolytes according to a schedule rather than relying on thirst.
3. A sports dietitian can help you calculate your sweat rate and develop a personalized hydration schedule that meets your needs.

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# Exercise Hydration

## Athlete Scenario

*For my resistance training and cardio workouts at the gym, I bring a water bottle and drink when I get thirsty. My workout usually lasts about 1–1 ½ hours and I tend to sweat a lot. After I leave the gym, I am physically spent and don't feel completely recovered before the next workout. If I have time, I grab a sports drink for the ride home. When, what, and how much should I drink to improve my energy at the gym?*

## Goals of Hydration

- Begin exercise well hydrated by drinking fluids during the day and within the hour before the exercise session.
- Replace sweat losses by drinking fluids regularly during exercise.
- Rehydrate after exercise to replace weight lost as fluid during exercise.
- Follow a personalized fluid replacement plan to prevent the consequences of excessive (>2% body weight loss) dehydration such as early fatigue, cardiovascular stress, increased risk of heat illness, and decreased performance.

## Fluids Surrounding Exercise

- For short duration (<60 minutes), low to moderate intensity activity, water is a good choice to drink before, during, and after exercise.
- Sport drinks (6-8% carbohydrate) are good options for moderate to high intensity activity lasting longer than 60 minutes, especially when the goal includes replacing carbohydrate and electrolytes.
- For those who experience high sodium losses during exercise, eat salty foods in a pre-exercise meal or add salt to sports drinks consumed during exercise.
- Rehydrate following exercise by drinking enough fluid (water or sports drinks) to replace fluid lost during exercise. Replace fluid and sodium losses with watery foods that contain salt (soup, vegetable juice). Replace fluid and potassium losses by consuming fruits and vegetables.



## Tips to Take With You

1. Replace fluids early and often during and after exercise, particularly in hot environments.
2. Good sources of fluid include water, sports drinks, juices, soups, smoothies, fruits and vegetables.
3. A sports dietitian can assist you in designing a personalized hydration plan that considers thirst, urine color, and body weight changes under varying conditions of exercise.

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# Performance Hydration

## Athlete Scenario

*As a defensive specialist in volleyball, I must be ready to move very quickly on the court. If I drink water during a match, I feel bloated and uncomfortable but if I don't drink water, I get headaches and feel tired quickly. How can I balance drinking water and working out to help me feel comfortable and perform better instead of being distracted from the game?*

## Goals of Performance Hydration:

- Delay fatigue and maintain mental acuity
- Optimize ability to regulate body heat, especially in hot environments
- Satisfy thirst and prevent significant weight loss from sweating
- Improve ability to recover quickly from training and competition

## Hydration Strategies:

- Begin exercise well-hydrated since most athletes find it challenging to match fluid intake to sweat loss while exercising.
- Prevent under or over consumption of fluids while training longer than 30-60 minutes, by following an individualized hydration plan based on fluid loss calculations.
- If training is intense or involves intervals, consume carbohydrate in the form of sports drinks or snacks (see Eating During Exercise Factsheet).
- For events lasting longer than an hour (tournaments, multiple games on the same day), enhance hydration by selecting snacks and meals that contain salt or sodium.

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## Tips to Take With You

1. Monitor urine color prior to training to ensure good hydration status. Clear to pale yellow colored urine is optimal.
2. Experiment during training to identify the volume of fluid to drink that feels comfortable and allows you to perform at your best.
3. Consult a sports dietitian to develop a personalized hydration schedule to meet your fluid needs.

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# PERFORMANCE PLAYBOOK



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## Sports Nutrition Myths

CHRIS ROSENBLOOM, Ph.D., R.D., L.D., is a professor in the division of nutrition at Georgia State University and the sports dietitian to Georgia State University Athletic Association.

Athletes are always looking for an edge against the competition, and what an athlete chooses for fuel can help. Because sports nutrition is an evolving area of sports science, it is prone to myths and misconceptions. You've probably heard all of these myths, but do you know the facts?

### **Myth No. 1: Sugar should be avoided before training and competition.**

Sugar eaten before competition increases blood levels of glucose and insulin, which is not a bad thing. Carbohydrate, whether in food or drink, taken before exercise can improve performance. An athlete who is not fueled is a tired athlete who can't perform at his or her best.

### **Myth No. 2: Sports drinks are only needed for exercise lasting more than an hour.**

Sports drinks can be beneficial in activities that last less than one hour, especially if the exercise is intense or occurs in hot, humid conditions. Professional athletes aren't the only ones who benefit from sports drinks. Competitive athletes who play football, soccer, tennis, field hockey, or basketball can benefit from the carbohydrate and electrolytes in sports drinks. Drinking sports drinks encourages athletes to drink more, which is important since dehydration can occur in exercise lasting less than one hour. Using sports drinks is an easy way to improve performance and to fight dehydration.

### **Myth No. 3: Body Image distortion is only a women's issue.**

Men are increasingly exposed to supermale images, from the bodies of professional athletes to the covers of men's magazines, men are increasingly dissatisfied with their body appearance. Body dysmorphic disorder, the preoccupation with an imagined or slight defect

in one's appearance, is recognized as a psychological disorder. Many coaches and athletes may be unaware that it occurs in both males and females.

### **Myth No. 4: Vitamins and minerals give athletes extra energy.**

Vitamins and minerals act as co-factors to unlock the chemical energy stored in food, but by themselves they do not give an athlete extra energy. A meal plan rich in grains, vegetables, fruits, meat, and dairy gives athletes energy. This food is also a vehicle of entry for the vitamins and minerals that the body needs to unlock food energy. A multivitamin mineral supplement might be necessary for some athletes, but by itself, it will not provide extra energy.

### **Fight sports nutrition myths.**

- Be wary of products not backed by published research.
- Look for information provided by respected organizations, such as the American College of Sports Medicine (ACSM), the American Dietetic Association (ADA), and Sports, Cardiovascular, and Wellness Nutritionists (SCAN).
- Bring in a sports dietitian for a workshop with your team on translating the science of nutrition into food plans.
- Check the Gatorade Sports Science Institute Web site at [www.gssiweb.org](http://www.gssiweb.org) for information.

