

Let's talk about some GENERAL concepts pertaining to nutrition and hydration prior, during, and after a game. I say general, because everyone is different, and this includes age, sex, and weight. All have different considerations, but the bottom line is to know your own body. You will see more what I am talking about as we get into this discussion.

Glycogen is the form in which the carbohydrate glucose is stored in your body. Your muscles are where this glycogen is primarily stored, and it is the first source of energy used during your game. During this athletic competition, your muscle glycogen starts being consumed, and when depleted, the body is not going to perform at it's best, and you are more at risk for injury. The way to make sure you have plenty of glycogen is excellent nutrition, both in the long and short term. Good, healthy, daily nutritional habits are the most important things you can do to take care of your body. The way to replenish glycogen is the use of carbohydrates and protein in the right blend.

We start out by realizing soccer is not weight lifting. By that, I mean soccer is more of an aerobic exercise. Running is a major component of your sport. Studies demonstrate about 2/3 of the match is at a lower speed, where the other 1/3 is more of a sprint or quickened pace. This makes your sport lean to taking in more carbohydrates, than a competitive weight lifter would, for example. Carbohydrates contain 4 calories per gram ingested. They are found in fruits, vegetables, cereals, bagels, bread, and pasta. I want you to consume WHOLE GRAIN products concerning your bread, bagels, and pasta, should you choose to eat these types of foods. I ride my bicycle as a primary form of exercise, and sometimes, I ride 50 miles in the summer heat, so I can relate. I consume either whole grain breads with peanut butter or a protein shake blended with fruit before I ride, so I essentially "carb load" before exercise. After the ride, I consume Pro Bites, fruit, nuts (cashews, almonds, walnuts), and yogurt.

Nutritional balance is important, but again, an active soccer player needs to take in more carbohydrates compared to protein and fat, which are the other macronutrients. Protein contains 4 calories per gram, while fat contains 9 calories per gram ingested. I want you to know this.

Please know a kilogram of body weight equals 2.2 pounds. So, if you weigh 150 pounds, you weigh 68 kilograms, or kilos, (kg). Simply take your weight, divide by 2.2, and you have your body weight in kilograms, which is the standard used.

On a game day, you need to increase your caloric intake, especially carbohydrates. I keep repeating this, because studies show soccer players still don't do this on a regular basis, so I am trying to drive this point home to you. I want you to succeed, because all other things being equal, the player and/or team that takes the best care of their bodies will win the game in the majority of cases.

You want to eat these carbohydrates during breakfast and approximately 45 minutes before the game. Additional carbohydrates must be ingested 30 minutes after the game to replace muscle glycogen. At least 30-50 grams of carbohydrates and ten grams of protein are required to do this. Remember the last article, and know you simply must replace muscle glycogen within 30 minutes after the game, or your next performance will decline.

**NEVER MISS BREAKFAST!** It leads to many problems, and poor athletic performance is one of them.

So what does all this mean? Here goes:

Eat more carbohydrates on game day. Do not consume food 30 minutes before the game starts or you may become ill. Avoid foods containing fiber and fructose, as they can cause an upset stomach. You need to eat fruits, vegetables, pasta, bread, or bagels (whole grains) before the game, and afterwards to replace muscle glycogen. I also like for players to consume some fat, and recommend nuts such as

cashews, almonds, and walnuts. Concerning protein, well, this is why we made Pro-Bites. Other sources include chicken, fish, turkey, or lean meat. Remember the reason we made Pro Bites is because they are nutritious, and do not contain trans fat or cholesterol, both of which are important factors. They also travel well to the games, are ready to eat, and are very convenient. The product was designed specifically for the athlete.

Please remember to avoid high sugar energy drinks and sodas. They are empty calories and harm your body.

Concerning hydration, if you are working out less than one hour and in moderate temperatures, water is fine. If you are out longer, especially in the heat, I like a sports drink. [If you are playing in the heat, I prefer cold beverages to help decrease your core body temperature.](#) As a general rule:

500 milliliters (ml) 20-30 minutes before the game. This is usually represented by one bottle of water.

300-500 ml during the game.

1-2 liters after the game depending on conditions.

You have a chance to consume fluids when the ball goes out of bounds, [when the ball is](#) kicked over the goal, after a goal is scored, or if there is an injury. Take advantage of these times to rehydrate. Just remember to hydrate during the game.

Sodium is the most important electrolyte to replace. As a general rule, you lose one liter of sweat per hour. Each liter of sweat contains 1,000-3,000 milligrams, (mg) of sodium.

Recall how I said to know your own body. Well, this is why this is important. If your urine is clear, then most likely, you are well hydrated. If your urine is dark yellow, you need more fluid.

I recommend weighing yourself before and after the game. You should weigh within one kilogram or 2.2 pounds after the game, as compared to before the game. As a rule, you should drink about one half more in volume than weight lost. So, this represents 1.5 liters of fluid for every kg of weight lost. Translated, this means if lost one pound of weight during the game, replace it with 1.5 liters of fluid.

I like the pre game fluids to consist of both water and a sports drink, mostly water. During and after the game, I prefer mostly sports drinks. I say this, because the sports drinks do contain a fair amount of sugar, and this is not how I want all of your carbohydrates to be obtained.

Back to knowing your own body; When you eat and drink properly, your body will take over and do it's job. Your kidneys will take of business, but you have to give the body what it needs for every organ to function.

Studies have shown most soccer injuries occur later in the game. It is a proven scientific, medical fact. The main reason for this is because the muscles are tired, fatigued, and largely depleted of glycogen. Additionally, studies demonstrated players who worked out extremely hard the day before the actual game did not perform well on game day. Their muscles were tired and depleted of glycogen. Have light workouts the day before a game.

Pro Bites are important to you, because our protein has been shown to decrease muscle fatigue, decrease muscle recovery time after exercise, and help build muscle. Remember Olympic athletes consume our product for a reason, as we spent years of research and development to create this product to help you

perform at your very best. This is why I consume at least one bag per day, because it helps me perform for the long and short term. I ride my bicycle several times a week, so I want my muscles to be ready to handle the stress. Soccer is no different.

Nutritional balance during your life is a key element. What you do on a daily basis will dictate your overall health and wellness.

The take home message is this: Nutrition is the foundation of the human body. You only have one body. When you take great care of your body; it will take great care of you when put to the test of athletic competition and everyday life. I not only want you to be a healthy athlete, I want you to be a healthy person long after you stop playing soccer.

Dr. Steve

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Dr. Steven Snodgrass is a board-certified surgeon, a member of the American Medical Association, a Fellow of the American College of Surgeons, and Chief Executive Officer of Peak Performance Foods.

His new product, Pro-Bites, was made for people who care about their bodies and want the best quality food they can eat. He understands how hard it is for you and your parents to get up every morning and go to work and school. Many times, people don't eat because they are in a hurry. Don't do that, because it hurts your body. He made so you could pop open a bag and go!

Dr. Steven Snodgrass works with athletes from all sports over the phone and through email to create nutritional programs. For more information write to [ssnodgrass@probites.com](mailto:ssnodgrass@probites.com). He also offers Pro-Bites for athletes and coaches at [www.probites.com](http://www.probites.com).