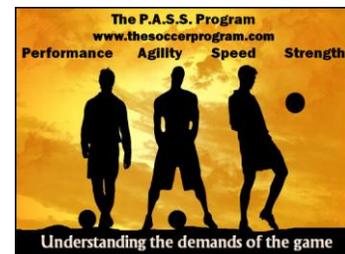


HYDRATION AND NUTRITION TIPS FOR PRESEASON AND IN SEASON PLAY



Understanding the demands of the game

The game of soccer is not linear in its nature, nor is it static. It demands frequent changes of speed and direction. There are numerous times in a match in which the physical demand will change from low to intense and the elite level player must be able to adjust and adapt to the situation.

The distance covered in a respective match may range from 5 miles for women to 6-7 miles for men. This combined with the frequent changes of speed and direction (which may be 500-1000 times per game) will place significant demands upon the athlete. Therefore, it is imperative that proper nutrition and hydration be an important part of the total preseason and in season plan.

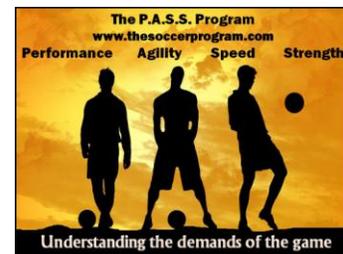
Nutrition

The foods we eat are the fuel for the body. It is not too simple to say that what we put in is what comes out on the field. An athlete that demands such physical requirements on the field should consider seriously what they eat throughout the preseason and in season.

Carbohydrate is the key component to energy stores and expenditure prior to and during match play. It is misconception that an athlete needs to eat an excessive amount of protein when competing. The body can only digest approximately 35-50 grams of protein at any particular time. We are not suggesting eliminating protein from the diet. Protein is a key to muscle recovery and neglecting it from the diet can lead to muscle break down and bone density loss.

An important ration to use when planning a meal is 3:2:1 (carbohydrate, protein, fat). Three times as much calories should come from carbohydrate than from protein or fat. No all fats are bad. Monounsaturated and polyunsaturated fats are necessary for proper cellular function and key body processes. Fat intake for athletes should be less than 80 grams per day.

You must think balance when planning meals. You actually may need to eat more than you think to provide your body the necessary calories for demands of a game or practice. The following formulas may help to estimate your caloric needs per day:



Male athletes: 42-50 Kcal/Kg body weight/day (depending upon activity level)

Female athletes: 30-35 Kcal/Kg body weight/day (depending upon activity level)

Here is an example: (Divide body weight in pounds by 2.2 to estimate body weight in kilograms)

$$160 \text{ lb} / 2.2 = 72.7 \text{ kg}$$

$$72.7 \text{ kg} \times 42 \text{ Kcal/day} = 3054.5 \text{ Kcal/day}$$

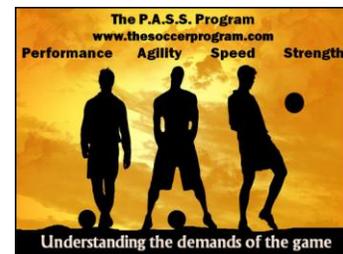
This particular athlete needs to eat 3054.5 calories per day to keep his body at 160 pounds. This number will fluctuate on the demands placed upon it. If he is looking to gain weight then more calories would need to be consumed. Food intake must be of quality and eaten throughout the day and not in one sitting.

What is carbohydrate loading and when should an athlete do this?

Carbohydrate comes in many of the foods we eat on a daily basis. Complex carbohydrates (pasta, bread, potato) and simple carbohydrates (primarily from sugar based foods) are examples. Scientific studies show that the majority of stored glycogen (the energy source from carbos) comes from food that we have eaten within 2-3 days of competition. Therefore, eating a carbohydrate heavy series of meals 2-3 days prior to a game should be considered to provide the right amount of energy store for competition (this is taking into account that moderate to light training in the week preceding the game is occurring).

The important and unfortunate fact is that most players begin a match in a carbohydrate depleted state. As the game progresses the available glycogen stores will be used and muscle fatigue and potential injury may happen. You can almost pick out the players that are destined to falter by watching their warm up.

A good rule to follow is to eat 1-4g/Kg body weight 6 hours to match time and have a steady amount of carbohydrates as part of a balanced meal throughout the week leading up to the event. Some studies suggest that pre-game meals should occur 3 hours prior to a match so available energy stores are at their highest. Timing is



paramount and therefore meals should be planned to optimize the athlete's potential.

Examples of carbohydrates: Whole grain bread, pastas, legumes, bagels, oatmeal, whole grain cereal, fresh fruit, dried fruits, rice, potatoes. (Light sauces or condiments).

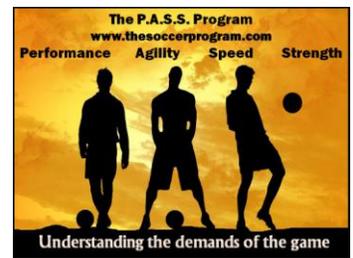
Numerous sports drinks have been advertised as carbohydrates and this is true. They do offer some carbohydrates to players prior to and during match play. However, they typically provide these carbs in the form of sugars so it is important to be careful when using them. I suggest watering them down so that players do not cramp up or have stomach issues and have players try different brands to find one that they like.

Examples of sports drinks: Gatorade, Lucazade, Powerade, Allsport, Accelerade, Endurox, Cytomax.

Hydration

It is vitally important that athletes provide their body with the proper amount of water when training and playing. Water maintains proper balance to the body's systems and allows for proper cellular functioning. Players should drink water with meals in the days leading up to the match days and drink regularly during and just prior to games. They should not be discouraged to drink sports drinks prior to games as they provide not only a form of hydration to the body, but also carbohydrates and other electrolytes the body will need during the event.

In hot weather, it is recommended to consume 500ml of fluids during a 60-90 minute period before the game and players should regularly drink during the match when time permits. It is important that players and trainers recognize the onset of dehydration and work to prevent it. Injury, heat stroke and even death have been linked to dehydration and should be avoided at all costs.



Competition Day Meal

Most pre-match meals should be consumed at least 3 hours prior to competition. Remember that meals high in calories are harder to digest and will take longer and require more water to be digested. Therefore, chose meals on the lighter side. Fruits, cereals, salads, juices (vegetable and fruit), smoothies, and high carb energy bars are good options. No fried food, hamburgers, or other unhealthy choices should be made.

Carbohydrate suggestions

Fruits:

Apples	Bananas	Peaches	Apricots
Raisins	Oranges	Grapefruit	Kiwi
Pineapple	Plums	Dates	

Breads/Cereals:

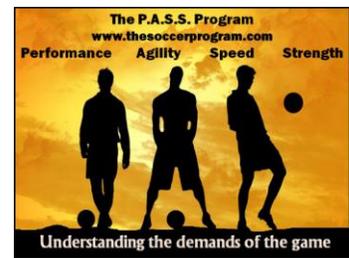
Bagels	English Muffins	Granola bars	Rice
Blue berry muffins	Raspberry muffins	Whole Grain toast	Peanut butter
Oatmeal	Pasta (red sauce)		

Vegetables:

Cucumber	Broccoli	Potatoes	Carrots
Peas	Beans	Cabbage	Yams
Cauliflower	Turnips	Peppers	

Dairy Foods:

Milk	Yogurt	Cottage Cheese
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Other suggestions

Snack foods:

Apples	Bananas	Granola Bars	Raisins
Dried Fruit	Hard Pretzels	(Nature Valley/Quaker Oats)	Graham Crackers
Hard Pretzels	Fresh Vegetables	Nutri-Grain Bars	

In game:

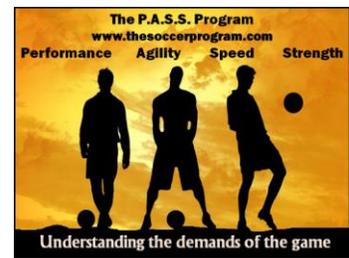
Sports drinks	Goo	Hammer Fuel	Gummy Bears
(PowerAde /Gatorade)	Sports Beans		

Post Game Nutrition

The post game meal is just as important if not more so, especially in tournament situations, than all other meals. There is a window, called the “Glycogen Window”, that is within 30-60 minutes of hard training or competition that carbohydrate uptake is fastest. Therefore, post game meals need to occur within this window of time to avoid muscle breakdown, cramping and fatigue/exhaustion. The fastest way to accomplish this is through sports drinks such as Gatorade or PowerAde. Protein should be part of any post game meal and should be a 4:1 ratio with carbohydrates. Other options are chocolate milk and nutrition bars to be immediately consumed after matches (especially important in tournaments when two matches may occur in one day).

Why is protein important for athletes?

Protein is essential for building and maintaining muscles, as well as repairing the muscle damage that occurs during training. Protein is also needed to make red blood cells, produce hormones, and boost your immune (disease-fighting).



Protein suggestions:

Sources	Protein (g)	Sources	Protein (g)
Tuna, 6-oz can	40	Baked beans, 1 c	14
Chicken breast, 4 oz	35	Lentil soup, 10.5 oz	11
Pork loin, 4 oz	30	Tofu, extra firm, 3.5 oz	1.1
Cottage cheese, 1/2 c	1.5	Refried beans, 1/2 c	7
Yogurt, 8 oz	1.1	Hummus, 1/2 c	6
Milk, 1%, 8 oz	8	Kidney beans, 1/2 c	6
Cheddar cheese, 1 oz	7	Peanut butter, 1 Tbsp	4.5
Whole egg, 1 large	6	Almonds, dried, 12	3
Egg white, 1 large	3.5		

Sleep/Recovery

It is vital to the elite athlete to have the proper amount of sleep during training or game times. Lack of sleep can lead to slower reaction times, slower metabolism and poor cellular restoration. Lack of sleep can also lead to increased levels of perceived exertion and lower levels of endurance. An athlete should strive for 8-10 hours of sleep prior to competition for all aspects of physical and mental abilities to be at their highest. It is up to parents, coaches and trainers to ensure this when traveling for tournaments.

Please contact us if you have any questions. Thank you

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