Curious what your soccer player’s nutrition needs are? Until recently, nutrition recommendations for athletes were based on hearsay. Fortunately, today we have good scientific evidence about the role nutrition plays in sport performance. We have assembled the following guide to give you a quick review. Please read this important information and keep it handy so that you can refer to it throughout our soccer season.

The Facts……….

1. The most critical meal is actually **the day BEFORE the game**. It should be plentiful with good carbohydrates, as well as a little protein and fat. Don’t splurge on fast food just because you think it won’t affect your game tomorrow! It will.

2. Stay away from super-sweet and high-fat foods. Whole milk, marbled meat, cheese, and **anything fried** will seriously jeopardize your game.

3. Plan it so that your last meal is **no less than three hours before a soccer game** (or even practice). If you get hungry, have a light snack, or perhaps an energy bar. Keeping your stomach close to empty is a good idea for the same reason you avoid **rich foods** before physical activity.

4. And **don’t even think about drinking a drop of soda or even fruit juice before you put your soccer cleats on**. Avoid ALL caffeinated drinks and “energy” drinks (ie monster, red bull).

5. Avoid all drinks with **HIGH FRUCTOSE CORN SYRUP**.
6. Carry a bottle of water with you and take sips from it periodically. A good rule of thumb is to **drink a half-cup to a whole cup of water for every 15-20 minutes of physical activity you’re anticipating**. Try having 16-20 oz of water 2 hours before a game, then 12-14 oz of sports drink about 10-15 minutes before a match begins. (The warmer the weather, the more water you should drink.)

7. Don't wait until game time (or during the game) to start hydrating. It’s too late!

8. Let the athletes eat to perform. Do not impose your meal choices or limitations on the players.

**MUSCLE GLYCOGEN - Source of Energy**

Exercise leads to a depletion of muscle glycogen. The ability to train and compete at a high level is dependent upon the ability of the body to repair muscles (protein) and build up glycogen stores (carbs).

The Glycogen Window refers to the 30-60 min period after exercise when carb and protein replacement is the fastest. If the rebuilding process takes an hour or more, 50% less muscle glycogen is stored. This is achieved most productively through a replacement drink. The ratio of carbs to protein should be 3-4:1 (3-4 grams of carbohydrate to every one gram of protein). This has been shown to **double** glycogen stores.

One of the problems that tournaments present is that it takes a day to fully restore glycogen levels. However, a carb/protein drink will rebuild and restore better than any other food source. Most goals are scored in the final 15 minutes of a game, as do most injuries. This has been linked directly to glycogen depletion.

**POST GAME - Good replacement drinks include: Boost®, Ensure®, Carnation Instant Breakfast® drinks, and low-fat chocolate milk.**

**Get Hydrated**

Most players don’t drink enough water. You should never be thirsty. Players should be drinking water daily and not wait until the day of the tournament to start hydrating. Water can travel from the stomach to the skin in only 9-18 minutes (personal communications, 1996). A player is hydrated when their urine is clear.
During the season:

1. Watch your food choices, variation and amount. Be sensible with your foods and eat balanced meals. This includes breakfast, the most overlooked meal where nutritional guidelines are ignored.
2. Cool down and stretch after EVERY training session.
4. Get the recommended hours of sleep nightly.
5. Eliminate soda/pop from your diet.
6. Determine which healthy snacks will be on your “approved” list for the season and stick to them.

The week leading up to game/tournament:

1. Plan your week and outline your desired sleep routine.
2. Begin hydrating no less than 24-48 hours prior to your competition.
3. Wake up at a time close to your schedule for the weekend if competing early. Plan accordingly so that you can sleep no less than 8 hours per night.
4. Ensure that you sleep enough the two days prior to your completion. Plan as if it may be difficult to sleep the night before the event.

Night before your game/tournament:

1. Plan your breakfast and meals options for the weekend.
2. Pack some nutritious snacks in the event your meal plans are derailed and/or need a healthy snack during the event/tournament.
3. Hydrate (Water)

Pre-Game:

1. If a game is early, eat light (fruit, granola bar, peanut butter/jelly). Then have a sensible breakfast after the first game.
2. If games are later, eat a sensible breakfast (eggs, wheat toast, fruit, oatmeal, etc)
3. 1-2 hours before the game drink 16-24 oz of cold water.
4. Drink Sports drink in place of water or juice.
5. 10-15 minutes before the game drink 10 oz. of Gatorade®. Prior to or during the warm up go to the bathroom.

Throughout the game drink a sports drink (ie: Gatorade®, Powerade®). Drink 8 oz. every 15-20 minutes (this is obviously difficult). Hint: 1 gulp = 1 oz. **Athletic performance will decrease with sweat loss of as little as 1%**.
Recent research involving soccer players found that “those performing in stop and go sports could better concentrate if subjects drank sports drinks instead of water.”

In another study, sports drinks were consumed prior, midway during each half and during a 15 minute recovery period improved athletic performance in the latter session of the soccer related test.

Post Game:

Drink a replacement drink: Boost®, Ensure®, Carnation Instant Breakfast® drinks, low-fat chocolate milk. These drinks contain the necessary minerals that are lost through exercise, they also contain protein that is a muscle rebuilder and they contain carbohydrates.

Sample Menu

**Breakfast:** (2 hours before game)

Fruit smoothie- always best if you make them yourself. Mix water with OJ as it has a lot of sugar in it. Put in a couple of pieces of fruit and blend

Oatmeal or eggs with whole grain toast.

Fruit, particularly strawberries or bananas.

**Between Games:** (2-3 hours prior game)

Lunch: (choose from) Grilled chicken on a bun, turkey sandwich, baked potato, soup, salad, fruit, fruit smoothie. NO SODA or FRUIT JUICES.

Dinner: Grilled chicken or fish, pasta with red sauces (not Alfredo) or rice, lean steak, broccoli, beans.

Remainder of the day – continue to drink plenty of water, dinner should be high in carbohydrates (i.e. pasta) and moderate in fat and protein. You should also eat vegetables of some form.
Nutrition Guidelines for Athletes

What should my child eat and drink to gain a competitive edge?

This is a question pondered by many parents of child athletes involved in various activities. Often, parents, who have been bombarded with conflicting messages about nutrition with regard to weight management, in particular, are misinformed about what foods their children require for good health and/or the demands of regular physical activity and athletic competition.

Energy – calories in vs. calories out

According to the 2002 Dietary Reference Intakes, active pre-teen females (ages 6 to 12) require anywhere from 1600 to 2200 calories per day, while males of the same age range need 1800 to 2400 calories per day. More time spent in physical activity means more calories and other nutrients needed to support the demands of physical activity as well as normal growth and development. Luckily, most young athletes will naturally increase their food intake to accommodate the day-to-day nutrient needs of their sports participation.

Carbohydrates – the competitive edge

While many adults shun carbohydrates in the battle of the bulge, carbohydrates are the main source of fuel for muscles during exercise. Children should be offered carbohydrate-rich foods at each meal and snack…think pasta, rice, whole-grain cereals, breads, tortillas, bagels, low fat muffins, granola bars, crackers, pretzels, yogurt, milk, fruits, and 100% fruit juices. Be sure to include some whole grain varieties in your child’s repertoire (like brown rice, whole wheat breads, whole grain cereals, etc.) to help promote good overall health.

Protein – the building block

While protein is important for building muscle, proper immune function, and hormone production, excess protein that replaces much-needed carbohydrate can actually impair athletic performance. Young athletes get all the protein they need when eating a carbohydrate-rich, well-balanced and varied diet. Good sources of protein include chicken, turkey, eggs, cheese, milk, yogurt, dried beans and legumes, and lean meats.
**Fat – not too much, but not too little**

Some fat in the diet is necessary for good health and is also used as a source of energy during exercise and recovery. Healthy fats can be found in nuts and seeds, peanut butter, olive oil, canola oil (including trans-free margarine) and fatty fish, like salmon. Unhealthy fats are found in animal-based foods such as high fat dairy products and fatty meats; the tropical oils - coconut oil, palm or palm kernel oil; and trans fats, which are found in many commercially-prepared foods - anything with “partially hydrogenated” listed on the ingredient label.

**Hydrate – morning, noon and night**

Child athletes have special fluid needs due, in part, to the fact that children respond differently to exercise than adults do. For example, children have a lower sweat rate and a greater relative body surface area, so they produce more heat than adults, but are not as efficient at transferring this heat from the working muscles to the skin. In addition, children take longer to acclimatize, making them more susceptible to extreme environmental conditions. Non-carbonated sports drinks containing carbohydrate (sugar) and electrolytes (sodium and potassium) are recommended to help active children stay hydrated, particularly for endurance exercise and high-intensity exercise, and especially while exercising in the heat. Young athletes should be encouraged to drink 4 to 8 ounces every 15-20 minutes. Children should also be weighed before and after exercise, and should drink at least 16-24 ounces of fluid for every pound lost.

**Vitamins and Minerals – micro-nutrients are a big deal**

Physically active children typically come closer to meeting their requirements for vitamins and minerals than their non-athlete counterparts. The exceptions to this may be iron and calcium. This is especially true for endurance athletes and female endurance runners in particular. If exercise performance has declined, then blood levels should be checked for serum ferritin and hemoglobin, since non-anemic iron deficiency is prevalent in young athletes. Iron-rich foods include fortified breads, cereals and grains; lean meats and poultry; and dark green vegetables; and beans, nuts and legumes. Calcium-rich foods include low fat milk, yogurt, cheese, fortified soy milk, and dark green leafy vegetables.
Eat often – pre-exercise, during exercise, post-exercise

Active children need to eat often to fuel their smaller bodies for physical activity – a small meal or snack every 3 to 4 hours is a good rule of thumb. Pay particular attention to pre-exercise snacks to help provide fuel for physical activity, as well as the post-exercise snack and/or meal to help speed recovery. The pre-exercise snack should be high in carbohydrate and lower in protein, fat and fiber so that it’s easily digestible and well tolerated. Suggestions include granola bars, cereal snack mix, or a raisin bagel. The post-exercise snack or meal should give a moderate dose of protein in addition to carbohydrates to help maximize glycogen stores and repair muscle damage. Some ideas include fruit yogurt and banana, a turkey and cheese sandwich, or spaghetti with lean meat sauce. To find out what your young athlete tolerates best, experiment during training, not competition.

References:


Exercise: The Pre-Workout Meal

Everyone seems to have an opinion about what to eat before exercise. Information abounds. Personal trainers, magazines, news media, coaches, and every person in the gym has a philosophy about this topic.

Some say protein is essential to build muscle; others tout the importance of carbohydrate for immediate energy. Everyone agrees that water is important, but when and how to consume it varies, depending on whom you ask. Much research is performed with financial support from industry, with sometimes questionable credibility. The following guidelines are based on current nutrition research and strong empirical data.

For the majority of exercisers, those who perform cardiovascular or light strength training as physical activity for an average of 35-40 minutes, a few days a week, the most important thing is overall good nutrition. A strong foundation of a healthful diet is enough to provide sufficient energy, prevent fatigue, and aid in cardiovascular and muscle work.

A simple pre-exercise snack with plenty of water should fuel the body sufficiently. The best pre-workout meal is one that works best for the individual and is not digested too rapidly.

Try these ideas:

▪ A banana with 1 tablespoon of peanut butter
▪ Low-fat yogurt and a piece of fruit
▪ Oatmeal made with skim milk and fruit
▪ Trail mix with nuts and fruit
▪ Granola with low-fat milk and fruit
▪ A smoothie made with low-fat yogurt, fresh fruit, and wheat germ or flax meal
Pre-workout meal tips

The following are some ideas that you may want to try:

▪ Choose high-carbohydrate, low-fat foods—whole-grain, high-fiber foods, consumed a couple of hours prior to exercise, are ideal; some examples include:

  – Breads, Cereals, Yogurt, Oatmeal, Crackers, Pasta (NO Alfredo sauce),

▪ Avoid high-fat protein sources, such as fried meats, cheese, and hamburgers, because they take longer to empty from the stomach and may contribute to a sluggish or nauseated feeling

▪ Take time to digest your pre-workout meal—the blood used to digest foods in the stomach is required in the muscles for exercise; so, food will remain in the digestive tract longer if improper time for digestion is allowed

▪ Eat familiar foods prior to competitions and intense practices

▪ Use energy bars and protein shakes as alternatives to whole foods, but realize that the needed calories come primarily from sugars

  – The energy boost does not come from consuming the ingredients in these products, but from consuming the 200-300 calories needed in a pre-workout meal

  – These products are not more digestible than whole foods

  – Adequate water consumption is essential for complete digestion

Reference

Exercise: The Post-Workout Meal

Recovering from exercise is an important part of the athlete’s routine. Post-workout foods and drinks can affect recovery by affecting fatigue, repletion of glycogen stores, and preparation for future bouts of exercise.

For the recreational exerciser, one who exercises 3-4 days/week, overall good nutrition is most important for maintenance of glycogen stores, and so muscles will have enough time to rest and recover between workouts. For the more vigorous exerciser, one who exercises multiple times/day, performs competitively, or is in training for a sport, refueling muscle glycogen stores and assisting the body in recovery is of utmost importance. Repletion of nutrients lost through dietary intake is an essential component in maximizing the body’s performance.

Repletion of fluid loss

Repletion of fluid loss is the most essential part of recovering after a hard bout of exercise. Replacement of water lost through sweating and promotion of water balance are best managed by drinking water throughout the workout, as well as after exercise is completed. Good choices include:

- Gatorade, Powerade, Water, Watermelon, Grapes, Melon, Oranges

Repletion of muscle

To best promote repletion of muscle glycogen stores, consume carbohydrate-rich foods within 15 minutes after the workout has ended. These carbohydrate calories can come from foods or fluids. The following are some ideas:

- Orange juice and half bagel or slice of bread
- Sports drink and a fruited low-fat yogurt
- Cereal with milk and a banana
Protein repletion after a serious workout is less of a key player in the recovery diet, but a little protein can enhance muscle repletion initially after exercise. The American diet is ubiquitous in protein, and added protein is not essential in the post-workout routine.

**Repletion of sodium, potassium, and electrolytes**

Repletion of sodium, potassium and electrolytes (sometimes lost through sweating) is easy to do through foods. Supplementation generally is not recommended. The following are common recovery foods, which are high in essential electrolytes:

- Gatorade, Powerade, Yogurt, Orange Juice, Bananas

**Reference**