# BCST Nutrition
# Eating Correctly Takes Athletes To Another Level

Sports require more from athletes than just training, competing, and recovery. Accomplished athletes are masters of time management, discipline, and nutrition. Without time management skills, how could great athletes find a way to go to school, do homework, hang out with friends, train twice in one day, and still have time to themselves? Without discipline, who else would hold an athlete to their high standards for achievement and push them towards their goals? Without nutrition, how could any athlete even get out of bed in the morning? In this article we will talk to nutrition: the fuel of every good athlete. Most everyone can describe what is "good" food or "bad" food, but do you know which foods help you the most? More importantly, do you know why some foods help you more than other foods? Understanding what your body does during training and competition will help you make better nutritional choices.

Carbohydrates, protein, and fat supply our bodies with energy while vitamins, minerals, and water help our body access the energy found in those nutrients. During exercise, our bodies take most of their energy from carbohydrates and fats. The only time our body uses the protein is when carbohydrates and fats are in low supply. Time for protein uptake might include a period of too much training, or when an athlete chooses to eat poorly for a long period of time by not consuming enough calories. We want to stay away from spending up our protein stores.

While we train, our body uses oxygen to break down the fats and carbohydrates. Simply put, when we train slowly and the oxygen levels are high, the body will break up the fats. When we train hard and oxygen is in low supply, we use energy found in carbohydrates. Mostly, the body uses both methods on mixed levels during exercise to supply energy as efficiently as it can. Our body never turns-off fat consumption or carbohydrate consumption to work more on the other process. The type of exercise, or set, in practice will dictate which type of fuel will be used. If you are a tough competitor then you must be a tough trainer. Enough said! **The major fuel source for swimmers comes from carbohydrates.**

**Carbohydrates**

Most everyone knows what a carbohydrate is: pastas, rice, breads, etc. These are great, but do not forget fruits and vegetables. Colorful fruits and vegetables contain minerals and *anti-oxidants*. Anti-oxidants absorb muscle-damaging molecules (free radicals) created as a by-product to energy production during exercise. Yes, your body creates toxins that can damage your muscle tissue. In order to curve this "side effect" of exercising, eat a diet rich in colorful fruits and vegetables including: oranges, apples, bananas, most all berries, kiwi, broccoli, peppers, corn, squash, carrots, tomatoes, etc. USA Swimming recommends a carbohydrate intake accounting for a least 60% of a swimmer's total caloric needs.

The best time to eat carbohydrates is… all of the time. Spread your carbohydrate intake out over the entire day with smaller meals and frequent snacks to keep your blood sugar levels adequate and stable.

***Before morning practice***, eat some carbohydrates in the form of a fruit, fruit juice, or grain. ***During practice***, consume carbohydrates in the form of sports drinks containing 6-8% carbohydrates-electrolyte mixture by weight. Both Gatorade and Powerade meet this level. ***Within 30 minutes post practice***, eat a carbohydrate, or consume a sports drink. ***Within two hours post-practice***, eat a substantial meal containing carbohydrates.

**Fats**

Nearly every person in the United States knows what a fat is. Be wise in choosing your fat sources. Bad fats include saturated and trans fats, while the term good fats stands for monounsaturated fats and polyunsaturated fats. USA Swimming recommends a fat intake that accounts for 20-25% of your daily caloric needs. Look for "good fats" in olive, canola, peanut, corn, soybean, safflower, and cotton seed oils; olives, peanuts, cashews, almonds, most other nuts, avocados, and fish.

Eat your fats away from practice. That is, do not eat your fats close to the beginning or directly after practice (stay away from those vending machines kids). The fats are necessary, but they do not contribute to your immediate recovery and rebuilding needs either during or directly after practice. Choose these fats wisely.

**Proteins**

Just because proteins are not your primary source of energy for practice does not mean swimmers should not eat these. Endurance athletes, like swimmers, need a little more protein than the average person per day to help build muscle and repair muscles after exercise. USA Swimming recommends a swimmer in training to intake 12-15% of their daily calories from protein sources. A diet meeting these requirements will ensure the intake of all necessary amino acids. Use high quality sources for protein like meats, dairy, milk, eggs, grains, beans, etc. Recommended protein intakes can be met through diets alone *without* the help of protein or amino acid supplements. Extra protein is not readily stored but excreted and the energy swimmers use comes in the most part from carbohydrates. Work with a good diet, not a good supplement.

The most important time to consume protein is in the form of a snack **within *30 minutes post-practice***. This ***snack*** will help raise amino acid levels and therefore repair and build muscle tissue. The remainder of your caloric protein intake should occur during your major meals and some in your frequent snacks throughout the day.

**What about hydrating? When and what should I drink?**

Drinking during a workout, especially if the workout is over 90 minutes, will benefit the athlete greatly. Sipping on a fluid every 15-20 minutes during practice is great. In the longer practice, 90 minutes or more, a sports drink that is 6-8% carbohydrate-electrolyte solution provides a good balance in fluid and fuel. A strong sports drink, any drink with more than 6-8% carbohydrates, can inhibit fuel absorption and cause cramping. Gatorade and Powerade both meet the 6-8% criteria.

Do not forget to hydrate before and after practice. A cup of water or the remainder of your sports drink can help right after practice ***while*** you are eating your carbohydrate and protein snacks. When you are not at practice, hydration is very important too. Drinking another source of fluids while not at workout is a good idea. Try fruit juices, milk, soups, and water. Just remember to vary the drinks in your daily diet. If you use sports drinks during and after practice, use another type of drink during the day and at night. Juices are usually healthier than sports drinks because they have natural sugars. Remember that all of these drinks, besides water, add to your total daily caloric intake.

**Review: when do I eat what?**

Hopefully you now know what to eat and in what quantities, but when do you eat these things? Check out some reminders from USA Swimming:

1. **Spread your carbohydrate intake out over the entire day** in small meals and frequent snacks to keep your blood sugar levels stable.
2. Eat **some carbohydrates before morning practice** (perhaps a juice). This does not have to be a meal; it can be a simple snack. Too much food before practice or too little food can weigh, or dizzy, some athletes depending on their preference.
3. **Consume a carbohydrate in the form of a carbohydrate-electrolyte drink during workout** IF the workout is 90 minutes or longer. Remember a sports drink is defined as 6-8% carbohydrate-electrolyte solution by weight. Gels are acceptable and drinks consisting of equal parts water and fruit juice will do the job.
4. **The most important time to eat is the first 30 minutes post-practice.** Eat a snack consisting of carbohydrates and protein. This will replenish the glycogen stores and repair muscle tissue.
5. **Eat again, a substantial meal, before two hours post-practice has lapsed.** This meal is very *critical* in maximizing your recover from practice.
6. **Eat fats at times that are not close to workouts.** Fat is necessary, but it will contribute little during or right after practice in recover and rebuilding your body.

Nutrition is that simple for swimmers. USA Swimming recommends a daily caloric intake of mostly carbohydrates (60% daily caloric intake) high in colorful fruits and vegetables, some “good” fats (20-25%), and a little quality protein (12-15%). The hardest part of the process is when to consume the nutrients. The next most difficult task is the addition of variety to your diet to maximize nutritional value and minimize boredom. Always remember to drink; and drink healthy. Drink juices, water, milk and sports drinks. But stay hydrated.

If you are struggling with your nutrition and want to make a change but are uncertain: start slowly. Exchange that candy bar for a piece of fruit. Put down that ice cream cone and pick up a yogurt. Use whole grains and less enriched or processed carbohydrates. If you need more help, consult a professional nutritionist. There are many available in the community and even a couple here at the Bellevue Club who can help you start an athletic diet. Finally, research further. Maybe begin your research process by reading the sources to this article or looking deeper on the internet.

**Review: A nutritional day in the life of a swimmer.**

Below is a list of times swimmers should eat based upon USA Swimming recommendations. Check the list and see if you eat these nutrients at these times. Remember, this is a blue print and a guideline. Every swimmer has different needs.

**Before Practice** Eat some carbohydrates
*Example*: banana, *or* fresh berries in yogurt, *or* small bowl of oatmeal with raisins.

**During Practice** Consume carbohydrates every 16-20 minutes
Example: sipping sports drink (6-8% carbohydrate-electrolyte solution per weight), *and/or* gel pack, or drink mixture of equal parts fruit juice and water

**Within 30 minutes post practice** Consume carbohydrate and protein snack
Example: finish the sports drink and eat bagel with cream cheese, *or* carrots and peanut butter, *or* a little turkey sandwich with cheese, *or* colorful fruit and cheese, etc.

**Within 2 hours post-practice** Consume a substantial meal with carbohydrates, protein and fats.

**Frequent snacks (every 1.5-2 hr)** Mixture of a carbohydrate, little protein, little fat

**Smaller meals (breakfast, lunch, dinner)** Remember to spread caloric intake out over entire day rather than splurge on calories a few times per day. Meals include carbohydrates, proteins, and fats.

**Hydration** **Always stay hydrated.** Drink a combination of sports drinks (6-8% carbohydrate-electrolyte solution of weight), juices, soup, milk and water.

Further Research
http://teamnutrition.usda.gov/parents.html
http://www.mypyramid.gov

Sources
*This article has been a complete paraphrase and combination of articles found at:

http://www.usaswimming.org
http://www.hsph.harvard.edu/nutritionsource/fats.html