

Soy Protein and Sports Nutrition

05/11/2006 9:45 AM -

First, let's cover a few basics.

Soy protein comes from soy beans, which is obvious. It is a vegetable source of protein versus an animal or dairy source. Animal protein sources such as chicken, fish, or steak increase the workload on the kidney versus plant protein. Also, soy does not contain cholesterol and decreased amounts of fat compared to animal protein. In other words, it is better to get your protein from a plant source for many reasons.

Soy was first used as a food as early as 1134 BC. Soy was first consumed by the Chinese, and they considered it as one of the five sacred grains. Soy has been used to feed infants in this country since 1929. Soy contains fiber, calcium, zinc, iron, and vitamin E. It also contains phytochemicals, which are bioactive compounds that help the body in many ways. It is felt that soy may help the cardiovascular system, strengthen bones, and may help to prevent some cancers. Studies are ongoing.

Soy has all the essential amino acids. Essential amino acids are ones the body can not make on its own, so you have to eat them to get these building blocks of protein into your body.

Now, let's address how soy protein helps athletes.

First, soy can help build lean body muscle mass, and every athlete needs muscle to perform. It also will satisfy your hunger. Soy reduces muscle fatigue after exercise and muscle recovery time. It is a strong anti-oxidant. Anti-oxidants neutralize free radicals which are unstable compounds that develop during exercise and normal metabolism. These free radicals may contribute to fatigue, soreness, and muscle injury. Soy has been shown to protect against this oxidative stress and may help prevent injury. Soy is also a great source of iron. Iron deficiency is the most common mineral deficiency in athletes, especially women. Soy can protect against this, and boost your performance. If you are deficient in iron, you are more fatigued and tired. You will not be able to perform at peak levels. It is important to guard against this problem. I even suggest that if you are a female, you get a serum ferritin (blood test for iron levels) at least once a year. It is that big of a problem.

Soy is also high in branched chain amino acids (BCAA's), and arginine which increases the athlete's ability to build muscle mass. Soy is also high in glutamine, which is another amino acid that acts as the body's primary carrier of nitrogen to skeletal muscle. This is the key to stimulating muscle growth and buffering lactic acid. Soy protein isolate contains the highest concentration of glutamine among protein sources. Glutamine is so powerful that it is used in hospitals to speed muscle recovery and maintain muscle mass during periods of starvation and infection. Arginine and Glutamine are very valuable in building lean body muscle mass, which is desirable for all of us.

Instead of going to the OR today, I am going to provide the athletes with vital information about performance after the game. Here it is:

After exercise, working out, or a game, you deplete your muscle glycogen stores. This is the body's first source of energy. You **MUST** replace muscle glycogen within thirty minutes after physical activity, or you will lose that glycogen. If you don't eat in that thirty minute window, it takes your body 36 hours to replace the glycogen. It is also cumulative, which means that if you play every day, you will not have the energy you had from the beginning, and your performance will suffer. Eat at least ten grams of protein and about 35-50 grams of carbohydrate after exercise to replace this vital fuel. Especially watch out for games played away from home. Make sure you take Pro-Bites, fruit, yogurt, and a sports drink with you

to use after the game. You'll keep your same level of physical ability for the next day when you do this for yourself.

If you are female, get your serum ferritin drawn at least once a year. I also recommend you get a serum calcium level, as well. These are two minerals that women especially are prone to deficient levels.

By providing your body the best nutrition, you give yourself the best chance to succeed during physical activity and playing sports.

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. He also offers Pro-Bites for athletes and coaches at www.probites.com.