

Here's the Deal

Protein is an essential nutrient for athletes. Protein not only functions in the muscle-building process, but also plays many other roles in your body. It is involved in the repair of tissues including tendons, ligaments, and skin. Hormones, enzymes, and many structures in your body are also made of protein.

As an athlete, your protein needs are higher than those of people who are not training. And while it is critical for muscle development, more is not always better when it comes to protein. The process of building and repairing muscle tissue requires several key ingredients, including:

- Appropriate strength training
- Eating more calories than you are burning
- Consuming a balance of nutrients (carbohydrate, fat, AND protein)
- A consistent recovery nutrition plan

Get in the Know - Protein

- Provides essential amino acids (building blocks) for your body's cells.
- Keeps fluid in your cells in balance.
- Aids in making new tissues and muscle growth and repair.
- Transports important substances in the blood.
- Helps make important enzymes, hormones, and antibodies.
- Provides small amounts of energy during exercise.

If you consume too much protein, you put your body at higher risk of dehydration. It can also interfere with your body's muscle-building hormones, your energy level, and your body's ability to recover quickly after exercise. Eating too much protein could potentially cause kidney or liver damage.

TRUE OR FALSE?

Protein is a major source of energy during workouts

False. Lots of people think more protein equals more energy, but this isn't the case. In reality, protein

gives us less than 10% of the fuel our body uses during exercise. Higher amounts of protein are broken down only when your body really needs it. In other words, think of protein as a last resort for energy for your body.

When exercise is very long (over 2–3 hours), when you don't take in enough carbohydrates during long, intense exercise, or when you skip meals, your body may break down muscle protein for fuel. After all your hard work, the last thing you want to do is break down muscle!

Where can I get protein?

Protein is in common foods we think of such as meat, poultry, and eggs. But protein is available in many other sources too, including: milk products, foods made with soy protein, some energy bars and drinks, beans and peas, nuts, nut butters, and seeds. Smaller amounts of protein are also found in grains and vegetables.

When choosing meats, go for lower-fat versions like skinless chicken or turkey breast, sirloin, tenderloin, pork loin, ham or Canadian bacon, baked or broiled fish, and venison.

Make sure you eat a variety of protein sources to be sure you're getting all the different amino acids (building blocks of protein) your body needs.

Daily protein needs are based on your body weight and training routine. As a general rule, aim to eat a good protein source 3–4 times per day, remembering to choose a variety of different protein foods. Most importantly, remember that protein needs can almost always be met through foods. Protein supplements are usually not necessary.

In the budget: Protein "on the cheap"

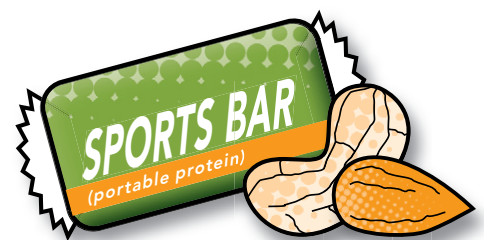
Help protein fit in the family budget with these great options:

- Eggs
- Skim or lowfat milk in gallon containers and dry nonfat milk powder to add to shakes and smoothies for a quality protein "boost"
- Beans—all kinds, any way you like them!
- Meats packaged in bulk
- Cottage cheese
- "Homemade" cheese sticks cut from blocks of cheese
- Fast food: roast beef sandwiches, grilled hamburgers, chicken or bean tacos or burritos, or grilled chicken sandwiches
- Peanuts, peanut butter, soy nuts, and sunflower seeds
- Canned tuna or chicken

On the go: Portable proteins

Try these protein sources when you're in a hurry or away from home:

- Pistachios, peanuts, almonds, walnuts, or soy nuts
- Peanut butter sandwiches
- Yogurt cups, cottage cheese cups, cheese sticks, or cheese cubes
- Beef/meat jerky and veggie jerky
- Instant breakfast drink packets (e.g. Carnation® Instant Breakfast®)
- High-protein cereals, such as Kashi® Go Lean®
- Canned tuna, salmon, or chicken
- Sports bars
- Sports shakes/recovery shakes



Bottom Line

- **Although protein is absolutely an essential nutrient for athletes, more is not always better.**
- **Protein needs, even for athletes, can usually be met through diet alone and do not require taking a supplement.**
- **Protein is in many foods that can be inexpensive to buy, quick to prepare, and easy to take on-the-go.**

This handout was designed by Sports Dietitians Michelle Rockwell, MS, RD, CSSD and Susan Kundrat, MS, RD, CSSD to provide general education. For specific concerns, refer to your sports medicine team.