



# Protein and the Athlete – How Much Do You Need?

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Whether running sprints, long-distance swimming or lifting weights, athletes expend more energy than the average person and their bodies need additional nutrients to recover from intense physical activity. Protein plays an important role in an athlete's diet as the nutrient helps repair and strengthen muscle tissue. Recently, high protein diets have become popular among athletes — especially those seeking a leaner, more defined physique. But how much protein is really necessary?

## Overall Diet

While protein is critical in building muscle mass, more is not necessarily better. Eating large amounts of lean protein will not equate with a toned body.

When determining protein requirements for athletes, it's important to look at the athlete's overall diet. During periods of both rest and activity, protein contributes about 10 percent of the total fuel an athlete's body uses. The remaining fuel used is made up of carbohydrates and fat. Athletes who consume diets adequate in both these nutrients end up using less protein for energy than those who consume a higher protein diet. This means that protein can go toward preserving lean body mass (i.e. that lean physique). So in order to retain muscle, athletes need to ensure they are also meeting needs for carbs and fat, not just protein.

## Activity

Muscle growth happens only when exercise and diet are combined.

For example, research has shown that timing of protein intake plays a significant role. Eating high-quality protein (such as eggs, dairy or soy) immediately after exercise — either by itself or with a carbohydrate — enhances muscle creation.

Duration and intensity of the activity is also a factor when it comes to protein needs.

Endurance athletes (such as runners, bikers and swimmers) tend to synthesize more protein for fuel while power (or strength) athletes (such as sprinters, weightlifters and CrossFitters) tend to synthesize less protein for fuel but retain more for muscle development.

Because they are building muscle, power athletes require a higher level of protein consumption than endurance athletes. “[Power] athletes' protein needs are highest during the initial training phases, when muscle gain is largest,” says sports dietitian Kelly Rossi, MS, RD, CSSD. “As any athlete trains more, their body's efficiency in using protein increases so they may not need as much.”

## Recommendations

While protein needs of both endurance and power athletes are greater than that of non-athletes, they're not as high as commonly perceived.

The Academy of Nutrition and Dietetics, Dietitians of Canada and the American College of Sports Medicine recommend the following for power and endurance athletes, based on body weight:

- Power athletes (strength or speed): 1.2 to 1.7 grams/kilogram a day
- Endurance athletes: 1.2 to 1.4 grams/kilogram a day

For an adult male athlete, that's about 84 to 119 grams of protein a day; for adult females about 66 to 94 grams.

By comparison, a sedentary adult male needs about 56 grams of protein a day; for females it's about 46 grams.

## Are Powders and Supplements Needed?

Most athletes can get the recommended amount of protein through diet alone, without the use of supplements. Protein powders and protein supplements are great for convenience, but are not necessary, even for elite athletic performance. For example, Rossi works with athletes at the University of Virginia and only relies on protein powders when athletes need immediate protein right after a workout and don't have time for a meal. “Whole foods are always best, but with a busy athlete trying to juggle a million things, it is more realistic to provide them with the convenient shake,” she says. “When someone has more time and motivation to plan, then the focus can be on more whole foods.”