

6 Symptoms of Low Protein—and How to Get More into Your Diet

Dead legs and lingering fatigue may be a sign to eat more of this important macronutrient.

BY [SELENE YEAGER](#) SEP 7, 2021



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Carbs and fat give your muscles the fuel they need to keep your motor running. Protein helps keep that engine in good working order by repairing and strengthening those quads, calves, and hamstrings after all the wear and tear you put them through.

Protein also does more than make your muscles. Regarded as one of the building blocks of life, protein makes *everything*. Each and every cell contains the essential amino acids that make up this macronutrient. You need it for muscle repair, immune system function, healthy blood, strong bones, and more.

According to the Dietary Reference Intake report, sedentary adults should get 0.8 grams of protein per kilogram of body weight daily, or about 0.4 grams per pound.

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“But that number is not based on an active person—certainly not a runner,” says sports nutritionist Leslie Bonci, M.P.H., owner of Active Eating Advice. “The ideal range for runners can be twice that amount.”

Indeed, the American College of Sports Medicine recommends 1.2 to 2.0 grams of protein per kilogram of body weight a day for athletes, depending on training, with the protein spaced throughout the day and after workouts. Research shows that regularly getting about 1.6 grams per kilogram per day “promotes favorable muscle adaptations to exercise training.” That works out to be about 110 grams per day for a 150 pound (68 kg) athlete.

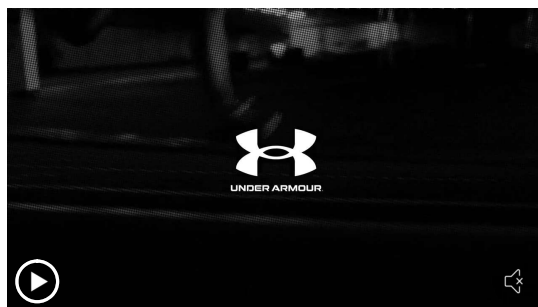
Though most Americans aren’t protein deficient, runners can run the risk of dipping into the danger zone, Bonci says.

“If you’re barely getting the general recommended amount, you’re going to be falling short of what active people need,” she says. And when you do, your performance and general health takes a hit.

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if they're avoiding soy and gluten—both sources of non-animal protein. Additionally, plant-based foods don't always contain the same amount of protein as the foods they're substituting. A [five-ounce container of milk-based yogurt](#) can contain 14 grams of protein, while a similar serving of almond or coconut-based yogurt contains just one gram—or none, according to [Today's Dietitian](#). So it's important to read your labels.

Unlike cars that are equipped with dashboard lights to let us know when our essentials are running low, we humans are left to our own devices. Here are six symptoms of low protein to look out for, plus what you can do to boost your intake.

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1. You keep getting injured

When you eat protein, your muscles take the amino acids and use them to rebuild and repair. Without enough protein, they're left vulnerable to injuries like tears, Bonci says.

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[Research shows](#) that low protein intake is also a risk factor for bone injuries, such as [stress fractures](#). [One study on female distance runners](#) shows that increased [calcium](#), [vitamin D](#), and protein is [linked to increased bone mineral density](#) and protection from stress fractures, and that protein may improve calcium absorption for stronger bones. A 2018 [research review](#) found that exceeding the minimum daily recommendation is associated with less bone loss, stronger bones, and lower risk of hip fracture even in adults with osteoporosis.

2. Your muscles have gone MIA

Your body needs protein to live, and if you don't give it adequate amounts, it will break down your muscles to get it. "If you're seeing body composition changes where you're losing muscle, but hanging onto fat, that's a sign you're not getting enough protein," Bonci says.

3. You cannot revive your dead legs

When your legs simply will not come around, it's a sign that you're not recovering properly. Protein—especially [within an hour of a hard run or workout](#)—is a big part of that picture, says [Stacy Sims, Ph.D.](#), senior research associate at Auckland University of Technology in Auckland, New Zealand.

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"Protein helps you recover better and avoid dead legs—especially when you consume it in that window because it stops your exercise-induced catabolic [muscle breakdown] response; it facilitates muscle repair, and it helps to restore your body's glycogen stores, since protein enhances your body's ability to replace glycogen." she says.

4. You seem more susceptible to getting sick

Amino acids are the building blocks of antibodies, which help you fight off infections, such as the upper respiratory infections (URTIs) that commonly follow hard training blocks and races like [marathons](#).

"Not hitting your protein needs makes you more prone to these upper respiratory infections," Sims says.

[Research on cyclists](#) shows that doubling protein from 1.5 grams per kilogram to 3 grams per kilogram during a high-intensity training week was associated with fewer symptoms of URTIs. The researchers concluded that a high protein diet might reduce the incidence of URTIs in athletes by preventing training-induced impairments to the immune system.

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5. You feel tired and weak

It's well known that [iron is essential](#) for hemoglobin and healthy red blood cells, which carry oxygen to your hard working muscles. But you may not realize that protein is part of that picture, Bonci says. "Protein is part of hemoglobin, which is in your red blood cells and carries oxygen. You need protein as well as [iron](#)."

6. You're hungry all the time

"One of the things people notice when they're not getting enough protein to support their training is that they're hungry all the time," Bonci says. "Protein is critical for satiety. Without enough, you'll just keep piling food on your plate without feeling satisfied." [Research](#) shows that protein, even more so than fat, is the most effective macronutrient for providing satiety.

How to get more protein in your diet

Your body can only process so much protein at one time, so it's important to spread it throughout the day. Your

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protein for [recovery](#).

"Aim for 20 to 30 grams at each meal," Bonci says. "You want to be getting some protein in at least every four or five hours." Older athletes, especially women who are in the menopause transition, need to aim for the higher ends of the recommended protein ranges.

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"As estrogen drops, it's harder for women to build and maintain muscle and they need more protein," says Sims, who recommends aiming for 30 grams at each meal and 15 to 20 grams in your snacks, which is in line with research on [maintaining muscle with age in general](#).

Protein comes in two varieties, complete and incomplete. Complete protein sources are those that contain all nine amino acids. You can find complete proteins in:

- ▶ **Meat**
- ▶ **Poultry**
- ▶ **Fish**
- ▶ **Eggs**
- ▶ **Most dairy products**
- ▶ **Soybean foods like edamame and tofu**

Plant sources are usually incomplete sources, meaning they're missing some amino acids:

- ▶ **Nuts and seeds**
- ▶

Beans and other legumes like peas

- ▶ **Whole grains (with the exception of quinoa)**
- ▶ **Vegetables**

The foods we naturally eat in concert, such as beans and rice and [peanut butter](#) on bread work together to make a complete protein. There's no need to stress about combining foods to make a complete protein at every meal.

"As long as you eat all the amino acids you need within a day, you'll get the complete protein you need," Bonci says.

If you're having trouble hitting the mark, or you don't feel like eating a plate of beans after a long run, especially during heavy training weeks, protein powders can help.

Mixing a scoop of protein powder into a nut butter on a slice of bread can be an easy way to replenish that won't

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smoothie provides protein along with carbs and liquids, which is everything you need for replenishment after a long run."

SELENE YEAGER "The Fit Chick"

SELENE YEAGER IS A TOP-SELLING PROFESSIONAL HEALTH AND FITNESS WRITER WHO LIVES WHAT SHE WRITES AS A NASM CERTIFIED PERSONAL TRAINER, USA CYCLING CERTIFIED COACH, PN1 CERTIFIED NUTRITION COACH, PRO LICENSED OFF ROAD RACER, AND ALL-AMERICAN IRONMAN TRIATHLETE.

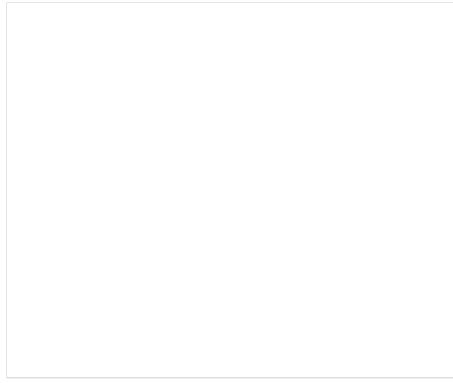
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