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How much protein do you really need?

The nutrient builds and repairs muscle after your workout, but studies are now linking too much protein to health dangers like heart disease. So now what? *Shape* investigates.

By LESLEY ROTCHFORD

It's no big secret that protein is crucial for fit women. "It contains essential amino acids that help create muscle, maintain bone health, and keep blood pressure in check," says Nancy Rodriguez, Ph.D., R.D.N., a professor of nutritional sciences at the University of Connecticut. The nutrient can also help keep you slim. Protein is slower to digest than carbohydrates, so a relatively small amount will keep you full for hours, plus your body actually burns calories in order to digest and use it.

There seems to be a clear-cut case for the benefits of protein, but here's where things get complicated: A growing body of evidence indicates that you can have too much of a good thing. "High amounts of protein can increase your level of growth hormone, insulin, and TOR, an enzyme that accelerates aging, all of which may promote tumor growth," says Valter Longo, Ph.D., a professor of gerontology and biological sciences at the University of Southern California. His research found that adults who get more than 20 percent of their total calories from animal protein have a four times greater risk of dying of cancer than those who get less. Loading up on the nutrient can also increase your chance of heart disease, according to a study in the *Journal of Internal Medicine*.

The key words in this research are *animal protein*, however. Scientists are finding that the type of protein you eat can make all the difference. In a study in the *Archives of Internal Medicine*, for instance, a higher intake of red meat, especially processed red meat, was associated with cancer and cardiovascular death. (The meat lovers were also less likely to be physically active and more apt to have a poor diet overall.) Eating less-processed types of protein was linked to a lower risk of mortality. So where does that leave you and your diet? "Animal protein is the most complete kind because it has the nine essential amino acids in the correct proportions that your body needs to function. To get the health benefits of

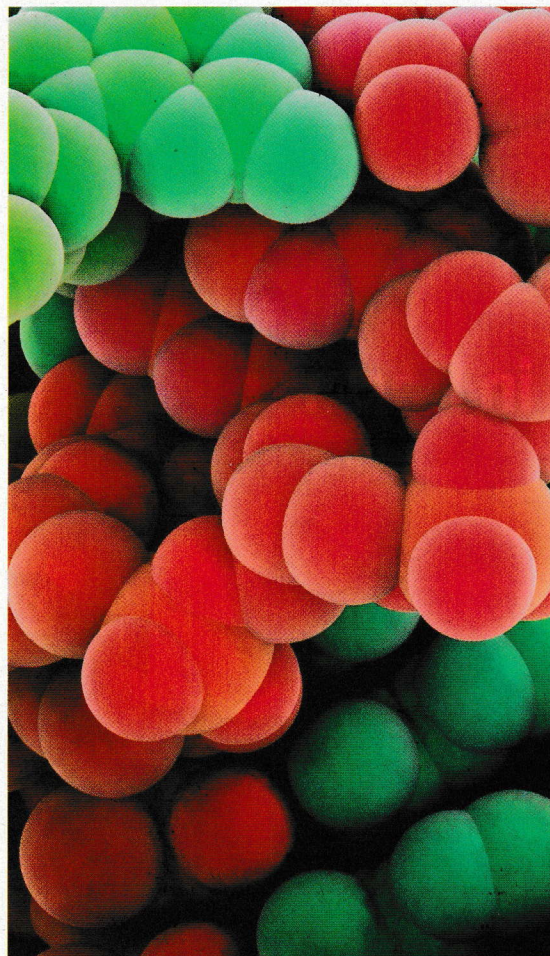
protein, you should focus your diet on lean meats, poultry, fish, eggs, and dairy, but eat high-fat and processed meats sparingly," suggests Donald Layman, Ph.D., a professor emeritus in the Department of Food Science and Human Nutrition at the University of Illinois Urbana-Champaign,

Plant-based protein delivers different nutrients than the animal type does, but it doesn't usually contain all nine essential amino acids in the amounts we need. Luckily, the fix is simple, Rodriguez says: Combine plant proteins to make up the difference. For example, top spelt (11 grams of protein per cup) with black beans (eight grams per half cup), or add peanut butter (four grams per tablespoon) to oatmeal (six grams per cup).

But watch your calories. "A three-ounce serving of chicken has about 21 grams of protein and 200 calories," Rodriguez says. "Getting that much from peanut butter is going to cost you around 600 calories." Lighter options exist though, such as edamame, Greek yogurt, and tofu.

Your protein plan

Now that you know what sources of protein to eat, how much should you aim for without going overboard? The recommended dietary allowance is 0.36 grams of protein per pound of body weight, meaning that a 140-pound woman requires at least 50 grams a day, an amount that most adult women hit easily, according to the U.S. Department of Agriculture. "But that's the absolute minimum, the lowest amount you should consume to prevent a deficiency," Layman



ACID TEST Of the 20 amino acids you need in order to grow and repair muscle, there are nine that you can get only from dietary protein. Fall short on one and you run the risk of symptoms like fatigue and muscle weakness.

says. "Most people need more for optimal health and muscle maintenance."

That's especially true for women who exercise regularly, because their bodies require extra protein to build and repair muscle. "Active women should try to eat 0.5 to 0.7 grams of protein per pound of body weight a day," says sports nutritionist Andrew Jagim, Ph.D., an assistant professor of exercise and sport science at the University of Wisconsin-La Crosse. For a 140-pound woman, that's 70 to 98 grams daily. To determine exactly how much you need →

SHOULD YOU USE PROTEIN POWDER?

IF YOU'RE short on time after your workout, this powder is a healthy, convenient way to boost your intake of protein. Opt for whey protein powder, which is milk based, suggests Andrew Jagim, Ph.D., a sports nutritionist. "It has the highest amount of amino acids, and your body digests it quickly, so you get the benefits almost immediately," he says. If you're lactose intolerant or a vegan, try pea protein powder, which is similar to whey in terms of the protein it contains. But check calories and sugar content. "Choose a powder that has 100 to 150 calories and less than four grams of sugar per scoop," says Brooke Alpert, R.D.N., the founder of B Nutritious, a nutrition counseling company in New York City.

Whey and pea protein powders give you the biggest benefits post-workout.



Top: Science Photo Library/Offset.com Bottom: Getty Images

within that range, consider the type of workouts you do. If you take barre or yoga classes a few times a week, go for the low end, Jagim suggests. If you're training for a marathon or a triathlon, shoot for the top. Recreational runners, bikers, and swimmers and those who Spin or take other tough cardio classes should try for the middle.

Time it right

Eat some protein at each meal and snack rather than consuming most of it at dinner, which is what many people do. "Your body is breaking down muscle all day long," Rodriguez points out.

"Eating the bulk of your protein at dinner can't make up for the damage that occurred earlier." Plus, your body can utilize only so much of the nutrient at once. When you eat a day's worth in a single sitting, some of it goes to waste.

Active women should consume 20 to 30 grams of protein at each meal, based on their weight, Rodriguez recommends (the smaller you are, the fewer grams you need). That's the equivalent of a three- to four-ounce piece of lean red meat, poultry, or fish; a three-egg omelet with an ounce of cheese; or five ounces of cottage cheese topped

Eating salmon for lunch doesn't mean you can skip protein at dinner. Aim to eat 20 to 30 grams at each meal.

with an ounce of almonds. If you prefer to have several small meals, shoot for 10 to 20 grams of protein at each one for a daily total of 60 to 90 grams.

Make sure to have a protein-rich meal or a snack after your workout to boost muscle recovery, Jagim advises. You don't have to chow down within 30 minutes of your sweat session to get the benefits, as you've probably heard. If you can't grab something right away, it's fine to wait up to two hours to eat, Jagim says. Stretch, head home, and take a shower, then grab a string cheese and a handful of nuts and get your protein fix. ★



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