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What Is Protein? And Why Do I Need It?

Protein is considered the building block of life and is found in every cell of the body.

Protein is made up of amino acids that are attached to one another in long chains. There are 20 different kinds of amino acids, and the sequence in which the different amino acids are arranged helps determine the role of that protein.

The Role of Protein

Transporting molecules throughout the body

Helping repair cells and make new ones

Protecting the body from viruses and bacteria

Promoting proper growth and development in children, teenagers, and pregnant women

Without filling your diet with appropriate amounts of protein, you run the risk of missing out on those key functions. Eventually, that could lead to problems, such as a loss of muscle mass, failure to grow, weakened functioning of the heart and lungs, and even early death.

Essential amino acids (the ones your body can't make on its own and needs to get from food) can be found in the food you eat. To source them, you need to fill your diet with a variety of protein-rich foods,

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which isn't hard to do since protein is naturally found in many nutritious foods — many of which are likely already part of your regular diet. When you eat, your body will take the protein from the food and break it down into amino acids that can be used by the body.

How to Calculate Your Recommended Protein Intake

The Recommended Dietary Allowance (the amount to meet the nutritional needs of almost all healthy people) is 0.8 grams (g) of protein per kilogram (kg) of body weight.

To calculate the target number of grams of protein you should eat each day, take your body weight in pounds and multiply it by 0.36. The result should get you within the recommendation to source 10 to 35 percent of your daily total calories from protein. Usually that means having dairy at each meal plus a piece of meat the size of a deck of cards — that's 3 ounces (oz) — or the equivalent amount of plant-based protein at lunch and dinner.

Keep in mind that these recommendations may change depending on age and health. (2) The recommendation changes for athletes, too. People who exercise frequently or are training for a race need to increase their protein intake to between 1.1 and 1.7 g per kg of body weight daily. Anything over 2 g per kg of weight is considered excessive.

Symptoms of Protein Deficiency

Protein deficiency occurs when you don't eat enough protein. The most severe cases result in a form of malnutrition called kwashiorkor. Usually, this affects people in very poor countries that don't have enough food to sufficiently feed the people.

Symptoms of protein deficiency include:

Delayed growth

Loss of muscle mass

Thinning hair

Edema, which is swelling that results from excess fluid inside the body's tissues

Those who follow certain types of diets need to pay attention to their protein intake. Vegans and vegetarians have to make sure they're sourcing enough of the macronutrient. Meat is such an abundant

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source of protein that forgoing meat means these eaters will need to find protein elsewhere. Luckily, there are plenty of plant-based protein sources, including beans, nuts (such as walnuts, pecans, or almonds), and tofu, to make it easy for non–meat eaters to get their fill. Dairy foods are also rich sources of protein for vegetarians.

The Role of Protein in Weight Loss and Weight Maintenance

One of the reasons protein is so popular and the cornerstone of many buzzed-about diets is because of its potential link to weight loss.

Over the past two decades, countless studies have shown that protein may help people lose weight or maintain weight loss because:

- Consuming more protein has a positive impact on resting metabolism.
- High-protein foods increase feelings of fullness. As a result, people eating a enough protein may take in fewer calories over the course of the day and lose weight if they end up at a calorie deficit.

To be specific, researchers have found diets that contain between 1.2 and 1.6 g of protein per kg of weight each day — and about 25 to 30 g of protein per meal — have been shown to help with body weight management.

The Best Sources of Protein, From Foods to Supplements

When you're choosing your protein source, be sure to pay attention to the food's fat content. Skinless poultry and fish, for instance, are better choices than red meat because they don't have high levels of saturated fat, which can be dangerous in excess because it can increase the LDL, or "bad" cholesterol in your blood.

You can easily up your intake of protein by changing what's on your plate. The percentages listed here are based on the daily value (DV) of 50 g of protein per day (that's an estimate of how much an average adult needs):

1 cup nonfat Greek yogurt (46 percent DV) (13)

3 oz tilapia (33 percent DV) (14)

½ cup chickpeas (32 percent DV) (15)

3 oz chicken breast (32 percent DV) (16)

½ cup cooked black beans (15.24 percent DV) (17)

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2 tablespoons peanut butter (14 percent DV) (18)

1 egg (12 percent DV) (19)

¼ cup almonds (12 percent DV) (20)

½ cup unflavored oatmeal (10 percent DV) (21)

½ cup quinoa (8.14 percent DV) (22)

Top Sources of Protein Beyond Whole Foods

Even though protein is found in many whole foods, there are hundreds of manufactured protein-packed items. Protein powders, protein energy bars, and even protein-boosted breads, pancake mixes, and chips are available to you.

These products may be appropriate for certain people who are supposed to take in more protein than the usual recommendation. Athletes, for instance, may benefit from ingesting protein within an hour of working out. A study published in the American Journal of Clinical Nutrition showed that a large single dose of 25 g of protein after exercise can increase muscle protein synthesis. That could explain why protein shakes are so often associated with body builders and gym rats.

Elderly people who have trouble eating and drinking enough protein during the day, sometimes as a result of a decreased appetite, can also benefit from high-protein products and shakes, according to an article published in the magazine Aging Well. Protein is important for this group because the body's protein stores naturally decline as people age. In fact, people lose 3 to 8 percent of their lean muscle mass each decade after age 30, per a review published in the journal Current Opinion in Clinical Nutrition & Metabolic Care. Without enough protein, these older adults may experience general weakness (including an increased risk of falling), fatigue, decreased mobility, and weakened immune systems.

Here's the fix: Taking in 25 to 30 g of high-quality protein per meal can help stimulate protein synthesis for these older adults. Protein supplements can be especially helpful in hospitals and can reduce the risk of developing pressure ulcers.

Word to the wise: Study the nutrition label before digging into protein shakes and other supplements. Just because a product is high in protein doesn't necessarily make it healthy all around. Look for protein supplements that are no more than 200 calories, have fewer than 2 g of saturated fat, and no more than 5 g of sugar.

Extracted from the great site www.everydayhealth.com
See the full article at https://www.everydayhealth.com/diet-nutrition/protein-how-much-you-need-benefits-sources-more/

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Also, because supplements aren't regulated by the Food and Drug Administration (FDA), there's no oversight checking to make sure the products live up to the claims on their packaging, so take these with a grain of salt and be sure to talk to your healthcare team before adding them to your diet.

Experts say it's a good idea to lean on whole foods rather than processed foods to source your protein, as whole foods offer nutritional benefits that the man-made options don't provide.

DON'T OVER DO IT

Even though protein is generally healthy, it's possible to overdo it. Many people pay attention to the benefits of protein and figure there's no harm in stocking up. The problem is that the body doesn't know what to do with the excess amounts of protein, and it could end up harming the bones, kidneys, and liver.

Experts say a high-protein meal with about 40 g of protein doesn't benefit the body any more than one with 15 to 25 g of protein would, so there's no upside to going overboard.

There are, on the other hand, a few potential downsides. Too much protein can lead to:

- Kidney stones
- Bone loss
- Too much calcium in the blood stream
- Liver complications
- Meat-heavy diets (which are high in protein), such as the carnivore diet, can also be dangerous and increase one's risk of developing coronary heart disease and cancer, particularly breast, bowel, and prostate cancers.

Protein and Food Allergies: What to Know

Food allergies occur when the body's immune system attacks certain food proteins. (29) Your body will fight back by making its own proteins, called IgE antibodies, or immunoglobulin E. If you have an allergy to a certain protein, the next time you eat or drink something containing that protein, you'll experience an allergic reaction, such as itchiness or trouble breathing.

Many of the most common food allergies are associated with foods that are high in protein, such as eggs, peanuts, tree nuts, and fish.