

[IMAGE]

Protein: One of the Body's Key Building Blocks

By Dr. Donald Hayes

Protein is an important building block, comprising about 16 percent of our total body weight. Muscle, hair, skin and connective tissue consist primarily of protein, and protein plays a major role in all of the cells and most of the fluids in our bodies. Enzymes, hormones, neurotransmitters and even our DNA are at least partially made up of protein.

Although our bodies are good at "recycling" protein, we constantly use it up, so we need to replenish it. Protein is composed of smaller units called *amino acids*. Our bodies can't manufacture nine amino acids, so it's important to include them in our diets. Animal proteins such as meat, eggs and dairy products contain all the amino acids. By combining vegetable-source proteins such as rice, beans, peas and others, a complete vegan/vegetarian option is available as well.

How Much Protein Do We Need?

Our protein requirements depend on our age, size and activity level. The typical American diet provides plenty of protein - more than the recommended daily allowance (RDA) in most instances. The RDA represents the minimum amount of protein needed to fulfill protein needs in 97.5 percent of the population. This value is equal to 0.8 g of protein per kilogram of body weight per day. Accordingly, a person weighing 150 lbs. should eat 55 grams of protein per day, a 200-pound person should eat 74 grams, a 250-pound person should eat 92 grams, and so on.

image - Copyright © Stock Photo / Register Mark The average mixed American diet provides from one to two times the RDA for protein. You might think, based on this, that protein deficiency is unlikely in the U.S. However, the RDA for protein has been derived from research studies performed on healthy individuals. Growing children, pregnant and lactating women, the elderly, and anyone undergoing severe stress (trauma, hospitalization or surgery), disease or disability need more protein.

Protein Powders and Meal Replacement Shakes

As supplement companies improve the quality of their protein powders and more people seek convenience while trying to eat right, the thought of meal replacements making up a portion of the protein in your diet makes sense.

There are times when it's a good idea to use a protein-powder supplement, such as first thing in the morning as part of a well-balanced diet instead of skipping breakfast or eating a high-calorie, high-fat fast food item. It's also a good idea right after you finish a workout. The reason it's ideal in these cases is because the protein in the shakes will be absorbed easily by your body, which is exactly what you want. Protein powders also can be beneficial for vegetarians who don't eat any animal products. Sometimes it can be hard for vegetarians to consume enough dietary protein unless they are paying careful attention to their diet. By supplementing their diets with protein, they can make sure they don't start losing muscle mass due to low protein intake.

What Protein Powder Should You Use?

When you walk into a health food store or a discount vitamin chain, are you overwhelmed by the rows of different protein powders? Picking the right protein powder can feel like a confusing game of science. Asking your doctor is always the best option when it comes to supplementing your diet, but allow me to clear up some of the confusion by explaining the good and bad of the various types of protein powders. The most popular types of protein used in protein powders are whey, rice, pea and soy. Protein powders can contain one of these or a mixture of two, such as rice and pea or soy and rice.

Whey: Whey protein is derived from milk and is the most commonly used protein supplement. It contains all nonessential and essential amino acids, as well as branch-chain amino acids (BCAA). Your muscles absorb whey easily and it is extremely safe to use. Whey protein might not be appropriate for those who have a milk allergy or who can't tolerate lactose. There are two categories of whey protein powders: concentrate and isolate. [image - Copyright © Stock Photo / Register Mark](#) The concentrate form is more widely used, easier to find and less expensive. It contains approximately 30 percent to 85 percent protein. Whey isolate is a higher-quality protein and is, therefore, more expensive. It contains more than 90 percent protein. Whey isolate is even more easily absorbed by the body and contains less fat and lactose.

Rice: Rice protein is derived by carefully isolating the protein from brown rice. It's a complete protein containing all essential amino acids and nonessential amino acids. Rice protein is hypoallergenic, which makes it suitable for everyone.

Pea: Pea protein is a natural, vegetable-based protein powder derived from yellow peas, commonly known as "split peas." Pea protein is a hypoallergenic protein that yields a high biological value (65.4 percent), which is an accurate indicator of the amount of protein absorbed. High-biological-value proteins are a better choice for increased nitrogen retention and enhanced immunity. With proper extraction and purification, pea protein can be concentrated from a normal level of 6 percent in fresh peas to 90-percent protein content. This process produces a protein powder that is highly soluble and easy to digest. Pea protein is ideal for vegans, offers an excellent nutritional profile, and is free of gluten, lactose, cholesterol and other anti-nutritional factors.

Soy: Soy protein is derived from soy flour. Similar to whey protein, soy protein comes in two types, the concentrate and the isolate, with the isolate being the more expensive form. Soy protein contains a natural chemical that mimics estrogen. Three cancer studies funded by the National Institutes of Health revealed estrogen-dependant tumor growth increased as the amount of soy isoflavones increased. A study published in 2000 by the American Association for Cancer Research compared soy to whey and concluded, "Whey appears to be at least twice as effective as soy in reducing both tumor incidence and multiplicity." This news, coupled with concerns over soy protein negatively influencing thyroid function, has profound ramifications with respect to choosing a protein-powder supplement.

Animal or Vegetable Protein Foods

These are the two major protein sources. Animal-protein foods include meat, poultry, fish, dairy products and eggs. They are said to be of high biological value. Plant-protein sources, eaten together, enable a person to meet the standards of a high-biologic-protein diet.

If you choose to eat protein from dairy and/or meat, try to consume 12 ounces or less each week of fish, white-meat chicken or turkey. Eat beef as little as possible. If you desire dairy in your diet as a source of protein, use only fat-free dairy such as skim milk or nonfat yogurt, and limit it to 12 ounces per week.

Remember to always eat breakfast, even if you only have time to shake up a wholesome, low-fat, high-power protein and vegetable drink mix before racing off to work. Supplementing your diet with a high-quality protein powder made from whey-protein isolate or a combination of rice and pea protein can make a busy lifestyle a healthy one. When in doubt of the best protein-powder supplement to use, remember to always ask your doctor.

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