



# The 10 Facts You Need To Know About Protein

Protein plays a vital role in maintaining overall health. But do you know how or why? Find out with our 10 Protein Facts, and understand the daily role of protein in your diet!



## 1. WHAT IS PROTEIN?

Protein is an essential nutrient composed of individual building blocks known as amino acids. There are 20 different amino acids, 9 of which are essential (must be supplied by the diet), and 11 which are non-essential (they are made by the body). Unlike carbohydrate and fat, protein cannot be stored in the body; therefore, it's important to consume protein with each meal and snack to get the protein you need every day.<sup>1,2</sup>



## 2. FUNCTIONS IN THE BODY

Protein is a key structural component of muscles, bones, hair and nails. It's a major functional and structural component of all cells in the body, and is a part of enzymes, membranes, transport carriers and hormones. Protein is also important in the function of immune cells, the maintenance of fluid and acid-base balance, and in the transport of nutrients throughout the body. Due to its diverse roles, protein is a dynamic and critical nutrient.<sup>1,3-7</sup>



## 3. IMPACT ON HEALTH

Due to its critical functions, consuming optimal amounts of protein has been shown to help preserve lean body mass, stimulate muscle protein synthesis, support bone health, and aid in weight management. Protein is also essential to help speed recovery from illness or surgery after hospitalization, help in recovery from falls and fractures, and promote wound healing. Research also suggests that protein plays a key role in supporting healthy aging.<sup>3-8</sup>



## 4. DIGESTION & ABSORPTION

Protein digestion starts in the stomach and is completed in the small intestine. During the process, proteins are broken down into amino acids by specific protein-digesting enzymes. The amino acids are then absorbed into the bloodstream to be used by individual cells for the re-assembly of new proteins involved in specific functions. Proteins in lean tissue are constantly broken down and re-synthesized to be recycled and reused.<sup>1,8,9</sup>



## 5. DAILY REQUIREMENTS

The amount of protein each person needs is dependent on factors such as age, weight, activity level and health status. For healthy adults 19+ years, the minimum protein needs are defined by the recommended dietary allowance (RDA)—which is 0.8 grams of protein per kilogram of body weight per day (0.36 grams of protein per pound). So, for a healthy 50-year-old, 150-pound woman, her minimum protein needs would be 54 g of protein per day.<sup>1,8,10</sup>



## 6. PROTEIN & CALORIES



Protein is one of three essential nutrients that provides calories. Each gram of protein and carbohydrate provides 4 calories, and each gram of fat provides 9. The acceptable macronutrient distribution range (AMDR) for protein is 10–35%, which means a minimum of 10% and up to 35% of total calories should come from protein. So if you're consuming a 2,000-calorie diet, the amount of calories coming from protein would be from 50–175 g per day.<sup>1,10,11</sup>

## 7. ANIMAL & PLANT SOURCES



Protein is found in various food sources that are either animal- or plant-based. Animal sources of protein include chicken, pork, beef, fish, eggs and dairy products such as milk, yogurt and cheese. Plant sources of protein include soy, whole grains, nuts and legumes. The amount of protein depends on the source and serving size. For example, ¼ cup cashews has 5 g protein, 1 cup skim milk has 8 g protein, and 3 oz chicken has 26 g protein.<sup>12,13</sup>

## 8. HIGH-QUALITY PROTEIN



High-quality protein is considered complete protein because it contains all the essential amino acids needed for health, whereas incomplete protein lacks one or more essential amino acids. In general, animal sources are considered high-quality protein, whereas most plant sources are not because they have incomplete protein. The exceptions are soy and quinoa. Experts recommend consuming a variety of protein sources to meet daily needs.<sup>1,12,13</sup>

## 9. IS MORE BETTER?



If excessive protein is consumed, the amino acids are converted to both lipids (stored as fat) and glucose or glycogen (a storage form of carbohydrate). Eating excessive amounts of protein may come at the expense of other nutrients the body needs. That said, the average U.S. adult consumes about 15% of total calories from protein, whereas a minimum of 10% and up to 35% of total calories may be sourced from protein in a balanced diet.<sup>1,8,10,11,14</sup>

## 10. REQUIREMENTS FOR OLDER ADULTS



For adults 65+ years, international expert groups recommend higher protein intakes to support healthy living, specifically 1.0–1.2 grams of protein per kilogram of body weight per day (about 0.5 g of protein per pound). Thus the protein needs of a healthy 65-year-old, 150-lb woman would be about 75 g protein per day. Getting optimal amounts of protein with each meal (20–35 g) and snack can help maximize protein synthesis and preserve muscle.<sup>2-4,8,10,15</sup>

1. IOM, NAS. *DRI Intakes for Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids*. 2005. Available at [www.nap.edu/read/10490/chapter/1](http://www.nap.edu/read/10490/chapter/1). 2. Arentson-Lantz E et al. *Appl Physiol Nutr Metab*. 2015;40(8):755-761. 3. Bauer J et al. *J Am Med Dir Assoc*. 2013;14(8):542-559. 4. Deutz NE et al. *Clin Nutr*. 2014;33(6):929-936. 5. Hannan MT et al. *J Bone Miner Res*. 2000;15(12):2504-2512. 6. Bonjour JP. *Horm Mol Biol Clin Invest*. 2016;28(1):39-53. 7. Timmerman KL. *Am J Clin Nutr*. 2012;95:1403-1412. 8. Phillips, SM. *Front Nutr*. 2017;4(13):1-10. 9. Slesinger MH and Kim YS. *NEJM*. 1979;300:659-663. 10. Paddon-Jones D, Leidy H. *Curr Opin Clin Nutr Metab Care*. 2014;17(1):5-11. 11. Wolfe RR et al. *Adv Nutr*. 2017;15(8):266-275. 12. Richter CK et al. *Adv Nutr*. 2015;6:712-728. 13. Vega-Galvez A et al. *J Sci Food Agr*. 2010;90:2541-2547. 14. USDA, ARS. 2016. *What We Eat in America, NHANES*, 2013-2014. Available at: [www.ars.usda.gov/nea/bhnrc/fsrg](http://www.ars.usda.gov/nea/bhnrc/fsrg). 15. Chernoff R. *J Am Coll Nutr*. 2004;23(suppl 6):627S-630S.

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