

Ideal Protein Needs for Americans

Identifying Favorable Protein Needs for Americans

Current dietary protein recommendations are based on providing the minimum amount of protein building blocks, also known as essential amino acids, for the body to make new protein structures such as enzymes, bones or muscles. New research shows that there is reason to recommend dietary protein levels that would provide more than the minimum amount of essential amino acids. Research also shows that diets with increased protein intake can improve adult health and provide benefits for treatment or prevention of diseases including obesity, osteoporosis, type 2 diabetes, metabolic syndrome, heart disease and sarcopenia.¹⁻⁵

Protein needs for adults correlate to an individual's body weight; however, current dietary protein recommendations are often represented as a percentage of energy intake. For example, the Dietary Reference Intakes (DRI) indicate an acceptable protein range for adults of 10 percent to 35 percent of total energy.⁶ No guidelines are provided about how to select a protein intake across all energy intake levels, though representing protein intake as a percentage of energy means that some individuals with low energy intakes may not be getting enough protein. Research shows that 25-30 grams of protein consumed at each meal may be most favorable to maintain healthy muscles and bones for adults.^{7,8,9}



The Important Role of Dietary Protein in Human Health

More than 40 percent of the body's protein is found in skeletal muscle and more than 25 percent is found in organs. Protein is required for a healthy diet because it provides amino acids, which allow the body to synthesize its own proteins and nitrogen-containing molecules that make life possible.

Dietary protein quality is determined by the amino acid composition of a protein and its digestibility. High-quality protein foods – which include animal sources such as eggs, lean beef and pork, skinless poultry, fish and low-fat dairy products – contain optimal levels of all nine essential amino acids. Plant sources of protein, such as beans, nuts, seeds and legumes, also provide protein, but they often have inadequate amounts of one or more of the nine essential amino acids.¹⁰ Some plant proteins provide all nine essential amino acids, but plant protein has lower digestibility compared with animal proteins.



¹ Paddon-Jones D, Westman E, Mattes RD, Wolfe RR, Astrup A, Westterterp-Plantenga M: Protein, weight management, and satiety. *AJCN* 2008, 87:1558S-1561S.

² Paddon-Jones D, Short KR, Campbell WW, Volpi E, Wolfe RR: Role of dietary protein in the sarcopenia of aging. *AJCN* 2008, 87:1562S-1566S.

³ Heaney RP, Layman DK: Amount and type of protein influences bone health. *AJCN* 2008, 87:1567S-1570S.

⁴ Layman DK, Clifton P, Gannon MC, Krauss RM, Nuttall FQ: Protein in optimal health: heart disease and type 2 diabetes. *AJCN* 2008, 87:1571S-1575S.

⁵ Layman DK, Walker DA: Protein importance of leucine in treatment of obesity and the metabolic syndrome. *J Nutr* 2006, 136:319S-323S.

⁶ Dietary Reference Intakes for Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids (2002).

⁷ Paddon-Jones D, Rasmussen BB: Dietary protein recommendations and the prevention of sarcopenia. *Curr Opin Clin Nutr Metab Care* 2009, 12:86-90.

⁸ Rasmussen BB, Tipton KD, Miller SL, Wolf SE, Wolfe RR: An oral essential amino acid-carbohydrate supplement enhances muscle protein anabolism after resistance exercise. *J Appl Physiol* 2000, 88:386-392.

⁹ Krieger JW, Sitren HS, Daniels MJ, Langkamp-Henken B: Effects of variation in protein and carbohydrate intake on body mass and composition during energy restriction: a meta-regression.

¹⁰ Gropper Sareen, Smith Jack and Groff James. (2005) Advanced nutrition and human metabolism. Belmont, CA: Thomson Wadsworth.