



THE BIG DEAL ABOUT PROTEIN

By Dr. Tricia Talerico, D.C., M.S., Nutr.

Proteins are made up of chemical building blocks called amino acids. There are about 20 different amino acids that link together in different combinations. Your body uses amino acids to build and repair muscles and bones and to make hormones and enzymes. Some amino acids can be made by your body - these are known as non-essential - there are 11 of these. There are 9 essential amino acids that your body cannot make. We need to get these in our diet.

So, how do we get our protein and how much do we need? The nutritional value of a protein is usually measured by the quantity of essential amino acids that it contains. For example, animal products such as chicken, beef, fish or dairy are known as complete proteins because they have all of the essential amino acids. Soy products, quinoa and amaranth also have all of the essential amino acids. Plant proteins such as beans, lentils, nuts and whole grains are considered incomplete proteins because they lack at least one of the essential amino acids. So, those following a strict vegetarian or vegan diet need to choose a variety of protein sources to make sure they get an adequate mix of essential amino acids. Believe it or not, the human body cannot store protein and will excrete any excess, so the best way to meet your daily protein requirements is to eat a small amount (4oz) at each meal. How much protein a body needs depends on your "status" (elderly, sick, age, athlete, etc.) and the source you are reading. Some experts estimate that 10% of your daily

caloric intake should be from protein. For the average woman that would be about 45 gms. And 55 gms. for the average man. In my experience, this is a low estimate and I generally have my clients aim for anywhere from 10-35% of daily calories (as per the Mayo Clinic). Believe it or not, once you reach 40-50 years old, sarcopenia or age-related muscle loss, begins to set in.

What can happen if we're not getting enough protein? A common sign of protein deficiency is swelling or **Edema**. Albumin, one of the proteins that circulate in your blood, helps keep fluid from building up in your tissues. Of course, there are many other causes of edema, so check with your doctor. **Weakness** may be another sign of low protein intake. Research shows that just one week of low protein intake can affect the muscles responsible for posture and movement. Over time, a lack of protein can make you lose muscle mass and so affects your balance and metabolism. Low protein intake can also lead to

Anemia, when cells don't get enough oxygen, which makes you tired. **Hunger** is another symptom of low protein intake. Studies show that eating high protein foods helps you feel fuller throughout the day. **Slow-healing injuries** are often the result of low protein intake. This includes cuts, scrapes and sprains. You need protein to make collagen for repair and also to make your blood clot. Your **Immune System** needs protein (amino acids) to make antibodies that activate white blood cells to fight bacteria, viruses and toxins. **Athletes** need about twice as much protein as the average person to keep up with their strenuous training schedules.

So, as you can see, protein is an important macronutrient at any age. Protein quality, source and quantity are variables that we can control. Last month, we spoke about fats, another important macronutrient. Next month we will tackle the last macronutrient, carbohydrates, and their importance in our daily diets.

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Tricia Talerico, D.C., M.S., Nutr.
Nutrition and Weight Loss Center of Ocean
Dow Plaza • 1819 Highway 35 North
Oakhurst, NJ 07755
732-609-3366
www.nutritionandweightlosscenter.com

