

to your health



A newsletter about good foods for better health.

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Protein Power

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If you believe that animal proteins are more “complete” and better for you, think again!

The “Complete Protein” Myth

For years, the conventional wisdom about protein has been that in order for our bodies to use this nutrient appropriately, we need to get “complete” proteins in every meal or snack. “Complete” refers to the type of amino acids that make up any particular protein. Amino acids are the building blocks of proteins, so in essence, an amino acid is simply a piece of a protein.

Essential vs. Non-Essential Amino Acids

There are 20 common amino acids that make up the proteins found in our bodies and in the protein-containing foods we eat, such as beans, chicken, beef, fish, eggs, pork, dairy, nuts and seeds, and whole grains. Of the 20 common amino acids, somewhere between eight and ten are considered essential. Essential means that we cannot make them in our bodies and therefore must get them from the food we eat.

Health experts don't always agree on which amino acids truly are essential, which is why the number of amino acids considered essential can change. For example, some amino acids may be essential for infants and children, but not for adults. Others may be essential, but only under stress, such as when a person is sick or has undergone surgery or been seriously injured.

The most important thing to remember is that there are some amino acids we simply can't make; in these cases, we need to eat them to stay healthy.

A Complete Myth

This is where we run into the territory of myth. For decades, the idea that we have to get all of the essential acids together at the same time for good health has persisted. And from this myth comes the idea that non-animal sources of protein, such as beans and grains, are “incomplete”,

because they don't contain all essential amino acids, and must be eaten in certain combinations to prevent amino acid and protein deficiencies.

Fortunately, this simply isn't true. Our bodies are much savvier than this. Lucky for us, so long as we get all of the essential amino acids on average, over time, we can make any protein our body needs. If we get the different essential amino acids over the course of days to weeks, we don't need to worry about eating them together at the exact same time. Our bodies easily can hang onto a few essential amino acids, so that when the other ones come along from another meal, they all are available and ready to make important proteins in the body.

Soy is Complete

Another consideration? Not all plants lack essential amino acids. In particular, the soybean does contain all of the essential amino acids, making it unique among plant protein sources. For this reason, soy foods are considered excellent replacements for meat when people either don't want, or can't afford, to eat meat.

The “More is Better” Myth

Another persistent myth about dietary protein is that it's hard to get enough of it for good health. When considering the typical American diet, nothing could be further from the truth. As evidence of our obsession with protein, one of the most common questions about vegetarian and vegan diets is, “How do you get enough protein?” The answer, which most people are surprised to learn, is “easily”.

The minimum protein requirement for adults is set at approximately 0.8 grams of protein per kilogram of bodyweight. With 2.2 pounds in a kilogram, this means a 200-pound adult requires about 72 grams of protein per day. And even for this number, most health experts agree that getting less protein each day is unlikely in a typical American diet and wouldn't diminish health or increase disease risk, at any rate.

In summary, while it is true that eating plants for protein means you get a little less of this nutrient than someone who regularly eats animal protein, it is false that you won't get enough. When you add up all of the protein found in a wide variety of plant foods, such as soy, other beans, nuts

and seeds, whole grains, and even vegetables, you'll find you won't be coming up short.

Even more interesting is that getting too much protein, particularly when it comes from animal sources, may be just as bad as, or even worse than, not getting enough. Researchers have found that for certain groups of people, such as those with poor kidney function, diabetes, or hypertension, too much animal protein can compromise health, worsen kidney function, and may even contribute to osteoporosis.

The bottom line? While it's fine to get some of your protein from animal foods such as chicken, lean beef, eggs, pork, and fish, make sure you're not eating like a carnivore. Keep "meaty-meals" to one per day or less. Enjoying a vegetarian lunch or dinner now and then can balance things out, nutritionally.

The Protein Truth

Now you know the real scoop about protein:

1. If you're relying on plants for your protein needs, you don't need to "combine" foods at every meal and snack for good health. Eat a wide variety of minimally processed plant foods including beans, nuts, seeds, whole grains, and vegetables, on a regular basis and you're covered.
2. Not all plant foods offer "incomplete" proteins. The mighty soybean and foods made from soy such as tofu, soymilk, tempeh, and soy nuts offer complete protein in one package.
3. You're not likely to come up short on protein. With a typical American diet, protein is the last thing you'll be missing. Even if you're vegetarian, it's unlikely you'll be low on protein. If you're vegan, meaning you eat no animal products at all, be sure to include protein-rich plant foods such as soy, nuts and seeds, other beans and peas, and whole grains at most meals and snacks.

References

Michelfelder AJ. Soy: a complete source of protein. *Am Fam Physician*. 2009;79:43-47.

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Suzanne Dixon, an epidemiologist and registered dietitian, is an author, speaker, and internationally recognized expert in nutrition, chronic disease prevention, and health and wellness.

Suzanne is best known as the Colon Cancer Guide for About.com and as the creator of the award-winning website CancerNutritionInfo.com (sold in 2005), which was acclaimed by the *New York Times* and named one of *Time* magazine's 50 Coolest Websites of 2005. She has numerous scholarly and popular literature publications and has received awards from the American Dietetic Association for Innovative Nutrition Education Programs for the Public and Distinguished Practice in Oncology Nutrition.

While managing the Outpatient Oncology Nutrition Program at the University of Michigan Comprehensive Cancer Center, Suzanne counseled thousands of cancer patients on diet and nutrition to promote healing. She represented the University of Michigan as an appointed member to the National Comprehensive Cancer Network (NCCN) nutrition sub-committee and frequently lectured at the University of Michigan (UM) Medical School, School of Nursing, and School of Public Health. Suzanne developed and taught coursework for a pilot program designed to integrate nutrition science into the UM Medical School curricula and developed and taught alternative medicine coursework for Eastern Michigan University.

Through her writing, lecturing, and teaching, Suzanne is devoted to helping others learn about and use food and nutrients for optimal health and wellness. She has a passion for translating complex nutrition and science concepts into useful, everyday advice. Suzanne received her training in epidemiology and nutrition at the University of Michigan, School of Public Health at Ann Arbor.

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