The Power of Protein: More Than Muscle Building

Why all the hype about protein lately?
Most people think of protein as slabs of meat that athletes, body builders and strength trainers down regularly to build muscle. Recent research has shown dietary protein has a much broader list of benefits—from weight loss, satiety and healthy aging to blood sugar control and diabetes management. Many experts, in fact, think our consumption of this important nutrient should be higher than the Recommended Dietary Allowance (RDA), which is based on the minimum needed to replace daily losses.

Protein has truly become the Nutrient of the Decade. Continue reading to find out more about protein, separate the truth from the hype, figure out how much is needed and learn what foods are good sources.

What exactly IS protein?
Protein is an essential macronutrient, along with fat and carbohydrate, that our bodies need each day. It is part of every cell, tissue and organ in our bodies. It is made up of 20 amino acids, or building blocks. Nine of these amino acids are considered essential—we need to get them from our diets because our bodies cannot make them.

We need amino acids from the protein in the foods we eat to build and maintain bones, muscles and skin. Other important functions of protein include making enzymes, hormones and antibodies; maintaining fluid, electrolytes and acid-base balance; and providing energy and glucose (sugar) to our bodies.

If we don’t get enough protein, and specifically enough of the 9 essential amino acids, we can become protein deficient, causing problems in all of these areas. In addition, because the body doesn’t have a way to store protein as it does fat and carbohydrate, we need to consume adequate protein every day.
Where do we find it?

Protein is distributed widely in our food supply. The USDA defines the protein group as all foods made from meat, poultry, seafood, beans and peas, eggs, processed soy products, nuts and seeds … but protein is found in other food groups as well. For example, the Milk & Milk Products food group contributes about one-fifth of our total daily protein intake. Grains also provide some protein, and even vegetables have small amounts of protein that round out a balanced diet.

The majority of our protein comes from animal sources. Americans ages 50 and above get almost two-thirds of their protein from animal foods: 40 percent from meat, 18 percent from milk and milk products and 4 percent from eggs.

So, in a well-balanced diet that includes foods from all food groups, it is fairly easy to get the protein we need on a daily basis. Strict vegetarians (vegans) who do not eat meat or dairy products may have a hard time consuming enough protein and might need to eat more calories to get the same amount of protein. Ovo-lacto vegetarians who consume dairy and eggs generally can get enough protein through beans, nuts, eggs and milk and milk products. See the Tips section below for ways to optimize protein intake or read “Tips for Vegetarians” on the USDA’s www.ChooseMyPlate.gov website to get more ideas.

Are there different types of protein?

The quality of protein varies depending on the food source and the type and amount of amino acids that it provides. Animal-based protein such as from lean meat, eggs and milk and milk products contains all the essential amino acids in the ratio needed by our bodies, is easily digestible and is considered a “complete” protein source.

Plant protein is generally considered lower quality as it often lacks certain essential amino acids and contains components that impair absorption. Plants are characterized as an “incomplete” source of protein, making it necessary to eat a variety to provide the complementary amino acids the body needs. It was once thought that this variety had to be consumed at one meal in order for the body to effectively use the protein; now, however, it is believed that complementary protein can be consumed over the course of the day. Read “Tips to Help You Make Wise Choices from the Protein Foods Group” on the www.ChooseMyPlate.gov website for good protein food choices.
How do we know if we are getting enough protein?

The RDA for protein is 0.8 grams per kilogram body weight per day. This is about 45 grams/day for a 125-pound person; 70 grams/day for a 190-pound person. Most Americans meet this minimum protein requirement easily through their daily diets. However, some groups—such as athletes, older adults and those on weight-loss diets—may benefit from increasing their intake beyond the minimum levels to take advantage of protein’s other health effects. Online protein calculators can help determine how much protein is needed every day.

The Institute of Medicine provides a range of protein intake of 10 to 35 percent of calories from protein. On a 2000-kilocalorie diet, this is 50 to 175 grams per day, much higher than the minimum level set by the RDA. The average American only gets 16 percent of their calories from protein, which is at the lower end of the recommended range.

The table on the left shows some good sources of protein and how many grams each food contains.

### Protein Sources

<table>
<thead>
<tr>
<th>Amount</th>
<th>Protein (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whey protein powder 1 oz</td>
<td>22</td>
</tr>
<tr>
<td>Lean beef, pork or poultry* 3 oz</td>
<td>18-20</td>
</tr>
<tr>
<td>Seafood and fish* 3 oz</td>
<td>16</td>
</tr>
<tr>
<td>Greek-style yogurt 1 container (6 oz)</td>
<td>12</td>
</tr>
<tr>
<td>Beans* and lentils ¼ cup</td>
<td>12</td>
</tr>
<tr>
<td>Nuts* ¼ cup</td>
<td>10</td>
</tr>
<tr>
<td>Milk 1 cup</td>
<td>8</td>
</tr>
<tr>
<td>Quinoa 1 cup</td>
<td>8</td>
</tr>
<tr>
<td>Traditional yogurt 1 container (6 oz)</td>
<td>7-8</td>
</tr>
<tr>
<td>Cheese 1 oz</td>
<td>7</td>
</tr>
<tr>
<td>Eggs 1 each</td>
<td>6</td>
</tr>
<tr>
<td>Tofu 3 oz</td>
<td>6</td>
</tr>
<tr>
<td>Whole-wheat bread 1 slice</td>
<td>4</td>
</tr>
</tbody>
</table>


*Value shown is the average of different cuts/types of that food item (e.g., “lean beef” is the average of round roast, top round and top sirloin).
We’re hearing a lot about high-protein diets. Just what are the benefits?

While past research has focused on the muscle building and sports performance aspects of protein, more recent focus has been in other areas.

**Satiety/weight**
A multitude of studies has shown that dietary protein may help with weight management and obesity prevention by increasing satiety. Moderately high protein diets have also been shown to help with weight maintenance after significant weight is lost.

**Healthy aging**
Sarcopenia—the decrease in muscle mass and performance that occurs with aging—occurs in up to 45 percent of older men and 26 percent of older women. Various studies suggest that diets higher in protein can help minimize muscle loss and prevent frailty, helping people live longer and more independent lives as they age. A higher-protein diet combined with resistance exercise has also been shown to help build healthy muscles and support weight management in older adults.

**Diabetes management and blood sugar control**
A variety of studies has shown that high-protein diets can be helpful in controlling blood sugar levels, as well as improving heart disease risk in people with diabetes. Currently about 12 percent of American adults have diabetes, and an additional 35 percent have pre-diabetes. With the increasing incidence of overweight and obesity in the United States, these levels are expected to rise much higher in the coming years. Diabetes is a major risk factor for heart disease and stroke.

**Bone health**
Most people think of calcium and vitamin D for bone health. Protein is also important in building and maintaining strong bones. Many studies show that dietary protein may positively impact bone health, particularly when calcium intakes are adequate. This effect may be through increasing muscle mass or calcium absorption, or through hormonal effects on bone. The amount and timing of protein intake on bone health, however, is unclear and needs more research.

Does the timing of protein intake matter?
While it may be easy to get the total amount of protein in our daily diet, it is harder to get the distribution of protein throughout the day that is best for our bodies. New research shows that it is best to spread our protein intake evenly over our meals and snacks to help our bodies use it most efficiently. The Tips section below shows how to do this.

Some experts suggest getting 20 to 30 grams of protein at each meal or snack.

Most Americans get almost half of their protein at dinner, about one-quarter at lunch and the remainder at breakfast and snacks. We can use the table above to count how much protein we are getting at each meal and see where to make improvements.
Getting enough of the right kinds of protein throughout the day

- Get the day off to a strong start by making sure to get the first dose of protein at breakfast. Add an egg to a bagel, nuts to cereal, peanut butter to a slice of toast, a scoop of whey protein powder to oatmeal or a scoop of Greek yogurt to granola.

- Make sure every meal and snack contains some protein. This will help to feel full longer, reduce “swings” in blood sugar, improve bone health and reap the many other rewards protein provides!

- Focus on high quality sources of protein—lean meats, beans, nuts and nut butters, eggs, milk, cheese and yogurt. While vegetables and grains contain small amounts of protein, they are generally lacking in specific amino acids, making them a less complete protein source.

- If cost is a factor in food choices, consider dairy, beans, eggs and certain nuts as inexpensive protein sources. Fish, lentils, tofu, seeds and veggie burgers can also add variety to the diet beyond solely meat-based options.

- Experiment with “newer” protein sources such as quinoa, amaranth and whey protein powder for a change in routine.

- Read more about getting protein throughout the day in the article “Protein: Make the Shift from Dinner to Daytime” on the www.healthyeating.org website.
For questions and comments please contact us at info@DairyCouncilofCA.org.