**Protein and Protein Supplements**

Proteins in the body function as the building blocks of our bones, muscles, skin, and blood. They are also a major ingredient in the hormones, enzymes, and vitamins that help to control our bodies’ processes. The proteins in our bodies are constantly being broken down into amino acids. Amino acids combine to form proteins in your body. Some amino acids can be synthesized in your body, but essential amino acids cannot. There are nine amino acids that we can only receive through the food we eat. We can replace the essential amino acids by eating a variety of foods from the protein food group. Foods from this group contain proteins as well as other nutrients like B vitamins, vitamin E, iron, zinc, and magnesium. Animal sources of protein include meat, poultry, seafood, milk and milk products, and eggs. Plant sources of protein include soy products, beans and peas, and nuts and seeds.

Protein is also found in grains and vegetables, but in lower amounts. Grains and vegetables do not supply all the essential amino acids, with the exception of quinoa. Quinoa is a grain that has 4 grams of protein in ½ cup and supplies all the essential amino acids.

Most Americans eat enough food from the protein group. The table at the bottom of the page indicates the daily recommended dietary allowances for different age groups.

<table>
<thead>
<tr>
<th>Age</th>
<th>RDA</th>
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<tbody>
<tr>
<td></td>
<td>grams/day</td>
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<tr>
<td><strong>Children</strong></td>
<td></td>
</tr>
<tr>
<td>1–3 years old</td>
<td>13</td>
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<tr>
<td>4–8 years old</td>
<td>19</td>
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<tr>
<td><strong>Girls</strong></td>
<td></td>
</tr>
<tr>
<td>9–13 years old</td>
<td>34</td>
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<tr>
<td>14–18 years old</td>
<td>46</td>
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<tr>
<td><strong>Boys</strong></td>
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<tr>
<td>9–13 years old</td>
<td>34</td>
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<tr>
<td>14–18 years old</td>
<td>52</td>
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<tr>
<td><strong>Women</strong></td>
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<tr>
<td>19–51+ years old</td>
<td>46</td>
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<tr>
<td><strong>Men</strong></td>
<td></td>
</tr>
<tr>
<td>19–51+ years old</td>
<td>56</td>
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</tbody>
</table>

**Tip**

Eating lean proteins from whole food sources is the best way to meet your protein needs!
These six items add up to 62 grams of protein, more than enough to satisfy the needs of an adult man or woman.

What If I’m a Vegetarian or Vegan?
Vegetarians and vegans avoid eating protein from animal sources. Their protein needs can be met by eating a variety of plant-based foods such as beans, nuts, nut butters, peas, and soy products like tofu and tempeh. Lacto-ovo vegetarians may also choose to eat milk, dairy products, and eggs.

• 1 cup of milk has 8 grams of protein.
• A 3-ounce piece of meat has about 21 grams of protein.
• An 8-ounce container of low-fat plain yogurt has about 12 grams of protein.
• An ounce of almonds (about 23 whole almonds) has about 6 grams of protein.
• 1 egg has 6 grams of protein.

Here are some examples of the amounts of protein in foods:

What about Athletes?
Protein plays an important role in repairing and strengthening muscle tissue, which is why this food group is especially important in an athlete’s diet. For this reason, high-protein diets are becoming very popular among athletes. But how much is really necessary? 1.2 to 1.7 grams of protein per kilogram of body weight per day is recommended for power athletes while 1.2 to 1.4 grams per kilogram of body weight per day is recommended for endurance athletes. That’s about 84 to 119 grams a day for adult male athletes and 66 to 94 grams a day for adult female athletes.

Protein Supplements
Protein supplements, specifically protein powder, have become a hot item on the market that claim to have better quality than protein found in food. These are believed to lead to an increase in muscle mass and reduced recovery time after workouts. The protein powders are great for convenience, but they are not necessary, even for the most elite athletes. Most athletes and nonathletes can get the recommended amount of protein through diet alone, without the use of supplements. Also, protein supplements lack important nutrients that whole food protein sources contain. If a very busy athlete is searching for a convenient way to meet their protein needs, then a protein shake may be recommended. Other than that, it’s best to meet protein needs by eating whole food sources like lean meats, poultry, dairy, beans, nuts, seeds, and fish. A glass of milk contains 8 grams of protein and is just as convenient as a protein powder. If you’re looking for a protein boost in your protein shake, try adding ground nuts or low-fat yogurt instead of protein powders.

Shopping Tips
Choose lean proteins. Some lean beef cuts include round steaks and roasts, top loin, and top sirloin. Lean pork choices include pork loin, tenderloin, center loin, and ham. As for ground

### Strawberry Fruit Smoothie

**Serving size:** 1 cup  
**Yield:** 2 servings

**INGREDIENTS**
- 6 to 8 ice cubes
- 1 cup skim milk
- 8 ounces low-fat vanilla yogurt
- 10 strawberries

**DIRECTIONS**
Combine all ingredients in a blender. Blend and serve at once.

**NUTRITIONAL FACTS**
- 180 kcal, 29 g carbohydrate, 11 g protein, 2 g fat, 150 mg sodium, 10 mg cholesterol, 2 g fiber.

For this recipe and more yogurt recipes, visit the National Dairy Council at [www.nationaldairycouncil.org/Recipes/Pages/RecipeLanding.aspx](http://www.nationaldairycouncil.org/Recipes/Pages/RecipeLanding.aspx).
products like ground beef or ground turkey, look for labels that say at least “90% lean.” Boneless, skinless chicken breasts and turkey cutlets are the leanest poultry choices. Bologna and salami are deli meats that are higher in fat. Instead, choose lean turkey, ham, or low-fat luncheon meats.

Sources


