

Proteins

- ¹ Proteins are the building blocks of our bodies. Present in all body tissues (such as muscles and skin), proteins make up the second largest portion of our body weight. Only water outweighs proteins, securing the top position of making up about 70% of our body weight.
- ² Proteins are like our bodies' superintendents with many responsibilities. They build and repair tissues, fight off infections, and transport oxygen. Together with carbohydrates and fats, proteins are also our bodies' energy source. Just like carbohydrates, proteins generate four calories per gram. Nevertheless, our bodies usually consider proteins the back-up energy providers. Therefore, unless we exclude both carbohydrates and fats from our diet, we don't rely on proteins to get us energized.
- ³ Proteins are made up of amino acids. With twenty-two different types of amino acids in our bodies, nearly two-thirds (14) are non-essential and the remaining eight are essential. The term "non-essential amino acid" may lead you to believe that it is not important. This perception is incorrect. The fact is we need non-essential amino acids as much as we need essential amino acids in our bodies. So, what is the difference between non-essential amino acids and essential amino acids? "Source" is the answer. Our bodies manufacture non-essential amino acids. Yet, they cannot produce essential amino acids. For us to get essential amino acids, we must eat protein-rich foods, such as poultry and beans.
- ⁴ After we eat, say, grilled salmon for dinner, our digestive systems break down proteins into amino acids. Once absorbed into bloodstreams and delivered to wherever they are needed, these amino acids recombine with other amino acids that already exist inside our bodies to become proteins again.
- ⁵ Now, we know what roles proteins play in keeping us healthy and where we can obtain them. Is there anything else that we should know about proteins? Absolutely! We have yet to cover complete proteins and incomplete proteins. Complete proteins contain each of the eight essential amino acids. We can get complete proteins from milk, eggs, poultry, and fish. Incomplete proteins, on the contrary, lack at least one essential amino acid. Tofu, rice, and beans all have incomplete proteins. The absence of a certain type of essential amino acid from having, for example, rice can be supplemented by eating beans. Hence, if we are to center our diet on foods with incomplete proteins, we need to eat a variety of them to ensure that we have sufficient intakes of all eight amino acids.

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<p>1. Which of the following sentences about proteins is true?</p> <p><input type="radio"/> A Proteins help our bodies fight off infections and transport oxygen.</p> <p><input type="radio"/> B Proteins are the basic units of amino acids.</p> <p><input type="radio"/> C Scientists divide proteins into three groups -- essential proteins, non-essential proteins, and useless proteins.</p> <p><input type="radio"/> D Proteins are the primary energy source to our bodies.</p>	<p>2. Which of the following nutrients is not an energy source to our bodies?</p> <p><input type="radio"/> A Carbohydrates</p> <p><input type="radio"/> B Proteins</p> <p><input type="radio"/> C Fats</p> <p><input type="radio"/> D Water</p>
<p>3. Both carbohydrates and proteins provide four calories of energy per gram.</p> <p><input type="radio"/> A False</p> <p><input type="radio"/> B True</p>	<p>4. What is an amino acid?</p> <p><input type="radio"/> A It is the basic unit of proteins.</p> <p><input type="radio"/> B It is the basic unit of carbohydrates.</p> <p><input type="radio"/> C It is made up of proteins.</p> <p><input type="radio"/> D It is the basic unit of fats.</p>
<p>5. Which of the following foods is a good source for us to get proteins?</p> <p><input type="radio"/> A Orange juice</p> <p><input type="radio"/> B Sugar</p> <p><input type="radio"/> C Egg</p> <p><input type="radio"/> D Pasta</p>	<p>6. Which of the following statements about proteins is not correct?</p> <p><input type="radio"/> A Proteins are the building blocks of our bodies.</p> <p><input type="radio"/> B If we eat both rice and beans, we will get all eight types of essential amino acids.</p> <p><input type="radio"/> C Proteins break down to amino acids first and recombine to become proteins again.</p> <p><input type="radio"/> D Proteins take up about 70% of our body weight.</p>
<p>7. Proteins obtained from foods are called complete proteins.</p> <p><input type="radio"/> A False</p> <p><input type="radio"/> B True</p>	