

# Teens and Protein: How Much Do You Need?

## Quiz

- Which food has the essential amino acids to be considered a complete protein?
  - Peanuts
  - Milk
  - Tofu
  - Refried beans
- About how much protein does a 3-ounce serving of meat, poultry or fish contain?
  - 5 grams
  - 15 grams
  - 20 grams
  - 40 grams
- Our body needs protein for many reasons. Which of the following are functions of protein in the body?
  - Promoting a healthy immune system
  - Providing energy
  - Promoting wound healing
  - All of these are functions of protein

Answers: 1. b; 2. c; 3. d

How do you make a milkshake?

Give a cow a pogo stick!

## Protein Has Many “Jobs” in the Body

- Helps maintain, repair and rebuild healthy muscle and bone
- Helps heal wounds
- Provides energy for daily activities
- Prevents fatigue
- Keeps immune system functioning
- Helps the body fight disease and illness
- Helps build hair, nails, skin and cartilage

## Protein Building Blocks

- Amino acids are like tiny building blocks in the body. Twenty amino acids join together to form all the proteins humans need. The body can make only certain proteins while others need to come from foods in the diet.
- Essential amino acids can't be made in the body. Meat, poultry, fish, eggs, milk and cheese have all of the essential amino acids. Many plant-based foods are low in one or more of the essential amino acids, but you can combine foods (such as rice and beans) to have all the essential amino acids.

## How Much Protein Do Teens Need?

Protein is essential to life and needs to be consumed with each meal. The amount of protein you need depends on your height, weight, whether you are a boy or girl, and your level of activity. In general, teenage boys need about 52 grams of protein per day, while teenage girls need about 46 grams per day. However, if you are small or large for your age, or very active, your needs are different.

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## What About Protein Supplements?

Athletes and other individuals who exercise regularly commonly use protein powders to make a post-exercise drink. Chocolate milk has been shown to be a “close to perfect” natural post-exercise supplement. It contains the optimum ratio (4-to-1) of carbohydrates to protein as well as containing casein and whey, which are labeled by nutrition experts as “slow” and “fast” proteins that replenish the muscle right away and during an extended period of time. Milk usually is less expensive and will give you more nutrients than whey powder supplements.

## Protein-rich Foods

- Eggs (6 grams protein/large egg)
- Meat, poultry and fish (about 21 grams protein/3-ounce piece or about the size of the palm of your hand)
- Milk and milk products (8 grams protein/1 cup milk)
- Nuts and seeds (about 5 grams protein/1 ounce raw nuts – about a small handful)
- Tofu (13 grams protein/½ cup tofu)
- Legumes, dry beans and peas (8 grams protein/½ cup beans)

## Healthful Protein-rich Snack Ideas

Protein helps keep you full and energized throughout the day. It also prevents your body from breaking down muscles to use the nutrients it needs to function properly. Here are some healthful snack ideas for before or after practice, or after school:

- **Trail mix with protein-rich nuts or seeds.** Use any kind of nut: peanuts, cashews, almonds, pecans, sunflower seeds, etc. Then add dried cranberries or raisins, your favorite fiber-rich cereal or pretzels.
- **Hummus dip (made with chickpeas).** It can be homemade (with a food processor) or purchased in a store. Eat with peppers, celery or carrot sticks; with warm pita chips; or as a spread on a sandwich.
- **Banana sushi.** Spread one whole-wheat tortilla with peanut butter, sunbutter, hazelnut spread (Nutella) or any other nut spread. Add dried cranberries, chopped pecans or cinnamon. Roll covered tortilla around one banana. Cut into rounds and serve.

## Breakfast Cereal Bars

- 3 c. whole-wheat cereal (Chex, Cheerios, Kashi, etc.)
- 1 c. low-fat peanut butter
- ½ c. honey
- 1 c. raisins
- ¼ c. almonds

1. In a bowl, mix together cereal, raisins and almonds.
2. In another bowl, mix together peanut butter and honey.
3. Add dry ingredients to peanut butter/honey mixture. Mix well.
4. Press into a 9- by 9-inch pan.
5. Cut into 16 squares. Wrap squares individually in plastic wrap for an on-the-go snack.

Per serving: 200 calories, 26 grams (g) carbohydrate, 9 g fat and 7 g protein

**Watch a demonstration online at**  
[www.ag.ndsu.edu/foodwise/eatsmart/videos/healthy-snacks-cereal-bars](http://www.ag.ndsu.edu/foodwise/eatsmart/videos/healthy-snacks-cereal-bars)

## Resources

**[www.choosemyplate.gov](http://www.choosemyplate.gov)**

U.S. Department of Agriculture with a wide range of nutrition resources.

**[www.ndsu.edu/eatsmart](http://www.ndsu.edu/eatsmart)**

This website has information for people of all ages, including fun educational games and recipes.

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