



Protein Needs During Cancer Treatment

What is protein?

Proteins are large molecules in the body that do most of the work in our cells, and in effect, our tissue and organs. Proteins are made up of amino acids.

Why is protein important?

Protein is needed for body maintenance, growth, and repair. Protein is present in almost all body cells and has many functions, such as:

- Formation and maintenance of muscles, connective tissues, red blood cells, enzymes, and hormones.
- Transporting many body compounds, as well as medications.
- Maintaining the balance of body fluids.
- Fighting infections and strengthening immunity.

Generally, your diet provides enough protein; however, while undergoing surgery or treatment for cancer, your protein needs may increase. It is important to be aware of the food sources of protein and to include these foods at every meal and snack.

What are my protein needs?

To come up with a quick estimate of your protein needs:

1. Divide your weight in pounds by 2 (example: 180 pounds ÷ 2 = 90).
2. The result is about how many grams of protein you need per day (90 grams of protein).

*If you are undergoing chemotherapy, radiation or surgery, the number of grams of protein needed each day may be higher.

What are some food sources of protein?

Protein is found in both animal and plant foods.

Animal sources of protein include:

- Meat (beef, lamb, pork).
- Poultry (chicken, turkey, duck).
- Fish and seafood (crab, lobster).
- Eggs.
- Dairy products (milk, cheese, yogurt).

Plant sources of protein include:

- Nuts (almonds, pine nuts, walnuts, macadamia, peanuts).
- Seeds (sunflower, pumpkin, sesame).
- Tofu.
- Legumes (dried beans, peas and lentils).

Grains (cereals, breads and rice) and vegetables contain a small amount of protein. Fruits and fats do not provide any protein.

The amount of protein in milk alternative products such as soy, rice, coconut and almond milk varies, so check the label of your product.

What are some protein supplements?

The cheapest and most convenient protein supplement is dry skim milk powder. Add dry milk powder to any creamy foods such as smoothies, yogurt, milkshakes, coffee, ice cream, mashed potatoes, casseroles, scrambled eggs and creamed soups. Add to the batter for cakes, cookies, pancakes, muffins, and puddings. Use pasteurized eggs substitute in shakes and recipes as a protein supplement, however, never use raw eggs due to the risk of salmonella contamination.

Products such as double strength milk, whey protein powder, pea protein isolate, soy protein, or hemp protein powders are good options to supplement your meals. A Registered Dietitian can assist with determining which protein supplement may best meet your needs.

What if I am lactose intolerant?

Low lactose milks (such as Lactaid®), cheeses, and ice cream are available. Individuals who are mildly lactose intolerant can often tolerate yogurt and fattier dairy foods such as cheese and ice cream. Milk alternates can be used instead of milk but it is important to note that protein content of these products varies and may not be the same as that of cow's milk. Lactaid® pills, which contain the enzyme that digests milk, can also be taken before eating a dairy food and are available at most pharmacies.

Why is an adequate calorie and protein intake important?

To ensure that the protein you eat is used for essential body functions, you must get the calories your body needs. If you do not consume enough calories to maintain your weight, your body will use protein for energy rather than to support essential body functions.

What are some high protein snacks?

- Cheese with crackers, vegetables or fruit.
- Trail mix (mixture of assorted nuts and dried fruits).
- Granola, energy, protein and breakfast bars.
- Cereal and milk.
- Yogurt.
- Cottage cheese or ricotta cheese with fruit or apple butter.
- Chicken, tuna or egg salad on crackers.
- Deviled and hard-boiled eggs.
- Hot cocoa (if using instant cocoa replace water with milk).
- Puddings and custards.
- Regular, flavored or malted milk.
- Nuts.
- Peanut butter on crackers.
- Hummus and pita bread.
- Pizza bagel.
- Dry roasted edamame.
- Sandwich (meat & cheese, peanut butter and jelly, grilled cheese).
- Milkshakes.
- Nutrition supplement drinks.

How can I add protein to food?

- Shredded cheese - sprinkle over vegetables, potatoes, noodles, casseroles, soups, or salads.

- Milk - use in place of water when making soups, pudding, cocoa, or cooked cereals instead of water.
- Make double-strength milk - add 1 cup of nonfat instant dry milk powder to 1 quart (4 cups) of whole milk.
- Ice cream, yogurt, and frozen yogurt - add to cereals, fruits, gelatin, pies, or milkshakes.
- Hard-cooked eggs - chop and add to salads, vegetables or casseroles.
- Left-over meat, chicken or fish - add to soups, salads or omelets.
- Nuts and seeds - sprinkle over vegetables, fruits, salads, yogurt, cereal and pasta.
- Beans - add to salads, pasta, or soups.

Foods with high protein content

Food	Serving Size	Grams of Protein
Meat: -Beef -Lamb -Pork	3 ounces	21
Poultry -Chicken -Turkey	3 ounces	21
Fish	3 ounces	21
Egg or ¼ cup liquid egg substitute	1 egg	7
Milk	1 cup	8
Yogurt	1 cup	10
Cottage or Ricotta Cheese	½ cup	12
Hard cheese	1 ounce	8
Dried Beans & legumes	½ cup	8
Tofu	½ cup	14
Soybeans	½ cup (cooked)	14.3
Textured soy protein	½ cup	11
Soymilk	1 cup	6.6
Edamame	½ cup	11
Tempeh	½ cup	15.7
Nuts	¼ cup	7
Peanut butter	2 Tbsp.	7

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