

## Nutrition Basics: Protein

### Quick facts:

- Protein is used to build and repair muscles and tissue and is essential for growth and development.
- Cells of skin, hair, fingernails as well as the tissue inside teeth and bones are all made of protein.
- Protein is made up of 21 amino acid building blocks. These building blocks are used to make hormones, enzymes and antibodies that support body processes, chemical reactions and your immune system. Protein can be used for energy; however, it is not the preferred energy source of the body and the main function remains to build and repair muscles and tissue.
- Protein is found in animal products, such as meat, cheese, milk, yogurt, seafood, poultry and plant-based products, such as beans, lentils, nuts, seeds and soy-based products.
- Protein, similar to carbohydrates, provides four calories per gram.
- A common misconception associated with protein is that if you eat more than your daily requirements of protein it turns into muscle. This is indeed false and the excess protein gets stored as body fat. Consuming additional calories beyond what your body needs, no matter what macronutrient, will lead to weight gain.
- The recommendation for protein intake is 10% to 35% of your daily caloric intake.

Another way of looking at it is in term of grams per kilogram of body weight.

Adult with low activity level	0.8 grams per kilogram body weight
Adult with moderate activity level	1.0–1.2 grams per kilogram body weight
Adult endurance athlete	1.2–1.4 grams per kilogram body weight
Adult strength training athlete	1.2–1.7 grams per kilogram body weight
Elderly	1–1.2 grams per kilogram
Maximum recommendation for adults	2.0 grams per kilogram body weight

### Recommendations:



Focus on protein foods that derive from plant protein more often. Replacing meats with plant-based proteins like beans, soybeans, tofu, nuts and seeds can reduce your saturated fat intake and help you to meet your fibre needs. A small amount of protein is also found in grain products, such as quinoa and barely, which are the richest grain sources of protein.

Protein is shown to increase satiety, the feeling of fullness, and takes longer to digest and absorb than carbohydrates. To help control appetite and maintain control of your food choices and intake, aim to consume protein with every meal and snack. Different ways to incorporate more plant-based protein foods might be to add tofu to thicken soups or smoothies or adding beans and seeds to a salad.

#### Protein goals for healthy eating

Consume a small amount of protein with each and every meal and snack to increase satiety, control appetite and help control of food choices.

Replace animal-based protein with plant-based protein more often. When selecting animal-based protein, choose lean versions, such as skinless, boneless chicken breast, turkey, pork or egg whites.

Another source of protein are calcium rich foods, such as dairy products. For example, plain, unsweetened yogurt with fruit, nuts and seeds, for added texture, can be a great snack. Other examples are low-fat milk and low-fat cheese that can be used in small amounts as protein rich options.

Calcium fortified vegan alternatives to dairy products are coconut, almond or rice milk, and tofu. Dark green leafy vegetables, such as kale, bok choy, broccoli and spinach, cooked legumes (e.g. edamame, chickpeas, kidney beans), as well as nuts and seeds are additional plant-based sources of calcium.