

# PROTEIN

## What is protein?

Protein is an essential nutrient that provides energy and is responsible for a variety of functions in the body. These functions include the building, maintenance, and repair of muscle, production of red blood cells, producing hormones, immune system function, and enzyme functions.

Once protein enters the body it is broken down into amino acids, these are the building blocks of protein. There are twenty amino acids, of which eight are essential amino acids. These eight amino acids are not produced by the body, so they must enter the body through the food we eat. In order for the proper functioning of the body, all twenty amino acids must be present in the body. However, all of the amino acids are rarely present in one high protein food item. In order to insure a balance of amino acids, it is important that a variety of high protein foods be eaten.

## Where is protein found?

There are two main sources of protein, plants and animals. In general protein sources from animals tend to be higher in fat and lower in fiber than the plant protein sources. In addition high protein intakes from animal sources have been associated with increased risk of heart disease, chronic disorders, and some cancers. For this reason, vegetable sources of protein may be preferable to animal sources. However, animal protein is still a good source of nutrients and does not need to be avoided, but lower-fat items such as poultry and fish and limited portion sizes of higher-fat meats should be a smaller part of the diet.

## What is the recommended intake of protein?

The RDA for protein is 0.4g of protein per pound of body weight. This means that for a 150 lb. Man, 70g of protein should be consumed in the daily diet. This translates to approximately 12-15% of the total calories consumed in a day coming from protein sources.

This recommendation is for the healthy, moderately active adult. The amount of protein increases slightly for those people that are more active due to the increased needs to build and repair muscle. However, the average American diet exceeds the amount of protein needed even for the most active individual.

Although the first function of protein is in the building, repair, and maintenance of muscle, if excess protein is consumed the excess calories will be used for energy or stored as fat. The following is a table of the recommended protein intake for different individuals.

Recommended Grams of Protein Per Pound of Body Weight Per Day	
RDA for sedentary adult	0.4g
Adult recreational exerciser	0.5-0.75g
Adult competitive athlete	0.6-0.9g
Adult building muscle mass	0.7-0.9g
Dieting athlete	0.7-1.0g
Growing teenage athlete	0.9-1.0g

### **Can an excess protein intake be harmful?**

As mentioned earlier a high-protein diet of animal foods is associated with an increase risk of heart disease. A high-protein diet may also increase the stress to the liver and kidneys due to the metabolic processes required to digest the excess protein. Some studies have shown links between high-protein diets and kidney disease, cancer, and osteoporosis.

### **What about the high-protein weight loss diets?**

These high protein diets advocate that 40% of your daily caloric consumption come from carbohydrates, 30% come from fat, and the last 30% from protein. Some of these more common diets are the "Zone" diet, the "Atkins" diet, the "Healthy for Life" diet, and the "5 Day Miracle Diet."

The supporters of these diets claim that a high carbohydrate diet will increase the secretion of the hormone insulin, which will increase fat storage. They say that to avoid the increased fat storage from insulin, you should eat a high-protein diet. The truth is that insulin is an essential hormone that is used in the transfer of sugar. But, according to these diets' insulin starts a cascade of events that leads to weight gain and chronic disease, among a variety of other things. There is no scientific evidence with acceptable controls, which validates these claims. In fact, all the studies that have been done on the high-protein diets, when contrasted with high carbohydrate diets have shown high carbohydrate diets to be more beneficial.

So why do some people lose weight on these high protein diets? The answer to this question has to do with the total calorie consumption. If the high-protein diets are strictly followed, they are extremely low in calories, especially for active people. This severe restriction in total calories leads to the weight loss, not the high protein diet itself.

## The Bottom Line

- Protein is an important nutrient that is involved in a variety of function with the body.
- The recommended protein intake for a sedentary adult is 0.4g of protein for a sedentary adult, although this recommendation increases with activity level.
- A variety of low-fat high protein foods that come mainly from vegetable sources should be incorporated into the diet.
- A high protein diet for weight loss is not recommended, and may have adverse effects.