

# Protein

The amino acids in protein help perform several functions in the body including:

- Building and repairing muscle
- Maintaining fluid balance
- Form enzymes and hormones
- Contribute to immune function
- Replace red blood cells.



It's American custom to believe that if you eat a lot of protein you will build a lot of muscle. Unfortunately this is a myth, and the truth is that to build muscle you have to do heavy weightlifting, push-ups and other forms of resistance exercise. The dominant fuel to perform these resistance exercises is carbohydrate, not protein. If you consume more protein than you need, you will simply burn more protein as a fuel source, or store it as fat (the opposite of what you are trying to accomplish).

The best sports diet for all sports contains adequate, but not excessive, protein with the main dietary focus on carbohydrate rich whole grains, fruits, and vegetables. Protein-based diets, typically low in carbohydrate provide inadequate muscle energy for you to exercise hard enough to build to your potential.

## How to calculate your protein needs:

0.5 to 0.7 grams per pound of body weight (**adult recreational exerciser**)

0.6 to 0.7 grams per pound of body weight (**adult endurance athlete**)

0.7 to 0.8 grams per pound of body weight (**adult strength training**)

0.8 to 0.9 grams per pound of body weight (**athlete restricting calories**)

**Example:** 180 pound endurance athlete needs 108-126 grams of protein per day.

$$180 \text{ lbs} \times 0.6 \text{ g pro/lb} = 108$$

$$180 \text{ lbs} \times 0.7 \text{ g pro/lb} = 126$$

# How to Gain Weight in the Form of Muscle

The best way to gain weight is to lift weights and consume adequate calories primarily in the form of carbohydrate, not protein. Carbohydrate provides you with the energy your muscles need to be able to perform intense weight lifting exercise. Furthermore, if you are not gaining weight you are not eating enough calories to do so. You need to eat larger portions for three meals a day seven days a week with one or two snacks in between.

The following foods and beverages can help you boost your calorie intake in a healthy way.

**Hot Cereal:** Prepare it with milk instead of water and add some toppings like maple syrup, powdered milk, margarine, peanut butter, walnuts, dried fruit, sunflower seeds, wheat germ, ground flaxseed, or almonds.

**Cold Cereal:** Eat dense cereals like granola, wheat chex, and Grape-Nuts. Top it with raisins, bananas, various nuts, sunflower seeds, ground flaxseed, or other fruits.

**Juices:** A great way to add calories without filling you up like the rest of your increased caloric intake. Cranberry, apple, cran-apple, pineapple, grape, and most other blends (i.e. mango-orange-banana) have more calories than do orange, tomato, or grapefruit juice. If orange juice is your favorite, to make up for the calories drink more of it, or use frozen concentrate and add less water.

**Milk:** First if you drink skim milk, you can switch to 1% or even better 2% because both have more calories than skim milk. To further increase the calories of milk, add  $\frac{1}{4}$  cup of powdered milk to 1 cup of 1-2% milk, or try Carnation Instant Breakfast, Nesquik, Ovaltine, or malt powder.

**Fruits:** Watery fruits such as watermelon, grapes, grapefruit, peaches, and plums have fewer calories than more dense fruits like pineapple, mango, bananas, dates, raisins, dried cranberries, and other dried fruits. But don't avoid watery fruits all together, they are packed with vitamins and minerals, just try to make some of your fruit choices in the day more calorically dense.

**Vegetables:** Potatoes, peas, corn, carrots, winter squash and beets contain more calories than broccoli, green beans, summer squash, and other watery vegetables. Add calories to these veggies by topping with olive oil, sunflower seeds, trans fat free margarine, and low fat cheese. Other high calorie toppings include sour cream, butter, and full fat cheese, but these contain a lot of saturated fat which is unhealthy for your heart. If low-fat versions are not available, avoid full fat options and add calories in other food groups, or eat double portions of veggies.

**Salads:** Most salad toppings are low-calorie, but others such as chickpeas (or other beans), sunflower seeds (or other nuts), raisins, dried cranberries, croutons, and dense vegetables can greatly boost the caloric value of the typical lettuce and tomato salad. Then generously pour on salad dressing to add the most significant calories, but make sure its olive or canola oil based because creamy dressings have a lot of artery clogging saturated fats.

**Bread:** Spread liberal amounts of soft, tub margarine (trans-fat free & preferably canola oil based), and peanut butter, jam, honey, or a combination of both.

**Soups:** Unless chicken and beef soups have substantial amounts of meat and veggies they generally have less calories than minestrone, split-pea, barley, or lentil soups. To increase calories, add croutons, milk, margarine or parmesan cheese.

**Sandwiches:** Hearty dense, thickly sliced, large breads such as rye, pumpernickel, and different varieties of whole grains are the best choice for nutritional value and calories. Ideally, tuna, chicken, hummus and various fillings, along with mayonnaise make for a great sandwich. However, at Delano Hall you are limited to peanut butter and jelly on whole wheat bread. Luckily, PB & J is an excellent high calorie healthy choice!

**Meats:** Although pork, beef, and lamb tend to have more calories than chicken, turkey, and fish, but also have more saturated fat as well. Therefore, they should be eaten in moderation with chicken, turkey, and fish being a more common choice. Add calories by topping with salad dressing, wine sauces, and mayonnaise or margarine.

**Beans, legumes:** Chili with beans, bean burritos, lentils, split-pea soup, black beans and other dried beans are not only calorically dense, but also a great source of protein, carbohydrate, and fiber.

**Snacks:** When you are trying to gain weight a snack should be more of a second meal rather than a snack. For instance, have a second lunch at 3:00pm or a second dinner at 10:00pm to ensure increased calorie intake. Some great high calorie snacks that do not have to be refrigerated include, trail mix, nuts, dried fruit, granola bars and other snack bars, dried cereal, oatmeal, and pretzels.

**Desserts:** Desserts do not necessarily have to lack in nutritional value. For desserts with some nutritional benefits try chocolate pudding, low-fat frozen yogurt, fig bars, oatmeal raisin cookies, apple crisp, strawberry shortcake, or other fruit desserts.