

## **Nutrition in bodybuilding.**

High rates of muscle recovery and growth require bodybuilders to follow a specialized diet. Bodybuilders require more calories than the average person of the same weight to provide protein and energy for training, recovery and muscle growth. Reducing the level of received food energy in combination with cardiovascular exercise allows bodybuilders to lose excess fat, which is important in preparation for various competitions. The ratio of dietary energy derived from carbohydrates, protein and fat can vary depending on the bodybuilder's goals.

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For the correct structure of nutrition, it is not enough to determine only the calorie content of food, it is also necessary to know what nutrients and in what quantity can provide this calorie content, that is, to determine the quality composition of food. When 1 gram of proteins or carbohydrates is oxidized in the body, 4.1 kcal is formed, and when 1 gram of fat is oxidized, 9.3 kcal. If necessary, carbohydrates and fats can partially replace each other; as for protein substances, they cannot be replaced by any other food substances.

### **Meals.**

On average, the average person eats three meals a day. Bodybuilders try to eat 5-7 times a day (every 2-3 hours). This method has two goals: to increase the metabolic rate, and also to prevent the excessive secretion of insulin caused by eating too much one meal a day. Many bodybuilders carry a plastic food container with them at all times to minimize food disruption. In a quality diet, the ratio should be as follows: carbohydrates - 50%; proteins - 30%; fat - 20%.

### **Proteins.**

Protein is the main building material of the body, which is necessary for the growth of muscle fibers and their restoration, and therefore bodybuilders pay special attention to its intake. The bodybuilder needs more protein than the average person. According to various estimates, he needs to consume 1.5-2 or more grams of protein per kilogram of weight, while protein should account for up to 25-30% of the total calorie intake. The main sources of protein for bodybuilders are chicken, turkey, beef, pork, fish, eggs and high protein dairy products, as well as some nuts and legumes. In addition, many bodybuilders supplement their diet with various protein supplements, such as casein or whey protein.

### **Carbohydrates.**

The total energy value of the diet is calculated by adding together the energy components of proteins, carbohydrates and fats. The energy value of 1 gram of protein is 4 kcal, carbohydrates - 4 kcal, fat - 9 kcal. The nature of metabolism involves the use of carbohydrates and fats as an energy source. Proteins for the body are primarily a building material; carbohydrates can be synthesized from them with a lack of nutrition. The main sources of energy for the body are carbohydrates and fats. Moreover, depending on the type of physical activity, the body gives more preference to either fats or carbohydrates. As for bodybuilding, carbohydrates are an unrivaled source of energy. They determine the general physiological tone of the bodybuilder and, ultimately, the success of his training.

## Relaxation.

Although stimulation of muscle growth occurs in the gym due to resistance training, the growth itself occurs during rest. Without adequate rest and sleep, muscles are unable to repair and grow. For full muscle growth, a bodybuilder needs about eight hours of sleep a night, although this figure is different for each person. In addition, many athletes find time to sleep during the day, which further stimulates further muscle growth.