

Arginine - description, benefits, effect on the body and the best sources

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Abstract. When we eat protein food, it enters our gastrointestinal tract and breaks down into its constituent amino acids [1] and other beneficial substances.

Moreover, some amino acids can enter our body only with food, while others, such as *arginine*, can saturate our body in two ways. The first way is nutrition, and the second is converting it from other amino acids.

An important feature of arginine is its ability to form nitric oxide, which has a beneficial effect on the body's circulatory system. This discovery was awarded the Nobel Prize in Medicine.

Keywords: arginine, general characteristics, daily requirement, digestibility, beneficial properties, signs of deficiency, signs of excess

Arginine rich foods:

- Pumpkin seeds
- Sesame
- Peanut
- Pine nuts
- Walnut [2]
- Almond
- Pork
- Chicken egg [3]
- Cottage cheese [4]
- Tuna
- Milk
- Beef
- Chicken fillet
- Dried peas [5]

General characteristics of arginine

Arginine is a conditionally essential amino acid. It belongs to the group of amino acids that can be produced by our body, although in insufficient quantities for the body.

Moreover, for the synthesis of arginine, clearly defined conditions are required. The slightest pathology – and the production of arginine in the body will be stopped. Arginine is one of the key reagents in nitrogen metabolism processes.

Arginine can only be produced in the body of an adult in good health. As for children, they do not produce the amino acid. In addition, after 35 years, arginine production begins to gradually decline.

Daily requirement for arginine

According to the standards developed by nutritionists, the daily requirement for arginine is:

- for children – up to 4.0 g
- for adults - up to 6.0 g

In this case, it is advisable to consume arginine found in products, and only in case of its deficiency, can a chemically created compound be consumed. Scientists have calculated: in order to get the daily requirement of arginine with food, you need to eat 6 chicken eggs a day, or 500 grams of cottage cheese, 360g of pork, or drink at least 4 liters of milk a day. This will probably seem like an impossible task to many, so we recommend that you diversify your menu by using several types of products that contain large quantities of this amino acid. A list of such products is given above.

The need for arginine increases with:

- depression [6];
- chronic fatigue syndrome;
- liver diseases;
- cholelithiasis;
- kidney diseases;
- decreased immunity;
- with a decrease in muscle mass;
- abundant fat deposits [7];
- for skin problems;
- in childhood and after 35 years;
- for cardiovascular diseases (risk of heart attack [8], angina pectoris [9], heart failure).

The need for arginine decreases:

- in people who suffer from arginine intolerance;
- in those suffering from systemic diseases (systemic lupus erythematosus);
- in the presence of neoplasms;
- in a healthy person aged 16 to 35 years.

Arginine absorption

In order for a person to receive the amount of this amino acid he requires, he must eat well and also have good health. Thanks to this, the lack of arginine can be replenished in the body on its own. Otherwise, a person will directly depend on arginine coming from outside.

Beneficial properties of arginine and its effect on the body

If we talk about the beneficial properties of arginine, they consist, first of all, in the normalization of metabolic processes. In addition, without this amino acid the normal functioning of the nervous and immune systems is impossible.

Its participation in the production of hormones and enzymes should also be emphasized. Thanks to this, muscle mass increases, while the content of fatty tissue in the body decreases. In addition, the liver is cleansed of toxins and toxic substances.

In addition, it is recommended for older men suffering from erectile dysfunction. Recommended for the prevention and treatment of cardiovascular diseases. It has a positive effect on blood vessels [10].

Interaction with other elements

Arginine interacts with other amino acids such as valine, phenylalanine and glutamine. After this, new compounds are formed that have a beneficial effect on the overall well-being of the body, as well as affecting life expectancy and external attractiveness. In addition, arginine also goes well with carbohydrates [11], which, when saturated with amino acids, have a particularly beneficial effect on the body.

Signs of arginine deficiency in the body

- increased pressure [12];
- disturbance of brain activity;
- premature aging;
- hormonal imbalances;
- obesity.

Signs of excess arginine in the body

- urticaria [13];
- tremor of the limbs;
- irritability turning into aggressiveness.

Factors influencing arginine content in the body

The general state of human health, as well as the systematic consumption of products containing arginine, are the two most important factors that determine the content of this substance in the body.

Arginine for beauty and health

Currently, arginine is widely used as a nutritional component for athletes - weightlifters and bodybuilders. Arginine reduces the fat content in the body and also helps build muscle mass, which gives a fit, slim and beautiful appearance. And one more surprise for those who are concerned about the condition of the skin: arginine helps improve its condition [14]. The skin is cleansed and the complexion improves.

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through nutrition and the second way is by converting it from other amino acids. An important feature of arginine is its ability to form nitric oxide, which has a beneficial effect on the body's circulatory system. This discovery was honored with the Nobel Prize in Medicine.