

Phospholipids - description, benefits, effects on the body and the best sources

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Abstract. When we looked at the topic of fats, we found out that lipids are the energy component of our body. Now we will talk about phospholipids, which also belong to fats [1]. However, instead of a single addition of a fatty acid to a polyhydric alcohol, phospholipids also contain phosphorus in the chemical formula [2].

Phospholipids were first isolated in December 1939. Their source was soybeans. The main activity of phospholipids in the body is associated with the restoration of damaged cellular structures, as a result of which general cell destruction is prevented.

Some currently widely advertised drugs for liver restoration exert their therapeutic effect precisely due to the presence of free phospholipids in their composition. By the way, lecithin also belongs to this group of lipids.

Key words: Phospholipids, general characteristics, daily requirement, digestibility, beneficial properties, signs of deficiency, signs of excess

Products with the maximum content of phospholipids:

- Olive oil
- Sunflower oil
- Butter [3]
- Linseed oil
- Cottonseed oil
- Yolk
- Fish fat
- Sour cream
- Beef
- Salo
- Chicken meat
- Soya beans
- Trout
- Hemp seed
- Flax-seed

General characteristics of phospholipids

Phospholipids are compounds consisting of fatty acids, polyhydric alcohols and phosphoric acid. Depending on which polyhydric alcohol underlies the phospholipid, *glycerophospholipids*, *phosphosphingolipids* and *phosphoinositides* are distinguished. The basis for glycerophospholipids is *glycerol*, for phosphosphingolipids - *sphingosine*, and for phosphoinositides - *inositol*.

Phospholipids belong to the group of essential substances that are indispensable for humans. They are not produced in the body and, therefore, must come from food. One of the most important functions of all phospholipids is participation in the construction of cell membranes. At the same time, proteins, polysaccharides and other compounds give them the necessary rigidity. Phospholipids are found in heart tissue, brain tissue, nerve cells and liver. In the body they are synthesized in the liver and kidneys.

Daily requirement for phospholipids

The body's need for phospholipids, subject to a balanced diet, ranges from 5 to 10 grams per day. At the same time, it is advisable to consume phospholipids in combination with carbohydrates. In this combination they are better absorbed.

The need for phospholipids increases:

- with weakening memory;
- Alzheimer's disease;
- for diseases associated with damage to cell membranes;
- with toxic liver damage;
- for hepatitis A, B and C.

The need for phospholipids is reduced:

- with high blood pressure;
- with atherosclerotic changes in blood vessels;
- for diseases associated with hypercholesterolemia;
- for diseases of the pancreas [4].

Digestibility of phospholipids

Phospholipids are best absorbed together with complex carbohydrates [5] (cereals, bran bread, vegetables, etc.). In addition, the method of cooking has an important impact on the complete absorption of phospholipids. Food should not be subjected to prolonged heating, otherwise the phospholipids present in it are subject to destruction and can no longer have a positive effect on the body.

Beneficial properties of phospholipids and their effect on the body

As mentioned earlier, phospholipids are responsible for ensuring the integrity of cell membranes. In addition, they stimulate the normal passage of signals along nerve fibers to the brain and back. Phospholipids can also provide protection to liver cells from the harmful effects of chemical compounds.

In addition to the hepatoprotective effect, one of the phospholipids, phosphatidylcholine, helps improve blood supply to muscle tissue, fill muscles with energy, and also increases muscle tone and performance.

Phospholipids are especially important in the diet of older people. This is due to the fact that they have lipotropic as well as anti-atherosclerotic effects.

Interaction with other elements

Vitamins of group A, B, D, E, K, F [6-11] are absorbed in the body only when combined harmoniously with fats [12].

An excess of carbohydrates [13] in the body complicates the process of breaking down unsaturated fats.

Signs of a lack of phospholipids in the body:

- memory impairment;
- depressed mood;
- cracks in the mucous membranes;
- weak immunity;
- arthrosis and arthritis;
- disruption of the gastrointestinal tract;
- dry skin, hair, brittle nails.

Signs of excess phospholipids in the body

- problems with the small intestine;
- blood thickening [14];
- overexcitation of the nervous system.

Phospholipids for beauty and health

Since phospholipids have a protective effect on all cells of our body, the use of phospholipids can be considered a first aid kit. After all, if one or another cell of our body is damaged, then the body itself will not be able to perform the functions assigned to it. And, therefore, one can only dream of a good mood and beautiful appearance. Therefore, eat foods containing phospholipids and be healthy!

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