

The use of nucleotide supplementation in the light of research

Cells are the smallest structurally and functionally units of living organisms capable of carrying out all basic life processes, such as metabolism, growth or reproduction. They are responsible for the growth and development in childhood, the organs of our body are made of them. Cells are produced continuously and constantly appear in place of dying ones. Harmonious reproduction and exchange of cells means health and development. Healthy cells are strong organs, immunity, antibodies to disease, longevity and condition. Problems at the cellular level lead to disease states, weakening and slowing down the recovery rate and regeneration. A strong, healthy body is able to effectively defend against threats, weakened must fight for survival.

So what causes that the multiplication of cells is harmonious and their supply sufficient, and what inhibits this process? The cause was found several dozen years ago in the structure of DNA and RNA nucleic acids. It turned out that small particles called nucleotides have a significant impact on cell development. They constitute the basic building blocks of nucleic acids and participate in virtually all metabolic functions. Put simply, nucleotides are building blocks of nucleic acids whose deficiency inhibits the formation and regeneration of new cells, including those that are responsible for the regeneration and defense of the body. At the same time, it has been shown that in cases of deficiencies, nucleotides supplied to the body through supplementation perform extremely beneficial functions and, above all, support the efficient production of new cells. Nucleotide supplementation has a significant, clinically proven effect on the normalization of the immune system. Preparations of this type activate macrophages, large defensive cells that can absorb foreign cells. They stimulate the body's defense system in such a way that the body can cope with many diseases on its own.

Nucleotides are synthesized in our body, mainly in the liver, from consumed food. An adult receives about 1.5-2.5 g of dietary nucleotides per day with food, which is more than the total amount of vitamins obtained from the same food. The richest source of nucleotides are caviar, seafood, soy, beans and beef. A healthy body is able to meet current needs, despite the fact that the process of producing nucleotides is energy-consuming and long-lasting. Unfortunately, this is not always the case. Demand many times exceeds the supply for infants, growing children, the elderly, as well as in diseases and convalescence. Similarly happens with increased physical and intellectual effort and in stressful situations. A weakened body is not able to synthesize the right number of nucleotides, weakness, lack of appetite, and the lack of adequate quality of food stand in the way. As a result, regeneration processes slow down and prolong the recovery process, and too few cells responsible for the body's defenses are unable to resist threats.

Many years of research conducted in the USA, Japan and the nearby Czech Republic have shown that nucleotide deficiencies can be eliminated by supplementing with preparations containing nucleic acid fragments obtained from natural sources. The nucleotides supplied in this way are treated by the body as their own, while the energy-intensive process of their production is omitted. In supplemented patients, rapid improvement of condition, shortening of wound healing time, improvement of immunity, vitality, etc. were observed. Interestingly, supplementation does not cause addiction or overdose, there were no reactions in contact with drugs, allergic or allergic effects.

The use of supplementation

Nucleotides are a key component in the maturation and proper functioning of the gastrointestinal tract and in the formation of the correct microbiota of the body already in the infant, protecting them from pathogenic microorganisms. We find them in large quantities in mother's milk which, during the first months of life, provides the child with cellular building materials that he or she cannot yet produce. Commonly used cow's milk, containing almost many times less nucleotides than mother's, is one of the reasons why breastfed babies show greater immunity and are less likely to get sick than their peers raised in cow's milk.

The correct supply of nucleotides is necessary in the states of chronic lack of immunity and fatigue, affecting the restoration of lost functions of the immune system and leading to rapid improvement of disturbed physiological functions of man. Nucleotide supplementation has anti-inflammatory effects. In children with allergies, the observed changes resulted in a general improvement in health, including increased immunity and a decrease in the incidence of respiratory diseases.

Nucleotide supplementation has a significant impact on the maintenance of good intestinal condition, through their effect on the regulation of intestinal microbiota, regeneration of intestinal epithelium and villi, and nutrient metabolism. Nucleotides affect many mechanisms of cellular and humoral immunity.

Any damage to the liver parenchyma leads to increased consumption of nucleotides, with the regeneration of new tissue being supplemented by accelerated DNA and RNA synthesis. Nucleotide supplementation improves liver parenchyma function, affects its repair and detoxification of picotoxins. Scientific experience indicates a significant reduction in the risk of liver damage, as well as a decrease in cholesterol among people exposed to hepatotoxic substances due to externally supplied nucleotides.

Nucleotide supplementation is further desirable in the treatment of injuries, fractures and burns. In people struggling with heart, circulatory and lung diseases. Increases the overall efficiency and condition of the body of people working hard and working in extreme conditions.

Adequate intake of dietary nucleotides, in the early period of human development, has a positive effect on the development of the central nervous system. Exogenous nucleotides have been shown to support memory and cognition. The literature cites cases of significant improvement in health after administration of the preparation in people with signs of neurodegeneration, for example in patients with dementia. It has been shown that they are necessary not only to support learning, but also significantly support concentration.

Regular administration of preparations containing dietary nucleotides to athletes and people working in competitions with increased demand for physical effort, reduces their morbidity, inability to work and susceptibility to injury. The Czech studies are significant in this case, where in a test group of over two thousand people subjected to high physical effort, staying at high temperatures, the administration of drinks containing nucleotides led to a 50% reduction in absence from work due to illness. The same effects were noted in other professional groups (fire brigade, police, transport).

The intake of exogenous nucleotides as immunomodulatory substances is currently indicated in the world pediatric literature, as well as oncological diet recommendations and in life-threatening conditions, e.g. after extensive burns.

Can supplementation be used always and in any case? The strong effect of stimulating the immune system means that people suffering from autoimmune diseases and those who have undergone transplants should not reach for this type of supplementation, and in case of any doubt it is always worth consulting a specialist or doctor.