

Calcium, phosphorus, fluoride and vitamins: what is needed for healthy teeth and strong gums?

Vitamins and minerals necessary for healthy teeth and gums
Just think about it, enamel is the strongest substance of the human body, withstanding the load of several dozen pounds per square centimeter every day. It consists mostly of calcium and phosphorus, but more than 20 trace elements are involved in its formation. So what micronutrients and vitamins are needed for healthy and strong teeth and gums?



Calcium: the building block of all things

Calcium is the basic building material of bones and teeth, 99% of the body's reserves are concentrated here. There are constant metabolic processes, but when the well-coordinated mechanism is broken, a deficit is formed, which leads to various problems and consequences.

Enamel is an inorganic substance - calcium hydroxyapatite, and, to build a complete crystal lattice of enamel, calcium must enter the body during intrauterine development. After birth, the diet must contain enough of the trace element, but this is not the only one that matters!

Recently it has become popular to follow certain dietary principles - vegetarianism, veganism, raw food... In the world of nutritionists and doctors there are heated debates about the benefits and harms of such food principles, but when it comes to the dental status, it is reliably known:

The above-mentioned diets cannot provide sufficient calcium intake to the body. In fact, many patients deliberately deprive themselves of dairy products - the record holder for calcium content, which is the easiest and fastest to absorb. Plant foods contain insufficient amounts of minerals and vitamins that help in the absorption of calcium as well as building enamel.

And malnutrition, deficiency of protein is a predisposing factor for the development of caries, gum diseases and thinning of enamel with the subsequent formation of hypersensitivity.

As the result, numerous clinical observations and practice shows: patients who adhere to certain principles of nutrition, suffer from many diseases of the teeth: they literally crumble, there is a multiple form of dental caries.

But, surprisingly, vegetarianism is a diet that turns out to be extremely beneficial for the health of the gums.

Where to Find Calcium?

As mentioned above, dairy products are recognized as the main and richest source of calcium. Large amounts of calcium are found in seafood, fish, green vegetables, cereals, and specialty breakfast foods, and these are literally the only sources of calcium for patients who adhere to vegetarianism and veganism.

But when formulating a diet, it is worth remembering that certain conditions are necessary for calcium absorption: the presence of phosphorus as well as vitamin D.

Phosphorus

Phosphorus is an equally important micronutrient for strong and healthy enamel. This element is concentrated in the bones, but it is most

abundant in the teeth. Phosphorus is involved in the metabolism of calcium, which promotes its absorption by forming insoluble salts. Phosphorus is necessary not only for the teeth, but also for the health of the gums. With age, when the likelihood of dystrophic processes increases, the need for it increases. A complete diet should contain as many source foods as possible.

Sources of Phosphorus



Phosphorus should be sought in protein foods, such as meat. It is especially abundant in fish, as well as dairy products, seeds, legumes and some vegetables. Which once again proves that milk and its derivatives are very good for oral health.

Studies show that most patients cover their daily requirement of phosphorus with their normal diet, and deficiencies are extremely rare.

The Great and Terrible: Fluoride

Fluoride is the key to preventing tooth decay! Which has been proven by numerous studies, scientific papers. Let's turn to the basics of inorganic chemistry: when calcium hydroxyapatite and fluorine interact, fluorine hydroxyapatite is formed - a stronger and more stable substance that can withstand the acids of caries-forming bacteria.



Fluoride is actively used for preventive purposes: home and professional. For example, toothpastes and rinses, fillings, dental gels and varnishes.

The main source of fluoride is water. The decision to fluoridate water was made more than 70 years ago, and throughout this time the rate of dental morbidity in different regions is estimated. One thing can be said for sure - after water fluoridation program was introduced, prevalence of caries has decreased by 18-40% in different age groups.

In contrast to this, one can recall a study conducted in the United States. Under the pressure of public opinion, the decision was made to remove

fluoride from drinking water in Alaska. Residents calmed down, but dentists prepared for more work. And, as it turned out, for good reason.

Two years after the program was canceled, the incidence of tooth decay had increased by more than 40%, and the cost of dental treatment had risen 1.7 to 2.5 times, depending on the age group.

Where to look for fluoride?

To begin with, all the fears and misinformation that fluoride is harmful have no basis in fact. Its mutagenic properties and pathological effects on the endocrine system are unfounded and, to put it mildly, greatly exaggerated.

In addition to fluoridation of water, there have been programs introduced at various times to fluoridate salt and milk. In addition, fluoride can be found in tea, and it is in green tea, some grains, vegetables, seafood.

But all the more often fluoride is used just in the office of the dentist: fluoro lac, bifluoride, deep fluoridation, toothpastes containing it.

When choosing anti-cariogenic and toothpaste against tooth sensitivity, you should pay attention to its composition: the amount of fluoride in the paste must be at least 1355 ppm, and it is aminofluoride and tin fluoride that have the best remineralizing properties.

It is these fluoride compounds have great remineralizing potential, which was proven in the experiment.

And what about vitamins?

Vitamins are catalysts of metabolic processes in the body. Vitamin deficiencies are not uncommon, which directly affects how we feel, as well as some processes. Several particularly important vitamins can be identified to maintain health and control metabolic processes in the mouth.

Vitamin C



Ascorbic acid is involved in mineral metabolism, and their sufficient presence is the key to strong bones, teeth and healthy gums. Hypovitaminosis of vitamin C manifests itself in the gums by bleeding and inflammation. If there is not timely treatment and nutrition correction, other symptoms may join: bad breath, loose gums, dryness of the red border of the lips.

Sources of vitamin C are citrus fruits, certain types of berries, herbs, and vegetables.

Vitamin D

Recent studies have proven its fundamental role in immune function. It is known that most dental diseases are of infectious nature, that is, provoked by opportunistic microflora. If the body can contain and control the reproduction of bacteria, the risks of disease are greatly reduced.

Vitamin D is involved in the metabolism of calcium and phosphorus, helping in the absorption of these trace elements. When the vitamin is deficient, there is an uncontrolled release of minerals, which leads to the destruction of teeth, increasing the likelihood of tooth decay.

Vitamin A

Retinol is useful not only for vision, but also for the oral cavity. Prolonged vitamin deficiency is associated with loose teeth and numerous gum diseases. There is also a dryness of the skin, the red fringe of the lips.

Because of violations of the protective properties of the skin, patients often suffer from a sore spot in the corners of the mouth (angular cheilitis) and various types of stomatitis. Vitamin A deficiency has been shown to play a role in the frequent recurrence of aphthous stomatitis.

All the effects of deficiency on oral health, often associated with inadequate saliva production - xerostomia. It is known that saliva is the natural protector of the oral cavity, and when its composition and properties are disturbed, many problems form:

Caries

Due to disruption of mineralization of enamel, as well as uncontrolled reproduction of pathogenic bacteria.

Gum inflammation

Food debris is not washed away with saliva, accumulates in the tooth sulcus, on the contracted surfaces, leading to inflammation and its progression.

Vitamin A is found in meat and poultry, dairy and dairy products, orange fruits and vegetables, seafood, and eggs.

B vitamins



Vitamins in this group maintain harmony in the oral microflora, preventing the development of dysbacteriosis. Adequate intake of vitamin with foods is the best prevention of inflammatory-dystrophic changes in the gums.

Look for B vitamins in berries, fruits and vegetables, including leafy vegetables, dairy and meat products, fish, nuts, cereals and seeds.