

## MODERN APPROACHES TO THE PERFECT SMILE. DENTAL PLAQUE

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**Fattayeva Dilorom Rustamovna**  
**Babayeva Sogdiana Sunatullo kizi**  
(teacher and student)«Alfraganus university»

### **Annotation.**

*Plaque on the teeth is not only an ugly appearance and bad breath. Its mineralization leads to the formation of tartar, which injures the gums and changes the structure of the enamel. And multiplying bacteria cause inflammation of tissues and the development of caries.*

### **Keywords**

*dental diseases, oral hygiene, dentist, clean teeth, causes, plaque, toothpaste*

Many dental diseases are associated with the influence of plaque. It consists of bacteria and their waste products, dead mucosal cells, white blood cells, food residues and protein molecules from saliva. If a person smokes, drinks coffee, tea and other colored drinks and products, the plaque becomes pigmented and changes the color of the teeth.

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The reasons for the formation of yellow plaq

The plaque can be soft and hard, in the latter case they talk about stones. Soft deposits on the teeth are formed in all people, this is a natural and constant process associated not only with eating, but also with the microflora of the oral cavity. The fact is that many bacteria live on the surface of human mucous membranes. They remain in the mouth even after thorough brushing of teeth.

Each tooth is normally covered with a structureless film called a pellicle. Its thickness is not more than 1 microns, and acidic proteins (proteins) of different origin, enzymes, immunoglobulins (protective antibodies) and other compounds are found in the composition. The pellicle is a semipermeable membrane through which the exchange between saliva and tooth enamel takes place.

Microbes secrete highly adhesive heteropolysaccharides, which gives them the

opportunity to attach to the pellicle. As a result, a soft porous plaque is formed. Bacteria, food residues, leukocytes, protein molecules and dead epithelial cells are deposited on its surface. The thickness of plaque progressively increases, it gradually changes and can turn into stone.

#### Stages of plaque formation

In the process of plaque formation, there are 3 main phases. The first stage lasts for the first 4 hours after brushing your teeth, when the remaining bacteria begin to multiply and spread. By the end of this period, up to 1 million different microorganisms can be detected in the mouth.

The second phase is considered to be the interval of 4-7 hours after thorough brushing of teeth, at this stage the number of microbes already increases 10 times. Bacteria are fixed on the surface of the teeth, contributing to the formation of a thin soft plaque. At this stage, streptococci and lactobacilli still prevail. The acids they release are detrimental to the enamel, and its destruction predisposes to caries.

After 6-7 hours after brushing your teeth, you can already talk about phase 3, while the plaque becomes visible and takes its final structure. Its composition is now dominated by anaerobic bacteria that do not need oxygen and therefore can live in the thickness of the layers. Under the influence of saliva and microbes, the plaque gradually thickens and hardens. Mineralization and transformation of soft plaque into stone occurs. The strongest stone is formed near the mouths of the salivary ducts. It presses on the gingival groove and irritates it, disrupts the metabolism between tissues and saliva. All this contributes to damage to the tooth enamel and the development of gum inflammation (gingivitis). Subsequently, the process spreads to deeper layers.



Professional oral hygiene at the dentist is required to clean teeth.

What causes plaque to form?

The main causes of tartar and plaque formation:

insufficiently effective or irregular oral hygiene;

eating too soft food that does not clean the teeth naturally and remains in the interdental spaces;

malocclusion or impaired growth of teeth, which makes it difficult to remove plaque and contributes to the formation of a stone;

metabolic disorders that change the mineral composition or acidity of saliva and accelerate the formation of stones;

the effect of certain medications;

the presence of periodontitis (inflammation of the tissues at the roots of the tooth).

How to protect yourself from plaque formation?

how to prevent plaque formation

Comprehensive regular oral hygiene is the best prevention of plaque and tartar formation, while it is advisable to use several means.

We use a toothbrush

A brush is a simple and affordable way to mechanically remove plaque before it turns to stone. Cleaning should be carried out at least 2 times a day, for each tooth there should be about 20 movements. First, the outer side is cleaned of plaque. To do this, the brush is rotated in the direction from the gums to the cutting edge, after which the teeth are polished in a circular motion. Then they move to the inner edge and the chewing surface of the lateral teeth. At the end, you need to clean your tongue, rinse your mouth and wash your toothbrush. Of course, brushing your teeth will not remove stones, but it will reduce the risk of their appearance.

Do not forget about dental floss

Dental floss helps to clean the adjacent surfaces of the teeth, preventing the formation of a stone. The thread stretched between the index fingers is carefully inserted into the interdental space, removing the plaque with translational movements. Then the floss is intercepted and the next teeth are processed. Such cleaning should be carried out at least once before going to bed, but it can be applied after each meal. This is a good prevention of the formation of tartar.

Choosing the right toothpaste

Toothpaste needs to be bought in accordance with the task, sometimes it requires a dentist's consultation. Pastes are bleaching, strengthening enamel, reducing inflammation and bleeding of the gums, preventing the formation of a stone. Sometimes a combination of different means may be required. Therapeutic

toothpastes are purchased only on the advice of a doctor, after removing the stones, the dentist will give the necessary recommendations.

We use a rinse aid

Mouthwash is an important addition to mechanical cleaning of teeth. It is advisable to include it in the program of daily comprehensive control of plaque deposition and the formation of stones. LISTERINE ® rinses contain 4 purified essential oils and suppress pathogenic microorganisms. They affect the very cause of tartar and plaque formation, reducing the risk of plaque formation by 70% compared to using only a brush\*. A special LISTERINE ® Total Care helps to eliminate plaque in children from 6 years old.

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