Caries resistance in enamel

Caries resistance is defined as the resistance (retention of structural and functional integrity) of enamel to the action of cariesogenic factors. Enamel caries resistance is defined by properties such as acid resistance, microhardness and permeability.

Enamel resistance to caries defines:

- features of the chemical composition of the enamel apatite (molecular level);

- Structural features of enamel: completeness of organic matrix, arrangement of crystals and prisms, Ca/P ratio, level of permeability, presence of structural defects (tissue level);

- anatomical features of the tooth, size and shape of fissures, interdental spaces (organ level);

- condition of organs and systems of the body, including salivary glands, salivary secretion, nonspecific and specific protective factors (systemic level).

Increased caries resistance of enamel is promoted by:

- Correct formation of the embryos and development of the tooth tissues;

- Timely and complete maturation of the enamel after eruption;

- sufficient oral fluid, its optimal chemical composition and remineralising potential;

- A good level of oral hygiene;

- regular use of fluoride-containing oral hygiene products; diet (low carbohydrate intake, presence of solid foods in the diet);

- good chewing and self-cleaning of the tooth surface.

IMPACT OF SYSTEMIC CHRONIC DISEASES ON DENTAL HARD TISSUE HEALTH

Oral condition and general health are closely related.

Tooth decay is increased by:

- Diseases and conditions accompanied by reduced salivary flow:

- Endocrine disorders (diabetes mellitus);

- Rheumatoid conditions (Sjögren's syndrome);

- Immune system dysfunctions (HIV);

- neurological diseases (Parkinson's disease);

- Psychogenic disorders (depression);

- conditions accompanied by dehydration.

- Taking medication that reduces salivary flow (analgesics, antidepressants, diuretics, antispasmodics, antihistamines, antihypertensives, psychotropics, etc.);

- gastroesophageal reflux;

- diseases that lead to impaired manual oral care skills (post-stroke conditions, cerebral palsy, mental disorders, etc.)

- Undergoing a course of radiation therapy.