

# PRINCIPLES OF PREVENTION AND TREATMENT OF CARIES ON THE APROXIMAL SURFACES OF TEETH IN CHILDREN

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## Abstract

Caries of the approximal surfaces of teeth is not only highly common nowadays, but also gives the most frequent complications — the main cause of pulpitis and periodontitis. It is the most difficult to diagnose and the most difficult to treat. Therefore, its timely prevention and effective treatment are one of the most important tasks of modern dentistry. The absence of symptoms of secondary caries in the early stages of its occurrence, especially on the approximal surfaces of teeth, creates the impression of a successful therapeutic treatment, but repeated cycles of excision of necrotic tissues followed by filling weaken the crown of the tooth so much that later this leads to its removal.

Currently, addressing the problem of dental caries in scientific research does not seem promising for many, since hundreds of applied and fundamental works of the last century and several years of the XXI century are devoted to this. At the same time, epidemiological studies conducted in Uzbekistan show that the prevalence and intensity of dental caries in the population are not decreasing. And the number of recurrences of the carious process and cases of secondary caries development significantly exceeds that in the developed countries of Europe and America. It is in connection with secondary and recurrent caries that about 40% of all therapeutic dental measures related to dental treatment are carried out. This consumes a third of the dentist's working time. Modern developments of filling materials and dental restoration techniques are aimed at preventing secondary and recurrent caries.

**Keywords:** Caries, the approximal surfaces, treatment, prevention, scientific research, therapeutic dental measures.

## Introduction

Based on the analysis of literature and research data, the children of the city of Bukhara studied and analyzed the epidemiology of pathology between the caries of the aproximal surfaces of the teeth (grades II, III and IV, according to Blake) and the modern and historical aspects associated with it.

## The task of the study:

Study of caries (grades II, III and IV on Black) spread on the proximal surfaces of teeth among children living in Bukhara City based on analysis of literature and research data.



In a deepened examination of patients in Bukhara, the anatomical topographic features of the dental intervals were determined under normal and pathological conditions.

Based on the data obtained, the practical work of complex examination, treatment and Prevention of caries on the aproximal surfaces of the teeth was carried out, and the practical implementation of a complex of preventive measures of dental treatment aimed at reducing caries on the aproximal surfaces of teeth in children, based on clinical, functional and experimental studies.

**The object** of the study was taken from 58 children examined in 2017-2019 at the Bukhara region children's dental Polyclinic No. 2, Bukhara City High School No. 21, 23, 38, 40 15 -17-year-old children with dental aproximal surface caries disease diagnosis.

Children with the presence of caries on the aproximal surface of the tooth were taken for clinical examination as the subject of the study.

**Methods of research.** In the implementation of the dissertation study, the questionnaire-questionnaire, assessment of the acidity of tooth enamel, determination of the hygienic index of the oral cavity, electrical conductivity of the pulp, experimental and statistical methods were used. The scientific novelty of the study consists of:

1. Among children living in Bukhara, groups of children examined with clinical and epidemiological features of the spread and intensity of caries of the aproximal surfaces of teeth were studied.
2. A modern concept of the practical implementation of a complex individual approach to the diagnosis, treatment and Prevention of caries on the aproximal surfaces of teeth has been developed.
3. The practical effectiveness of a complex individual approach to the diagnosis, treatment and Prevention of caries on the aproximal surfaces of developed teeth was assessed.

**The practical results of the study include:**

A practical approach procedure has been developed aimed at ensuring the effectiveness of improving the secondary prevention of caries complications on the aproximal surfaces of teeth in children;

Each factor that allows you to make a quick decision in the management of risk factors aimed at strengthening the state of health from childhood is characterized by an objective number and quality;

A questionnaire survey system has been created aimed at Timely early assessment of children's tooth enamel changes;

In deepened medical examinations in schools, the effectiveness and responsibility of dental medical examinations has been increased;

Children with environmental factors have developed a system for the diagnosis of caries on the aproximal surfaces of teeth and the Prevention of the origin of secondary complications.

The reliability of the research results is based on the theoretical approach and methods used in the work, the methodological correctness of the research carried out is based on the fact that the prevention and treatment of caries diseases on the aproximal surfaces of children's teeth is based on high-level clinical-functional, experimental and statistical research methods, all digital data is



processed using modern computer technologies, The use of statistical methods also ensured the reliability of the results obtained.

Aprobation of research results. The results of this study were discussed at 2 scientific and practical conferences, including 1 International and 1 Republican scientific and practical conference.

### Conclusions

1. Caries of the aproximal surfaces of teeth is the main problem of modern local cariesology. Of those examined at the age of 15-17, 81.4% have carious lesions on these surfaces of the teeth in the defect phase, and 31.6% have carious lesions in the blemish phase. This localization caries is the cause of pulpitis or periodontitis in 76.4% of cases. On average, half of the restoration of such localization does not meet the requirements and is often accompanied by inflammation of secondary, recurrent caries or dental milkii tissues. Despite advances in dentistry, the prevalence and intensity of caries has been increasing over the past 100 years. In recent years, we have noted the trend of increased incidence of men compared to women.

2. Intensity, distribution and localization of dental carious lesions on their contact surfaces depends on individual characteristics, which can be combined into 5 main groups or classes. This classification allows the doctor to take these characteristics into account when planning therapeutic and preventive measures.

3. The anatomical and topographic features of the Interdental spaces directly determine their functional state and the risk of developing pathology. According to the condition of the aproximal points between the teeth and gingival papillae, it is possible to guess about the presence of such a pathology or the possibility of its occurrence in the future. The number of interdental spaces under study with a normal anatomical and topographic position is 1.5-2 times less than with deviations from the norm.

4. Caries of the proximal surfaces of the teeth is accompanied by a pronounced violation of the microbial and acid-base balance in the area of the interdental space. The functioning of the biofilm in this zone, depending on the anatomical and topographic characteristics of the cavity, causes the development of enamel demineralization on one or both adjacent surfaces of the teeth.

5. In the functional state of the oral cavity environment and individual interdental spaces, there are laws in the development of the caries of the aproximal surfaces of the teeth due to cumulative and interrelated disorders. The severity of these violations may vary and vary in proportion. Against the background of the breakdown of acid-base balance regulation systems in the oral cavity, the combination of microbial acidosis with local microbial acidosis in the interdental spaces is the most unfavorable.

6. Aproximal surface caries it is not just a problem of one or more teeth. The recommended pathogenetic classification of such caries, which distinguishes 4 classes, determines the dominant links in its pathogenesis and, in general, the main directions of treatment and Prevention for the individual.

7. The concept of comprehensive examination, treatment and Prevention of caries of the aproximal surfaces of teeth implies the following:

- \* assessment of the individual characteristics of the caries course and the cariogenic condition in the oral cavity, reflected in the recommended classifications;

- \* pathogenetic-based complex treatment; including \* restoration of microbial and acid-base balance c.



- in the area of the oral cavity and interdental spaces, occlusion connections of the teeth, restoration of hard tissues lost by them, reconstruction of interdental spaces; the pathogenetic classification of such caries, which distinguishes 4 classes, determines dominant connections in its pathogenesis and the main directions of treatment and Prevention in general for the individual.

- long-term monitoring with periodic preventive measures on the functional state of the oral cavity environment, interdental spaces, primary and secondary caries.

8. Recommendations for comprehensive examination, treatment and Prevention of caries of tooth approximations compared:

- made it possible to significantly increase the effectiveness of the diagnosis of primary caries;
- increase the effectiveness of the diagnosis of caries by 14.8 percent in the stage of defects; • decrease the growth rate of caries by 7.6 times and 6.3 times - the growth rate of caries on the approximal surfaces of the teeth;
- increase the efficiency of detecting poor-quality restorations by 37.4 times;
- reducing the negative impact of cariogenic condition in the oral cavity on teeth by 2.2 times more patients.

### PRACTICAL RECOMMENDATIONS

1. From certain methods of diagnosing the initial caries of the approximal surfaces of the teeth, computed tomography is the most informative in the diagnosis of caries at the stage of the defect.

2. When planning a complex treatment of the caries of the approximal surfaces of the teeth, it is necessary to assess the occlusion ratio of the teeth, the reconstruction of the Intertribal spaces and, if necessary, correct.

3. The most effective way to restore dental crowns is to use inlays, especially those made of porcelain. The use of composite and amalgam fillings is not very effective. To prevent secondary caries of reversible teeth and adjacent primary caries, the approximal surfaces of restorations must be periodically polished.

4. Prevention of primary and secondary caries of the approximal surfaces of teeth is effective through the application of gel forms of antimicrobial agents in the interdental spaces and deep fluoridation, carried out with the help of interdental files.

5. types of existing restorations methods for restoring impaired microbial, acid-base balance in the oral cavity and mechanisms for regulating homeostasis should be selected individually. To prevent secondary caries of reversible teeth and adjacent primary caries, the approximal surfaces of restorations must be periodically polished.

6. Caries cannot be effectively prevented on the approximal surfaces of teeth without long-term follow-up after treatment of diagnosed defects and oral sanitation.

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