

**Purpose:** The study of the structural features of the growth zone of the root apex and the differential diagnosis between the non-edified root and radicular granuloma in the permanent young teeth. Analysis of bibliographic data on the subject. Radiological study of the permanent teeth with the root non-edified apex at different stages of evolution. Comparative analysis on the base of radiological data of the growth zone and radicular granuloma.

**Materials and methods:** 97 radiological clichés of children from 5 to 17 years with the roots of teeth in different stages of formation and 12 radiograms with radicular granulomas have been studied. Macroscopically, 20 teeth, extracted for various reasons, with unformed roots were studied.

**Results and discussion:** Analysis of radiological data of the tooth roots revealed the peculiarities of the growth zone in comparison with the destructive changes characteristic for the chronic granulomatous periodontitis in the form of extended centre of rarefaction with the bone missing in the middle, the periodontal space widening on the account of the cortical lamina resorption and the absence of the spongiosa involved in the inflammatory process.

**Conclusions:** Inflammation and pulp necrosis disturb the process of development of young permanent teeth roots, especially that the inflammatory processes in children are diffuse, affecting the adjacent tissues of the centre. Chronic apical periodontitis, occurring especially in younger patients, requires an accurate assessment of the periapical changes.

**Key words:** chronic apical periodontitis, root growth zone, root apex.

## CARIES IN CHILDREN. THE INCIDENCE STUDY

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**Introduction:** Actuality of the subject is determined by the growing incidence of dental caries, by its severity, by local and general complications that occur. Dental caries by its progressive and irreversible evolution is the most common cause of morphofunctional imbalance of the components of the stomatognathic system. Caries diagnosis, apparently simple, sometimes proves to be difficult.

**Purpose:** To evaluate caries incidence in children and to increase the diagnostic efficiency during prophylactic examinations.

**Material and methods:** To achieve the established purpose, 89 schoolchildren from theoretical high school in Zîmbreni, Ialoveni were included in the study. Mean age of patients within the study was  $14,37 \pm 0,9$  years with a range between 12 and 16 years. The total cohort of patients comprised 37 boys (41,57%) and 52 girls (58,43%). Examination was performed according to the WHO methodology, by direct and indirect inspection using a dental mirror and by palpation with a dental probe. Clinical examination by inspection was, in some cases, insufficient to establish the diagnosis of proximal caries. In cases of the enamel color change or undermining of the marginal ridge, a complementary examination method was applied using the floss - sign of the floss. Inspection findings and observations were recorded in dental health records.

**Results:** Of the 89 examined subjects, 77 schoolchildren (86,52% of cases) had dental caries in permanent teeth. Examination of subjects by direct and indirect inspection with a dental mirror and dental probe allowed determining caries in pupils (97,4% of cases). Combination of clinical and complementary examination through the method of the floss sign allowed establishing diagnosis of dental caries in 2 pupils (2,6% of cases).

### Conclusions:

1. Incidence of dental caries in children aged  $14,37 \pm 0,9$  years is high and constitutes 86,52% in the study.
2. Increasing the efficiency of caries diagnosis within the prophylactic examinations requires combining clinical examination with additional tests, through the floss sign, which allowed definitive diagnosis in 2,6% of cases.

**Keywords:** caries, incidence index, floss sign.

## CLINICAL EVALUATION OF THE CERAMIC ON ZIRCONIUM CROWNS AND BRIDGES IN AND ON IMPLANTS: RESULTS AFTER 4 YEARS

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**Introduction:** Zirconium as a dental material generated special interest for dentistry, being used on a large scale for fixed dentures because of its special properties: chemical and dimensional stability, high mechanical resistance, its Young module (210 Gpa) is compatible with that of steel alloys (193 Gpa). Our studies are focused on the resistance and reliability of zirconium blunts on implants, especially of the individual ones, but also the type of ceramics used for dental bridges. We made ceramic – zirconium crowns and bridges for 89 patients (56 women, 33 men), aged between 15 and 57 years, for a period of 4 years.

**The method** used in the lab was the CAD-CAM system, then scanning with a Dental Wings scanner and later milling by CAM system from Wieland. The ceramic used was from 3 different manufacturers: Wieland (ZenoTec), Vita(VM9) and IVOCLAR (Emax)- and also different labs. During the follow-up period we noticed that the physiognomic component was chipped, especially in the ZonaTec bridges, and that the frame of the bridges was fractured on the pontic.

**Key words:** zirconium, dental bridges, dental ceramic.

## MINIMALLY INVASIVE PROSTHETIC TECHNOLOGY IN DENTO-SOMATO-FACIAL ESTHETICS

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One of the major challenges in dentistry today is tooth restorations with biocompatible materials which are sufficiently strong to endure masticatory forces. It's necessary to use ceramics in prosthetic restorations because of the material's qualities: high wear resistance as well as special esthetic qualities. The minimally invasive techniques allowed us to make prosthesis which are more biological and prophylactic because of the limited tooth preparation. Maryland bridge the facets technique is the second minimally invasive prosthetic solution, it consists of removing a very small amount of healthy tooth surface when esthetic corrections are needed for the front teeth.

**Key words:** minimally invasive prosthetic technology, facets, maryland bridge, dento-somato-facial esthetics.