

1. Cross section of the coronal dentine, 1 mm from the enamel-dentine junction.
2. Cross section of the coronal dentine, half-distance between the enamel-dentine junction and the pulp.
3. Cross section of the coronal dentine, 1 mm from the roof of the pulp chamber.

Openings of the exposed dentinal tubules were counted in a square size  $50 \times 50 \mu\text{m}$  of the dentinal surface. The number was divided by 2500 to obtain the number of the openings of the dentinal tubules in the square micrometer ( $\text{N}/\mu\text{m}^2$ ). This number was multiplied by  $10^6$  to obtain the number of the openings of the dentinal tubules in the square millimeter ( $\text{N}/\text{mm}^2$ ).

The mean number of the openings of the dentinal tubules on the first level was  $9600/\text{mm}^2$ , on the second level  $27100/\text{mm}^2$  and on the third level  $58300/\text{mm}^2$ . Using the one-way analysis of variance was found ratio  $\text{MS}_{\text{treatment}}/\text{MS}_{\text{error}}$  305.22, that was greater than  $F_{0.99}(2.57)$  4.98.

The results showed that there is significant statistical difference in the number of exposed dentinal tubules between all three groups of specimens.

## Individualni štitnik u prevenciji športskih ozljeda

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Traume zuba i mekih tkiva orofacijalnoga sustava zdravstveni su problem današnjice. Prema etiologiji, zasebnu skupinu dentalnih trauma čine športske ozljede. One su karakteristične za mnoge športove. Protektivna uloga športskoga štitnika u prevenciji je posjekotina jezika, usana i obraza od ozljeda oštrim incizalnim rubovima najčešće prednjih gornjih zuba, manjega rizika traume prednjih zuba, smanjene mogućnosti loma donje i gornje čeljusti te oštećenja stražnjih zuba i čeljusnih zglobova zbog udara u donji rub donje čeljusti. Prikazan je postupak izradbe individualnoga športskog štitnika tehnikom oblikovanja na sadrenome modelu izvlačenjem s pomoću vakuma (Erkoform<sup>®</sup>, Erkodent). Individualni štitnik se najčešće izrađuje na gornjemu zubnom luku, a preduvjeti za nošenje štitnika jesu dobra oralna profilaksa i izlječenje svih zuba.

Kliničke i laboratorijske postupke izradbe čine sljedeće radne faze: anatomski otisak gornje i donje čeljusti u alginatu, prijenos gornjega zubnog luka u artikator i centrični registrat, laboratorijska izradba, obradba i poliranje te predaja pacijentu, brušenje i naknadna skrb. Individualni štitnik pruža najviše u profilaksi orofacijalnih ozljeda, a svojim konstrukcijskim i tehnološkim osobitostima najugodniji je sportašima tijekom treninga i natjecanja.

## Individual Mouthguard in Prevention of Sports Trauma

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Trauma of teeth and soft tissues of the orofacial system are today one of the major health problems. According to the aetiology of dental trauma a separate group are sports traumas which are characteristic for many sports. The protective role of the mouthguard in the prevention of laceration of tongue, lips and cheeks caused by sharp incisal edges, in most cases of anterior superior teeth, decreases possibility of mandibular and maxillary fracture as well as injuries to posterior teeth and temporomandibular joints as a result of a blow in the lower mandibular margin. The fabrication procedure of individual sports mouthguard by modelling technique on plaster casts by vacuum forming (Erkoform<sup>®</sup>, Erkodent) is presented. Individual mouthguard is most frequently fabricated on superior dental arch, and the preconditions for wearing the mouthguard are good oral prophylaxis and completely cured teeth. Clinical and laboratory procedures of fabrication comprise the following working phases: preliminary impression of maxilla and mandible in alginate, transfer of upper dental arch in articulator and centric record, laboratory fabrication, finishing and polishing, delivery to patient, grinding and subsequent care. Individual mouthguard offers most in the prophylaxis of orofacial traumas, and with its construction and technological characteristics is the most pleasant for athletes during training and competition.