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Microbiological Variations and Salivary pH Values of Mouthguards

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Objectives To evaluate the oral changes caused by sporting activity in boys who practiced boxing, to test the efficacy of an antacid product and to motivate athletes to the correct habits of home oral care and mouthguards.

Methods 37 children were divided into Test group, who wore mouthguards both in training and competition, and Control group, who did not wear mouthguards. The mouthguards used were of the boil and bite type. The study design included: medical history and dental examination, microbiological samples on mouthguards, determination of salivary pH and application of CarieX, oral hygiene and mouthguard hygiene instructions and participation survey.

Results The young athletes adapted differently to the cleaning instructions and can be distinguished into: following, partially following, no following. In the group following, it is possible to note a statistically significant decrease in the total bacterial load. In the control group, the training resulted in non significant pH change.

Pre and post training pH values were below the required value for the saliva.

CarieX, in the Control group, increased the pH values, not significantly compared to the pre training but significantly compared to the post training.

CarieX, applied in the mouthguard in the Test group, significantly increased pH values compared to both pre and post training.

Conclusions Wearing a boil and bite mouthguard during the training involves a greater reduction in salivary pH. Therefore, the mouthguard, despite its importance in the prevention of traumatic damage, is an additional risk factor for the balance of the athlete's oral ecosystem, if the right preventive measures are not adopted. CarieX, applied during training, significantly increased salivary pH, and therefore its use can be recommended to offer a certain level of prevention against oral diseases, as caries, that can affect the athlete's mouth.