

## **The use of mouthguards in high contact sports**

It is clear that practicing many different types of sports and modalities may lead to certain injuries or concussions, even to the most cautious athletes. However, high contact sports have the highest incidence of dental injuries, hence the importance of wearing a custom-fitted sport's guard to prevent or minimize injury (Gutierrez, 2023). This paper will discuss a central question: "Does a custom fit sports guard (I) decreases the risk for occlusal trauma (O) compared to OTC sports guards (C) worn among athletes who participate in high contact sports (P)? Furthermore, this study analyzes the possibility of having a "no mouthguard, no play" policy, and if this new law will affect the individual's performance during competition or training. The comparison between the quality of the evidence that supports the use of mouthguards was taken into consideration when weighting the possibility of athletes to accept this type of enforced orofacial trauma prevention.

A description and assessment of the hypothesis of this study is to debate whether athletes, when presented with scientific evidence and awareness, would willingly accept wearing mouthguards as a prevention method, as opposed to making it mandatory. Overall, these athletes report not having sufficient guidance from coaches when it comes to orofacial trauma, as well as the discomfort that these mouthguards may present, and the possibility of wearing such devices may negatively impact their performance. Additionally, the cost of obtaining a custom fitted mouthguard in sports may be an issue for athletes that come from low income areas. The rationale and evidence that supports such intervention methods are based on scientific evidence such as longitudinal studies that are focused on optimizing the life span of a mouthguard fit and establish how long a replacement should be made once the apparatus deteriorates or becomes deformed as a result of the softness/flexibility of the material (Abe, 2020). Even though the

recommendation is to replace the sports guard once a year, there is no scientific evidence available according to general rules or guidelines. Common sense may be used when timing the change in the appliance, especially once it is broken or damaged, a replacement should be obtained as soon as possible.

The variables measured in this study were the types of mouthguards such as stock, boil and bite, and custom made. The custom-made type is the most expensive (\$50-200) when compared to stock (\$5-10). The main advantage of using a custom-made mouthguard is that it is customized by a dental professional that is perfectly made for the individual's dentition. In addition, studies have showed that when it comes to aerobic exercises, there is a very small cardiopulmonary impact on the athlete's performance. However, a study with amateur boxers showed that the use of stock mouthguards reduced the maximum amount of O<sub>2</sub> that an individual is able to use when practicing intense exercises. Ultimately, the adequacy of the above measures for testing the hypothesis are valid and trustworthy.

Custom-fitted sports guards are usually made of thermoplastic material that is far more durable than any other over the counter sports guard in the market. Moreover, properly fitted mouthguards provides protection by absorbing high-impact energy that comes from traumatic blows by distributing that energy, preventing from being transferred directly onto the underlying orofacial areas (Galic, 2018). In addition, in order to develop health promotion, there is a discussion related to the idea of making it mandatory for athletes to wear mouthguards in all contact sports as an injury prevention method. The authors concluded that a minimal reduction during aerobic performance is outweighed by the possibility of suffering serious consequences from orofacial trauma, hence making it worth it in the long run to wear protective mouth gear. The main point of the article is to raise awareness about coaches being able to communicate safer

methods to the athletes and provide health literacy that will inform individuals about the risks and consequences of not wearing oral protective gear. Hopefully, awareness will be utilized as opposed to mouthguards mandates for athletes that participate in high contact exercises.

Even with so many disagreements between coaches, athletes and healthcare professionals, they all agree that treatment of dental injuries can become complex and challenging, in which the final outcome greatly depends on timely procedures, proper diagnosis and patient education. Within the past decades, sport's guards have been improving drastically as the techniques evolve, and their function of preventing injuries have become more sophisticated. Sport's mouthguards are proving to be a vital when it comes to concussion research and athletic performance potential (Gutierrez, 2023). Awareness is the key to educating patients as well as coaches into reinforcing the importance of wearing protective mouth gear that may potentially save a person from serious orofacial injuries. The future of mouthguard in contact sports is promising, and the outcomes are can be excellent as society evolves and learns more about the importance of protecting the head and neck from suffering preventable injuries.

## References

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