

## Prevention of tooth injuries

Dr. Aradhna Kaushal

(MDS Conservative dentistry and endodontics Himachal dental college) Dr. Bharti Sharma (MDS Conservative dentistry and endodontics Astit. Proff at GDC Shimla).

---

**Abstract:** Traumatic dental injuries occur most commonly in children and adults and causes be fall, accidents, sports injuries etc. Tooth avulsion comprises around 1-16% of these injuries. It is one of the rare emergencies in dentistry. Many sports-related traumatic dental injuries can be prevented. Avulsion is one of the most dramatic sports related dental injuries. The main method for preventing orofacial injuries in sports is the wearing of mouthguards and headgear, consisting of a helmet and face protector. Yet, a study by the National Institute of Dental Research reported that children do not consistently wear mouthguards and headgear during organized sports. This article reviews methods for the prevention of traumatic tooth injuries.

**Keywords:** mouth guard, facemask, helmets

---

Date of Submission: 26-05-2020

Date of Acceptance: 13-06-2020

---

### I. Introduction

The literature indicates the use of mouthguards by athletes is most influenced by their coaches.<sup>(1)</sup> However, studies indicate mouthguard compliance by athletes is usually not insisted upon by their coaches or referees.<sup>(2)</sup> In 1995, the ADA House of Delegates revised their policy recognizing "the preventive value of orofacial protectors" and endorsed their use "in sports activities with a significant risk of injury at all levels of competition."<sup>(3)</sup>

Depending on the sport, various types of protection are available:

- **Helmets** - It is a must for activities that involve speed or impact such as football, hockey, skating and bike riding. It should be appropriate for the sport you are playing and should be of appropriate size. They are designed to protect the skin of the scalp and ears from abrasions, contusions, and lacerations. They protect the bones of the skull from fractures, the brain and central nervous system from direct concussions, unconsciousness, cerebral hemorrhage, brain damage, paralysis, and death.
- **Facemask** - Facemasks are designed to protect the eyes, nose, nasal pyramid, zygomatic arches, and mouth from traumatic forces such as a fist, ball, puck, or stick directed toward the face. They are manufactured from plastic or rubber tubing. All facemasks provide varying degrees of protection to the maxilla horizontally from an extended finger, a clenched fist, a forearm, or a helmet directed respectively toward the eye nasal pyramid zygomatic region or the mandibular arch.<sup>(4)</sup>
- **Mouthguards** - Wearing a mouth guard is one of the best ways to prevent injury to your teeth, tongue and lips. They were originally developed in 1890 by Woolf Krause, a London dentist, as a means of protecting boxers from lip lacerations. Such injuries were a common and often disabling accompaniment of boxing contests in that era.<sup>(5)</sup> There are many types of mouthguards, e.g. stock mouthguards, Shell-lined and boil-and-bite. Stock mouthguards are the least expensive of the three types of mouthguards available and come in different styles and colors, with or without straps. They are ready to wear as they come in one size for all users, and they must be held in place by biting the teeth together. Because they are the least retentive and often bulky, stock mouthguards interfere the most with the athlete's ability to breathe and speak and often cause the athlete to gag. Because of all these factors, stock mouthguards are unacceptable to most athletes and offer the least protection for the prevention of sports-related traumatic dental injuries.<sup>(6)</sup>

The shell-lined type of mouthguard is fabricated by placing freshly mixed ethyl methacrylate into a hard shell, which is then inserted into the athlete's mouth and molded over the maxillary teeth and soft tissues. The excess is trimmed with crown and bridge scissors and the mouthguards are then ready for use.<sup>(7)</sup>

The thermoplastic boil-and-bite mouthguard is fabricated by placing material in boiling water. The softened material is then placed into the athlete's mouth, where it is molded with finger pressure as well as with facial and intraoral muscular movements to enhance adaptation to the hard and soft tissue structures of the mouth.<sup>(6)</sup>

Another type is custom fabricated mouthguards, they are made professionally over a dental cast of the athlete's arch. They do not interfere with breathing (oxygen exchange) and speech. Because of superior fit and comfort, they are more likely to be accepted by athletes. Photopolymerized urethane diacrylate custom lip guards are also used now a days.<sup>(7)</sup>

## **II. Conclusion:**

There is wide range of preventive and treatment modalities of oral/facial athletic injuries. With the increasing trend of sports participation in schools and colleges, protective devices and preventive options are gaining importance. Sports-related dental injuries are not uncommon during participation and they deserve immediate treatment. In this regard, the dental practioners must work in close association with the teachers, coaches/trainers, parents, and other health professional to ensure comprehensive dent-facial care. Preventive programmers should include information regarding sports-related orofacial injuries, preventive measures like helmets and mouthguards, and their management, resulting in better awareness of the general population. It is also our responsibility to identify, educate, and provide the athletes preventive measures like mouthguards.

## **References**

- [1]. Ranalli DN, Lancaster DM. Attitudes of college football officials regarding NCAA mouthguard regulations and player compliance. *J Public Health Dent.* 1993 Spring;53(2):96-100.
- [2]. Ranalli DN. Dental injuries in sports. *Curr Sports Med Rep.* 2005 Feb;4(1):12-7.
- [3]. Winters JE. Sports Dentistry, the Profession's Role in Athletics. *JADA*, June, 1996, 127(6):810-1.
- [4]. Watterson JS. Inventing modern football. *Am Herit* 1988;39:113.
- [5]. American Dental Association and Academy for Sports Dentistry. *Protect Your Smile with a Mouthguard*; 1999.
- [6]. Padilla RR, Lee TK. Pressure-laminated athletic mouth guards: A step-by-step process. *J Calif Dent Assoc* 1999;27:200-9.
- [7]. Guevara PA, Ranalli DN. Techniques for mouthguard fabrication. *Dent Clin North Am* 1991;35:667-82.

Dr. AradhnaKaushal. "Prevention of tooth injuries." *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 19(6), 2020, pp. 45-46.