

Sports Dentistry: Role of Dentist in Protecting a Winning Smile

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Abstract

Dental injuries are the most common type of oro-facial injuries sustained during participation in sports and are the major linking channel between sports and dentistry. Sports dentistry acts in the prevention, maintenance and treatment prevention of oro-facial athletic injuries and related oral diseases. In this review, we will discuss the relationship between sports and dentistry, and the importance of educating parents, teachers, coaches and children in prevention of injuries related to the sports.

Keywords: Dental Injuries, Sports, Mouth Guards

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Introduction

The role of dentistry and dentist in the sports is imperative, because it provides the athlete optimal oral health conditions which in turn can contribute to, achievement of optimal performance during competitions.

Sports participation is a frequent cause of injury (muscle injuries, torn cartilage, fractured bones, tendinitis, soft-tissue lacerations, contusions and broken teeth), in general to children and adolescents. This occurs because of popularity of organized youth sports and the high level of competitiveness.

Dental trauma especially in children and young adults has been reported from several countries with high rates between 11 and 60 %. A large number of these injuries can cause irreparable dental loss or even if treated timely, root resorption or ankylosis could occur. Epidemiological studies have reported sports activities as one of the main etiological factors of dental trauma.

The face is the most vulnerable area of the body and is usually the least protected. The common oro-facial sports related injuries include soft tissue injury and hard tissue injury such as tooth intrusions, luxations, crown and/or root fractures, complete avulsions and dental-facial fractures.

Most of the oro-facial injuries occurring during sports activities can be avoided or can be minimized by wearing protective devices like mouth guard and by timely first aid care in cases of oro-facial trauma because managing the avulsed tooth/ tooth fragment is directly associated with a more favorable prognosis.



Classification of Sports*				
Contact/Collision	Limited Contact/ Impact	Noncontact		
		Strenuous	Moderately Strenuous	Nonstrenuous
Boxing	Baseball	Aerobic dancing	Badminton	Archery
Field hockey	Basketball	Crew	Curling	Golf
Football	Bicycling	Fencing	Table tennis	Rifery
Ice hockey	Diving	Field		
Lacrosse	Field	Discus		
Martial arts	High jump	Javelin		
Rodeo	Pole vault	Shot put		
Soccer	Gymnastics	Running		
Wrestling	Horseback riding	Swimming		
	Skating	Tennis		
	Ice	Track		
	Roller	Weight lifting		
	Skiing			
	Cross-country			
	Downhill			
	Water			
	Softball			
	Squash, handball			
	Volleyball			

Types of Oro-facial Injuries

Types of oro-facial injuries commonly observed in athletes include:

- Injuries to the dentition namely fractured or knocked out teeth, loosened teeth or teeth forced out of position.
- Injuries resulting in dislocation or fracture of jaws may be incurred due to direct impact on jaws.
- Contact sports like boxing, martial arts, football.
- Non-contact sports like baseball, basketball, bicycle riding, soccer, surfing, skate boarding should be supplemented with protective appliances like mouth guards.

Mouth Guards

Mouth guards are readymade or custom made devices fabricated in such a way so as to provide maximum coverage over all teeth.

They should be worn by anyone playing a sport where chances of injury are present.

AAPD Recommendations:

- Mandatory protective equipment
- Mouth guard for contact and collision sports
- Dentist consult prior to start of season

Types of Mouthguards

- 1) Ready-made: it has no individual fitting and is less desirable.
- 2) Boil and bite: individual fitting available by boiling the material and fitting to the teeth, less desirable. Uneven distribution of material does not allow proper fit and protection.
- 3) Custom made: most preferred type. Its advantage is its fit, customized occlusion

and no interference in breathing.

According to method fabrication, it is further classified as:

- Vacuum custom made by vacuum machines.
- Pressure laminated custom made by pressure machines.

Characteristics of Mouthguards

- 1) Shock absorbing concussive forces to lower jaw
- 2) Protection against neck injury
- 3) Distributing the force of blow over all teeth and gums.

Although mouth guards are known to be effective, they are not considered as an integral part of protective equipment for most sports. Dentists need to educate patients on the need and benefits of protective devices.

Another method essential for preventing dental injuries include screening and examinations. Awareness and knowledge regarding sports dental injuries, emergency management of traumatic dental injuries and use of protective devices amongst athletes, coaches and school teacher may also prevent the injuries.

Conclusion

Sports dentistry can be very rewarding, not only for the good will generated, but for the personal satisfaction derived when it is realized that the dentist has not only treated the injured sportsman, but may have prevented many more potential injuries from occurring. Sports dentistry is certain to be a part of our future because everyone has a smile worth protecting.