



Sports Injuries and Orthodontics

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ABSTRACT

Most orthodontic patients are young adolescents and teenagers, and many of these patients participate in sports that increase their probability of having an oral injury during treatment time. Injuries to the mouth, especially with fixed appliance therapy, can be very painful and cause a lot of damage. Protecting the teeth while playing sport can prevent serious damage and the oral cavity teeth. Safety gear, like mouth guards, can protect teeth during a sporting event and prevent serious injuries costly repairs.

Keywords: Sports injuries; Orthodontics; Mouth guards; Orthodontic therapy

Introduction

Sports related oral injuries comprise of 14% of all dental injuries. It is estimated that five million teeth are damaged yearly due to sports related injuries. Most of these injuries occur while playing contact sports. Contact sports include Football, Basketball, Baseball, Soccer, Wrestling, Hockey, Ice hockey and cricket. The other sports include kung-fu, skiing, mountain biking, cycling, and rock climbing¹. Sports field is dominated by youngsters these days and many of them for their pleasing appearance undergo orthodontic therapy at that age. It's not uncommon for athletes to experience mouth and jaw injuries². These can happen at any time, even with protection, but taking extra precautions is important if players are wearing braces. Playing sports gives a potential risk to players or athletes undergoing orthodontic treatment, which in turn gives worrying signs to the athlete's parents and coaches.

Common Sports Injuries Which Can Occur in Orthodontic Patients

Orthodontic patients who regularly play contact sports are susceptible to various injuries, ranging from minor to severe. The brackets are affixed directly to the teeth, players are at an increased risk of oral injuries if mouth or braces are hit by the ball or another player. Brackets and wires add an additional element to oral injuries³. They can cut the inside of the mouth if you take a direct hit, and the components themselves can be damaged. Some of the most common injuries in with orthodontic patients who play sports are:

lacerations to the cheeks, lips, and tongue: All it takes is one drifting elbow or foot to the face for a cut lip, gum, or cheek. And when players have braces, those cuts can be even more severe. Usually, rinsing with salt water will do the trick. However, more severe cuts may require emergency assistance. chipped or broken teeth: Minute chipping results in loss of enamel surface only, which goes on to affect the aesthetic but doesn't result in any pain. But if the cracks extend into the dentin, pulp or sometimes even the root surface it can result in severe sensitivity causing extreme pain.

Avulsion:

It is the most common dental emergency; tooth is knocked out from the socket. Immediate replantation is the perfect treatment. If due to some reasons this cannot be carried out, there are resources such as using various types of storage media like saline, milk and Hanks Balanced Salt Solution [HBSS].

Dislocation of the Temporomandibular joint (TMJ)

Root fractures

Broken Brackets or Bands: This is one of the more common orthodontic emergencies. When a bracket or band breaks, it can irritate the surrounding tissue. In addition, the broken bracket or band may sometimes cut into the cheek or gum. It is very much common for a bracket or band to break after getting hit by a ball or contact with other players

Loose Wires: Another typical orthodontic emergency is a loose wire. If a wire comes loose, it can poke and prod the cheeks, gums, and tongue, causing irritation and pain. In some cases, a loose wire may even cause cuts in the mouth.⁵

Prevention

Wearing a mouthguard is one of the simplest ways to protect the mouth and braces from sports-related injuries. An orthodontic mouthguard is made from silicone and cushions the lips from bumping against the teeth. It also protects brackets and softens the impact from any contact that could damage

how the braces adhere to the teeth. Orthodontic mouthguards are typically larger than more common, non-orthodontic mouthguards in order to have extra space for the braces to fit⁴. Just because an orthodontic mouthguard is larger, doesn't mean that it is any less comfortable. According to studies, several patients report that their orthodontic mouthguard was actually more comfortable than their old, traditional mouthguard. This cushioning also protects the brackets from any impact-related damage. These mouthguards can also stop your lips from getting caught in your braces. In contrast to an orthodontic mouthguard, a normal mouthguard is made of hard plastic, and if the mouth gets hit, it can cause serious damage that requires extra office visits, extra time added to your treatment, and even irreversible damage.⁴ Most non-orthodontic mouthguards also won't fit as well as orthodontic mouthguards, or might not fit at all.

Conclusion

Sports related orthodontic injuries can occur anytime on the field. Injuries can be extremely painful as they involve the oral cavity and the appliances. Hence wearing an orthodontic mouthguard is an excellent way to prevent sports related orthodontic emergencies.

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