

Mouthguards in Sports: A Necessary Piece of Equipment

Youth and adolescent sports participation has grown steadily over the years. It is estimated that 20 to 25 million youths participate in competitive sports. As a result of this growth in participation levels, incidence of injury has also increased. Some have reported sports to account for approximately 36% of all unintentional injuries to children and adolescents. Of those injuries, 10-20% of all sports related injuries are maxillofacial injuries according to the American Dental Association.

The National Youth Sports Foundation for Safety reports dental injuries as the most common type of orofacial injury sustained during sports participation. They contend that an athlete is 60 times more likely to sustain damage to the teeth when not wearing a protective mouthguard. Often times these injuries will result in permanent damage to oral structures which require medical intervention.

Types of Dental Injuries

Injuries to the teeth can be grouped in three different categories with care specific to each type.

1. Fracture
 - can be classified as a root fracture, broken tooth or chipped tooth
 - if possible, stabilize portion of tooth still in mouth by gently biting on towel to control bleeding
 - athlete and tooth fragments should be transported immediately to a dentist
 - best methods of transport of the tooth are in Hank's Balanced Salt Solution, milk, saline soaked gauze, or under the athlete's tongue
2. Avulsion
 - entire tooth, including root, knocked out
 - do not handle tooth by the root (tooth should be handled by the crown)
 - do not brush, scrub, or sterilize tooth
 - if tooth is dirty, gently rinse with water
 - if possible, place tooth back in socket and have athlete gently bite down on towel
 - if unable to reimplant tooth, transport tooth with the athlete as described above to the dentist immediately
3. Luxation
 - tooth in socket, but in wrong position
 - Extruded Tooth - tooth appears longer than surrounding teeth
 - Lateral Displacement - tooth pushed back or pulled forward

For extruded or laterally displaced teeth, provide the following care:

- The tooth will need to be repositioned in socket using firm finger pressure. This is probably best done by trained dental/medical personnel.
- Have the athlete gently bite down on a towel and transport immediately to a dentist
 - **Intruded tooth** - tooth looks short, pushed into gum.
 - Do not attempt to reposition tooth
 - Transport athlete immediately to a dentist

It is important to remember time is critical when handling dental injuries. **Do not allow the athlete to wait until the end of the game to seek treatment for a dental injury. Transport them to a dentist within 2 hours for the best outcomes.**

Prevention of Dental Injuries

Dental injuries are easily prevented. It has been suggested that a properly fitted custom mouthguard may reduce the rate of concussion as well as dental injuries.

Some experts recommend that mouthguards be worn by athletes in competitive and recreational sports in which impact, contact and collision are likely to occur. The American Dental Association recommends wearing custom mouthguards for the following sports: acrobats, basketball, boxing, field hockey, football, gymnastics, handball, ice hockey, lacrosse, martial arts, racquetball, roller hockey, rugby, shot putting, skateboarding, skiing, skydiving, soccer, squash, surfing, volleyball, water polo, weightlifting, and wrestling. Other experts include baseball and softball infielders on that list. They further recommend the mouthguard to be worn during all practices and competition.

Selecting a Mouth Guard

There are three types of mouthguards:

- Ready-made or stock mouthguard
- Mouth-formed "boil and bite" mouthguard
- Custom-made mouthguard made by a dentist

These mouthguards vary in price and comfort, yet all provide some protection. According to the American Dental Association, the most effective mouthguard should be comfortable, resistant to tearing, and resilient. A mouthguard should fit properly, be durable, easily cleaned, and not restrict speech or breathing.

It is important to remember damaged teeth do not grow back. Protect that perfect smile - wear a mouthguard.

Consult your primary care physician for more serious injuries that do not respond to basic first aid. As an added resource, the staff at Nationwide Children's Sports Medicine is available to diagnose and treat sports-related injuries for youth or adolescent athletes. Services are now available in four locations, to make an appointment, call 614-355-6000.