



# WELLNESS

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## MOUTHGUARD AND INJURY PREVENTION IN YOUTH SPORTS



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### WHAT IS A MOUTHGUARD

A mouthguard is a plastic protective device that covers the teeth and gums. They are worn during sporting activities to protect the teeth. The appropriate use of a mouthguard significantly reduces the risk of soft and hard tissue injury. It can also absorb shock from blows to the chin protecting against jaw fractures and concussions.<sup>1,3</sup>

#### MOUTHGUARD FACTS

- Not wearing a mouthguard during sporting activities increase the chances of sustaining severe dental damage about 60 times compared to those who wear it.<sup>2</sup>
- The American Dental Association estimated that about 30% of all dental injuries are sports-related.
- About 1/3rd to 1/2 of athletes who suffer a dental-related injury during sports were not wearing a protective mouthguard.
- Wearing an appropriate mouth guard during sports can save the potential costs of managing a lost permanent tooth. ~\$20,000.
- The use of a mouthguard can prevent more than 200,000 oral injuries to the mouth each year.<sup>1</sup>

#### STATISTICS ON SPORT-RELATED INJURIES

Sport-related injuries make up about 36% of all unintentional injuries in children and adolescents. About 20% of these injuries are related to the oral cavity and the other structures of the face. The National Youth Sports Foundation for Safety reported that injuries to the teeth are the most common type of orofacial injury during sporting activities.<sup>1</sup>

The National Youth Sports Safety Foundation estimated that about 3 million teeth are lost in youth due to sports injuries.<sup>2</sup>

#### TYPES OF INJURIES THAT COULD OCCUR WITHOUT PROTECTION

Failure to take appropriate safety precautions during sporting activities could result in serious dental injuries. These include but are not limited to tooth and root fracture, tooth loss, fractured restorations (crowns or bridges), soft tissue injuries (lip and cheek), displacement of brackets or wires) for people with orthodontic appliances, jaw fracture, and concussions.<sup>1</sup>

### WHAT MAKES A GOOD MOUTHGUARD

For a mouthguard to be effective at protecting the teeth and other structures of the oral cavity, it should be comfortable and of proper fit to hold teeth in place. It must also resist tearing and not inhibit speech and breathing.

Your oral health care provider will be able to recommend the most appropriate mouthguard for you. In addition to wearing mouthguards, it is recommended that helmets be worn to protect from head injuries. Eye protection is also recommended in contact sports. Finally, face shields are recommended to protect the delicate bony architecture of the surrounding eyes, nose, and jaw.

#### THERE ARE DIFFERENT TYPES OF MOUTHGUARDS BASED ON DESIGN, PRICE, AND COMFORT

- **Stock or prefabricated:** These are your cheapest option, ready to wear but usually does not have a custom fit.
- **Boll and Bite:** These are prefabricated and are customized by softening in boiling water. These mouth guards can become worn over time and need to be replaced when worn.
- **Custom-made:** Offers the best fit and protection as this is designed by the dental provider.

It is important to replace mouth guards as they wear down, especially in athletes in the tooth-forming years due to jaw growth and tooth replacement.<sup>3</sup>

### CUSTOM MOUTH GUARDS IN GROWING KIDS

Custom-made mouthguards are helpful to prevent dental trauma. Mouthguards protect teeth and their supporting structures during sporting activities. Also, they offer a better fit compared to stock and prefabricated mouthguards. Wearers have also reported that custom mouthguards do not interfere with speaking. Custom mouthguards may cause less irritation and salivation, too.

Growing athletes and people in orthodontic treatment (braces) may need extra attention. Youth may outgrow the custom-made appliances. The movement of the growing teeth and the changes in the mixed dentition phase may alter the fit. To extend the lifespan of custom-made mouthguards, there are new techniques. Modifications to the traditional vacuum-forming method for fabrication are available.

Having space for teeth to grow is important to natural growth and development. By including extra space in the appliance this improves the length of time it can be grown into. If you wear a custom mouthguard and you haven't stopped growing, you may need to replace it more often. Follow your dentists' recommendation for replacement.

Remember to take your mouthguard to each dental appointment. This allows your dentist to assess the fit and examine it to be sure it is not damaged.

#### CARING FOR YOUR MOUTHGUARD

Just like everything that goes into your mouth, your mouthguard needs to be cared for to have the best outcome.

- Make sure to clean your mouthguard before and after each use; this prevents the build-up of germs.
- Clean your mouthguard by rinsing with water and brushing with a soft bristled toothbrush, and you may use products available to clean mouthguards by soaking as directed by the manufacturer.
- Ultrasonic cleaning units for dental appliances are safe and effective, too.
- Avoid leaving in the sun or in hot water.
- Avoid chewing on your mouthguard.
- When not in use, keep your mouthguard safe in the closed vented container.
- Replace once it begins to show signs of wear or distortion.
- Talk with your dentist and dental hygienist to ask for special advice about caring for your mouthguard if you notice any issues.



### WHAT TO DO IN CASE OF A DENTAL EMERGENCY

#### For fractured teeth

- Control bleeding, if any, by biting down on a clean towel; this could also help stabilize tooth fragments left in the mouth.
- Contact your dentist and make immediate arrangements for an appointment.
- The fractured fragment of the tooth can be transported under the tongue, in milk, saline-soaked gauze, and Hank's Balanced Salt Solution.<sup>7</sup>

#### For avulsed permanent teeth (knocked out)

- Gently rinse with water if the tooth is dirty do not scrub or wipe the tooth root.
- Hold the tooth by the crown, not the root.
- You can try to put the tooth into its socket and have the individual bite down on it to clean it. It is important to use the teeth next to it to determine positioning.
- If unable to put it back in the socket, arrange an immediate appointment with the dentist, transporting the tooth under the tongue, milk, saline-soaked gauze, and Hank's Balanced Salt Solution.
- Baby teeth should not be put back in, but should be saved to show a dental health care provider to determine, if the entire tooth has been removed.

#### For displaced or luxated teeth

- Reposition the tooth in the socket using firm finger pressure; this is best done by your dental provider.
- For a tooth pushed inside the socket, do not attempt to pull it out; visit your dental provider immediately.

Time is of the essence when handling oro-facial injuries. It is thus vital to get the injured individual to the dentist as soon as the injury occurs, do not wait until the end of the game!

For more information resources on mouth safety:

- [American Academy of Pediatric Dentistry](#)
- [American Dental Association](#)

In conclusion, to encourage safety during sporting activities, players of national athletic organizations should be advised on the use of mouthguards. Oral health care providers should improve the awareness of their patients and parents regarding the use of mouthguards and how to select that which offers the best protection for each individual. Finally, organized sports teams are advised to have a dedicated dental provider to cater to the oral health care needs of the team. The combined efforts of the regulatory bodies, oral care providers, and patients can significantly reduce pain, suffering, and inconvenience associated with sports-related oro-facial injuries.<sup>6</sup>

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