

MOUTHGUARD FACT SHEET

Mouthguard History

- > Boxers first used mouthguards in the 1880s to protect against lacerations. In the 1920s, professional boxing became the first sport to require mouthguards.
- > Advocacy by the American Dental Association led to the mandating of mouthguards for U.S. high school football in 1962.
- > Modern mouthguard design originated in the 1970s from a Canadian dentist looking for a way to protect children's teeth during hockey games.
- > Currently, the National Collegiate Athletic Association requires mouthguards for four sports: ice hockey, lacrosse, field hockey and football.
- > It's estimated that mouthguards prevent more than 200,000 injuries each year.
- > Advancements in materials, design and patented technology have greatly increased the level of protection and performance provided by today's high-tech mouthguards.

How Mouthguards Protect Athletes

- > The National Youth Sports Foundation for the Prevention of Athletic Injuries reports that an athlete is 60 times more likely to sustain damage to the teeth when not wearing a mouthguard.
- > Mouthguards can help prevent lacerations, fractures, dislocations, broken teeth and concussions.
- > A tight, yet comfortable fit ensures that a mouthguard will stay in place, which better protects against internal oral lacerations and other injuries.
- > Mouthguards designed with optimum thickness better absorb and deflect impact that can cause injuries.
- > With a single layer mouthguard, one material must do two jobs: creating the mouthguard form and absorbing shock. A multi-layer mouthguard offers additional protection because the "forming layer" helps the mouthguard fit snugly in place. The additional layers combine to create an optimum thickness and help provide protection against shock and impact.
- > When there is an impact to the jaw or mouth, a mouthguard absorbs and redistributes the force of the blow more evenly, which can help lessen the severity of an impact and even help keep the force of an impact from moving to the brain.
- > While there is no independent research to date that concludes that mouthguards prevent concussions, existing research and medical/dental experts confirm that mouthguards most certainly help protect against a serious blow becoming a concussion.

Mouthguards and Athletic Performance

- > A well-designed, tightly fitting, comfortable mouthguard allows an athlete to breathe and communicate easily, which can aid performance.
- > Many athletes report that they perform better with a properly fitting mouthguard.
- > A mouthguard that fits well and stays in place provides less of a distraction and allows an athlete to focus on the game.
- > A well-designed mouthguard can position and stabilize the jaw for added strength in some situations.
- > The link between mouthguards and athletic performance has been discussed and studied for some time and is supported by some preliminary research and by athletes' anecdotal experiences, but it is still not completely understood.
- > There is currently no conclusive independent research on the relationship between a properly designed and fitted mouthguard and athletic performance. More independent, peer-reviewed research is being conducted to better understand and define the role of the mouthguard in athletic performance.

Types of Mouthguards

SELF-FIT (BOIL-AND-BITE) MOUTHGUARDS are made from materials that are resilient under normal conditions, but become pliable when heated. The mouthguard is placed in hot water until it softens, and then the athlete bites into it so it will take the shape of his/her mouth and fit closely over the teeth and gums.

CUSTOM MOUTHGUARDS are made by dentists and dental labs. The process involves making a custom mold of an athlete's teeth from which a dental lab creates a custom mouthguard with a tight and comfortable fit. Custom mouthguards have the most perfect fit, which makes it easier to keep them in place to provide optimum protection and improve performance.

Choosing a Mouthguard

- > The ideal mouthguard is durable, resilient, and comfortable. It should fit properly and not affect breathing or speaking.
- > Coaches are a good source of information regarding a mouthguard that works well for a specific sport.
- > Check with your sport's governing body for guidance on selecting a mouthguard and to make sure you are complying with any mandates regarding mouthguards.
- > Look for mouthguards that have design and protective features aligned with your sport.
- > Athletes who wear braces or other fixed orthodontic appliances should look for a mouthguard designed specifically to fit over braces.
- > Most athletic mouthguards are designed to wear on the upper teeth, but helmeted sports that include a face mask usually require a mouthguard designed to protect the lower teeth.

What's Next in Mouthguards?

- > As mouthguard technology evolves and provides more protection and performance benefits, the focus will be on independent research, along with athlete experience, to provide key data for developing the next generation of athletic mouthguards.
- > Mouthguards will continue to be further customized to suit a sport, and an individual, and there will be continued improvements in design and fit.
- > The increasing emphasis on safety may result in mouthguards and other safety protection gear being mandated in more sports.
- > Trends also point to mouthguards being used in more activities, such as fitness, golf, skiing, and running.