



# SPORTS MOUTHGUARDS Q&A

## Putting More Bite into Injury Prevention



### What is a sports mouthguard?

A sports mouthguard is a removable dental appliance that fits over the upper teeth and gums to prevent and reduce injuries such as tooth loss or fracture and lacerations to the mouth and gums.



### How do sports mouthguards protect the jaws and teeth?

If you experience a direct blow to the jaw or teeth, a sports mouthguard acts as a shock absorber so that the force is distributed and absorbed throughout the appliance.<sup>1,2</sup>

According to a 2007 study that evaluated the effectiveness of sports mouthguards, the overall injury risk was found to be 1.5 to 2 times greater when a sports mouthguard was not worn during athletic activity.<sup>1,3,4</sup>



### I don't engage in contact sports. How do injuries from non-contact sports occur?

Even in non-contact sports, injuries to the teeth and gums can happen.

Sports mouthguards:

- Prevent the loss or fracture of teeth in sports such as baseball, where a ball or bat can come in contact with a player's mouth and teeth
- Protect top and bottom teeth from severe clenching which may cause fractures, excessive wear or injury. Sports such as weightlifting can result in this type of injury.
- Protect the teeth, gums and jaws during sports play from jaw fractures resulting from an inadvertent elbow to the face in basketball

### Is hockey more dangerous than other sports?

Yes for two reasons:

1. Hockey pucks are a 6 oz. (170 gram) piece of solid rubber
2. can hit a hockey player's mouth at speeds up to 193 kilometres per hour.<sup>1</sup>



### Are there any other benefits to wearing a Sports mouthguard?

Sports injuries can result in orofacial disfigurement with a range of effects varying from embarrassment and avoidance of social contacts to conditions that affect an individual's ability to eat and speak.<sup>1,5</sup>

### What is the cost benefit of wearing sports mouthguards?

It has been estimated that the cost of this preventable injury is between \$ 22-25 million /year<sup>1</sup>. A 2005 report estimated the cost to treat a lost front tooth over a lifetime was between CDN\$5,000 and CDN\$20,000.<sup>1,2</sup>

### Do any sports associations have mandatory policies for sports mouthguards?

Sports mouthguards are mandatory in Canada for most minor hockey players, amateur football, amateur rugby, karate, taekwondo, lacrosse and amateur boxing. The only professional sport where sports mouthguards are mandatory is boxing.<sup>1</sup>

### Are there different types of sports mouthguards?

There are four types of sports mouthguards.<sup>1</sup>

1. *Stock*: "one size fits all" Stock Sports mouthguards are commercially available in stores. Because they are not customized to fit your mouth, they are often uncomfortable and restrict breathing and speech. In addition, the wearer has to clench their teeth together to get the sports mouthguard to stay in place. This is the most economical sports mouthguard but it also offers the least protection.<sup>1</sup>
2. *Mouth-formed*, commonly referred to as "boil and bite" are warmed in water and the user bites into it to fit their teeth. Most have a removable strap to attach to a helmet. They are less bulky than the stock types and fit slightly better, but often have a loose fit and still require the wearer to clench their teeth together to hold the sports mouthguard in place. These are also inexpensive and offer a lower level of protection as compared to custom fabricated sports mouthguard.<sup>4</sup>



3. *Custom fabricated* sports mouthguards are created by using a mould or impression of the teeth taken and processed by the dental hygienist so that the sports mouthguard exactly fits the athlete's mouth. Because it is perfectly customized, it has a comfortable fit which allows the athlete to speak and breath properly and does not require the wearer to clench to keep it in place. Although it offers good protection, it is more expensive when compared to the previous examples.<sup>1</sup>



4. *Pressure Laminated* sports mouthguards are made the same way as the custom fabricated ones, but layers of protection are fused together in a dental laboratory. This type of sports mouthguard is the most expensive and provides the highest level of protection.<sup>1</sup>

**If sports mouthguards are so effective, why don't all sports organizations require wearing one?**

Sports mouthguard use is influenced by the attitudes of players, officials, coaches and parents.<sup>1,6</sup> Studies indicate that while most players in a contact sport believe that sports mouthguards provide protection, only one player out of five actually wears one. In another survey of parents with soccer playing children, the cost of a custom sports mouthguard ranged from \$60 to \$285, but 24% of the parents were unwilling



to pay more than \$25.00 for a custom fitted sports mouthguard<sup>5</sup>.

**What are the characteristics of a properly fitted sports mouthguard?**

1. Thickness should be at least 3mm to keep the jaws separated<sup>7</sup>
2. It should be comfortable<sup>7</sup>
3. It should be durable<sup>7</sup>
4. The wearer should be able to breathe and speak easily<sup>7</sup>
5. The wearer should not have to clench their teeth together to keep the sports mouthguard in place.<sup>7</sup>

**Do sports mouthguards prevent concussion?**

There has been some investigation as to whether sports mouthguards prevent concussion during sports activities. Research is ongoing, but at this point there is no clear evidence proving that the use of sports mouthguards prevents concussion.<sup>1,2</sup>

**Do sports mouthguards wear out?**

Generally speaking sports mouthguards last for two to three seasons of play, depending on the frequency of use. After a time, the "memory" of the appliance deteriorates such that the fit of the sports mouthguard is not as good as when it was first purchased.

**REFERENCES**

1. CDHA Position Paper on Sports Mouthguards *Putting More bite into Injury Prevention*. November – December 2005, Vol. 39, NO.5 [http://www.cdha.ca/pdfs/profession/resources/Mouthguard\\_Position\\_2005.pdf](http://www.cdha.ca/pdfs/profession/resources/Mouthguard_Position_2005.pdf)
2. Health Canada *Athletic Mouthguards*. February 2007. <http://hc-sc.gc.ca/hl-vs/iyh-vsv/life-vie/mouth-dents-eng.php>
3. American Dental Association. *Statement on Athletic Mouthguards*. 2009. <http://www.ada.org/1875.aspx>
4. American Public Health Association. *Promotion of Quality-Fitted Mouthguards for Oro-Facial Injury Prevention*. 2005. <http://>

- [www.apha.org/advocacy/policy/policysearch/default.htm?id=101](http://www.apha.org/advocacy/policy/policysearch/default.htm?id=101)
5. American Academy of Pediatric Dentistry (AAPD). Policy on prevention of sports-related orofacial injuries. Clinical Affairs Committee and Council on Clinical Affairs, AAPD. Oral Health Policies. *Reference Manual*. 2010: 34(6);67–70.
6. Academy For Sports Dentistry FAQ's. 2010. <http://academyforsportsdentistry.org/Resources/FAQs>
7. Darby ML, Walsh M. *Dental Hygiene Theory and Practice 2nd Edition* Page 623