



## **POSITION STATEMENT AND RECOMMENDATIONS FOR MOUTHGUARD USE IN SPORTS**

### **National Federation of State High School Associations (NFHS) Sports Medicine Advisory Committee (SMAC)**

Prior to implementation of the NFHS mouthguard rule an athlete participating in contact sports had a better than 50% chance of sustaining a significant oral-facial injury during his or her secondary school career. Multiple studies by the American Dental Association, the American Academy of Pediatric Dentistry, and the American Academy of Sports Dentistry convincingly show the reduction of oral-facial injuries with the use of a properly fitted mouthguard. Prior to the use of properly fitted mouthguards and facemasks, over 50% of football players' injuries were oral-facial. They now represent less than 1% of all injuries.

The NFHS currently mandates the use of mouthguards in football, field hockey, ice hockey, lacrosse and wrestling (for wrestlers wearing braces). The Sports Medicine Advisory Committee (SMAC) of the NFHS recommends that athletes consider the use of a properly fitted, unaltered mouthguard for participation in any sport that has the potential for oral-facial injury from body or playing apparatus (stick, bat, ball, etc) contact. Current research does not support the theory that mouthguard use minimizes the risk or severity of concussion. The SMAC encourages further study in this important area.

Mouthguards should include occlusal (protecting and separating the biting surfaces) and labial (protecting the teeth and supporting structures) components covering all of the upper teeth. Mouthguards which cover the lower, rather than the upper, teeth may be used if recommended by a dentist. It is strongly recommended that mouthguards be properly fitted and not be altered in any manner which decreases the effective protection. Proper fit is insured by: (1) being constructed from a model made from an impression of the individual's teeth or (2) being constructed and fitted to the individual by impressing the teeth into the mouthguard itself. Mouthguards used in wrestling must be designed to cover both upper and lower orthodontic appliances (braces). Mouthguards cannot be clear and must be of any visible color other than white to allow for easier rule enforcement by officials in all sports in which their use is mandated (except wrestling).

A properly fitted and unaltered mouthguard has been shown to not impede communication, breathing, or create any hazards to the airway or oral cavity. Types of mouthguards which comply with NFHS rules and the relative advantages and disadvantages of each are listed below.

**TYPE OF MOUTHGUARD****Boil and Bite****ADVANTAGES**Inexpensive  
Form-fitted**DISADVANTAGES**Deteriorates over time  
May not last entire season  
Pressure on cheeks and gums  
if not fitted well**Custom fit**Accurate fit  
Comfortable  
  
May offer superior protectionMost expensive  
Several trips to dentist may be  
required**Stock**

Easily fits over braces

Poor fit and easily dislodged

**References**

Daneshvar, DH Baugh CM, Nowinski CJ, et al. Helmets and mouth guards: the role of personal equipment in preventing sports-related concussions. Clinics in Sports Medicine 2011;30:145-163.

Knapik JJ, Marshall SW, Lee RB, et al. Mouthguards in sport activities: History, physical properties and injury prevention effectiveness. Sports Medicine 2007;37:117-144.

Labella CR, Smith BW, Sigurdsson A. Effects of mouthguards on dental injuries and concussions in college basketball. Medicine & Science in Sports & Exercise 2002;34:41-44.

Maeda Y, Kumamoto D, Yagi K, Ikebe K. Effectiveness and fabrication of mouthguards. Dental Traumatology 2009;25:556-564.

Newsome PRH, Tran DC, Cooke MS. The role of the mouthguard in the prevention of sports-related dental injuries: a review. International Journal of Paediatric Dentistry 2001;11:396-404.

Using mouthguards to reduce the incidence and severity of sports-related oral injuries. Journal of the American Dental Association 2006;137:1772

Woodmansey KF. Athletic mouth guards prevent orofacial injuries. Journal of American College of Health 1997;45:179-82.

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