

Coaches' Knowledge, Attitudes, Practices and Motivation of Athletes Regarding Mouth Guards in Cape Town, South Africa: A Qualitative Study

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Abstract

Background: Mouth guards are efficient in preventing dental trauma. However, the coach's attitude towards mouth guards can impact greatly on athlete compliance. Currently, mouth guards are broadly classified into stock (Type 1), mouth-formed (Type 2) and custom made mouth guards (Types 3 and 4).

Aim: To assess the knowledge of coaches on the use of mouth guards in preventing dental trauma.

Material and Methods: A qualitative study was conducted via mail survey to assess coaches knowledge and practice in advising mouth guards.

Result: Most coaches had wrong perception regarding boil-and-bite mouth guards, which they usually recommend. Recommendation varied according to the type of sport played and positions during play. Coaches do not usually recommend mouth guard use during training sessions. They motivate their students by communication. Few coaches make the use of mouth guards mandatory.

Conclusion: As the knowledge of coaches regarding mouth guards is deficient, information sessions should be offered to address this gap in knowledge.

Keywords: Athletes; Mouth Guards; Dental Trauma

Introduction

Any type of organised sport or recreational activity carries a risk of oro-facial trauma [1] and the incidence varies according to the type of sport practiced [2]. Contact sport however carries the highest risk [3,4]. Training sessions and recreational activities should not be overlooked, as they both contribute significantly to the burden of oro-facial trauma [5,6]. As matches are more competitive, a higher frequency of trauma per hour is expected [7]. Yet, athletes spend most of their time in practice sessions [8]. Some authors previously concluded that the overall incidence of trauma during training sessions is comparable to that in matches [6,9].

Mouth guards are efficient in preventing dental trauma [10,11]. However, the coach's attitude towards mouth guards can impact greatly on athlete compliance [12-14].

Currently, mouth guards are broadly classified into stock (Type 1), mouth-formed (Type 2) and custom made mouth guards (Types 3 and 4) [15]. Stock mouth guards have poor retention [15,16]. On the other hand, boil-and-bite mouth guards are the most commonly used type [17]. It offers limited protection as moulding the mouth guards to conform to the jaws grossly reduces its occlusal thickness [18].

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However, this type of mouth guard is generally considered uncomfortable [15,19]. Lastly, custom made mouth guards provide the best comfort and retention and are therefore associated with better compliance [20,21].

Aim of the Study

The study aim was to assess the knowledge of coaches regarding the use of mouth guards.

Methodology

The hockey coaches of a single school in Cape Town were approached to participate in this qualitative study. They were requested to complete a semi-structured questionnaire on their knowledge of mouth guards. This was done via an email survey. A senior coach distributed the questionnaires among the other coaches and sent the completed forms back to the researcher. The email survey helped to ensure the reliability of information as responses were typed and no data was omitted due to unclear handwriting. Lastly, since one of the coaches with access to the school email list distributed all the electronic questionnaires, anonymity of coaches and their responses was preserved. Unfortunately, due to the limited number of participating coaches, a pilot study was not feasible. A total of eight coaches participated in the study. However, the quality of information gained was deemed acceptable as there was no need to contact any of the coaches again for clarification of their responses. Data compilation and theme analysis were conducted for the open-ended questions.

Results and Discussion

All participating coaches recommended the use of mouth guards to their athletes. They were also questioned as to the reason why they recommended mouth guards, when they recommended it and how they implemented this recommendation.

Seven of the eight coaches were familiar with the boil-and-bite mouth guard. Three of the eight coaches did not want extra information regarding the mouth guards available, as they were familiar with boil-and-bite mouth guards in particular.

Three coaches mentioned that players “dislike” wearing mouth guards. Two of them elaborated saying: “It rarely happens that they follow through with getting a guard till something happens when a guard is required”. Another coach said “They can’t breathe or talk when using a mouth guard”. On the other hand, two coaches rated mouth guards as “favourable”. One of these coaches was ambivalent to some extent: “Most children wear it for protection, but there are a few who do not like wearing it because of the feel and because it makes them feel nauseous.” Among the rest of the coaches, one coach rated mouth guards as “very favourable” with “No objections”. One coach said it “Depends on the player”. Another coach rated it as mostly favourable. Yet, he added “When the mouth guard fits properly they do not mind it, when it does not, they dislike wearing it”.

Coaches’ recommendations to athletes

Type of MG recommended	Number of coaches who recommended it	Reasons given for that specific recommendation
Boil-and-bite mouth guards	5	“Rather the more expensive ones. Quality over anything else”
		“Comfort means everything”
Max mouth guard (Type 4)	1	“The Max Mouth Guard is the best mouth guard on the South African Market”
Referral to dentist for advice	2	“The fit.....Mouth Guards fitted by dentists”
		“I don’t have a favourite mouth guard.....Tell players to get advice from the dentist”

Table 1: Coaches’ recommendations to athletes.

Almost all coaches were familiar with boil-and-bite mouth guards, and most of them recommended its use to their athletes. Although some coaches thought that this type of mouth guard is comfortable, they reported that their players disliked it. The fact that some of these coaches did not want extra information regarding mouth guards reflects a possible negative attitude towards mouth guards. Similar findings were also reported in India, where the poor attitude of coaches was identified as the problem hindering the use of mouth guards [22]. Contrary to this, one Turkish study reported a positive attitude among coaches to seek further knowledge regarding mouth guards [23].

The coaches who recommended the use of mouth guards made by the dentist reported that their athletes ranked these mouth guards as favourable. Yet, the reasons why coaches referred their athletes to the dentist varied from having a total lack of knowledge to having optimum knowledge that mouth guards made by the dentist, provided the best fit.

Activities in which mouth guards are recommended

Recommendations vary between different sports, different positions within the same sport and between matches and training sessions.

The vast majority of coaches recommended mouth guards for contact sports, particularly hockey. Two coaches recommended mouth guards for all contact sports while the rest of them linked its use to specific sports e.g. "Rugby, Boxing, Martial Arts, T20 Cricket (maybe, very unlikely), Ice Hockey". It is true that the prevalence of dental trauma varies from one contact sport to another. For example, boxing and hockey seem to carry a higher incidence of dental trauma compared to cricket [24]. However, it is important that mouth guards be used for all sports and not just specific sports [1]. Unfortunately, none of the coaches recommended mouth guard use during recreational activities.

Some coaches did however recommended mouth guards for specific playing positions during the game. One example provided by two coaches mentioned was "short corners". Although the intensity and frequency of the contact during competitions could be the main factors associated with a dental injury [25], there is no current literature comparing the incidence of dental trauma at short corners to the rest of the game, nor are there studies which identify specific player positions that are at greater risk of trauma. There is a general consensus that the penalty corner which is also known as short corner is the most critical position during a hockey game [26] and thus possibly the most vulnerable position in terms of contact during play. Moreover, there is also variation in the incidence of the dental trauma within the same game according to different roles that the players undertake [27]. However, all players in all positions are at risk of trauma, they should all wear mouth guards.

Only two coaches made specific recommendations for the use of mouth guards during training sessions and matches. Coaches need to be aware that mouth guards are equally important in both training sessions and matches [28,29]. There is great lack of awareness in this regard.

Motivation for use of mouth guards by coaches

Coaches' influence upon athletes is crucial for their compliance [30]. In the present study, one coach clearly stated that "I have had quite a few players buy mouth guards based on my encouragement for them to play with one". On the other hand, another participating coach in this study did not feel that his/her advice was a strong motivator to influence athletes' acceptance of mouth guards. Yet, the motivations provided by coaches varied (Table 2).

Code	Quotes example
Coaches' experience witnessing dental trauma	"I have seen players get hit in the mouth with a hockey ball and lose teeth"
Safety	"Unpredictable ball paths and safety"
Avoiding brain concussion	"While the effect on concussion is minimal, wearing a mouth guard when receiving a blow to the chin can decrease the shock...."
High cost of treating a traumatized tooth	"...loss of teeth can be very dangerous and expensive"

Table 2: The reasons given by coaches to motivate their athletes to wear mouth guards.

Implementation of coaches' recommendations

Regarding the implementation of coaches' recommendations, five coaches mentioned that they would communicate with their players to motivate them to wear mouth guards e.g. "Telling stories about incidents and logic". This is a positive finding compared to the study conducted by Çetinbaş and Sönmez [23] who found that Turkish coaches did not advise their students to wear one. Only two coaches made it mandatory for athletes to wear mouth guards during the game. One of them clearly stated "No mouth guards, no play".

Conclusion and Recommendations

The Department of Sports and Recreation should be considered the authorising body responsible for a preventive plan of action for dental trauma. They should be responsible for developing methods to educate coaches regarding mouth guards. By working together with dental professionals, schools and coaches need to make mouth guards mandatory.

Bibliography

1. Newsome PRH., *et al.* "The role of the mouthguard in the prevention of sports-related dental injuries: a review". *International Journal of Paediatric Dentistry* 11.6 (2001): 396-404.
2. Andreasen JO. "Etiology and pathogenesis of traumatic dental injuries A clinical study of 1,298 cases". *European Journal of Oral Sciences* 78.4 (1970): 329-342.
3. Tiwari V., *et al.* "Dental trauma and mouthguard awareness and use among contact and noncontact athletes in central India". *Journal of Oral Science* 56.4 (2014): 239-243.
4. Edward S and Nord CE. "Dental injuries of school-children". *Svensk Tandlakare Tidskrift. Swedish Dental Journal* 61.10 (1968): 511-516.
5. Stewart GB., *et al.* "Consumer products and activities associated with dental injuries to children treated in United States emergency departments 1990-2003". *Dental Traumatology* 25.4 (2009): 399-405.
6. Frontera RR., *et al.* "Orofacial trauma in Brazilian basketball players and level of information concerning trauma and mouthguards". *Dental Traumatology* 27.3 (2011): 208-216.
7. Snellman K., *et al.* "Sports injuries in floorball: a prospective one-year follow-up study". *International Journal of Sports Medicine* 22.7 (2001): 531-536.
8. Kujala UM., *et al.* "Acute injuries in soccer, ice hockey, volleyball, basketball, judo, and karate: analysis of national registry data". *BMJ* 311.7018 (1995): 1465-1468.
9. Kvittem B., *et al.* "Incidence of orofacial injuries in high school sports". *Journal of Public Health Dentistry* 58.4 (1998): 288-293.
10. Flanders RA and Bhat M. "The incidence of orofacial injuries in sports: a pilot study in Illinois". *The Journal of the American Dental Association* 126.4 (1995): 491-496.
11. Woodmansey KF. "Athletic mouth guards prevent orofacial injuries". *Journal of American College Health* 45.4 (1997): 179-182.
12. Diab N and Mourino AP. "Parental attitudes toward mouthguards". *Pediatric Dentistry* 19.8 (1997): 455-460.
13. Gardiner DM and Ranalli DN. "Attitudinal factors influencing mouthguard utilization". *Dental Clinics of North America* 44.1 (2000): 53-65.

14. Pribble JM., *et al.* "Parental perceptions regarding mandatory mouthguard use in competitive youth soccer". *Injury Prevention* 10.3 (2004): 159-162.
15. Giglio D. "Mouthguard Use in Sports ACP American College of Prosthodontists". New York University (2015).
16. Padilla R., *et al.* "Prevention of oral injuries". *Journal of the California Dental Association* 24.3 (1996): 30-36.
17. Ranalli DN. "Sports dentistry and dental traumatology". *Dental Traumatology* 18.5 (2002): 231-236.
18. Patrick DG., *et al.* "Scale of protection and the various types of sports mouthguard". *British Journal of Sports Medicine* 39.5 (2005): 278-281.
19. Padilla R and Balikov S. "Sports dentistry: coming of age in the '90s". *Journal of the California Dental Association* 21.4 (1993): 27-34.
20. Badel T., *et al.* "Dental/orofacial trauma in contact sports and intraoral mouthguard programmes". *Kinesiology* 39.1 (2007): 97-105.
21. Patrick D. "Making better mouthguards to prevent sports injury". *Dental Nursing* 10.8 (2014).
22. Kalaskar AR and Kalaskar R. "Knowledge and Attitude of the Sports Teachers in Central India towards Oro-facial Injuries and the use of Mouth Guard". *Journal of Sports Medicine and Doping Studies* 6.3 (2016): 179.
23. Çetinbaş T and Sönmez H. "Mouthguard utilization rates during sport activities in Ankara, Turkey". *Dental Traumatology* 22.3 (2006): 127-132.
24. Lehl G. "Perceptions of Chandigarh sports coaches regarding oro-facial injuries and their prevention". *Journal of Indian Society of Pedodontics and Preventive Dentistry* 23.2 (2005): 67-70.
25. Keçeci AD., *et al.* "Dental trauma incidence and mouthguard use in elite athletes in Turkey". *Dental Traumatology* 21.2 (2005): 76-79.
26. Laird P and Sutherland P. "Penalty corners in field hockey: A guide to success". *International Journal of Performance Analysis in Sport* 3.1 (2003): 19-26.
27. Rishiraj N., *et al.* "Injury profile of elite under-21 age female field hockey players". *Journal of Sports Medicine and Physical Fitness* 49.1 (2009): 71-77.
28. Parkkari J., *et al.* "Is it possible to prevent sports injuries?". *Sports Medicine* 31.14 (2001): 985-995.
29. Levin L., *et al.* "Dental and oral trauma and mouthguard use during sport activities in Israel". *Dental Traumatology* 19.5 (2003): 237-242.
30. Ranalli DN and Lancaster DM. "Attitudes of college football coaches regarding NCAA mouthguard regulations and player compliance". *Journal of Public Health Dentistry* 55.3 (1995): 139-142.

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