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REVIEW ARTICLE

SPORTS DENTISTRY-A REVIEW

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ABSTRACT

Dental trauma in sports is the major linking channel between sports and dentistry sports dentistry is the prevention of oral facial athletic injuries and related oral diseases and manifestations. The most important aspect in preventing sports-related orofacial injuries is wearing basic protective devices such as properly-fitting helmets, facemasks and/or mouth guards. The dentist can play an imperative role in informing athletes, coaches and patients about the importance of preventing orofacial injuries in sports. Dentist should play an important role in educating the public and the use of protective equipment. This review is based on need for sports dentistry, prevention of orofacial injuries, role of dentist in sports team and the legal considerations in sports dentistry.

INTRODUCTION

Playing sport, and learning how to compete, provides a crucial venue for educating our nation's youth and shaping our national culture. It is a vehicle for building positive relationships, fostering personal growth and perseverance, and learning ethical behavior. The physical, mental, and social health benefits of sport are enormous and can last a lifetime. On the other side it is common for the kids and adolescents to get hurt during any form of sports, especially contact sports, and face is the main area of damage. As dentists, we have to deal with those patients with various kinds of fractures of tooth and facial bones, so Dental trauma in sports is the major linking channel between the sports and dentistry (Ramagani, 2014). Increased competitiveness has resulted in a significant number of dental and facial injuries which represent a high percentage of the total injuries experienced in youth sports (Castald, 1986 and Castaldi, 1988). Over the past decade, approximately 46 million youths in the United States were involved in "some form of sports" (Barron, 2005). It further is estimated that 30 million children in the US participate in organized sport programs (Adirim, 2003). All sporting activities have an associated risk of orofacial injuries due to falls, collisions, and contact with hard surfaces. Sports accidents reportedly account for 10-39% of all dental injuries in children.

The administrators of youth, high school, and college football, lacrosse, and ice hockey have demonstrated that dental and facial injuries can be reduced significantly by introducing mandatory protective equipment. Popular sports such as baseball, basketball, soccer, field hockey, softball, wrestling, volleyball, and gymnastics lag far behind in injury protection for girls and boys. Youths participating in leisure activities such as skateboarding, inline or roller skating, and bicycling also benefit from appropriate protective equipment (Tesini, 2000 and Finnoff, 2001). Studies of dental and orofacial athletic injuries are reported throughout the medical and dental literature. A review of literature published over the past 20 years showed that the injury rate varied greatly depending on the size of the sample, the sample's geographic location, the ages of the participants, and the specific sports involved in the study (Kumamoto, 2005 and Kumamoto, 2000). Although the statistics vary, many studies reported that dental and orofacial injuries occurred regularly and concluded that participation in sports carries a considerable risk of injury (Kumamoto, 2005; 2000 and Ranalli, 2000). Sports dentistry is the prevention of orofacial athletic injuries and related oral diseases and manifestations, which has two major components¹. First is the treatment of orofacial injuries and second is the prevention of sports related orofacial injuries. To provide comprehensive care, a dentist must be knowledgeable and adept in the areas of oral surgery, endodontics, operative dentistry, orthodontics, hospital dentistry, and patient behavior management. According to Scott J, Burke F and Watts DC. (Scott, 1996), 1996, dental injuries are the commonest type of orofacial injuries sustained during participation in sports, which include

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injuries to the dentition, namely fractured or avulsed teeth and injuries to the periodontium, due to direct impact on jaws, results in dislocation or fracture of jaws. The National Youth Sports Foundation for the prevention of athletic injuries estimates that during each session of play, athletes have a 10 percent chance of sustaining an injury to the face or mouth (Gharpure, 2007). Separate studies showed that from 13 to 39 percent of all dental injuries were sports-related and of all sports-related accidents reported, 11 to 18 percent were maxillofacial injuries. Males were affected twice as often as females, with the maxillary central incisor being the most commonly injured tooth (Hayrinen-Immonen, 1990 and Rontal, 1971). Due to high prevalence and consequences of dental trauma in sports, the sports dentistry needs to be established. Prevention of these injuries during sports is important, which have changed the incidence of the injuries to the athlete. The preventive measures like usage of helmets, mouth guards, and other protective gears have reduced the impact on the athlete, thereby reducing the injuries in both Contact sports and non-contact sports. Modifications of these protective gears also have been studied and changes have been made to make them more comfortable, user friendly, and also safer (Ramagoni, 2014). Knowledge about sports dentistry is also important to provide prompt treatment for a dental emergency and educate regarding the sports related dental injuries, the risk factors associated, diagnosis, first-aid treatment and preventive measures to all sports personalities whom include coaches, trainers and athletes themselves. The available facilities are dependent on the circumstances of the nation, sports practiced most commonly and the level of community education in this regard, it also deals with the role of sports team dentist and some legal considerations associated with sports dentistry (Fos, 1990). Dentistry today must respond to these patient's specialized needs, providing them with the quality care which they deserve. In all, there is much to be carried out in the field of sports dentistry. The sports dentistry field is a challenging, yet rewarding one.

Definition of sports dentistry

Sports dentistry is one of the most recent and an emerging specialty in dentistry, which had its origins in the 1980s. It mainly includes the prevention and management of athletics-related orofacial injuries and associated oral diseases. Various definitions were proposed by different authors. According to Academy for sports dentistry, it is defined as "the prevention and dissemination of information on dental athletic injuries and the encouragement of research in treatment of orofacial athletic injuries and related oral diseases, as well as the collection and the prevention of such injuries." (Kaur, 2013). According to International Academy for Sports Dentistry, it is defined as "the branch of dentistry that involves prevention of oral sports injuries and treatment of dental athletic injuries. It also involves the collection and dissemination of information on dental athletic injuries and encourages research in the prevention of such injuries" (Kaur, 2013 and Chopra, 2013).

Interrelationships of "trauma," "injury," and "accident" to sports dentistry

Much of the interface of dentistry and sports is mediated by the terms trauma, injury, and accident which are frequently and erroneously, though to be interchangeable. Trauma, derived from the identically spelled Greek word, is the broadest of

these terms, and means literally a wound, a shock, or an injury (Pinkham, 1991). Injury is another general noun derived from ancient words, meaning literally "unjust" or "not just." Injury also has a broad range of meanings. In the health sciences it means a hurt, a harm, a maim, or a wound. It is applied most commonly to damage inflicted to the body by an external force (Pinkham, 1991). Accident is a general term derived from old word combinations meaning to happen or to fall. In modern usage this word implies events that take place without one's expectation or foresight, especially those of such unfortunate character that can lead to harm (Pinkham, 1991).

Need for Sports Dentistry

A rapid proliferation of sports programs for children and adolescents has taken place over the past three decades. With this rapid expansion in sports activity, there has been a concomitant development of the specialty of sports medicine. During the 1970s and 1980s, interest in sports-related injuries, medical treatment, and rehabilitation has sparked the development of sports medicine programs. The dental community in general, however, has been somewhat less aggressive in its response to similar issues related to sports. Historically, early sports references in the dental literature concentrated on mouth guard fabrication, but sports dentistry should encompass much more than mouth guard fabrication and the treatment of fractured teeth. In 1983, the Academy for Sports Dentistry was founded. Skeptics questioned the need for such an organization. After seven successful years, however, this organization continues to conduct educational programs, promote legislative efforts, and encourage research in all aspects of dentally related sports issues. Through its preventive dentistry effort, this Academy has contributed to overall efforts to eliminate dental injuries during sport activities. Jackson proposed a systemic approach for how the dental profession should interact with the sports world, including opportunities for dentists in athletics. He also emphasized that there is a great need for "Team Dentist" from high schools to professional teams (Winters, 1996).

Padilla had emphasized that dentists can assist athletes and incorporate knowledge into their private practices in three main ways, i.e. by conducting pre season oral health screenings, fabricating custom made mouth guards, and being available for emergency care (Padilla, 1996). Whether for exercise, competition, or sheer joy of participating, an increasing number of health conscious and sports minded individuals are finding their way onto the playing fields and into gymnasiums across the world. They are increasingly active, and their increased activity demands a response from the health professionals who serve them. Hence, dentistry has a pivotal role in providing good oral care for the athletes and also in preventing orofacial injuries for the athletes who are at risk for injury. Preventive aspects during sports have changed the incidence of the injuries to the athlete. The preventive measures like usage of helmets, mouth guards, and other protective gears have reduced the impact on the athlete, thereby reducing the injuries. Modifications of these protective gears also have been studied and changes have been made to make them more comfortable, user friendly and also safer. Prevention of such injuries can be achieved through proper patient education, diagnosis, treatment of existing dental problems and designing custom made mouthguards. Contact sports and non-contact sports should be supplemented with protective appliances like mouthguards, facemasks and

helmets (Pinkham, 1991). To full fill all these requirements a speciality is needed and it is emerged as sports dentistry in need of time. Fortunately, modern dentistry has developed numerous techniques and appliances to help protect the sports participant from a variety of orofacial injuries. In fact, preventive sports dentistry represents the most important contribution the dental profession can make to assure a sports participant's welfare.

Risk Factors for Sports Injuries

An essential component of any injury prevention program is an appreciation and understanding of the risk factors and determinants that can be predictive of these undesirable events. There are two broad categories of injury risk factors in sports (Taimela, 1990). These are extrinsic risk factors and intrinsic risk factors.

Extrinsic Factors

Extrinsic risk factors are those potential predictors of injury that are independent of the individual. These are essentially the injury predictors that are related to the type of activity demanded by a particular sport.

Risk of dental trauma according to game played (Pinkham, 1991)

High risk sports: football, rugby, ice hockey, martial arts and basketball are considered the highest risk for facial and head injuries.

Moderate Risk Sports: soccer, field hockey, baseball, racquetball, and squash also have the potential to cause dentofacial or temporomandibular injuries.

Low risk sports: non contact sports like bowling, billiards.

Improper method of preparation (Kerr, 1988): Improper method of preparation for competition such as training errors can be responsible for upto 60% of injuries.

Stress injury (Pinkham, 1991): Chances of stress injury are more in running and jogging as compared to contact sports i.e. football and boxing.

Other extrinsic risk factors (Pinkham, 1991): Other extrinsic risk factors include quality of the playing surface, status of the equipment to be used or worn, climatic conditions as ice rain and the quality of supervision of the participants.

Intrinsic Factors

BIOLOGIC (Pinkham, 1991)

- Age
- Gender
- Body size
- Local Anatomy and Biomechanics
- Aerobic Fitness
- Muscle Strength, Imbalance and Tightness
- Ligamentous Luxity

Psychological and Psychosocial Factors: Kerr and Fowler observed that any psychological factor that would reduce the participant's attention to the challenge of the sport and/or increase the possibility of fatigue may be an etiologic factor in sports injury (Kerr, 1988).

Central Motor Control: Physically handicapped populations, which display central motor disabilities, are probably at a greater potential risk for injuries associated with physical endeavors such as sports, than might be true for those without impaired coordination. The burgeoning area of sports for the developmentally disabled presents a new set of challenges for clinicians and researchers in sports medicine and dentistry (Taimela, 1989).

General Mental Ability: There is a correlation between sports injuries and lower scores on intelligence tests, suggesting that intelligence may be predictive of injury proneness. This relationship needs to be elucidated more clearly, as injury proneness appears to cross intellectual boundaries (Taimela, 1989).

Sports according to the risk level by American Academy of Pediatrics (Jeralimav, 2010):

| CLASSIFICATION | SPORTS DISCIPLINE |
|------------------------------|---|
| Contact/ Collision | Boxing, field hockey, football, ice hockey, lacrosse, martial arts, rodeo, American football, wrestling |
| Limited contact / Impact | Baseball, basketball, cycling, diving, gymnastics, skateboarding, skiing, softball, squash, volleyball, equestrianism |
| Strenuous Non-contact | Acrobatic dance, fencing, running, swimming, tennis, weight lifting, track & field, |
| Moderately Strenuous Contact | Badminton, curling, table tennis |
| Mild Contact | Archery, golf, shooting |

Sports according to the risk level by World Dental Federation – FDI

| HIGH RISK SPORTS | MODERATE RISK SPORTS |
|----------------------------|----------------------|
| Boxing (Queensberry rules) | Basketball |
| Boxing (free styles) | Diving |
| Football | Gymnastics |
| American football | Parachuting |
| Ice hockey | Equestrianism |
| Field hockey | Squash |
| Martial arts | Water polo |
| Rugby | Hand ball |
| Ice skating | Cricket |
| Hang gliding | Base ball |

Prevention of Orofacial Injuries

Many sports related traumatic dental injuries are preventable; the risk to benefit ratio can be improved by the use of appropriate, properly fitted, protective athletic equipment. Furthermore, as the predictive risk factors associated with such injuries are more clearly identified and defined, the design and development of new protective devices may contribute positively to future athletic injury prevention. After assessing the risk factors, preventive management of the player should be done to decrease the chances of dental injury. The use of mouthguards, helmets and facemasks has reduced substantially both the number and severity of craniofacial and intra-oral traumatic injuries among mature adolescent athletes who have

been required to use these protective devices while participating in practice sessions as well as in game situations.

Preventive solutions for orofacial injuries are (Gharpure, 2007):

- Routine checkups should be done for any physical or mental condition that might cause an unexpected problem during athletic event.
- Completion of any ongoing dental treatment e.g. orthodontic treatment should be done for correction of proclined anterior teeth.
- Use of preventive devices like mouthguards, helmets and face masks should be done under professional guidance.

Helmets

Helmets are designed to protect the skin of the scalp and ears from abrasions, contusions, and lacerations. These also protect the bones of the skull from fractures and the brain and central nervous system from direct concussions, unconsciousness, cerebral hemorrhage, brain damage, paralysis and death.²⁶⁻²⁷

Facemask

Facemasks are designed to protect the eyes, nose, nasal pyramid, zygomatic arches, and mouth from traumatic forces such as fist, ball, puck, or stick directed towards the face (Rontal, 1971). Facemasks are manufactured from various numbers and diameters of plastic or rubber tubing or welded steel or aluminium and are covered with a coating of vinyl plastisol.

Mouthguards

Athletic mouth guards are designed to protect against bruising of the lips and cheeks, intra oral soft tissue lacerations; protect the teeth from crown fractures, roots fractures, dislocations, and avulsions; protect the jaws from fractures and dislocations; as well as provide support for edentulous spaces for those athletes who wear removable partial dentures. Mouth guards also aid in reducing the likelihood of neck injuries, indirect concussions, cerebral hemorrhage, unconsciousness, serious central nervous system damage, and death. It also reduces the possibility of direct impact of head of condyle to the glenoid fossa, thereby decreasing impact and forces to the entire temporal region (Bureau of dental health education, 1962 and Bureau of health education and audiovisual services, 1984).

Classification of mouth guards

The ASTM in designation: F697-80 (reapproved 1986) established the classification system for athletic mouth guards which is based on an ascending order of preference as follows (American Society for Testing and Materials, 1986):

Type I: Stock mouth guards: These preformed, over-the-counter mouthguards are very popular since they are readily available, inexpensive, and can be purchased in a variety of colors and styles.

Type II: Mouth – formed mouth guards: Mouth-formed protectors are available in two varieties; the thermoplastic and the shell-lined are both adapted directly to the teeth and the

maxillary arch. Prior to the fabrication of either type of mouth-formed mouthguard, the dentition should be examined and all restorative procedures should be completed.

Type III: Custom-fabricated (over a dental cast) mouth guards:

- Prefabricate Custom-Formed Mouthguards
- Custom-Formed (Vacuum) Mouthguard

Policy on Prevention of Sports-related Orofacial Injuries:- The American Academy of Pediatric Dentistry (AAPD) encourages

- 1) Dentists to play an active role in educating the public in the use of protective equipment for the prevention of orofacial injuries during sporting and recreational activities.
- 2) Continuation of preventive practices instituted in youth, high school and college football, lacrosse, field hockey, ice hockey, and wrestling (for wrestlers wearing braces);
- 3) An American Society for Testing and Materials (ASTM) certified face protector be required for youth participating in baseball and softball activities;
- 4) Mandating the use of properly-fitted mouthguards in other organized sporting activities that carry risk of orofacial injury;
- 5) Coaches/administrators of organized sports to consult a dentist with expertise in orofacial injuries prior to initiating practices for a sporting season, for recommendations for immediate management of sports-related injuries (eg, avulsed teeth);
- 6) Continuation of research in development of a comfortable, efficacious, and cost-effective sports mouthguard to facilitate more widespread use of this proven protective device;
- 7) Dentists of all specialties, including pediatric and general dentists, to provide education to parents and patients regarding prevention of orofacial injuries as part of the anticipatory guidance discussed during dental visits;
- 8) Dentists to prescribe, fabricate, or provide referral for mouthguard protection for patients at increased risk for orofacial trauma;
- 9) Third party payers to realize the benefits of mouthguards for the prevention and protection from orofacial sports related injuries and, furthermore, encourages them to improve access to these services;
- 10) Paediatric dentists to partner with other dentists and child health professionals, school administrators, legislators and community sports organizations to promote the broader use of mouthguards
- 11) Paediatric dental departments to teach dental students fabrication of custom-fitting mouthguards.

The Academy for Sports Dentistry and the International association of Dental Traumatology be consulted as valuable resources for the professions and public.

Role of Dentist in Sports Team

Responsibilities involved in sports dentistry: The duties of the sports dentist vary with the athletic team involved. Some have more duties than others. There are many responsibilities to the dentist involved, but they will not apply to all situations.

For most teams, the dentist is not usually a coach. Many times the relationship has been threatened by the dentist offering advice on subjects outside of his profession, as injuries that are not within the dentist's expertise when there are other professionals present; trained in those areas.³¹The team dentist must evaluate mouth protective devices as to their ability to protect, difficulty of construction and cost. It must be determined how mouth-protective devices are to be stored, sterilized and must plan for the construction of such devices, and recruit additional dental personnel capable of constructing properly fitted mouthguards. Usually these individuals can be recruited at regional dental meetings (Berry, 1999). There are some dental injuries that may be managed immediately by the trainer, while other more serious injuries must be referred for treatment to dental professionals. Minimal injuries are better just observed until definite symptoms can be ascertained. The athletic personnel should be provided with information to route athletes with these injuries for proper treatment. An effort must be made to train athletic auxiliaries to recognize simple dental problems such as periodontal diseases and simple lesions of the mouth. Other potential serious dental problems can be noted such as infected third molars cracked and chipped teeth, and missing or fractured fillings, which should be referred to the sports dentist for further critique. Injuries of a more serious nature should be assessed by the sports dentist who should direct the treatment and disposition (Castaldi, 1987).

Depending upon the situation, the dentist may be asked to attend the games or at least be available for consultation at game times or shortly thereafter. The dentist must be prepared to advise and give lectures on sports injuries to the parents of young athletes. There are some audiovisual aids available to the dentist for such programs. The sports dentist should be prepared to attend meetings on sports dentistry, where there are gatherings of people involved in various sports programs and are invaluable to these dentists regardless of their experience in this field, and allow the dentist to keep up with the latest developments and advancements in the field (Godwin, 1999). The sports dentist should be prepared to assist in the development of a curriculum for sports dentistry for the dental schools, dental societies, and athletic trainers (Simon, 1978). There has been very little done in this area and the sports dentist with his or her practical experience in this field could be a very important resource. Such a course should not only have a lecture portion of pertinent information but also a hands-on portion to furnish practical experience in the construction of preventive mouthguard appliances. Perhaps the universities and the Academy for Sports Dentistry should establish continuing education hands on courses of one day duration and issue certificates of attendance to those participating, where the sports dentist's input in such courses would be welcomed (Godwin, 1999).

Legal considerations in sports Dentistry

Dental sports law is the application of law to the field of dental practice that includes the prevention of oral and facial injuries and the treatment of patients who participate in athletic events or exercise programs. The field of general sports law is expanding at a rate consistent with the increasing participation by the general population in athletics and exercise programs. Professional, amateur, and school-organized sports activities have attracted more participants and interest than ever before. The greater the participation in an activity, the more cases come before the courts. As more cases come before the

courts, the body of law as it relates to the activity increases. The same legal development applies to sports law.

Good Samaritan Laws

The intent of Good Samaritan Laws was to remove the barrier of fear of a law suit being lodged against a physician who renders first aid to an individual injured as a result of an accident. It was anticipated that given this protection, physicians would be more likely to assist people injured at the scene of an accident. Whether the goal was achieved is difficult to determine. In many instances physicians are included in the protected class; in many, but not all, dentists also are protected (Burton, 1989).

Consent and Refusal

Examining or treating a patient without consent constitutes an unauthorized touching, and makes the one who commits the act guilty of a battery and liable to the patient in a civil suit.

The Health History

The complete health history, supplemented by the results of tests and radiographs, and a clinical examination leads to an evaluation of the patient's oral health status. Armed with this information the dentist should be able to generate alternative treatment plans (Burton, 1991).

Record keeping

In terms of Sports Dentistry, there are no special concerns related to record keeping of patients engaged in sports, except that the dentist should note any recommendations given to these patients to ensure safety during their athletic activities, and any recommendations, as to the action they should take should an injury occur (Burton, 1991).

Confidentiality

Any and all information obtained from the patient by the dentist in the course of examining or treating the patient is to be held in strict confidence. The violation of this trust may subject the dentist to severe penalties in an action brought by the patient. However, there are several situations in which the information may be released without violating the patient's right to privacy (Godwin, 1999).

DISCUSSIONS

Sports influence the lives of the world population and in many ways reflections of the society's interest. Whether as competitors or as spectators, the enjoyment of sports serves as a genuine common factor among all people of different age, race, ethnic, religion, political and socioeconomic origins. Participation in athletic activities at both the recreational and organized sports levels continues to attract growing number of developing children and adolescents. Not only from developed countries, but also from developing countries like India, more and more number of health conscious people are finding their way onto the playing fields and gymnasium. The common reasons behind this growing active participation in sports are exercise, competition, fame, financial incentive, and the joy of participation. Prior to 1960, reports indicated that 50% of all football injuries occurred in or around the mouth when high

school football players were not wearing facemasks or mouthguards. However, subsequent to the enactment in 1962 by the National Alliance Football Rules Committee and later in 1973 by the NCAA of mandatory face mask and mouth guard regulations, statistics for craniofacial and intraoral football-related traumatic injuries improved dramatically. The incidence of facial as well as dental injuries per 100 players decreased from 2.26% prior to the mandatory use of face masks and mouth guards to 0.3% in 1966. With the use of mouthguards, there were an estimated 25,000 to 50,000 fewer injuries during the 1967 football season alone.³⁶The introduction of face masks reduced oral trauma by 50% and the remaining portion of these injuries was nearly eliminated when mouthguards were added. Using conservative estimates, from 100,000 to 200,000 oral injuries to football players are prevented annually by the use of intraoral mouthguards. Such figures indeed are convincing to continue to insist on the use of these protective devices. In 1962 the Report of the joint Committee on Mouth Protectors of the American Association for Health, Physical Education and Recreation, the American Dental Association (ADA), the National Association of Intercollegiate Athletics (NAIA), and the Junior College Athletic Association (JCAA) concluded that in organized football nearly all injuries to the teeth and mouth can be prevented by the use of carefully made, properly fitted mouth protectors. The report stated that, "The most prevalent cause of dental injury in the presence of a faceguard (in addition to blows under the chin) are (1) Blows that slip past the face bar, including blows by the bars of faceguard worn by another player, (2) Gritting of the teeth of snapping the jaws shut in playing contact sports (especially as a result of unexpected body blocks and tackles) (3) Blows on top of the head which also cause the jaws to shut and on occasion cause concussion. (4) Blows under the chin resulting from forearm blocking." (Cohen, 1958). The NCAA Football Rules Committee for the 1990 season made it mandatory that mouthguards be "yellow or any other readily visible colour." This was done to make the wearing more visible to officials during games and to coaches and trainers during practice time. They are also found more easily than a clear mouthguard when lost in the grass. Another advantage is that if teams were to wear contrasting colors, and a mouthguard was located on field, officials would know more easily to which bench area to return the mouthguard (Johnsen, 1991).

Kumamoto and DiOrio surveyed each of the 69 dental schools in the United States and Canada regarding course offerings in the field of sports dentistry. The results of this survey demonstrated that only 19 of the 69 schools offered sports dentistry as subject matter in a definitive course. The majority of the schools that responded felt that information in sports dentistry should be a required part of the curriculum. Additionally, most dental schools did not provide sports injury prevention or treatment programs for their university athletic teams, and the majority of the schools provided no direct treatment for athletic groups (Kumamoto, 1989). At the 1990 annual session of the American Dental Association (ADA), the ADA House of Delegates adopted Resolution 100H calling for an oral inspection by a dentist as part of a high school athlete's physical examination prior to sports participation. The ADA will make this recommendation to the National Federation of State High School Associations and other organizations involved in regulating school sports activities at this level. The ADA also will be contacting local high school associations through the state dental societies. Thus it is likely that many

dentists may find themselves called to be of service to local high school athletic team (Burton, 1991). It can be seen that it is our professional responsibility to become involved in education, research, and community service activities as these relate to issues involving sports dentistry. The field of sports dentistry is still young, but continually growing. We as dental professionals must educate ourselves, as well as the public, in terms of injury treatment and accident prevention.

Conclusion

Lack of proper measures may lead to minor or major damage having a long lasting impact on patient's oral as well as general health. "Prevention is better than cure", says an old adage. This holds true for orofacial injuries in sport events. Sport's person should understand that oral protection by way of properly fitted mouthguards, helmets and face masks will not hamper their ability to perform. As dentists engaged in practicing our profession, whether as general practitioners, specialists, teachers, or researchers, each one of us has a vested interest and a professional responsibility to continue to update our own personal professional knowledge, to contribute to the overall knowledge base of the profession as a whole, to provide service to the communities in which we live and work, and to provide our special clinical expertise to all of our patients. No less should be expected for our patients who participate in athletic endeavors.

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