SPORTS DENTISTRY NEWSLETTER

Academy for Sports Dentistry

COMMENTS FROM THE EDITOR

Our recent meeting in Key Biscayne, Florida was very successful with many excellent presentations. Our hands-on mouth protector program was well attended with a great deal of interest in the fabrication of mouth guards. The program on Friday involved the role of the team physician in major athletics, and the responsibilities of a head trainer in a major Division I college or university, which was very well received.

Traumatic injuries to the face and TMJ were presented; especially interesting were the injuries to the mandibulofacial complex. The speaker spent a great portion of his presentations on the "Week-End Warrior." This was a different and interesting approach to athletic injuries including boating, skiing and baseball injuries. (Baseball injuries are many times very serious and the leading cause of death in athletic injuries.) Today strength and conditioning was also an interesting and well received presentation.

Several papers were presented regarding developing and marketing a mouth guard program in general dental practice or for a high school program. These were very basic, but interesting.

As usual Dr. Paul Kastner presented an excellent program on "Avulsed Teeth and New Preservation Fluids and Pre-Replantation Conditioning." An article will follow in this newletter regarding this topic. His presentation was followed by Dr. Dorn discussing endodontic considerations in traumatized teeth.

Prior to the official opening of the meeting, Dr. Castaldi presented opening remarks, discussed the Academy and his role in the care of hockey injuries.

The overall program was excellent. The weather was great, however the registrants at the meeting were very attentive and when our meeting ended on Saturday everyone was still in attendance. This does not happen at too many dental meetings held at resorts. Again, my congratulations to the committee, especially Dr. Arun Garg.

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PREVENTION AND MANAGEMENT OF DENTAL EMERGENCIES DURING A COLLEGE FOOTBALL SEASON

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Abstract

This article describes situations encountered during the 1990 Pitt football season that required consultations and emergency dental management. These situations are compared to existing published information regarding concussions, fractures of the teeth, third molar problems, and problems associated with the use of smokeless tobacco by athletes. Ways to anticipate the prevent similar events from occurring in the future are suggested.

Introduction

Prior to the 1990 college football season, the author agreed on behalf of the School of Dental Medicine, to serve as a consultant and referral source for the Sports Medicine Program at the University of Pittsburgh.

The university participates in football as an NCAA Division I independent program and, for several years, has utilized the services of an alumnus as the team dentist. The team dentist has provided for the fabrication of custom-made mouthguards and routine dental care for these athletes.

However, since the team dentist's private office is located some distance from campus and the School of Dental Medicine is adjacent to the football facility, the current arrangement to provide for expeditious consultations and emergency treatment on an "as-needed" basis was instituted. An added advantage of this arrangement is that all recognized dental specialties are represented and readily available at the dental school clinic.

The purpose of this report is to describe those situations that arose during the 1990 Pitt football season that required consultations and emergency dental management at the School of Dental Medicine. Further, these situations are compared to existing published information regarding concussions, fractures of the teeth, third molar (wisdom teeth) problems, and problems associated with the use of smokeless tobacco by athletes. Ways to anticipate and prevent such situations from occurring in the future are suggested.

Materials and Methods

A protocol was established whereby players reported any emergency dental situations they were experiencing to the Head Football Trainer. He in turn had direct telephone access to the author. Following telephone contact, the author performed a cursory dental examination of the athlete in the athletic training room. The athlete was triaged for referral to the appropriate specialty clinic within the School of Dental Medicine, for definitive diagnosis and treatment. The Head Football Trainer called upon the author on five separate occasions during the 1990 college football season.

Results

Demographic Characteristics

The five football players who required consultations and emergency dental treatment were all white males ranging in age from 20 to 23 years, with a mean age of 21.4 years. One player had experienced a concussion and two fractured permanent mandibular anterior teeth during a game, as well as intermittent recurrent problems associated with impac third molars (wisdom teeth). Three oth players also experienced problems associated with their third molars, while the fifth player was concerned with intraoral soft tissue changes associated with the use of smokeless tobacco.

Concussions and Fractures of the Teeth

It has been well documented that the use of mouthguards and facemasks during football practice sessions and in game situations has reduced substantially both the number and severity of concussions as well as intraoral traumatic injuries to the teeth. (1,2) Since 1973, when the NCAA mandated the use of mouthguards and face masks, statistics for craniofacial and intraoral football related traumatic injuries have improved dramatically. (3,4) Beginning with the 1990 football season, the NCAA required football players to wear high visibility colored intraoral mouthguards to enhance the ability of game officials to determine player compliance. A five yard penalty will be assessed against a team if a player is seen participating on the field while not wearing a colored mouthguard.

Despite these regulations, the first player to be seen for emergency treatment had not been wearing a mouthguard during the game in which he sustained a concussion and fractures to the permanent mandibular right central and lateral incisors. This player was a quarterback who complained that his mouthguard caused dry-mouth and difficulty with signal calling. He indicated, however, that in the future he would wear his mouthguard.

Radiographs to determine the extent of traumatic damage to the mandibular teeth were taken (Figure 1), along with radiographs of the teeth in the opposing maxillary arch. Radiographically there were no apparent root fractures, and the teeth were not mobile clinically. Diagonal fractures were observed at the incisal edges of the permanent mandibular right central and lateral incisors, extending into the dentin. The fractured teeth were sensitive to cold stimulated by an ice pencil. Emergency treatment consisted of smoothing the rough enamel edges at the fracture sites and coating temporarily the exposed dentin with a sealant. Final restoration of the crowns was deferred, at the request of the athlete, until after the completion of the football season.

Figure 1: Periapical radiograph demonstrating football related enamel fractures of the permanent mandibular right central and lateral incisors extending into dentin.

Third Molar (Wisdom Teeth) Problems

A previous study evaluated the dental status of 34 professional football players (5). In that report, seriously impacted third molars were the most frequent finding. Since impacted third molars are often surrounded by cystic lesions with associated alveolar bone loss, the most frequent sites at which mandibular factures can occur are at the gonial angles in the area of the unerupted or impacted third molars (6) (Figure 2). Furthermore, the eruption of the third molars is frequently associated with acute pericoronitis, a painful inflammation of the gingival tissues surrounding the crowns of incompletely erupted teeth.

Four out of the five athletes examined experienced varying degrees of discomfort related to third molar problems. Two of these four athletes demonstrated low-grade intermittent discomfort and were treated palliatively using saline lavage. This treatment relieved the symptoms sufficiently to permit deferral of the extractions until after the completion of the football season.

The two other players experienced acute episodes of pericoronitis accompanied by pain and edema, loss of appetite and malaise. Initial treatment consisted of soft tissue saline lavage, relieving the occlusion on the opposing maxillary third molar, antibiotic therapy, and analgesics, followed ultimately by surgical extraction of the teeth. These acute situations resulted in the loss of both practice and game time for two week periods during the season.

Smokeless Tobacco Lesions

The literature is replete with documentation to substantiate the evidence that the dramatic increase in smokeless tobacco use by teenage males places them at considerable risk for nicotine habituation, a variety of cardiovascular disorders, damage to the teeth and periodontium, oral leukoplakia, and oral cancer. (7)

Intraorally, in addition to causing the unsightly staining of the teeth, the use of smokeless tobacco contributes to the accumulation of bacterial plaque, a known etiologic factor for the development of dental caries and periodontal diseases such as gingivitis, gingival recession, and alveolar bone loss. (8) Gingival recession has been found in the majority of teenage users in the labial aspect of the mandibular incisor region, the preferred area for snuff placement. Gingival recession is accompanied often by rapid root denudation.

White leukoplakic patches may also develop in these same areas of the oral mucosa that come into contact with the tobacco. These patches are often referred to as "snuff dippers lesions," and evidence has been accumulating to support the contention that such patches of leukoplakic epithelium can undergo malignant degeneration. (9)

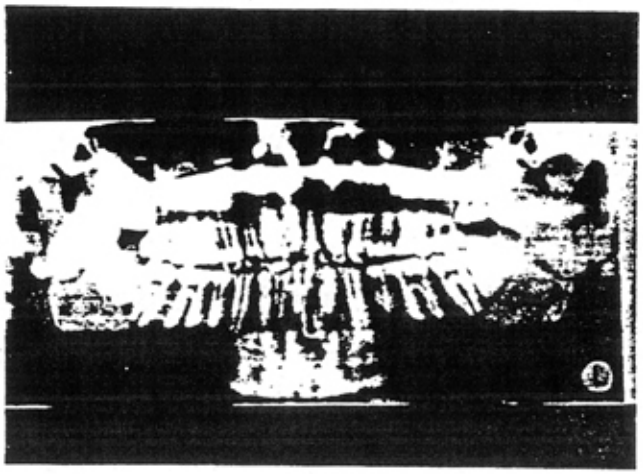

Figure 2: Panoramic radiograph demonstrating impacted third molars in a college football player.

The fifth and final player to be examined during the 1990 football season was concerned with intraoral soft tissue changes associated with his use of snuff. He indicated that he had begun to use snuff a few years earlier while in military service and had continued the habit more recently on an intermittent basis.

Clinical examination revealed gingival recession and root denudation on the labial aspect of the permanent mandibular left central incisor (Figure 3), the area in which he held the snuff. This situation was compounded by the presence of a high labial frenum attachment. No leukoplakic patches were observed.

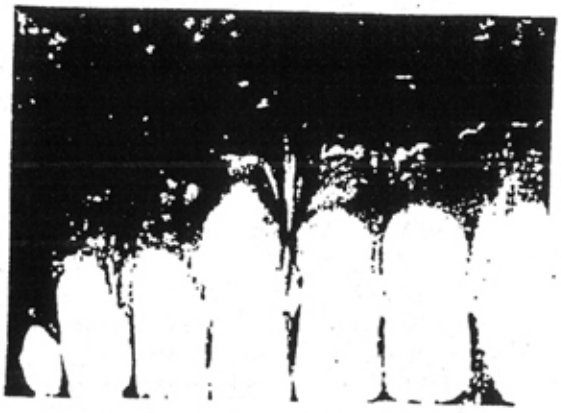

Figure 3: Athletic snuff user demonstrating gingival recession and root denudation of the permanent mandibular left central incisor in conjunction with a high labial frenum attachment.

This athlete was advised to discontinue the use of snuff immediately. Frenectomy and a free gingival graft were recommended following the completion of the football season.

Discussion

While the information presented in this report contains a small sample size and is therefore anecdotal, it is nonetheless significant in that it represents the experience of one individual, over the course of one football season, with one college team. Furthermore, the information contained in this report corroborates existing scientific evidence concerning the use and efficacy of mouthguards for the prevention of concussions and fractures to the teeth; the potential for third molar problems among college athletes; and the implications and dangers of smokeless tobacco use by athletes.

It is interesting to note that of the five emergency situations addressed in this report, only one was related directly to trauma associated with participation in football. The four other situations all were unrelated to athletic participation, each could have been anticipated and prevented, but all could have resulted in potential implications for the team. Specifically, those situations related to third molar problems resulted in the loss of practice and game time.

Since all of the instances contained in this report might have been predicted, the following recommendations can be made for preventing the occurrence of similar situations in the future:

1. Athletic trainers, coaches, game officials, and the athletes themselves should be provided with appropriate information regarding the regulations as well as the benefits of the use of mouthguards during football practice sessions and in game situations.

2. Pre-season medical evaluations should include a dental examination and where appropriate, panoramic radiographs should be ordered to determine the status of third molars, so that appropriate surgical intervention can be accomplished prior to the start of the regular season.

3. Athletic trainers, coaches, game officials and the athletes themselves should be provided with appropriate information regarding the systemic and oral implications associated with the use of smokeless tobacco.

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LINKS IN THE CHAIN: An Approach to the treatment of drug abuse on a professional football team

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In recent years, there has been a resurgence of interest in drug abuse among professional athletes in this country. While no reliable data on amount, type, or frequency of drug use among athletes have been published, a shift in the pattern of drug misuse can be discerned in the rising number of publicized drug-related incidents involving athletes, in the testimonials of the athletes themselves, and in the responses of sports organizations attempting to cope with their drug problems. "Performance-enhancing" drugs, such as stimulants, are being replaced by "recreational" drugs such as cocaine, marijuana, and ethanol. Because the emerging pattern is quite different from the former one, a reexamination of causes and patterns of use is necessary prior to the formulation of rational response strategies.

This report describes the first comprehensive drug abuse program set up for a professional football team. The program involves total organizational commitment and mobilizes the support of many components internal and external to the team ("links in the chain") to assist the drug-involved player.

The Changing Athletic Drug Scene

Ergogenic drugs. These agents, used in attempts to improve performance, include stimulants, anabolic steroids, and narcotics. They have been employed by athletes for many years unless banned and checked by urinalysis. Stimulants, such as amphetamines, methylphenidate, ephedrine, caffeine, or even strychnine, have been used to enhance energy endurance and to heighten arousal. Although an early study of stimulant effect on athletic performance demonstrated slight performance improvement after use, (1) other studies have found results to be mixed with some players' performance declining.(2-5) With the exception of caffeine, these substances are now banned from use in Olympic events, and compliance is checked by urinalysis. In contrast, American professional sports have not been so regulated, and stimulants have reportedly been used in the past, especially in professional football. Mandell (6) noted amphetamine use in football to induce rage and analgesia, as well as to enhance speed and regulate weight control. In our experience, stimulant use for ergogenic purposes has not been a significant problem. Neither the team management nor the drug-involved players reported concern over stimulant abuse. Twice-weekly urine checks of several drug-involved players over a one-year period showed no use of stimulants. The National Football League has instituted strong controls over team drug dispensing and carefully monitors all drugs prescribed to players. Yet, surreptitious stimulant use is still possible, and urine toxicological screening on a league-wide basis is still not done. Nonetheless, our experience indicates that adverse publicity has discouraged players from using stimulants.

Anabolic steroids. These are modified testosterone compounds, chemically altered to reduce drug degradation and produce elevated blood levels of the drug. Such compounds, including methandrostenolone, methyltestosterone, and other testosterone derivatives, are taken orally or by injection to add muscle mass ("bulking").

These compounds reportedly increase body weight and muscle mass, but improvements in strength and performance have been variable. (7-9) Our experience indicates mixed acceptance of these compounds by football players. An occasional player will use steroids for bulk, but many fear the side-effects--excess weight or possible loss of speed. Our program did not specifically focus on misuse of androgenic steroids, and we did not test for these compounds in our urinalysis checks.

Recreational drugs. These drugs, including cocaine, marijuana, and alcohol, are generally used only as euphoriants or intoxicants and are not ergogenic performance-enhancers. Concern first arose over abuse of these substances in the 1981 football season as management became increasingly worried that drugs or alcohol might be affecting player performance, and repeated urgings by coaches eventually led to several players entering treatment. Alcohol, marijuana, and cocaine were identified as the primary drugs being abused by this group of players.

The drug-involved athlete--the "problem-player syndrome"

The psychosocial backgrounds of the drug-involved players were strikingly similar. Virtually all were reared in impoverished circumstances, and a large majority had no stable father figure in the home. Generally, the athletes' mothers were hard-working, self-sacrificing women who took on most of the financial responsibility for the family and fostered the religious, academic and social values within the home. As a result, virtually all of our players felt a strong sense of responsibility and loyalty to their mothers, and all expressed a sincere desire to be better fathers than their own had been. Many of the athletes had had extensive religious training when young, and most had a strong sense of right and wrong. Most felt guilt and anxiety about deviating from parental expectations and went to great lengths to conceal their drug involvement from parents and other family members. All of the players had been lifelong athletic standouts. Many were from small towns in which their athletic talent easily dominated all local competition. Virtually all had been on outstanding scholastic teams, including several that had won state and national championships. At the professional level, these players ranged from marginal to outstanding and from rookies to seasoned veterans. In general, the drug-involved players were highly social and out-going. They were outwardly affable, relaxed, and self-confident. Neurotic traits, including anxiety and depression, were almost nonexistent.

Academically, the drug-involved players were marginal at best. Forty percent had completed college, primarily with athletic majors. As a group, they had little serious academic interest and generally saw school as a vehicle for demonstrating their athletic ability. In college, a few in our treatment group had been drug-free, but most had had extensive experience with marijuana and alcohol. Some had used cocaine recreationally in college.

At the professional level, the athlete often undergoes a personality change. He begins to feel that he has "made it"; he has achieved his lifelong goal of acceptance into the ranks of the world's top professional athletes. The temptation is overwhelming to play the role as a macho superstar. In time, peer influence and peer competition begin to change the athlete's personality and behavior. Although in school athletics at least the appearance of conformity to societal expectations is maintained, at the professional level, there is pressure to compete in nonconformist macho behaviors. Drug abuse fits into this nonconformist behavior pattern. Cocaine, with its phenomenal expense, glamorous allure, and severe legal penalties, is an attractive vehicle for demonstrating wealth, status, and power. One player summed this up nicely when he described himself as "King High." The need to construct and maintain this supermacho persona is a powerful psychological inducement to use and abuse dangerous substances. Thus, for this player, cocaine became the drug of choice, administered intranasally ("snorting") or by distillation and smoking ("freebasing" or "basing"). His pattern of use ranged from sporadic to repeated daily administration.

Drug use appeared to affect the players' athletic performance on several levels. Most players experienced impaired concentration, more mental errors, sleepiness, lethargy, loss of desire to play, and greater proneness to injury. Many experienced physical deterioration as well, ranging from fat accumulation and loss of speed and strength to weight loss and decline in fitness. No serious medical consequences were reported.

In our experience, the drug-involved athlete is often a multiproblem person whose

personal affairs are in chaos. All the drug-involved players had serious financial problems resulting from neglect of financial responsibilities and from the high expenses associated with a drug-involved lifestyle. Passivity bordering on paralysis with regard to social responsibility was not unusual. For example, some players had been so immobilized that simple payment on an auto loan was beyond their motivation or interest. Many had totally abdicated running their personal affairs to distant agents or friends of the family. In spite of high salaries, several players were more than $100,000 in debt. Players' attitudes toward this financial chaos were generally passive and uninvolved. Since they were accustomed to having all expenses paid for them, debts and costs were rarely a deterrent to drug use.

Generally, the drug-involved players had few plans for their postfootball careers. All recognized the short career of a professional athlete and the constant risk that their careers could be abruptly ended by injury, yet only a small percentage had taken concrete steps to prepare for the future.

Idle time is a risk factor for the athlete. The professional football player works only six months a year. His unstructured lifestyle can be put to productive use, such as education or off-season employment, but for the drug-involved athlete, idle time is another "enabling" circumstance. He has little accountability for his time; he can stay up all night and all day "basing," then "crash" for long periods. As long as he shows up for a few meetings, practices and games, he thinks nothing will be discovered or said.

Negative reinforcers often have no impact on professional athletes. Arrests and convictions for alcohol or drug offenses are few relative to the magnitude of the problem. Only one of our athletes had ever been arrested for a drug-related offense. If few are arrested, fewer still are convicted and sentenced. Many drug-involved athletes know that prosecution is unlikely, so scare tactics about arrest and convictions have little preventative value.

Similarly, the threat of job loss is a weak motivator for avoiding drugs. The players believe that their athletic ability is always in demand. So, if a player is cut, he can usually go to another team or even to a competing league. The best players also perceive that their positions are secure because a team is unlikely to cut a talented player. Thus, threats of cutting players for drug use or treatment noncompliance are seen by the players as bluffs.

Method

Links in the chain. How, then, can an athletic organization deal with a destructive pattern of drug use among resistant players at high risk, with extensive problems, and yet with virtually no effective external motivating factors? One club approached the problem by mobilizing a total organizational commitment aimed at prevention, identification, and treatment, not only for the drug abuse itself, but also for the problems of the "whole person." The links in the chain included the owner, coach, team physician, psychiatrist, players (the "Inner Circle"), employee assistance consultant, owner's administrative assistant, security agent, rehabilitation centers, specialized self-help group, wives, spiritual counselor, and urine toxicology monitoring (Figure). The approach was for the players, not for management, and it was directed not only at football but also at postfootball success. Only by attacking the entire matrix of internal psychological and external environmental factors could gains against drug abuse be made and maintained.

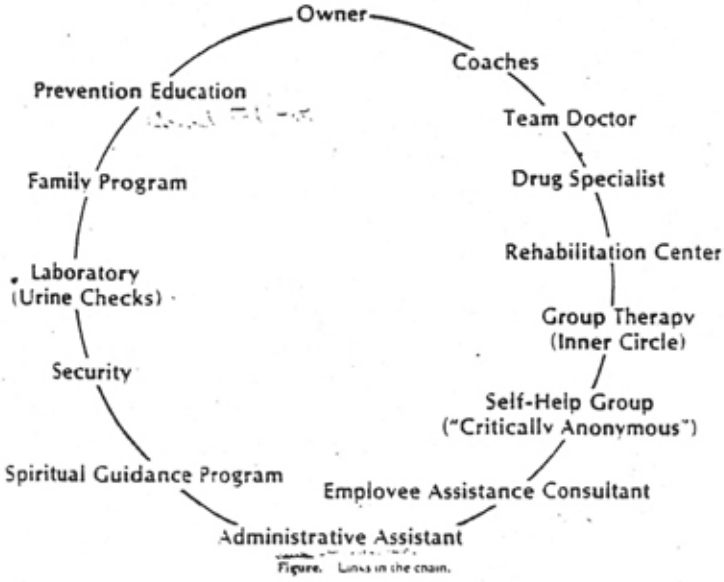

Figure. Links in the chain.

Team owner. The major owner of the team came to recognize alcohol and drug abuse as a problem which could adversely affect team performance. The owner had a history of taking a personal interest in the players'

well-being and, in the past, had fully supported all medical recommendations. He readily agreed to endorse all of the team's drug treatment and prevention efforts, including paying for all costs incurred.

The coach. The coach proved to be the central figure in the overall antidrug effort. He knew the players well and could best judge if performance was being affected by drugs. He consistently took a helping and not a punishing approach to the drug-involved players, and on the basis of a long-established relationship of trust, was virtually solely responsible for several players coming forth voluntarily for help. In other cases, when voluntary participation was not forthcoming, involuntary referral was made for evaluation. The coach was in a position of great power and influence over the players so that they generally dared not defy his recommendations for participation. The coach did not see himself as a medical doctor or psychiatrist, and in every case, he avoided diagnosing and treating problems himself. Rather, he would notice impaired performance and refer the player to the psychiatrist-specialist for evaluation and recommendations. In nearly every case, the coach required the player to follow the psychiatrist's treatment recommendations. Interestingly, the coach became a regular member of the group-therapy sessions. The players reacted for a time with distrust, but eventually the coach's perseverance and enthusiasm overcame their resistance. The coach served as an invaluable resource and inspiration to the players and his presence also provided stability to the group. In his absence, it was difficult to maintain an orderly discussion. We eventually had to ask the coach to return to restore order and control. A year later, when the coach was called away for other duties, the players had progressed enough so that "cutting up" and other forms of misconduct did not occur.

The team physician. The regular team physician, an orthopaedic surgeon, had been involved in preliminary discussions with the coach and team owner, which led to the recognition of drug abuse as a significant problem within the team. The team physician then assisted in recruiting a psychiatrist specializing in drug abuse, and he convinced management to provide an ongoing drug treatment program. Since all outsiders are initially greeted with suspicion by players and management, his endorsement and support of the specialist in the drug treatment program were vital to the establishment of trust and cooperation. He recognized that drug-abuse problems require specialized help and that the problem was a complicated one which would require a complex, long-term solution.

The team psychiatrist. The psychiatrist initiated the program with educational lectures about drug abuse and an offer of confidential treatment to any player with a problem. Treatment usually began with a comprehensive psychiatric assessment giving careful attention to the player's drug and alcohol history. Treatment recommendations were formulated promptly and were usually given to the player, his spouse if he had one, and the coach. These recommendations eventually came to include any or all of the following: inpatient drug rehabilitation, outpatient group and individual therapy, family therapy, Alcoholics Anonymous, Narcotics Anonymous, and urine monitoring. The psychiatrist had primary responsibility for the organization and maintenance of all aspects of the treatment program, with the approval of the coach and owner. The psychiatrist conducted all group and individual therapies, did all urine testing, and established the self-help meetings for players and their wives. This program came to occupy approximately one-third of his total professional activities.

The Inner Circle. The Inner Circle is the group of identified, drug-involved players. At present, they participate in one group-therapy session, and one self-help meeting each week. The group-therapy session is similar to Narcotics Anonymous, but emphasizes open discussion of individual player's problems rather than testimonials or topics. Initially, group therapy was often undermined by peer-group loyalty so that open discussion was difficult. Generally, players were reluctant to confront each other or reveal much about themselves for months. The progress of the players was highly variable. Some were able to abstain permanently from drugs from the first day of treatment. Others had periodic relapses, and others failed to alter their patterns of frequent use. Players who failed to modify their use were eventually either ejected from the group or cut from the team. No factors were identified which could predict success or failure. Relapses were reported by self-disclosure or by sharing results from therapeutic urine monitoring. Group discussions typically

dealt with who was relapsing and why and the need for changes in the individual's lifestyle to support staying "clean." Players' attitudes about sobriety were highly variable due to the instability of mood and attitude that is a part of their illness. At times, participation was enthusiastic, and sobriety was stable. At other times, the attitudes were negative, antagonistic, resistant, and deceptive. After approximately a year of intensive therapy, including the use of inpatient chemical-dependency rehabilitation centers, the group was able to achieve a stable, therapeutic attitude which valued sobriety as a positive good for the players themselves, rather than as a necessity to please the coach, owner or physician. With this change in attitude came replacement of the conspiratorial peer code by healthy teamwork. Rather than participating in coverups and deceptions, the players saw that relapses were "contagious" and that when one member was in trouble, others would soon follow. Eventually, open confrontation about old drug-related behaviors, friends, environments, and attitudes ensued. The group eventually became responsible for much of its own therapeutic work in keeping its individual members away from drugs. Resentment, deception, and hostility were replaced by pride, gratitude, and loyalty. Relapses, once frequent, eventually became extremely rare.

Therapeutic urine monitoring. This proved to be an indispensable treatment modality. Urine was initially tested weekly, but players soon learned to time their drug use immediately after urine collection so that they would be drug-free by the following collection. At the present time, two urine samples per week were collected from all Inner Circle players. In addition, the physician can ask for a urine sample at any time. Urine is collected under direct supervision. These urinalyses are regarded as part of the therapy for the players in the drug program. They are not collected by the club, but by the treating physician. Urine samples are screened for the presence of opiates, marijuana, cocaine, benzodiazepines, amphetamines, methadone, propoxyphene, and phencyclidine by homogenous enzyme immunoassay (EMIT, Ciba Co., Palo Alto, Calif.) and by thin-layer chromatography (Toxi-lab, Analytical Systems, Laguna Hills, Calif.). Confirmation of positive specimens is carried out by gas-liquid chromatography or gas chromatography/mass spectroscopy. Alcohol is not checked. Results of the urine tests are openly discussed at the group meetings. Additionally, the players elected a system of self-imposed fines as a deterrent to prevent "dirty" urines and to penalize missed urine checks or missed appointments. These self-imposed fines are relatively severe--$200 for a "dirty" urine or a missed urine collection and $100 for a missed appointment or meeting. Fines are saved for a contribution to charity at the end of the year.

Employee assistant consultant. The consultant was hired by the team to assist players with personal problems, including housing, debts, taxes, hangouts, financial management, girl friends, and other matters relating to the "outside world." The team hired a former outstanding player for this position, and he became a nonaddict member of the therapy group. His assistance was invaluable as it was discovered that the drug-involved athlete is a multiproblem person whose affairs are in chaos and whose initiative has been undermined by the drug-involved lifestyle. Rebuilding a healthy, supportive, social matrix for these players is a time-consuming, frustrating endeavor. Their own resistance, distrust, and passive non-involvement made this rebuilding a formidable task. Getting the player to accept some personal responsibility for his financial obligations and undoing the chaos created by years of neglect were no small matters. As these problems were resolved, attention could be directed toward future financial planning for postfootball years. The employee assistance consultant also mobilized competent attorneys, accountants, and banks to help players resolve their complex financial and legal problems. Eventually, players were able to cooperate actively in their social rehabilitation with resonable resolution of their financial, legal, environmental (housing and surroundings, as well as friends and associates), martial and familial problems.

Administrative assistant. The owner's administrative assistant, another former outstanding player, was also a nonaddict group therapy member. He frequently clarified administrative questions relating to the status of players on the team. Often, these problems related to

apprehension about being cut from the team, salary negotiations, or team policies. His constant presence in the group was a reminder of the owner's complete support for the program. The administrative assistant also coordinated continuing player education since several players had not completed their college undergraduate degree requirements. Helping the player to identify his educational needs, contacting his former school for records, and arranging enrollment and scheduling of additional course work in the team city were critical undertakings. The educational program was so successful that some players even went on to enroll in master's level programs in marketing or counseling.

Team security. The team hired a full-time security agent, not to provide surveillance of the players, but to protect the players and staff. Players are constantly exposed to security problems, including threats on their lives and property, harrassment of their families, and exposure to drug pushers. By avoiding direct surveillance of the team members, we were able to minimize antagonism and foster trust, such that eventually players were identifying to the security agent their former drug sources at games and practice sessions. He was able to discourage the presence of such undesirables, minimizing temptation for the drug-involved players, and promoting a healthier environment for the team.

Specialized rehabilitation centers. These centers were used to provide immersion therapy in the initial phases of treatment for some players. Centers were especially selected if they had expertise in drug rehabilitation rather than an approach geared solely to alcoholism. Because of confidentiality problems, centers were chosen which were not located either in the player's hometown, college town, or professional-team town. On the one occasion when this principle was violated, newspaper coverage of the player's treatment soon followed. Generally, the results achieved through the rehabilitation center were striking. Players returned from the centers with an improved attitude and a strong desire to remain abstinent. However, this motivation was not long sustained without rigorous outpatient follow-up. In fact, even the slightest weakening of the support network, such as a schedule change or vacation, often led to relapses. In all cases, rehabilitation centers were selected to match the particular psychological and social needs of the individual athletes. Some centers were very directive, aggressive, and confrontational in approach; others were more psychological, introspection-oriented, and supportive. In all cases, the athletes regarded the treatment provided at the rehabilitation centers positively. At the time of discharge, the centers verbally communicated to the team psychiatrist a status report on the athlete's evaluation and treatment, as well as recommendations for aftercare.

Self-help group. An unsupervised self-help group, similar to but not affiliated with Narcotics Anonymous, was started at our hospital specifically for the needs of the professional athlete. By examining the need for additional support and access to a self-help program, yet being limited by concerns for confidentiality, we developed this critically anonymous self-help group, consisting of recovering chemical-dependents at risk for name or face recognition in the community. This group meets at the hospital on a weekly basis in an unmarked room and is also attended by recovering physicians, dentists, lawyers, judges, and other prominent community figures. This mixture has worked well in our experience. In general, the nonplayer professionals have more education and more intact social supports, and they are able to provide a stabilizing influence. No therapists or team management representatives are present so that players can be more open about their problems in a group session without fear of administrative consequences. Also, it was hoped that the absence of a professional therapist would foster more independence and personal responsibility for recovery. These hopes proved difficult to actualize. For months, the same resistances appeared in the self-help group, including, the conspiratorial peer-bond, covering up, defensiveness, and resentment. Eventually, however, the quality of this meeting was also improved, and motivation for sobriety began to emerge with players taking a more active role, even to the point of helping others.

Concerned others. The involvement of "concerned others", including wives and girl friends, was believed from the outset to be critical to the success of the program. In general, professional football is not

conducive to stable relationships. The players are constantly exposed to the adulation and availability of women, and many of the drug-involved players had never developed any long-standing relationship with healthy women. Often the women also were involved with drugs, ranging from drug sharing to selling. At the outset of the program, only one player was married. After a year of treatment, half were married. Invariably, marriage to a nondrug-involved women was viewed as a healthy step for the player and signified a transition from a hedonistic life-style to a more responsible, goal-directed one. This transition was generally not made smoothly, however. Often players had concealed their heavy substance use and chaotic personal financial affairs from their fiancees, who, typically, were in distant parts of the country. Once married, when the full reality of the problems was apparent, the wives often reacted with anger or disillusionment. Invariably, these reactions were healthy, for they forced the athlete to reassess his conduct and make changes to preserve his fragile marriage.

Spiritual counseling. This counseling was believed to be a powerful source of strength for the professional athlete. To capitalize on their prior childhood religious training, the team instituted a voluntary weekly Bible study program conducted by a lay minister. He was invited to be a participant as a group therapy member, and he assisted in rebuilding individual spiritual support systems for each player. At present, over half the players are regular churchgoers, and virtually all attend Bible study.

Results

This comprehensive approach, involving active therapy of the involved players for a period of 18 months, has led to substantial improvement in 75% of our cases. This improvement has been characterized by a drug-free status and marked improvement in a number of other psychosocial and biological parameters. Half the involved players are now married, and all have a stable, nonhedonistic lifestyle. All have developed long-term career goals which include pursuit of additional education or training. All are on a significantly improved financial footing, and several are engaged in financial planning for postfootball careers and investments. Improvement in physical condition is currently under study, but preliminary data show marked improvement in all areas. Overweight players have lost weight and improved speed. Underweight players have gained weight through vigorous participation in a weight training program. All players have improved their playing ability as a result of participation in the program, and several are assuming leadership positions on the team.

Discussion

The drug-involved professional athlete presents a complicated treatment challenge. His outstanding athletic talent is both a blessing and curse, for he can easily become overly reliant on this powerful yet fleeting gift. He is often an immature, short-sighted individual with limited coping skills. He is often separated from social supports and structures such as his family, hometown, or church, and he is often unmarried. He often works in an intensely mission-oriented environment with a strong emphasis on physical performance and comparatively little awareness of complicating psychological factors or drug problems. The combination of time, money, fame, and youthful exuberance provides a high-risk setting for pathological drug involvement and a hedonistic lifestyle. The player deteriorates athletically, socially, spiritually, and financially and eventually finds himself in a chaotic situation requiring extensive and sustained intervention by others to effect lasting change. The links-in-the-chain model has been developed empirically to address each of these needs in a systematic and coordinated way. The result has been substantial improvement in 75% of the cases. A more comprehensive and specific treatment outcome study is currently underway at The Cleveland Clinic Foundation. This links-in-the-chain approach is offered as a successful model for use by professional athletic organizations, and it offers hope that the current epidemic of drug abuse among professional athletes can be abated.

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ARMSTRONG GROWING UP FAST

By Lucy J. Banks

Don't let B.J. "Babyface" Armstrong fool you.

He looks like a kid and even still has a baby tooth. But through hard work, determination and patience, the 6-2 Iowa graduate is rapidly maturing into NBA manhood.

Armstrong took another giant stride Thursday night when he came off the bench and had career playoff-high totals of 18 points and a game-high 10 assists in the Bulls' 126-85 rout of the New York Knicks. The victory gave the Bulls a 1-0 lead in the best-of-five first-round series.

But Armstrong, reflecting his growing wisdom, said he's not about to make a career out of Thursday's game.

"It was my best playoff game so far," Armstrong said. "But that game is history. We also have to go back out there (tomorrow) and start all over again, fighting and playing as hard as we can."

Armstrong, a second-year man, backs up veteran point guard John Paxson. There are bigger, older and more experienced players on the Bull's bench, but nobody has progressed more than Armstrong.

"He's been our most consistent spark off the bench all year," Bulls forward Scottie Pippen said. "He penetrates well and does a good job of getting the other guys involved. I like being on the floor with him because his penetrating and passing helps make my game better."

Pippen said he likes the fact Armstrong has become a "street-type, aggressive player." Armstrong lacked those qualities last season.

"He's a loose-limbed player," Bulls coach Phil Jackson said, ""a Raggedy Ann-type who looks a little soft on the court. He lacks that power run and posture. But in his own quiet and graceful way, he gets things done."

Last season, Philadelphia 76ers bad boy Rick Mahorn knocked Armstrong down with a wicked forearm during the playoffs. Armstrong took the licking and kept on ticking.

"He keeps getting back up," Jackson said. "He doesn't scare easy.And you must have that quality to run a team effectively."

Armstrong had a front tooth knocked out during practice Wednesday in a collision with Craig Hodges. He had the tooth reinserted and wired and resumed practicing. On Thursday, he was clotheslined and knocked to the ground by Knicks guard John Starks during a drive to the basket. He was dazed but got up and made the free throws.

"Being knocked down is just part of what goes with playing point guard," Armstrong said. "But you can't ever let things like that bother you."

Editorial Note: Armstrong has worn a custom fitted mouth guard for several years. Iowa Trainer, John Streif, a close friend of Armstrong talked with him following his oral injury. He did have his mouth guard in when he sustained trauma and felt that his injury would have been more severe had he not been wearing his guard.

LITTLE LEAGUES RESIST PROTECTIVE MASKS

Newark State Ledger, 5/12/91

WASHINGTON (AP) -- A mother worried about her sons developed a face mask to protect Little League batters, but 14 years later most parents, coaches and baseball officials aren't convinced the $15 mask should be standard equipment despite thousands of facial and eye injuries annually.

Lorene Caveness of Roanoke, VA, designed the clear, hard plastic mask that fits onto the batter's helmet, shielding the player's face from a stray pitch.

"Our boys were...afraid of the ball," said the 57-year-old former elementary teacher and mother of five. "I just started thinking about it...It's something you knew you needed to do."

After 10 years of "trouble, trying and mistakes," she began marketing the mask in 1977. Caveness' mask is one of two commonly used--but not required--for youngsters.

It's not unusual for batters--major leaguers and Little Leaguers alike--to be struck by balls, sometimes causing serious injury.

Boston Red Sox outfielder Tony Conigliaro was building what might have been a legendary career when he was struck in the face by a ball thrown by California Angels pitcher Jack Hamilton on Aug. 18, 1967.

He suffered a fractured left cheek bone, a dislocated jaw and damage to his left eye. He returned, after missing a season and a half, but was never the same.

Safety experts and others say injuries could easily be avoided if the batters would wear face masks.

"There's a sort of macho thing involved," said Bill Kamela of the National Safe Kids Campaign, which advocates the use of face masks by young baseball players.

The Consumer Product Safety Commission estimates that nearly 5,500 baseball-related eye injuries were treated in hospital emergency rooms in 1989, the latest year for which figures are available. Baseball accounted for about 17 percent of an overall 32,000 sports-related eye injuries.

And among children ages 5 to 14, more than 23 percent of all sports-related injuries were incurred during baseball games. And most of the eye and facial injuries were suffered by batters.

The National Society to Prevent Blindness notes that the CPSC figures include only those injuries treated in emergency rooms, not those treated in physician's offices or elsewhere. The society said the actual number of injuries could be two or more times higher.

Chad Turner of Ohio wears a protective mask on his batting helmet during a 1989 Little League game. The mask was developed by a mother worried about the safety of her sons

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THE TEAM DENTIST AND TEAM PHYSICIAN

COOPERATION FOR MAXIMUM PLAYER HEALTH

By William Heintz, DDS
Sports Dentistry Consultant to the American Dental Association

Thoughtful consideration has long led informed opinion of the realization that most schools that have the opportunity would sooner or later avail themselves of the many benefits of a team dentist. The reasons are substantially the same as those which have prompted so many schools to have a team physician.

Physical examinations by a physician are required for team sports participation in all high schools and colleges. In addition, the appointment of team physicians is strongly recommended by national and local school and athletic leaders. Most high schools have team physicians. The team physician is a medical consultant for the team and handles first aid and medical emergencies, if the family doctor is not immediately available.

The need for, and value of, team dentists in a like capacity has rapidly become apparent. Many teams already have such an arrangement.

Physicians and dentists alike usually hold this position as a community service, generally for token fees or gratis.

PARTICULAR VALUE OF DENTISTS

The value of dentists to players and coaches cannot be over-emphasized. They relieve the coach of much responsibility which should not be his.

There are a few athletes with mouth pathology, such as tissue or tooth infections, who should not wear a guard until the mouth is returned to health.

Players with cleft palates or some other malformation need dentist consideration in fitting protectors.

Athletes wearing orthodontic appliances, some types of bridgework and/or dentures also should have professional judgement applied.

Finally there are still some protectors that due to the way they are formed and the materials that are actually harmful to mouth tissues. The dentist can provide guidance in this judgement.

Only a dentist can properly place a fitted mouth protector. Careful, experienced positioning, dimension and form are required for maximum comfort and easy acceptance for players. Surveys continue to show that fit and comfort are the factors that are most often lacking.

No coach or layman should want to risk the responsibility of placing a protector in a mouth that was not in proper condition. Only a dentist is qualified to recognize and judge conditions that need special treatment or correction before a guard may be safely used.

The preponderant opinion of researchers is that it is necessary for protectors to be worn on the upper teeth, except in the case of a lower prognathic jaw. Among the most important reasons are these: The upper teeth overlap and are partly in front of the lowers. In football some face bars may still slip past another player's bar. If the chin strap breaks or becomes unfastened, the player's own face guard has frequently injured his teeth and mouth. Helmets are often knocked off leaving the front teeth open to injury. Most helmets now being made with a release device which under severe blows allows them to be dislodged upward, and again the teeth are unprotected.

CLARIFICATION OF SOME MISCONCEPTIONS

Nationwide the mouth protection programs and rules have prevented thousands of mouth injuries. Many schools have benefited to the fullest extent at nominal or no cost from the participation of dentists.

Through misunderstanding of one kind or another many other schools are still inviting problems are criticisms. Primarily the following points are involved.

1. Though the mouth protector rule is in effect, some schools are careless about enforcing it, especially during practice.

2. There are only three basic types of mouth protectors--the stock, the mouth formed; and the custom made. If available, dentists should participate in the placing of any of the three devices.

3. Unfortunately, a misconception that dentists should or would offer their services only for the custom made variety, has led some schools into a position of possible criticism. It has certainly resulted in loss to the players and school of the many benefits of dentist assistance.

4. The most effective and satisfactory solution for all mouth health problems is attained under the direction of a team dentist, if such a person is available.

THE TEAM DENTIST'S POSITION

The dentist must understand his position with the school. Any decisions regarding the dental health of the players would be jointly considered with the school and team physician. The school almost always concurs with the recommendations of the dentist, but the final decision and approval must be reserved for the school. Briefly: dentistry cannot and must not try to dictate to the schools. Dentists must maintain a position of service and consultation.

Some dentists who have misunderstood, need to be reminded of the satisfying results in dental health, of the properly conducted programs. In addition to the proven worth of the protectors, without