Sports medicine in Hawaii: Care of the high school athlete in Oahu's public schools

Michael R McCarthy EdD ATC PT*
W. Douglas B Hiller MD**
Joy L Yates-McCarthy MS ATC†

A recent study by the National Athletic Trainers Association indicated that injuries occur more often during practice than during games in high school athletics[1]. Results of the 3-year study indicated that 60% of basketball injuries occurred in boys and young men during practice and 59% occurred in women. About 2/3 of the estimated 120,000 injuries suffered by prep wrestlers each year happen during practice. The study found that an average of 331,865 high school football players (1/3 of the million who play football each year) were sidelined by an injury at least once. With these statistics in mind, our study looks at the approach to the management of injury in the public schools that make up the Oahu Interscholastic Association (OIA) in the state of Hawaii. The estimated number of student athletes that participate in organized athletics in the OIA is 7,960 and the number of coaches is 1,189.

Research design

This study was designed to address the issues regarding interscholastic sports health care. We asked the high school athletic directors several questions that included (a) what type of medical supervision is being provided at organized practice and games; (b) who serves as the team athletic trainer for your school; (c) who is responsible for the care and prevention of athletic injuries; (d) which person makes the decision about whether the athlete can return to practice and/or games; and (e) have all coaches been certified in providing basic first aid?

The questionnaire used in this study was adapted from a questionnaire designed by Dr Mark A Anderson. He is a professor of physical therapy and director of graduate studies in sports medicine at the University of Oklahoma Health Sciences Center. This questionnaire is designed to gather information about the involvement of physicians, coaches, and trainers in the health care of students who participate in athletics. Supplementing that, we gathered background information as to the extent of student participation in athletics and the size of the coaching staff.

Collection of data

The athletic director in each of the 21 public schools on the island of Oahu, was sent the questionnaire by mail (the names and addresses were obtained from the OIA office to ensure that the information was complete and accurate). A cover letter explained the purpose of the project, emphasizing that the OIA was cooperating in the study, and promised anonymity. The athletic director was asked to complete the questionnaire personally. The initial mailing was done in late October of 1990 and a repeat mailing was done 4 weeks later. A stamped return envelope was included with each mailing. The two mailings achieved an overall response rate of 100%.

Results

The physicians role

Fourteen of the 21 schools in the OIA have a designated team physician. Seven of the team physicians were identified as family practice physicians; 3 were internists; 2 were orthopedists; one was a general surgeon, and one a pediatrician. Of the respondents, 6 did not know if their team physician had specialized training in sports medicine.

At 4 schools the preseason physical examination of student athletes was performed by the team physician whereas at 14 schools it was done by the athlete's family physician. Only one school had athletes in all sports given group physicals. No physicals were required in 2 of the schools.

Not one of the public schools provided medical supervision at organized practices and only 3 had a physician on call. Although some schools were unable to find a physician willing to attend games, 17 out of 21 had physician coverage at varsity football games. Physician coverage at junior varsity football games was provided by 16 schools. No physician was available during the other boys and girls sporting events that included basketball, wrestling, baseball, softball, judo, soccer and volleyball games. At schools lacking actual physician attendance at games on a regular basis, 7 have a physician on call for home games.

The role of the athletic trainer

Athletic trainers, prepared by formal education and experi-

(Continued) ➤

* Michael R McCarthy has a doctorate in education, is a certified athletic trainer and is a physical therapist at Therapy Specialists, Inc, Honolulu, Hawaii
** W Douglas B Hiller is an orthopedic surgeon and assistant clinical professor at the University of Hawaii School of Medicine
† Joy L Yates-McCarthy is a certified athletic trainer

Received for publication August 24, 1991.

ence and certified by the National Athletic Trainers' Association (NATA), can make effective initial medical judgments when providing emergency care in the absence of a physician. Additionally, certified athletic trainers (ATCs) can be held responsible for proper screening and conditioning, equipment selection and fitting, documentation of athletic injuries, and implementing treatment and rehabilitative procedures as advised by the physician.

Not one of the public schools had a certified athletic trainer on staff. Six of the 21 who claimed to have an ATC actually have a noncertified trainer. In the absence of an ATC, 13 of the schools have a coach who assumes the role of an athletic trainer; 2 schools rely on paramedics in the community as trainers. The coaches who served as athletic trainers in 10 schools had received instructions at one time or another in the prevention and care of athletic injuries by a certified athletic trainer. Emergency first aid supplies were available at 20 of the schools. The equipment included, but was not limited to, a standard first aid kit at 14 schools, ice packs at 13, a stretcher at 12, air splints at 14 and a spineboard at 8.

Although some first aid equipment was available, only 3 of the public schools have all of the coaches certified in providing basic first aid. Of the public schools examined, only 14 had a system to record and document athletic injuries.

The role of other personnel

Since a full-time ATC was not available in any of the public schools, the person responsible for the prevention and care of athletic injuries was the coach in 17 schools, the noncertified athletic trainer in 2, the student trainer in one and the nurse in one. Follow-up care and evaluation of the high school athlete was provided by the coach in a third of the schools. The decision about whether the athlete can return to practice and/or competition was made by the family physician at 18 schools, by the team physician at one and by the coach at 2.

Paramedics are present or on call at all home events at 2 schools out of 21. At 10 public schools no ambulance service was provided on the premises or on call at any sporting event. Ambulance service, either on the premise or on call, took place only during football season in 9 schools at varsity football games and at 8 schools for junior varsity football games.

Discussion

Currently, our society is holding coaches and school systems increasingly accountable for "preventable" injuries. A high school player a few years ago was awarded $6.3 million in a claim against the Seattle School System and the coach, after sustaining quadraplegia when he lowered his head while running with the ball to ram a tackler[2]. The Seattle School District was found negligent in its failure to certify or formally evaluate coaches, require coaches to attend clinics, properly monitor injury rates, and write sufficient sports safety regulations or guidelines.

The prompt and high percentage (100%) of returns to our questionnaire indicates marked interest in the health care of athletes. The response demonstrated the lack of qualified sports medicine personnel in the public schools of the OIA. During the majority of games and at virtually all of the practices, responsibilities for which the ATC is uniquely prepared, are left to the coaches, most of whom are untrained in these areas. Apparently unaware, those athletic directors at 8 schools who stated they have a certified athletic trainer on their staff, actually have a person who is not an NATA-certified athletic trainer.

In the State of Hawaii, major colleges and some of the private high schools have NATA-certified athletic trainers to implement injury prevention, and to triage potential serious injuries. The American Medical Association recognizes NATA-certification and the ATC is considered an allied health care professional. In stark contrast to the colleges and private high schools, not one of the public high schools in the OIA has a certified athletic trainer on staff.

When one considers medically qualified resources, the logical choice is the ATC. He or she can be the right arm of a physician tending to specific needs of the athlete. The ATC not only can provide prompt recognition and treatment of injuries but can also monitor rehabilitation.

Caring for the athlete is a complex responsibility which is currently loosely organized in most school districts, including the OIA. An ideal solution would be the hiring of certified athletic trainers for each high school. Only by increased awareness on the part of school administrators and restructured priorities and competent health personnel, can all public high school athletes be assured of proper prevention of and immediate care of athletic injuries.

As a result of our survey of the current status of health care in the OIA, our recommendations are:

(1) That certified athletic trainers be hired at the high schools in the State;

(2) that coaches be certified in first aid and CPR;

(3) that a State approved certification process which would provide minimal standards in the care and prevention of athletic injuries be implemented. (Some states in this country have created athletic training licensure boards to set the minimal standards for individuals wishing to serve as athletic trainers. The state of Hawaii is not one of them.)

The families of Hawaii deserve to have their children adequately protected and cared for while they are participating in high school sports programs. This study shows that they are not receiving it.

ACKNOWLEDGEMENTS

Special thanks to Mr Hugh Yoshida, associate athletic director of the University of Hawaii, Mr Dan Hironaka, athletic director of Aiea High School, and Ms Kay Bicoy, assistant athletic director of Pearl City High School, who fostered our interest in examining the care of the high school athlete. A thank you is extended to Mr Alan I Lee, MS PT OCS Director of Therapy Specialists, Inc, for his financial assistance in this project.

REFERENCES

1. Powell J: Injury toll in prep sports estimated at 1.3 million. Athletic Training, *JNATA* 24:360-373, 1989.
2. Adams, SH: Coaches negligence target of litigation. Interscholastic Athletic Administration, Fall 1982.

■