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Preparticipation Athletic Screening, Supervision, and Disqualification of Student- Athletes: Physician Trepidation of Legal Liability

Zachary R. Paterick[1], Nachiket Patel[2] and Timothy E. Paterick[3*]

[1]*University of Michigan Law School Ann Arbor, Michigan*

[2]*University of Arizona College of Medicine Phoenix, Arizona*

[3]*Bay Care Clinic Green Bay, Wisconsin*

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***Corresponding author:** Timothy E. Paterick, Bay Care Clinic Green Bay, Wisconsin, USA; E-mail: tpaterick@gmail.com*

Abstract

Physicians participate in screening, routine medical supervision, and the disqualification process of high school and college student athletes. Physicians and schools evaluating student-athletes for athletic participation should understand the meticulous medical process necessary to make eligibility/disqualification decisions, and the associated liability issues. It is the responsibility of a team physician to take a lead role in the sports teams' medical evaluation process. The first duty of a team physician and institution is to protect the health and well being of their collegiate student athletes. The potential liability associated with the evaluation process requires that high schools and institutions of higher education work with their physicians to develop sound and reasonable administrative strategies regarding participation in athletics. Reducing the liability risk requires an understanding and compliance with the available medical guidelines and evolving judicial framework. It is imperative physicians understand case law and available medical guidelines. As medical professional standards evolve, so will responsibilities under legal standards.

Liability issues regarding the preparticipation screening of athletes, their medical supervision, and their eligibility for and disqualification from participation are of increasing concern to the practicing medical community. Court cases involving athletic field morbidity and mortality have elucidated an evolving legal framework related to the alleged failure to properly diagnose, treat, qualify, or disqualify individuals from competitive sport. This manuscript will highlight liability cases involving cardiac, neurological, musculoskeletal, and heat illness issues. These cases will identify the importance of the standard of care in evaluation/disqualification, adherence to medical guidelines, and the need for diligent follow up in determining return to play issues.

Introduction

Physical activity is associated with numerous health benefits in school-aged children and youth. Several observational studies advocate that the more physical activity, the greater the health benefit. To achieve substantive health benefits, the physical activity should be of at least a moderate intensity1, 2 and it should be recognized that vigorous intensity activities might provide additional benefit. Moderate intensity exercise is defined as activities such as brisk walking, and bicycling less than 10 miles per hour that expend 3-6 METS. Vigorous activities, including sporting activities that expend greater than 6 METS, are the level of exercise athletes perform. Aerobic-based activities that stress the cardiovascular and respiratory systems have the greatest health benefit. This provides an impetus to have all children, young adults, and adults engaged in physical activity in the pursuit of improved health and well-being.

Unfortunately healthy-appearing competitive athletes of all ages may harbor unanticipated cardiovascular disease with the potential for morbidity and mortality. This raises the question of physician responsibility in detecting these potential life-threatening conditions through the preparticipation screening process. There are a number of athletic related court cases that allow us to develop a framework for eligibility and disqualification decision-making in high school and college athletes. Precedent exists for disqualifying athletes with disease or injury from competition to prevent preventable exposure to risk of injury or death.3-19 We will explore multiple legal cases that develop a legal framework for physicians that partake in prepartication screening, supervision, and disqualification of student-athletes.

Pre-Participation Athletic Screening/Medical Supervision/Disqualification

Preparticipation screening is an organized, methodological medical evaluation of the general population of athletes across all age groups prior to training and athletic competition for the purpose of identifying unidentified cardiovascular, neurological, and musculoskeletal abnormalities that could incite musculoskeletal or neurological injury, progression of disease, or sudden death20, 21, 22. Identification of these anomalies may well prevent or delay some instances of injury or sudden death because of physician recommended temporary or permanent withdrawal from sport or treatment.21, 23 24 The approach to screening is complicated by the fact that the available guidelines, including those promulgated by the American Heart Association22 and American Academy of Neurology Classification Scheme for the Evaluation of Sports Concussion,25 have limitations. For instance, the genetic cardiovascular diseases which account for 40% of sudden death in young athletes may not be recognized

by the performance of recommended personal and family history and, in the neurological area, physical examination and return to play decisions post concussion are fraught with uncertainty.

Medical supervision of athletes requires due diligence to the details of ongoing competitive athletic complaints, ailments and injuries. The team physician must have a meticulous process of observation, follow up, and comprehensive documentation of the athletes' conditions and the progress of their rehabilitation. Disqualification from sport usually revolves around safety issues for the student-athlete's long-term health and safety. However, the uncertainty surrounding preparticipation screening, medical supervision, and the disqualification process lead to much trepidation of liability felt by physicians when acting as team physicians.

Causes of Injury and Sudden Death in Athletes

Cardiovascular Issues

Cardiovascular sudden death in young athletes is principally due to a variety of clinically unsuspected congenital cardiac anomalies. Genetic cardiovascular anomalies, including hypertrophic cardiomyopathy (HCM), arrhythmogenic right ventricular cardiomyopathy, Marfan syndrome, and ion channelopathies, account for approximately 40% of sudden death in young athletes.27 HCM is the single most common cause of sudden death accounting for 30% of the cases.[28] Other causes include coronary artery anomalies, myocarditis, aortic stenosis, mitral valve prolapse, dilated cardiomyopathy, and premature coronary artery disease. [29-31]

Spirited, robust participation in sport may predispose athletes to sudden collapse by triggering tachyarrythmias in the presence of underlying heart disease.32 Training and high level competition may expose athletes with unknown disease to be vulnerable to sudden death or disease progression and disqualification may be recommended to reduce the risk.[33, 34] Alternatively, over diagnosis of cardiac disease may result in unnecessary restriction from sport depriving athletes of the mental and physical benefits of exercise and in some circumstances the economic benefits. The distinction between physiologic athletic heart and heart disease such as HCM may often be resolved with noninvasive assessment. [35, 36]

Neurological Issues

The most common head injury in sports is concussion. Concussions occur in approximately 300,000 athletes per year. [37] The recent movie 'Concussion' highlighted the increasing public awareness and concern over concussions and their potential connections to chronic traumatic encephalopathy. Concussion can be defined as an alteration in cerebral function caused by direct or indirect force transmitted to the head with or without loss of consciousness (LOC). [38] Symptoms and signs of concussion may include LOC, light–headedness, vertigo, cognitive and memory dysfunction, tinnitus, blurred vision, difficulty concentrating, amnesia, headache, nausea, vomiting, photophobia, disequilibrium, insomnia, personality change, and lethargy. This panoply of symptoms may be immediate or delayed in onset.[39] Head injuries are estimated to account for approximately 20% of all nonfatal football injuries, and an average of eight deaths per year. [40,41] If athletes with head injuries return to competition early they are at risk for permanent neurological damage or death.[42] Returning to play post concussion is dependent upon many variables including the severity of the concussion, the number of concussions, and time elapsed between concussions. Physicians would be prudent to strictly adhere to the return to play guidelines outlined by the American Academy of Neurology. [43] Physicians who choose not to follow consensus guidelines should clearly document the medical reasons for not adhering to guidelines.[43]

Heat Illness Issues

Heat stroke is the third commonest cause of death in high school athletes in the united states [44]. The factors contributing to heat production and loss include the ambient temperature, humidity, sun exposure, wind, and sports gear. Awareness of these factors affords the sport medicine team the opportunity to modify the risks associated with heat.

Heat illness tracks a spectrum from heat edema to heat stroke. Initially there is heat edema where swelling occurs with people not acclimatized to heat and the edema occurs in dependent areas resulting in vasodilation and orthostatic pooling of blood. Next in the sequence there may be heat cramps with painful spasm of the skeletal muscles of the arms, legs, and abdomen.[45] heat cramps may be a warning of impending heat exhaustion. Treatment is oral and parental fluids and sodium replacement. Next in the progression of heat illness is heat exhaustion, which ensues from excessive water loss through sweating. Symptoms include myalgia, vomiting, weakness and headache. It is distinguished from heat stroke because cognitive function is maintained and core body temperature is less than 40 degrees centigrade. The penultimate and most dangerous in the sequence of heat illness is heat stroke. This syndrome has a core body temperature greater than 40 degrees centigrade and an altered cognitive state46. The hyperthermia has the potential to cause multi-system organ failure, disseminated intravascular coagulation and death. The mortality rate is high. Morbidity and mortality is diminished with rapid cooling.47 the key to treatment of heat illness is prevention. Prevention is the responsibility of the athlete, team physician, and training and coaching staff.

Musculoskeletal Issues

Musculoskeletal issues are common in sports. Medical care is rendered by the orthopedist or neurosurgeon. In preparticipation screening the physician must perform a comprehensive neurological and musculoskeletal examination to ensure that the athlete is fit to compete in his or her particular sport. It is important that there is comprehensive documentation of the patient's history and physical examination.

During competitive athletics there are frequent injuries to the spine and musculoskeletal system. The incidence of cervical spine injuries in sports is 1000 per year.[19] It is important to remember that joint and ligament damage may precipitate

vascular and nerve injuries. Physicians should have a high index of suspicion for vascular and nerve damage when evaluating joints and ligaments. The signs of vascular compromise include cyanosis, pallor, decreased capillary refill, and absence of pulses. It is imperative that spinal cord injuries be considered a medical emergency with rapid transport to a facility skilled in the care of spinal cord injuries.

Medical – Legal Issues Affecting Team Physicians

The relationship between sports medicine and the law is complex. It evolves from vague relationships between physicians, athlete-patients, teams, and institutions. The athlete-physician relationship requires the physician to provide meticulous, comprehensive medical care. The physician is considered a fiduciary to the student-athlete. Patient-athletes trust their physicians to advise them of the risk for untoward events during competitive sports. Indeed, physicians have a primary obligation to act in the athlete's best medical interest. The law relies on the collective judgment of the medical professionals to establish the appropriate nature and scope of medical evaluations to identify cardiovascular abnormalities and other life-threatening conditions in athletes participating in organized sports.[51, 52]

Litigation in the sports arena appears to be increasing and physicians are frequently involved. Lawsuits for medical negligence and malpractice may arise when a breach of the physician's duty has occurred and medical conduct has failed to meet the standard of care, directly causing injury or death[3-13]. The lack of judicial resolution in some encounters due to settlement of claims represents an obstacle to establishing a comprehensive medical-legal framework. Nevertheless, measured inferences from such cases can create insights for practicing physicians in avoiding potential liability.

Cardiovascular Medical Legal Cases

Preparticipation Screening

The law gives limited guidance for the physician's role in preparticipation screening. One strategy by which physicians can limit potential liability is by strict adherence to the historical stance of the American Heart Association regarding physical screening guidelines.[22] This principle is underscored by Izidor v Knight, [4] in which a community college basketball player sought a sports clearance examination using a form provided by his institution. A physician assistant noted a heart murmur and two prior syncope episodes and referred the athlete for echocardiography, which led to a diagnosis of HCM. Unfortunately, the sports authorization clearance form was signed before echocardiography was performed. Six weeks later, after playing basketball, the athlete died suddenly. The treating physician testified that after the results of the echocardiogram were known, the athlete was notified to withdraw from competitive basketball, but refused to follow this recommendation. Prudent adherence to screening guidelines, taking into account diagnostic findings before providing official medical clearance, would have prevented the untimely death of this young student–athlete.

In Ivey v *Providence Hospital*, [9] the estate of a student-athlete who died from status asthmaticus after football practice sued Catholic University and a physician for negligence in failing to conduct a proper examination. The estate argued that the physician (unassociated with the university) failed to satisfactorily evaluate the potential consequences of vigorous exercise on the athlete's medically uncontrolled pulmonary condition and cardiovascular system. Prior to judicial resolution the parties settled the case. [9] In Ivey, it would appear that the physician performing the screening examination did not adequately adhere to customary American Heart Association guidelines and satisfactorily evaluate the athlete's fitness to withstand the stress of intercollegiate sports, thereby creating potential liability. Furthermore, it is possible to view Catholic University as negligent for abdicating responsibility for providing a screening process consistent with good medical practice. By requiring the athletes themselves to seek out and obtain medical clearance outside the college, the process became non-uniform and substandard as well as a circumstance in which obstacles were created for economically compromised student-athletes.

Malpractice liability may arise by improper use of diagnostic tests that would likely disclose a latent cardiac condition during screening. In Gardner v *Holifield*, [6] the mother of a college basketball player alleged that a cardiologist who examined her son as part of preparticipation screening in the student health center misinterpreted the echocardiograms and failed to identify aortic root dilatation, which is a risk factor associated with Marfan syndrome. The athlete was allowed to play basketball and died of aortic dissection 6 months later. Resolution of the negligence claim was not reached because the court ruled that the health center's physician was protected from liability for negligent medical care by Florida's sovereign immunity law afforded employees of public educational institutions. However, without such unique legal immunity the judgment could well have been physician negligence. The lesson that may be taken from this case is that a physician must be careful to evaluate test results and when indicated recommend withdrawal from sports until a comprehensive medical evaluation is completed, followed by expert consultation to resolve diagnosis, risk, and treatment options if questions persist.

A lawsuit against a high school football coach, an athletic director, and the school district in *Ramirez v Muroc Joint United School District et al*, [4] also underscores the importance of proper preparticipation medical evaluations. The student-athlete was obese and deconditioned and had no prior experience in competitive sports. He had an abnormal electrocardiogram and a heart murmur that had been known since childhood. However, the required preparticipation examination was deferred and on the second day of practice he collapsed; the autopsy showed evidence of HCM. It is a reasonable expectation that preparticipation screening before formal athletic participation for this individual would have led to a diagnosis of HCM and disqualification from sports.

The two lawsuits cited, Gardner and Ramirez reflect screening involving individual athletes assessed in office practice settings with noninvasive testing. [4,5] The doctor-patient relationship

clearly imposes a duty of care and primary medical obligation to act in the patient-athlete's best interest. In contrast, mass population-based preparticipation screening involves a much more limited patient-physician relationship (usually confined to performing a personal and family history and physical examination) in which typically a single physician evaluates a large number of athletes during a short period, often under suboptimal conditions. This circumstance could leave the physicians at uncertain risk for liability when an untimely death due to cardiovascular disease occurs in an athlete previously cleared for competitive sports. While at present there is insufficient legal precedent directed at the failure to diagnose potentially lethal abnormalities in a large population screening, physicians can try to formulate the scope of their relationship with the patient-athlete in such a way as to limit their liability. Hypothetically, this would require prospectively involving the institution or school district and legal counsel in the development of a proper consent form that addresses the limited scope of the physician's relationship with the patient-athlete.

Concern frequently arises among primary care non-specialists (or non-physician health care professionals), who predominantly perform screening of high school athletes, regarding the liability risks associated with such medical evaluations. Major considerations include (1) difficulty in differentiating innocent from pathological heart murmurs, (2) reliably raising clinical suspicion of potentially lethal cardiovascular lesions that may fall beyond the screening clinician's legitimate expertise, and (3) the dilemma of discerning which patient-athletes are most deserving of expensive noninvasive tests. While there may be no easy answers to these questions, it is clear (Izidor v Knight) [4] that the recommendation of withdrawal from competition is mandatory when the possibility of heart disease has been raised and a specialty consultation has been pursued.

Alternative strategies, such as volunteer community-based initiatives, have emerged for large-scale screening of high school athletes with collection of a limited personal and family history and a physical examination combined with portable echocardiography to identify cardiac disease (particularly HCM). [53]

Despite benevolent intentions and the potential benefit of such nonprofit initiatives, it would appear that these screening approaches do not fall within the usual scope of the patient-physician relationship, creating uncertain areas of liability. In professional sports, physicians, often with noninvasive testing, customarily perform preparticipation screening and is generally more comprehensive than the screenings performed in high schools and colleges.[40] However, at present, there is no judicial precedent related to the screening of professional athletes. Professional team physicians are immune from claims of negligence under Worker's Compensation statutes unless intent to harm can be proven.[41]

Failure to Disqualify From Sports

Identification of cardiovascular abnormalities in athletes often leads to medical- legal controversies regarding eligibility/ disqualification decisions.[7,11] The medical decision-making process should be generally conservative and in accord with available guidelines, and should avoid disqualification of athletes without probable or definitive evidence of disease.

National high school and college organizations have not formulated independent standards for excluding participants with heart disease. However, over the past 30 years, the American College of Cardiology's Bethesda Conference expert consensus panels, [33,34] have advanced eligibility and disqualification recommendations for competitive athletes with established cardiovascular abnormalities. Physicians and the legal community will likely accept the updated guidelines from the 2015 Bethesda Conference as the contemporary standard of care in this area. Judicial precedent now provides a role for the Bethesda Conference in resolving legal disputes related to athlete participation[33,34,63]. Such national association guidelines have generally been recognized by the courts as substantiation of good medical practice, although not conclusive evidence of the standard of care.

There have been several lawsuits alleging failure to diagnose, treat appropriately, and/or disqualify athletes from competitive sports, thereby providing insights into the potential pitfalls inherent in these medical decisions. In *Gathers v Loyola-Marymount University,* [11] it was alleged that the sudden death of an elite college basketball player (due to inflammatory cardiomyopathy) was caused by negligent reduction of cardio active medication (a beta-blocker) administered for ventricular arrhythmias to sub-therapeutic doses as a means of continuing and advancing his athletic career. [54,55] At that time, Hank Gathers was among the best college players in the country and likely to become a high professional draft selection. Shortly after he reduced his medication, he died suddenly during a nationally televised basketball game. Gathers' heirs filed a $32.5-million lawsuit,[54,55] against his physician and the university alleging negligent interference with Gathers' medical care for cardiovascular disease and failure to remove him from college basketball in concert with Bethesda Conference recommendations.[34]

Although the Gathers case was settled prior to judicial resolution,[11] it is likely that a court would have regarded this scenario as malpractice by virtue of a breach of the customary patient-physician relationship and failure to comply with expert consensus recommendations. This case underscores several useful principles: (1) it is appropriate to temporarily disqualify trained athletes with certain cardio-vascular abnormalities (myocarditis) to assess reversibility; (2) be aware of competing interests and extrinsic pressures in volatile situations, which may insidiously impair a physician's medical judgment; and (3) avoid altering treatment strategies to enhance performance. A similar situation arose in *Lillard v State of Oregon*,[7] in which a college basketball player died of a massive stroke after his anticoagulant medication was reduced to a non therapeutic dosage to enable his athletic career to continue.

Another high-visibility lawsuit involved professional basketball player Reggie Lewis, who fainted during a game. [56,57]

He underwent extensive testing and a panel of cardiologists diagnosed a life-threatening cardiac condition. However, Lewis left the hospital against medical advice and was diagnosed with a benign fainting disorder at a referral center, possibly allowing him to extend his basketball career. He collapsed and died while engaged in an informal basketball workout 11 weeks later. The autopsy revealed healed myocarditis (possibly due to adenovirus).

Lewis' widow brought suit against several physicians alleging failure to properly diagnose the heart condition that led to his death. The first trial ended in a hung jury and a second trial ended with a jury decision finding no negligence. *Harris-Lewis v Mudge* [7] suggests that physicians should proceed cautiously when confronted with athletes who seek medical clearance by soliciting multiple opinions in an effort to influence the final recommendation ("shopping"). Also evident was the powerful resistance to disqualification on the part of some athletes, particularly in professional sports. This strong desire to remain competitive may exist despite knowledge of a life-threatening condition.

At present, there is no judicial precedent and little to guide disqualification decisions specifically in professional athletes. Furthermore, professional athletes differ from others by virtue of usually being adults, employees of their teams, and involved in sports as a vocation potentially with substantial economic benefit. These factors potentially alter the medical-legal relationship with respect to eligibility when cardiac disease is present.

Disqualification from Sports

Ironically, other lawsuits have surfaced because physicians restricted individual athletes with known heart disease. A unique lawsuit was brought by a college basketball player alleging physician negligence for withholding medical clearance to play because of a life-threatening heart condition (HCM). In Penny v Sands,[12] the plaintiff claimed economic harm to his anticipated professional career by virtue of forced exclusion from intercollegiate basketball. The defendant- cardiologist who diagnosed Penny with HCM recommended against continuing in competitive sports, but Penny ultimately obtained medical clearance from two cardiologists in the United Kingdom. He subsequently collapsed and died while playing in a professional basketball game in England. Although the malpractice suit was voluntarily dismissed after his death, it is unlikely that a court would have awarded Penny's survivors compensation for economic loss after team officials accepted a physician's prudent recommendation that an athlete with established cardiac disease should be disqualified from competitive sports to reduce the risk of sudden death. Awareness of Penny v Sands [12] has periodically raised anxiety and confusion among clinicians by exposing the reality that no practitioner is immune from legal action, as well as conveying a chilling effect to some athlete-physician interactions.

The Americans with Disabilities Act,[58]and the Rehabilitation Act,[59]were designed to provide disabled people with the opportunity to participate in physical activities that they have the capabilities to perform. The scope of the Americans with Disabilities Act is broader, because it covers entities that do not receive federal funding, including professional sports teams. These acts require careful balancing of an impaired athlete's right to participate in sports within his/her physical abilities, physician evaluation of medical risks, and the interest of teams or educational institutions in conducting safe athletic programs. [33,34,51] Elements of a cause of action are if the plaintiff (1) has a medical disability that substantially limits a major life activity; (2) is otherwise qualified to participate in competitive sports; and (3) is excluded solely because of discrimination based on a medical disability. [5] Colleges or universities are obligated to abide by these statutes in their relationship with student-athletes. [14] Student-athletes have used these acts to resist disqualification from competitive sports. [5, 10, 60]

In Larkin v Archdiocese of Cincinnati,[10] a federal court held that a high school could exclude an athlete with HCM from its athletic program because students do not have a compelling right to participate in extracurricular activities such as sports without medical clearance. Indeed, Larkin failed to satisfy an Ohio high school athletic association bylaw because cardiologists had judged him to be at an unacceptable risk of sudden death due to heart disease. The court held that the school's medical decision did not violate the Rehabilitation Act, and Larkin was not reinstated into the football program. In this case, the athlete and his family were willing to waive future claims after complete disclosure of the medical risks of sports competition. However, the validity and power of such waivers (exculpatory agreements) is unsettled. Physicians and institutions must recognize that a signed waiver does not necessarily provide immunity from liability in the event of an athlete's death. Courts may view these waivers as unenforceable and a violation of public policy for high school [61] and college athletes62. Physicians and institutions should seek expert legal advice when confronted by such issues.

In Knapp v Northwestern University, a student-athlete who survived a cardiac arrest due to unsuspected cardiovascular disease used the Rehabilitation Act to gain entry into Northwestern's intercollegiate basketball program.[10,60] As a high school senior he had collapsed with ventricular fibrillation during a basketball game, was resuscitated, and received an implantable defibrillator for sudden death prevention. Upon matriculation to Northwestern, the team physician declared Knapp ineligible for the basketball team based on his medical history, consultation with other cardiology experts, and Bethesda Conference consensus guidelines, 33 concluding that he would be exposed to unacceptable risks during competitive sports.

Knapp sued Northwestern in federal court for violating the Rehabilitation Act, alleging discrimination based on his physical impairment (implantation of the defibrillator) . [12] The US District Court judge granted an injunction permitting Knapp full access to the basketball team, but an appellate court reversed that decision, in effect banning Knapp from the team. The appellate court held that Northwestern had a legal right to establish safe physical qualification standards for its intercollegiate athletes and that sports eligibility is not an in-alienable, libertarian right of the athlete. Furthermore, playing college basketball was judged

not to be a major life activity. Such medical decisions regarding eligibility are the proper domain of team physicians and schools as long as the process is based on reliable scientific evidence and expert consensus guidelines (Bethesda Conference). [33,34,63] Therefore, Knapp v Northwestern establishes the legal precedent that college athletes may be medically disqualified from competitive sports to avoid enhanced risk of serious injury or death that cannot otherwise be abolished by the use of medications, long-term monitoring, or the use of protective equipment.

Compliance with Bethesda Conference recommendations may carry substantial weight and form the basis for a successful defense against allegations of negligence. In both the Larkin [10] and Knapp [5] cases the plaintiffs attempted to extend application of the Rehabilitation Act beyond its initial intent, but failed because they would have placed themselves at enhanced risk for serious injury or death.

Neurological Medical Legal Cases

Failure to Diagnose

In Pinson v Tennessee,[48]Pinson was awarded $300,000 for head injuries he sustained while playing football at the University of Tennessee at Martin. Pinson sustained a blow to the head, collapsed and was unconscious. The athletic trainer did not accompany the student-athlete to the emergency room. When the trainer arrived at the hospital he did not inform the physicians of the player's injury and neurological status. The emergency room physicians did not order a CT of the brain. The patient was released and experienced daily headaches. There was no recording in the medical record of the headaches by the team trainer. The team physician unwittingly permitted Pinson to return to play. During a subsequent football game Pinson received a blow to the head leading to a head CT revealing a subarachnoid hemorrhage (SAH). The patient remained in a coma for several weeks and ultimately suffered permanent brain damage. The court ruled that but for the physician and trainer's negligence the injury could have been prevented. Clearly an earlier CT of the head prior to returning to play would have diagnosed the SAH and allowed the possibility of neurosurgery to remove the hematoma.

Heat Illness Medical Legal Cases

In Mogabgab v Orleans Parish School Board16 the parents of a high school football player brought a lawsuit against their child's coaches, team physician, and school board for the death of their son from alleged heat stroke. The court ruled in favor of the plaintiff stating the defendants failed the duty of providing all necessary and reasonable safeguards to prevent accident and injury. The team physician did not respond to see the injured player until two hours after he lost consciousness. The time delay and improper treatment was the basis for the court's decision.

The death of Corey Stringer of the Minnesota Vikings' in training camp in 2001 brought to the forefront the subject of heat illness for physicians, trainers, and sports organization. This case was unique because it surfaced the increased risk of heat illness in people taking ephedrine-containing products while training in hot weather. The Rand study had found 20 sentinel deaths with the use of ephedra in the absence of other contributing factors [50]. Stringer had signs and symptoms of heat illness the day before his death. Ephedra supplements were found in Stringer's locker and the use of ephedrine supplements could have increased his risk of heat stroke.[49,50] The plaintiff's counsel prepared a memorandum claiming the Vikings promoted the use of dietary supplements and that Stringer was following the culture the team developed. The case was settled so no judicial opinion was render.

Musculoskeletal Medical Legal Cases

Failure to Disclose Important Information

It is the physician's responsibility to inform the athlete in understandable language of potential risks in returning to competition. Failure to disclose important health information regarding a patient's condition may result in a judgment that finds the physician negligent. In Krueger v San Francisco Forty Niners [13] the team physician was found negligent on the basis of withholding information from the athlete regarding the magnitude of his knee injury. The player returned to competition and sustained further injuries resulting in the end of his National Football League career. The rationale for the court's decision was that presenting the athlete all necessary information would have allowed an educated decision regarding return to play.

The Right to Disqualify

There has been debate over legal responsibility of a physician disqualifying an athlete because of a spinal injury. Pahulu v University of Kansas [19] a college football player filed a lawsuit against the University after being declared medically unqualified to compete after an episode of transient quadriplegia. Investigation revealed he had spinal stenosis. The athlete claimed he was being discriminated against because he was handicapped. The court stated that the physician had the right to remove him from sport because of his risk for severe and permanent injury.

Summary

Physicians providing medical care and making decisions about the athlete's fitness and safety for competition are afforded an honor and a privilege. Intrinsic to that privilege is a fiduciary duty to the student-athlete. Preparticiaption screening, medical supervision, and disqualification decisions carry a huge responsibility and duty to the student-athlete by the physicians and the schools designing the strategies to provide safe sports activities. Inherent to physicians' fiduciary duty is a mandate to adhere to the expert medical guidelines when making medical decisions on behalf of student-athletes. It is also prudent for team physicians to understand the ever-evolving medical–legal case law involving physician and student – athlete disputes. Adherence to expert medical guidelines and understanding the medical-legal case law will minimize the potential of team physicians and schools to face accusations of negligence.

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