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Legal Aspects of Concussion: The Ever-Evolving Standard of Care

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Today, when an athlete is catastrophically injured while playing a sport, litigation often follows. The likelihood of litigation is even greater in the event of a head injury, especially when the athlete can allege that a prior concussion somehow contributed to the current injury. Whether the potential defendants in these lawsuits, such as schools, coaches, athletic trainers, and other health care professionals, actually face legal liability depends on whether they are deemed to have conformed to the standard of care. The *standard of care* is a legal term, defined as acting as a reasonable professional in that position or industry would have under the circumstances based on then-existing knowledge. In this article, we examine the standard of care with regard to concussion management and treatment in the context of some of the most notable lawsuits in recent years.

The standard of care for sport-related concussion has become a hotly debated topic in light of recent legal and scientific developments. While individual lawsuits involving concussion-related injuries are on the rise, larger-scale organizations such as the National Collegiate Athletic Association (NCAA), Pop Warner, and state athletic associations have also become litigation targets. At this point, with the standards for athletic trainers (ATs) and other health care professionals still murky, it is important to not only understand the recent legal environment but to also pay attention to other legislation and guidelines being implemented by individual conferences and organizations. Although the bottom line remains uncertain, staying abreast of the changing ideas in the concussion landscape may help to protect health care professionals in the event of a lawsuit and, even more importantly, lead to real change at the ground level and safer sports for every athlete. After all, ensuring the health and safety of the athlete is the ultimate goal. This article examines several recent lawsuits involving sport-related concussions and how the legal theories and obligations of health care professionals have evolved through these lawsuits while the standard of care for ATs and other health care professionals remains unsettled.

THE PLEVRETES CASE

One of the first high-profile concussion-related lawsuits involved a football player from a Philadelphia-based university. On November 5, 2005, Preston Plevretes collided head on with an opposing player on a punt return.[1(¶77)] Plevretes sustained a subdural hematoma, lapsed into a coma, and eventually underwent lifesaving brain surgery.[1(¶¶85-90)] The lawsuit that followed alleged that Plevretes' injuries were a result of second-impact syndrome (SIS),[1(¶83)] a theory that describes how, after an initial trauma, the brain is left more vulnerable and susceptible to subsequent injury.[2(¶¶85-90)] The initial trauma, it was claimed, was a concussion that Plevretes had sustained during a football practice 1 month earlier.[1(¶37)]

The suit further alleged that the university, its head AT, and a nurse practitioner had prematurely and improperly returned Plevretes to playing football after his prior concussion, and had appropriate protocols been in place, Plevretes would not have been cleared to play on November 5. The defendants argued in response that the hit Plevretes sustained on the punt return was of sufficient magnitude to cause a subdural hematoma and any resulting injuries and that Plevretes was appropriately returned to play after his initial head trauma.

The principal legal theory advanced by the plaintiffs was negligence on the part of the university, the AT, and the nurse practitioner. Negligence—a 4-element claim—is the most common theory of liability in these cases. The theory requires that the defendant (1) owed a duty to the plaintiff but (2) failed to use reasonable care in executing that duty, which (3) caused (4) damages. Such a duty arises in the eyes of the law when a relationship between the defendant and the plaintiff gives rise to an obligation that the defendant act in a certain way. *Reasonable care* is defined as the care that someone of ordinary prudence would have exercised under the circumstances. When professionals who owe a duty to certain persons are involved (eg, the relationship between an AT and an athlete), the required conduct is labeled the *standard of care*. When professionals are involved, the standard of care is that of a reasonable professional in that position; thus, they are held to act in ways that, for example, a reasonable AT would have acted under the circumstances. The standard of care necessarily changes over time, due to factors such as scientific discovery, advances in technology, and resultant changes in conduct. However, to find legal liability, the failure to conform to the required standard of care must also cause the ultimate injury. Proving the causal connection between the alleged wrongful conduct and the resulting damages can

be a substantial hurdle for plaintiffs, especially when the underlying scientific theory is not settled.

In the event of litigation, a party will generally retain an expert in the relevant discipline to evaluate the current state of that discipline and reach an opinion concerning the standard of care. In this case, the plaintiffs and defendants both retained experts in various disciplines to opine on the proper standard of care and on the defendants' conduct. Because the case was settled, there was never any judicial finding or resolution on these concerns among the experts.

The experts first debated whether the AT's concussion-management plan was appropriate and conformed to the standard of care for ATs at the time. The AT had worked at the university for many years and had always followed the same return-to-play (RTP) protocol, which consisted of gradual exertional activities and checking in with the injured player.[1] This plan was not stated in writing. In 2005, the NCAA did not even mandate that a school have a concussion-management plan on file.[3] However, the National Athletic Trainers' Association (NATA)[4] published a position statement in 2004 that addressed the management of sport-related concussions. The defendant AT was a member of the NATA, and thus, the plaintiffs argued that the position statement bound the AT.[1(257:18-258:23)] The defendants argued that the document stated only that ATs "should" follow its recommendations; however, the AT had disregarded elements highlighted in the position statement. For instance, it recommended that the AT "should document all pertinent information surrounding the concussive injury"[4(p281)] and identified a nonexhaustive list of potential methods. The defendant AT did not document his exchanges with Plevretes throughout the RTP period and, therefore, could rely on only his word throughout the lawsuit.[1(293:6-10)]

A defense expert, Christopher Randolph, PhD, commented that the literature and practices of managing sport-related concussions in 2005 showed "a lack of a true 'standard of care' and that only 3% of ATs followed the NATA's 2004 recommendations."[1(p4)] So even though guidelines from an organization of ATs arguably defined the standard of care, if very few ATs actually conformed to them, then an AT's failure to follow them might not result in legal liability. Another defense expert, Julian Bailes, MD, noted that if Plevretes "had symptoms, as witnesses have testified in this case, it was [Plevretes'] responsibility to report them."[1(p3)] In postconcussion assessment, symptoms such as headaches are relegated to self-report by the athlete. Thus, if Plevretes did not exhibit concussion symptoms and did not report any symptoms to the AT, then there would have been no reason to prevent him from playing. However, the lack of documentation and absence of a written plan on file affected the AT's credibility.

The experts in this case also addressed whether the university should have used baseline neuropsychological testing.[1(99:21-100:11)] A controversial tool not deemed universally valid or reliable by researchers and clinicians that includes an in-person clinical evaluation, such testing is theorized to initially assess an athlete's brain function and the presence of any concussion symptoms. After a head injury, the results from the baseline tests may be compared with serial postinjury test results to help determine if an athlete has recovered.[5] A plaintiff's expert, Michael Collins, PhD, stated that the university's failure to provide neuropsychological testing for its athletes was a critical failure to conform to the standard of care. Defense expert Randolph took the opposite position, stating that in 2005, neuropsychological testing was not widespread and that serious questions have been raised about the validity of the measures and the reliability of the results.[1] According to Randolph, relying on these tests could actually cause more harm than using traditional methods and professional judgment. In 2005, it was unclear whether the university should have used this testing. Today, as will be further discussed, neuropsychological testing has become so widespread that schools are arguably required to use it to meet the standard of care. However, experts still caution that such testing has reliability and utility concerns.

The experts also disagreed over the cause of Plevretes' injuries, which was a vital element of the claim. The plaintiff advanced SIS as the theory of causation. The plaintiff's expert on the issue, Robert Cantu, MD, concluded that Plevretes suffered from SIS in addition to the acute subdural hematoma.[1] The defendants countered that SIS was not a viable theory of causation, as the scientific literature regarding SIS is divided as to whether it qualifies as an actual diagnosis.[6] Many researchers who support SIS still deem the syndrome "exceedingly rare."[1(p3)]

The defendants also argued that the single, massive hit on the punt return was sufficient to cause all of the damages, rendering SIS irrelevant. As 1 defense expert, Thomas Gennarelli, MD, testified, "The so-called SIS is a controversial theory, which has no relevance or application to the facts of this case. . . a subdural hematoma is unrelated to SIS or prior concussion."[1(p5)] Bailes, another defense expert, concluded that Plevretes "had no evidence of any brain abnormality by [computerized tomography] scan during the week following the 'first impact,' [and] then went on to have multiple, likely hundreds, of head impacts over the ensuing month."[1(p5)] Plevretes had played in multiple football games and practiced many times before the game in which he was injured.[1] Despite the controversy over the existence and application of SIS, plaintiffs continue to claim SIS as the theory of causation in sport-injury lawsuits.

The Plevretes case ultimately settled for $7.5 million,[7] resolving the plaintiff's claims but leaving open many questions regarding the standard of care and causation for subsequent litigation.

THE NEW SIS: THE SHEELY CASE

The standard of care has become even more complicated as awareness surrounding concussions increases; a recently resolved lawsuit in Maryland demonstrates these problems. On August 22, 2011, 22-year-old college senior Derek Sheely collapsed on the football field during a preseason practice at Frostburg State University. Derek never regained consciousness and eventually passed away, allegedly as the result of brain herniation, an acute subdural hematoma, and massive vascular engorgement.[8(¶79)] The lawsuit that followed claimed that dangerous full-contact football exercises caused Sheely's injuries.[8(¶¶70-82)] Negligence and gross negligence were alleged. The multiple

defendants in this case included Frostburg State football coaches, the Frostburg assistant AT, and the NCAA. However, Frostburg State University was not named as a defendant.

The plaintiffs (Sheely's parents) alleged that SIS caused Sheely's death. However, unlike previous SIS cases (such as Plevretes), the Sheely plaintiffs struggled to point to a specific first impact, such as an earlier concussion. Instead, the complaint stated that Sheely engaged in full-contact exercises during football practices over several days and that, after 1 drill, Sheely was "bleeding profusely from his forehead."[8(¶56)] The plaintiffs asserted that Sheely later complained of a headache on his final day of practice but that an assistant coach pressed Sheely into continuing to participate in practice.[8(¶¶74-75)] The complaint also alleged that Sheely was never evaluated for a concussion.[8(¶72)] However, the coaches and AT disputed the allegations, stating that the plaintiffs could not prove that the defendants knew Sheely had a concussion and still sent him back to practice.[8] Especially without a specific impact, the defendants responded, "[S]uch symptoms are not necessarily indicative of a concussion and persons often have headaches and do not feel well for reasons that have nothing to do with physical activity or injury."[8(p15)] The defendants thus argued that they complied with every relevant legal duty and that the incident was a tragic accident.

An expert for the defendants, Kevin Guskiewicz, PhD, ATC, FNATA, FACSM, testified that the defendants properly permitted Sheely's participation in practice because Sheely denied the existence of headaches and other symptoms of concussion on questioning and otherwise exhibited no symptoms to the defendants.[8] This situation demonstrates how difficult it is to both diagnose and manage a concussion. Health care professionals must rely on the player being forthcoming about any injuries, especially in the absence of observable concussion symptoms. In the absence of disclosure of symptoms and observable problems, as the defendants argued occurred in the Sheely case, it would be nearly impossible to diagnose a head injury. Defense expert Bailes negated the plaintiffs' theory of causation in his expert disclosure by stating that Sheely suffered his injury because of "a condition of his particular anatomy and the forces involved in the collisions he experienced on the football field, in the course of regular football participation and which happens several times annually across the United States."[9(p8)] If a jury took this as true, then the defendants should not be found liable. However, that scenario never transpired. In August 2016, the case settled, with the NCAA and the other defendants paying $1.2 million to a foundation created for Sheely. The defendants did not admit any liability in the settlement.[10] The Sheely case also named the NCAA as a defendant, alleging that "the NCAA assumed a legal duty to protect student-athletes and Decedent [Sheely] from brain injuries"[9] and breached that duty by failing to implement policies and procedures to further that goal, such as by failing to limit full-contact practices. The NCAA, however, denied that it had a legal duty to protect student-athletes and, thus, could not be held liable for injuries to voluntary participants who accepted the risks of playing inherently dangerous sports.[8(¶¶208-213)] According to the NCAA and as effected by the legislation adopted by the Power Five in January 2015,[8(¶83)] the responsibility to protect student-athletes is left to the schools and their employees, such as coaches and ATs.[11] Under this theory, if the Sheely plaintiffs' allegations were true and assuming the individual defendants violated the NCAA's policies, the NCAA itself would not face any liability.[8(¶88)] When the NCAA promulgates rules and guidelines, these generally become part of the standard to which the member schools are held, especially in the event of litigation.[12] A class action lawsuit against the NCAA (discussed later) aimed to institute more concrete rules, but the structure of the NCAA as an overseeing organization for member schools makes enforcement of such rules difficult. Although the NCAA remained a defendant in the Sheely case until the case's resolution, it is questionable whether the plaintiffs would have been able to establish any liability on the part of the organization. Plaintiffs in such cases may be more likely to focus on and seek liability against defendants with closer relationships to them, such as ATs.

THE CASE AGAINST OLIVET NAZARENE UNIVERSITY

The standard of care assessed in litigation refers to the circumstances at the time of the injury, but a case can also draw on recently developed causal theories. For example, Nathanial Seth Irvin played football at Olivet Nazarene University in Illinois from 1986 to 1989.[13] In 2015, he filed a lawsuit against the school alleging that, when he played football, he sustained multiple concussions and other head injuries, experienced symptoms, and was still returned to game play.[13(¶17)] Irvin claimed that he suffered from "multiple concussion- and subconcussion-related disorders," including "multiple traumatic brain injuries which have evolved into symptoms consistent with chronic traumatic encephalopathy (CTE)."[13(¶29)] A progressive degenerative brain disease, CTE reportedly has been found in the brains of some deceased former football players with a history of repetitive brain trauma, such as concussions and subconcussions.[14(¶33)] Bennet Omalu, MD, a forensic pathologist, is generally credited with the first diagnosis of CTE in an American football player. This followed his autopsy of former National Football League (NFL) player Mike Webster.[15] Since then, CTE has reportedly been identified in the brains of collegiate and professional athletes who have committed suicide after struggling with problems such as depression.[16] Whether CTE and suicide are directly linked, however, has been contested. A leading neurologist, for example, has found that the science behind such a link is "extremely limited, inconclusive, and, in fact, contradictory."[17(p5)] Symptoms associated with CTE include memory loss, confusion, impaired judgment, paranoia, lack of impulse control, aggression, and progressive dementia.

Although bringing this case so long after the alleged injuries would generally violate the statute of limitations, Irvin attempted to circumvent that by stating that "(u)ntil recently, Plaintiffs, acting reasonably, did not associate any of Mr Irvin's conditions or symptoms with his collegiate football career."[18(p8)] Irvin alleged that once the "long-term effects of concussions were heavily publicized by national media," he connected the dots.[18(p8)] This tolling of the statute of limitations is based on the Discovery Rule, which

has been adopted by the state of Illinois. Thus, even claiming this theory of liability might not be permitted in other states' courts.

Whether the court will agree with this theory and permit the suit to continue remains to be seen; doing so may open the door to other lawsuits by individuals who are long retired from football. However, the standard of care considered in this case should be the standard as it existed in the late 1980s, when much less was known about concussions. Thus, the plaintiff will likely have difficulty proving that the defendants did not act reasonably based on the information available to them at that time. Evidentiary challenges, including a lack of documentation of such injuries that happened so long ago, are also probable.

The damages theory of this case constitutes another challenge. Irvin, who is still alive, alleges that he suffers from CTE-related problems. In fact, the complaint contains a written report by a board-certified medical doctor who stated, "I examined Mr Irvin and determined that [he] is status post multiple traumatic brain injuries evolving into symptoms consistent with [CTE]."[13(¶35)] At this point, however, CTE can only be confirmed by examining the brain of a deceased individual. Although the University of North Carolina at Chapel Hill received a grant to research CTE, including detecting CTE in living persons, that study is in its early stages. Guskiewicz, who is in charge of the study, stated that the researchers were still conducting initial enrollment and that he does not expect results for at least 5 years (K. M. Guskiewicz, oral communication, September 23, 2015).

The specter of CTE looms over the entire football community, but this appears to be one of the first cases in which damages have been claimed against a university instead of against the NFL. Other cases have followed.[19] The diagnosis of symptoms consistent with CTE remains scientifically questionable but could lead to further problems for potential defendants. For instance, CTE is the damage element in this negligence suit, as in many others. If a court deemed that CTE could be alleged in a living person (although that is against the weight of scientific evidence at this time), litigation in this area would certainly increase.

THE POP WARNER ALLEGATIONS

A recent sport-injury lawsuit attempted to entirely remove the concerns stemming from an unclear standard of care and causation. Joseph Chernach, who played in the Pop Warner football organization as a child, committed suicide at the age of 25. An autopsy showed CTE in his brain. His mother sued the youth football organization on his behalf, alleging that, even if she could not show that playing Pop Warner football caused his injuries, the organization should still be liable. Chernach was never diagnosed with a concussion while playing in Pop Warner and also played high school football, so it would be nearly impossible to show that Pop Warner football caused his later-life CTE.[18(¶28-29)]

To dissipate these causation problems, the plaintiff claimed strict liability.[20] *Strict liability* occurs when an activity is abnormally dangerous and cannot be made safe by reasonable conduct, and thus, the purveyor of the activity will be held liable for any resulting injuries regardless of actual fault. The lawsuit alleged that children who play Pop Warner football are not developed enough to withstand the collisions inherent in the sport[20(¶¶36-38)] and that no precautions or rule changes can make the sport safe enough for children.[20(¶37)] The lawsuit also claimed that youth football is against public policy: "There is no cost-benefit analysis to the children or to the community that would justify such ultra-hazardous activity based upon the state of knowledge about head injuries. . . Any activity which has as its goal to injure a child, must be against public policy and those who are in the business of engaging in such activities should be found strictly liable for injuries suffered thereby."[20(¶38)] Thus, despite recent rule changes limiting contact practices and disallowing certain drills, the lawsuit stated that the organization should remain liable for player injuries.[21(¶38[d])]

It is unlikely that a court will find football so inherently dangerous that it should qualify for strict liability. However, if a court did find that youth football qualifies, the ruling could open the floodgates to potentially limitless litigation and likely put an end to many youth football organizations because the cost of insuring such a sport would be impracticable if not impossible. As a reporter commented:

> The case has the potential to upend the economics of youth football leagues. If a court ruled against Pop Warner in Chernach's death, insurers could potentially increase their premiums to offset legal risks. While Pop Warner is the largest and most established youth football organization in the country, smaller leagues could have a harder time paying for more expensive coverage.[22]

This appears to be the first lawsuit regarding the long-term effects of concussions against a youth organization.[23]

CLASS ACTIONS: SOLUTIONS OR MORE PROBLEMS?

A *class action* is a case brought by a sufficiently large group of plaintiffs against the same defendant. For a case to proceed as a class action, certain initial requirements must be met, such as whether the class is cohesive with respect to its claims and whether the named plaintiff adequately represents the interests of the class as a whole.[24] After a proposed class action is filed, the judge will decide whether the class meets these requirements and, thus, should be certified and allowed to proceed to the next phase of litigation. Class certification can be extremely difficult because of these restrictions, especially in mass injury cases with many individual factors to consider. To facilitate settlement in some cases, a judge may approve a class action for settlement purposes only. For a class action, as opposed to the typical lawsuit, the judge must also approve any settlement agreement between the parties.

Recently, plaintiffs have filed various class actions against large sports organizations in an attempt to use the court system to force rule changes, provide funding for concussion research, and even pay compensation to large groups of injured players. The class action against the NFL settled in July 2014 (and was approved by the appeals court in April 2016) and provided compensation to former NFL

players who suffered from specific disorders tied to head injuries.[25]

THE NCAA SETTLEMENT

The recent class action lawsuit against the NCAA showcased another important question: even if we can define the standard of care, whose responsibility is it to carry out that standard? The NCAA lawsuit was brought by several plaintiffs individually and on behalf of a class of "[a]ll persons who are playing or have played an NCAA-sanctioned sport at an NCAA member institution," who alleged that "there are thousands of student-athletes who have been damaged" and thus "all members of the Class are at risk for short- and long-term injuries resulting from concussions and the accumulation of subconcussive hits as a result" of the NCAA's alleged misconduct.[26(¶¶304-308)] The legal claims included breach of contract (because of NCAA regulations and statements made by the NCAA in its student manual),[26(¶¶312-321)] fraudulent concealment of facts and information relating to the dangers of multiple concussions,[26(¶¶334-339)] and negligence.[26(¶¶340-346)] In alleging negligence, the plaintiffs argued that the NCAA had a duty "to supervise, regulate, monitor and provide reasonable and appropriate risks to minimize the risk of injury to the players"[26(¶366)] and that the NCAA breached that duty by failing to implement more rules and leaving concussion management up to member institutions.[26(¶368)]

In January 2016, a federal judge granted preliminary approval to a proposed settlement.[27] The class members would receive medical monitoring for a wide array of potential head injury-related symptoms, and the NCAA would contribute money to concussion research. Most importantly, the NCAA would implement certain new guidelines for concussion diagnosis and management of RTP, which would affect all member institutions and their employees. The plaintiffs originally sought compensatory damages for injuries, but those are not part of the proposed settlement. Thus, future suits will be on an individual basis for damages, which will still require elements of the claims to be proven, such as establishing the duty of the NCAA and showing causation.

The proposed settlement mandates no same-day RTP for an athlete diagnosed with a concussion, clearance by a physician for RTP, baseline neuropsychological testing for all athletes, and the presence of medical personnel with training in the diagnosis, treatment, and management of concussion at all contact-sport games and practices. The first 2 requirements (no same-day RTP and clearance by a physician) already appear on the NCAA Web site under "NCAA Concussion Policy and Legislation."[28] So what additional benefit is offered in their being part of a settlement? Currently, although these guidelines are technically NCAA policy, member schools are not actually punished for violations. If the guidelines become part of the settlement, however, the member schools could be faced with further litigation if they fail to follow them. The head AT for the University of Oklahoma's football team, Scott Anderson, ATC, has noted that with the "guidelines. . . one can follow them, or not—you ignore them at your own peril" (S. Anderson, oral communication, September 18, 2015). Anderson emphasized that ATs, as compared with coaches or athletic administrators, have a heightened obligation to follow guidelines, etc, because of "professional licenses, credentials, and those kinds of things that are at stake. [NCAA] sanctions, were they existent, pale in comparison to what is already at stake for athletics health care professionals," such as losing one's ability to practice or having one's professional reputation severely damaged by a lawsuit. However, if a health care professional fails to follow these basic guidelines, he or she will likely be found in violation of the standard of care in the event of litigation and may be found negligent if someone is injured as a result.

The proposed requirement of baseline neuropsychological testing at all member schools is also troubling. As previously discussed, researchers have questioned the reliability of such testing. Certain defense lawyers advise their clients that because the testing is now so widespread, they need to strongly consider using it to conform to the standard of care. However, it must be used carefully—and should not replace professional judgment—because of the conflicting expert views and potential for inherent unreliability.[29]

Lastly, the requirement that concussion-trained medical personnel be present at all games and available at all practices for contact sports might be unrealistic for most schools that simply lack the resources. Scott Anderson stated that, although the University of Oklahoma is well funded, he could still see implementation becoming problematic. Even though gymnastics was not initially covered by the rule, Anderson observed that it is among the "higher-risk sports." He emphasized that collegiate men's gymnasts compete nationally and internationally in addition to competing in the NCAA. They have constant training and competitions, so to comply with the rule, the school would need an AT available at practically all times, all year long. That puts "lots of pressure on a lot of institutions," Anderson noted. "It would be hard on the program and the [athletic trainers]." Schools are unlikely to hire more full-time staff and might instead increase the load on current medical employees, which could end up exacerbating risks.

The proposed terms of the settlement may not be innovative or even practicable. This puts heavier pressure on schools and their employees to ensure that players are being treated appropriately, regardless of whether there is NCAA guidance on a specific point. In any event, the result of this case may raise more questions than it solves regarding the standard of care.

THE ILLINOIS STATE ASSOCIATION LAWSUIT

The Illinois High School Association (IHSA) is responsible for establishing state concussion policies in Illinois. This is not necessarily the case in every state, as other states have given this responsibility to entities that might have immunity from suits, such as health departments.[30] Individuals in Illinois recently attempted to use the court system to force legislative change to the state's concussion policies. Although the suit was eventually dismissed, it could lead to future suits in the same vein.[31] The lead plaintiff was a former high school football player who was allegedly returned to play improperly after suffering a concussion; however, the lawsuit did not seek any damages. Rather, it asked for judicial oversight of the implementation

of proposed changes to state concussion policies. These proposed changes mimicked those in the NCAA proposed settlement: mandatory baseline neuropsychological testing for all high school football players, stricter guidelines for RTP after athletes suffer a concussion, and the presence of medical personnel at football practices.[32] A medical monitoring fund for football players after they graduate was also requested. The proposed changes would have encountered all of the problems previously discussed, with the added question of whether the state's high schools would even have had the resources to adequately comply with these rules.

The IHSA argued in response that it has been proactive in changing its rules and that involving the court in the state's policymaking would lead to confusion, especially regarding enforcement. The motion asked: "If a high school. . . fails to have a court-ordered medical professional at a football practice, how will such a violation of the Court's injunction be remedied? . . . Sanction the IHSA? The local school board? The principal? The athletic director? The coaches? All of the above?"[33] The court eventually agreed with the IHSA, finding that the policies in the suit should instead be sought through legislation. The court stated that "it is clear. . . that IHSA has acted to protect student-athletes in this state" and that "under no circumstances would it be an appropriate endeavor for the court to impose any or all of those measures upon the IHSA by way of the extraordinary relief that plaintiffs were asking for."[34(p2)]

It is unclear whether similar lawsuits will be filed in other states, especially if those states believe that their legislation lags behind that of Illinois. Alternatively, this suit's quick dismissal may show other potential plaintiffs that the better way to enact legislative change is still through traditional methods, such as dealing directly with the state organizations by contacting representatives and lobbying for change.

CONFERENCE-LED RULE CHANGES

To provide more guidance regarding the management and treatment of athletes with concussions, several NCAA conferences have taken it upon themselves to set up seminars, implement educational protocols, and even craft new rules. Guidance from these organizations weighs heavily when the standard of care is considered. After an NCAA meeting in January of 2015, the Power Five conferences (Atlantic Coast, Big 10, Big 12, Pac 12, and Southeastern) created a Concussion Safety Protocol Committee composed of experts in this field who must approve each member school's written concussion protocol each year before that school can compete. If a plan is not approved, the school can revise and resubmit until the committee is satisfied. The NCAA does not punish a school for failing to obtain approval of a plan; however, individual conferences have discussed implementing conference-wide penalties.[35] As a member of the 5-person Concussion Safety Protocol Committee, Scott Anderson (oral communication, September 18, 2015) has already observed positive change. During the first round of submissions of potential concussion protocols, only 7 of 65 schools passed. Every other policy "needed some form of modification." Yet the revise-and-resubmit procedure does appear to be working: the number of drafts that can be submitted is unlimited, and the committee is able to give schools guidance. This model, if it continues to be effective, could be used for future educational purposes. Brian Hainline, MD, the chief medical officer of the NCAA, said that the process will eventually be expanded to the rest of Division I (oral communication, 2015).

According to Anderson, the consequences of a clear violation of a school's protocol are undefined, as "there are no current parameters for questioning the medical judgment based on what they were presented at that time on the field of play." However, in answer to the question, "who is going to investigate to see if (that particular school) followed their protocol?" Anderson said that potential investigation is up to the individual conferences.

Although the committee is a step in the right direction, it still shifts responsibility from the NCAA to the individual institutions and their employees. Anderson emphasized that, as part of the checklist associated with the committee's review of protocols, the institution's athletic director must attest to the institution's commitment to comply with the protocol. This demonstrates a duty of these individuals to conform to any standards stated in their protocols.

Some conferences have implemented day-to-day, on-the-ground changes in their programs. Both the Big 10 and Southeastern Conference recently instituted new spotter requirements at football games, which places an independent AT in the replay booths at all games.[36] This AT is able to monitor the game and directly contact officials, who can stop game play in the event of a suspected head or neck injury to an athlete. This additional set of eyes is intended to prevent personnel on the sideline from inadvertently missing a head injury. Other conferences, such as the Atlantic Coast and Pac-12, have adopted variations of this rule, but they will be calling on team medical personnel instead of independent medical professionals.[37] The NCAA has endorsed the use of these experimental rules by the Big 10 and the Southeastern Conference to help determine whether the NCAA should adopt similar rules on an organization-wide basis.[38] It remains to be seen whether this spotter requirement will become universal.

The Power Five Conferences have also approved a rule requiring that school medical professionals have autonomous and final authority in deciding when an athlete returns to play from a concussion or other injury.[39] This empowers medical personnel to make the necessary (and sometimes crucial) decisions without the potential conflicts of interest that could occur when the coach has the final say. Subsequent rule changes may be more easily implemented due to this autonomy.

CONCLUSIONS

Neither the debate surrounding the proper standard of care in concussion litigation nor related causation questions are going away any time soon. For example, ongoing debate concerns what constitutes proper RTP protocol, whether the presence of an AT at all practices at all levels is required to meet the standard of care, and whether, as noted, a direct causal link exists between CTE and suicide. In the Plevretes case, SIS was an untested theory. Now SIS is a common theory of causation for plaintiffs bringing concussion lawsuits; the Sheely case is a recent example. Certain medical professionals routinely testify as expert

witnesses to the existence of SIS in catastrophic injury cases,[40] yet some researchers question whether SIS is even a viable theory. As recently noted in the *Clinical Journal of Sport Medicine*:

> The specter of "second-impact syndrome" is often raised when young athletes are being considered for return to play... Essentially, no good evidence exists to support the claim that the diffuse brain swelling described above is attributable to a second impact, a remarkable fact given the amount of concern this so-called syndrome generates.[41(p383)]

Along these lines, Paul McCrory, MBBS, found

> The scientific evidence to support [SIS] is nonexistent, and belief in the syndrome is based upon the interpretation of anecdotal cases more often than not, lacking sufficient clinical detail to make definitive statements.[42(p21)]

Similarly, the discovery of CTE was initially groundbreaking—and now subsequent research on the prevalence of CTE is being questioned.[43]

The effects of head trauma, such as alleged SIS and CTE, have significant consequences for future litigation, including the standard of care. In the event of a catastrophic outcome and subsequent litigation, where the actual standard of care will fall is impossible to predict. Thus, to best defend against legal liability, ATs and other health care professionals must be extremely conservative in their management and treatment of athletes with sport-related concussions. This includes but is not limited to carefully, legibly, and completely documenting along the way, especially when documenting an injury and taking a player through RTP procedures. Documentation not only reflects on the AT's credibility but can also play a significant role in the outcome of a case because common allegations against ATs are the failure to properly or adequately document.

For years now, the NATA's recommended approach has been that ATs document "all pertinent information" surrounding a concussion.[4(p281)] Indeed, plaintiffs' lawyers frequently confront ATs with the expression "if it's not written, it didn't happen." The question thus sometimes becomes whether certain information is pertinent. For example, during a player's no-contact period after an injury, the player generally must perform graduated exertional exercises in an AT's presence, but how much detail in the AT's documentation is required to meet the standard of care?

It may be insufficient for an AT to simply record that the injured player performed exertional maneuvers. Questions in a lawsuit might be raised as to the specifics of the exertional testing: for example, the dates on which the testing was performed, the witnesses to the testing, and the actual maneuvers performed. Even though the AT may claim to recollect the testing performed and the accompanying details and be willing to testify to the specifics, the absence of such detail in the injury record will lead plaintiffs and their counsel to question whether the AT is accurately recalling the specific information. This is especially relevant because trials generally occur years after the conduct in question.

Because opposing counsel will make all efforts to discredit the AT's testimony at trial, more detailed documentation will aid a jury in finding an AT credible. Thus, ideally, the documentation of all pertinent information surrounding an athlete with a concussion should include all details, including the specific testing and maneuvers performed (eg, jumping jacks, knee bends); dates, times, and specific locations of testing; and the questions asked of the athlete during testing and the athlete's responses. In short, the more detailed the documentation, the better the AT's defense in a lawsuit for an alleged breach of the standard of care.[44]

The standard of care may never be settled, but that does not mean that we are not moving in the right direction with respect to the management, treatment, and documentation of athletes with sport-related concussions. The ultimate goal is to protect health care professionals from potential litigation while also protecting the health and safety of the athlete. For this to occur, knowledge must trickle down from scientific research to rule changes to actual change on the ground and the cultures of the sports themselves. By taking a proactive approach, ATs, coaches, and other professionals associated with sports have a chance to make athletes safer. It all starts, however, with education. For example, the NCAA is taking steps in the right direction, such as through regular Safety Summits. These conferences bring together experts from various disciplines, including coaches, athletic directors, sports medicine professionals, and researchers, to discuss current safety-related concerns and collaborate on ways to improve the safety of collegiate football. Increased knowledge has already resulted in an emphasis on conservative methods and increasingly liberal reporting of concussion by athletes.

Last season, at the University of Oklahoma, for the first time in many years, the school did not run the legendary, hard-hitting Oklahoma Drill on the first day of full-contact football practice. Did Coach Stoops just want to try something different, or does this indicate a real paradigm shift?

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