



State of Play: Managing Brain Injury Risk in College Sports

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Let our advance worrying become advance thinking and planning.

—*Winston Churchill*

Participants and Presenters

The following individuals generously participated in an in-person Think Tank meeting. This report does not necessarily reflect the views of any attendee, presenter, institution, or organization. As the disclaimer above indicates, the report does not purport to establish standards or best practices of any kind.

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Dear Reader:

A confluence of events has heightened interest about traumatic brain injury (TBI) in college sports and led us to choose this topic for our 10th white paper.

The medical science around the long-term effect of TBI on athletes is evolving. No consensus exists on the correlation between sports related concussions (SRC), sub-concussive events, the onset of chronic traumatic encephalopathy (CTE), and the manifestation of mental injuries.

The press has reported extensively on mental disorders and athletics, stressing the cruel irony that, for some athletes, sports may over time have a negative impact on their brains. The film industry has followed suit. Professional and collegiate athletes have sued teams, sports governing bodies, higher education institutions, and others. The tragedies of men and women, once in peak physical condition, felled by brain diseases has captured popular attention.

Higher education has not sat idly by. At colleges and universities nationwide senior officials, lawyers, coaches, athletic trainers, and risk managers are working together to do the right things to manage the potential for brain injuries among student athletes. They seek to protect players from injury and, secondarily, their institutions from financial harm.

The experienced team of risk management professionals who gathered at the onset of the Think Tank process came from all sectors of higher education. We came together with a desire to learn more about the evolving medical science, risk management practices, insurance, and litigation of managing brain injury risk in college sports.

The central thesis of this white paper is that risk management protocols, medical evaluation procedures, and player education are mitigating the risk to athletes. We suggest the risk can be understood, modeled, and underwritten by insurance carriers.

We welcome your feedback and questions.

Sincerely,

John McLaughlin
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I. First Inning: Executive Summary

Traumatic brain injury in athletics has attracted much recent attention. At all levels of sport, from peewee to professional, concerns are arising over the risks to players' brains from concussion and other head traumas. What short- and long-term health effects might players face? Can we mitigate the risks? This white paper examines these questions in the context of collegiate athletics.

From a medical standpoint, most concussions resolve themselves within several weeks. A strong scientific consensus exists on this point. No consensus yet exists, however, on when and how head trauma may lead to chronic traumatic encephalopathy (CTE). CTE is a progressive, degenerative disease with no known cure. CTE has some link to brain injury from concussions and repeated sub-concussive impacts. Researchers continue to study the precise nature and extent of that link.

Litigation is active over brain injuries. The National Football League reached a settlement with its players. National Collegiate Athletic Association and various colleges and universities face numerous lawsuits. A key question in the NCAA cases is whether the courts will certify them as class actions. Class action status increases the stakes dramatically for all parties. An argument against the certification of a class, however, is that bodily injuries depend on many factors including prior medical history, personal protective equipment worn, and the exact nature of the force the player received. Looking overall at the history of brain-injury-



related claims in higher education, one sees relatively modest amounts for monetary damages, settlements, and attorneys' fees. Litigation will continue in the coming years. If the federal courts deny class certification to those suing NCAA and institutions, some informed observers believe that litigation over college athletes' brain injuries may decline.

Another limiting factor is that since 2010, when the NCAA introduced guidelines for concussion management protocols, players have great difficulty arguing that the athletic bodies and educational institutions hid the risks of brain injuries in college athletics. This undercuts potential success on players' claims that, at least since 2010, sports bodies concealed known risks.

The risks today are widely appreciated. Mandatory training programs increase the knowledge of players, coaches, and other professionals. Many, if not most, institutions also require athletes to sign waivers or participation agreements that may detail the risks and, for waivers, shift responsibility away from the institution. Players today are well informed and, in many cases, have consented explicitly or implicitly to assume the risk. One must remember, too, that participation in collegiate sports at all levels, from community colleges to national athletic powerhouses, is voluntary.

Athletics programs are implementing new steps to reduce head-trauma risks. Rule changes can enhance the safety of play. Innovations in equipment, such as in-helmet accelerometers, may over time facilitate more customized oversight and care. Many institutions now conduct pre-season baseline testing of athletes' cognitive faculties. A qualified healthcare professional can compare the pre-season results against results of tests taken after an injury. This data, along with steps such as medical examinations, can improve the care that injured athletes receive. No one-size program, however, fits all institutions. Each develops a unique approach to managing the risk of athletic brain injuries. Even within an institution, different approaches may be adopted for varsity play, club sports, and intramurals. The key is developing and following a reasonable set of steps that takes into account the institution's culture, mission, and available resources.

We take a deeper dive into issues of insurance coverage. So-called first-party coverage will pay medical costs for student-athletes who are injured. First-party coverage may come through the student's or family's health insurance, a catastrophic policy such as the NCAA offers, or other sports accident coverage. The institution typically pays for catastrophic coverage and sports accident insurance, while the student or family typically pays for health insurance. What about claims against the institution for negligence? Student-athletes may contend that the institution developed or implemented a sub-standard concussion management plan. Primary insurance, in the first layer, often takes the form of general liability insurance. For those keenly interested in the nitty gritty, the white paper closely examines



language commonly found in general liability policies. We also examine the higher layer of excess insurance coverage and, overall, identify various insurance issues meriting close discussion among institutions, legal counsel, brokers, and insurance carriers.

Nowhere does this white paper suggest a best practice or single approach to managing this complex risk. Rather we urge institutions, after examining their own circumstances and exposures, to adopt reasonable risk management strategies. A cross-functional campus team is well-equipped to meet this challenge. Medical science around sports-related brain injuries continues to evolve and will do so for years to come. Court cases will be heard and decisions rendered. We already anticipate the need to update this paper in several years. Even in the present situation, though, we submit that the risk of brain injuries in college athletics can be identified, quantified, reasonably managed, and insured.

II. Second Inning: Introduction

Higher education strives to offer a spectrum of athletic opportunities in the types of sports and the settings in which they are played. Every institution determines its own blend of athletic offerings for students and allocates resources to support those activities. Participation in college-level athletics contributes to the well-being of students. It can promote physical fitness, teamwork, and leadership, and serve as a useful counterbalance to academic pursuits. College athletics serve as a rallying point for an institution and as entertainment for a community.

Many, and perhaps most, institutions evaluate the risks of serious brain injuries separately for varsity, club sports, and intramural athletic programs. The stakeholders in these efforts are diverse: athletes, their families, fans, athletics departments, student health, student affairs practitioners, academic programs, and even alumni and community groups.

A campus risk manager can play a central role in coordinating the voices of the many stakeholders. Risk management becomes increasingly important—and complex—in changing circumstances. How much do we understand about a particular risk, such as traumatic brain injury, and about addressing it? Do the courts respond to the risk in predictable ways? The stakes of brain injury can be high for student-athletes. The stakes can also be high for institutions seeking the best prevention programs, insurance, and litigation outcomes.

The central thesis of this report is that, notwithstanding the uncertainties, institutions can and do work to manage the risk of brain injuries in athletics. While no single approach may be optimal, colleges and universities are crafting and implementing strategies to manage the risk. We strive in this report to unpack some key complexities and offer practical examples from higher education institutions. We seek to help each college or university find a path well-suited to its own circumstances.

Terms appear in the glossary at the end of this paper.

Game on! Let's take the field.

III. Third Inning: A Primer on Brain Injury in Athletics

We begin by establishing a common understanding of brain injuries.¹ Not every brain injury, and not even every traumatic brain injury (TBI), leads to significant, long-term harm. This section introduces the concepts of concussion, post-concussion syndrome, and the condition known by the acronym CTE (chronic traumatic encephalopathy). It also highlights vocabulary that becomes important in managing the risks to collegiate athletes.

Concussion

In a **concussion**, the brain experiences trauma from an external force. The brain then undergoes a change in motion or momentum. When an athlete heads a soccer ball or is tackled during football, the brain may bounce or twist inside the skull. Even if the head does not receive a direct blow, force applied to another part of the body can cause the brain to shake, leading to a concussion. Experts estimate that nearly four million concussions occur annually in the United States as a consequence of sports and physical activity.²

A trained observer may notice that after an impact an athlete:³

- Can't recall events prior to or after a hit or fall
- Appears dazed or stunned
- Forgets an instruction, is confused about an assignment or position, or is unsure of the game, score, or opponent
- Moves clumsily
- Answers questions slowly
- Loses consciousness (even briefly) or
- Shows mood, behavior, or personality changes

The athlete may report various symptoms. These include:⁴

- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness, or double or blurry vision
- Bothered by light or noise
- Feeling sluggish, hazy, foggy, or groggy.
- Confusion or problems with concentration or memory.
- Just not "feeling right," or "feeling down."

Medical markers are complex. A concussion may, or may not, show up on imaging tests such as CAT scans. Various physical changes may, or may not be present. These include chemical changes in the brain, stretching of cranial blood vessels, and damage to cranial nerves. The individual may, or may not, experience brain bleeding, swelling, or a skull fracture. Medical professionals typically diagnose concussion by exclusion, first eliminating other possible conditions before determining that the patient suffered a concussion.

As noted, a concussion arises from trauma. Every concussion is therefore, by definition, a traumatic brain injury, or TBI. To the layperson TBI may sound very serious. Consider, though, that breaking a little toe by kicking a table leg is also a traumatic injury. A traumatic injury simply results from an impact. It does not necessarily lead to long-term or severe consequences. This does not, however, detract from the potential significance of concussions but rather clarifies the vocabulary surrounding them.

Most concussions are mild, known as MTBI or Mild Traumatic Brain Injury. A mild concussion usually resolves itself over time with rest, limits on cognitive stimuli, and a measured return to normal activities. A healthcare provider can monitor the patient's self-reports of symptoms, together with indicators such as vital signs, memory, balance, dexterity, mobility, and reflexes.

Sub-concussive Impact

A **sub-concussive impact**, as the name implies, is a blow to the head that does not result in a concussion. The impact may, or may not, be accompanied by symptoms. Researchers have explored whether repeated sub-concussive hits may have a cumulative effect and lead to lasting neurological damage. The answer is yes: damage is possible for some athletes. The next, and harder, question is how many hits, of what force, over what period of time? Here no consensus currently exists for either concussions or sub-concussive impacts. Factors such as medical history and genetics can contribute to how an athlete responds to repeated hits to the head.

¹This section draws on information from sources including: the Brain Injury Association of America (www.biausa.org/about-brain-injury.htm); the Centers for Disease Control and Prevention (www.cdc.gov/headsup/basics/index.html); and the National Institutes of Health (<https://medlineplus.gov/magazine/issues/summer15/articles/summer15pg13.html>).

²Williams, R., Puetz, T. et al., "Concussion Recovery Time Among High School and Collegiate Athletes: A Systematic Review and Meta-Analysis," *Sports Medicine* 2015 June; 45:6: 893-903.

³Centers for Disease Control and Prevention, Concussion Signs and Symptoms, www.cdc.gov/headsup/basics/concussion_symptoms.html

⁴Centers for Disease Control and Prevention, Concussion Signs and Symptoms, https://www.cdc.gov/headsup/basics/concussion_symptoms.html



Post-concussion Syndrome

While most people recover from a concussion within a few weeks or months, for some the symptoms persist. This may be especially true for younger people or those who have suffered multiple concussions.⁵ **Post-concussion syndrome** typically involves prolonged cognitive, emotional, and behavioral symptoms and requires longer periods of treatment, including rest. In individualized treatment the return to normal activities is carefully paced and monitored. A thorough clinical history may be the best tool for structuring treatment and anticipating the time required for recovery.

Symptom reports and cognitive testing currently provide important markers on the path to recovery. As an incidental consequence for athletes, rest may have the unwelcome effect of deconditioning. Some athletes might resist treatment because of this.

⁵A recent study of research literature has suggested: “Clinical variables associated with prolonged recovery and the development of [post-concussion syndrome] vary across studies but may include younger age, female sex, loss of consciousness or post-traumatic amnesia at the time of injury, a previous history of concussion, ADHD and mood disorders, initial headache or dizziness at the time of injury, delayed symptom onset, and initial symptom burden. In addition to these clinical factors, emerging work also suggests that pre-injury psychological factors such as somatization [symptoms without apparent cause] and resilience may also impact post-injury functioning.” Ellis, M., Leddy, J., and Willer, B., “Multi-Disciplinary Management of Athletes with Post-Concussion Syndrome: An Evolving Pathophysiological Approach,” *Frontiers in Neurology* 2016; 7: 136.

CTE

Moving along the continuum of severity, we reach Chronic Traumatic Encephalopathy (CTE). CTE is a rare, degenerative brain disease. It was originally recognized in boxers in the 1920s and associated with phrases such as punch drunk and dementia pugilistica. Medical authorities suggest uncertainties surrounding the disease:

- Harvard Medical School states that CTE “is thought to result from repetitive brain trauma,” including multiple concussions or multiple sub-concussive blows to the head.⁶
- The Mayo Clinic defines CTE as “brain degeneration likely caused by repeated head traumas.”⁷
- Boston University’s CTE Center explains that CTE is “found in athletes (and others) with a history of repetitive brain trauma,” whether concussions or asymptomatic sub-concussive hits to the head.⁸

Symptoms may arise years or even decades after the individual experienced brain trauma. The “long tail” of the disease contributes to the complexity of diagnosing, managing, and insuring for CTE, which we address later in this report. CTE is generally considered incurable. At present it can be diagnosed only after death. Among the many ongoing research projects are ones seeking biomarkers to diagnose CTE during life.⁹

⁶Harvard Medical School, Neuroimaging Laboratory, Department of Psychiatry, Chronic Traumatic Encephalopathy. <http://pnl.bwh.harvard.edu/education/what-is/chronic-traumatic-encephalopathy/>

⁷www.mayoclinic.org/diseases-conditions/chronic-traumatic-encephalopathy/basics/definition/con-20113581

⁸Boston University CTE Center, What Is CTE? <http://www.bu.edu/cte/about/frequently-asked-questions/>

⁹Groups sponsoring research on CTE and other brain injuries include the NFL, the NCAA, the Department of Defense, and the Centers for Disease Control and Prevention.

A subsidiary controversy surrounding traumatic brain injury is its connection to suicide. Particularly through the sustained attention of the New York Times, the media has covered football players and other athletes who die by suicide, often linking their deaths to post-mortem diagnosis of CTE.¹⁰ No scientific consensus, however, yet exists about a causal relationship. One study, for example, concluded that the suicide rate among retired NFL players was actually lower than the suicide rate in the general population. The causes of suicide are complex and are difficult to identify in individual cases. Some experts have called for additional work to explore whether CTE may be a significant factor in the suicides of athletes who played contact sports.¹¹

Women and Concussions¹²

In some sports, female athletes experience concussions at greater rates than males. Women suffer more concussions in soccer, basketball, baseball, and softball.

Why the difference between women and men? Women typically have lower muscle and bone mass than men. Hence an impact to a woman's body may create greater movement of the head and brain. Researchers are exploring theories including hormone cycles and neck strength. Additionally, it is possible that women report concussions at a higher rate than men.

Research also suggests that women may experience symptoms of greater severity and for a longer duration than men.

IV. Fourth Inning: College Athletics and Brain Injury Exposure

When and where do college athletes face the risk of brain injury? One thinks immediately of the powerhouse institutions and their nationally-broadcast competitions. We must, however, look more broadly to understand the risks. College athletics are quite varied. This section addresses the institutional settings and athletic activities that may present brain injury risks. We also examine the issue of who participates in college athletics.

College athletics take place nationwide from community colleges to research universities. The National Junior College Athletic Association, for example, has over 500 member institutions. NJCAA organizes championships in sports including football, basketball, ice hockey, baseball, wrestling, and diving. The better-known National Collegiate Athletic Association covers nearly a half million student-athletes who play 24 sports. About 54,000 student-athletes compete in 90 annual championships across the NCAA's three divisions.

Which sports present the most frequent risk of brain injuries? Contact sports such as wrestling, ice hockey, and football are plainly candidates. Hockey players, particularly those who fight frequently as "enforcers," may be struck or fall precariously on the ice. In baseball, players face the risk of colliding with another player, the outfield wall, a bat, or the ball. In volleyball, players may collide with one another or with the ball, especially in aggressive action at the net. The same holds true for basketball.

Even individual, non-contact sports can present brain injury risks. A diver learning a new dive, for example, may collide with the diving board or the side of the pool. Gymnasts may fall or strike their heads against equipment. A swimmer doing laps in a shared lane may accidentally kick another swimmer in the head.

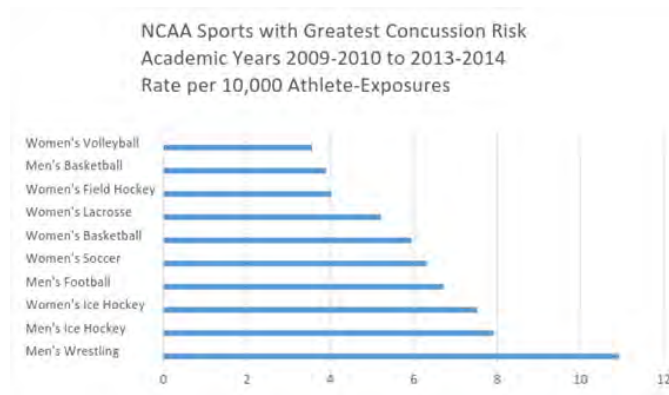
¹⁰See, e.g., Schwarz, Alan, "Expert Ties Ex-Player's Suicide to Brain Damage from Football," *New York Times*, p. A1 (Jan. 18, 2007).

¹¹Iverson, Grant, "Chronic Traumatic Encephalopathy and Risk of Suicide in Former Athletes," *British Journal of Sports Medicine*, Jan. 1 2014, v. 48, pp. 162-164; Wortzel, Hal S., Shura, Robert D., Brenner, Lisa A., "Chronic Traumatic Encephalopathy and Suicide: A Systematic Review," *Hindawi*, v. 2013, Article ID 424280, 6 pages, www.hindawi.com/journals/bmri/2013/424280/ ("Overall quality of evidence regarding a relationship between CTE and suicide was rated as very low.... Further studies of higher quality and methodological rigor are needed to determine the existence and nature of any relationship between CTE and suicide").

¹²Roehr, Bob, "Concussions Affect Women More Adversely Than Men," (March 9, 2016). www.scientificamerican.com/article/concussions-affect-women-more-adversely-than-men. See "Female Brain Injury" at Pink Concussions. <http://www.pinkconcussions.com>

The NCAA has observed that concussions can occur in any sport.¹³ They can occur during practice, pre-season play, and the regular season. One research study analyzed the rates of concussion in 25 NCAA sports over a five-year period.¹⁴ Using the NCAA Incident Surveillance System, the study found an average of 4.7 sports-related concussions per 10,000 athlete-exposures. Chart 3 shows the 10 sports with the highest concussion rates. Men's wrestling presented the highest frequency of concussion.

Chart 3: NCAA Sports with Greatest Concussion Risk



The researchers also concluded:

- More concussions occurred during competition than practice.
- Just 9% of the concussions were the second that a player received.

Athletes may suffer concussions from accidents related only indirectly to the sport. One Think Tank participant mentioned a rower who, while unloading a rowing shell from a trailer, was hit in the head by a falling oar. Athletes traveling to a game may be injured in a vehicle accident. An uneven sidewalk next to the playing field or a wet locker room floor may cause a player to fall and experience a brain injury.

United Educators Risk Retention Group has analyzed the actual sources of impact among its sports-related concussion claims. Athlete-to-athlete collisions accounted for 37% of the claims, 35% arose from a collision between an athlete and an object, and 22% of the claims arose from an athlete's fall.¹⁵ These are all traumatic brain injuries because, as discussed above, they result from trauma.

Consider, too, the different levels and types of college athletics. Three basic levels of competition exist, and injuries may occur at every level. We offer brief descriptions for readers who may be unfamiliar with the distinctions among varsity, club, and intramural athletics.

Varsity sports. Varsity athletes represent their institutions in intensely competitive play against other institutions. The athletics department manages varsity athletics. Coaches may be well-paid, and institutions may provide state-of-the-art facilities, extensive services to student-athletes, and athletic scholarships. Practice sessions are time-consuming and demanding, with coaches driving athletes to excel. Students typically devote many hours every week to their varsity sport during its season. Athletic trainers and team physicians may provide emergency response and extended care for injured players.

A governing body such as the NCAA manages varsity rules, schedules, and tournaments. (Of the three NCAA divisions, Division I is the highest level of competition.) A governing body may require varsity teams to follow specified concussion management protocols. It may provide insurance such as the NCAA catastrophic insurance, discussed below.

Some institutions substitute the term “intercollegiate” for “varsity.” However, as discussed below, club sports teams also play against other colleges, hence they are also “intercollegiate.” This report will use the term varsity for clarity.

Club sports. Club sports teams compete against other institutions. Compared to varsity athletes, club sports athletes devote less time to practice and play. A recreation department or student affairs department may manage club sports. Institutional management may be limited to administrative matters such as collecting waivers and allocating practice space. Institutions may provide few, if any, funds to club sports, and club sport athletes may be required to pay a fee to help defray expenses. Any facilities and services available to club sports teams are typically more modest than those provided to varsity teams. Playing fields are often less well maintained, and players often provide their own equipment. In managing its affairs, a club may determine its schedule, plan its own travel, and hire its own coach, who may not be a university employee.

¹³Women's Volleyball Injuries, available at www.ncaa.org/sites/default/files/NCAA_W_Volleyball_Injuries_WEB.pdf

¹⁴Zuckerman, S., Kerr, Z., et al. “Epidemiology of Sports-Related Concussion in NCAA Athletes From 2009-2010 to 2013-2014: Incidence, Recurrence, and Mechanisms.” *American Journal of Sports Medicine*, Nov. 2015 43(11):2654-62. <https://www.ncbi.nlm.nih.gov/pubmed/26330572>

¹⁵McLaughlin, J., and Hurwitz, R., “The Evolving Impact of Traumatic Brain Injury on Educational Institutions,” presentation to the Western Association of College and University Business Officers (May 2, 2017).

Many sports are played at both varsity and club levels. These include sports with historically higher concussion risks such as basketball, football, ice hockey, rugby, lacrosse, soccer, and wrestling. Club sports also include less conventional physical activities such as dodgeball, paintball, polo, rifle, rodeo, tug-of-war, and quidditch.¹⁶

Various governing bodies regulate club sports. Some are sport-specific, such as the College Ski Association. Others may regulate several sports, such as the National Intramural-Recreational Sports Association (NIRSA). The governing body performs functions such as establishing rules, scheduling tournaments, and providing officials.

Club Sports and Health Insurance

Must club sports athletes have health insurance coverage? Here are some sample policies illustrating a range of practices.

- The university hopes that all participants are protected against medical costs from an unforeseen accident and strongly recommends that individuals not currently covered by an insurance policy obtain that coverage as soon as possible.
- All club sports participants are required to provide proof of medical/health insurance.
- The club sports program requires that all members of club sports have adequate medical insurance coverage while participating in any club-related activity. Each club member is responsible for arranging insurance coverage. Adequate insurance should include coverage for injuries incurred while participating in club activities and during periods of travel to and from activities. The club sports program purchases a catastrophic insurance policy. The nature and severity of the injury will determine the implementation of the catastrophic insurance coverage. The catastrophic insurance policy covers only individuals who are registered for academic credit at the university.
- The university now requires that club sports members pay a \$45 insurance fee each year for each club for which they register. Students who do not pay the fee may not join the club. Every club must have at least five members/players who have paid the fee and completed (1) the Club Sports Participation Application and (2) the Release of Liability and Health Declaration Form. The club sports insurance fee covers students who are injured during club practices and games. This means that students are not required to have their own medical insurance in order to join a club sports team. We do, however, always recommend that students have medical insurance for their non-sports-club related illnesses and injuries.

Each institution determines its relationship to its club sports. Some institutions establish an “arm’s length” relationship, leaving management in the hands of the club. Other institutions prefer to exercise greater control over club sports, more directly managing risk. State laws and state court opinions will guide whether, under either scenario, the institution owes a duty of care to club sports athletes.

Within an institution, students may play intramural sports. These programs are typically flexible and relatively unstructured. Some institutions outsource the management of intramural sports to third-party contractors. Even less structured are casual recreational sports, such as the occasional ‘pickup’ game.

At most institutions, only enrolled students may participate in varsity sports. In club and intramural sports, faculty, staff, alumni, and family members may participate. Community members may also be welcomed, particularly in intramural sports and non-competitive club sports. Community members and alumni who wish to participate may be required to pay a sports fee or join a recreation center. Depending on institutional policies, athletic participants may range in age from youngsters to older adults. They may have little or no formal affiliation with the institution. Every institution would be well advised to understand who is participating in its athletic programs at all levels.

V. Fifth Inning: Reducing the Frequency and Severity of Brain Injuries

Having canvassed various types of college athletics and the people who participate in them, we turn next to strategies for reducing the frequency and severity of brain injuries. No institution would utilize all these strategies. Later on, we examine how an institution might craft its own program.

Reducing the Frequency of Concussions

Rule Changes. History shows that changing the rules of play can reduce the frequency of concussions. In the early 20th century, college football was a very dangerous game. In the 1905 season, 18 college football players were killed and 159 seriously injured. In a 1906 rule change, college representatives agreed to permit the forward pass as a safety measure. The New York Times commented:

The main efforts of the football reformers have been to ‘open up the game’—that is to provide for the natural elimination of the

¹⁶For the uninitiated, quidditch is a full-contact, gender-inclusive sport modeled on the Harry Potter book series. It is played at scores of institutions. U.S. Quidditch is the sport’s governing body. www.usquidditch.org. See, e.g., Jones, N., “The Quidditch World Cup: Fantasy Game, Real Bruises,” Time, Nov. 16, 2010. <http://content.time.com/time/arts/article/0,8599,2031655,00.html>

so-called mass plays and bring about a game in which speed and real skill shall supersede so far as possible mere brute strength and force of weight.¹⁷

In recent years, football and other sports have altered rules of play and practice to reduce the risk of brain injury. Proposed or adopted rule changes include:

- Limit the number of full-contact football practices
- Move football kickoffs forward on the field
- Stop play immediately when a player loses a helmet
- Prohibit soccer players under the age of 10 from heading the ball; limit heading during practice by players aged 11-13
- Relax rules on injury substitutions during soccer games
- Require wrestling referees to stop a match in case of a possible concussion and allow medical personnel an unlimited and unimpeded opportunity to evaluate the wrestler
- Prohibit certain types of lacrosse hits

An institution might adopt some safety measures on a voluntary basis, such as forbidding tackling in football practice or requiring helmets in sports in which they are otherwise optional. For the most part, though, safety changes come at the national level from athletic governing bodies and apply equally to all institutions.

Innovative Technology We are witnessing a surge of interest among engineers, researchers, and inventors in devising new technologies to reduce brain injuries in athletes. Duke University's Clinical and Translational Science Institute, for example, is distributing major grants funded by the NFL to support improvements in technology and materials science to advance head protection.¹⁸

It seems that every few months another prototype appears, ready for testing. The mobile tackling dummy, for example, is a hefty pliable pillar, controlled remotely from the sidelines. Used in football practice, the dummy cruises around the field while players tackle or evade it.

Helmets are another area of innovation. Changes in construction—such as padding that hardens on impact and honeycomb structures created by 3D printing—may help absorb forces. Star ratings of helmets may be popular yet imperfect, as they don't account for considerations such as the fit of the helmet.

The marriage of helmets and accelerometers has proven both promising and controversial. An in-helmet accelerometer can measure, for example, the amount and direction of force and then transmit the data to the sidelines. Monitors can track the cumulative force a player receives over time. Aggregate data might eventually suggest new guidelines for avoiding long-term brain injuries.

At present, though, key questions include who receives accelerometer data and for what purpose. Would a coach or a neurologist interpret the results? Must long-term studies of aggregate experience be completed before impact data provides a sound basis for making decisions about individual players? While NFL players have expressed concerns over data privacy from accelerometers, some college varsity football programs are using the devices.

With additional research and design improvements, in-helmet accelerometers may someday play a major role in diagnosing concussions and defining limits on sub-concussive hits. Peering farther into the future, a helmet might someday make an EEG of a player's brain or even track the actual movement of the brain within the player's skull.¹⁹

Institutions would do well to decide in advance who has authority to adopt experimental technologies in athletics. Would a head coach have sole authority to adopt or reject new equipment? Should others be involved in, or at least advised about, the decision? Would a contract be required?

Recognizing Concussions and Managing Post-concussion Treatment

Recognizing concussions and immediately removing student-athletes from play can significantly reduce the risk of severe injury, especially second-hit injuries. In diagnosing concussions, institutions today rely mainly on a combination of checklists, testing, and medical examinations by experienced healthcare providers. In Extra Inning 11, we offer more detailed perspectives from neurologists Jeffrey Kutcher, M.D. and Anthony Savino, M.D.

¹⁷“The New Game of Football: Radical Changes in This Year's Rules Revolutionizing the Sport.” *The New York Times* (September 30, 1906).

¹⁸<https://www.playsmartplaysafe.com/headhealthtech/>

¹⁹Taylor, Tom, “What the NFL Can Do to Survive Its Concussion Epidemic,” *Wired* (December 9, 2015). www.wired.com/2015/12/heres-how-football-might-survive-its-concussion-problem/

Checklists

Checklists offer a simple, free method for making a preliminary assessment of an athlete's immediate post-concussion symptoms. The American Academy of Neurology offers a Concussion Toolkit with a Concussion Quick Check app and resource sheet. The federal Centers for Disease Control has a two-page Concussion Signs and Symptoms Checklist.²⁰ In 2017 the Concussion in Sport Group published a one-page Concussion Recognition Tool, which emerged from the 2016 Berlin International Consensus Meeting on Concussion in Sport.²¹

Checklists are popular among higher education institutions. A 2013 study of California community college football programs, for example, found that concussion symptom checklists were the most common tool for both sideline evaluation and return-to-play decisions. About 80% of the survey respondents used checklists.²²

Checklists suffer the shortcoming, however, that athletes may not be truthful in reporting their symptoms. The same problem can arise during medical interviews. Researchers estimate that over half of the athletes in contact sports have knowingly or unknowingly failed to report symptoms of a possible concussion.²³

Baseline Testing

Today many colleges and universities use pre-play testing in varsity contact sports.

The testing product ImpACT is, by the company's own description, the most widely-used and scientifically-validated computerized concussion management tool available. It requires each athlete to complete a 25-minute online pre-season baseline test. Should an athlete suffer an injury, he or she completes a post-injury test. A healthcare practitioner then compares the results. The tests measures attention span, working memory, sustained and selective attention time, non-verbal problem solving, and reaction time. ImpACT is in use at over 1,000 colleges and universities.²⁴ It has, among other arrangements, a partnership with an insurer that covers almost 100 community colleges in California.²⁵

The King-Devick test, developed in association with the Mayo Clinic, uses a similar format of a baseline screening followed by post-injury screening. The test, also known as K-D, tracks eye movements as the athlete rapidly reads numbers displayed on cards or a digital tablet. The post-injury test can be administered on the sidelines in two minutes by a trained staff member, coach, athletic trainer, or medical professional. The comparative results help inform decisions on removing athletes from play.²⁶

Some athletes may try to "game the system," intentionally seeking to achieve a low score on baseline testing. They hope that, after an injury, comparison of their baseline and post-injury scores will expedite their return-to-play.

Medical Examinations

Different types of healthcare providers bring different strengths to the sidelines in diagnosing concussions. Emergency medical technicians (EMTs) respond to situations involving the most severe injuries. At smaller colleges without on-site healthcare providers, EMTs may be the first responders even for suspected mild concussions. Athletic trainers are typically housed in university athletic departments, commonly serving varsity teams. They are licensed or otherwise regulated in all states except California. As healthcare professionals, athletic trainers collaborate with physicians in preventing, diagnosing, and treating neuromuscular and skeletal issues, as well as some other medical conditions.²⁷ On the sidelines at college games, athletic trainers will address concussions.²⁸ At some institutions, an athletic trainer may serve not only varsity programs but also club sports and, less often, intramural sports. For non-varsity events, athletic trainers may cover several events simultaneously or they may be on-call. At high-risk, high-profile varsity college games, one finds team physicians, often orthopedic surgeons. Today some institutions are turning instead to general practitioners, given their experience with a wider range of injuries.

Coaches are perhaps the major presence on the sidelines of college games. Some coaches have faced allegations of pressuring players, athletic trainers, or team physicians to return

²⁰https://www.cdc.gov/headsup/pdfs/schools/tbi_schools_checklist_508-a.pdf

²¹<http://bjsm.bmj.com/content/early/2017/04/28/bjsports-2017-097508CRT5>

²²Baugh, Christine and Kroshus, Emily, "Concussion Management in US College Football: Progress and Pitfalls," *Concussion*, 2016 Mar; 1(1): CNC6. www.ncbi.nlm.nih.gov/pmc/articles/PMC4825689/#R53

²³Baugh, Christine and Kroshus, Emily, "Concussion Management in US College Football: Progress and Pitfalls," *Concussion*, 2016 Mar; 1(1): CNC6. www.ncbi.nlm.nih.gov/pmc/articles/PMC4825689/#R53. Ellis, M., Leddy, J., and Willer, B., "Multi-Disciplinary Management of Athletes with Post-Concussion Syndrome: An Evolving Pathophysiological Approach," *Frontiers in Neurology* 2016; 7: 136.

²⁴www.impacttest.com/25 www.impacttest.com/news/show.php?941

²⁵www.impacttest.com/news/show.php?941

²⁶<https://kingdevicktest.com/>

²⁷National Athletic Trainers' Association, "Athletic Training Services" (2009). https://www.nata.org/sites/default/files/guide_to_athletic_training_services.pdf

²⁸See the Concussion resource page on the website of the National Athletic Trainers' Association. <https://www.nata.org/practice-patient-care/health-issues/concussion>



an athlete to the game despite a suspected injury. Reducing the frequency and severity of head injuries sometimes means giving other parties, such as healthcare providers or officials, explicit authority to sideline a player for medical reasons. Some athletic trainers and team physicians maintain their independence within the organizational structure by not reporting solely to a coach or athletic director. The NCAA now recommends that primary athletics healthcare providers have autonomous authority in medical management and return-to play decisions regarding student-athletes.²⁹

While the risks and resources of professional and collegiate sports are vastly different, it is interesting to consider healthcare services at the professional level. The NFL at every game now has unaffiliated, credentialed neurotrauma specialists on the sidelines and two unaffiliated credentialed athletic trainers in a booth observing the field and monitoring the broadcast feed.³⁰ These “spotters” are authorized to stop the game for a medical time out, allowing evaluation of a player who may have suffered a concussion but who remains in the game. NFL games now have an average of 29 healthcare providers present at a stadium on game day to serve players.³¹

We are awash in guidelines and standards on concussions in sports. Various statements seek to provide authoritative advice on diagnosing and treating concussion-related conditions and returning athletes to their studies and sports.³² The recommendations are evolving, and guidelines are not always consistent among the different standards. Still, the standards serve as helpful reference points for healthcare providers and athletics programs. They may also play a major role in litigation.

At this point, medical research and technological advances will surely continue. Groups will issue new guidelines on reducing the frequency and severity of concussions and on treating injured athletes. Faculty researchers will be among those active in these endeavors, sometimes urging their latest findings and discoveries on their own institutions. Entrepreneurial alumni

will offer prototypes of their new devices and test instruments. We can only repeat, not answer, the provocative question posed by one Think Tank participant: What will we be measuring in the future?

VI. Sixth Inning— Litigation

Over the past decade, athletes at various levels of sports have filed a wave of lawsuits over brain injuries. Athletes have brought lawsuits against professional teams, equipment manufacturers, colleges, athletic conferences, the NCAA, and youth sports organizations. Plaintiffs include hockey players, football players, and World Wrestling Entertainment performers. Some plaintiffs bring individual suits, while others seek to represent a class of similarly situated athletes. A class action on behalf of

²⁹NCAA Sport Science Institute, “Independent Medical Care Legislation” (April 2017). http://www.ncaa.org/sites/default/files/SSI_IMC-Briefing-Documents-All-Divisions%20AD_20170405.pdf

³⁰The American Athletic Conference (AAC) implemented an Independent Medical Observer (IMO) Policy, effective with the fall 2017 football season. While the intention is good, some observers have expressed concerns that the requirement will impose a financial hardship on the schools since the conference is not funding the cost to update communications and replay in a booth separate from instant replay. The conference was only willing to fund the pay for an independent observer.

³¹“How the NFL Is Advancing Player Health and Safety.” <https://www.playsmartplaysafe.com/newsroom/fact-sheets/nfl-health-safety-fact-sheet/>

³²NJCAA Concussion Testing Protocol Proposal #274 (2016); Berlin International Consensus Meeting on Concussion in Sport (2016); Interassociation Consensus: Diagnosis and Management of Sport-related Concussion Best Practices (NCAA)(2016); NCAA Concussion Diagnosis and Management Best Practices: Diagnosis and Management of Sport-Related Concussion Guidelines (2014); American Medical Society for Sports Medicine Position Statement: Concussion in Sport (2013); Consensus statement on concussion in sport: the 4th International Conference on Concussion in Sport (Zurich) (2012).

retired players against the National Football League attracted widespread media attention. The NFL plaintiffs alleged that they suffered head trauma which led to:

...brain injuries, which caused or may cause them long-term neurological problems. [They further accused the NFL] of being aware of the evidence and the risks associated with repetitive traumatic brain injuries, but failing to warn and protect players against the long-term risks, and ignoring and concealing this information from players.

The parties reached a \$1 billion settlement in 2015, which received court approval in early 2017. The settlement provides for baseline assessments of the retired players, educational programs, and monetary awards. Payments will go to retired players with Lou Gehrig's disease, Parkinson's disease, Alzheimer's disease, early or moderate dementia, or death with CTE. Some educational outreach will be directed to youth. Retired NFL players will receive information about NFL medical and disability programs.

Most relevant for purposes of this report are cases brought by collegiate athletes. Over 100 lawsuits are pending. Typical defendants include the National Collegiate Athletic Association, its member institutions, other colleges and universities, and athletic conferences. The NCAA has proposed to settle one class action, offering future medical monitoring at a cost of \$75 million. The proposal, which at this writing awaits final court approval, would allow student-athletes who played any sport up to July 15, 2016, to receive two medical monitoring sessions over the next 50 years. The NCAA Student-Athlete Concussion Injury Litigation Website offers updates about the settlement.³³

We turn to typical claims brought by student-athletes.

1. **Negligent Coaching.** Coaches allegedly encouraged players to use aggressive techniques such as helmet-to-helmet tackles or spearing.³⁴
2. **Failure to Warn.** A player may allege that he or she received inadequate warning about concussion risks or inadequate instruction on avoiding the risks. This was a common type of claim in early tobacco litigation. A smoker would allege that a tobacco company knew that smoking was dangerous but failed to warn consumers. Today concussion risks are well-known, so current student-athletes may have difficulty asserting that they did not receive adequate warning. Student-athletes from earlier periods, though, may allege that coaches or others knew of the risks but failed to provide adequate warning. A bright-line date may be 2010, when the NCAA first published guidelines for concussion management protocols. Some failure-to-warn claims may be time-barred by statutes of limitations, discussed below.

3. **Lack of Concussion Management Plan.** Plaintiffs may argue that an institution was negligent in not adopting a concussion management plan. This legal claim would rest on the premise that a plan is prudent and necessary. As discussed above, the NCAA now requires its member institutions to develop concussion management plans.

4. **Delayed Removal from Play.** Because continuing to play after a concussion may exacerbate the problem, an injured athlete might allege the institution was negligent in allowing (or requiring) him or her to continue to play. One lawsuit complaint argues, among other points, that "The NCAA and Big 12 specifically intended to induce a false belief in its student-athletes that they should continue to play and should not be prevented from playing their respective sports even after a concussion or several concussions that should have required time to heal..."³⁵

5. **Emergency Response.** A player may allege that the institution failed to respond appropriately to a medical emergency. This type of claim may point to, for example, a time lag between a player's collapse and a call to 911. The institution's concussion management plan may provide standards for summoning emergency assistance, and an injured player may allege that the standards were inadequate or the institution did not follow them.

6. **Failure to Clear a Player Properly.** The student-athlete may allege that the institution cleared the student to return to play too soon. The standard for "too soon" might be prudent medical practice or the institution's own concussion management plan. Adequate medical records may not have been maintained documenting the decision to clear the player.

7. **Failure to Refer Out to a Qualified Healthcare Provider.** This type of claim can take either of two forms. Either the player was not referred to any healthcare provider or, if a referral was made, it was to an unqualified person. A student-athlete might argue, for example, that the referral should have been to a neurologist rather than an orthopedic surgeon.

³³<http://www.ncaa.org/sport-science-institute/topics/student-athlete-concussion-injury-litigation>; www.collegeathleteconcussionsettlement.com/

³⁴Spearing is head-down contact with another player, a technique that may be used by tacklers, ball carriers, or blockers. It may be intentional or unintentional. Rules against spearing have been tightened in 1976, 2005, and 2013. Questions may remain about rule enforcement and unintentional head-first contact.

³⁵Hussein, F., "Student athletes file class action suit against NCAA, Big 12 over concussions," *Indy Star*, Jan. 11, 2017. <http://www.indystar.com/story/news/2017/01/11/student-athletes-file-class-action-suit-against-ncaa-big-12-over-concussions/96391432>

CLEARING A PLAYER

Athletic trainer Karl Kapchinski was fired in 2014 from Texas A&M where he had worked in the football program for over 30 years. He was interviewed on HBO by Jon Frankel.

INTERVIEWER: Did you ever feel pressured to return a player to the field before you thought he was ready?

KARL KAPCHINSKI: I would say yes.

KAPCHINSKI: While we're considered part of the medical staff in a lot of cases, the head coach just sees you basically, in some cases, being subservient to his situation.

INTERVIEWER: Did you ever have a coach say to you, "I need this kid back"?

KAPCHINSKI: Yes. They would always, you know, tend to put pressure on you to get good players back.

INTERVIEWER: Is there anybody you put back into a game and you said, "Mm, I wish I hadn't done that"?

KAPCHINSKI: Yes.

INTERVIEWER: Because it went against your better judgment, or because it resulted in the player limping off the field two plays later?

KAPCHINSKI: Because it resulted in the player having a subsequent injury.

INTERVIEWER: If you said to a coach, "Coach, I know we said it was gonna be four weeks, but we need an extra week." What would the coach say to you?"

KAPCHINSKI: You would be challenged on your character, your credentials. You know, maybe you were the wrong guy for the job.

KAPCHINSKI: There's been a lotta great quality athletic trainers that have subsequently lost their jobs because they stood up for the players or were doing the right thing.

Excerpt from interview that appeared on HBO's Real Sports With Bryant Gumbel.³⁶

Former college football players have brought at least 110 federal class action lawsuits for brain injury against the NCAA and 15 institutions. Originally scattered around the country, these lawsuits are now consolidated before a single federal judge in Chicago. In broad terms, the former players argue that the defendants concealed concussion risks and failed to implement reasonable concussion management protocols. Class action lawsuits raise the stakes for defendants.

For a case to be certified as a class action, the named plaintiffs must demonstrate that their claims are sufficiently similar to those of the larger class that litigating all the claims together would be fair and efficient. In opposing class certification, defendants may argue, among other points, that each athlete has a unique pre-college medical history, including individual experience with earlier brain injuries. Each player would have

suffered college-level brain injury under unique circumstances, with individual consequences. The core of this argument is that bodily injury claims are not suitable for resolution through a class action. Moreover, if a lawsuit names multiple institutions as defendants, each institution would have had its own approach to concussion education, evaluation, and treatment.

Class certification is a critical preliminary question for all concerned. Resolution of the issue may take several years, and the outcome on class certification will likely affect additional college-level brain injury litigation.

Having canvassed common claims that former student-athletes bring, we turn to some of the common defenses mounted against those claims. One is the waiver or assumption of risk, discussed later. Other common defenses are: the statute of limitations; state laws exempting contact sports; and reasonable prevention steps.

- a. **Statute of Limitations.** States limit the amount of time in which someone may file a personal injury claim. Typical limitations periods are two or three years from the date of injury. The period may be extended if, for example, the plaintiff did not immediately discover the injury or was a minor at the time the injury occurred. Higher education institutions and other defendants look closely at the timelines of concussion claims to determine whether the student-athlete filed the lawsuit in a timely manner.
- b. **State Law Exempting Contact Sports.** As a public policy matter, some states do not permit negligence actions based on participation in contact sports. Athletes play voluntarily, and physical contact is an inherent element of the game. The contact sports exemptions typically address only ordinary negligence. Willful or reckless conduct may still support a claim for gross negligence. As a Colorado court explained, in addressing an injury that occurred during a martial arts sparring session:

First, when two people voluntarily agree to participate in a sport that is inherently dangerous, such as the martial arts sparring engaged in by Mr. Laughman, we assume that each participant knows of the risks associated with such participation. Knowing the rules of the sport, each participant should know that the opposing participants will work to prevent him or her from achieving his or her goal.

³⁶Transcript excerpt appears in Cessna, Robert, "Former Texas A&M athletic trainer says on HBO special he felt pressure from coaches making decision on players' health," AggieSports.com, January 26, 2016. www.theeagle.com/aggie_sports/blogs/aggiesports/former-texas-a-m-athletic-trainer-says-on-hbo-special/article_0f358b52-c4a0-11e5-9ddb-c7a6a217921c.html

Thus, their relationship to each other is inherently adversarial and necessarily involves an unreasonable risk of harm.

Second, many courts have recognized that athletes vigorously participate in sports. Such vigorous participation means participants will not always be able to avoid causing injury. Even when they act reasonably, in the heat of the physical activity, accidents are likely to occur. And if the law were to hold participants liable for negligent, as opposed to reckless or intentional, conduct, it would have a chilling effect on the physical aspects of the activity.

Third, it is undisputed that the participants in the sparring match in this case recognized the inherent danger in the activity by wearing padded headgear, chest protectors, and gloves, and that Mr. Girtakovskis wore a face shield, which Mr. Laughman [who suffered a facial injury] did not wear.

Further, most sports acknowledge that mistakes will happen and that the rules of conduct will be broken on occasion. Thus, where a player negligently violates the rules of a sport, there are already built-in consequences such as fouls, ejections, and other penalties.³⁷

Institutions and other entities defending actions brought by college-athlete will examine whether the state recognizes an exemption from negligence for contact sports and, if so, the contours of the exemption.

c. **Reasonable Prevention Steps.** As a legal matter, negligence involves falling below the level of care toward others that a reasonable person would take. What are reasonable steps to prevent—and respond to—brain injuries? Institutions and other defendants in student-athlete concussion litigation might point to elements such as their instructions to athletes, coaching, protective equipment, conditioning and health services, rules, and officiating. Standards of reasonableness may change over time. What was reasonable in college basketball in 1980 may no longer be reasonable in 2018. We discuss elsewhere risk management strategies for reducing the risk of concussion.

Litigation outcomes depend on many factors. Records can be important, albeit not team win-loss records. Consider the example of athletic trainers' records. In the treatment context, good records provide a solid foundation for planning and providing care to athletes. They promote communication among healthcare providers. Good records can limit—or even eliminate—confusion about symptoms reported, diagnosis, and prognosis.

Discussing the use of records in litigation, one athletic trainer has observed:

If issues or conflicts arise, all parties involved will scour available medical records, searching for anything to support their cases. If your records are incomplete or poorly kept, your treatments are cast in doubt. And if you performed evaluations or treatments but did not record them, it's as if they never occurred. In most cases, courts rely on medical records to prove what happened.³⁸

A good record is accurate and thorough. It contains all relevant information and excludes the irrelevant. Professional standards and institutional policies guide the types of records to be created, their content, and their retention period before destruction. Varsity programs typically have more staff available for tasks such as recordkeeping than club sports or intramural sports. Before litigation arises, a risk manager or campus counsel may wish to examine the recordkeeping systems of the institution's athletic programs. Look for thoroughness, consistency, and, as the records may be required at a later date, ease of retrieval. Look, too, for compliance with any institutional and departmental policies on records. Examine all components of the program including varsity, club sports, and intramural athletics.

Expert witnesses are another element that can prove crucial in concussion-related litigation. Campus counsel and risk managers can work with trial counsel to gauge the need for expert witnesses and then identify and vet potential experts. “When experts do testify, they are undeniably important threads in the fabric of the trial—they can make the tapestry stronger or they can cause the garment to unravel.”³⁹ Expert testimony may be appropriate from a wide range of fields including neurology, neuropsychology, or psychiatry. Experts often interpret professional standards, such as nationally or internationally recognized medical guidelines for diagnosing and treating concussions. For defining reasonable athletic practices, the expert might be a certified athletic trainer or an experienced coach from a similar institution. The American Bar Association offers a useful checklist of considerations in selecting an expert witness.⁴⁰

³⁷Laughman v. Girtakovskis, No. 14CA1506, Colo. Ct. Apps. (Oct. 8, 2015).

³⁸Drawn from Mathewson, Chris, “Documentation: What, Why and How,” NATA News, Nov. 11. <http://members.nata.org/quizcenter/courses/AT-Documentation-Article.pdf>

³⁹Hirsch, Ladd, A Pragmatic Approach to Retaining and Presenting Expert Witnesses: Picking All-Stars and Avoiding Busts, ABA Section of Litigation 2012 Section Annual Conference April 18–20, 2012. https://www.americanbar.org/content/dam/aba/administrative/litigation/materials/sac_2012/45-1_a_pragmatic_approach_to_presenting_expert_witnesses.authcheckdam.pdf

⁴⁰Ibid.

Last yet certainly not least, insurance coverage is highly relevant to defraying litigation defense costs and possible settlements or judgments. We turn next to insurance issues.

VII. Seventh Inning: Risk Transfer by Insurance

An overall risk management strategy includes well-coordinated risk transfer tools. In this section we examine risk transfer by insurance.

Two types of insurance have special relevance to sports-related concussions. The first type provides protection against the cost of medical services for injured students. It comes in several varieties: student health insurance, catastrophic coverage, and sports accident coverage. These make payments on the medical bills of injured athletes and serve as the institution's first line of defense against claims for medical services. The second type, liability insurance, protects the institution, as well as its employees and volunteers, in the event of negligence claims. We address each below.

This chapter takes a deep dive into insurance. Readers who closely follow the subject may find the analysis useful. Less vested readers may prefer to take a "seventh inning stretch" and move to the next chapter.

Student Health, Catastrophic Coverage, and Sports Accident Coverage

Insurance policies that directly pay medical expenses to a medical provider are known as first party coverages. They are the "first line of defense" because, if students have ready access to health insurance and medical care, they may be less likely to bring a claim for negligence against the institution. Health services and athletic staffs should understand institutional practices for students' medical insurance. Does the institution itself purchase any first-party insurance for students? The risk manager or, in the absence of a risk manager, business officer can explain the situation. The better informed the relevant staff are, the more they can help students access coverage. Access to medical care improves the management of sports-related injuries and potential outcomes.

Student Health Insurance is health insurance purchased by students for their own use. It may be provided under a parent's insurance policy for students up to age 26 or under a program that the institution arranges for students through a school-sponsored program. Students can also be covered under a federal or state Medicaid program.

Currently, insurers in all states must provide coverage for pre-existing conditions. Student health plans in some states, however, may still exclude sports-related activities. Coverage for pre-existing conditions is a requirement of the federal Affordable Care Act (ACA), the future of which is in flux.

The most comprehensive approach is for an institution offering a student health insurance program to have a mandatory insurance requirement. This is sometimes called a "hard waiver" program. In a hard waiver program, students must either purchase the school's sponsored health insurance plan or waive the coverage by providing evidence that they have valid comparable insurance. Students may secure coverage on their own or as a dependent on their parents' or guardians' plans.

Considerations and concerns with institution-sponsored student health programs include:

- a. School-sponsored student health insurance programs (SHIPs) provide a short-term solution. They can cover medical bills related to a concussion but will cover only the costs incurred while the student is enrolled in the plan. These programs cannot address the need for long-term care and coverage. See **Catastrophic Coverage** for this protection.
- b. Deductibles, co-pays, and restrictive primary insurance networks have become more prevalent with the Affordable Care Act (ACA). The better the students' health plan or other available coverage, the less likely students may be to seek restitution from the school for sports-related injuries. Many schools strive to have very rich coverage, with low or no deductibles, and very low co-pays to enhance students' access to coverage. Institutions often purchase **Sports Accident Coverage** to fill the gap between what a school-sponsored student health plan covers and what a parent's health insurance for the student covers.
- c. The ACA allows some leeway to states. A state may permit colleges and universities to offer sponsored student health programs that do not meet all the federal requirements. Depending on the state, a student health plan could exclude, or require a high deductible, for an injury suffered during an intercollegiate sport or other athletic event. In that case, if a concussion occurred during an excluded activity, the student might not have any individual health insurance coverage. (A parent's plan or a Medicaid plan might, though, provide coverage.) Some schools accept this restriction because they have a **Sports Accident Policy** in place to cover the gap.
- d. Since the passage of the ACA, we have seen significant contraction in the student health market. As of this writing, the field of available carriers has narrowed to a handful of carriers.
- e. Under the "hard waiver" approach discussed above, students who file waivers confirm that they have health insurance. If an injured student-athlete ever pushed back and demanded coverage for expenses pertaining to a severe brain injury, the institution could point to the waiver as confirmation that the student claimed to have had health insurance. This can be useful from the perspective of risk transfer.

f. With the long-term future of the ACA open to debate, institution-sponsored student health plans — paired with a Sports Accident Policy — may be the best option for institutions seeking to provide students with comprehensive, affordable coverage. This combination can both include pre-existing conditions and also cover injuries sustained during athletic activities.

Catastrophic Coverage

Most athletic governing bodies offer catastrophic coverage for student-athletes who participate in conference-level athletics. Because the NCAA is widely known, we discuss its catastrophic coverage in some detail. Catastrophic policy forms are also available through other athletic governing bodies such as the **NAIA**, **USCAA**, **CCCAA**, and **NJCAA**. We encourage readers to become familiar with the options for which their institutions may be eligible. The NCAA and NAIA each pay the premium for its catastrophic policy, and the policies automatically cover all NCAA and NAIA member institutions. Institutions participating in the NJCAA, USCAA, and CCCAA purchase their own catastrophic coverage.

*One insurance carrier underwrites the **NCAA Catastrophic Policy** program for NCAA member institutions. It covers student-athletes, student coaches, student managers, student trainers, and student cheerleaders who are catastrophically injured while participating in a covered event. The policy has a \$90,000 per injury deductible (or \$75,000 if the institution buys back the underlying layer of coverage from the carrier). Significantly, the policy comes into play only if the student incurs costs exceeding the per-injury deductible of \$90,000 or \$75,000 within two years of the date of injury. Once coverage attaches, the student is insured for lifetime medical costs, including long-term care, up to a limit of \$20 million. The NAIA, NJCAA, USCAA, and CCCAA catastrophic policies have lower deductibles (\$25,000 per injury) and lower limits (\$5 million per injury). While the core intent of the NCAA catastrophic policy is to address medical bills, it also includes other non-medical benefits such as disability benefits, adjustment expense (training of family members, limited family travel benefits, lost family earnings), special expenseladaptation benefits, college education benefits, ancillary illness, vocational rehabilitation benefits, and assimilation benefits.*

It's important to note a number of considerations and concerns with the NCAA Catastrophic Policy:

- There is relatively no competition among carriers on this layer of coverage for NCAA (or NAIA) schools. NJCAA, USCAA, and CCCAA members, on the other hand, can purchase intercollegiate sports catastrophic coverage from a larger array of carriers.

- Eligibility for a claim requires that \$90,000 (or \$75,000) in medical bills must be incurred during the two-year period immediately after the injury. The Gallagher Student Accident Division, which has considerable experience brokering policies for this underlying layer of coverage within the deductible, rarely finds that a traumatic brain injury requires this scale of medical care within the first two years.
- The NCAA Catastrophic policy states that a claim can be denied if a student-athlete has previously signed a waiver pertaining to a pre-existing medical condition. For example, a student-athlete may have suffered one or more concussions during high school. In the institution's pre-participation physical, the student may disclose these concussions. If, because of the prior concussions, the institution requires the student to sign a waiver specific to head injuries, and if a later claim related to a brain injury would otherwise trigger eligibility, the NCAA Catastrophic policy could deny the claim. For this reason, we recommend that NCAA institutions consult with their legal counsel on the use of waivers for pre-existing medical conditions in their varsity programs.
- Coverage will only extend to covered events. Some activities related to athletics, such as cheer competitions, fundraisers, and alumni events, do not meet the policy's definition of a covered event.

Sports Accident Coverage / NCAA Deductible Coverage

A recent survey showed that 84% of NCAA Division I institutions cover all of a student athlete's medical bills, and 80% of NCAA Division II institutions buy some type of underlying secondary coverage for losses underneath the deductible on the NCAA catastrophic policy.⁴¹ There is significant market competition in this layer of coverage, with at least nine major carriers offering products.

⁴¹Burnsed, Brian, "Survey: Most D1 Schools Provide Injury Coverage" (May 25, 2016) <http://www.ncaa.org/about/resources/media-center/news/survey-most-di-schools-provide-injury-coverage>; Stark, Rachel, "Survey Provides Look Into DII Insurance Practices" (May 27, 2017) <http://www.ncaa.org/about/resources/media-center/news/survey-provides-look-dii-insurance-practices>

We now note several considerations and concerns on the Sports Accident Coverage for the NCAA deductible:

- Sports Accident Coverage is nearly always written as “excess coverage.” Excess coverage will defray medical costs only after payment from any other available insurance, such as the student’s health insurance. This coverage will default and act as primary insurance in the absence of other collectible medical insurance. Consequently, sports accident insurance typically covers deductible and copay costs. Prior to clearing students for participation in athletics, most institutions ask if they have other valid insurance. Many institutions make medical insurance a precondition for students to play varsity sports. If an NCAA member does not have a hard waiver program, it may offer SHIP coverage to its athletes as part of a scholarship only in NCAA Divisions I and II.
- Some but not all schools require student-athletes to sign waivers or assumption of risk documents that would absolve the institution of liability in the event that they were injured during athletic participation.
- Most schools now do some type of pre-participation baseline testing to better evaluate a student-athlete’s neurological condition after a suspected brain injury.
- Sports Accident coverage for NCAA member institutions generally takes care of injury-related medical bills only for the two-year period immediately after the injury. Some higher-profile Division I schools, however, purchase coverage for 10 years after the original injury. The two-year benefit period is designed to dovetail with the deductible incurral period on the NCAA’s catastrophic policy.
- A large majority of schools offer this coverage, which provides a solution for brain-injury related medical bills for two years after the date of injury.
- Some health issues may arise out of participation in covered athletic activities, but are not directly related to a specific event or injury. Such events are not covered by a Sports Accident policy.

Sports Accident Insurance for Club Sports. Club sports are inherently less structured than varsity sports and, as such, may present potential for injury. Club sports athletes and programs generally receive less supervision than varsity programs. If student-athletes are injured in a club sport, they may not have immediate access to the same care, such as trainers or team physicians, which varsity student athletes may receive. Consider whether any of these situations might arise at your institution:

- a. While an institution might, by policy, require club sports participants to sign waivers, it may be lax in enforcing the

requirement. Some club sports athletes may play without having signed a waiver.

- b. Few institutions currently require pre-play qualification, such as baseline cognitive testing, for their club athletes.
- c. Many institutions purchase some type of accident medical insurance for club sports athletes. This may be either catastrophic coverage, typically from \$25,000 to \$5 million per injury, or underlying (basic) coverage up to \$25,000 for low-limit medical bills.
- d. Catastrophic coverage for club sports presents the same issues as the NCAA catastrophic plan for a coverage threshold requirement in a short time period. Since the medical bills pertaining to traumatic brain injury do not typically exceed the \$25,000 per injury deductible in the two years immediately following an accident, it is unlikely that eligibility will be triggered on a claim.
- e. The basic layer of coverage typically will cover medical bills for the two-year period immediately after an injury occurs.

Overall, we note two key reasons for coverage failures of first-party insurance (which includes student health insurance, sports accident coverage, and catastrophic coverage). First, it may take too long for the claim to emerge. Second, the policy may exclude some types of care. The likelihood that an injured athlete will sue the institution increases in situations of coverage failure.

What About Cheerleaders?

Cheerleaders, mascots, dance teams, and bands often perform during athletic events. Of these spirit groups, cheerleaders face the greatest risk of brain injury because of their acrobatic and aerial stunts. Mascots also face some risk. Many institutions require cheerleaders and mascots to carry individual health insurance. What other insurance would apply to their injuries?

Context is important in answering this question. We look particularly at NCAA member institutions. Cheerleaders and mascots performing at an NCAA-sanctioned event come within the NCAA catastrophic policy and likely also the institution’s sports accident policy. The NCAA does not, however, consider all competitions to be sanctioned events. Thus when the cheerleading squad competes against other schools, the NCAA catastrophic policy provides no coverage. The same situation occurs when cheerleaders or mascots participate in other non-NCAA sanctioned events such as alumni receptions or local parades. Some institutions purchase separate insurance for activities beyond the scope of the NCAA catastrophic policy. In managing insurance for student athletes’ concussion risks, consider the full array of activities of associated performers, particularly cheerleaders and mascots.

General Liability Insurance and Excess Liability Insurance

Having discussed coverage that pays for an injured student's medical expenses, we turn now to liability insurance. This protects the institution, as well as its employees and volunteers, in the event of negligence claims. The two basic types of liability insurance are commercial general liability (CGL) insurance and excess/umbrella liability insurance. Simply put, a CGL policy is the first line of defense against negligence claims. Excess liability policies provide coverage for the largest claims that exceed the limit of the CGL policy. In a visual metaphor, excess policies sit on top of primary liability policies, functioning akin to a homeowner's umbrella insurance. In this section we address several fundamental questions. What occurrences or claims trigger coverage under liability policies? How can institutions coordinate coverage among their primary liability insurance and all their excess policies?

While not a frequent source of claims, CGL policies written for colleges and universities have a history of responding to claims brought by student athletes alleging bodily injury as a result of negligence on the part of the institution and its employees. The potential for this type of claim is understood and built into carrier underwriting models. Over the years, there have been some severe, well publicized claims paid as a result of injury to a student athlete while participating in a sponsored athletic program.

The emergence of long-tail concussion exposures is challenging the insurance industries position relative to insuring claims arising out of participation in sponsored athletic activities. Insurance companies look to the propensity that some courts have shown for expanding the interpretation of liability policies in responding to events with a long gestation period between exposure and manifestation. We encourage insurance companies serving the higher education community to balance their concerns with a clear understanding of the proactive steps their clients are taking to manage this exposure.

Think tank participants agreed that a proactive approach to engaging insurance carriers in a discussion about how insuring agreements apply and the claim/incident reporting responsibilities that should be followed when dealing with SRCs is warranted. Educational institutions have a keen interest in understanding how their policies will be triggered, how much limit is available and what is their exposure for accumulation of deductible or self-insured retention losses? Risk managers are asking "What constitutes knowledge of an occurrence? What happens if the Board is sued for improper oversight of sponsored athletic activities? How does coverage respond if our athletic trainer or other medical provider is sued for improper diagnosis of a brain injury?" Underlying this is the perennially challenging question: "Is the institution purchasing enough liability coverage?" Think Tank participants articulated their major concern not as the risk of one individual lawsuit but rather class action claims.

Our deep dive now goes even deeper. We examine key elements of policies using the ISO 2013 commercial general liability policy (CG0001) as the base contract with modifying endorsements typically appearing in policies issued to colleges and universities. Founded in 1971, the Insurance Services Office, or ISO, drafts model insurance policy language that insurance companies may choose to adopt. Many insurance carriers, particularly those working with smaller college and university accounts, utilize an ISO-based CGL policy form and add modifying endorsements.

Against this backdrop, we analyze the main coverage provisions in the ISO policy form to explore how coverage may come into play when a college or university faces a claim for mental injury arising from a student's participation in a sponsored athletic activity. Our coverage review is not a legal review of coverage forms nor an interpretation of any individual carriers' policy form.

No exclusions in the standard ISO form eliminate, or are specifically designed to restrict, coverage for claims alleging bodily injury arising from participation in sponsored athletic events.

Consequently, we focus attention on how the insuring agreements, definitions, and policy conditions set forth coverage—and define insurance carrier and insured responsibilities—in the event of an occurrence, claim, or suit. For ease of reading, we use abbreviations and modify or shorten the policy language in ways that we believe do not alter the intent of coverage. As with all contracts, it is important that an institution and its legal counsel review the scope of coverage. Insurance professionals also provide invaluable assistance in interpreting coverage.

Insuring Agreement

Coverage A — Bodily Injury and Property Damage

1.a. We will pay those sums that the insured becomes legally obligated to pay as damages because of "bodily injury" (BI) and "property damage" (PD)...We will have the right and duty to defend "suits" seeking those damages. We have no duty to defend the insured against any "suit" seeking damages for BI or PD to which this insurance does not apply.

Subsections 1.b. c. d. and e. of the Insuring Agreement clarify and limit what constitutes a covered occurrence under the policy.

This insurance applies to Bodily Injury only if it is ...

- 1.b. (1) caused by an occurrence in the "coverage territory"
- b. (2) occurs during the policy period
- b. (3) prior to the policy period no insured and no "employee" authorized by you to give or receive notice of an "occurrence" or claim, knew that the "bodily injury" had occurred, in whole or in part. If such a listed insured

or authorized “employee” knew, prior to the policy period, that the “BI” occurred, then any continuation, change or resumption of such “BI” during or after the policy period will be deemed to have been known prior to the policy period. (Emphasis added.)

Subsection b.(3) has special importance. ISO added the subsection in 2001 as a result of the Montrose decision. The provision was designed to clarify that, if certain insureds know that prior to the effective date bodily injury has occurred or is occurring (i.e., continuing to occur), then coverage will not apply. This provision may have significant implications when seeking answers to the following questions:

1. Which policy applies to a student-athlete who suffers a concussion in one year, recovers, is released to resume play, suffers another brain injury the following year, and subsequently files a liability claim for mental injury sustained while playing for your college? Do you have one or two occurrences? Is it only an occurrence in year 1, under the theory that any resulting mental injury was a continuation of the initial injury? Or is it only a claim in year 2, since the player had been treated and found to have recovered from injuries sustained in year 1? Are both policies triggered? Or are all policies triggered from the date of the initial occurrence until a listed insured knew of the BI? If the institution has a self-insured retention for GL claims, is it subject to one, two, or multiple retentions?
2. Are prescreening and baseline practices so well established that a “listed Insured or authorized employee” arguably knew that athletes with prior brain injuries were being cleared and admitted to play or returned to play?
3. Might mandatory screening and baseline testing of incoming athletes place your institution at risk that an insurer could establish you knew an athlete had a history of prior concussions? If so, would this negate coverage for any future claims arising from the athlete’s participation in your institution’s sponsored athletic events?

These are thorny questions which are difficult to answer definitively without individual case specifics. Insurance carriers writing CGL and excess liability coverage for colleges and universities are aware that, at the varsity level, Insureds have processes in place to identify players who have experienced SRCs prior to participating in sponsored athletic programs. We contend provision 1. b. (3) is not intended to preclude coverage for the Named Insured and its individual Insureds from claims brought by said athletes alleging injuries arising from SRCs that occur while playing for the Insured during the policy period. Campus risk managers and legal counsel may wish to discuss these issues with their insurance partners and brokers seeking, at a minimum, a general understanding of how coverage is intended to respond.

Moving to subsection 1.c of the Insuring Agreement:

This insurance applies to Bodily Injury only if ...

1.c. Bodily Injury occurs during the policy period and was not, prior to the policy period, known to have occurred by any listed insured or employee authorized by you to give or receive notice of an “occurrence” or claim includes any continuation, change or resumption of that BI after the end of the policy period.

This subsection seeks to limit the application of future policies once certain institutional officials have knowledge of a claim or occurrence. Consider a basketball player who suffers a head injury and is removed from play for two weeks. The injury was sufficiently severe that it was discussed with the risk manager, who is authorized to report claims to the liability insurer. Even if the student files no claim at that time and the institution does not report the occurrence to the insurance carrier, knowledge of bodily injury could be said to have existed, thus limiting the application of any future CGL policies.

Consider another example. A former student who had played soccer for four years and never reported a sports-related concussion returns to campus for an alumni event. In discussion with her coach, athletic trainer, and other players, she reports that she has been having trouble sleeping and maintaining attention when awake and wonders whether this is related to her play. This situation presents three important questions. First, are the coach and athletic trainer listed individuals authorized by the institution to give or receive notice and, if not, should they be? Second, assuming the coach and athletic trainer are listed individuals, is the information sufficient to establish knowledge of an occurrence? Third, do we have a duty to report this information? Conversations with insurance carriers can help clarify these issues.

We continue with subsection 1.d:

1.d. BI will be deemed to have been known to have occurred at the earliest time when any listed insured:

- (1) reports the BI to us
- (2) receives a written or verbal demand or claim for damages; or
- (3) becomes aware by any other means that BI has occurred or has begun to occur.

Subsections 1.d.(1), (2), and (3) define the circumstances under which an injury is deemed to have been known to have occurred. This definition is particularly important because knowledge of an occurrence triggers the insured’s Duties in the Event of Occurrence, Offense, Claim or Suit. (We discuss these duties below.) Subsection 1.d.(3) is very broad and may be construed in the broadest sense possible. Referring

to the injured basketball player described under subsection 1.c., a carrier might consider discussion with the risk manager sufficient to create awareness of the bodily injury and a duty to report.

Subsection 1.e. expands the damages for bodily injury and is self-explanatory:

1.e. Damages because of BI include damages for care, loss of services or death resulting at any time from the BI.

Policy Conditions and Definitions Also Change How Coverage May Apply

All insurance policies, including the ISO CGL form under discussion, include a Conditions section with provisions that qualify an insurer's promise to pay. All policies also include a Definitions section, defining important contractual words.

Conditions

Duties in The Event of Occurrence, Offense, Claim or Suit

a. You must see to it that we are notified as soon as practicable of an "occurrence" or an offense which may result in a claim. To the extent possible, notice should include:

1. How, when and where the "occurrence" or offense took place;
2. The names and addresses of any injured persons and witnesses; and
3. The nature and location of any injury or damage arising out of the "occurrence" or offense.

b. If a claim is made or "suit" is brought against any insured, you must:

1. Immediately record the specifics of the claim or "suit" and the date received; and
2. Notify us as soon as practicable. You must see to it that we receive written notice of the claim or "suit" as soon as practicable.

c. You and any other involved insured must:

1. Immediately send us copies of any demands, notices, summonses or legal papers received in connection with the claim or "suit";
2. Authorize us to obtain records and other information;
3. Cooperate with us in the investigation or settlement of the claim or defense against the "suit"; and
4. Assist us, upon our request, in the enforcement of any right against any person or organization which may be liable to the insured because of injury or damage to which this insurance may also apply.

d. No insured will, except at that insured's own cost, voluntarily make a payment, assume any obligation, or incur any expense, other than for first aid, without our consent.

e. (added by endorsement) Notice of an "occurrence", offense, claim or "suit" will be considered knowledge of the insured if reported to an individual named insured, partner, executive officer or an "employee" designated by you to give us such a notice.

These conditions have often been examined in litigation. Meeting the conditions can be vitally important to a policy holder. Clarifying and documenting your carrier's intent with respect to reporting athletic injuries in general, and sports-related concussions in particular, is prudent.⁴³

Definitions

Definitions may serve to clarify coverage or restrict it. Key definitions include:

"Bodily Injury" means bodily injury, sickness or disease sustained by a person including death resulting from any of these at any time. "Bodily Injury" includes mental anguish or other mental injury resulting from "bodily injury."

The CGL broadening endorsement⁴⁴ amended the definition of Bodily Injury to include "mental anguish or other mental injury resulting from 'bodily injury.'" Without the endorsement, the definition of bodily injury may not reach mental injury.

"Occurrence" means an accident, including continuous or repeated exposure to substantially the same general harmful conditions.

The ISO policy forms do not define accident. Since the word accident is directly tied to the meaning of occurrence, common definitions may become relevant. Oxford Dictionaries defines accident to mean "an unfortunate incident that happens unexpectedly and unintentionally, typically resulting in damage or injury." Merriam-Webster defines accident as an "unforeseen and unplanned event or circumstance."

⁴³Some institutions are maintaining a log of sports-related concussions, such as for specific high-risk varsity teams, and reporting them to the carrier annually. We strongly recommend discussing this or any other reporting practice with the insurance carrier and broker. Will notification of these events constitute notice of occurrence? Will any other information be needed beyond what is reported? Is there any obligation to update the carrier about events or individuals in a report?

⁴⁴The endorsement is ISO 421-2915.

Important for our discussion is that the definition of “occurrence” includes both an accident and a continuous or repeated exposure to substantially the same harmful conditions. In other words, it includes both concussive and sub-concussive events.

“Covered Incidental Professional Services” means professional health care or educational counseling services provided to your employees or students and incidental to the operation of your educational institution....

The definition goes on to list various services including nursing, guidance counseling, athletic training, and occupational or physical therapy. Incidental professional services are not covered in the standard ISO CGL policy. A specialized (or manuscript) endorsement, such as one titled “Incidental Professional Liability Coverage for Educational Institutions,” must be added to obtain cover. With respect to this coverage extension, it is important to clarify whether:

1. Employed doctors who are providing on-field medical services would be covered.
2. Coverage includes the institution’s vicarious liability for services provided by independent medical providers who are under contract with the institution to provide medical services.

Exclusions

The first exclusion in all ISO General Liability policies has potential application to brain injury claims:

Expected or Intended Injury
BI or PD expected or intended from the standpoint of the insured. This exclusion does not apply to BI resulting from the use of reasonable force to protect persons or property.

We reference this exclusion with an eye to the future. If closer ties between concussions, the development of CTE, and the manifestation of mental injury are established, this exclusion could come into play.

Discussion Points

With the goals of reducing coverage uncertainty, establishing open dialogue with risk financing partners, and codifying understandings of both parties, Think Tank participants favored a pro-active approach. Possible elements to discuss with your risk financing partners might include one or more of the following:

1. Explain to your primary insurance carrier the practices your institution follows for managing brain injury risk at all levels of sponsored athletics;
 - a. Varsity Athletics
 - i. Pre-screening practices for incoming athletes
 - ii. On-field risk management practices
 - iii. Return to play/return to learn practices
 - iv. Process for recording SRCs
 - v. Waivers/Releases
 - b. Club sports
 - i. Training an education of athletes on concussions
 - ii. On-field risk management practices specific to sports related injuries and SRCs
 - iii. Reporting of accidents/injuries
 - iv. Return to play protocols
 - v. Waivers/Releases
 - c. Intramural sports
 - i. General risk management practices
 - ii. Waivers/Releases
4. Seek an understanding with your primary carrier on its position with respect to;
 - a. Coverage for claims brought by athletes who disclose during the pre-screening process that they suffered one or more prior concussions. Does this disclosure show a pre-existing condition that would preclude coverage for any claims the athlete brings related to sports-related concussions he or she suffers while playing for your institution?
 - b. Procedure for reporting sports-related injuries.
 - c. Procedure for reporting sports-related concussions, if different from reporting requirements for other sports-related injuries.
 - d. Any ongoing communication expectations for reported sports-related concussions.
5. Share with carriers in your excess liability program the agreements and understandings you have reached with your primary carrier on the issues above. Ask the excess carriers to acknowledge and concur with these agreements. Also seek concurrence that the primary carrier’s reporting practices for incidents and claims will also comply with the excess carriers’ notice requirements for occurrences and claims.

Long Tail Claims

As we have noted earlier, considerable time may elapse between a concussion and manifestation of injury. The insurance industry's experience with similar long tail, developing risks may provide helpful context. Brain injury claims and asbestos claims, for example, share some common features in addition to the long tail.

1. Many individuals in all age ranges have been involved and experienced various levels of injury.
2. While the issues are not new, medical understanding became clearer over time.
3. Many individuals exposed to the harm did not experience significant medical problems. The injuries that do result can sometimes be severe.

Significant differences also exist. The presence of asbestos fibers may not be immediately apparent. The risks of sports participation are, in contrast, visible and widely known. Asbestos claimants were often employees, while student athletes are not. Students play sports voluntarily and, in today's climate, cannot reasonably argue that they were unaware of the risks. On the financial front, insurers have not faced the level of loss experience with athletes' brain injuries that they did with asbestos claims.

Asbestos litigation brought us the courts' interpretation of coverage triggers for risks with a long period between initial exposure and manifestation of the injury. A trigger is the event that activates coverage under an insurance policy. Courts around the country reached different conclusions on what triggered coverage for asbestos-related occurrences. Consequently insurance carriers changed their policies to better reflect their coverage intentions. Uncertainty on how policies will respond still exists.

If your institution has a large deductible or self-insured retention, you would do well to understand how coverage could be triggered and the extent of your potential financial obligations. Check whether your primary policies and excess policies follow form, and seek agreement with all carriers about notice of occurrence. Know the exact wording of your liability insurance policies' coverage trigger clauses. Extra Inning 12 below offers a helpful review by the Insurance Risk Management Institute (IRMI) of the four main theories of coverage triggers.

We do not know what, if any, liability colleges and universities will have for severe brain injuries if they are following prudent risk management practices. Is the risk really for events occurring before 2010, when the NCAA introduced its first guidelines? Will statutes of limitations forestall recovery for many injuries? Analysis of actual claims experience to date need not, it seems, generate undue concern.

Manuscript Policies, Warranties, Excess Liability, and Claims-made Coverage Provisions

For this discussion, we use the term manuscript policy to refer to insurance policies specially drafted to provide coverage for a specific type of risk, in this case, risks faced by higher education institutions. By this definition, United Educators' policy would be a manuscript form.

Manuscript policies have both advantages and disadvantages. The major advantage is that they are drafted to address the unique exposures of an industry group that the general-purpose ISO policies often neglected. The major disadvantage is that they often are not time tested and lack case law on interpreting policy provisions. The yin and yang of this situation puts the onus on the policyholder. The insured must carefully review the policy language. If the terms are unclear, work with the broker to clarify coverage intent with the underwriters, and then document that intent. The practice of clarifying and documenting coverage intent can be particularly valuable with emerging risks such as severe brain injuries, as insurance companies may be attempting to define the scope of coverage with new, untested manuscript endorsements.

Warranty statements have long been used in coverage applications to verify that the insured has conducted an honest and thorough assessment of exposures and, in unique circumstances, to verify that the insured is following prescribed risk management practices. Violation of a warranty statement can result in denial of coverage and possible policy cancellation or non-renewal. When signing a warranty statement all stakeholders—athletic directors, athletic trainers, risk managers, and legal counsel—would be well advised to review the complete application in detail, question any ambiguities, and document all discussions with underwriters.

Some brief, and quite technical, comments on umbrella and excess liability policies are in order. If you are using an umbrella policy to attach excess of underlying policies issued by a different carrier, and if the underlying policies include a manuscript endorsement for severe brain injury, we recommend you request that the umbrella carrier issue an endorsement stating that it will follow the terms and policy conditions of the underlying policies concerning coverage for brain injuries. Excess liability policies are normally written on a follow-form basis, so a specific endorsement may be unnecessary. However, review the policy conditions to ensure they too track with the underlying carrier's requirements for duties in the event of an occurrence or claim. Note that the duties in the event of an occurrence or claims, whether written on a follow-form basis or unique to the policy, must be observed to the letter regardless of the level at which the excess policy attaches (\$10 million excess \$1 million or \$25 million excess \$75 million).

Some carriers are starting to offer coverage for severe brain injuries on a claims-made basis. We have several concerns with this approach.

1. If skittishness about this exposure proves to be short lived, and coverage remains available on an occurrence basis, insureds will have difficulty converting back to occurrence coverage.
2. There is nothing to prevent excess liability carriers from cancelling or non-renewing coverage in accordance with policy terms and conditions. When coverage is written on a claims-made basis, this action can be taken as a preemptive strike to avoid the possibility of claims that have not yet been filed.
3. It can be difficult to change carriers when coverage is written on a claims-made basis because of the need to maintain continuity of retroactive dates. This can reduce competition in the marketplace and drive up cost.
4. The cost of extended reporting provisions can be onerous.

Directors and Officers Liability (D&O) coverage, more commonly known in educational contexts as Educators Legal Liability (ELL), indemnifies directors, officers, faculty, staff, volunteers, and committee members for damages and defense costs arising from lawsuits alleging various “wrongful acts.” The policy also reimburses institutions for any indemnification that their bylaws or state laws require them to provide to the directors and officers. D&O/ELL policies exclude claims alleging bodily injury or property damage, as these are intended to be covered under the insured’s GL policies. At present, most ELL policies do not contain a specific exclusion for traumatic brain injury, relying instead on the broad bodily injury exclusion.

To summarize, the insurance marketplace is very active around the issue of how carriers can best respond to the risk of mental injury arising out of participation in sponsored athletic activities. We suspect more coverage changes will be forthcoming and insurance carriers will be requiring more detailed information on how institutions are managing this risk. Colleges and universities can help allay carriers’ concerns by highlighting excellent risk management in their athletic programs.

VIII. Eighth Inning: Risk Transfer by Waivers

Unless state law considers waivers unenforceable, most universities use them to transfer liability to participants in a variety of situations. By successfully transferring the risk to a participant, the university may avoid claims against it for its negligence. Negligence may encompass a wide array of claims including, among others, failure to warn an athlete about the sport’s dangers, failure to maintain the playing field or equipment, and failure to manage team travel risks.

NEGLIGENCE TYPES

Gross negligence. A severe degree of negligence considered reckless disregard. Blatant indifference to one’s legal duty, other’s safety, or their rights.

Negligence. The omission to do something which a reasonable person, guided by considerations which ordinarily regulate the conduct of human affairs, would do. Similarly, doing something which a prudent and reasonable person would not do.

Waiver laws vary tremendously by state. Differences include, among other factors, the standards for waiver validity and the role of public policy in interpreting a waiver. Most states prohibit the waiver of liability for gross negligence. Advice of legal counsel is important in drafting waivers.

An institution relying on waivers would do well to have a consistent practice or, better yet, a policy stipulating the circumstances in which it will use waivers. Courts may be most likely to uphold waivers in voluntary situations in which the institution is not in charge of, or control of, the activity the waiver addresses. Many courts look less favorably on waivers if the participant has limited or no choice about participation. Risk managers differ on how and when universities should seek to transfer liability for their core educational operations. Core educational operations include credit-bearing activities such as labs and mandatory class field trips. Some might argue that core operations include fee-based activities and athletics. The opposing position is that such activities are incidental and wholly voluntary, including athletics even at the varsity level.

Waivers transfer risk only as well as they are drafted, and they are subject to judicial interpretation. The courts rewrite common law daily, as judges seek to reconcile legal precedents with current mores and norms. A state that upholds a waiver today may not uphold it tomorrow.

Waivers, Assumption of Risk Agreements, and Participation Agreements

Waivers, also known as releases, are contracts in which an individual agrees to release the named entity and any named parties from liability arising out of the named parties’ actions, even if any or all of the individuals are negligent. Named parties, named by role rather than given name, typically include trustees, officers, directors, employees, agents, and assigns. The release is given in exchange for something of value—for example, financial support or permission to participate in a program. The signer must have free will in executing the waiver.

The signer must be legally competent and must have reached the age of majority which is typically, but not universally, 18.⁴⁶ The signer must receive reasonable advance notice of the requirement of a waiver for an activity and a reasonable period to read and sign it. Some states may require the parties to have “equal bargaining power,” but may not define what this means. Courts in most states will uphold waivers provided the waiver is properly constructed and does not violate public policy. Many states stipulate that the waiver language must be clear and unambiguous as to its intent.

The terms “acknowledgement of risk” and “assumption of risk agreement” are often used interchangeably. Technically, though, they differ. An **acknowledgement of risk** identifies the risks associated with the activity and contains an affirmative statement that the participant received warning about the risks. An **assumption of risk agreement** includes the acknowledgement of risk statement and clearly warns the participant of the activity’s risks. The participant then agrees to assume the risks. The list of risks need not be comprehensive. Include the unique risks for the activity, for example, hypothermia and frostbite for skiing. Phrases such as, “...including, but not limited to...” are helpful. Construct the list also to include several minor, common injuries (fractures) as well as a few more serious ones (paralysis, death). This list is important in establishing the assumption-of-risk defense because one may assume only those risks of which one is aware. Some colleges use a single form that identifies specific risks for each type of sport. Be sure to include a statement by which the signer assumes the risk of the activity. This statement usually involves such language as “I recognize that skiing is a dangerous activity and I agree to accept any and all risks, including those not listed or known.”

An acknowledgment of risk proves that the institution warned the participant of the risk. An assumption of risk agreement proves that the participant assumed the ordinary risks of the activity.

Participation Agreements

The elements of a waiver, rules for behavior, and other information can be joined together to exchange information with the signer in a participation agreement. With careful drafting, these documents will likely meet most state standards and provide additional resources for participants. Participation agreements might include terms such as the following:

1. Identify the parties included in the participation agreement. For the university, this will typically include the legal name of the institution, its trustees, employees, officers, agents, and assigns. Sometimes we see sponsors and program participants added. The advantage of adding participants is that it limits the ability of a player to make a claim against other players, so that everyone has equal protection under the agreement.

2. Warn signers that signing the agreement will compromise the signer’s future rights against the included parties.
3. Identify the activities to which the release applies.
4. Confirm voluntary participation and a statement that the agreement is being signed of the signer’s own free will.
5. Inform participants (signers) of their responsibilities in relation to the activities (e.g., follow all rules and safety guidelines). Consider including specifics such as:
 - a. Purposely engaging in head contact is prohibited.
 - b. They will report to the athletic department’s medical (or other) personnel any symptoms of concussion or sub-concussive events.
 - c. They will report to the athletic department’s medical (or other) personnel if a teammate shows any symptoms of concussion or sub-concussive events, or they suspect the person may have had a concussion.
 - d. They will not return to play or practice if they experience any concussion symptoms.
6. Clearly inform the participant of the risks involved in the activity.
7. Identify the information or training that has been given to the participant.
 - a. They have received information about the signs and symptoms of a concussion.
 - b. They have been informed that a repeat concussion is more likely to someone who is experiencing concussion symptoms.
 - c. They understand and agree that the institution can retire the participant if, in its sole judgment, the student faces a serious threat to his or her wellbeing or safety.
 - d. Protective equipment does not eliminate the risk of injury.
8. Have a clear release of liability for both the inherent risks of the activity and the negligence of the released parties. In some states, broad statements of release without reference to negligence may be enforced; other states require explicit mention of negligence.

⁴⁶In some states the age of majority is higher: 19 in Alabama and Nebraska, and 21 in Colorado, Mississippi, and Puerto Rico. Waivers may be used with minors in some states provided the waiver is properly constructed and includes an indemnification provision. A minor’s waiver may need to be signed by both parents or the parent or guardian with sole legal custody.

9. Include an indemnity agreement as further protection. These are recommended as “enforcement” clauses to the agreement.
10. Include five standard clauses:
 - a. A choice of law and legal forum clause where claims may be brought
 - b. A “covenant not to sue” clause which removes litigation as a legal recourse
 - c. An “entire agreement” clause noting that this is the entire agreement
 - d. A mediation and/or arbitration clause (to avoid claims landing in court)
 - e. A severability clause holding that, if any part of the agreement is deemed unenforceable, the rest of the agreement remains in effect.
11. Authorize emergency treatment; the signer may confirm his or her fitness to participate.

Participation agreements are often preferred over “pure” waivers or informed consent agreements, as they can raise the level of communication with the signer and promote greater understanding on the part of the signer. Clear and simple language is best.

Even if an institution prefers not to use a waiver, the participation agreement can be constructed without the clauses for waiver (item 8), indemnification (item 9), and covenant not to sue (item 10b). The other agreement clauses will remain very useful.

General Considerations for an Enforceable Agreement

The title of the participation agreement must be clear.

It should include words such as “waiver,” “release of liability” or “waiver and indemnity agreement.” Titles or formats such as “Sign-up Sheet,” “Roster,” “Application for Membership,” “Entry Blank,” “Receipt,” and “Sign-in Sheet” are deceptive and may invalidate the waiver. Have each participant sign a separate agreement. Attaching a single participation agreement to a group sign-up sheet may not be effective.

The waiver must be clear and understandable by the person signing it.

An enforceable waiver will clearly state that the signer is releasing the named entity from responsibility for injury to the signer caused by ordinary negligence on the part of the institution or any of the named parties. The waiver should include a phrase such as, “I hereby release [entity] from any and all present and future claims resulting from ordinary negligence on the part of [entity].” The language must be simple, straight-

forward, and unambiguous. The waiver should plainly convey its message and without excessive legalese.

The print size must be large enough to be read. A generally accepted size is at least 10-point Times Roman type.

The waiver may not contain any untrue or fraudulent statements. A fraudulent statement or misrepresentation within the waiver may invalidate it.

Do not allow signers to modify the waiver by crossing any part of it out. Require all participants to sign the waiver as written.

Obtaining Participation Agreements from Everyone

The institution can explore whether it wishes to use participation agreements with all athletes and, if so, whether it will use the same agreement for all athletes in all sports. We offer some thoughts relevant to these questions.

1. Does the institution want to use participant agreements for all athletes?

Varsity Sports

One might argue, at least for NCAA Division I and Division II schools, that waivers should not be used for varsity sports because they are central to the institution’s operations. A strong counter-argument is that participation is purely voluntary and sports are ancillary to core educational functions. If an institution decides to use waivers for varsity sports, it may wish to develop and articulate a clear rationale for doing so. High school recruits may benefit from seeing an advance copy of relevant legal forms. The institution may wish to provide a copy of the participation agreement to each applicant offered an athletic scholarship or otherwise encouraged to apply to take advantage of the institution’s athletic opportunities. If an institution does not follow this practice, it faces a greater chance that a court might invalidate the waiver, indemnity, and covenant-not-to-sue portions of the participation agreement.

Even if waiver, indemnity, and covenant-not-to-sue clauses are excluded, a participation agreement may still be useful for all athletes. At a minimum, the agreement will identify the risks; confirm voluntary participation and assumption of risk; set expectations or standards for behavior on and off the field; and remind athletes of their personal responsibility to address their own health and physical condition.

Club Sports

There is a strong argument that club sports should use waivers, especially waivers that include other participants in the “released parties.” Club sports participation is unequivocally voluntary, at the stages of both joining the team and engaging in team activities.

Intramural Sports

Intramural sports may be even less regulated or controlled by an institution than club sports. At some schools “pick-up” teams change with every game and maintain no record of who played in a particular game. Team structure, facilities, and equipment may be unmonitored. There is a strong argument that intramural sports should be requiring participation agreements for the benefit of fellow participants and the university, especially if takes a hands-off approach to intramural sports.

2. Does the institution wish to use the same participant agreement for athletes in all sports?

As the discussion above suggests, universities may want to differentiate between varsity sports, club sports, and intramural sports when deciding what risk transfer form, if any, to use. At a minimum, schools may wish to use an assumption of risk or participation agreement for all sports activities, if only to

- Inform students of the risks
- Obtain permission to provide emergency treatment
- Set expectations for behavior
- Control the venue, law, and process for any claims

3. Special Waivers—Considerations

Sport-Specific Waiver. Some institutions nuance their waivers to reflect the risks of each sport. For example, the skiing team waiver would include hypothermia as a risk; the swim team waiver would include drowning as a risk.

Return to Play Waivers. Institutions may require athletes to sign a special waiver if they have a serious health issue or are returning to the sport following a serious injury. It seems to make sense--the institution knows that, due to a pre-existing condition, whether a history of concussions, asthma, or loss of an eye, the student will now be more prone to serious injury than other students engaged in the sport. It seems entirely logical to have the student sign a student-specific waiver that clearly releases the institution from liability because the student wants to continue to play. However, this may not always be a best practice.

As discussed above under the NCAA catastrophic coverage, a varsity athlete who signs a specific waiver related to an injury or other health condition will likely lose coverage under the NCAA catastrophic policy. For this reason, we caution higher education institutions against requiring health waivers for student-athletes covered by the NCAA catastrophic policy.

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A waiver may help show that an athlete fully understands, and voluntarily accepts, the risks of returning to play. Against this benefit is the downside that, under the institution’s sports accident or catastrophic injury policy, a waiver might bar the student-athlete from receiving valuable coverage.

Managing Waivers. Institutions vary widely in their practices for gathering, managing, monitoring, and saving waivers. Available resources often drive institutional choices. Good management of waivers, whether paper or electronic, can yield important benefits.

Gathering Waivers. With good management, the institution is more likely to collect required forms from everyone. Varsity sports are typically the most conscientious, sometimes with 100% compliance. Club or intramural sports can prove more challenging. Risk managers who have been successful in collecting waivers across all three levels of sports suggest these tips:

- Educate coaches, assistant coaches, and team captains about the institution’s requirements. Explain the importance of the forms, how and when to have participants sign them, and what to do with the forms once signed.
- Make the process clear and easy for people to administer. If consistent with state law, for example, set up online access, electronic signatures, and electronic storage.

Some schools rely on team coaches to collect the forms; some use centralized athletic department administration; and others place the process in the risk management department. An institution might identify the true “risk owner” for each sport. The risk owner might then have responsibility for collecting signed waivers from all participants.

Electronic vs. Paper. Think Tank members generally agreed that electronic waivers are easiest to track, store, and manage. Some schools develop their own online waiver management

systems. Commercial storage services are also available.⁴⁷ With an electronic waiver management system, captains, players, or both may be required to review their team's risk management practices. Some systems permit deep nuancing so that every sport's unique risks are identified in waiver form.

- Drawbacks to online waivers include:
- The state may have no regulations, or poor ones, on electronic signatures.
- The institution may have a less-than-optimal IT environment to support an electronic waiver process.
- The cost may be high.
- State law on waiver enforceability may be unclear.
- At least in some states, the system must be able to provide nuanced waivers,

Retaining Waivers. With good management, signed waivers will be retrievable in the event of a claim. If you can't find a signed waiver when you need it, there was little point in obtaining it in the first place.

Some schools require the coach or team captain keep the waiver forms for their programs. The benefit of this approach is that the school does not have to develop any central mechanism for managing waivers. The significant downside is that waivers will not be kept in a consistent or predictable manner, and they are likely to be lost every time a coach or team captain leaves. This creates a significant hazard for the institution. Other schools have the athletics department office keep waiver forms on file. They may be filed by student name, teams, or other category.

Finally, some schools have their risk management department manage all waivers, including athletic waivers. This can be a good solution if the institution has a risk management department; many schools do not. A risk management office may have administrative staff and support to manage the waiver process.

The most important element in requiring and keeping waivers is that they can be found if a student files a claim. If the institution has well-placed confidence that the waivers can be retrieved, the technicalities of the actual system are secondary.

Waiver Retention Period. Waivers are, in essence, a contract, and many legal advisors recommend that waivers be kept for the state-mandated time period under which a contract may be litigated. This may be anywhere from three to twenty-one years or more, a time-frame that may be impractical for retaining waivers, especially paper ones.

Other legal advisors suggest as a rule of thumb that an institution may discard waivers after expiration of the state's statutory time limit for an individual to bring a personal or bodily injury claim. This is usually a shorter period than for contracts, although state law may provide a generous period for injuries suffered by campers and other minors. Many schools follow this approach.

If waivers are kept electronically, they may be kept almost indefinitely. If IT systems change, however, records must not get lost with the switch.

Some Think Tank participants suggested keeping waivers forever. This approach accommodates long-tail claims and long statutes of limitations. Schools need to assess their records management systems and capacity, making balanced risk choices accordingly.

Informed consent agreements and waivers can be very useful tools in the risk manager's claims management toolkit, but they cannot be relied upon as foolproof. Injured parties do challenge waivers, particularly if their injuries are severe and their prognosis poor. A sympathetic court may conclude that a waiver was flawed or against public policy.

IX. Ninth Inning: Creating and Implementing a Concussion Management Plan

A central tenet of this report is that institutions can manage, and are managing, risks of brain injury in athletics. We offer ideas that may be helpful in updating an existing risk management plan for brain injuries or creating a new plan.

Good risk management includes appreciation of challenges. The perennial issue of resource limitations must be acknowledged. New concussion-related technologies, such as helmets with accelerometers, may not live up to their early promise. Scientific issues remain unresolved. Baseline testing is not a complete solution, given factors including athlete acceptance and the value of additional aggregate data.

No one-size-fits-all roadmap exists for managing brain injury risks. Each institution is different and must stay true to its own mission and values. Standards and guidelines from the relevant athletic governing body, such as the NCAA, can provide a useful starting point. An institution may, if it wishes, exceed applicable standards. Many state legislatures have considered and enacted concussion-related bills in recent years. State laws may address subjects such as youth sports or minors on college teams. Monitoring legislative developments can be important. As with guidelines and standards, an institution may choose to exceed statutory requirements.

⁴⁷Commercial options include SmartWaiver, WaiverForever, and Waiver Saver.

Resources to back a concussion risk management plan might include:

- Administrative support to manage any waiver or release process
- Health services to pre-qualify players
- Health services to assess players during play
- Training for trainers, coaches, team captains, and players
- Allocation of authority in returning injured players to learn and to play
- Support for players who have sustained an injury to help them manage their recovery, in both academics and sport

Step One. Assemble a Strong Team.

Getting the team together is perhaps the most important step in developing a plan. The roles to include will vary widely, depending on whether the institution is a system, a standalone large university, or a small college. Assemble administrators who have responsibilities sports, healthcare, student life, risk, academics, and administration. The group might include individuals whose functions roughly match:

- Athletics director
- Chief student life administrator
- Head athletic trainer
- Risk manager
- Health services physician who handles assessments
- Persons responsible for club sports and intramural sports
- Camp coordinator
- Legal counsel
- Others as appropriate for your institution

Step Two. Assess Current Policies and Practices.

Start by understanding the full scope of the institution's athletics programs at all levels, from varsity sports to pick-up games. Gather information on how the different sports handle athletic injuries and, in particular, concussions. Consider the following steps:

- a. Create an inventory of all sports played throughout the institution.
- b. Review information on the institution's website including pages for athletics, athletes, student activities, and student health services.
- c. Gather and analyze relevant policies, forms, waivers, and agreements for all sports.
- d. Collect any existing emergency response procedures. Identify external emergency first responders and trauma healthcare facilities.
- e. Check job descriptions for coaches, athletic trainers, sports administrators, and advisors to student clubs that engage in athletics.
- f. Review educational materials and information sheets on concussions and brain injuries used with coaches, athletic trainers, athletes, club advisors, and others.
- g. If the institution currently requires signed acknowledgement forms for those who have received information or completed training, check whether the records exist and can be retrieved easily.
- h. Gather information on any baseline testing, concussion assessment tools, or checklists currently in use.
- i. Identify any special equipment, such as helmets, the institution has bought or otherwise received designed to identify or minimize head injuries.
- j. Identify any youth sport camps posing a risk of concussion or head injury, whether the camp is run by the institution, a coach, or an outside party.
- k. Explore the capacity of any health-related services for students to perform functions such as baseline testing, assessments, and post-concussion monitoring. Examine both general student health services and services associated with the athletics department.
- l. Examine the similarities and differences among services provided to varsity, club sports, and intramural sports.

- m. Examine the similarities and differences among services provided to student-athletes and non-athletes who experience a concussion.
- n. Understand any health-related circumstances that might lead a student-athlete to lose an athletic scholarship.
- o. Understand the resources, if any, provided to student-athletes who graduate or otherwise separate from the institution after becoming incapacitated due to a severe brain injury.

Not all of these steps would apply in every situation. The goal is to gain a solid understanding of current practices through reviewing materials and conducting interviews. Conduct interviews to identify current policies and procedures, potentially at all three levels of athletics, with respect to issues such as:

- a. Providing high-quality training to coaches, team captains, and players on the risks of concussion
- b. Using waivers or participation agreements
- c. Documenting training
- d. Qualifying a player for participation, including any medical history, exams, or self-certification of fitness to play
- e. Removing athletes from play if they may have experienced a head impact
- f. Identifying concussions using sideline checklists or other assessment tools
- g. Documenting medical evaluation and treatment
- h. Evaluating players after removal for return-to-play
- i. Understanding the process and decision making in returning a player to learn and to play
- j. Following a plan to manage concussions
- k. Following an emergency response plan

With a thorough understanding of the institution's existing practices, the team can work to identify improvements and changes that may be needed. This provides the foundation for developing the concussion management plan.

Step Three. Identify Core Subjects for the Plan.

Every institution needs to wrestle with what to include in its concussion management plan. Satisfying athletic governing body requirements is a given. Exceeding those requirements is an option, if an institution so desires. Whether its practices

meet or exceed external requirements, an institution needs to adhere carefully to its own policies. It's far better, as the saying goes, not to have a policy at all than to have a policy you don't follow. We turn now to subjects for potential inclusion in the concussion management plan.

Levels of Athletics. A foundational issue is how to treat the different levels of athletics—varsity, club sports, and intramurals. Few, if any, institutions apply identical policies and procedures to all three levels. Think Tank participants offered various reasons for imposing the most stringent requirements on varsity sports. Varsity sports typically:

1. Are most intense and competitive.
2. Require the most hours of conditioning, practice, and play per season.
3. Have the most demanding coaches.
4. Give players little autonomy.
5. May provide direct, valuable benefits to the institution such as student recruitment, alumni involvement, school spirit, media exposure, or revenue.

With respect to player autonomy consider that, individually or as a group, club sports or intramural players might decide to skip practice one day. Their myriad reasons could include bad weather or appealing social activities. Only in varsity athletics might one encounter a highly paid coach demanding “Do it again! Do it again!” Given the nature of varsity athletics, an institution might reasonably decide to focus its brain injury risk management plan there.

What about club and intramural sports? The risk management team might examine their facilities, equipment, officiating, and other attributes. A plan can impose some level of requirements on club and intramural sports, tailored to their characteristics, exposures, resources, and similar factors. Resources are always an issue. Generally speaking, no institution can afford to sponsor every club and intramural sport as if it were a varsity team. A reasonable plan will balance relevant factors, including the reality of resources, and arrive at a defensible compromise.

Types of Sports. On a baseball diamond, a ball hits a player in the head. On a golf course, a comparable accident occurs. This is not to suggest that a brain injury risk management plan must treat baseball and golf identically. An institution can draw reasonable lines among sports based on factors such likelihood of injury, number of participants, available resources, and the characteristics of the sports on its own campus. As suggested previously, data is available comparing the relative occurrence of concussions in different sports.

Educational Programs. Many educational resources exist today on avoiding, recognizing, and treating potential brain injuries in youth and young adults. The NCAA, for example,

has sport-specific posters. It also requires institutions to distribute fact sheets for student-athletes and coaches before the season begins.⁴⁸ The Centers for Disease Control offers a variety of resources through a broad campaign called Heads Up.⁴⁹ In addition to student-athletes, team captains, game officials, athletic directors, team physicians, and athletic trainers may benefit from regular training and reminders. Reach out to club sports and intramural teams, perhaps through training for their team captains. It can be valuable to incorporate information about the institution's own concussion management plan into general educational materials and programs.

Outside the athletic arena, staff in student affairs and disability services may work with student-athletes who have suffered concussions. Because these staff members may not understand their roles in the concussion risk management plan, consider providing educational materials geared to their responsibilities.

Consider having individuals sign an acknowledgement that they have received information or attended a program, reviewed the contents, and had an opportunity to ask questions.

Sideline Monitoring, Removal from Play, and Emergencies.

Consider including the plan the subject of managing the condition of a student-athlete who has, or may have, experienced a concussion. Some points to consider:

- What tools, such as a concussion recognition checklist, might be used to evaluate an immediate situation?
- Is a healthcare professional (e.g., athletic trainer, EMT, physician) present or on-call? Do healthcare resources differ for home and away games?⁵⁰
- Who has the authority to remove an injured athlete from play?
- Are coaches prohibited from challenging a decision to remove a player?
- Are roles and responsibilities in writing?
- How are acute medical emergencies identified? How is emergency assistance summoned? Is there an overall emergency response plan?
- What is the right degree of autonomy of healthcare providers from coaches and athletic administrators?

A VISION

If I could be a chief medical officer of every athletic training facility for a day, I'd love to:

Remove medical decisions from athletics control.

Practice risk-based prevention.

Identify hazards and challenges.

Implement controls.

Use quality management and quality improvement tools to monitor outcomes.

Implement corrective actions.

Document successes.

—Wishes of a Think Tank participant.

Healthcare and Health Information. Good risk management maps standards of care to available resources. If additional resources may be useful, an educational institution can weigh competing needs.

Some observers believe that athletic trainers and their training rooms are the future of brain injury risk mitigation. The concussion plan development team may—or may not—share this vision. The plan may address both pre- and post-injury healthcare for students. It can explain expectations for healthcare, whether provided internally or externally.

Access to health status information is yet another potential topic. The team may wish to consider questions such as:

- Who should have access to information on a student-athlete's health status?
- Might access differ for varsity, club sports, and intramural players?
- Must students sign a health information release as a condition of participating in sports? Does the release cover all student health records or just some? Does it cover both pre-play assessments and post-injury records? Or are separate forms used for pre-play information and post-injury information?

⁴⁸<http://www.ncaa.org/health-and-safety/medical-conditions/concussion-sports>

⁴⁹<https://www.cdc.gov/headsup/index.html> The federal National Library of Medicine also offers concussion-related resources. https://medlineplus.gov/concussion.html#cat_24 **Some state health departments provide online tools.**

⁵⁰Many institutions lack the resources to provide healthcare staff for away games. Collaboration within conferences may lead, for example, to a home team providing services to both teams.

Athletic Training Clinic Accreditation

Athletic training clinics for student-athletes may be accredited by the Association for Ambulatory Health Care.⁵¹ Universities with accredited facilities include:

- Northwestern University
- Princeton University
- University of Arizona
- University of Delaware
- University of Vermont
- University of Wisconsin — Milwaukee
- University of Wyoming

Concussion Monitoring and Management. Our “extra inning” of expert neurologist perspectives offers valuable ideas for monitoring and managing concussions. As to concussion management, healthcare providers can lead the way. Look for a provider experienced in the field. Sometimes institutions face the practical challenge of having a responsible adult monitor a student who has recently suffered a concussion. Might a roommate effectively perform this function? If a roommate or friend takes on the responsibility, he or she would benefit from written instructions on what to look for and steps to take or avoid.

Return to Learn and Return to Play. If an injured athlete completed pre-season baseline testing, those results can help guide the recovery process. Recovery steps gradually add increasing levels of stimulation and complexity. Studying at home might precede a return to class. Light reading, note taking, and untimed tests might be steps in returning fully to learn. A student with a legally defined disability is entitled to reasonable accommodations. For returning to play, the progression might include, for example, light aerobic training, then resistance training, limited drills, and practice without head contact. Periodic assessment and evaluation provide insight on the sequences and timing. The student may benefit from having a designated support person for returning-to-learn and returning-to-play.

“Retiring” an Athlete. Consider whether or not to reserve the right permanently to retire a student-athlete from playing designated sports at the institution. An institution opting to reserve this right probably needs an explanatory policy and other communications tools for students and parents.

Considerations in retiring a player might include a history of concussions; susceptibility to future concussion; concussion symptoms lasting for an entire semester or more; and medical

evidence of other injuries that could be exacerbated by another concussion or increase the risk of future concussions.

Also consider using an interactive process that would seek input from the student-athlete and the family or guardian, legal counsel, the risk manager, medical professionals, and coaches. An interactive process is more likely to be fair and accepted by the student and coaches. It is also less likely to be challenged. Be ever mindful of the institution’s primary mission of education. Is learning or playing the higher goal?

Documentation. Good documentation promotes continuity in healthcare and academic services for an injured athlete. It can also be important in managing legal risks. A concussion management plan usefully addresses what documentation to maintain, who is responsible, how to maintain it, and the retention period. Here are some sample documents that the plan might cover:

- Incident report
- Initial evaluation of the student-athlete
- Actions taken immediately following the evaluation (e.g., removal from play, assistance provided)
- Signed receipt by student-athlete and responsible adult of post-concussion care information
- All follow-up medical care (if any)
- Other support and assistance provided during the student’s recovery (if any)
- Clearance of the student-athlete to return to learn and return to play (if any)

Youth and Potential Brain Injuries

Many institutions sponsor sports camps and other athletic programs for youth. Enrolled minors may play varsity, club, or intramural sports.

Every state now has a law addressing concussion risks for minors. Learn the requirements in your state and how, if at all, they apply to your institution.

Consider incorporating relevant requirements into the institution’s concussion management plan, child protection program, camp requirements, or elsewhere.

⁵¹<http://www.aaahc.org/>

One way to manage this process is with a checklist. Keeping and tracking documentation can remind the responsible administrator to monitor that required steps are taken. It can also help protect the institution from claims that it provided inadequate care to an injured student.

When it comes to recording keeping, the issue often is not the existence of records but rather their quality. Basic documentation is fine. More thorough documentation can be even better. For example, one insurer recommends that coaches annually sign a form acknowledging that they:

- Received information about the signs and symptoms of concussions
- Received and read the institution's concussion management plan
- Understand their role in the institution's concussion management plan
- Agree to follow the recommendations of athletics healthcare providers regarding removing athletes from and returning them to play

This approach is more robust than a form acknowledging receipt of information. Similarly, a student's signed participation agreement provides more sophisticated documentation than, for example, a training session sign-in sheet.

Records management also merits attention. How and where are documents maintained? One Think Tank participant described student-athletes' medical records as "all over the map," with some information captured in specialized software and other information scattered among paper notes. Whether kept electronically or on paper, information on a student's intramural sport injury might reside in any number of places in the institution. For injury-related records, decide what documents to create and retain. Consider items such as the following:

- On-field assessments and results
- Medical records, including medical clearance records
- Records on health education provided to athletes
- Waivers or similar forms
- Any accommodations or other administrative records related to a brain injury

Don't forget contracts as important documentation. One Think Tank participant said "Sellers of shiny objects (i.e., the latest, greatest technology) come to us all the time. Coaches will say 'Give me the free thing for a year, and we'll use it.' They do this without any contract or other documentation such as a letter of intent. You as the administrator may not know what's going on."

Insurers and athletic conferences may well move toward requiring increasing amounts of documentation about concussions and other brain injuries. Starting with a good foundation on records will facilitate making required changes later.

Audits. An audit can give responsible administrators and coaches a foundation for improving their performance. Potential considerations might include:

- How frequently will audits occur?
- Who receives the audit report?
- What elements are ripe for an audit, e.g., completion of mandatory training?
- What will happen if the audit uncovers issues with the plan's implementation?

Building a process for monitoring and auditing into the plan helps everyone appreciate the standards to which they will be held.

Step Four. Implement the Plan.

The work of a concussion risk management team does not end with development of the written plan. Managing implementation is at least as important. Sub-committees might address particular areas. Take, for example, training for student-athletes. A sub-committee could consider issues such as:

- Is off-the-shelf training already available?
- Do we need to develop institution-specific training?
- How will training be delivered? What platforms will be used?
- If face-to-face training will be given, how will we identify or develop trainers?
- When will training be delivered?
- What training is mandatory and what training is not?

Keep in mind that "perfect is the enemy of the good." No risk management plan has to be, or even can be, perfect right out of the box. Risk managers understand that adjusting the plan over time is an important and necessary part of the process.

Consider creating a flowchart to map the plan elements. In implementation, pay particular attention to elements of the plan requiring "handoffs" between different departments or units. Things can easily go awry at these junctures. Provide clear lines of authority. This responsibility can rest with one individual or a collaborative group.⁵² Consider, too, adding concussion management to the job descriptions of coaches, athletic trainers, and other relevant individuals.

Implementation requires communication, encouragement, and accountability. Provide visibility to the plan through a communications strategy. This differs from training in that the content is more general and disseminated more widely. Some messages might be targeted to specific audiences such as:

- Team captains
- Players
- Coaches
- Families
- Athletics medical staff
- Student health staff
- Disability services
- Other administrators
- Faculty

Other messages could be addressed to all students, the entire institution, the athletic conference, and the media.

For purposes of accountability, will the plan have “teeth?” An athlete might fail to report symptoms of a concussion promptly, or a coach might resist a medical decision to remove an injured player. An athletic trainer could ignore documentation requirements. Without consequences for violating the plan, particularly for willful failures, the plan may become just another piece of paper.

Step Five. Follow Up with Post-incident Analysis, Auditing, and Monitoring

Compliance doesn’t occur overnight, especially when new requirements represent an institutional culture change.

Institutions can benefit from structured, group discussion of injuries and near-misses. The focus is typically on identifying future improvements, rather than assigning blame. In reviewing a particular situation closely, the group might identify ways to better align risks and resources. Perhaps certain individuals need more supervision or a policy needs revision. Many risk managers have deep experience with this type of analysis.

Audits help promote compliance with a risk management plan. An audit can be educational. Athletic departments may already be audited regularly for adherence to financial controls and athletic conference rules. Compliance with the institution’s concussion management plan might become an additional audit element. Audits of different elements might be handled together or separately.

Consider, for example, conducting a desk audit of records focusing on operational health and safety documentation. The audit could examine not only varsity teams but also club and intramural sports. Check records for attributes such as completeness and clarity. Consider examining concussion-related records such as these:

- Health and safety information provided to athletes
- Staff training on health and safety
- Equipment inspection and maintenance
- Inspection and maintenance of fields, courts, and other playing surfaces
- Participation agreements and waivers
- Pre-college medical histories
- Baseline testing results for athletes
- Injury reports
- Healthcare provided in athletics program
- Return-to-learn and return-to-play decisions
- Licenses for healthcare providers, drivers, and others

Given the changing landscape of the science, litigation, and athletic practices around brain injuries, institutions may also wish to monitor developments in these fields. New research might provide better tools for assessing a concussion immediately following impact. Athletic rules and guidelines may change. Each staff member involved in managing brain injuries might be tasked with tracking and reporting new developments in his or her areas of expertise.

As more institutions are completing concussion management plans, opportunities may arise for peer review of the plans. Comparable institutions might make informal arrangements to compare their concussion risk management plans. The NCAA has a Concussion Safety Protocol Review Process that applies to certain Division I schools.

We raise two final policy questions that institutions may wish to consider as they develop concussion management plans.

⁵²See the 2013 Think Tank white paper by the Gallagher Higher Education Practice titled “Collaborative Risk Management: ‘Risk Management’ vs. ‘Managing Risk’” available at: <https://www.ajg.com/knowledge-center/whitepapers/gallagher-higher-education-think-tank-study-collaborative-risk-management/>

Should Institutions Treat the Concussions of Athletes Differently from Those of Non-athletes?

If a student who is not an athlete falls on the library steps and sustains a concussion, should that student receive the same level of care as a varsity athlete whose concussion occurs during a game? We define care broadly to include, for example, “return to learn” services and other administrative support during recovery.

In an ideal world, all persons who suffer an injury would receive the same care. Yet realistically, access to resources can depend on context. In a high-profile post-season game, a varsity football player may have immediate access to healthcare. A student falling on campus steps would not—unless perhaps the steps led to the student health center.

The law requires reasonable, not perfect, efforts to prevent and address injuries. Just as an institution needs to examine, and justify, differences in resources it allocates to varsity and intramural sports, so too would an institution be well-served by examining its allocations between athletes and non-athletes.

What Is the Institution’s Responsibility to an Injured Athlete Who Graduates or Otherwise Leaves?

Athletes, institutions, and even legislators are asking whether institutions should defray post-graduation medical expenses for severely injured student-athletes. In 2012 California took a leading role in the debate by enacting a law requiring universities with large athletic programs to pay certain future medical costs and other expenses. The obligation applies to institutions with at least \$10 million annually in sports media revenue. Upon passage the law immediately affected just four institutions—Berkeley, Stanford, UCLA, and USC.

The California law requires that, if a student-athlete suffers an incapacitating athletic injury and loses an athletic scholarship, the institution must provide an equivalent scholarship. Low-income student-athletes receive payments for insurance deductibles and health insurance premiums. Most significantly for the present discussion, for two years after an incapacitated former athlete graduates or otherwise leaves the institution, it must pay costs for either necessary medical treatment or health insurance covering the injury and deductibles. The law “sunset” and become inoperative in 2021.⁵³ While similar bills have been introduced in Congress, no action has been taken at the federal level.

Athletic conference have also considered similar proposals. The PAC-12 now requires institutions to defray medical costs for injured student-athletes for four years after they leave or until they turn 26.⁵⁴ As part of a concussion risk management plan, an institution may wish to consider these issues.

In conclusion, just as coaches and teams follow their playbooks, so too will institutions follow their plans for managing the risk of severe brain injury in athletics. We hope that readers will have found ideas and resources suited to the unique needs of their institutions. Changes in science, litigation, and athletic requirements are sure to come. A risk manager, working together with many institutional colleagues, can help navigate the path forward.

We reassert the belief that, even today, athletic brain injury risks can be anticipated, managed, quantified, and insured.



⁵³California SB-1525. http://leginfo.legislature.ca.gov/faces/billCompareClient.xhtml?bill_id=201120120SB1525

⁵⁴Solomon, Jon, “Pac-12 Making Strong Effort to Care for Ex-athletes’ Medical Costs,” CBS Sports (6/20/15) <https://www.cbssports.com/college-football/news/pac-12-making-strong-effort-to-care-for-ex-athletes-medical-costs/>; Berkowitz, Steve, “NCAA Policy Chair Backs Health Care for Injured Players after Careers,” USA Today (11/16/15) <https://www.usatoday.com/story/sports/college/2015/11/16/ncaa-health-care-injured-players-after-college-harris-pastides/75883218/>

Extra Inning 10: Glossary

ACA is the acronym for the Affordable Care Act.

Accident Insurance usually covers specific types of injuries from specific causes or types of events. In contrast to “major medical” or coverage mandated by the ACA, this type of coverage usually has specific limits and very limited coverage.

Athletic Conference means any grouping of institutions that agree to play sports together. NCAA is an example of an Athletic Conference, the Big 10 is a conference within the NCAA Division I conference.

Baseline Testing is a series of tests and measurements designed to collect data on a healthy student-athlete’s brain function and experience with common symptoms such as headaches or sleep problems. Baseline results are then compared to the student’s results after experiencing an injury.

BI. Abbreviation for Bodily Injury.

CCCAA. California Community College Athletic Association.

Chronic Traumatic Encephalopathy (CTE) is a rare, progressive, degenerative brain disease. It was originally recognized in boxers in the 1920s and associated with phrases such as punch drunk and dementia pugilistica. It is often found in athletes (and others) with a history of repetitive brain trauma, including symptomatic concussions as well as asymptomatic sub-concussive hits to the head.

Club Sports refer to athletic teams and activities that are organized by students and which may or may not have support of the institution. Club Sports teams play against other institutions’ clubs.

Concussion. In a concussion, the brain experiences trauma from an external force. The brain receives an impact that results from or undergoes a change in motion or momentum. The brain may bounce or twist inside the skull. Even if the head does not receive a direct blow, force applied to another part of the body can cause the brain to shake, leading to a concussion. Experts estimate that nearly 4 million concussions occur annually in the United States as a consequence of sports and physical activity.⁵⁵

Conference refers to a collection of sports teams, playing competitively against each other at the professional, collegiate, or high school level. Conferences may be subdivided into smaller divisions, with the best teams competing at successively higher levels.

Contact Sports refers to any sport in which physical contact between players is an accepted part of play, such as football, boxing, or hockey.

Division refers to a subdivision of a Conference that assigns or describes the level of competition. For example, the NCAA has three divisions (Divisions 1, 2 and 3). Division 1 is the highest level of competitive play.

Enterprise Risk Management (ERM) refers to the methods and processes used by organizations to manage risks and seize opportunities related to the achievement of their objectives. ERM provides a framework for risk management, which typically involves identifying particular events or circumstances relevant to the organization’s objectives (risks and opportunities), assessing them in terms of likelihood and magnitude of impact, determining a response strategy, and monitoring progress. By identifying and proactively addressing risks and opportunities, the business enterprise can protect and create value for their stakeholders, including owners, employees, customers, regulators, and society overall.

Health Insurance refers generally to first party health coverage that is carried by the individual, regardless of whether the insured’s plan is offered through a parent’s or employer’s program, by the institution, or by a state entity (i.e., Medicaid).

Insurance Services Office (ISO) provides, among other services, standard insurance policy language used by many insurance companies. ISO forms contain the standard language for various types of insurance. ISO is a subsidiary of Verisk Analytics.⁵⁶

Intermural Sports. A term sometimes substituted for Varsity Sports. However, club sports teams also play against other institutions.

Intramural Sports refers to athletic teams that play other teams within the same institution. The difference between intermural and intramural is similar to the difference between “internet” and “intranet.”

Long Tail refers to claims that are presented long after the precipitating event occurred. Chronic traumatic encephalopathy may be a long-tail claim.

NAIA. National Association of Intercollegiate Athletics, a governing body of small athletics programs. Includes over 250 institutions, 21 conferences, and 60,000 student-athletes.

NCAA or National Collegiate Athletic Association is a member-led organization dedicated to providing a pathway to opportunity for college athletes.⁵⁷

⁵⁵Williams, R., Puetz, T. et al., “Concussion Recovery Time Among High School and Collegiate Athletes: A Systematic Review and Meta-Analysis,” *Sports Medicine* 2015 June; 45:6: 893-903.

⁵⁶<http://www.verisk.com/insurance/brands/iso/about.html>

⁵⁷<http://www.ncaa.org/about>



NCAA Catastrophic Insurance. The NCAA sponsors a Catastrophic Injury Insurance Program which covers the student-athlete who is catastrophically injured while participating in a covered intercollegiate athletic activity. The policy has a \$90,000 deductible and provides benefits in excess of any other valid and collectible insurance.⁵⁸

NJCAA. The National Junior College Athletic Association. It promotes and fosters two-year college athletics.⁵⁹

PD. Abbreviation for Property Damage.

Post-concussion syndrome typically involves prolonged cognitive, emotional, and behavioral symptoms and requires longer periods of treatment, including rest. Treatment must be individualized, with the pacing of return to normal activities monitored.

Return to Learn or return to academics following a concussion is a parallel concept to return-to-play. Return-to-learn guidelines assume that both physical and cognitive activities require brain energy utilization, and that after a sport-related concussion, brain energy may not be available for physical and cognitive exertion because of the brain energy crisis.⁶⁰

Return to Play describes a process that is to be used when a player has been removed from play because of an actual or suspected injury. It includes assessment, treatment, post-concussive management and, if necessary, a stepwise progression of activity before the student is permitted to return to the field.

SRC. Abbreviation for Sports-Related Concussion

A **sub-concussive impact**, as the name implies, is a blow to the head that does not result in a concussion. The impact may, or may not, be accompanied by symptoms.

Tau Protein Any of several proteins that act to stabilize neuronal microtubules in the axons of brain neurons and that form abnormal tangles in the brains of people with certain neurodegenerative disorders.⁶¹

Traumatic Brain Injury (TBI) is any disruption in the normal function of the brain that can be caused by a bump, blow, or jolt to the head, or penetrating head injury. It may lead to temporary or permanent impairment of physical, cognitive, or psychosocial functions.

Trigger is used in this paper to mean the event which activates coverage under an insurance policy. Policy triggers become particularly important when it is difficult to determine when an underlying injury or damage actually occurred.

USCAA or the United States Collegiate Athletic Association is a national organization for the intercollegiate athletic programs of 81 mostly small colleges, community colleges and junior colleges, across the United States.⁶²

Varsity Sports refer to athletic teams that are sponsored by the institution and play against other institutions that are in their **Conference** or **Division**. A **Varsity Athlete** would be a student who plays on a varsity team. Some institutions prefer the term “intercollegiate” instead of “varsity.”

⁵⁸ <http://www.ncaa.org/about/resources/insurance/student-athlete-insurance-programs>

⁵⁹ http://www.njcaa.org/about/mision/Mission_statement

⁶⁰ <http://www.ncaa.org/sport-science-institute/concussion-diagnosis-and-management-best-practices>

⁶¹ <http://medical-dictionary.thefreedictionary.com/tau+protein>

⁶² http://www.theuscaa.com/information/USCAA_Membership_Guide

Extra Inning 11: Student-Athlete Brain Health by Drs. Kutcher and Savino

Student-Athlete Brain Health

By Jeffrey Kutcher, M.D. and Anthony Savino, M.D.

The Think Tank invited Jeffrey Kutcher, M.D., a leading expert on sports-related concussions, to share his perspectives. Dr. Kutcher, a board-certified neurologist, serves as national director of The Sports Neurology Clinic at The CORE Institute, establishing neurology programs nationwide for athletes. Prior to joining The CORE Institute, Dr. Kutcher served as the founding Director of the University of Michigan's NeuroSport program.

Dr. Kutcher is currently a team physician for the U.S. Ski and Snowboard Association and served as the team neurologist for the United States at the 2014 Olympic Winter Games in Sochi, Russia. He is the Director of the NBA's concussion program and works as an advisor to the NFL and NHL Players' Associations. He has helped develop the concussion policies of the NCAA, as well as several college athletic programs and conferences.

Dr. Anthony Savino, a board-certified neurologist and colleague of Dr. Kutcher's, specializes in treating concussion, post-concussion syndrome, and neurological disorders in athletes. Dr. Savino contributed to the material here.

The following text reflects only their opinions and approach to medical care. These thoughts may not fit the needs and resources of all student-athletes and all institutions. An institution, may not, for example, have medical staff in its athletic department or the capacity to provide on-site medical evaluation at all competitions at all levels of sport. As with the entire report, the following text is not offered to create standards.

Student Athlete Brain Health: Pre-season

Promoting and protecting student athlete brain health is a year-round endeavor. Each off-season, student athletes should have an assessment of their neurological health and be re-educated on up-to-date concussion and brain health concepts. Likewise, athletic department medical staff should use the opportunity to review the interval body of scientific literature and update institutional concussion policies accordingly.

For many student athletes, pre-season neurological testing has become an expected practice during the pre-season. Commonly referred to as "baseline testing," these evaluations are designed to collect information on the student athlete's brain function and common symptom experience while they are healthy. This information is then used to help program physicians and athletic trainers manage concussions during the season. These evaluations are also opportunities to consider the overall brain health of the student athlete and discuss any chronic

neurological symptoms and develop preventive strategies for the upcoming season and beyond. It is extremely important to realize that baseline testing, regardless of which tool or approach is being utilized, neither confirms or refutes the presence of injury. Rather, the data collected are used by clinicians who then use the information as part of their overall clinical evaluation. Common types of baseline tests include:

- Computerized neurocognitive programs (e.g., CogState, ImPACT)
- Balance evaluation tools (e.g., Balance Error Scoring System)
- Symptom checklists
- Eye movement assessments (e.g., Vestibular/Ocular Motor Screening, King-Devick)

There is no widely accepted best-practice when it comes to selecting the specific baseline test(s) to be employed. Factors for selection are the available resources for administering the test and the practice experience and expectations of the treating physicians. Administrators should insist their clinicians be well-informed regarding the baseline tests being used, including the understanding of factors that may influence results and to what degree and how the use the results appropriately.

Regardless of the test, however, some general principals should be applied. The student athlete should be in a good state of health, well-rested and attentive. Instructions should be clear and repeated if necessary. The testing environment should be controlled and free of distraction. Finally, the presence or absence of neurological medications being used at the time of administration should be clearly documented.

The pre-season is also the appropriate time for concussion education, while the continued growth and evolution of concussion and athlete brain health science makes annual education for student athletes a good practice. Although new information may develop from one season to the next and areas of emphasis may change, there are several foundational points to stress:

- Student athletes should report any neurological symptom to medical staff as soon as possible.
- Student athletes should also report concern they may have for a teammate
- If concussion is suspected, the student athlete is to be removed from play for their safety and evaluated by medical staff as soon as possible.
- If concussion is diagnosed, the student athlete cannot return to participation until cleared by the appropriate medical provider.

On-field Evaluation

An essential part of caring for student athletes is sideline and on-field medical evaluation. While the increased emphasis on concussion has helped advance the standard of evaluation and management a great deal, it has also, unfortunately, pushed it into the spotlight and turned a once private moment into a potentially public spectacle. Keeping this in mind, there are several key points for ensuring safe and best practices on the field.

- Communication. Medical game coverage is a team effort requiring a clear and effective communication plan.
- Trust. Building a relationship of trust within the medical staff and between the medical staff and the student athlete is essential for care.
- Execution. Preparation and practice are key to consistent execution in a hectic environment.

Evaluation of a possible neurological injury on the field is a serious proposition, but it does not have to be a scary one. With the right approach, we can provide the best care for our student-athletes. Basics of the on-field evaluation of potential brain injury include:

- First, evaluating the overall stability of the student athlete by starting with the ABCs (Airway, Breathing, Circulation).
- A student athlete who is unconscious should not be moved before stabilizing the cervical spine and placing the individual on a backboard.
- Once an emergent injury has been ruled out, a brief neurological evaluation should be performed on the sideline, the goal of which to determine if the player needs to be taken somewhere for a more detailed evaluation.
- Ideally, the detailed neurological evaluation should take place in a quiet and private environment. This will include a review of symptoms, mental status evaluation, and full neurological exam.
- If the suspicion for concussion is low at this point and there are appropriate resources, the student athlete may be returned to play under close monitoring. Given the nature of the injury, it is advisable to check in with the player periodically throughout the game about possible development of symptoms. This may include repeat neurological exams.

The main point to remember is if there is any concern for concussion, the student-athlete is to be removed from play immediately and referred to an appropriate medical provider for a full evaluation.

A player showing any of these signs or symptoms should be taken immediately to the emergency room:

- Prolonged unconsciousness- greater than 5 minutes
- Weakness or numbness
- Repetitive vomiting
- Seizure
- Decreasing level of awareness or consciousness
- Slurred speech
- Extreme change in behavior
- Concern for cervical spine injury

Concussion Management

The management of concussion should be individualized and comprehensive. It should be thought of as a process as opposed to a protocol, as each concussion is unique and can be complex. Having an overly specific protocol, therefore, can lead to poor medical care. The process itself should always start with a detailed neurological evaluation and careful consideration of all potential diagnoses.

Evaluation for concussion should be performed if any student-athlete exhibits a sign or symptom of concussion in the setting of witnessed or assumed contact. Common concussion signs/symptoms include but are not limited to:

- Headache
- Confusion or disorientation
- Clumsiness or unsteadiness
- Memory loss or impairment
- Sensitivity to light or sound
- Nausea or vomiting

If any of these is present, or if a witnessed injury cause is of significant concern, the student-athlete should not be allowed to participate further until a subsequent evaluation, which should include the following:

- Detailed history of underlying event, including mechanism of injury
- Trajectory of symptoms since onset
- Any treatments before evaluation
- Detailed review of medical, family and social history
- Neurological exam

Concussion is a clinical diagnosis, without a confirmatory objective test. While there are useful tools designed to assist with diagnosis and management, these are not diagnostic. Some useful tools include:

- Imaging (CT, MRI)—to evaluate for additional injuries such as bleeding
- Neuropsychological testing (ImPACT, Cogstate, paper and pencil, etc.)
- EEG-based technology (QEEG, BNA, etc.)

When the diagnosis of concussion is made, a comprehensive treatment plan should be created that is tailored to the individual patient, taking into consideration premorbid conditions, timing of the injury, symptom burden, and neurological deficits. During recovery there may be a role for various treatments including physical therapy and medications. In general, the recovery process should be determined by a physician and can be divided into three phases:

- Acute Rest: Significant avoidance of stimulating activities, physical and cognitive. Should typically last no more than 24-48 hours.
- Relative Rest: As symptoms improve, patients should start to re-introduce normal daily activities.
- Graduated Exertion: When patients are nearly feeling normal at rest they can start gradually to reintroduce physical activity as directed by their physician and as symptoms allow.

A student-athlete diagnosed with a concussion should not return to full participation until cleared by his or her physician.

Post-concussion Syndrome

Concussion is a temporary injury, typically resolving in 7-10 days. For the most part, concussion symptoms follow the same trajectory. Unfortunately, in about 15% of cases symptoms last beyond this point. In fact, for a small minority, persistent symptoms may be reported months or years following concussion. If concussion-like symptoms persist beyond the accepted time frame of the concussion injury itself, this is called post-concussion syndrome. The symptoms of post-concussion syndrome occur for many different reasons, making the diagnosis potentially difficult and best determined by a physician with neurological expertise.

The following are a few important keys to the diagnosis of post-concussion syndrome.

- Symptoms must follow a diagnosis of concussion.
- Symptoms do not follow the typical trajectory of concussion recovery, which is gradual improvement over time.
- This is a complex of symptoms, with intricate interactions between them.

Post-concussion syndrome can be difficult to treat but, with the right approach, patients should expect to improve. It is important to remember that no two cases of post-concussion syndrome are alike. Each takes an individualized approach. Here are some tips for successful treatment.

- There are often one or two central symptoms driving the others. Focus on these.
- All symptoms must be treated simultaneously.
- These patients benefit from physical activity. Therefore, if a patient with post-concussion syndrome is treated as if they are still concussed, they are unlikely to improve.
- Temporary treatments may include physical therapy and medications.

We are now aware of several risk factors for post-concussion syndrome. With appropriate early management of symptoms during concussion recovery, it is likely that more cases of post-concussion syndrome can be avoided. Risk factors include:

- History of post-concussion syndrome
- Personal or family history of migraine headache
- History of mood disorder (anxiety, depression, etc.), sleep issues, vestibular dysfunction or cognitive diagnoses such as ADD or ADHD
- Cervical spine issues

Given what we know about the risk factors for post-concussion syndrome, it is important for athletes with any of the above to undergo yearly neurological evaluations. During these visits any underlying issues can be addressed, before an injury occurs. This will decrease the chance of prolonged recovery, and get them back to play safely, but as soon as possible.

Chronic Traumatic Encephalopathy

Over the past decade, there has been a steadily increasing focus on the potential of developing negative long-term brain health effects from playing contact sports. Unlike what is typically reported in the media, concussions are not the primary risk

factor for these long-term concerns. Rather, it is a chronic exposure to repetitive impact forces that is thought to be most predictive. It is important to note, however, that the human brain is a resilient organ. It is also quite variable from person to person. Thus, the number, frequency, and severity of impacts that will cause problems in any one individual is variable as well.

Chronic Traumatic Encephalopathy (CTE) is a term often used to refer to the entire category of potential long-term effects. CTE, however, is something very specific and only one of many potential problems. Correctly used, the term CTE refers to a distinctive pattern of changes to brain tissue seen at autopsy that are thought to be caused by repetitive exposure to forces. How these changes translate to problems experienced during life, such as depression, memory loss, impulse control, and motor incoordination, however, is unclear. Simply stated, the presence of CTE changes at autopsy only tells part of the story.

It is also critical to understand that brain-related problems experienced by former contact sport athletes later in life may be from causes other than CTE. Unfortunately, CTE has been the focus of such intense scrutiny that other, potentially treatable, causes of problems like depression, insomnia, and headaches are not appropriately considered and patients continue to suffer unnecessarily. Even worse, many patients assume that CTE is the cause of these problems and never seek appropriate evaluation and treatment, as they falsely conclude there is no potential for improvement. Whenever possible, anybody who is concerned about their brain function or brain-related symptoms should be encouraged to seek out a comprehensive neurological evaluation by a physician experienced in diagnosing and treating degenerative brain diseases.

Research

Alongside the increased awareness of concussion and athlete brain health over the past decade, medical knowledge and research have followed suit. Studies range from basic science to clinical care. Several landmark studies described the pathophysiology of concussion and timing of injury recovery. Just this past year we learned more about the benefits of an active approach to concussion recovery, risk factors for post-concussion syndrome, and possible long-term effects of repetitive head impacts.

Although recent studies have contributed significantly to the literature, just as with any research we must be cautious in the interpretation of their results. There are several limitations to concussion and athlete brain health research to keep in mind, including:

- Concussion is a clinical diagnosis; at this point there is no objective diagnostic marker. This causes variability across studies looking at treatment or outcome of concussion.

- Concussion is subjective. Many studies rely on the self-reporting of patient symptoms, which vary significantly based on baseline symptoms, life experiences, and other factors.
- Lack of long-term data. Given that concussion is a relatively new subject of study in the medical research world, longitudinal studies are lacking. This gap complicates interpretation of most studies or objective findings.
- Selection bias. Not all studies involve subjects who are representative of the general population. This does not allow for generalization of results. In the area of CTE, the limitation is particularly noteworthy.

Researchers are making notable progress in the field of athlete brain health. In moving forward, research should focus on addressing these limitations to the extent possible. Overall, both the amount and quality of research effort need to increase. As well, much like the care that student athletes should receive, research efforts should extend beyond the acute injury. We must address long-term brain health, far beyond the injury, in both patient care and research.

Extra Inning 12: Liability Insurance Coverage Triggers

“Coverage Trigger: Getting It Right for the Right Reason”

By R. Steven Rawls
October 2008

Insurance Risk Management Institute

Excerpted with permission from IRMI⁶³

“Trigger” is a term of art meaning the event which activates coverage under the policy. Courts often look to trigger theories when the insured’s burden to prove coverage under its policy seems insurmountable due to the difficulty in determining when the underlying injury or damage actually happened.

There are four generally accepted trigger of coverage theories:

- Exposure
- Manifestation
- Continuous trigger
- Injury in fact

These are discussed below.

⁶³Available at <https://www.irmi.com/articles/expert-commentary/coverage-trigger-getting-it-right-for-the-right-reason>

Exposure Coverage Trigger Theory

The exposure theory has primarily been applied in asbestos bodily injury cases. See e.g., *Insurance Co. of N. Am. v. Forty-Eight Insulations, Inc.*, 633 F.2d 1212 (6th Cir. 1980). The *Forty-Eight Insulations* court explained that coverage is triggered under the exposure theory when the first injury-causing conditions occur; there, upon the first inhalation of asbestos fibers

Manifestation Coverage Trigger Theory

The manifestation, or discovery, trigger activates coverage under the policy in place when the personal injury or property damage becomes known, or is discovered by, the property owner or victim. Even when courts apply the manifestation theory, they do so without the consistency one would expect. Some courts find the policy is triggered when the damage is actually discovered while others trigger the policy in place when the damage could or should have been discovered.

Continuous Coverage Trigger Theory

The continuous trigger has also been referred to as the multiple trigger or triple trigger. This trigger originated in asbestosis cases where bodily injury progresses and becomes more serious over time. The court in *Keene Corp. v. Insurance Co. of N. Am.*, 667 F.2d 1034 (D.C. Cir. 1981), illustrated the origin of the multiple trigger:

In sum, the allocation of rights and obligations established by the insurance policies would be undermined if either the exposure to asbestos or the manifestation of asbestos-related disease were the sole trigger of coverage. We conclude, therefore, that inhalation exposure, exposure in residence, and manifestation all trigger coverage under the policies. We interpret “bodily injury” to mean any part of the single injurious process that asbestos-related diseases entail. *Keene* at 1047.

Owens-Illinois, Inc. v. United Ins. Co., 650 A.2d 974 (N.J. 1994), applied a continuous trigger to “the small percentage of [the insured’s] asbestos related expenditures” on property damage claims. In the primarily bodily injury case, the court explained that here, where none of the parties suggested the process was anything but continuous, “claims of asbestos-related property damage from installation through discovery or remediation (the injurious process) trigger the policies on the risk throughout that period.” The court refused to address when “the injurious process” ends.

Injury-in-fact Coverage Trigger Theory

When applying an injury-in-fact, or actual injury trigger, coverage under a general liability policy is triggered when the personal injury or property damage underlying the claim actually occurs. *GenCorp.*, *supra*, held that the appropriate trigger for claims arising out of the disposal of hazardous waste was:

a continuous trigger employing injury-in-fact as the initial triggering event is the applicable theory in this case if GenCorp can substantiate its claim that the injuries ... were continuing in nature. In the absence of such a showing, injury-in-fact will be the governing trigger. In addition, since there is no indication that the initial point of injury in this case is difficult to ascertain—GenCorp’s expert has even opined on the matter—it appears that injury-in-fact rather than exposure should be the event that is deemed to trigger continuous coverage. That is, depending on the evidence presented at trial, coverage will be triggered for the periods between the first point of injury-in-fact and manifestation. *GenCorp.* at 748.

Thus, in accord with the policy language, coverage is triggered when the property damage actually occurs, and, if the trier of fact determines that the injury is in fact continuous and progressive, the continuous trigger will apply.⁶⁴

Commentators and courts alike have noted that the injury-in-fact approach often looks identical to the continuous trigger theory. As the *Wolverine World Wide, Inc. v. Liberty Mut. Ins. Co.*, 2007 WL 705981 (Mich. App. 2007), court explained:

[t]his is likely because the concept of “injury in fact” is flexible. The fact-finder can determine that injury occurred at any number of points, from initial exposure through manifestation. Further, in continuous damages cases, injury may occur repeatedly through numerous consecutive policy periods.

(Internal citations omitted.)

Extra Inning 13: Sample Institutional Materials on Concussions

Following is a list of sample documents we have collected. You may access each document by clicking on the document name.

All documents submitted by Think Tank participants and other institutions have been stripped of their institutional identifiers and converted to word so that readers may use them as a starting place for their own work. For sample documents with potential legal implications, it is essential that any user check with legal

⁶⁴<https://www.irmi.com/articles/expert-commentary/coverage-trigger-getting-it-right-for-the-right-reason#7>

counsel on the appropriateness and applicability of the form for their state. None of the documents listed here represents legal advice. We offer them rather as illustrations of varying approaches to managing concussion risks at the institutional level.

Varsity Sports

- Sample University Varsity Concussion Management Plan (www.ajg.com/concussion-mgt-plan)
- Sample University Concussion Discharge Sheet (www.ajg.com/concussion-discharge-sheet)
- Sample Sports Medicine Concussion Policy & Procedures (www.ajg.com/clubsports-mgmt-practices)

Club and Intramural Sports

- Sample Club Sports Manual 2017-18 Div I (www.ajg.com/club-sports-manual)
- Club Sport Concussion Management Practices Div III Sample (www.ajg.com/clubsports-mgmt-practices)

Waivers and Releases

These waivers are designed to illustrate the variety of types of waiver schools are using—general releases for varsity or club sports, specialized waivers for minors (check state laws!) and waivers for groups that may or may not be technically “sports clubs.”

- Sample University Concussion Release and Waiver (www.ajg.com/concussion-release-waiver)
- Sample State University Participant Waiver Sports Clubs (www.ajg.com/participant-waiver)
- Sample State University Participant Waiver Sports Clubs for Minors (www.ajg.com/participant-waiver-minors)
- Sample State University Outdoor Club Waiver (www.ajg.com/outdoor-waiver)
- Sample Club Participation Agreement and Waiver (www.ajg.com/agreement-waiver)

This paper, by one of our contributing editors, outlines informed consent, waiver and participation agreement construction considerations for a state that has strict waiver construction rules but that has a good history of upholding well-constructed waivers (Massachusetts).

- Waivers-Informed Consent-Participation Agreements - Content and Construction 2017 (www.ajg.com/consent-agreements)

Miscellaneous

- Sample Athletics Conference Independent Medical Observer (IMO) Policy (www.ajg.com/med-observer-IMO-policy)
- Checklist for Concussion Management Plans Reprinted with permission from United Educators (www.ajg.com/checklist-concussion-plans)
- Concussion Management Flowchart and SART3 Guidelines (www.ajg.com/concussion-mgmt-flowchart)

Extra Inning 14: Selected Resources

Organizations

American Academy of Neurology

Concussion Quick Check App (available in both iTunes and Android versions) <https://www.google.com/url?q=https%3A%2F%2Fplay.google.com%2Fstore%2Fapps%2Fdeveloper%3Fid%3DAmerican%2BAcademy%2Bof%2BNeurology>

Sports Concussion Resources

<https://www.aan.com/concussion/>

American Physical Therapy Association

“Traumatic Brain Injury (TBI): Resources from Other Organizations”

<http://www.apta.org/TBI/OtherOrganizationResources/>

Brain Injury Association of America

Resources Page <http://www.biausa.org/about-brain-injury.htm>

Centers for Disease Control

Heads Up Campaign Resources Page

<https://www.cdc.gov/headsup/>

Concussion in Sport Group

Concussion Recognition Tool, 5th Edition, April 26, 2017

<http://bjsm.bmj.com/content/early/2017/04/28/bjsports-2017-097508CRT5>

“Consensus statement on concussion in sport” 5th international conference on concussion in sport, Berlin, October 2016

<http://bjsm.bmj.com/content/51/11/838>

National Collegiate Athletic Association

Concussion Resources

<http://www.ncaa.org/themes/topics/concussions>

Student-Athlete Concussion Injury Litigation Website

<http://www.collegeathleteconcussionsettlement.com/>

National Institutes of Health

Medline Plus feature with articles on sports and concussion (Summer 2015) <https://medlineplus.gov/magazine/issues/summer15/articles/summer15pg13.html>

Articles

“Concussion Management in Community College Athletics: Revealing and Understanding the Gap Between Knowledge and Practice” by Nancy Resendes Chinn and Paul Porter; Community College Journal of Research and Practice Vol. 37, Issue 6, 2013 <http://www.tandfonline.com/doi/abs/10.1080/10668926.2012.710127>

“Concussion management in US college football: progress and pitfalls” by Christine M Baugh and Emily Kroshus, HHS Public Access, Published online 2015 Aug 6. doi: 10.2217/cnc.15.6 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4825689/> Examines effects of concussion management policies adopted by athletic leagues and their implementation by institutions.

“Sports-Related Concussions in Youth: Improving the Science, Changing the Culture,” Committee on Sports-Related Concussions in Youth; Board on Children, Youth, and Families; Institute of Medicine; National Research Council; Graham R, Rivara FP, Ford MA, et al., editors. Washington (DC): National Academies Press (US); 2014 Feb 4. <https://www.ncbi.nlm.nih.gov/books/NBK185343/> and survey table https://www.ncbi.nlm.nih.gov/books/NBK185343/table/tab_1_1/?report=objectonly

“The Worst Part About Recovering From a Concussion” by Sean McCoy, Atlantic Monthly July 15, 2015 <https://www.theatlantic.com/health/archive/2015/07/concussion-recovery-blood-test/399767/>

“Traumatic Brain Injury Legislation,” National Conference of State Legislatures, November 18, 2015 <http://www.ncsl.org/research/health/traumatic-brain-injury-legislation.aspx>





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