

GRIDLOCKED ON THE GRIDIRON: MEDICAL MONITORING IS THE INCORRECT RESPONSE TO THE NCAA CONCUSSION LITIGATION*

I. INTRODUCTION

Why do people play football? Petey Jones, immortalized as the star running back in the Disney blockbuster *Remember the Titans*, suggested a basic premise: “Football is fun . . . sir.”¹ Football is ubiquitous in American society, arguably “claiming” the title—despite baseball and basketball enthusiasts’ contentions—of “America’s Game.”² There is, however, an affinity for the game that runs deeper. Football is about the comradery, the community found from teammates’ disparate origins, the life lessons, and for a few players, the opportunity to attain a college education or fame.³ Despite these real benefits, at what point do the risks outweigh the benefits and start to become the subject of mass tort litigation?

Dating back to the late nineteenth century, American football has evolved into a unique national phenomenon.⁴ Walter Camp, a former player and coach at Yale University who is widely accorded the “Father of American Football,” transformed the game into its present form.⁵ Camp established, among other things, a static, uncontested line of scrimmage.⁶ Since then, football has evolved into a multibillion dollar industry for universities, communities, owners, players, coaches, alumni, stockholders, and governmental taxing authorities.⁷

* Matthew Rubino, J.D. Candidate, Temple University Beasley School of Law, 2021. I would like to first thank my father, mother, and sister who all took a vested interest in this Comment by taking the time to read it and provide valuable feedback. Second, I would like to thank David DeMatteo, Drexel University Professor of Psychology & Law, who provided fantastic guidance and allowed me to leverage his expertise in this field. Lastly, I would like to thank *Temple Law Review*, whose hard work and commitment to producing excellent work product never really gets fully appreciated.

1. REMEMBER THE TITANS (Walt Disney Pictures 2000).

2. See Brian Curtis, *Debating America’s Pastime(s)*, N.Y. TIMES (Feb. 1, 2009), <http://www.nytimes.com/2009/02/01/sports/01iht-01curtis.19835372.html> [https://perma.cc/MZ6G-U9VB].

3. The author played twelve years of football, including four years at Yale University as a wide receiver. During his college career, he participated in a National Collegiate Athletic Association (NCAA) concussion study that included neuroimaging and cognitive baseline tests.

4. See Greg Bishop, *It’s a Scrimmage, Not a Scrum*, N.Y. TIMES (Oct. 28, 2007), <http://www.nytimes.com/2007/10/28/weekinreview/28basicA.html> [https://perma.cc/6QAF-PFYU].

5. *Id.*

6. *Id.*

7. See, e.g., Steven Kutz, *NFL Took in \$13 Billion in Revenue Last Season — See How it Stacks up Against Other Pro Sports Leagues*, MKT. WATCH (July 2, 2016, 10:53 AM), <http://www.marketwatch.com/story/the-nfl-made-13-billion-last-season-see-how-it-stacks-up-against-other-leagues-2016-07-01> [https://perma.cc/VDS8-5SLN]; Eben Novy-Williams, *QuickTake College Sports*, BLOOMBERG (Sept. 27, 2017, 11:11 AM), <http://www.bloomberg.com/quicktake/college-sports-ncaa> [https://perma.cc/4FC2-RZ25].

Despite football being “America’s Game,”⁸ the sport has been criticized in recent years.⁹ In 2005, Dr. Bennet Omalu published a study demonstrating evidence of chronic traumatic encephalopathy (CTE) in a former professional football player, Mike Webster.¹⁰ Dr. Omalu worked at the Allegheny County Office of the Medical Examiner, where he was assigned Mike Webster’s body.¹¹ Webster, nicknamed “Iron Mike,” played center for the Pittsburgh Steelers and died of a heart attack at age fifty.¹² Although Webster was not diagnosed with CTE until after his death, he suffered years of depression, fits of rage, dementia, and other symptoms related to CTE prior to his death.¹³

Following Webster’s death and months of tests that produced no evidence of brain trauma, Dr. Omalu finally decided to physically examine Webster’s brain postmortem by slicing and staining it.¹⁴ Only then did he discover an abnormal accumulation of proteins on Webster’s brain, which he later called CTE.¹⁵ The study forced the scientific community and the sports industry to take a harder look at the long-term effects of sports-related concussions, and it opened the floodgates to more research.¹⁶ Concerns regarding this budding issue continue to grow as more studies are published.¹⁷ Consequently, American football has endured increased scrutiny, with some advocates even calling for its abolition.¹⁸ While that opinion may be extreme, it reflects a paradigm shift in one’s decision to play the sport.¹⁹

As more scientific evidence illuminates the connection between contact sports and head trauma, the National Collegiate Athletic Association (NCAA) has taken on additional pressure to answer for alleged inadequacies in its management of its athletes’ health.²⁰ The NCAA has faced more than three hundred lawsuits from former collegiate athletes who claim the NCAA negligently handled the treatment of their concussions.²¹ In response, the NCAA and a class of former collegiate athletes reached a settlement on

8. Curtis, *supra* note 2.

9. See, e.g., Dr. Bennet Omalu *Spotlights a Profoundly Inconvenient Truth*, UNIV. WASH., DEP’T EPIDEMIOLOGY (Sept. 28, 2017), <http://epi.washington.edu/news/dr-bennet-omalu-spotlights-profoundly-inconvenient-truth> [https://perma.cc/DD8E-H8JN].

10. *What Is CTE?*, CONCUSSION LEGACY FOUND., <http://concussionfoundation.org/CTE-resources/what-is-CTE> (last visited Feb. 1, 2021).

11. Dr. Bennet Omalu *Spotlights a Profoundly Inconvenient Truth*, *supra* note 9.

12. *Id.* In football, the center is the player on the offensive line who snaps the ball to the quarterback. Eric Dockett, *Offensive and Defensive Football Positions Explained*, HOW THEY PLAY (Jul. 16, 2020), <http://howtheyplay.com/team-sports/Offensive-and-Defensive-Football-Positions-Explained> [https://perma.cc/ST58-6JZG].

13. Dr. Bennet Omalu *Spotlights a Profoundly Inconvenient Truth*, *supra* note 9.

14. *Id.*

15. *Id.*

16. See *What is CTE?*, *supra* note 10.

17. See, e.g., Rebekah Mannix, William P. Meehan III & Alvaro Pascual-Leone, *Sports-Related Concussions – Media, Science and Policy*, 12 NATURE REV. NEUROLOGY 486, 486 (2016).

18. *Id.*

19. See *id.*

20. See, e.g., *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. 202, 209–10 (N.D. Ill. 2019), *aff’d*, Walker v. NCAA, No. 19-2638, 2019 WL 8058082 (7th Cir. Oct. 25, 2019); *In re NCAA*, 543 S.W.3d 487, 496 (Tex. Ct. App. 2018).

21. Ralph D. Russo, *Wave of Concussion Lawsuits To Test NCAA’s Liability*, AP (Feb. 7, 2019), <http://apnews.com/4a4ed68e4c3a426abc4e34606ae4a399> [https://perma.cc/WZ4U-4F5A].

August 12, 2019.²² In part, the NCAA agreed to place seventy million dollars of financial support into a medical monitoring fund and revise its concussion management and return-to-play policies for current players.²³ Return-to-play policies are a subset of concussion-management protocols.²⁴ Trainers adhere to these policies when an athlete suffers a concussion so that they can ensure the athlete returns to the field safely.²⁵

Deciding whether to play football is already a cost-benefit analysis. For future athletes and their parents, determining whether to play in light of new scientific evidence depends on the amount of reliable information to which they are exposed.²⁶ This Comment first provides an overview of sports-related head traumas, the NCAA settlement agreement, and medical monitoring jurisprudence.²⁷ This overview is followed by an argument that explains how the medical monitoring claim is an insufficient remedy from both legal and medical perspectives.²⁸ This Comment ultimately argues that while the medical monitoring claim may be dissatisfying, the concussion management protocols are viable and will have a lasting impact.²⁹

II. OVERVIEW

This Section provides background information on various scientific and legal underpinnings that are necessary to grasp exactly why the NCAA settlement is insufficient for legal and medical reasons. Part II.A outlines the current state of scientific research regarding traumatic brain injuries (TBIs). Part II.B provides, in detail, the provisions set forth in the settlement agreement. This Part demonstrates that the creation of a medical monitoring program is the quintessential provision of the settlement agreement, followed closely by the revision of concussion-management protocols. Because the parties devoted nearly all the settlement funds to the medical monitoring program, Part II.C provides an overview of the differing legal authority pertaining to medical monitoring.

A. *Primer on Traumatic Brain Injuries*

To appreciate the gravity of the repercussions related to the settlement agreement, it is important to understand the rudimentary science underpinning a TBI³⁰ and CTE. A TBI occurs when there is a physical hit to the head or a penetrating brain injury that

22. See *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. at 202.

23. *Id.* at 211.

24. See *Managing Return to Activities*, CTRS. FOR DISEASE CONTROL & PREVENTION, http://www.cdc.gov/headsup/providers/return_to_activities.html [<https://perma.cc/4EZJ-SE64>] (last updated Nov. 2, 2018).

25. See *id.*

26. See Andrew Garda, *Questions to Consider Before Letting Your Child Play Football*, BLEACHER REP. (Feb. 27, 2012), <http://bleacherreport.com/articles/1072875-questions-to-consider-before-letting-your-child-play-youth-football> [<https://perma.cc/7V83-ACFC>].

27. See *infra* Section II.

28. See *infra* Parts III.A, III.B.

29. See *infra* Part III.C.

30. See *infra* Part II.A.1 for further discussion of TBIs.

disrupts the brain's normal function.³¹ TBIs encompass an array of head-related injuries ranging from mild TBIs to severe TBIs.³² CTE is a chronic neurodegenerative disease that can be perpetuated by repetitive TBIs.³³

1. Mild Traumatic Brain Injuries

Mild TBIs—the focus of this Comment—are caused by “blunt nonpenetrating head trauma that causes movement of the brain and stretching and tearing of axons, with diffuse axonal injury being a central pathogenic mechanism.”³⁴ Mild TBIs are by and large synonymous with concussions.³⁵ They both have similar criteria, which can include loss of consciousness or post-traumatic amnesia.³⁶ Because of their similarities, the terms “mild TBI” and “concussion” will be used interchangeably for the purposes of this Comment. Moreover, someone can sustain a concussion in a variety of ways. The focus of this Comment, however, will be on sports-related concussions.

Although scholars are constantly reworking the definition of a sports-related concussion, the most commonly used definition is “a traumatic brain injury induced by biomechanical forces.”³⁷ A biomechanical force is simply a push or pull that changes the motion of a body segment.³⁸ A sports-related concussion can occur after a direct blow to the body with an impulsive force transmitted to the head.³⁹ If the blow is sufficiently forceful, it results in short-lived impairment of neurological function and may result in neuropathological changes.⁴⁰

Sports-related concussions, unlike other physical injuries, cause symptoms that reflect a functional disturbance as opposed to a structural injury.⁴¹ Consequently, x-rays and other brain imaging tools usually cannot detect them.⁴² Because traditional diagnostic tools are essentially ineffective in most incidents of sports-related concussions, or any concussion for that matter, the diagnosis remains a clinical one. The diagnosis “is dependent upon the knowledge, experience, and skill of the healthcare provider.”⁴³

31. Nitin Agarwal, Rut Thakkar & Khoi Than, *Traumatic Brain Injury*, AM. ASS'N OF NEUROLOGICAL SURGEONS, <http://www.aans.org/en/Patients/Neurosurgical-Conditions-and-Treatments/Traumatic-Brain-Injury> [https://perma.cc/3KJP-ZDEN] (last updated Feb. 3, 2020).

32. *Id.*

33. See *infra* Part II.A.2 for further discussion of CTE.

34. H. Zetterberg et al., *Head Trauma in Sports – Clinical Characteristics, Epidemiology and Biomarkers*, 285 J. OF INTERNAL MED. 624, 624 (2019).

35. *Id.*

36. *Id.*

37. David B. Coppel & Stanley A. Herring, *Traumatic Brain Injury: Sports Concussion*, in PHYSICIAN'S FIELD GUIDE TO NEUROPSYCHOLOGY 327, 328 (Karen M. Sanders ed., 2019) (ebook).

38. *Biomechanics in Sport*, PHYSIOPEDIA, http://www.physio-pedia.com/Biomechanics_In_Sport [https://perma.cc/ZBR4-LD8Q] (last visited Feb. 1, 2021).

39. Coppel & Herring, *supra* note 37, at 328.

40. *Id.*

41. *Id.*

42. CHOOSING WISELY, ABIM FOUND., BRAIN SCANS FOR HEAD INJURIES, <http://www.choosingwisely.org/wp-content/uploads/2018/02/Brain-Scans-For-Head-Injuries-AMSSM.pdf> [https://perma.cc/XQ5H-EZEA] (last visited Feb. 1, 2021).

43. Coppel & Herring, *supra* note 37, at 329.

While a headache is the most common symptom,⁴⁴ sleep disturbances and a variety of other cognitive, somatic, and affective symptoms can arise.⁴⁵ The initial treatment for a sports-related concussion is physical and cognitive rest.⁴⁶ Once acute symptoms resolve, the athlete enters a gradual program of cognitive and physical exertion before medical clearance to return to practice and, lastly, medical clearance to return to play.⁴⁷

At the fourth International Conference on Concussion in Sport, physicians and researchers unanimously agreed that there should be no return to play on the same day that a concussive injury occurs.⁴⁸ An athlete who continues participating in her sport in the immediate aftermath of a concussion can potentially expose her brain to compound and adverse neuropathophysiological processes.⁴⁹ In the aftermath of a concussion, glucose must be delivered via cerebral blood flow in order to reestablish homeostasis.⁵⁰ The injured part of the brain, however, has decreased blood flow, which results in a supply/demand imbalance.⁵¹ In other words, the brain cannot function normally because glucose is not reaching it at the level that is required.⁵² Until this mismatch is remedied, the brain remains highly susceptible to damage stemming from repeat impacts.⁵³

This finding underscores the importance of full recovery before returning to play and therefore highlights the need for robust return-to-play protocols.⁵⁴ Generally, return-to-play protocols follow a step-by-step progression whereby an athlete proceeds to a more physically or cognitively exhaustive step if she is asymptomatic at the current level.⁵⁵ If any post-concussion symptoms occur while in the step-by-step program, the patient should rest for twenty-four hours then drop back to the previous asymptomatic level and try to progress again.⁵⁶ Although it is extremely rare, if a player returns to play prematurely and suffers a second concussion, diffuse cerebral swelling, brain herniation, or even death can occur.⁵⁷ This effect is known as second impact syndrome, and while

44. Todd J. Woodard & Shari N. Allen, *An Overview of Concussion Management*, U.S. PHARMACIST, Jan. 2017, at 37, 38.

45. Coppel & Herring, *supra* note 37, at 330. Cognitive symptoms can include loss of consciousness, amnesia, disorientation, and a vacant stare. Somatic symptoms can include dizziness, balance disruption, and nausea or vomiting. Affective symptoms can include emotional lability, irritability, and fatigue. *Id.* at 330 tbl.20.1.

46. *Id.* at 333.

47. See Paul McCrory et al., *Consensus Statement on Concussion in Sport—The 4th International Conference on Concussion in Sport Held in Zurich, November 2012*, 47 BRIT. J. SPORTS MED. 250, 252 (2013).

48. *Id.*

49. Breton M. Asken, Michael A. McCrea, James R. Clugston, Aliyah R. Snyder, Zachary M. Houck & Russell M. Bauer, “Playing Through It”: Delayed Reporting and Removal from Athletic Activity After Concussion Predicts Prolonged Recovery, 51 J. ATHLETIC TRAINING, 329, 333 (2016).

50. Coppel & Herring, *supra* note 37, at 329.

51. *Id.*

52. See *id.*

53. *Id.*

54. See *id.*

55. McCrory et al., *supra* note 47, at 253.

56. *Id.*

57. Tareg Bey & Brian Ostick, *Second Impact Syndrome*, 10 W. J. EMERGENCY MED. 6, 6–7 (2009).

controversial, it lends additional support for robust return-to-play protocols in all athletic levels.⁵⁸

The propensity of athletes, particularly college football players, to underreport concussions further challenges the efficacy of return-to-play protocols.⁵⁹ A study from the CDC finds that each year 1.6 to 3.8 million sports-related concussions occur in the United States.⁶⁰ In a separate study, researchers found that an alarming number of concussions—as many as half in some student-athlete populations—go unreported.⁶¹

On average, college football players reported that during their careers they sustained two concussions and four or five other injuries.⁶² Researchers found that athletes had a higher propensity to report nonconcussion injuries (roughly eighty percent of the time) as compared to concussion-related injuries (roughly forty-seven percent of the time).⁶³ The study only analyzed athletes who reported four or fewer concussions.⁶⁴ Researchers, however, suspected many more concussions in some participants and suspected as high as seventeen concussions in one athlete.⁶⁵

Although not conclusive, the researchers noted that a host of environmental factors could be the cause of this phenomenon.⁶⁶ These environmental factors include risking temporary medical disqualification or being forced to retire altogether.⁶⁷ An athlete who has seen a fellow teammate retire after a few concussions may be more inclined to underreport a concussion out of fear that a physician may recommend retirement.⁶⁸ This proposition is especially palpable in light of a study that indicated medical clinicians typically recommend retirement after a mean of 3.2 concussions.⁶⁹

2. Chronic Traumatic Encephalopathy

In addition to the immediate and short-term effects of mild TBIs, emerging evidence has demonstrated that repeated sports-related, closed-head impact injuries such as concussions present a major risk for development of CTE later in life.⁷⁰ CTE is a chronic neurodegenerative disease characterized as having aggregates of a protein called

58. *Id.*

59. See Christine M. Baugh, William P. Meehan III, Emily Kroshus, Thomas G. McGuire & Laura A. Hatfield, *College Football Players Less Likely To Report Concussions and Other Injuries with Increased Injury Accumulation*, 36 J. NEUROTRAUMA 2065, 2065 (2019) [hereinafter Baugh et al., *College Football Players*].

60. J. Gilchrist, K.E. Thomas, M. Wald & J. Langlois, *Nonfatal Traumatic Brain Injuries from Sports and Recreation Activities—United States, 2001–2005*, CDC (July 27, 2007), <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5629a2.htm> [https://perma.cc/AA75-FCNG].

61. Baugh et al., *College Football Players*, *supra* note 59, at 2065.

62. *Id.* at 2067–68.

63. *Id.* at 2068.

64. *Id.*

65. *Id.*

66. *Id.* at 2070.

67. *Id.*

68. See *id.*

69. *Id.*

70. Chad A. Tagge et al., *Concussion, Microvascular Injury, and Early Tauopathy in Young Athletes After Impact Head Injury and an Impact Concussion Mouse Model*, 141 BRAIN 422, 423 (2018).

hyperphosphorylated tau and intercellular lesions of another protein called p-tau in the cerebral cortex.⁷¹

The lesions are found in the brain's sulci⁷²—the grooves found on the brain's surface.⁷³ In other words, tau protein deposits form clumps within the brain and subsequently kill brain cells as the disease spreads.⁷⁴ Compared to tauopathies such as Alzheimer's disease and other age-related astroglial pathologies, the protein aggregates in CTE form in a different distribution pattern on the brain.⁷⁵

Dr. Harrison Martland first discovered CTE in 1928 when he described a group of boxers as having “punch-drunk syndrome.”⁷⁶ Over the next several decades, researchers reported similar findings in boxers and other victims of brain trauma.⁷⁷ CTE, however, did not become a focal point in the medical community until Dr. Omalu published a study in 2005, demonstrating evidence of CTE found in a former professional NFL player.⁷⁸ Presently, CTE requires a postmortem examination to properly diagnose it because there are no biological indicators or other types of definitive signals that conclusively identify CTE prior to death.⁷⁹

Symptoms of CTE do not typically present themselves until decades after the initial head trauma.⁸⁰ Scientists hypothesize that this latency period is caused by the slow transition between focused p-tau aggregates inside the brain to widespread aggregates.⁸¹ On average, those with CTE begin experiencing symptoms approximately eight years after they retire.⁸² Some athletes (thirty-three percent) experience symptoms at the time of retirement while others (fifty percent) become symptomatic within four years of retirement.⁸³

Researchers have additionally noted the degenerative nature of CTE-related symptoms.⁸⁴ In the early stages, patients manifest symptoms of “irritability, aggression, episodic memory impairment, cognitive dysfunction, suicidal ideation, rampant mood

71. Tharmegam Tharmaratnam, Mina A. Iskandar, Tyler C. Tabobondung, Iqdam Tobbia, Prasaanthan Gopee-Ramanan & Taylor A. Tabobondung, *Chronic Traumatic Encephalopathy in Professional American Football Players: Where Are We Now?*, 9 FRONTIERS NEUROLOGY 1, 1 (2018).

72. *Id.*

73. *Sulcus*, MERRIAM-WEBSTER, <http://www.merriam-webster.com/dictionary/sulcus> [https://perma.cc/Q7NG-9QPS] (last visited Feb. 1, 2021).

74. *What is CTE?*, *supra* note 10.

75. Tharmaratnam et al., *supra* note 71, at 1; *see also* Gabor G. Kovacs, *Understanding the Relevance of Aging-Related Tau Astroglial Pathology (ARTAG)*, 1 NEUROGLIA, 339, 339 (2018) (“Aging-related tau astroglial pathology (ARTAG) is an umbrella term that encompasses a spectrum of morphological abnormalities seen in astrocytes of the aging brain using immunostaining for pathological forms of the microtubule-associated protein tau.”).

76. *What is CTE?*, *supra* note 10.

77. *Id.*

78. *See id.*; *see also supra* notes 10–16 and accompanying text.

79. Zetterberg et al., *supra* note 34, at 626.

80. Tharmaratnam et al., *supra* note 71, at 4.

81. *Id.*

82. *Id.*

83. *Id.*

84. *See, e.g., id.*

fluctuations, and depression.”⁸⁵ More severe symptoms begin to manifest as the disease progresses, which include impairment of motor functions and symptoms akin to Parkinson’s disease.⁸⁶ In its most advanced form, CTE presents in a similar way to high-grade Alzheimer’s disease.⁸⁷

While this may appear to be a fairly linear track, researchers have defined two distinct presentations of CTE: “classic” and “modern.”⁸⁸ The classic form, derived from older studies of boxers, demonstrates less cognitive impairment and more deterioration of motor functions.⁸⁹ The modern cases, typically associated with football players, have a stronger cognitive and behavioral component.⁹⁰ Some researchers have hypothesized that this shift is the result of a lack of emphasis on behavioral and cognitive symptoms in the classic studies.⁹¹ Others have indicated that the time between brain trauma and the onset of CTE-related symptoms can take two distinct paths: a young-age onset, which manifests by approximately age thirty-five, or a late-age onset, which manifests by approximately age sixty-five.⁹² The late-age onset presents more severe cognitive deterioration.⁹³

The causes of CTE at this stage in research are inconclusive. Evidence suggests, however, that CTE is caused by continuous hits to the head over a period of years.⁹⁴ While repetitive concussions can induce CTE, observations of modern CTE cases demonstrate that multiple subconcussive head injuries may also induce CTE.⁹⁵ A subconcussive head injury is one that does not meet the criteria for a clinically diagnosed concussion and therefore must be differentiated from mild TBIs.⁹⁶

Specifically, in the modern CTE case studies, approximately twenty percent of patients confirmed with CTE—via postmortem examination—had no recorded concussions.⁹⁷ To explore this, researchers in 2018 developed an impact-concussion

85. *Id.* (“This early symptomatic period is also associated with substance abuse, and high frequency of suicide.”). *But see* Stella Karantzoulis & Christopher Randolph, *Modern Chronic Traumatic Encephalopathy in Retired Athletes: What Is the Evidence?*, 23 NEUROPSYCHOLOGY REV. 350, 352 (2013) (“[T]o date, there are no published studies that directly examine any causal connection between . . . CTE and suicide.”).

86. Tharmaratnam et al., *supra* note 71, at 4.

87. *Id.*

88. Zetterberg et al., *supra* note 34, at 626.

89. *Id.*

90. *Id.*

91. *Id.*

92. Tharmaratnam et al., *supra* note 71, at 4 (describing two distinct patterns: “a young-age onset with initial behavior/mood perturbations that manifests at around age 35 . . . [and a] [l]ate-age onset with cognitive deterioration, which presents around age 60”).

93. *See id.*

94. *What is CTE?*, *supra* note 10.

95. Tagge et al., *supra* note 70, at 424; *see also* Tom Goldman, *Repeated Head Hits, Not Just Concussions, May Lead to a Type of Chronic Brain Damage*, N.H. PUB. RADIO (Jan. 22, 2018, 8:44 AM), <http://www.nhpr.org/post/repeated-head-hits-not-just-concussions-may-lead-type-chronic-brain-damage#stream/0> [<https://perma.cc/8VSV-XAH3>].

96. Heather G. Belanger, Rodney D. Vanderploeg & Thomas McAllister, *Subconcussive Blows to the Head: A Formative Review of Short-Term Clinical Outcomes*, 31 J. HEAD TRAUMA REHABILITATION 159, 159 (2016).

97. Tagge et al., *supra* note 70, at 424.

mouse model that investigated the causal mechanisms underpinning TBIs and CTE.⁹⁸ The mouse model incorporated a “lateral closed-head impact injury that use[d] momentum transfer to induce traumatic head acceleration.”⁹⁹ The research suggested that different and distinct pathobiological mechanisms underpin TBIs and CTE.¹⁰⁰

Furthermore, the research suggested that closed-head impact injuries can still trigger pathobiological mechanisms that have the capability to induce CTE.¹⁰¹ In other words, these traumatic head accelerations had enough force to trigger tau-protein deposits in the brain. This is notwithstanding the fact that these closed-head impact injuries do not quite reach the threshold of a clinically diagnosed concussion.¹⁰²

While these studies are critical for present-day understanding, many questions related to CTE remain unresolved, such as how much tau pathology is sufficient to trigger the onset of the disease and which clinical biomarkers are the best for diagnostic detection.¹⁰³ One certainty does exist, however—every single person diagnosed with CTE has a history of repetitive hits to the head.¹⁰⁴

*B. The Settlement in In re National Collegiate Athletic Association Student-Athlete Concussion Injury Litigation*¹⁰⁵

Much like how the science behind sports-related concussions has drastically evolved in recent years, concussion-related litigation has also evolved at a similar rate. This Part provides an overview of the seventy million dollar settlement between the NCAA and student-athletes. It is broken into two subparts: (1) an overview of the parties and the procedural history up to this point,¹⁰⁶ and (2) the provisions agreed upon by the parties.¹⁰⁷

1. Facts and Procedural History

The instant concussion litigation against the NCAA began in 2011 when Adrian Arrington, a former football player for Eastern Illinois University, filed a class action lawsuit against the NCAA for breach of contract, negligence, fraudulent concealment, unjust enrichment, and injunctive relief.¹⁰⁸ The class demanded the NCAA adopt corrective measures, such as medical monitoring.¹⁰⁹ In his college career, Arrington sustained numerous and repeated concussions.¹¹⁰ On each of the first three concussions,

98. *Id.* at 422.

99. *Id.*

100. *Id.* at 452.

101. *Id.*

102. *See id.*

103. *Id.*

104. *What is CTE?*, *supra* note 10.

105. 332 F.R.D. 202 (N.D. Ill. 2019).

106. *See infra* Part II.B.1.

107. *See infra* Part II.B.2.

108. *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. at 208.

109. *Id.* at 216.

110. Fourth Amended Class Action Complaint at para. 24, *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. 202 (No. 1:13-cv-09116).

the team's medical staff allowed him to return to play the very next day.¹¹¹ After that third concussion, however, Arrington experienced memory loss and seizures.¹¹²

Arrington's class action complaint is predicated upon the NCAA's purported failure to (1) address improper coaching as it relates to tackling; (2) properly educate coaches, other team staff, and student-athletes as to concussion-related symptoms; (3) implement adequate return-to-play guidelines; and (4) implement guidelines for the screening and detection of concussions.¹¹³

As Arrington's counsel conducted substantial discovery, dozens of similarly situated athletes filed class actions throughout the country.¹¹⁴ Consequently, the Multidistrict Litigation Panel consolidated these cases into the Northern District of Illinois, under the authority of U.S. District Judge John Z. Lee.¹¹⁵ In July 2014, the parties reached a settlement agreement and the plaintiffs filed a preliminary motion for approval of the settlement.¹¹⁶

Anthony Nichols, a former San Diego State University football player and lead plaintiff in *Nichols v. NCAA*,¹¹⁷ contested the class settlement and filed an opposing motion.¹¹⁸ On December 17, 2014, the Northern District of Illinois raised a number of concerns and denied the motion for preliminary approval of the settlement agreement.¹¹⁹ Although the second amended settlement was ultimately approved,¹²⁰ it is important to briefly touch on the initial concerns of the proposed settlement so as to understand *why* the court ultimately approved the second amended class action settlement.

First, the court held the proposed settlement did not "fairly and adequately protect the interests of the class" as required by Federal Rule of Civil Procedure 23(a)(4).¹²¹ The court stated that the settlement treated student-athletes involved in contact sports differently than student-athletes involved in noncontact sports.¹²² Specifically, the court reasoned, *inter alia*, that the proposed settlement provided for medical professionals who are trained in handling head injuries to be present at all contact sport practices, yet no such provision existed for noncontact sport practices.¹²³ The court clarified, however, that it did not require these provisions to be in the settlement agreement.¹²⁴ Rather, the

111. *Id.*

112. *Id.* at para. 25.

113. *Id.* at para. 14.

114. *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. at 208 & n.2.

115. *See id.* at 208.

116. Plaintiffs' Motion for Preliminary Approval of Class Settlement and Certification of Settlement Class at 1, *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. 202 (No. 1:13-cv-09116).

117. No. 1:14-cv-00962, 2014 WL 709668 (N.D. Ill. Feb. 11, 2014).

118. *See Nichols' Response to Plaintiffs' Motion for Preliminary Approval of Class Settlement*, *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. 202 (No. 1:13-cv-09116).

119. *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. at 208.

120. *See infra* Part II.B.2 for a discussion of the class action settlement.

121. Memorandum Opinion & Order at 11, *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. 202 (No. 1:13-cv-09116).

122. *Id.*

123. *Id.*

124. *See id.*

court held that the makeup of class representatives could not make that decision unilaterally.¹²⁵

Second, the court denied the first settlement because the parties insufficiently planned to provide notice to potential class members.¹²⁶ In so reasoning, the court pointed to the parties' acknowledgment that they were unaware whether universities maintained up-to-date records that would allow them to contact the numerous potential class members.¹²⁷ The court acknowledged that the universities would probably not have adequate contact information for those who graduated several years ago, because those members would have likely changed addresses since their graduation.¹²⁸ The court felt this point to be a necessary one because approximately two-thirds of the settlement class graduated over ten years ago.¹²⁹

Third, the court presented uncertainty about whether the NCAA had the power to enforce the agreed upon return-to-play policies at each of its member schools if the schools failed to comply.¹³⁰ The court noted that the NCAA governs a broad range of schools with varying degrees of financial capability.¹³¹ For that reason, the court believed that some of these schools may run into logistical or financial challenges as they strive for compliance with the proposed agreement.¹³²

A fourth concern pertained to the adequacy and practicality of the medical monitoring program.¹³³ For example, the first stage of the medical monitoring program is a questionnaire to determine a former athlete's eligibility for an evaluation.¹³⁴ The provision pertaining to these questionnaires, however, "lack[ed] specificity" as to the criteria that the committee would employ to evaluate and score the questionnaire.¹³⁵

The court also stated that these questionnaires were flawed because they set limitations on the maximum number of times a class member could complete them.¹³⁶ The court noted that research on CTE showed class members could be asymptomatic for years.¹³⁷ Therefore, the court concluded further negotiations were needed to address a situation whereby student-athletes become symptomatic after reaching the proposed limit.¹³⁸

125. *Id.*

126. *See id.* at 13–14.

127. *Id.* at 14.

128. *Id.*

129. *Id.*

130. *Id.* at 16.

131. *Id.*

132. *Id.*

133. *Id.* at 16–17.

134. *Id.* at 16.

135. *Id.*

136. *Id.* at 17–18.

137. *Id.* at 18.

138. *Id.* The court also raised additional issues pertaining to the locations of the medical monitoring programs, a retention provision that reverts funds back to the NCAA if they are not used at the program's conclusion, fees of objectors to the settlement, and continuing oversight of the medical monitoring program. *See id.* at 18–20.

To address these concerns, the parties negotiated with the NCAA both directly and in mediation sessions facilitated by retired U.S. District Judge Wayne Andersen.¹³⁹ Amidst this negotiation process, the plaintiffs expanded the group of class representatives to include student-athletes who played noncontact sports in an effort to account for the first concern of the court: adequate and fair representation of the class.¹⁴⁰ This new class of plaintiffs ultimately gained the court's approval.¹⁴¹ The plaintiffs filed a fourth amended class action complaint and a joint motion for preliminary approval of an amended settlement agreement.¹⁴²

The court granted this amended settlement agreement, but some plaintiffs remained dissatisfied.¹⁴³ The court consequently appointed plaintiff Nichols as lead objector and permitted him to file objections to the amended settlement agreement.¹⁴⁴ One of Nichols's chief concerns was the release of class members' right to pursue any personal injury claims on a class-wide basis.¹⁴⁵ A second concern, raised separately by Arrington, was the lack of any monetary compensation for injuries.¹⁴⁶

The court granted preliminary approval of the amended settlement agreement, but with several conditions to reflect the concerns.¹⁴⁷ The court required the parties to provide potential class members with notice and an opportunity to opt out of the settlement.¹⁴⁸ Additionally, the court restricted the type of class-wide personal injury claims to "those instances where a plaintiff or claimant sought a nationwide class or where the proposed class consisted of student-athletes from more than one NCAA-affiliated school or more than one NCAA-sanctioned sport."¹⁴⁹

In an effort to meet the notice requirement, the parties selected Gilardi & Co. LLC (an independent claims administration company) to disseminate information related to the class action settlement.¹⁵⁰ The notice program administrator mailed 3,886,369 postcards and sent 1,948,656 emails to settlement class members.¹⁵¹ After 326,291 postcards returned as undeliverable, the notice program administrator searched various databases for updated contact information and remailed 202,637 postcards.¹⁵² The notice

139. *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. 202, 208 (N.D. Ill. 2019), *aff'd*, Walker v. NCAA, No. 19-2638, 2019 WL 8058082 (7th Cir. Oct. 25, 2019).

140. *Id.*

141. *Id.* at 208–09.

142. *Id.* The August 2019 opinion incorrectly states that this filing occurred in February 2014. A review of the docket indicates that this filing actually occurred in April 2015. See Fourth Amended Class Action Complaint, *supra* note 110.

143. See *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. at 208.

144. *Id.*

145. *Id.* at 209.

146. *Id.*

147. *Id.*

148. *Id.*

149. *Id.*

150. Second Amended Class Action Settlement Agreement at 35, *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. 202 (No. 1:13-cv-09116).

151. *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. at 209.

152. *Id.*

program administrator therefore sent direct notice to 3,958,305 unique settlement class members.¹⁵³

2. The Second Amended Class Settlement

“The Settlement Class is defined as: ‘All Persons who played an NCAA-sanctioned sport at an NCAA member institution on or prior to [July 15, 2016,] the Preliminary Approval Date.’”¹⁵⁴ This class was split into two subcategories: contact sport subclass and noncontact sport subclass.¹⁵⁵ The court highlighted four key areas of the second amended class settlement: (1) the medical monitoring fund, (2) changes to NCAA concussion management policies, (3) release of certain claims, and (4) fees and awards.¹⁵⁶

This Part runs parallel to the court’s discussion of these highlighted areas. There are a few narrow provisions the court did not discuss in a grouped fashion, such as a nonadmission to liability.¹⁵⁷ Information on these provisions is briefly discussed later in the Comment.¹⁵⁸

Regarding the first provision, the NCAA agreed to pay seventy million dollars in an interest-bearing account to set up the medical monitoring fund (the fund) for the settlement class.¹⁵⁹ Notably, the class does not include future NCAA athletes and many current NCAA athletes because the class consists of those who played for a NCAA member institution before July 15, 2016.¹⁶⁰ Nevertheless, this money will be used to pay for expenses such as: medical screening, costs related to the questionnaire, medical evaluations, notice and administrative costs, medical science committee costs, approved attorneys’ fees, and class representatives.¹⁶¹ A court-approved independent professional service company will act as program administrator, and the medical monitoring program (monitoring program) will last for fifty years.¹⁶²

If the funding is exhausted prior to the fifty-year mark, class members are free to pursue individual claims seeking medical monitoring of their concussion-related symptoms.¹⁶³ Further, the statute of limitations for these claims will be tolled during the fifty-year medical monitoring period.¹⁶⁴ The NCAA has also agreed to provide five

153. *Id.*

154. *Id.* 209–10.

155. *Id.* at 210 (explaining that contact sports include football, lacrosse, wrestling, ice hockey, field hockey, soccer, and basketball, while noncontact sports include golf, track and field, softball, baseball, and volleyball).

156. *Id.* at 211–14.

157. *Compare id.* at 210 (detailing only the provisions related to the medical monitoring fund, the concussion management policies, the release of certain claims, and fees and awards), *with* Second Amended Class Action Settlement Agreement, *supra* note 150, at 56–57, 62–67 (outlining entire provisions titled “No Admission of Liability and Preservation of All Defenses” and “Miscellaneous Provisions”).

158. *See infra* note 209.

159. *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. at 211.

160. *See id.*

161. *Id.*

162. *Id.*

163. *Id.*

164. *Id.*

million dollars in funding for concussion-related research over the first ten years of the program.¹⁶⁵

An appointed medical science committee (medical committee) may make annual recommendations for how the NCAA should allocate the research funds; however, these recommendations are not binding on the fund.¹⁶⁶ The medical committee consists of four medical experts with expertise in sports-related concussions and mid- to late-life neurodegenerative disease.¹⁶⁷ Moreover, the parties must agree on, and the court must approve of, any successors to positions within the medical committee.¹⁶⁸

The monitoring program has two different assessment phases: screening and evaluation.¹⁶⁹ The screening phase is conducted via a questionnaire whereby class members may seek an analysis of their symptoms once every five years until they reach age fifty.¹⁷⁰ After members reach age fifty, the screening questionnaire becomes available once every two years.¹⁷¹ The questionnaire will be used to assess self-reported symptoms and any cognitive, mood, behavioral, and motor problems that may be associated with midlife to late-life onset of disorders such as CTE.¹⁷²

The medical committee will set the standard of evaluation for these screening questionnaires and determine who qualifies for phase two of the program—medical evaluation.¹⁷³ After the medical committee receives a class member's completed screening questionnaire, the program administrator will notify the former athlete within thirty days of whether she qualifies for phase two.¹⁷⁴ In the event of disagreement, the medical committee will also include a person to serve as chair of the medical committee to act as a tie-breaking vote if the committee is unable to reach a consensus opinion after a reasonable time period.¹⁷⁵ If the former athlete qualifies for the medical evaluation phase, she will go to one of thirty-three program sites located throughout the country.¹⁷⁶

The medical committee will determine the scope of all medical evaluations.¹⁷⁷ Generally, the evaluations are intended to assess symptoms related to persistent post-concussion syndrome and any cognitive, mood, or behavioral problems that may be symptoms or early indicators of neurodegenerative diseases, such as CTE.¹⁷⁸ These evaluations do not have to be identical in scope or form between qualifying class members.¹⁷⁹ Rather, the medical committee has the discretion to consider whether certain

165. *Id.*

166. Second Amended Class Action Settlement Agreement, *supra* note 150, at 38.

167. *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. at 211.

168. Second Amended Class Action Settlement Agreement, *supra* note 150, at 31–32.

169. *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. at 211.

170. *Id.*

171. *Id.*

172. Second Amended Class Action Settlement Agreement, *supra* note 150, at 24–25.

173. *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. at 211.

174. *Id.*

175. Second Amended Class Action Settlement Agreement, *supra* note 150, at 31.

176. *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. at 211.

177. *Id.* at 212.

178. *Id.*

179. See Second Amended Class Action Settlement Agreement, *supra* note 150, at 29.

qualifying class members should receive separately defined evaluations.¹⁸⁰ This is to account for a person who may experience midlife to late-life symptoms after being asymptomatic for a period of time.¹⁸¹ The medical committee will additionally provide annual reports to the court so that it can ensure the monitoring program remains effective.¹⁸²

Class members may receive up to two medical evaluations during the fifty-year period.¹⁸³ Class members may also, however, petition the committee for approval of a third evaluation.¹⁸⁴ The physician who conducts the evaluation will send the results to the class member's personal physician for treatment.¹⁸⁵ Notably, there is no substantial provision in the settlement agreement dedicated to treatment.¹⁸⁶ The goal of the medical evaluation is for diagnostic purposes only.¹⁸⁷

With that said, there is an important caveat to this goal not mentioned in the court's opinion—evidence of suicidality may warrant immediate intervention on behalf of the monitoring program.¹⁸⁸ If someone in the program perceives a risk of imminent self-harm, the evaluating physician will refer or bring the class member to the monitoring program's emergency department or Psychiatry Admissions Program.¹⁸⁹ Although it is not stated explicitly, it appears that each of the thirty-three medical monitoring program locations placed throughout the country will have these emergency and psychiatry subprograms available.¹⁹⁰ The class member, not the fund, will pay for any costs associated with this scenario.¹⁹¹

The second key area of this settlement is the implementation of revised return-to-play guidelines and concussion-management protocols.¹⁹² The parties agreed to five specific return-to-play guidelines.¹⁹³ First, every student-athlete who plays for an NCAA-sanctioned institution will undergo preseason baseline testing.¹⁹⁴ A baseline test is used to assess the athlete's brain function and certain physical abilities that could be affected by a concussion, such as balance.¹⁹⁵ The brain function portion of the exam focuses on learning and memory skills, the ability to concentrate, and how quickly the athlete can solve problems.¹⁹⁶ If the medical clinician suspects that an athlete has

180. *Id.*

181. *Id.*

182. *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. at 212.

183. *Id.*

184. *Id.*

185. *Id.*

186. *See* Second Amended Class Action Settlement Agreement, *supra* note 150.

187. *Id.* at 30.

188. *Id.* at 26.

189. *Id.* at 30.

190. *See id.* at 13, 24.

191. *Id.* at 30.

192. *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. 202, 212 (N.D. Ill. 2019), *aff'd*, Walker v. NCAA, No. 19-2638, 2019 WL 8058082 (7th Cir. Oct. 25, 2019).

193. *See* Second Amended Class Action Settlement Agreement, *supra* note 150, at 36–37.

194. *Id.* at 36.

195. *FAQs about Baseline Testing*, CTRS. FOR DISEASE CONTROL & PREVENTION, http://www.cdc.gov/headsup/basics/baseline_testing.html [<https://perma.cc/AM29-KMDC>] (last updated Feb. 16, 2015).

196. *Id.*

sustained a concussion, the student-athlete takes the same test and the results of the preseason baseline tests are compared with the new results.¹⁹⁷

Second, under no circumstances can a player diagnosed with a concussion return to play on the same day of that diagnosis.¹⁹⁸ Third, if a player is diagnosed with a concussion, a physician must clear her before returning to play.¹⁹⁹ Fourth, each NCAA member institution will ensure that medical personnel trained in concussion-related diagnosis, treatment, and management are present at all contact sport games.²⁰⁰ Fifth, the settlement agreement stipulates that these medical personnel must be available during all contact sport practices.²⁰¹ Beyond the distinction between games and practices, there is no further distinction between the fourth and fifth provisions other than the words “present” and “available.”²⁰² The settlement agreement is silent on what the difference is, but one may infer that a trainer can be available at multiple practices at once but not present to come to the aid of someone who experiences a concussion when it actually happens.

Regarding the broader concussion-management protocols, the parties agreed to five additional terms.²⁰³ First, each NCAA member institution must certify in writing that it is compliant with the return-to-play protocols within six months after the effective date.²⁰⁴ Second, the NCAA will create a reporting process whereby member institutions report diagnosed concussions and track their progress to resolution.²⁰⁵ Third, the NCAA will create a separate reporting process where third parties, such as athletes or their parents, may report concussion symptoms directly to the NCAA.²⁰⁶

Fourth, the NCAA will provide their member institutions with educational material that relates to faculty provision of academic accommodations to student-athletes who suffer concussions.²⁰⁷ The NCAA will provide these materials annually at the beginning of each academic year throughout the fifty-year period.²⁰⁸ Fifth, the NCAA will provide concussion-related education to all student-athletes, coaches, and athletic trainers before each season throughout the medical monitoring period.²⁰⁹

197. *Id.*

198. Second Amended Class Action Settlement Agreement, *supra* note 150, at 37.

199. *Id.*

200. *Id.*

201. *Id.*

202. *See id.*

203. *See id.* at 37–38.

204. *Id.* at 37.

205. *Id.*

206. *Id.* at 38.

207. *Id.*

208. *Id.*

209. *Id.* In return for these concessions, the plaintiffs agreed to release any past, present, or future claims related to, or as a result of, concussions or subconcussive traumas, damages for medical monitoring, or other legal or equitable relief. *In re* NCAA Student-Athlete Concussion Injury Litig., 332 F.R.D. 202, 213 (N.D. Ill. 2019), *aff'd*, Walker v. NCAA, No. 19-2638, 2019 WL 8058082 (7th Cir. Oct. 25, 2019). Regarding attorneys’ fees, the NCAA will not oppose the class’s application for an award of attorneys’ fees and expenses if they do not exceed fifteen million dollars. Second Amended Class Action Settlement Agreement, *supra* note 150, at 57. The parties agreed that nothing in the agreement is considered an admission or finding of wrongdoing on behalf of the NCAA. *Id.* at 56.

C. Medical Monitoring Jurisprudence

The settlement agreement's key provisions demonstrate that the medical monitoring program is undoubtedly the flagship provision. After all, the seventy million dollars agreed upon will go entirely to the implementation of this program.²¹⁰ An overview of the legal landscape related to medical monitoring is therefore necessary.

Medical monitoring is "a form of surveillance based on repetitive use of the same test or test group to detect a specified change in the patient indicating a change in [her] prognosis or need for treatment or a change in [her] treatment."²¹¹ Medical monitoring claims are typically brought as part of a class action lawsuit, and advocates argue that these claims are a more efficient way to allocate health care expenses.²¹² These claims emerged in the American tort system in the 1980s; however, even today, they are not universally accepted.²¹³

The views across different jurisdictions with regard to medical monitoring claims are fragmented.²¹⁴ In *Metro-North Commuter Railroad Co. v. Buckley*,²¹⁵ for example, the Supreme Court denied medical monitoring claims under federal law, citing the potential for crushing liability as a primary concern.²¹⁶ Several states have ruled in the other direction. The Supreme Court of Kentucky highlighted several potential policy justifications for allowing medical monitoring:

(1) allowing recovery fosters access to medical testing and facilitates early diagnosis and treatment; (2) recognizing such claims deters irresponsible distribution of toxic substance; (3) early monitoring may prevent future costs and reduce the potential liability of the tortfeasor; and (4) it satisfies basic notions of fairness by assuring that wrongfully exposed plaintiffs recover the costs of medical treatment.²¹⁷

Consistent with Kentucky, a significant number of states permit medical monitoring as a cause of action, such as Florida, California, New York, and Pennsylvania.²¹⁸

210. See Second Amended Class Action Settlement Agreement, *supra* note 150, at 19.

211. Victor E. Schwartz, Leah Lorber & Emily J. Laird, *Medical Monitoring: The Right Way and the Wrong Way*, 70 MO. L. REV. 349, 351 (2005) (quoting Myrton F. Beeler & Robert Sappenfield, *Medical Monitoring: What Is It, How Can It Be Improved?*, 87 AM. J. CLINICAL PATHOLOGY 285, 285 (1987)).

212. David I.W. Hamer, *Medical Monitoring in North America: Does This Horse Have Legs?*, 77 DEF. COUNSEL J. 50, 51 (2010).

213. *Id.* at 50.

214. See, e.g., *Metro-North Commuter R.R. Co. v. Buckley*, 521 U.S. 424, 444 (1997) (denying medical monitoring claims under federal law); *Friends for All Children, Inc. v. Lockheed Aircraft Corp.*, 746 F.2d 816, 837–38 (D.C. Cir. 1984) (permitting medical monitoring in a limited context); *Wood v. Wyeth-Ayerst Labs.*, 82 S.W.3d 849, 859–60 (Ky. 2002) (denying medical monitoring in tort where there is no showing of a physical injury); *Bower v. Westinghouse Elec. Corp.*, 522 S.E.2d 424, 431 (W. Va. 1999) (permitting medical monitoring for exposure to proven hazardous substance).

215. 521 U.S. 424 (1997).

216. *Metro-North Commuter*, 521 U.S. at 442.

217. *Wood*, 82 S.W.3d at 857 (citing James A. Henderson, Jr. & Aaron D. Twerski, *Asbestos Litigation Gone Mad: Exposure-Based Recovery for Increased Risk, Mental Distress, and Medical Monitoring*, 53 S.C. L. REV. 815, 842–43 (2002)); accord Hamer, *supra* note 212, at 51.

218. Hamer, *supra* note 212, at 67 app. A.

In *Henry v. Dow Chemical*,²¹⁹ the Michigan Supreme Court held that medical monitoring claims are permissible; however, a present physical injury is required to bring them.²²⁰ Other states, such as California and Pennsylvania, recognize medical monitoring claims without requiring a present physical injury.²²¹

In *Potter v. Firestone Tire & Rubber Co.*,²²² landowners brought suit after a manufacturer allegedly dumped hazardous waste in a landfill adjacent to where they lived.²²³ After permitting a claim for medical monitoring for asymptomatic plaintiffs, the California Supreme Court articulated several factors for future courts to use in deciding whether medical monitoring claims are appropriate.²²⁴ Those factors include:

- (1) the significance and extent of the plaintiff's exposure to chemicals; (2) the toxicity of the chemicals; (3) the relative increase in the chance of onset of disease in the exposed plaintiff as a result of the exposure, when compared to (a) the plaintiff's chances of developing the disease had he or she not been exposed, and (b) the chances of the members of the public at large of developing the disease; (4) the seriousness of the disease for which the plaintiff is at risk; and (5) the clinical value of early detection and diagnosis.²²⁵

The court also grounded its decision in policy.²²⁶ It first explained how there is medical value in early detection of cancer stemming from toxic chemicals.²²⁷ Second, it explained how permitting medical monitoring further deters the mismanagement of toxic chemicals.²²⁸ Third, the court reasoned that the availability of early detection may potentially mitigate or prevent serious future illness and can therefore drastically reduce the overall cost of care.²²⁹ As a final point, the court explained that "societal notions of fairness" suggest that permitting medical monitoring to those who have been wrongly exposed is equitable, reasonable, and necessary.²³⁰

In *Redland Soccer Club, Inc. v. Department of the Army*,²³¹ the Supreme Court of Pennsylvania also permitted medical monitoring claims outside of physical injury.²³² Pennsylvania's standard, however, is slightly different than California's.²³³ The court held that to effectively bring a medical monitoring claim, a plaintiff must prove:

- (1) exposure greater than normal background levels;

219. 701 N.W.2d 684 (Mich. 2005).

220. *Henry*, 701 N.W.2d at 686.

221. See, e.g., *Potter v. Firestone Tire & Rubber Co.*, 863 P.2d 795, 824 (Cal. 1993); *Redland Soccer Club, Inc. v. Dep't of the Army*, 696 A.2d 137, 145-46 (Pa. 1997).

222. 863 P.2d 795 (Cal. 1993).

223. *Potter*, 863 P.2d at 801.

224. See *id.* at 824-25.

225. *Id.*

226. See *id.* at 824.

227. *Id.*

228. *Id.* (quoting *In re Paoli R.R. Yard PCB Litig.*, 916 F.2d 829, 852 (3d Cir. 1990)).

229. *Id.* (quoting *Ayers v. Jackson Twp.*, 525 A.2d 287, 312 (N.J. 1987)).

230. *Id.* (citing *Ayers*, 525 A.2d at 312).

231. 696 A.2d 137 (Pa. 1997).

232. See *Redland Soccer Club*, 696 A.2d at 145-46.

233. Compare *id.* (listing elements that a Pennsylvania plaintiff must prove in a medical monitoring claim), with *Potter*, 863 P.2d at 824-25 (listing factors that California courts should consider in determining the reasonableness and necessity of medical monitoring).

- (2) to a proven hazardous substance;
- (3) caused by the defendant's negligence;
- (4) as a proximate result of the exposure, plaintiff has a significantly increased risk of contracting a serious latent disease;
- (5) a monitoring procedure exists that makes the early detection of the disease possible;
- (6) the prescribed monitoring regime is different from that normally recommended in the absence of the exposure; and
- (7) the prescribed monitoring regime is reasonably necessary according to contemporary scientific principles.²³⁴

These last two cases are particularly relevant to the analysis of the NCAA settlement because they come from California and Pennsylvania—two of the most plaintiff-friendly jurisdictions in the context of medical monitoring. If the argument that sports-related concussions should receive medical monitoring fails under these standards, then they are likely to fail everywhere.

III. DISCUSSION

This Section evaluates the settlement agreement's two most important provisions: the medical monitoring fund and the revised concussion-management protocols. Since the other two provisions concern the release of certain claims and fees/awards,²³⁵ only the provisions related to medical monitoring and concussion-management protocols will affect the NCAA's day-to-day concussion management moving forward.

This Section argues that regardless of whether one looks at the medical monitoring program from a legal or medical perspective, it is categorically insufficient as a remedial measure.²³⁶ With that said, the settlement is not entirely futile—the concussion-management protocols provide a valuable form of relief that will have a lasting impact.²³⁷

A. *The Insufficiency of Medical Monitoring Claims from a Legal Perspective*

Despite the medical monitoring program clearly being the centerpiece of this settlement,²³⁸ it is an inappropriate remedial measure and only solidifies existing critiques on medical monitoring claims in the American tort system. At a fundamental level, a seemingly obvious question arises: Is the pursuit of medical monitoring in a sports-related concussion case even helpful? The court did not address this question head on,²³⁹ nor did it feel the need to in order to comply with the Federal Rules of Civil Procedure.²⁴⁰ Rule 23(e) requires a court to assess whether the settlement was "fair,

234. *Redland Soccer Club*, 696 A.2d at 145–46.

235. *See supra* Part II.B.2.

236. *See infra* Parts III.A, III.B.

237. *See infra* Part III.C.

238. *See In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. 202, 211–12 (N.D. Ill. 2019), *aff'd*, *Walker v. NCAA*, No. 19-2638, 2019 WL 8058082 (7th Cir. Oct. 25, 2019).

239. *See id.* at 218–19.

240. *See* FED. R. CIV. P. 23(e)(2).

reasonable, and adequate.”²⁴¹ To satisfy this requirement, the court elected to focus on the thoroughness of the medical monitoring program instead of whether it was an adequate remedy to begin with.²⁴²

Nevertheless, the court did not entirely skirt the question of whether medical monitoring would be effective in the context of sports-related concussions.²⁴³ It briefly touched on the issue in the aforementioned Rule 23(e) analysis.²⁴⁴ In assessing the strength of the medical monitoring claim—a key step in the fair, reasonable, and adequate analysis—the court explained that the strength depended on a number of factors.²⁴⁵ Those factors, according to the court, are as follows: (1) whether a class member’s state recognizes medical monitoring as an independent cause of action, (2) whether a class member’s state recognizes medical monitoring as a form of injunctive relief at all, and (3) whether the state recognizes medical monitoring for plaintiffs who do not currently suffer injuries.²⁴⁶

Even a cursory review of medical monitoring jurisprudence demonstrates that the court attempted to recognize how divided different jurisdictions are on medical monitoring.²⁴⁷ Its analysis of this issue, however, went no further than to suggest that the chances each class member attains medical monitoring relief through litigation is very low.²⁴⁸ While the court may not have needed to address this division, the unique fact pattern associated with sports-related concussion liability makes this division an important issue to address.

Medical monitoring claims normally surface in the context of products liability and environmental liability.²⁴⁹ Sports-related concussion litigation, however, presents a wholly distinct fact pattern as compared to products or environmental liability fact patterns. First, the argument for the assumption of risk is more demonstrable.²⁵⁰ Second, the causal link is much weaker.

Regarding this second reason, sports-related concussion litigation is not, for example, similar to asbestos litigation. Please consider the following examples. In an asbestos case, Company A exposes an employee to asbestos, which then causes

241. *Id.*

242. *See In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. at 218 (explaining, for example, how medical experts with specialized knowledge created the Screening Questionnaire and how the athletes undergo a “comprehensive suite of neurologic, neurophysiological, mood, and behavioral tests”).

243. *See id.*

244. *See id.* at 217–18 (quoting FED. R. CIV. P. 23(e)).

245. *Id.* at 218 (quoting FED. R. CIV. P. 23(e)).

246. *Id.* (quoting FED. R. CIV. P. 23(e)).

247. *See, e.g.,* Victor E. Schwartz & Cary Silverman, *The Rise of “Empty Suit” Litigation: Where Should Tort Law Draw the Line?*, 80 BROOK. L. REV. 599, 619–25 (2015); *see also* Hamer, *supra* note 212, at 50; Schwartz et al., *supra* note 211, at 349.

248. *See In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. at 218–19.

249. *See, e.g.,* Metro-North Commuter R.R. Co. v. Buckley, 521 U.S. 424 (1997); Friends for All Children, Inc. v. Lockheed Aircraft Corp., 746 F.2d 816 (D.C. Cir. 1984); Hinton *ex rel.* Hinton v. Monsanto Co., 813 So. 2d 827 (Ala. 2001); Wood v. Wyeth-Ayerst Labs., 82 S.W.3d 849 (Ky. 2002); Badillo v. Am. Brands, Inc., 16 P.3d 435 (Nev. 2001).

250. *See In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. at 218–19.

mesothelioma.²⁵¹ In an environmental liability lawsuit, a factory negligently dumps chemicals into a water supply, which causes diseases in civilians.²⁵²

While these examples may be rudimentary and subject to their own causation pitfalls, they are still illustrative of a direct causal link. In sports-related concussion litigation, the causal chain is less clear. Because a sports-related concussion fact pattern is novel in the context of medical monitoring, an analysis of whether medical monitoring is an appropriate form of relief is well-positioned to make an impact in the sports-related concussion litigation discussion.

Consistent with the case law previously discussed,²⁵³ legal scholars have criticized medical monitoring claims as uprooting centuries of well-settled tort law because it eliminates “injury” as a necessary element for a tort claim.²⁵⁴ The underlying principle for requiring a person to be injured is that a jury needs to see some objective manifestation of harm before it can order a defendant to pay damages.²⁵⁵ Removing the injury element has potentially devastating consequences for the tort system because it opens the door to excessive levels of liability.²⁵⁶ A medical monitoring tort lowers the threshold of potential plaintiffs from those who have been *injured* to those who have been *put at risk of injury*.²⁵⁷

This can be troublesome not only for defendants but also for plaintiffs.²⁵⁸ By opening the floodgates to a potentially boundless class of plaintiffs, the allocation of a defendant’s resources becomes much more diffused.²⁵⁹ If an injury does manifest, the plaintiff runs a risk that the defendant’s resources have been expended.²⁶⁰ In other words, judicial attempts to extend plaintiffs’ rights prior to injury may have the reverse effect and deprive them of plausible relief when a disease does manifest and relief is actually needed.²⁶¹

While sports-related concussion litigation presents a fundamentally different fact pattern as compared to the traditional asbestos or environmental fact patterns to which medical monitoring claims normally attach, these criticisms still apply. For example, most athletes who are eligible for the medical monitoring program are asymptomatic and may never develop CTE.²⁶² This depletes a significant amount of the seventy million

251. See *What’s Inside*, 24 Andrews Asbestos Litig. Rep. (Andrews Publ’n) No. 26, at 1 (Nov. 7, 2002) (highlighting several jury awards for negligent asbestos exposure).

252. See *Bell v. 3M Co.*, 344 F. Supp. 3d 1207, 1211, 1224–25 (D. Colo. 2018) (holding that a medical monitoring claim arising out of a company’s allegedly negligent contamination of groundwater is permissible).

253. See *supra* Part II.C for a discussion of medical monitoring jurisprudence.

254. Hamer, *supra* note 212, at 51–52 (“By eliminating ‘injury’ as an essential element of the tort claim, the scope of a defendant’s liability becomes seemingly limitless.”).

255. Schwartz et al., *supra* note 211, at 375.

256. Hamer, *supra* note 212, at 51–52.

257. *Id.* at 52.

258. *Id.*

259. See *id.*

260. *Id.*

261. Schwartz et al., *supra* note 211, at 376 (“Unimpaired [asbestos] plaintiffs flooded the tort system, causing about seventy employers . . . to file for bankruptcy protection, and putting disproportionate financial pressure on newer ‘peripheral defendants.’”).

262. See *supra* notes 82–83 and accompanying text for a discussion of how only thirty-three percent of athletes are symptomatic at time of retirement.

dollars that could be going to those that are symptomatic and exhibit a high chance of having CTE.²⁶³

In addition to these more theoretical critiques, practical hurdles related to medical monitoring claims arise as well. For example, some scholars have argued that courts are not suited to handle the many complexities that arise out of medical monitoring claims, such as determining the medical or economic risk and evaluating test strategies.²⁶⁴ Through no fault of their own, courts simply do not have the medical expertise that would effectively qualify them to answer these difficult questions.²⁶⁵ This also raises the obvious consideration for judicial economy, because asking the courts to evaluate these claims will consume a substantial amount of time and resources.²⁶⁶ Consequently, several scholars have argued that legislative bodies are the correct forum for deciding if and how courts should implement medical monitoring claims.²⁶⁷ In the context of medical monitoring claims for sports-related concussions, this problem is even worse because scientists, in fact, are not sure how to handle CTE.²⁶⁸

When applying the standards for medical monitoring programs set forth by California and Pennsylvania, the “lack of information” problem continues to percolate. As discussed above, the California and Pennsylvania standards are the most lenient tests for bringing a successful medical monitoring claim.²⁶⁹ Regardless of whether one is using California’s or Pennsylvania’s standard, however, medical monitoring is not suitable for sports-related concussions.

California, unlike Pennsylvania, uses a balancing test and is therefore more subjective.²⁷⁰ The first California factor—significance of a plaintiff’s exposure—is difficult to assess within the context of sports-related concussions for two reasons. First, so many concussions go unreported,²⁷¹ and second, subconcussive hits may also play a role in later-life neurodegenerative disease.²⁷² The second factor under the California test is “toxicity of the chemicals,”²⁷³ but for the sake of comparison, it essentially means how dangerous the chemical or activity is. Thus, with regard to the second factor, one cannot

263. It is important to keep in mind that even if athletes are symptomatic, medical professionals are unable to conclusively determine whether they are related to CTE. See *supra* note 79 and accompanying text for a note on how scientists can only diagnose CTE postmortem.

264. Schwartz et al., *supra* note 211, at 376–77.

265. *Id.* at 377.

266. *Id.* at 368.

267. See, e.g., *id.* at 384–85; see also Hamer, *supra* note 212, at 53.

268. See *supra* Part II.A.2.

269. See *supra* notes 222–34 and accompanying text for a discussion on the California and Pennsylvania medical monitoring tests.

270. Compare *Potter v. Firestone Tire & Rubber Co.*, 863 P.2d 795, 824 (Cal. 1993) (listing factors for courts to consider when determining the reasonableness and necessity of medical monitoring), with *Redland Soccer Club, Inc. v. Dep’t of the Army*, 696 A.2d 137, 145–46 (Pa. 1997) (listing elements that plaintiffs must prove to demonstrate a valid medical monitoring claim). Please note that both standards are framed in the context of environmental disputes but the themes of each factor are readily applicable.

271. See *supra* notes 59–69 and accompanying text, which discusses a study about the propensity to underreport concussions.

272. See *supra* notes 97–102 and accompanying text, which discusses a study related to subconcussive hits conducted on mice.

273. *Potter*, 863 P.2d at 824.

confidently assess the long-term harm sports-related concussions can cause because scientists can neither diagnose CTE nor explain its causes.²⁷⁴

These unknowns make it incredibly difficult to assess harm because scientists cannot isolate the harm CTE does by itself. This rationale remains true for the third factor, relative increase in the chance of onset of the disease as a result of exposure, and the fourth factor, the seriousness of the disease.²⁷⁵ The fifth factor—the clinical value of early detection and diagnosis—is marginal at best because, at the time of drafting this Comment, scientists do not have the capability to treat or even slow down CTE.²⁷⁶

The Pennsylvania standard is stricter than California in that a plaintiff must meet every condition in order for a medical monitoring claim to be viable.²⁷⁷ While some of these factors are more arguable than others, medical monitoring claims for sports-related concussions are impermissible under the Pennsylvania standard because of this formulaic structure. Specifically, prong five states that “a monitoring procedure [must] exist[] that makes the early detection of the disease possible.”²⁷⁸ As discussed above, there currently is no test that conclusively diagnoses CTE in living patients, let alone a test that would detect it at an early stage.²⁷⁹ In summary, whether one looks to theoretical criticisms or legal tests set forth by plaintiff-friendly courts, medical monitoring is categorically insufficient for sports-related concussion injuries.

B. *The Insufficiency of Medical Monitoring Claims from a Medical Perspective*

Members of the legal community are not the only cautionary observers of medical monitoring claims. These claims have also drawn sharp criticism from medical scholars and professionals alike.²⁸⁰ Doctors and scientists believe medical monitoring is justifiable only when it can lead to a cure or is used as a preventative measure.²⁸¹ One group of scholars synthesized the mainstream medical community’s perspective on when medical monitoring may be appropriate into four basic conditions.²⁸²

First, medical monitoring may be appropriate when physicians are able to detect diseases prior to a patient manifesting any symptoms.²⁸³ Without this condition, scientists argue that medical monitoring provides no additional benefit.²⁸⁴ If a patient does not know he has a particular disease until symptoms manifest, then he would have been alerted to the disease no sooner than if the medical monitoring was unavailable.²⁸⁵ In this situation, medical monitoring becomes questionable, costly, and redundant.²⁸⁶

274. See *supra* note 79 and accompanying text.

275. See *Potter*, 863 P.2d at 824–25.

276. See *supra* note 79 and accompanying text.

277. See *Redland Soccer Club, Inc. v. Dep’t of the Army*, 696 A.2d 137, 145–46 (Pa. 1997).

278. *Id.* at 146.

279. See *supra* note 79 and accompanying text.

280. See *Schwartz et al.*, *supra* note 211, at 349.

281. *Id.*

282. See *id.* at 352–57.

283. *Id.* at 353.

284. *Id.*

285. *Id.*

286. *Id.*

Second, medical monitoring must be beneficial in some capacity.²⁸⁷ If medical monitoring does not provide a cure, substantially improve prognosis of a condition, or delay morbidity, then setting up a monitoring program is futile.²⁸⁸ The primary purpose of this condition is that early detection of an unalterable disease may cause considerable distress and other psychological damage.²⁸⁹ Many medical professionals therefore conclude that medical monitoring for unalterable diseases, such as mesothelioma, causes significantly more harm than benefit.²⁹⁰

Third, the benefits that stem from medical monitoring must outweigh the monetary costs of the program's implementation.²⁹¹ Health professionals caution that the cost of early detection must be economically balanced in relation to the cost of the patient's medical care as a whole.²⁹² Properly deciding whether to implement a medical monitoring program, therefore, hinges on whether the benefit of an individual's early test or procedure outweighs the additional cost to that individual or society.²⁹³ Accordingly, "doctors warn[] that '[a]pplying medical tests of little or no proven value to asymptomatic populations with low prevalence of disease is questionable and costly.'"²⁹⁴

Fourth, a medical monitoring program's benefits should not exceed the potential health risks to the patient.²⁹⁵ Scientists acknowledge that there is always some risk associated with medical monitoring.²⁹⁶ The risks generally thought of are those that follow invasive testing such as radiation exposure from mammograms or colonic perforation from sigmoidoscopy.²⁹⁷ Most relevant to the NCAA's monitoring program in the instant case, however, are the risks associated with false test results.²⁹⁸ False negative test results are risky because they can provide false reassurance and strip a patient of any incentive to change her habits.²⁹⁹ On the other hand, false positive test results can devastate a patient and lead to costly follow-up medical procedures.³⁰⁰

Therefore, from a medical perspective, the NCAA's medical monitoring fund would likely be considered an inappropriate form of relief for the class members. The purpose of the medical monitoring fund is to provide early detection of mid- to late-life

287. *See id.* at 353–54.

288. *Id.* at 354 (quoting W.K.C. Morgan, *Medical Monitoring with Particular Attention to Screening for Lung Cancer*, in *OCCUPATIONAL LUNG DISEASE* 157, 157–58 (J. Bernard L. Gee et al. eds., 1984)).

289. *Id.*

290. *See id.*

291. *Id.* at 355.

292. *Id.*

293. *Id.*

294. *Id.* (second alteration in original) (quoting Gary R. Krieger, Caryl S. Brailsford, Marci Balge & Myron C. Harrison, *Medical Surveillance and Medical Screening for Toxic Exposure*, in *CLINICAL ENVIRONMENTAL HEALTH AND TOXIC EXPOSURES* 107, 107–08 (John B. Sullivan, Jr. & Gary R. Krieger eds., 2d ed. 2001)).

295. *Id.* at 356.

296. *Id.*

297. *Id.*

298. *See id.*

299. *Id.* at 356–57.

300. *Id.* at 357.

onset of neurodegenerative disease, particularly CTE.³⁰¹ This is problematic because scientists do not have enough information on CTE to meet the medical community's conditions described just above.³⁰²

For example, the first concept—early detection prior to a patient's symptom manifestation—is in direct conflict with the NCAA's medical monitoring program. While scientists are making significant breakthroughs, their findings relating to the causes of CTE are inconclusive.³⁰³ More importantly, a postmortem examination is required to properly diagnose CTE.³⁰⁴ Therefore, a medical monitoring program designed to provide early detection of CTE is virtually impossible—especially for asymptomatic patients.

Moreover, the screening questionnaires and potential medical evaluations are only intended to assess concussion-related symptoms that may be early indicators of neurodegenerative diseases, such as CTE.³⁰⁵ This runs contrary to the medical community's second condition because it undermines the rationale behind it: early detection of an unalterable disease may cause patients great distress. Without being able to even get a definitive answer to whether a patient has CTE, potential treatment is unlikely to mitigate the distress a doctor may cause by informing a patient that she might have the disease.

Absent a cure or even definitive conclusions for the causes of CTE, the third and fourth conditions related to monetary and health cost-benefit analyses are also unattainable. Spending seventy million dollars for a program that provides a marginal benefit only to symptoms—not the actual disease—is “questionable and costly.”³⁰⁶ Moreover, it is impossible to determine whether seventy million dollars is “economically balanced” in relation to medical care as a whole, because scientists cannot possibly place a sticker price on the total cost of care without more informed and refined information.³⁰⁷ Lastly, the risks of false positive and false negative test results are obviously apparent given the lack of information.³⁰⁸ For the reasons stated above, the NCAA's medical monitoring program cannot meet a single condition set forth by the medical community and is thus an inappropriate remedial measure.

As one can readily identify, determining whether medical monitoring is appropriate for sports-related concussions, in either the medical or legal perspective, yields a similar answer with substantially similar reasons.³⁰⁹ Medical monitoring is uniquely situated at the intersection of the medical community and legal scholarship.³¹⁰ Therefore, this

301. See *In re NCAA Student-Athlete Concussion Injury Litig.*, 332 F.R.D. 202, 218 (N.D. Ill. 2019), *aff'd*, Walker v. NCAA, No. 19-2638, 2019 WL 8058082, at 1 (7th Cir. Oct. 25, 2019).

302. See *supra* notes 281–300 and accompanying text for a discussion of medical professionals' critiques of medical monitoring.

303. See *supra* notes 88–104 and accompanying text for a discussion of scientists' research into the causes of CTE.

304. *Supra* note 79 and accompanying text.

305. *Supra* note 172 and accompanying text.

306. See Schwartz et al., *supra* note 211, at 355 (quoting Krieger et al., *supra* note 294, at 108).

307. See *id.*

308. See *id.* at 356–57.

309. Compare *supra* Part III.A, with *supra* Part III.B.

310. See Schwartz et al., *supra* note 211, at 376–77.

Comment analyzed sports-related concussions under both perspectives to highlight how ineffective medical monitoring is as a remedial measure. Regarding the legal scholarship portion specifically, the California and Pennsylvania standards are merely examples of how medical monitoring claims for sports-related concussions could play out in court.

The intent of this analysis is not to discredit medical monitoring for sports-related concussions as entirely futile. Rather, the intention is to highlight one important theme—lack of information. As more scientific evidence related to CTE develops, perhaps medical monitoring would make more sense. Presently, however, this seventy million dollar investment is unfortunately premature.

If the medical monitoring is, as argued, ineffective, a seemingly obvious question arises: If not this, then what? Perhaps the answer lies in bringing these claims to trial and demanding damages from the NCAA. That is, of course, assuming plaintiffs can establish a duty of care was even owed. A detailed analysis assessing duty in this context goes beyond the scope of this Comment; however, one can easily see that arguments related to assuming the risk will inevitably present significant hurdles for plaintiffs.³¹¹

C. Concussion Management Protocols—a Viable Remedy

The analysis above should be sobering, especially when one considers how critical the medical monitoring program is to the NCAA settlement.³¹² Despite this, provisions related to the revised concussion management protocols and the released claims are viable forms of relief. Although these provisions do not have dollar figures attached to them, unlike the medical monitoring provision,³¹³ it is important to discuss them because they will serve the plaintiffs and future athletes well in years to come.

Regarding the concussion management protocols, there is no singular authority with which to compare the NCAA's new protocols. Nevertheless, several scholars have highlighted common concussion management protocols they believe would be effective.³¹⁴ This scholarship will serve as a useful tool in evaluating the concussion management protocols agreed upon.

Whether in the context of proposed legislation³¹⁵ or at an international forum,³¹⁶ scholars generally conclude that return-to-play guidelines must prohibit an athlete from

311. See Jeffrey Standen, *Assumption of Risk in NFL Concussion Litigation: The Offhand Empiricism of the Courtroom*, 8 FLA. INT'L U. L. REV. 71, 72 (2012).

312. See *supra* Part II.B.2 for a discussion of the settlement agreement entered into between the NCAA and class members.

313. See *supra* Part II.B.2.

314. See, e.g., Betsy J. Grey & Gary E. Marchant, *Biomarkers, Concussions, and the Duty of Care*, 2015 MICH. ST. L. REV. 1911, 1973; Andrew W. Breck, Comment, *Keeping Your Head on Straight: Protecting Indiana Youth Athletes from Traumatic Brain Injuries Through "Return-to-Play" Legislation*, 9 IND. HEALTH L. REV. 215, 236 (2012); Aaron Caputo, Comment, *The Bell Has Rung: Answering the Door for Student-Athlete Concussion Issues in the National Collegiate Athletic Association*, 32 J.L. & HEALTH 58, 80 (2019); Whitney Johnson, Comment, *Deception, Degeneration, and the Delegation of Duty: Contracting Safety Obligations Between the NCAA, Member Institutions, and Student-Athletes*, 49 VAL. U. L. REV. 1045, 1093 (2015).

315. See Breck, *supra* note 314, at 236.

316. See McCrory et al., *supra* note 47, at 250.

returning to play on the same day she was diagnosed with a concussion.³¹⁷ This is clearly articulated in the NCAA settlement.³¹⁸

Additionally, scholars have vocalized the need for mandatory baseline testing for all athletes.³¹⁹ This is unsurprising because of how difficult it can be to diagnose a concussion when an athlete sustains one.³²⁰ The baseline provision found in the settlement agreement requires all athletes from all member institutions to undergo baseline testing.³²¹ This is significant because, while many schools (95%) administer baseline examinations, most of these schools (87.5%) previously administered these tests to only “high-risk” athletes.³²²

Lastly, scholars and legislators have advocated for the dissemination of educational materials.³²³ These materials are particularly important for the student-athletes themselves as they relate to informed consent. In 2015, one scholar wrote that ninety percent of universities require that an athlete acknowledge her role in reporting a concussion; however, only seventy-one percent of those institutions provide educational materials related to concussions.³²⁴ Moreover, many states require educational training on sports-related concussions.³²⁵ Therefore, the provisions related to the dissemination of educational materials would not only strengthen the athlete’s ability to provide informed consent but they would also be consistent with many state legislatures that have deliberated extensively in the formation of these laws.

IV. CONCLUSION

There simply is not enough information pertaining to the long-term effects of sports-related concussions to instill confidence that this settlement is an adequate remedy. The goal of this Comment was to first provide a succinct primer on the state of sports-related concussion science. While there is no denying that scientific understanding has drastically improved in recent years, there is still much more work to be done. A second goal was to provide a thorough understanding of the key components in the first major class action settlement between plaintiffs and the NCAA in the sports-related concussion arena.

Ultimately, a look at medical monitoring from both legal and medical perspectives demonstrates how the medical monitoring program is likely to be ineffective, notwithstanding the seemingly obviously counterargument that alternative solutions look bleak. Nevertheless, the revision to concussion management protocols will drastically benefit future collegiate athletes. These kinds of remedial efforts demonstrate that society

317. *See id.* at 253.

318. Second Amended Class Action Settlement Agreement, *supra* note 150, at 37.

319. Lance K. Spaude, *Time to Act: Correcting the Inadequacy of Youth Concussion Legislation Through a Federal Act*, 100 MARQ. L. REV. 1093, 1121 (2017).

320. *See Breck, supra* note 314, at 221.

321. Second Amended Class Action Settlement Agreement, *supra* note 150, at 36.

322. Christine M. Baugh, Emily Kroshus, Julie M. Stamm, Daniel H. Daneshvar, Michael J. Pepin & William P. Meehan III, *Clinical Practices in Collegiate Concussion Management*, 44 AM. J. SPORTS MED. 1391, 1391 (2016).

323. Breck, *supra* note 314, at 225–26.

324. Johnson, *supra* note 314, at 1068.

325. Spaude, *supra* note 319, at 1114.

is moving in the right direction and give hope for the idea that athletes like Petey Jones, from *Remember the Titans*, will continue to strap on their helmets in years to come.