

STOP PLAYING THROUGH IT: WHY INDIANA NEEDS TO REASSESS ITS STANCE TOWARDS BRAIN INJURIES AND ITS CURRENT CONCUSSION PROTOCOL IN HIGH SCHOOL SPORTS

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I. INTRODUCTION

Junior Seau, one of the National Football League's most feared and talented defensive linebackers, was known for his toughness and his ability to play through pain.¹ During a stint towards the end of his career with the New England Patriots, Seau suffered a fractured hand, and when the trainer asked about X-raying his hand and removing him from the game, he responded, "[w]hy? I know it's broke. We don't need to X-Ray it."² Not surprisingly, Seau went on to finish the game.³ It was this sort of tenacious dedication to the game that painted his legacy as a legendary linebacker, but his biggest and most lasting contribution to football may not have even come until after his career was finished.⁴

At the age of 43, after a 13-year NFL career, Seau was found dead in his home from self-inflicted gunshot wounds.⁵ After being questioned about her son's tragic passing, Seau's mother cried out to reporters, "I don't understand . . . I am shocked."⁶ His death was a shock to all and left many wondering what may have caused him to take his own life.⁷ Reporters believed this tragedy was a result of his ongoing battle with depression, and some believed that his recent divorce might have been the inciting incident that caused him to take his own life. His family believed there was more to it, and they were confident that his time playing in the NFL might have heavily contributed to his depressed state.⁸ In the search for truth, the Seau family decided to donate his brain to neuroscientists at the National Institute for Health in order to research whether or not extensive blows to the head that Seau sustained while playing in the NFL might uncover some truth about his mental health.⁹

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1. Jim Trotter, *Junior Seau: Playing Through Pain*, ESPN (Nov. 19, 2015), http://www.espn.com/nfl/story/_/page/HotRead151119/legendary-linebacker-junior-seau-routinely-played-pain-nfl [<https://perma.cc/H2FA-HHMY>].

2. *Id.*

3. *Id.*

4. *Id.*

5. Junior Seau dies at 43, ESPN (May 2, 2012), https://www.espn.com/nfl/story/_/id/7882750/junior-seau-former-san-diego-charger-found-dead-cops-probe-suicide [<https://perma.cc/VA8H-B5D4>].

6. *Id.*

7. *Id.*

8. *Id.*

9. *Id.*

After several months of analysis, the team of researchers came to the conclusion that Seau had suffered from Chronic Traumatic Encephalopathy, commonly known as CTE, at the time of his death.¹⁰ This “brain disease” is a direct result of continual concussions or head trauma, and unfortunately can only be diagnosed post mortem.¹¹ So, the unfortunate answer that the Seau family was looking for could only be known after his passing.¹² But, who is to blame? Is it the manufacturers of the safety equipment used by players? Is it the players themselves, or is it the game? Some might think that tragic deaths like Seau’s are more likely to happen as a result of grown men violently sacrificing their bodies playing the sport they love; however, head injuries and resulting tragic deaths can be seen in all ages.¹³

It was a regular Friday night under the lights in Georgia as parents, friends, and fans packed the stands to watch their sons, classmates, and associates compete against each other in America’s fall ritual . . . high school football.¹⁴ The game was going smoothly until Dylan Thomas, a junior, removed himself from the competition.¹⁵ As he walked towards the sidelines, his teammates could tell that something was wrong with him, and once he reached the trainers, he collapsed.¹⁶ When he woke up, he said “I can’t feel my body.”¹⁷ The medical staff rushed him to the hospital.¹⁸ Dylan was officially pronounced dead just two days after collapsing on his high school field.¹⁹ The coroner’s office determined that the death was caused by “cardiac arrest from his head trauma.”²⁰ After analyzing his records and reviewing the incident, the doctors ultimately viewed his death as an “anomaly” explaining that it must have taken a “perfect hit” to his brain to

10. Mark Fainaru-Wada & Steve Fainaru, *Doctors: Junior Seau's brain had CTE*, ESPN (Jan. 9, 2013), https://www.espn.com/espn/otl/story/_/id/8830344/study-junior-seau-brain-shows-chronic-brain-damage-found-other-nfl-football-players [<https://perma.cc/K78Q-2S2N>]

11. Ovidiu Chiroban & Lăcrămioara Perju-Dumbravă, *Postmortem Evaluation of Chronic Traumatic Encephalopathy*, 24 ROM. J. OF LEGAL MED. 266 (2016).

12. *Junior Seau dies at 43*, *supra* note 5.

13. See *What is CTE?*, CONCUSSION LEGACY FOUND., <https://concussionfoundation.org/CTE-resources/what-is-CTE> [<https://perma.cc/3PEE-VU8J>].

14. Marlina Baldacci, Devon M. Sayers & Eric Levenson, *Georgia high school football player said, 'I can't feel my body,' then died. But why?*, CNN (Oct. 2, 2018), <https://www.cnn.com/2018/10/01/health/georgia-high-school-football-player-dies/index.html> [<https://perma.cc/VF8G-KJ2D>].

15. *See id.*

16. *Id.*

17. *Id.*

18. *Id.*

19. *Id.*

20. Joelle Goldstein, *High School Football Player Who Died After Game Suffered Cardiac Arrest Caused by a Head Injury*, PEOPLE.COM (Oct. 9, 2018), <https://people.com/sports/georgia-high-school-football-player-dylan-thomas-suffered-cardiac-arrest-from-head-injury/> [<https://perma.cc/K4YF-S3UA>].

force his body to go into cardiac arrest.²¹ After a few weeks without obtaining any definitive answers and still baffled by the “anomaly” explanation for Dylan’s death, Georgia authorities decided to review the game footage to see whether or not Dylan did in fact sustain a head injury or a blunt negligent hit to the head, or any other contact to his head, by the opposing team or by his own teammates.²² Upon watching the footage, there was not a single incident that showed him receiving a traumatic hit in the head.²³

While the issues that need to be addressed are not strictly exclusive to football, as brain injuries are a commonality in almost every sport, these two distinctly different, but eerily similar, stories bring to light a shared issue that direly needs to be addressed regarding the safety of playing football. The big question that needs to be answered is whether or not we, as a society, are willing to rectify our recent past blind-eyed ignorance towards awareness of head trauma in football and move forward to take the proper steps to make an already dangerous sport safer at all playable levels. There used to be a train of thought that it was less likely to have a concussion or brain injury as young athlete because the pace and speed of play by younger athletes was not as quick as individuals who play collegiately or professionally; however, contrary to this belief, the likelihood to sustain a brain injury is not correlated to age level, as concussions and other head injuries can be sustained at almost any level of a sport.²⁴ Dr. Henry Feuer, a practicing neurosurgeon and member of the National Football League’s Head, Neck, and Spine Medical subcommittee, commented on this issue of concussions and how they are affecting all ages by stating, “[t]he kids we’re talking about, middle school, high school, they’re more vulnerable than the pros.”²⁵ So if kids are more vulnerable to head injuries, are we wrongfully cultivating a culture of “play through the pain” in our youth? What if playing through the pain means putting your own life at risk? Do we, as a state, have a proper protocol setup for our high school athletes to keep them as safe as possible while playing? Where should we as a state look to adopt a brain-trauma protocol that will keep our high school athletes as safe as possible? The NFL has gone through rigorous criticism regarding their historic protocols in hopes of finding the best possible way to prevent permanent brain injuries.²⁶ Should the IHSAA and other affiliated groups involved with players’ safety in Indiana

21. *Id.*

22. *Id.*

23. *Id.*

24. See *Football Can Damage Kids’ Brains — Even If They Don’t Get Concussions*, WBUR (Sept. 19, 2017), <https://www.wbur.org/hereandnow/2017/09/19/youth-football-concussions> [<https://perma.cc/2H55-CZS9>].

25. *Indiana Mandates Concussion Training for Public Coaches*, CHI. TRIB. (Apr. 3, 2016), <http://www.chicagotribune.com/news/nationworld/midwest/ct-indiana-concussion-training-20160403-story.html> [<https://perma.cc/3VUY-QUQ9>] (internal quotation marks omitted.)

26. See Agence France-Presse, *N.F.L. Changes Concussion Protocol*, N.Y. TIMES (Dec. 24, 2017), <https://www.nytimes.com/2017/12/24/sports/football/nfl-concussion-protocol.html> [<https://perma.cc/48QM-ZQS9>].

follow the NFL, or is there a better protocol out there?²⁷

A. Map of Review

Part I of this note will discuss concussions from a scientific and medical perspective, providing an explanation of what a concussion is, including a medical definition of concussion, diagnosis and grading of concussions, as well as an explanation of the common symptoms and resulting medical outcomes expected for someone who has sustained a concussion. It will also provide the long-term effects of sustaining a concussion, such as the possibility to develop CTE, as well as provide statistical data showing the dangers of sustaining a concussion at a young age. Part II of this law review will offer an assessment of the NFL's current concussion protocol and explain how it has changed over the years, as well as compare its protocol to the UFC's current concussion protocol to see if there are any major differences between the two. Part III will review Indiana's current concussion protocol established for high school sports to see how it compares to the professional ones reviewed in the note, as well as explain why it is important to regulate state laws and rules to make the prospective games safer. Lastly, this review will call for a change to some of the current rules and laws established in Indiana regarding head trauma in high school sports.

II. PART I: A MEDICAL OVERVIEW OF CONCUSSIONS

Although there is much uncertainty about what a concussion is, most medical practitioners agree that, “[a] concussion is a type of traumatic brain injury—or TBI—caused by a bump, blow, or jolt to the head or by a hit to the body that causes the head and brain to move rapidly back and forth.”²⁸ These rapid movements, resulting from direct contact to the head, make the actual brain itself jerk and jolt around inside the skull, and when this occurs it sometimes causes the brain to twist inside the skull.²⁹ These rapid movements and the possible twisting of the brain creates drastic changes in the chemical makeup of the brain and can cause severe cell damage to the brain cells altogether.³⁰ Historically, these concussions have been considered “mild brain injur[ies]” by neuroscientists, and some even today still consider them as such, but concussions can be serious if not treated properly, and if left untreated, they can result in death.³¹ Now that the basics of what a concussion is has been explained, it is imperative to look at the many types of concussions and what causes them and the symptoms that are tied

27. See Marissa Payne, *UFC CEO Lorenzo Fertitta Outlines Why His Concussion Protocol Is Better Than the NFL's*, WASH. POST (Jan. 15, 2015), https://www.washingtonpost.com/news/early-lead/wp/2015/01/15/ufc-ceo-lorenzo-fertitta-outlines-why-his-concussion-protocol-is-better-than-the-nfls/?noredirect=on&utm_term=.7ab715875e72 [<https://perma.cc/4H43-BM2D>].

28. *What Is a Concussion?*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/headsup/basics/concussion_what.html [<https://perma.cc/B2NL-LH87>].

29. *Id.*

30. *Id.*

31. See *id.* (internal quotation marks omitted).

to the injury.³²

Concussions can be caused by a variety of actions, but specifically in football, they are normally caused by violent contact to the crown of the head as a result of a collision of two players.³³ It is even possible for the constant contact between an offensive lineman and a defensive lineman to cause a player to experience a concussion.³⁴ In some cases, players can even experience concussions as a result of their head hitting the ground, with the resulting impact causing the brain to reverberate inside the skull.³⁵ The symptoms of a concussion, while normally similar with each case, come in an extreme variety.³⁶ The immediate signs of a concussion are extremely subtle and sometimes hard to detect. Some prominent symptoms include but are not limited to: Loss of memory (usually forgetting the event that caused the concussion) and confusion, headache or pressure in the head, temporary loss of consciousness, confusion or feeling as if in a fog, amnesia surrounding the traumatic event, dizziness or seeing stars, ringing in the ears, nausea, vomiting, slurred speech, delayed response to questions, appearing dazed, and fatigue.³⁷ Along with the symptoms that show up as soon as the head trauma happens, or if not immediately after, there are a few symptoms that are delayed and show up some time after the incident occurs.³⁸ These delayed symptoms include: concentration or memory complaints, irritability and other personality changes, sensitivity to light and noises, sleep disturbances, psychological adjustment problems, depression, and disorders of taste and smell.³⁹

Neurologists and doctors also break concussions into type and severity, or “Grade.”⁴⁰ They generally grade these concussions based off of severity and they are split into three specific Grades.⁴¹ A Grade 1 concussion consists of: “transient confusion, no loss of consciousness, and a resolution of mental-status abnormalities in less than 15 minutes.”⁴² A Grade 2 concussion consists of: “no loss of consciousness; concussions symptoms or mental abnormalities with

32. *Id.*

33. See Christine M. Baugh et al., *Frequency of Head-Impact–Related Outcomes by Position in NCAA Division I Collegiate Football Players*, 32 J. NEUROTRAUMA 314 (2015).

34. Steven P. Broglio et al., *Cumulative Head Impact Burden in High School Football*, 28 J. NEUROTRAUMA 2069, 2070, 2073 (2011).

35. ROY J. SHEPHARD ET AL., YEARBOOK OF SPORTS MEDICINE 2011, 20–22 (2011).

36. *What Is A Concussion?*, *supra* note 28.

37. *Concussion Signs and Symptoms*, CTRS. FOR DISEASE CONTROL & PREVENTION, https://www.cdc.gov/headsup/basics/concussion_symptoms.html [<https://perma.cc/5QJY-536D>].

38. *Id.*

39. *Concussion*, MAYO CLINIC, <https://www.mayoclinic.org/diseases-conditions/concussion/symptoms-causes/syc-20355594> [<https://perma.cc/9WF6-SV3T>].

40. *Concussion (Traumatic Brain Injury)* WEBMD, <https://www.webmd.com/brain/concussion-traumatic-brain-injury-symptoms-causes-treatments#2> [<https://perma.cc/SUS7-LGSS>].

41. *Id.*

42. Roberto Masferrer et al., *Grading Scale for Cerebral Concussions*, 16 BARROW Q. (2000).

amnesia for longer than 15 minutes.”⁴³ Lastly, a Grade 3 concussion consists of “any loss of consciousness whether it is brief or prolonged.”⁴⁴ From the neurologists grading scale, it is obvious that it is worse to have a Grade 3 concussion as opposed to a Grade 1, but even medical personnel have a difficult time labeling concussions because the “biomechanical forces that are associated with blows to the head produce different injury presentations in different people.”⁴⁵ Andrew Gregory, also commenting on the difficulty of grading concussions stated, “[w]e’ve learned that each concussion acts differently, so trying to use a template just doesn’t work for individual patients . . . [u]sually it’s only in retrospect that you can say how severe a concussion actually is.”⁴⁶ With the understanding that concussions are difficult to label and sometimes as equally difficult to diagnose, it brings to light the rather frightening conclusions that many players may experience undiagnosed concussions, play while currently having a concussion, or try to hide symptoms of a concussion in efforts to stay in a game or play the ensuing week, which ultimately does nothing but add detrimental effects to the already dangerous epidemic of the sport.⁴⁷

There are often instances where a player will play through a concussion without even knowing or play before it has fully healed, because the player may not be able to make the causal link between the symptoms they are experiencing to the injury.⁴⁸ So, what does happen if a person experiences continual concussions or keeps playing a sport before concussion is properly healed? There are many consequences that are a result of an athlete who continues to play with a concussion.⁴⁹ One issue that athletes who experience concussions deal with is a condition called SIS, or Second Impact Syndrome.⁵⁰ SIS is what scientists claim occurs when an athlete experiences a concussion when the symptoms of a previous concussion have not subsided.⁵¹ It is also known that a person who experiences SIS may be prone to the condition without even experiencing a previous concussion, and in fact there are many cases where a person can acquire

43. *Id.*

44. *Id.*

45. Stacey Colino, *The Challenges of Gauging Concussion Severity*, EVERYDAY HEALTH (Mar. 14, 2018), <https://www.everydayhealth.com/neurology/challenges-gauging-concussion-severity/> [<https://perma.cc/UT7V-75A6>].

46. *Id.*

47. Associated Press, *Players still willing to hide head injuries*, ESPN (Dec. 5, 2011), http://www.espn.com/nfl/story/_/id/7388074/nfl-players-say-hiding-concussions-option [<https://perma.cc/CBX5-JGY2>].

48. Patrick Sullivan, *Could You Have a Concussion and Not Know It?*, SHARECARE, <https://www.sharecare.com/health/brain-nervous-system/article/could-you-have-concussion> [<https://perma.cc/GHC7-NDVX>].

49. *See id.*

50. Terry Zeigler, *Second Impact Syndrome*, SPORTSMED.COM, <https://www.sportsmd.com/concussions-head-injuries/second-impact-syndrome/> [<https://perma.cc/R64N-BMRZ>].

51. *Id.*

SIS only through minor contact.⁵² Even these minor impacts are able to cause the head to snap and “impart[] accelerative forces to the brain.”⁵³ SIS carries the same post-concussion symptoms as a normal concussion would, but these symptoms will normally be more reflective of a grade one concussion.⁵⁴ However, within fifteen seconds to several minutes after the second impact, an individual will collapse with rapidly dilating pupils, loss of eye movement, and respiratory failure.⁵⁵ Studies suggest that “[o]nce a player has incurred an initial cerebral concussion, his or her chances of incurring a second one are three to six times greater than for an athlete who has never sustained a concussion.”⁵⁶

A great deal of literature now suggests that continual head trauma and concussions can leave people at great risk to develop chronic traumatic encephalopathy or CTE.⁵⁷ This severe brain disease is a result of repeated blows to the head and linked to the onset of dementia.⁵⁸ Similar to graded concussions and SIS, people who experience chronic traumatic encephalopathy are diagnosed through symptoms.⁵⁹ Some symptoms commonly related to CTE include: memory loss, confusion, personality changes (including depression and suicidal thoughts), erratic behavior (including aggression), problems paying attention and organizing thoughts, and difficulty with balance and motor skill.⁶⁰ The unfortunate part of CTE is that these symptoms may not occur in those inflicted with this condition until years or even decades after the actual brain injury occurs.⁶¹ Even worse, there is no possible way to pin point someone who is suffering with CTE, seeing that those afflicted with CTE cannot be diagnosed as having CTE until after death.⁶²

Research suggests that there is no definitive type of head trauma one experiences that causes an automatic diagnosis of CTE as well as the fact that there is no evidence to prove that a single concussion increases the risk of CTE.⁶³ However, it is widely accepted that a number of traumatic blows to the head

52. *Id.*

53. Robert C. Cantu & Alisa D. Gean, *Second-Impact Syndrome and a Small Subdural Hematoma: An Uncommon Catastrophic Result of Repetitive Head Injury with a Characteristic Imaging Appearance*, 27 J. NEUROTRAUMA 1557, 1557 (2010).

54. *Id.*

55. *Id.*

56. Robert C. Cantu, *Posttraumatic Retrograde and Anterograde Amnesia: Pathophysiology and Implications in Grading and Safe Return to Play*, 36 J. ATHLETIC TRAINING 244, 246 (2001).

57. *5 Risks of Repetitive Concussions*, NEUROTRACKER (Aug. 22, 2017), <https://neurotracker.net/2017/08/22/5-risks-repetitive-head-impacts/> [<https://perma.cc/7P2Y-X6AQ>].

58. *Id.*

59. Zeigler, *supra* note 50.

60. *Chronic Traumatic Encephalopathy (CTE)*, ALZHEIMER’S ASSOC., [https://www.alz.org/alzheimers-dementia/what-is-dementia/related_conditions/chronic-traumatic-encephalopathy-\(cte\)](https://www.alz.org/alzheimers-dementia/what-is-dementia/related_conditions/chronic-traumatic-encephalopathy-(cte)) [<https://perma.cc/CKM8-JVAU>]

61. *Id.*

62. *Id.*

63. *Id.*

makes it more likely for a patient to end up with the condition.⁶⁴ Even if doctors and neurologists were able to diagnose someone with CTE, there is no set treatment for someone who may have the condition, and the best course of action for someone who may be suffering from it is to avoid continued head trauma.⁶⁵ This really puts players and athletes at even more of a risk: if there is no way to diagnose whether or not someone is suffering from CTE, how is it reasonably safe to let them even continue to play such a dangerous sport? If league safety officials were to completely bar players from playing after they experience single or multiple concussions, they would be taking the necessary preventative steps towards making the game safer. But on the other hand, in the search for absolute safety, disallowing people from having a career, being employed, or simply enjoying high school or youth athletics because of their head trauma risks may be overstepping the boundaries. The truth is that with games as violent as football, there is no way to remove all danger, just as there is no way to make living a normal life absolutely safe.⁶⁶ Concussion occurrence in athletics is not a rare event, and that is expected.⁶⁷ It is said that in competitive sports, it is estimated that close to 3.8 million concussions occur in the US alone.⁶⁸ And even worse, close to 50% of these concussions may actually go unreported.⁶⁹ In 2017 alone, it is estimated that 2.5 million high school students reported having experienced a concussion during their season, and of those 2.5 million, “an estimated 1 million reported experiencing two or more concussions during that time frame.”⁷⁰

III. PART II: HISTORICAL VIEW OF THE NFL AND BRAIN SAFETY

It is well known that concussions are a common injury sustained in the NFL because of the mere nature of the game.⁷¹ One columnist noted, “[h]eads and bodies get smashed and shuddered every week during football season. And despite changing the rules to allow for more severe penalties and fines for flagrant helmet-to-helmet hits, the NFL has not succeeded so far in preventing

64. *Id.*

65. *Id.*

66. See Nicole Wetsman, *We Have No Idea How Dangerous Football Really Is*, POPULAR SCI. (Feb. 2, 2018), <https://www.popsci.com/how-dangerous-is-football-cte#page-2> [<https://perma.cc/XA7H-TK5M>].

67. Ryan Basen, *Can Science Solve Football's Concussion Crisis?*, NBC NEWS (Oct. 27, 2017), <https://www.nbcnews.com/mach/science/can-science-solve-football-s-concussion-crisis-nca809771> [<https://perma.cc/2JXK-V26M>].

68. *Concussion and Sports*, BRAINLINE (Jul. 30, 2018), <https://www.brainline.org/article/concussion-and-sports> [<https://perma.cc/VV95-7AC2>].

69. *Id.*

70. Lara DePadila et al., *Self-Reported Concussions from Playing a Sport or Being Physically Active Among High School Students—United States, 2017*, 67 *Morbidity and Mortality Wkly Rep.* 682, 683 (2018).

71. Wetsman, *supra* note 67.

concussions.”⁷² Even with the nature of the game being so violent, league officials have not always taken a stance towards player safety.⁷³

Although the basic understanding of concussions has been around for many years, there really was no science and understanding of the dangers that are a result of blunt traumas to the head, and until 1994, the NFL took no stance towards concussions.⁷⁴ During that year, then NFL commissioner, Paul Tagliabue, created the Mild Traumatic Brain Injury Committee.⁷⁵ However, Tagliabue appointed Dr. Elliot Pellman to be the chairman of the committee, despite having no previous experience with brain injuries.⁷⁶ In 2002, forensic pathologist and co-founder of the Brain Injury Research Institute, Dr. Bennet Omalu, performed an autopsy of the brain of deceased Pittsburgh Steeler center, Mike Webster.⁷⁷ After studying Webster’s brain, Omalu suggested that Webster had CTE, and his suicide may have been a result of his constant head injuries that he sustained during the course of his career in the NFL.⁷⁸ Despite Omalu’s findings, in 2005 the Mild Traumatic Brain Injury Committee disregarded them, as they concluded that sustaining a concussion, “does not involve significant risk of second injury either in the same game or during the season.”⁷⁹ After a year of finding more players with CTE post-mortem, Dr. Pellman resigned as chair of the MTBIC and the NFL finally decided to take action, and for the rest of 2007, the NFL decided to formalize new concussion guidelines and rules that would report when players were being forced to play through injuries . . . specifically head injuries.⁸⁰ After being renamed to the Head, Neck, and Spine committee, NFL commissioner Roger Goodell issued a memo to all NFL teams, preparing to increase preventative efforts of concussions and player’s safety by establishing that anyone in violation of the rules would be suspended, specifically stating that, “playing rules that unreasonably put the safety of another player in jeopardy have no place in the game, this being especially true in the case of hits to the head and neck.”⁸¹ From 2010 to 2013, three more retired players committed suicide and all were diagnosed with CTE.⁸² In response to a 2013 lawsuit where the NFL and

72. Brian Resnick, *What A Lifetime of Playing Football Can Do To The Human Brain*, VOX (Feb. 3, 2019), <https://www.vox.com/science-and-health/2018/2/2/16956440/concussion-symptoms-cte-football-nfl-brain-damage-youth> [https://perma.cc/9ZY9-K7XB].

73. Kevin Clark, *A Brief History of NFL Rule Changes Allegedly Ruining Football*, RINGER (Mar. 29, 2018), <https://www.theringer.com/nfl/2018/3/29/17174936/targeting-rule-change-history-ruining-football-roger-goodell> [https://perma.cc/5922-5VE4].

74. *NFL Concussions Fast Facts*, CNN (Aug. 15 2019), <https://www.cnn.com/2013/08/30/us/nfl-concussions-fast-facts/index.html> [https://perma.cc/52GV-762E].

75. *Id.*

76. *Id.*

77. *Id.*

78. *Id.*

79. *Id.*

80. *Id.*

81. *Id.*

82. *Id.*

4,500 ex-players reached a deal of \$765 million to help “fund medical exams, concussion-related compensation, and medical research for retired NFL players and their families,” the NFL decided to donate more of its money and efforts to support research on concussions and CTE to better understand why so many players were struggling with the condition.⁸³ It wasn’t until 2016, that the NFL finally acknowledged that there was indeed a connection between football, concussions, and CTE, and also during this year Commissioner Goodell announced his official plans to increase the safety of the game, with specific focus on preventing, diagnosing, and treating head injuries.⁸⁴ So what did the NFL do in 2016?

IV. THE NFL’S NEW CONCUSSION PROTOCOL AND RULE CHANGES

The newly established concussion protocol took full effect in 2017 season and was the NFL’s best effort at preventing players from playing through head injuries after one had been sustained.⁸⁵ The format is quite complicated, however. Per ESPN, the protocol starts with staffing enough people to watch for concussions.⁸⁶ More specifically, during each game, there are four independent medical professionals who observe from the sidelines.⁸⁷ On top of this, there are also two certified trainers (ATC’s) that are positioned above the field in a press box or suite acting as spotters.⁸⁸ These spotters are equipped with “video playback gear and a dedicated radio connection with the sidelines.”⁸⁹ Furthermore, each team is assigned an “unaffiliated neurological consultant”, who works on the sidelines with the respective team doctor.⁹⁰ This UNC also has access to video replays to see if there are any players involved in plays likely to cause a concussion.⁹¹ While players are encouraged to “self-report” their conditions and/or symptoms, the doctor affiliated with the team is ultimately responsible for administering care to the possibly concussed player.⁹² Also, the ATC spotters, who undergo extensive training on how to spot someone who may be concussed, look for any players who they believe may be concussed, and have the authority to stop play for a medical timeout if they identify a player who they believe may be possibly concussed.⁹³ If a player has shown signs of a concussion, he is taken

83. *Id.*

84. *Id.*

85. Clark, *supra* note 73.

86. Kevin Seifert, *How is the NFL Concussion Protocol Supposed to Work?* ESPN (Dec. 11, 2017), http://www.espn.com/blog/nflnation/post/_/id/261317/how-is-the-nfl-concussion-protocol-supposed-to-work [https://perma.cc/R4ZD-GRDH].

87. *Id.*

88. *Id.*

89. *Id.*

90. *Id.*

91. *Id.*

92. *Id.*

93. *Id.*

to what is called the “tent” to undergo what the NFL describes as a “sideline survey.”⁹⁴ During this “sideline survey” the players are asked about the hit, and if the player is unable to recall, he is diagnosed with a concussion.⁹⁵ Another form of questioning that the trainers use is the “Maddock’s Questions” which require the player to perform random recall games such as reciting random events, stating the current month, or even solving a simple word problem.⁹⁶ After either of these tests are complete, the doctor conducts a neurological exam to make sure everything is functioning properly in the player’s nervous system.⁹⁷ This evaluation by the doctor includes a “cervical spine examination,” as well as a test for eye movement and speech clarity.⁹⁸ If a player shows signs that he is concussed, then the player must be removed from the game and taken off the field to the locker room to go through even further assessments to test for the severity of the concussion.⁹⁹ For this portion of the protocol, the team uses “SCAT 5” which is a concussion assessment tool that is a more comprehensive version of the sideline tests.¹⁰⁰ If they pass the SCAT 5 test, they are cleared to return to the game, however, if they do not pass the SCAT 5 test, they are ruled out for the remainder of the game.¹⁰¹

If a player is ruled out, a player has a five-step process they must go through before they can be medically cleared to play or practice.¹⁰² This process includes making sure the player goes through each of these phases: rest and recovery, light aerobic exercise, continued aerobic exercise/strength training, football specific activities, and full football activity/clearance.¹⁰³ If a team misses a concussion or lets a player play through a concussion knowing he is injured, the team is assessed a fine of up to \$150,000 and forced to go through remedial education.¹⁰⁴ One major issue to point out is that regardless of the capability to watch for concussions, a lot of concussed players go unwatched, and unfortunately some players who experience concussions do not take the necessary steps to get treated.¹⁰⁵ Much of this deals with the fact that concussions that are unseen by the spotters, referees, or medical staff fall unreported.¹⁰⁶

94. *Id.*

95. *Id.*

96. *Id.*

97. *Id.*

98. *Id.*

99. *Id.*

100. *Id.*

101. *See id.*

102. *Id.*

103. *Id.*

104. *Id.*

105. Bob Grotz, *Despite concussion concerns, NFL players say game here to stay*, DEL. COUNTY DAILY TIMES (Aug. 22, 2017), https://www.delcotimes.com/sports/despite-concussion-concerns-nfl-players-say-game-here-to-stay/article_285e4b14-5172-52b1-9ffb-939bf5fc19e6.html [<https://perma.cc/765X-Q9QF>].

106. Seifert, *supra* note 87.

In addition to implementing a new concussion protocol system, the NFL has also implemented new rules that attempt to prevent head unnecessary trauma.¹⁰⁷ Many of the head trauma rule changes started in the early 2000's with one of the first making it illegal for defensive players to hit a quarterback "helmet-to-helmet" after a change of possession, such as an interception or a fumble recovery.¹⁰⁸ This rule change was one of the first to put quarterback's safety as a priority.¹⁰⁹ In 2005, the NFL modified the "Unnecessary Roughness" rule, defined as "[u]nnecessarily running, diving into, or throwing the body against a player who should not have reasonably anticipated such contact by an opponent" to apply to all players, not just ones out of bounds.¹¹⁰ In 2009, the NFL established that "[t]eams are not permitted to intentionally form a wedge of more than two players on a kickoff return in an attempt to block for the runner" as well as implement the defenseless receiver rule which states, "[i]t is an illegal hit on a defenseless receiver if the initial force of the contact by the defender's helmet, forearm, or shoulder is to the head or neck area of the receiver."¹¹¹ Both of these rules were once again attempts of the NFL to minimize the amount of unnecessary contact that a player receives during a game.¹¹²

In 2011, the NFL implemented the idea of moving back kick off locations, from the 30-yard line to the 35-yard line, to prevent full on collisions that occur during the most dangerous play of the game, kick offs.¹¹³ In 2012, the NFL "[expanded] the list [] to include defensive players on crackback blocks, making it illegal to hit them in the head or neck area."¹¹⁴ While there were no drastic rule changes from 2013 to 2016, the NFL modified, expanded, and strengthened the "defenseless player" rule to include receivers running pass-routes in 2017.¹¹⁵ All of these rule changes were the NFL's attempt to make the game safer, but their biggest changes came before the beginning of the 2018 season.¹¹⁶

Efforts to positively change the rules regarding head safety were completely revamped at the start of the 2018 season.¹¹⁷ According to the NFL operations

107. Leigh Steinberg, *Helmet Rule Change: NFL's Next Step Toward Player Safety*, FORBES (Aug. 4, 2018), <https://www.forbes.com/sites/leighsteinberg/2018/08/14/rule-change-nfls-next-step-at-player-safety/#625801607f7f> [<https://perma.cc/3PEB-QWZC>].

108. *Health & Safety Rules Changes*, NFL, <https://operations.nfl.com/football-ops/nfl-ops-honoring-the-game/health-safety-rules-changes/> [<https://perma.cc/7G8S-N2NX>].

109. *Id.*

110. *Id.*

111. *Id.*

112. *See id.*

113. *Id.*

114. *Id.*

115. *Id.*

116. *See* Kevin Seifert, *Guide to NFL's new rules: What to Know About Approved, Tabled and Rejected Proposals*, ESPN (Mar. 28, 2018), http://www.espn.com/blog/nflnation/post/_/id/272769/guide-to-nfls-new-rules-what-to-know-about-approved-tabled-and-rejected-proposals [<https://perma.cc/4PGA-NN66>].

117. *Id.*

website, the biggest change came with the implementation of the “Use of Helmets Rule.”¹¹⁸ This rule states, “[i]t is a foul if a player lowers his head to initiate and make contact with his helmet against an opponent. This rule pertains to all players on the field, and to all areas of the field.”¹¹⁹ Regarding this rule the officials are to look for certain factors to determine whether or not a player should be penalized including, “[l]owering the head (not to include bracing for contact)[,] initiating contact with the helmet to any part of an opponent. Contact does not have to be made in head and neck area – lowering the head and initiating contact to an opponent’s torso, hips and lower body is also considered a foul; [, and] making contact on an opponent (both offense and defense).”¹²⁰ To further stress the importance of avoiding head injuries, the NFL implemented ejections for players who use the crown of the helmet as a way of tackling.¹²¹ When a player has been flagged for lowering his helmet to create contact, a team of officials in New York reviews the footage to dictate whether or not the player should be ejected from continued play.¹²² The New York team will notify the game officials that an ejection should occur if, “[t]he player lowers his helmet to establish a linear body posture prior to initiating and making contact with the helmet; [t]he player delivering the blow had an unobstructed path to his opponent; [and] if the contact was clearly avoidable.”¹²³

V. IS THE NFL’S CONCUSSION PROTOCOL THE GOLDEN STANDARD?

From the years 2012 to 2017, the NFL reported nearly 1,500 concussions, most of which occurred during a game, or in practice.¹²⁴ Even more disturbing, “[t]his data doesn’t cover the countless additional blows to the head that don’t reach the level of concussion but still may pose a risk for the brain.”¹²⁵ Even after the rule changes, the NFL is still seeing a drastic increase of the number of concussions per year.¹²⁶ So, what is the problem? Is it the fact that the game is too dangerous even with the newly implemented guidelines? Is it the fact that players are too stubborn to self-report their symptoms? Or, is it an unknown factor that hasn’t been considered yet?

Josh Cribbs, a wide receiver who played eleven years for multiple teams in the NFL and sustained many concussions, stated in regards to the NFL’s efforts

118. See *2019 Rules Changes and Points of Emphasis*, NFL, <https://operations.nfl.com/the-rules/2019-rules-changes-and-points-of-emphasis/> [<https://perma.cc/4KFC-FKZR>].

119. *Id.*

120. *Id.*

121. See *id.*

122. *Id.*

123. *Id.*

124. See Resnick, *supra* note 73.

125. *Id.*

126. Kevin Seifert, *NFL concussions continue to rise*, ESPN (Jan. 26, 2018), https://www.espn.com/nfl/story/_/id/22226487/nfl-concussions-rise-highest-level-league-began-sharing-data [<https://perma.cc/9GDD-9X7T>].

to make the game safer that, “Football is 100 percent injury.”¹²⁷ During his “head safety and football panel discussion” with the Association of Health Care Journalist (AHCJ), Cribbs touched on the internal struggle to balance his love for the game with the notion that the game he actually loves could be hindering his ability to live a healthy life in the future.¹²⁸ Cribbs noted that the NFL contract system is incentive based, which unfortunately gives players the sub-conscious desire to play in as many games as possible regardless of their physical health status from a week to week basis.¹²⁹ This ultimately forces some players to disregard their own future by covering up symptoms of concussions in hopes of being able to play the game they love and keep getting paid while doing so.¹³⁰

This can be seen in the divide amongst players who are upset with NFL rule changes that have been implemented to make the game safer.¹³¹ Eric Weddle, safety of the Baltimore Ravens, was one of many players concerned with the NFL’s new rules and how it is negatively changing the sport.¹³² In an interview conducted after Weddle was forced to watch the NFL’s video instructions on how to properly tackle during the 2018 season, Weddle stated:

I think the NFL is trying. . . You don’t want to fault them for putting in the effort to finding the best helmets and keeping players safe and all that. But the biggest problem I have is this: How do you not consult with the players and have them agree with it? You make these changes. Well, we play the game. How are you going to make these cultural changes without asking us? They think that it is going to make the game better and safer. It’s not.¹³³

While many of the players understand why the new rules were implemented—to ultimately make football as safe as possible—for the most part, players were in agreement that the rules were a bit drastic, harsh, and over the top.¹³⁴ Kevin Seifert, a writer for NFL Nation covering the rule changes, interviewed many veterans and noted that the players, “were not unappreciative of the league’s efforts.”¹³⁵ However, he noted that, “the players simply questioned whether the initiative [would] work and who would be blamed if it doesn’t . . . [and that] a few

127. Parimal Rohit, *Concussions in the NFL: A player tells his story*, CTR. HEALTH JOURNALISM (Apr. 15, 2016), <https://www.centerforhealthjournalism.org/2016/04/14/concussions-nfl-player-tells-his-story-part-1> [<https://perma.cc/D6U9-NEPN>].

128. *See id.*

129. *Id.*

130. *Id.*

131. Kevin Seifert, *The NFL’s latest safety measures face resistance from players*, ESPN (Aug. 9, 2018), http://www.espn.com/nfl/story/_id/24318483/how-nfl-latest-safety-measures-face-resistance-players-helmet-rule-concussions [<https://perma.cc/RS5B-6H2U>].

132. *Id.*

133. *Id.*

134. *See id.*

135. *Id.*

[players] would prefer to make their own decisions about brain health.”¹³⁶ Many players like D.J Swearinger, key safety for the Washington Redskins, issued concern over the rule changes because the NFL’s new tackling standards and rule changes may make gameplay more dangerous to other areas of the body.¹³⁷ He stated in an interview:

A lot of [players] would rather take their hit up top because they can live to see another day rather than have a knee injury . . . If I was an offensive player I would want to get hit right in my face because I signed up for football. I didn’t sign up for basketball. I didn’t sign up for soccer. I signed up for football.¹³⁸

Lastly, Redskins running back Chris Thompson voiced his opinion on the rule changes by saying, “[y]ou’re trying to make the game safer. But football is a violent sport, and you are not going to be able to take that away from it.”¹³⁹ Rich McKay, NFL competition committee for the NFL stated in response, “[t]here’s no question it’s hard on [the players]. But they need to adjust. We’re not doing this to do anything other than make the game safer.”¹⁴⁰ One truth resonates from both of the previous quotes, and that is the game is dangerously violent, and that factor will only increase over time as more skilled athletes with bigger physiques sign up to play every Sunday, but the NFL has drastically tried to put forth maximum effort to change the game to make it safer for the players.

There is a possibility that the sport itself has become too dangerous and that even attempts to reform the concussion protocol testing to make players safe is not enough because of the reliance of self-reporting.¹⁴¹ Recalling a specific memory about his NFL career and the ways players avoided the protocol, Josh Cribbs told a story about one of the concussions he encountered while playing for the Cleveland Browns.¹⁴² After he was knocked down and completely dazed by a defensive tackle, Cribbs knew that the hit that had occurred would require the appropriate medical personnel to assess whether or not he had been injured.¹⁴³ After returning to the sidelines, the medical staff asked him what team the Browns were playing against, to which if Cribbs stated the wrong team or gave no answer at all would result in further tests and assessments to the extent of his concussion.¹⁴⁴ Cribbs noted had no idea who he was playing against and instead of responding an incorrect choice or giving no answer, he decided to buy time by acting as if he was out of breath until he could figure out what team the Browns

136. *Id.*

137. *Id.*

138. *Id.*

139. *Id.*

140. *Id.*

141. *See* Resnick, *supra* note 73.

142. Rohit, *supra* note 128.

143. *Id.*

144. *Id.*

were playing against that Sunday.¹⁴⁵ Even after faking being out of breath, he still did not know what team the Browns were playing against, so he asked to be seated on the bench to buy even more time.¹⁴⁶ While on the bench, he was again asked whom the Browns were playing against, and he still had no idea, so in another attempt to stall, he heard the referee blow a whistle and he stood up and acted as if something major had happened on the field to distract the trainer.¹⁴⁷ In the meantime, he glanced at the scoreboard and was able to figure out that the Browns were playing the Denver Broncos and he was able to get medical clearance from the trainers.¹⁴⁸ Cribbs's story goes to show the underlying motivation to continue to play through pain as a player, and the ultimate motivation to avoid being diagnosed with any injury, specifically a concussion in this instance, that would keep one sidelined. Players will do whatever it takes to keep playing, regardless of the effects it has on their health, and they will continue to do so as long as the game exists. One thing is a certain, the NFL will continue to exist. It is stockpiled with fans that on a weekly basis pay top-dollar to go and see the exact aspects of the game that make it so dangerous - big hits, physical violence, and humans at peak performance playing the sport they love. But, at the mere chance that there could be a better system, where should the NFL start looking if they choose to reform their current protocol? Maybe they should look towards another dangerous sport.

Dana White of the UFC, (a competitive fighting league that is considered by most more brutal than football because it is basically boxing with little to no protection,) stated that the UFC's concussion protocol is the best out there and that it is even better than the NFL's.¹⁴⁹ Injuries in the UFC are normally gruesome, as there is no protective gear. Without protective gear, it is highly probable that the fighters who undergo extensive bare-knuckled beatings to the head are susceptible to concussions.¹⁵⁰ In his discussion, White described the UFC's stance on concussions as being "a little more cautious" stating that, the UFC goes "'above and beyond' when it pertains to a fighter's safety."¹⁵¹ In full, Dana stated:

Concussion[s] [are] a huge dilemma right now for the NFL. Here's the difference between the UFC and the NFL as far as concussions are concerned. First of all, if you get a concussion, if you get knocked out or you get hurt whatsoever in the UFC, three months suspension. You are on suspension for three months and you cannot come back until you are

145. *Id.*

146. *Id.*

147. *Id.*

148. *Id.*

149. Adam Guillen Jr., *Dana White on Concussions: UFC Is Safer Than the NFL*, SB NATION (Jan. 8, 2013), <https://www.mmamania.com/2013/1/8/3852326/ufc-president-dana-white-mma-concussions-nfl-mma> [<https://perma.cc/H9AP-5Z77>].

150. *See id.*

151. *Id.*

cleared by a doctor. You can't have any contact whatsoever. In the NFL, you're not going to lose Tom Brady for three months, man. You lose Tom Brady for three months and your whole season is wiped out. So, the UFC, listen, we don't hide from it, it's a contact sport and that's [why] what these guys do, [is] much safer. In the 20-year history of the UFC, it will be 20-years in November, there has never been a death or a serious injury. Never been a death or serious injury in 20 years because we go above and beyond when it comes to the safety of these guys. When you know you have two healthy athletes getting ready to compete, they get the proper medical attention before and after, it's the safest sport in the world, fact.¹⁵²

So, in comparison to the NFL, the UFC uses a strict ninety-day suspension from any activity related to fighting. During this suspension, the fighters are not allowed to even revisit the doctor until the ninety days has been passed up, and this is a drastic difference when compared to the NFL policy. The NFL's protocol has no minimum required sit out period.¹⁵³ The distinction between the two sports is obvious—one is a team sport with a season lasting only four to five months at most—while being a fighter in the UFC is purely an individual sport where fights are scheduled on a four to five month basis. So, if the NFL adopted a minimum sit out requirement, they would lose key players for an extended amount of time, possibly losing them for a significant portion of the season. But, if the current protocol is not effective, as it has shown not to be, and the NFL wants to reduce and hopefully abolish the amount of current and retired players being diagnosed with CTE after their death, shouldn't they take the proper steps to promote absolute safety, even if this means benching one of their best players for ninety days? Even more importantly, if an organization like the NFL reformed their standards as to how head trauma and head safety should be followed by their football players, shouldn't Indiana as a state reassess its stance and leniency towards high school player head safety?

VI. PART III: CONCUSSIONS AND INDIANA HIGH SCHOOL SPORTS

Unlike the league officials and committee members of the NFL and other head trauma regulatory committees that have recently been committed to regulating rules and laws to make sports safer, the leaders of Indiana haven't always been on the fast track to making Indiana sports safer in response to the raised awareness of the head trauma that can occur to those who participate in contact sports. However, the leaders and lawmakers of Indiana changed their stance on May 10, 2011, when Mitch Daniels, a strong advocate for youth sports safety, made Indiana the sixteenth state to recognize head trauma by signing a law

152. *Id.*

153. *NFL Return-To-Participation Protocol*, NFL PLAYER HEALTH & SAFETY (Jun. 20, 2017), <https://www.playsmartplaysafe.com/focus-on-safety/protecting-players/nfl-return-to-participation-protocol/> [<https://perma.cc/97RV-F9R8>].

that was initially enacted in Washington.¹⁵⁴ The law that Mitch Daniels enacted is commonly known as the “Zackery Lystedt Law” or the “Lystedt Law.”¹⁵⁵ This law was created in May of 2009, and was the first state law specifically created with the idea of raising awareness of youth concussions.¹⁵⁶ The law created four requirements for the states to follow: (1) The development of uniform concussion guidelines and distribution of educating materials regarding brain injury; (2) Mandatory consent from parents for the participation in youth athletics; (3) Immediate removal of the youth athlete from competition after suffering an apparent brain injury; and (4) Mandatory compliance with return-to-play protocol before allowing the youth athlete to return to athletic competition.¹⁵⁷ Under this Indiana law, there are certain guidelines in place that require the “development and dissemination of concussion guidelines, information sheets and forms to inform and educate coaches, student athletes and parents of the nature and risk of concussions, including the risk of continu[ed] play after concussion or head injury.”¹⁵⁸ Furthermore, with this law there is a requirement that, “youth athletes and a parent and/or guardian sign and return a concussion and head injury information sheet on a yearly basis before the athlete’s first practice or being allowed to compete.”¹⁵⁹

Regarding Indiana’s specific protocol for concussions, under Indiana Code § 20-34-7-4, a student athlete who is suspected of sustaining a concussion or head injury in a practice or game, “[s]hall be removed from play at the time of the injury, and [] [m]ay not return to play until the student athlete has received a written clearance.”¹⁶⁰ Lindsey Straus went on to explain the procedure in more depth when she noted that, “[y]outh athletes who have been taken out of a game because of a suspected concussion are not allowed to return to play until after: waiting 24 hours; being evaluated by a health care provider with specific training in the evaluation and management of concussions; and receiving a written clearance to play from that health care provider.”¹⁶¹

From the NFL to even high school sports, the ability to allow a child, teen, or NFL player to return to play places a strong sense of liability on specific health care providers. What happens when a healthcare provider allows someone to return to play when they in fact are not healed from an injury like a concussion, which shows almost no markers for complete recovery? Straus also noted this in her article on concussions regarding legal immunity, “[a] licensed health care provider who evaluates a student athlete for concussion and in good faith

154. Lindsey Barton Straus, *Youth Sports Concussion Safety Laws: Indiana*, MOMS TEAM, <https://www.momsteam.com/health-safety/youth-sports-concussion-safety-laws-indiana> [<https://perma.cc/D4H8-TC7D>] (last modified Mar. 30, 2015).

155. *Id.*

156. *Id.*

157. *Id.*

158. *Id.*

159. *Id.*

160. IND. ANN. CODE § 20-34-7-4 (West 2020).

161. Straus, *supra* note 154.

authorizes a student athlete to return to play is not liable for civil damages resulting from an act or omission in the rendering of an evaluation unless the acts or omissions constitute gross negligence or willful or wanton misconduct.”¹⁶² Realistically, what is stopping a parent or a coach from going to a legal professional and persuading them to let their player, son or daughter play in a big game? Do we, as citizens, know for certain that doctors and medical professionals follow the rules as strictly as they should when it comes to clearing players who have head injuries? That is a question that is almost impossible to answer. It would seem that in a perfect world, no player would be allowed to go back to play prior to his or her full medical clearance from his or her health care provider, but the problem is - we don't live in a perfect world. If there is no liability pressed upon medical professionals unless they act in “gross negligence or willful or wanton misconduct,” who is to say that these professionals may or may not be making decisions as fans that may supersede their decisions as professionals?¹⁶³

The identification of concussions is not just left up to professionals, however. In July of 2017, and stated under Indiana Code § 20-34-7-6(b), “[p]rior to coaching football to individuals who are less than (20) years of age and are in grades 1 through 12, each head football coach and assistant football coach shall complete a certified coaching education course that: (1) is sport specific; and (2) contains player safety content, including content on” concussion awareness; equipment fitting, heat emergency preparedness; and proper technique.¹⁶⁴ Basically, what these laws are doing is establishing a check that places responsibility not only on the health professionals, but also shifts some of that burden to the coaches in Indiana. These training “seminars” are establishing a basis that “all coaches[,] for every public school sport offered to students . . . must complete a course on how to spot symptoms, such as dizziness and temporary loss of consciousness, and the potential consequences of concussions.”¹⁶⁵ But, once again, how realistic is it that a coach who is preoccupied with doing his job, will have the absolute ability to fulfill his duties as a coach, as well as, fulfill his new role as a makeshift medical professional?

The Indiana High School Athletic Association, the primary governing body when it comes to rules for concussions and regulations regarding Indiana sports, has taken its own stance regarding the concussion epidemic. Per the National Federation sports rulebook as stated in the IHSAA suggested guidelines for management of a concussion and pursuant to Indiana laws and regulations, “[a]ny athlete suspected of having a concussion should be evaluated by an appropriate health care professional that day. Any athlete with a concussion should be medically cleared by an appropriate healthcare professional prior to resuming

162. *Id.*

163. *Id.*

164. IND. ANN. CODE § 20-34-7-6(b) (West 2020).

165. *Indiana Mandates Concussion Training for Public Coaches* (Apr. 3, 2016), <http://www.chicagotribune.com/news/nationworld/midwest/ct-indiana-concussion-training-20160403-story.html> [https://perma.cc/JZ6J-MPLR].

participation in any practice or competition.”¹⁶⁶ Regarding their protocol for concussions, they state the following:

A high school student athlete who may have sustained a concussion or a head injury in a high school practice or a high school contest in an IHSAA recognized sport should immediately have the existence of a concussion or a head injury confirmed by the school’s medical person, who (i) is an individual who has training in the evaluation and management of concussions and head injuries and who is either an Indiana Athletic trainer ATC/L or an Indiana medical doctor (MD) or doctor of osteopathic medicine (DO) holding an unlimited license to practice medicine in the state of Indiana, and (ii) has been assigned to a contest to provide medical services or has been assigned to provide medical services to students at a school’s athletic practice. If it is confirmed by the school’s medical person that the student athlete has not sustained a concussion or a head injury, the student athlete may continue participation in the contest or practice.¹⁶⁷

Furthermore, it makes mention that anyone suspected of having sustained an injury in a high school practice or contest should: (1) be removed from practice or the contest at the time of the injury is sustained, (2) be evaluated immediately by the appropriate health professionals, and (3) follow a step-wise concussion protocol.¹⁶⁸ The sad truth is that within this documentation, there is no step-wise protocol even listed.

One way that some schools governed by the IHSAA have established a way to get a baseline for concussion testing is by implementing what is called ImPACT testing.¹⁶⁹ However, even this is not a requirement for every school. ImPACT stands for immediate post-concussion assessment and cognitive testing and is a neurocognitive assessment administered online in a controlled environment.¹⁷⁰ The ImPACT test has been around for almost twenty years and is known as “the first, [and] most-widely used, and most scientifically validated computerized concussion evaluation system.”¹⁷¹ One popular aspect of the test is

166. IND. HIGH SCH. ATHLETIC ASS’N, IHSAA SUGGESTED GUIDELINES FOR MANAGEMENT OF CONCUSSION, <https://www.ihsaa.org/Portals/0/ihsaa/documents/quick%20resources/IHSAA%20Concussion%20Guidelines.pdf> [<https://perma.cc/T2WZ-L6WN>].

167. *Id.*

168. *Id.*

169. See *New Indiana State Law Affects Concussion Management*, BROWNSBURG HIGH SCHOOL (2012), https://www.brownsburgathletics.com/information/Concussion_Info/ConcussionStory [<https://perma.cc/52AD-YQH9>].

170. R. Robert Franks, *ImPACT Test: How It’s Used To Determine Concussion Recovery*, PHILA. INQUIRER (Nov. 30, 2012), <https://www.inquirer.com/philly/blogs/sportsdoc/What-Is-An-ImPACT-Test.html> [<https://perma.cc/M5XF-3XTT>].

171. *ImPACT Frequently Asked Questions*, ATHLETICO, <https://www.athletico.com/services/head-injury-and-concussion-management/concussion/a-step-ahead-baseline-testing/impact-frequently-asked-questions/> [<https://perma.cc/3XUZ-2732>].

its simplicity in the way it is administered.¹⁷² The only requirement that is necessary for administration is that the administrator is trained.¹⁷³ In regard to what the test consists of, there is one basic preliminary section which is called the “ImPact Baseline Test,” which is used “to establish how one’s brain functions in normal, everyday circumstances,” users can then compare this test to later test to see if a player has incurred a concussion or any other head trauma.¹⁷⁴ For the baseline test, the test takers are asked to submit basic information regarding their demographics.¹⁷⁵ The baseline test then ask the test takers report about any previous concussion that they may have had in the past.¹⁷⁶ Also, during the preliminary portion, the tester is asked about the symptoms experienced during the concussion, including, how long the symptoms lasted, how their sleep was affected, and whether or not they took medication for their symptoms.¹⁷⁷ Lastly, for the baseline portion, the testers are required to rate the severity and duration of twenty-two concussion symptoms.¹⁷⁸ The test then divulges into its main part, a neurocognitive test, which is partitioned into six modules.¹⁷⁹ These modules are: (1) word memory; (2) design memory; (3) a visual test which assesses reaction time and recall called “X’s and O’s”; (4) symbol matching; (5) color matching; and (6) a three-letter memory task.¹⁸⁰ After the tester finishes, there is a score that is kept as his or her baseline.¹⁸¹ If a player experiences a concussion, he or she is then required to come in and take the ImPACT test again to see if their new score deviates from their baseline score.¹⁸² The tester then retakes every portion of the test, from the preliminary portion to the module portion, and then receives his or her updated score.¹⁸³ The last part of the “re-test” asks the tester to give a more detailed description of the event that may have caused the concussion, including safety equipment used, sport played, area of head hit, and upon completion the test is over.¹⁸⁴ The trained software professional then takes the baseline score and compares it to the new score to see whether or not the player does in fact have a

172. *See id.*

173. *Id.*

174. EunYoung Song, *Immediate Post-Concussion Assessment and Cognitive Testing (ImPACT)*, SCIPOL, <https://scipol.duke.edu/track/immediate-post-concussion-assessment-and-cognitive-testing-impact> [<https://perma.cc/LD9C-SHNK>].

175. Franks, *supra* note 170.

176. *Id.*

177. *See id.*

178. *Id.*

179. *Id.*

180. *See* IMPACT, IMPACT 2007 (6.0) CLINICAL INTERPRETATION MANUAL 37-42 (2007), https://www.sjschools.org/images/Athletics_HS/ImPACT_Clinical_Interpretation_Manual.pdf [<https://perma.cc/7X3F-E4MJ>]

181. Song, *supra* note 174.

182. *Id.*

183. *Id.*

184. *See* Franks, *supra* note 170.

concussion.¹⁸⁵ Overall, the test is not lengthy as it normally only takes around twenty-five minutes.¹⁸⁶ According to Dr. Dan Kraft, co-director of the Indiana Sports Concussion Network, “approximately two-thirds of the schools in Indiana are currently using ImPACT.”¹⁸⁷ This raises the question as to why it isn’t mandatory for every school in the state to use the ImPACT test to help detect concussions better. Is it due to finances or is it the fact that the remaining one-third of schools is under the belief that maybe player safety isn’t of absolute importance? While ImPACT testing is useful, there is the risk that there may be some ways that someone could actually manipulate the scores. While I conducted an interview of a football player at a local high school in Indiana, this player revealed to me that his school used the ImPACT test, and that some of his teammates came up with the idea to score as low as possible on the baseline test so that at the random possibility of getting a concussion, they would be able to at least have a fair shot at beating the baseline scores.¹⁸⁸ In fact, the player noted that this was also encouraged by some of his teammates’ parents, once again bringing to light the idea that players are sometimes wrongly instilled with the unfair ideology of playing through pain.¹⁸⁹ But, enough is enough. It is time that Indiana takes a stand for player “head” safety and become a leader in the field in the fight towards making high school sports as safe as possible.¹⁹⁰ There are many problems that need to be addressed that have been mentioned above and here are some simple solutions that the state of Indiana can use to establish a safer playing environment for our high school athletes.

VII. WHAT CAN INDIANA DO?

If Indiana wants to be a leader in promoting player safety, specifically regarding the prevention of head trauma, we need to look to the NFL’s standard for concussion protocol and see if we can implement their approach and, in some way, make it even better. In efforts to get more personal opinions about head trauma in Indiana, I conducted an interview with a parent of an Indiana high school football player who attends a well-known football school in the state.¹⁹¹ Regarding player safety, the parent was keen on the idea of creating a safer game in Indiana, and instantly made recollections about attending a recent game where he specifically wanted to watch how the trainers and medical personnel were

185. Song, *supra* note 174.

186. WHAT IS IMPACT TESTING AND WHY IS IT IMPORTANT TO YOU? TOP TIER SPORTS MED., <http://www.toptiersportsmed.com/what-is-impact-testing-and-why-is-it-important-to-you/> [https://perma.cc/X32D-ESDT]

187. Nat Newell, *The Hardest Hit*, INDIANAPOLIS STAR, Oct. 1, 2010, § Local - Metro & State, at A1.

188. Interview with a Senior from Warren Central High School who wishes to remain anonymous (Aug 28, 2018).

189. *Id.*

190. *Id.*

191. Interview with a Vernon Williams (Aug. 28, 2018).

handling head safety.¹⁹² At this game the interviewee noted that there was one trainer, one team doctor that was present for both teams, and two assistant trainers that were students.¹⁹³ During the game, the parent noted that a player got hit in the head and, of course it was violent, but it was not violent enough for the player to get taken off of the field by assistants or anyone else, as most concussions are not.¹⁹⁴ This player actually removed himself from the game and went and sat on the bench.¹⁹⁵ From the time of the injury until the fourth quarter of the football game, the only person who came and talked to him was the head coach. Not once did the trainer, the team doctor, nor the assistants come to even check up on him.¹⁹⁶ This raises a big question – are Indiana high school athletic programs properly equipped to help make the game safer? If there is only one trainer – who is tasked with evaluating other players, making sure the training facilities are in proper service, as well as watching the game – and who is ultimately tasked with keeping an eye out for player safety, how can we possibly say with full conviction that we are making the game as safe as possible in Indiana? As noted above, the NFL staffs a full team to specifically watch for head trauma and they still suffer the consequences of seeing players get hurt week in and week out. Shouldn't we be focusing our efforts on maintaining players safety at the age where the brain is most vulnerable? Maybe we should be looking into other means of safety precautions such as helmet regulation.

Some people believe that there should be rules established that mandate football players to wear certain helmets.¹⁹⁷ Gene Cato, the commissioner of the IHSAA stated, “I think we all must be concerned about the safety and welfare of the players even though these things aren't mandated.”¹⁹⁸ He even went on to suggest that it would be ideal to not strictly mandate helmets, but make sure the safety of the helmets is up-kept.¹⁹⁹ But this has never happened. Most high school teams are sponsored by certain corporations that supply the equipment that players use.²⁰⁰ While there are some schools that allow players to use their own equipment, some schools make it mandatory that the players use school sponsored equipment, whether it is safer or not.²⁰¹

In a study conducted by the Virginia Tech School of Biomedical Engineering

192. *Id.*

193. *Id.*

194. *Id.*

195. *Id.*

196. *Id.*

197. Roman Modrowski, *Are Football Helmets Safe? Lack of Rule Ties IHSAA's*, NWI.COM (Oct. 2, 1991), https://www.nwitimes.com/uncategorized/are-football-helmets-safe-lack-of-rule-ties-ihsaa-s/article_1052a8a8-041c-5273-af3-b43445cf19a6.html [<https://perma.cc/AY2T-HB8U>].

198. *Id.*

199. *Id.*

200. See Bob Segall, *Investigation Prompts Schools to Remove Low-Rated Football Helmets*, WTHR (Apr. 14, 2016), <https://www.wthr.com/article/investigation-prompts-schools-to-remove-low-rated-football-helmets> [<https://perma.cc/AD7Y-G4KZ>].

201. *See id.*

and Sciences, researchers tested the different brands and models of helmets that football players use in each level of play to see which helmet is most efficient at preventing concussions and other brain trauma.²⁰² The research team, which started its study on the effectiveness of helmets in the early 2000's, ultimately came up with a rating system called the STAR (Summation of Tests for the Analysis of Risk) system which "grade[s] helmets according to their ability to reduce brain acceleration during different types of hits."²⁰³ The results of the research raised awareness from league officials and schools alike by showing that a helmet with a five-star rating drastically reduced the amount of gravitational forces when compared to a helmet with a one-star rating.²⁰⁴ In relation to Indiana, recently a team of investigators found out that many of Indiana High Schools use helmets that would receive a one-star rating.²⁰⁵ And, even more frightening is the fact that many of these schools are aware of the rating system and the dangers that can be present in using a low rated helmet.²⁰⁶ The problem lies with the cost of higher rated helmets, and the assumption that younger aged players aren't exerting enough gravitational force to cause significant brain injury, but this would contradict any idea or notion that there is a common ground effort to protect our youth's health when they participate in violent sports such as football.²⁰⁷ It is time to aside our misplaced pride and really dig deep to see what we value as a state. How much does safety cost, and how much does a life cost? Should Indiana value the idea of saving money over the value of keeping high school athletes safe?

VIII. RESOLUTION

It is obvious that there is a problem. In Indiana specifically, the state has lost sight of the value of safety regarding our high school athletes, especially in the sport that leaves players at a higher risk for head trauma than any other - football. It is easy to point out the flaws, but it should be just as easy to recognize the problems and establish a plan to fix the problems. Stefan Duma, the key researcher for the Virginia Tech helmet safety stated that the importance of making football safer is not just through better equipment but also by reassessing the many culminating factors that can be changed to make the game safer.²⁰⁸ Duma stated, "[t]here are three things that have to be done . . . the first and most important is [changing] league rules; the second is coaching technique; and the third layer is equipment."²⁰⁹ And, Duma is correct. In order to make football safer

202. Richard Lovegrove, *Hard-hitting Research*, VA. TECH MAG., <https://www.vtmag.vt.edu/winter17/helmet-research.html> [<https://perma.cc/8Q6Y-98ER>].

203. *Id.*

204. *Id.*

205. Segall, *supra* note 200.

206. *Id.*

207. *Id.*

208. Lovegrove, *supra* note 202.

209. *Id.*

in Indiana, there needs to be changes implemented to the IHSAA rules regarding the equipment being used. Therefore, Indiana lawmakers should drive these changes in the IHSAA rules through legislation.

Indiana needs to address player safety by supplying schools with more funding to athletic programs so that they are fully equipped with the appropriate staff during practices and games. It is obvious that the NFL is a money making machine, so it is much easier for them to supply teams with the appropriate staffing to watch specifically for head trauma; consequently, if the state realizes that head trauma is a major issue here as well, and we accept the truth that players in their teens are more susceptible to long term brain issues from concussions, all while accepting the fact that it is important to still allow teens to play the sports they love, then the choice to increase funding to high school athletic programs should be a simple one to make.

Furthermore, the IHSAA should work toward adapting the NFL's concussion protocol with one major change. In order to make high school football safer in Indiana, we need to implement the mandatory sit out policy that the UFC has established. If a player sustains a concussion, they should be required to sit out for at least two weeks. This creates a balance between the minimum ninety days that the UFC has established, and the almost non-existent time period that is established currently in the NFL and IHSAA. It would also be ideal for the IHSAA and legislatures to do extensive research to determine what helmet is safest to use and then implement that standard helmet statewide. Furthermore, the IHSAA needs to do extensive research as to what the NFL has done regarding rule changes to make the game as safe as possible and implement these rules immediately to prevent unnecessary injury. Lastly, there needs to be more training done in all facets of the game. Referees, coaches, and trainers need to be better equipped with the knowledge and skills necessary to help accurately spot when a player has a concussion, and then take the necessary steps to remove them from practice and play.

It is important to understand that high school players do not make money. Many of them play merely because they love the sport. Their passion to step on the field on a daily basis to work as a unified group towards winning a game is always present. The same passion for the game is true for NFL players and collegiate players; however, players at that level are getting scholarships to attend the school or are getting paid millions of dollars to participate. These high school athletes are sacrificing themselves merely because they love the sport and if we, as a state and law makers, truly care about the safety of our high school athletes, we will do whatever it takes to change the rules, change the safety precautions, and change the way we view head trauma in sports.