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**CONCUSSIONS AND CONTRACTS: THE
NATIONAL FOOTBALL LEAGUE’S LIMITATIONS
TO PROTECTING ITS PLAYERS FROM CHRONIC
TRAUMATIC ENCEPHALOPATHY**

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ABSTRACT

Chronic Traumatic Encephalopathy (CTE) is a neurodegenerative brain injury that has become prevalent among high-contact professional sports, especially American football. More and more retired players are exhibiting symptoms of CTE and being diagnosed with CTE post-mortem. While the neuroscience community constantly releases studies showing a causal connection between brain trauma and CTE, the National Football League (NFL) continues to deny that any brain injury can arise from playing football. The NFL must implement provisions in their contracts to fully inform and protect players from this lethal brain injury. This article examines the repercussions of CTE, how players' contracts do and do not provide protections, and the possible provisions the NFL can implement in its contracts to adequately protect players of repeated brain trauma.

I. INTRODUCTION

Football is considered the American sport. From August through January, the National Football League ("NFL") dominates American television every Sunday. This past season alone, the NFL "generated about \$15 billion..." in revenue.¹ Fans pack stadiums and families watch from home as 22 men compete in a war-like competition in a physical and mental battle for a ball. Football is renowned for its contact style. Fans cheer for players who tackle their opposition commonly leading with their helmet. Strong, athletic men hit each other under the false confidence that their football pads are protecting them. An inarguable fact in the game's current state: concussions are inevitable. The NFL has not adequately addressed this issue, which results in jeopardizing its players' health. These frequently occurring head collisions cause many players to develop a neurodegenerative traumatic brain injury.

Until recently, the NFL did not acknowledge these brain injuries. Instead, it has continued to ignore neuroscientists' studies and sent their players on the field unaware of the consequences. In the 2011 season, "162 head injuries [were] reported...[with about] 10.80 concussions occurring *every week*..."² Players had "a 72% chance of a concussion injury occurring at every NFL game."³ On August 17, 2011, multiple retired NFL players filed a class action lawsuit regarding "the league's...mishandling of concussion-related injuries."⁴ The action settled, resulting in "retirees receiv[ing] awards up to \$4 million for 'Death of CTE' but only if the previous player had died

¹ Scott Soshnick, *The NFL Nears \$25 Billion Revenue Goal Ahead of Super Bowl*, CHI. TRIBUNE (Jan. 28, 2019), <https://www.chicagotribune.com/sports/ct-spt-nfl-revenue-super-bowl-20190128-story.html>.

² *NFL Concussion Statistics: 2010 to 2011*, HAGEN & ROSSKOPF ATTORNEYS AT LAW, <https://www.hagen-law.com/nfl-concussion-statistics/> (last visited, July 18, 2019) (emphasis added).

³ *Id.*

⁴ Nicholas L. Burkhart, *Concussions, Class Actions, and the 2011 Collective Bargaining Agreement: A Look at Concussions and the Response of the National Football League in the 2011 NFL Collective Bargaining Agreement*, SPORTS & ENTMT. ASSN. (April 14, 2013), <https://ssrn.com/abstract=2217587>.

between January 1, 2006, and July 7, 2014.”⁵ This excludes thousands of players who have suffered or continue to suffer today. Those who have retired after July 4, 2014, and players currently playing in the NFL are not covered for CTE.⁶ About 20,000 players will receive nothing from the settlement.⁷

Subsequent to the lawsuit and public outcry, the NFL has begun utilizing players’ contracts to provide some health protections. The NFL enters into contracts with players using a Collective Bargaining Agreement (“CBA”). The NFL is slowly progressing from a “play through it” culture to a “player-first” culture, which will hopefully be reflected in the next updated agreement.⁸ To further protect players health and decrease the number of premature deaths, the CBA must be revised to contain mandatory provisions providing players adequate protections from traumatic brain injuries.

This article will discuss the lethality and prevalence of brain injuries in the NFL, how the CBA addresses the problem of brain injuries, and provisions the CBA must implement to adequately protect players.

II. THE REPERCUSSIONS OF PLAYING FOOTBALL: CHRONIC TRAUMATIC ENCEPHALOPATHY

Chronic Traumatic Encephalopathy (“CTE”) is a neurodegenerative disease caused by repetitive brain trauma, including concussions and subconcussive injuries.⁹ The scientific link between concussions and CTE has been around for years.¹⁰ Dr. Martland first investigated the connection in professional boxers who suffered “considerable head punishment,” colloquially called “punch drunk.”¹¹ These athletes showed signs of “truncal ataxia, Parkinsonian syndrome, and mental deterioration necessitating commitment to an asylum.”¹² As research progressed, scientists began discovering CTE in athletes across other high-contact sports, including American football. In 2002, Dr. Bennett Omalu, the leading neuroscientist in CTE research, discovered CTE in Mike Webster, former Pittsburgh Steeler center guard.¹³ Webster

⁵ Taylor Simpson-Wood & Robert H. Wood, *When Popular Culture and the NFL Collide: Fan Responsibility in Ending the Concussion Crisis*, 29 MARQ. SPORTS L. REV. 13, 19 (2018).

⁶ *Id.*

⁷ *Id.*

⁸ Burkhardt, *supra* note 4.

⁹ Christine M. Baugh et. al., *Chronic Traumatic Encephalopathy: Neurodegeneration Following Repetitive Concussive and Subconcussive Brain Trauma*, 6 BRAIN IMAGING AND BEHAV., 244, 245 (2012).

¹⁰ Daniel J. Kain, “It’s Just a Concussion:” *The National Football League’s Denial of a Causal Link Between Multiple Concussions and Later-Life Cognitive Decline*, 40, RUTGERS L.J. 697, 701 (2009).

¹¹ Sarah James, *Ringling the Bell for the Last Time: How the NFL’s Settlement Agreement Overwhelmingly Disfavors NFL Players living with Chronic Traumatic Encephalopathy*, 11 J. HEALTH & BIOMEDICAL L. 391, 392 (2016).

¹² Kain, *supra* note 10, at 701.

¹³ James, *supra* note 11, at 392.

was the first NFL player to be diagnosed with CTE.¹⁴ Since this initial discovery, many more football players have been diagnosed with CTE.

When a player receives repeated blows to the head, the brain moves forward, backward, and rotationally inside the skull—an unnatural motion.¹⁵ This unnatural movement causes the brain to elongate, causing severe stress on the nerve cells.¹⁶ While the brain normally uses tau proteins inside the nerve cells to keep the intended structure, this process is interrupted by the riving and sudden motion caused by these repeated blows to the head.¹⁷ The tau proteins respond to trauma by detaching from the nerve cells and clumping together.¹⁸ When enough tau proteins clump together, they will eventually kill the nerve cell.¹⁹ Repeated trauma leads to accumulated tau protein, and, over an extended period of time, this eventually kills part of the brain.²⁰ This entire process alters the brain, presenting itself through memory loss, mood changes, and altered decision-making.²¹

A. *The Mortality Rate of Chronic Traumatic Encephalopathy*

The final stage of CTE is premature death. In one study, researchers compared mortality rates of the general population to the publicly available data on mortality rates of NFL players from the 1970 and 1994 seasons.²² The research concluded that line players have higher mortality rates, compared to other players.²³ Additionally, players who were drafted for more than two seasons face higher mortality rates compared to their peers.²⁴ Based on this information, one article inferred that “there is a strong causal relationship between the presence of CTE and suicide in former NFL players as a result of their diminished psychological and cognitive capabilities.”²⁵

¹⁴ *Id.*

¹⁵ AP Archive, *CTE: How Repeated Head Blows Affect the Brain*, YOUTUBE (May 22, 2019), <https://www.youtube.com/watch?v=GZvUU6Ze7-8&t=3s>.

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ *Id.*

²¹ *Id.*

²² Ruud Koning et. al., *The Long-Term Game: An Analysis of the Life Expectancy of the National Football League Players*, 2 INT’L J. FINANCIAL STUD. 169, 176 (2014).

²³ *Id.* Line positions are defensive positions that are primarily used for tackling the opposing team. *All of the Football Positions, Explained*, STACK, <https://www.stack.com/a/football-positions> (last visited July 21, 2019).

²⁴ *Id.*

²⁵ Marcos A. Abreau & Fred J. Cromartie, *Chronic Traumatic Encephalopathy (CTE) and Former National Football League Player Suicide*, 20 SPORT J. (Jan. 29, 2016),

Former Chicago Bears defensive back, David Duerson, shot himself in the heart at age 50.²⁶ The last text message David sent to his ex-wife requested her to see that his brain was donated to the NFL's brain bank for research.²⁷

Though the general public is uninformed of the specific symptoms of CTE, there is a growing concern for head injuries. Starting in 2017, high school football participation has declined, whereas high school sports overall participation has increased.²⁸ This decline is likely due to parents' taking precautions so their children can avoid brain injuries.²⁹ This nationwide concern has developed into potential legislation. California has proposed a law to ban contact football before high school.³⁰ Due to this current trend, the NFL should be incentivized to take precautions against this brain injury.

B. Countless Players Have Been Diagnosed with Chronic Traumatic Encephalopathy

Research has shown CTE is a common post-mortem diagnosis in NFL players. In 2017, Dr. Anne McKee, one of the leading neuropathologists in CTE research, examined 202 brains.³¹ Of those brains, 111 were NFL players, and of those 111 brains, 110 were diagnosed with CTE.³² This repetitive brain trauma results from the head collisions on the field. In the most susceptible position, a collegiate offensive lineman was found to collide with other players at an average G-force of 25.8.³³ This is roughly equivalent to a driver "crash[ing] his car into a wall at 30 miles per hour."³⁴ Scientists found "a college offensive lineman took 62...blows to the head" in a single game.³⁵ Comparatively, NFL players are likely to be heavier and faster, so the

<http://thesportjournal.org/article/chronic-traumatic-encephalopathy-cte-and-former-national-football-league-player-suicides/>.

²⁶ Dan Pompei, *The Final Days of Dave Duerson*, CHI. TRIBUNE (Feb. 26, 2011), <http://www.chicagotribune.com/sports/football/bears/ct-spt-0227-dave-duerson-final-days--20110226-story.html>.

²⁷ *Id.*

²⁸ Grant Frazier, *Using Your Head: A Different Approach to Tackling the NFL's Concussion Epidemic*, 10 HARV. J. SPORTS & ENTMT'L. L. 197, 206 (2019).

²⁹ *Id.* at 207.

³⁰ *Id.*

³¹ Jesse Mez et. al., *Clinicopathological Evaluation of Chronic Traumatic Encephalopathy in Players of American Football*, 318 J. OF THE AM. MED., 360, 361 (2017).

³² *Id.* at 361.

³³ Sam Borden, Mika Grondahl, & Joe Warden, *What Happened Within This Player's Skull*, N.Y. TIMES (Jan. 9, 2017), <https://www.nytimes.com/interactive/2017/01/09/sports/football/what-happened-within-this-players-skull-football-concussions.html>.

³⁴ *Id.*

³⁵ *Id.*

collisions are likely to be at a more extreme G-force. In the 2015 NFL season, “[t]here were 271 concussions...and 182 concussions in the regular seasons alone, which is a 58% rise over the 2014 season and the highest number in four years.”³⁶ Considering these are only the reported concussions, it is no surprise that many players are diagnosed with CTE.

Currently, CTE can only be diagnosed post-mortem. However, in 2012, Dr. Omalu was able to diagnose CTE in Minnesota Viking linebacker Fred McNeill while he was still alive.³⁷ Dr. Omalu confirmed McNeill was correctly diagnosed with CTE once McNeill died in 2015.³⁸ This new technique to diagnose CTE in living patients still requires a few years of research.³⁹ If researchers could show that current NFL players have this injury, the NFL would easily be held accountable.

As research progresses, studies have shown CTE can be the result of not only concussions but also hits to the head that do not result in a concussion. A concussion results when “the brain is shaken violently enough that the brain cells are damaged to the point where they do [not] work properly,” resulting in obvious symptoms.⁴⁰ Comparatively, a subconcussive hit results when “the brain is shaken, but not so violently that the damage to the brain cells is severe enough [for the player to exhibit] symptoms.”⁴¹ Just last year, researchers experimented with mice and simulated a concussive impact injury.⁴² After examining the mice’s brains post-mortem, they found that closed-head impact injuries, not necessarily resulting in concussions, are likely to lead to CTE.⁴³ This research suggests that players who continue to enter the field without receiving medical treatment for head collisions, regardless of being diagnosed with a concussion, are likely to suffer from CTE.

Moreover, a Boston University study published in 2018 found a “positive correlation...between ‘the amount of time spent playing sports with long-term exposure to sub-clinicalhead [sic] trauma’ and CTE.”⁴⁴ Players who receive hard hits

³⁶ Spencer Jackson, *A Ding to the Head: How Concussions and Domestic Violence Impact the NFL in the Next CBA* 42 S. ILL. U. L.J. 325, 328 (2018).

³⁷ Nadia Kounang, *Ex-NFL Player Confirmed as 1st Case of CTE in Living Patient*, CNN (Nov. 16, 2017), <https://www.cnn.com/2017/11/16/health/cte-confirmed-in-first-living-person-bn/index.html>.

³⁸ *Id.*

³⁹ *Id.*

⁴⁰ *Subconcussive Impacts*, CONCUSSION LEGACY FOUND., <https://concussionfoundation.org/CTE-resources/subconcussive-impacts>, (last visited July 18, 2019).

⁴¹ *Id.*

⁴² 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 J. OF NEUROLOGY* 422, 424-25, (2018).

⁴³ *Id.* at 452.

⁴⁴ Simpson-Wood & Wood, *supra* note 5, at 18.

to the head, but do not experience “loss of consciousness or other symptoms...including [but not limited to] headaches, dizziness, vision problems, or confusion” are still likely to be diagnosed with CTE post-mortem.⁴⁵ Concussion Legacy Foundation co-founder and CEO, Chris Nowinsky, responded to this recent study, stating:

We see hard hits all the time, where a guy pops up and smiles and [signals] a first down, and [we think], “OK, that hit was fine.” But what this study says is: No, that hit probably wasn’t fine, and that poor guy can’t feel the damage that’s happening in his brain right now.⁴⁶

This is not to say concussions and CTE are no longer a significant link. Rather, this evidence shows that helmet hits in football—both reported and unreported—are significant factors.

There is a popular misconception that helmets will protect players from brain injury, and this misconception leads to fewer attempts to diagnose CTE. But helmets, while helpful, are not an absolute shield to concussions or other brain injuries. The most recent helmet technology is designed to mitigate head trauma. The VIXIS Zero1 helmet uses a “soft shell that crumples on contact.”⁴⁷ Even with this recent innovation, “scientists, neurosurgeons, and engineers who designed the helmet make it clear that [helmets will not] prevent concussions.”⁴⁸ Houston Texans linebacker, Brian Crushing, “was one of the five concussed [players] in the 2017 season opener,” even though was wearing a helmet during the game.⁴⁹ Crushing, along with countless other players concussed while wearing a helmet, “underscore[s] the reality that no helmet can ever fully prevent concussions.”⁵⁰ Though helmets may protect players from surface-level injuries to the head and face, they do not protect players’ brains. Therefore, players will continue to be diagnosed with CTE post-mortem, regardless of the advancements in helmets.

III. THE PROTECTIONS AND PITFALLS PLAYERS’ CONTRACTS PROVIDE: THE 2011 COLLECTIVE BARGAINING AGREEMENT

The NFL attempts to create an employment contract that pays players fairly but also generates revenue for the NFL. The CBA is the result of negotiations between the NFL and the National Football League Players Association (“Players Association”), a group of advocates including football players, representing the players’ best interest.⁵¹

⁴⁵ *Id.*

⁴⁶ *Id.* (citing Tom Goldman, *CTE in Athletes Linked to Hits to the Head, Even without Concussions*, NPR (Jan. 18, 2018), <https://www.npr.org/sections/health-shots/2018/01/18/578355877/repeated-head-hits-not-concussions-may-be-behind-a-type-of-chronic-brain-damage>).

⁴⁷ Simpson-Wood & Wood, *supra* note 5, at 127.

⁴⁸ *Id.*

⁴⁹ *Id.*

⁵⁰ *Id.*

⁵¹ Andrew Maisonneuve, *NFL Lockout For Dummies: The Complete Guide To Understanding the NFL Lockout*, BLEACHER REPORT (Feb. 5, 2011),

Commissioner Roger Goodell represents the NFL, aiming to maximize profits for the league, whereas the Players Association advocates the best interest of the players, both for increased salaries and, more recently, the players' health and wellbeing.⁵² With both parties having their respective interests, it is difficult to create a CBA where both parties benefit.

Currently, there is speculation in the news on what negotiations will transform into provisions in the 2021 CBA. Sports analysts believe the Players Association will successfully negotiate for "specific punishments established for teams that violate the concussion protocol and offseason workout rules."⁵³ Such a provision would likely decrease the number of head hits and concussions occurring in the game, hopefully lowering the number of players diagnosed with CTE post-mortem. However, no NFL agent or player has confirmed that this will be implemented.

A. *Player-Favored Provisions*

After the 2011 settlement, the NFL became more willing to compensate players for the medical treatment of brain injuries. Thereafter, the Players Association successfully bargained for two player-favored provisions regarding retired players' long-term health. The first of these is the 88 Plan. During this last negotiation, the Players Association successfully advocated to enhance the 88 Plan. This plan is specific to players diagnosed with "dementia, ALS, and/or Parkinson's Disease."⁵⁴ Those eligible may receive "up to \$100,000 annually (increasing to \$130,000 in 2016) for in-patient care at an eligible institution, or up to \$88,000 annually (increasing to \$118,000 in 2016) for in-home care."⁵⁵ While the 88 Plan was revised to compensate players at a higher amount, it is limited to only help players with dementia, ALS, and/or Parkinson's Disease. It does not account for players who exhibit symptoms of CTE, including behavior changes, impulse control, and aggression problems.⁵⁶ Former Buffalo Bills and Cleveland Browns defensive lineman, Joe DeLamielleure, exhibited "behavioral symptoms...[including] 'memory loss, depression, and mood swings.'"⁵⁷ He was observed as, "One minute, he is fine, then he'll 'have a flare[] of temper' for

<https://bleacherreport.com/articles/598050-nfl-lockout-for-dummies-the-complete-guide-to-understanding-the-nfl-lockout#slide0>.

⁵² *Id.*

⁵³ Dan Graziano, *2021 NFL CBA Negotiations: The Nine Biggest Looming Issues*, ESPN (July 3, 2019), https://www.espn.com/nfl/story/_/id/27103713/2021-nfl-cba-negotiations-nine-biggest-looming-issues#safety.

⁵⁴ *NFL Players Association Benefits Book*, NFLPA, 1, 29, https://nflpaweb.blob.core.windows.net/media/Default/NFLPA/Active%20Player%20Resources/Benefits_Book.pdf (last visited July 19, 2019).

⁵⁵ *Id.*

⁵⁶ *Frequently Asked Questions About CTE*, BOSTON UNIVERSITY RESEARCH CTE CTR., <http://www.bu.edu/cte/about/frequently-asked-questions/> (last visited July 20, 2019).

⁵⁷ Simpson-Wood & Wood, *supra* note 5, at 20. (citing Sean Gregory, *NFL Concussion Settlement: Ex-Players Angered Over CTE Exclusion*, TIME (April 27, 2015), <https://time.com/3836097/nfl-concussion-settlement-former-players/>).

no apparent reason.”⁵⁸ DeLamielleure, along with many other players who are not specifically diagnosed with either dementia, ALS, or Parkinson’s Disease, is not eligible under this provision, but likely need financial assistance to treat the neurological brain injury.

Additionally, this provision only applies to vested, retired players. To be “vested,” a player usually must play for three “credited seasons.”⁵⁹ Generally, a player must have been an active player for a minimum of three seasons. This becomes a major issue when an *average* NFL career lasts for three years.⁶⁰ Further, this average is skewed by those players who have played in a minimum of one Pro Bowl.⁶¹ These players have the longest career, with just under 12-year careers.⁶² Moreover, there are players included in this average who have played in the NFL for over a decade. Indianapolis Colts placekicker, Adam Vinatieri, has a 23-year career and continues to play currently.⁶³ Following him, Arizona Cardinals current placekicker, Phil Dawson, has a 20-year career.⁶⁴ At the other end, there are a disproportionate amount of players who do not play for even three years in the NFL but still suffer from brain injuries caused by playing the game.

Secondly, the NFL recently implemented Article 65, the Neuro-Cognitive Disability Benefit, into the CBA.⁶⁵ This plan covers “retired players who have permanent, neuro-cognitive impairments but are not recovering Line of Duty or Total & Permanent Benefits under the Collective Bargaining Agreements’ Disability Plan or who are receiving Pension Benefits under the Retirement Plan.”⁶⁶ This provision pays the player \$3,500 per month or \$1,875 per month, for “moderately impaired” players or “mildly impaired” players, respectively.⁶⁷ Additionally, the player can receive reimbursement “for medical expenses related to the treatment of [his] neurological disorder, up to \$10,000 per plan year.”⁶⁸

⁵⁸ *Id.*

⁵⁹ David Drapkin, *Overview of NFL Player Benefits*, PLAY SMART, PLAY SAFE (2018), <https://www.playsmartplaysafe.com/resource/nfl-benefits/>.

⁶⁰ *Average Playing Career Length in the National Football League (in years)*, STATISTA, <https://www.statista.com/statistics/240102/average-player-career-length-in-the-national-football-league/> (last visited July 20, 2019) (emphasis added).

⁶¹ *Id.*

⁶² *Id.*

⁶³ *Oldest Active NFL Players*, OLDEST.ORG, <http://www.oldest.org/sports/active-nfl-players/> (last visited July 20, 2019).

⁶⁴ *Id.*

⁶⁵ Burkhardt, *supra* note 4.

⁶⁶ *Id.*

⁶⁷ *NFL Players Association Benefits Book*, NFLPA, 1, 29, https://nflpaweb.blob.core.windows.net/media/Default/NFLPA/Active%20Player%20Resources/Benefits_Book.pdf (last visited July 19, 2019).

⁶⁸ *Id.*

For a player to receive benefits under Article 65, he must not be receiving another type of disability benefit (including a permanent disability or “substantial disablement”), and he cannot be older than 55 years old—a player’s age when he may receive a pension—pursuant to the Retirement Plan.⁶⁹ Further, this provision only applies to players who have played a minimum of one season “after 1994, and ha[ve] executed a release of claims and covenants not to sue in a form agreed upon by the parties of the NFL CBA.”⁷⁰ The biggest benefit of this plan is that it does not require neurological impairment to arise from playing in the NFL.⁷¹ Thus, retired players may receive benefits without proving a causal connection between their injury and playing football.⁷²

Both the 88 Plan and Article 65 do not fully compensate for brain injury treatment. The average costs of lifetime treatment for traumatic brain injury range between \$85,000 and \$3 million.⁷³ Moreover, the cost of CTE treatment can be similar to dementia. According to Dr. Eugene Rubin, “the cost associated with dementia treatment and care is estimated between \$42,000 and \$56,000 per person per year,” in 2010.⁷⁴ From these estimates, it is highly unlikely a player seeking medical treatment for CTE using the benefits of these plans will be fully compensated for his treatment.

These provisions are moving in the right direction to support players’ health after their football careers have ended. However, they do not apply to players who have just received a head injury. Further, the NFL still does not adequately protect players from head hits during gameplay.

B. *Lack of Protections*

Though the CBA is heading in the right direction by providing medical benefits to retired players, it fails to protect players from hard hits to the head during the game.

The NFL attempted to identify and treat head injuries using a “standard” procedure. After Panthers quarterback, Cam Newton, took multiple head hits without any medical evaluation whatsoever, the NFL created guidelines to uniformly address a player’s concussion.⁷⁵ In 2013, they enacted their concussion assessment guidelines.⁷⁶ These guidelines require both an unaffiliated neurotrauma consultant and a booth athletic trainer to be present at the game. Concussion protocol entails:

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² *Id.*

⁷³ Chandi Edmonds, *The Steep Cost of Brain Injury Recovery*, NORTHWESTERN NOW, (Dec. 28, 2015), <https://news.northwestern.edu/stories/2015/12/opinion-next-avenue-brain-injury/>.

⁷⁴ Eugene Rubin, M.D., Ph.D., *The Financial Cost of Dementia*, PSYCHOLOGY TODAY (Oct. 10, 2013), <https://www.psychologytoday.com/us/blog/demystifying-psychiatry/201310/the-financial-cost-dementia>.

⁷⁵ Erin Flynn, *What is the NFL’s Concussion Protocol?*, SPORTS ILLUSTRATED (Sept. 16, 2016), <https://www.si.com/nfl/nfl-concussion-protocol-policy-history> (emphasis added).

⁷⁶ *Id.*

If a player shows or reports concussion symptoms...includ[ing]...loss of consciousness, lack of balance, holding head after contact, a look of confusion, getting up slowly, a blank look or visible facial injury in combination with any of the other factors...it is mandatory that he is removed from the game so the medical team can conduct an evaluation. If he is found to have a concussion, he is prohibited from returning to the game or practice that day.⁷⁷

If a team fails to remove a player from the game who is clearly concussed, the team can not only lose draft picks but also be fined up to \$150,000 for the first violation and \$100,000 or more for the second violation.⁷⁸ However, teams have not been severely punished for violating the protocol. In 2017, the Seattle Seahawks violated the concussion protocols. As a result, the team was fined \$100,000 and staff members were required to undergo special concussion-related training.⁷⁹ However, the team did not lose its draft picks nor was any coach or medical staff member suspended.⁸⁰ Further, the Houston Texans were not found to have violated protocol by allowing quarterback Tom Savage to continue playing after he took a “brutal hit” to the head, even after he was “slow to get up...[and] experienced motor coordination problems” immediately afterward.⁸¹ The protocol does not reliably address concussions, and even when it does, the punishment is not extreme enough.

The neuroscience community has created guidelines to help trainers assess a player’s status. In 1986, neurosurgeon Dr. Cantu created a three “grade” concussion evaluation.⁸² Based on Dr. Cantu’s research and experience, “a player’s season should be terminated if he sustains two or three concussions in one season.”⁸³ The NFL still does not implement Dr. Cantu’s guidelines, nor does it take players out who sustain two or three concussions. For example, former New England Patriots linebacker Junior Seau was alleged to have “over 1,500 concussions.”⁸⁴ Though this may be an overestimate, Seau, after a tackle-focused, 20-year career in the NFL, was diagnosed

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ Simpson-Wood & Wood, *supra* note 5, at 14 (citing Kevin Patra, *Seahawks Fined for Not Following Concussion Protocol*, NFL (Dec. 21, 2017)), <http://www.nfl.com/news/story/0ap3000000896202/printable/seahawks-fined-for-not-following-concussion-protocol>).

⁸⁰ *Id.* at 15.

⁸¹ *Id.*

⁸² Kain, *supra* note 10, at 706.

⁸³ *Id.*

⁸⁴ *Junior Seau Likely Had 1,500 Concussions in Career, Former Teammate Says*, SPORTING NEWS, <https://www.sportingnews.com/us/nfl-news/2742869-junior-seau-likely-had-1500-concussions-in-career-former-teammate-says> (last visited July 21, 2019).

with CTE post-mortem.⁸⁵ Seau tragically shot himself in the heart in 2012.⁸⁶ There have been multiple other players who have committed suicide, later diagnosed with CTE. Pittsburgh Steelers offensive lineman, Terry Long, for example, committed suicide by drinking a gallon of antifreeze.⁸⁷ Pittsburgh Steelers linebacker, Adrian Robinson, hanged himself.⁸⁸ The NFL still refuses to follow the advice of Dr. Cantu or other neurologists who have advocated for objective diagnosis of concussions that could have prevented these tragedies.

Part of the concussion protocol requires players to understand concussions and their symptoms and the importance of reporting such symptoms if they are present.⁸⁹ Even with this requirement, players are still not getting correct information. According to the 2011 complaint, “for the past four decades up until the...2011 C[BA], the N[FL] and its representatives have ‘continuously and vehemently’ denied it knew, or should have known, of any causal link between on-fi[e]ld concussions and later-life cognitive abilities.”⁹⁰ Though the NFL knew of the health repercussions of football since the 1920s, it wasn’t until 2016 when the league finally admitted a causal link between repeated brain trauma and CTE.

Players still do not believe it.⁹¹ Cowboys owner, Jerry Jones, told the New York Daily News that “it’s absurd to link CTE and playing football...There’s no data that in any way creates a knowledge.”⁹² Also in 2016, the New York Times investigated the NFL’s Head, Neck, and Spine Committee. While the NFL claimed the committee was an independent, unbiased group that conducted a six-year, thorough review of concussive injuries occurring every game from every player in the league, the results showed otherwise.⁹³ The investigation found most panel members had connections

⁸⁵ Mark Fainaru-Wada, Jim Avila, & Steve Fainaru, *Doctors: Junior Seau’s Brain Had CTE*, ESPN (Jan. 11, 2013), https://www.espn.com/espn/otl/story/_/id/8830344/study-junior-seau-brain-shows-chronic-brain-damage-found-other-nfl-football-players.

⁸⁶ *Junior Seau Likely Had 1,500 Concussions in Career, Former Teammate Says*, SPORTING NEWS, <https://www.sportingnews.com/us/nfl-news/2742869-junior-seau-likely-had-1500-concussions-in-career-former-teammate-says> (last visited July 21, 2019).

⁸⁷ Dr. Geier, *How Common Is Suicide Among Retired NFL Players?*, THE POST AND COURIER (May 24, 2016), https://www.postandcourier.com/sports/how-common-is-suicide-among-retired-nfl-players/article_49e5108a-809c-59d7-97ef-2df445d18d97.html.

⁸⁸ *Id.*

⁸⁹ Erin Flynn, *What is the NFL’s Concussion Protocol?*, SPORTS ILLUSTRATED (Sept. 16, 2016), <https://www.si.com/nfl/nfl-concussion-protocol-policy-history>.

⁹⁰ Nicholas L. Burkhardt, *supra* note 4 (citing Class Action Complaint and Demand for Jury Trial, *Easterling v. National Football League, Inc.* No. 11CV052909 (E.D. Pa. Aug. 17, 2011), 2011 WL 3627055).

⁹¹ *A Blow to the NFL’s Head: Hiding the Evidence of Brain Damage*, N.Y. DAILY NEWS, <https://www.nydailynews.com/opinion/blow-nfl-head-hiding-evidence-brain-damag-article-1.2578225> (last visited July 21, 2019).

⁹² *Id.*

⁹³ *Id.*

with, and were thus biased toward, the NFL franchise. Moreover, the review did not include over 100 diagnosed concussions, which was “10% of the total reported by team doctors from 1996 through 2001.”⁹⁴ Ultimately, the NFL deceived the players in believing that they created a committee for the players’ best interest, and that there was no causal connection between concussions and CTE. It is no surprise why the players have received limited information on brain injuries.

IV. SOLUTIONS

While there is speculation of what will change in the 2021 CBA, there are no proposed provisions that adequately further the best interest of the players’ long-term brain health. After all of the public criticisms the NFL received once the settlement became public and recent research was released on CTE, *eventually*, they began changing game rules.⁹⁵ Most recently, the NFL created a “head targeting rule” that penalizes the team automatically by fifteen yards for using the “technique of [the player] lowering his head in order to utilize his helmet when initiating contact with an opponent.”⁹⁶ Additionally, the player who used the “head targeting” tactic can be prohibited from participating in the rest of the game.⁹⁷ However, Buffalo Bills linebacker, Lorenzo Alexander, believed this rule was not the solution, commenting, “End of the day, it’s football, and if you change the game so much, we’ll eventually have to play something else.”⁹⁸ Alexander, along with many others, believes changing the game of football is not the solution to ending brain injuries. Given the unique nature of the sport, contracts may provide an alternative solution. Instead of changing the rules of the game, the CBA should implement provisions that protect players from head injuries by promising objective neurological diagnosing, guaranteeing compensation to alleviate the fear of career termination, and providing lifetime healthcare to compensate for long-term injuries developed from playing.

A. *Use of Objective Diagnosing*

After understanding the concussion protocol, there must be more protections provided for players during gameplay. The NFL should provide these protections through the CBA.

Currently, the NFL employs sideline spotters to oversee football games and identify hard hits.⁹⁹ However, these doctors are not employed during practices, where

⁹⁴ *Id.*

⁹⁵ According to “75 retired football players, the [NFL] knew as early as the 1920s about the harmful effects on a player’s brain from concussions.” *Maxwell v. NFL*, 23 WESTLAW J. ENTMT. INDUS., 1, 1 (West 2011). However, the NFL failed to reveal information on brain injuries and their repercussions “until 2010.” *Id.*

⁹⁶ Simpson-Wood & Wood, *supra* note 5, at 15.

⁹⁷ *Id.*

⁹⁸ *Id.* at 17.

⁹⁹ Bob Tedeschi, *Sideline Doctors: How the NFL’s Concussion-Spotting System Is—and Isn’t—Working*, STAT NEWS (Dec. 22, 2015), <https://www.statnews.com/2015/12/22/nfl-concussion-spotting-system/>.

an estimated 25% of concussions occurred in the 2014 season.¹⁰⁰ Further, the spotters cannot overrule team doctors who might have a different opinion as to whether a head injury occurred.¹⁰¹ These team doctors, being a part of the team, have an incentive other than the players' health to push injured players back into games.¹⁰² The NFL grants the medical team staff to make all return-to-play decisions, "so, [they] hold the long-term mental health of NFL players in the palm of their hands."¹⁰³

Moreover, players use tactics to avoid being diagnosed with a concussion to protect their careers. It is rumored that players will purposefully score low on their baseline cognitive assessment test during preseason, "so they can pass the [concussion] test more easily when actually concussed."¹⁰⁴ Chris Nowinsky, Executive director of Concussions Legacy Foundation, explained that this tactic exists because "a player's career can be threatened if teams believe he is concussed-prone."¹⁰⁵ If a player is more likely to be concussed and have health issues, he will play fewer games and have fewer opportunities to gain recognition. Moreover, a coach can terminate a player's contract if he believes there is a better player that will contribute to the team.¹⁰⁶ Therefore, coaches will pick healthy, athletic players over benched players. To help secure employment, a player who exhibits concussive symptoms is inclined to hide them to play more games and increase his chances of gaining recognition.

The NFL should implement a provision similar to the Zachary Lystedt Law to take away subjective diagnosis. Following Washington state's Zachary Lystedt Law, the NFL should add a provision to the CBA barring players from returning to the game until cleared by a licensed professional trained in concussion evaluation and management.¹⁰⁷ Utilizing this rule, the NFL would be forced to employ third-party medical physicians, specialized in concussions, who would accurately assess a player's health. Medical physicians would not feel pressured to clear the player when he is not ready, protecting the player's long-term health and thereafter reducing the player's risk of developing CTE.

Further, the NFL should mandate Dr. Cantu's guidelines to assess a player's concussion. This would provide a strict "three concussions in one season" standard. Further, this would shift the burden from subjective diagnosing to objective, strict,

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ Kain, *supra* note 10, at 707 (citing Press Release, National Football League, *NFL Outlines for Players Steps Taken to Address Concussions* (Aug. 14, 2007)).

¹⁰⁴ Bob Tedeschi, *Sideline Doctors: How the NFL's Concussion-Spotting System Is—and Isn't—Working*, Stat News (Dec. 22, 2015), <https://www.statnews.com/2015/12/22/nfl-concussion-spotting-system/>.

¹⁰⁵ *Id.*

¹⁰⁶ Dom Cosentino, *Why Only the NFL Doesn't Guarantee Contracts*, DEADSPIN (Aug. 1, 2017), <https://deads핀.com/why-only-the-nfl-doesnt-guarantee-contracts-1797020799>.

¹⁰⁷ Burkhart, *supra* note 4.

medical guidelines. Currently, the decision on when a player may return to the field is determined by the team physician.¹⁰⁸ The concussions protocol board claims, “[T]here is no set time-frame for return to participation or for the progression through the steps of the graduated exercise program.”¹⁰⁹ This unbridled discretion completely undermines Dr. Cantu’s research and concussion guidelines. The NFL must stop ignoring the scientific evidence and start implementing an objective, medical, concussions protocol to apply to all players to adequately protect their health and wellbeing.

B. Guarantee Players More than the Signing Bonus

When a player contracts with the NFL, the only guaranteed money he receives is his signing bonus. With a multi-billion-dollar industry, it should be no problem for the NFL to compensate all players for their entire contracted amounts. However, this method has been around for decades, and the NFL does not plan on changing it in the future.¹¹⁰ Back when the NFL was not as lucrative, the owners could not afford to pay its players upfront.¹¹¹ Further, “contracts may...be terminated at will if a team finds that another player can make better contributions to the team’s success.”¹¹² Director of Sports Concussion Safety Program Dr. Kenneth Podell commented, “The pressure is intense; there’s always someone on the bench waiting to take your place.”¹¹³ Players have such a high standard to play up to. They are driven by the fear that they could be replaced. To ensure job security, they are likely to not report on concussive symptoms.¹¹⁴

Additionally, players do not receive all the money they originally contract for in the CBA. According to a Harvard study, researchers found “that just 44[%] of what was actually *contracted* was in the form of guarantee.”¹¹⁵ (emphasis added.) This means the majority of money contracted is not guaranteed, and a player may never see that money if his contract is terminated. This further incentivizes a player to not report his injuries. A player does not want to jeopardize his financial livelihood by reporting concussive symptoms.

To combat this underreporting, the CBA should guarantee players money, regardless of injury. The current money guaranteed is outdated. The NFL is a multi-

¹⁰⁸ *Protecting Players NFL Return-To-Participation Protocol*, PLAY SMART, PLAY SAFE (June 20, 2017), <https://www.playsmartplaysafe.com/focus-on-safety/protecting-players/nfl-return-to-participation-protocol/>.

¹⁰⁹ *Id.*

¹¹⁰ Dom Cosentino, *Why Only the NFL Doesn’t Guarantee Contracts*, DEADSPIN (Aug. 1, 2017), <https://deadspin.com/why-only-the-nfl-doesnt-guarantee-contracts-1797020799>.

¹¹¹ *Id.*

¹¹² Kain, *supra* note 10, at 711.

¹¹³ *Id.* (citing E.M. Swift, *One Big Headache*, SPORTS ILLUSTRATED (Feb. 12, 2007), at 22).

¹¹⁴ *Id.*

¹¹⁵ Dom Cosentino, *Why Only the NFL Doesn’t Guarantee Contracts*, DEADSPIN (Aug. 1, 2017), <https://deadspin.com/why-only-the-nfl-doesnt-guarantee-contracts-1797020799>.

billion-dollar industry. It can afford to take care of its players financially. Comparatively, the Major League Baseball (“MLB”) gives its players fully guaranteed compensation.¹¹⁶ This means that the MLB compensates its players according to the contract, both active and injured. The MLB is different from the NFL. First, the MLB has a 25-man active roster per team.¹¹⁷ When comparing that to the NFL’s 51 active players per team, the MLB has fewer players to share the revenue. Additionally, MLB is an individualistic sport: “Instead of exclusively relying on broad generalizations about an entire position group, MLB general managers also look at the specific aging, injury, and production progressions of each individual player.”¹¹⁸ Unlike the NFL, the MLB gives its players the “benefit of the doubt” much more often than the NFL does.¹¹⁹ Instead of terminating players based on their injury risk, the MLB continues to pay players the full guaranteed contract, even when they are injured.

Though baseball is vastly different sport compared to football, the NFL must implement a provision in its CBA similar to the MLB’s that compensates players regardless of injuries. Especially with the aggressive nature of football, players do not need the added stress of being terminated because they reported concussive symptoms. Season after season, hundreds of players are concussed. Year after year, more and more retired NFL players are diagnosed with CTE post-mortem. Encouraging players to at least recognize and report their symptoms is an important step towards ending this deadly brain disease.

C. *Lifetime Healthcare for All Retired Players*

To further enhance both the CBA’s 88 Plan and Article 65, players should receive lifetime healthcare. Former Denver Broncos tight end Nate Jackson proposed that a total healthcare plan should be discussed in the next CBA negotiations in 2021.¹²⁰ He explains, “You will be former players for much longer than you’ll be current players. And the violent realities of your football lives will follow you forever.”¹²¹ After leaving the NFL, vested players will receive “post-career health coverage on the same Cigna plan that they had while playing.”¹²² However, the problem is that former players rarely use this. The players cannot use the doctors who have regularly been treating them.¹²³ After five years goes by, a player is no longer eligible. Lifetime

¹¹⁶ Hamish Nieh, *A Less Perfect Union: Why Injury Risk Prevents NFL Players from Driving as Hard a Bargain as MLB Players in CBA And Contract Negotiations*, 8 HARV. J. SPORTS & ENTMT’T. L. 213, 220 (2017).

¹¹⁷ *Id.* at 238.

¹¹⁸ *Id.* at 240.

¹¹⁹ *Id.* at 239.

¹²⁰ Nate Jackson, *The NFL Broke Former Players Like Me. Here’s One Way to Fix Us*, DEADSPIN (Oct. 23, 2018), <https://deadspin.com/the-nfl-broke-former-players-like-me-heres-one-way-to-1829914431>.

¹²¹ *Id.*

¹²² *Id.*

¹²³ *Id.*

healthcare would help players recover from injuries and transition into normal civilian life.

During the 2011 CBA negotiations, Hall of Famers advocated for healthcare. Hall of Famer Eric Dickerson estimated “[t]he total cost for every Hall of Famer to have health insurance is less than \$4 million—less than that of a 30 second Super Bowl ad, or about 3 cents for every \$100 the league generates in revenue.” Providing healthcare to retired players would not be as expensive as the NFL may believe. If the CBA mandates for a certain amount of players’ salary to contribute to lifetime health insurance, it is a possible solution.

Providing lifetime insurance to retired players would help them cope with CTE symptoms. Given that the symptoms of CTE often manifest years or even decades after the injuries occurred, lifetime healthcare is necessary.¹²⁴ Should the CBA include a lifetime healthcare provision, this would aid retired players in treating the symptoms of CTE. This could save the lives of former players.

V. CONCLUSION

The NFL is a multi-billion-dollar business, operating to provide entertainment for all Americans. However, the entertainment comes at a price—players’ lives. Players are taking hard hits to the head—both concussive and subconcussive—that result in CTE. While many people advocate for rule changes, contracts may provide an alternative solution in the immediate future. To adequately protect its players, the NFL must enact provisions that provide accurate information on the repercussions of playing, in addition to promising aid in long-term health and well-being.

The reality is that football will continue. Football is embedded in American culture. Fans will continue to purchase tickets, jerseys, and other merchandise, supporting this multi-billion-dollar industry. For the past hundred years, football’s violent nature has been a controversy.¹²⁵ The NFL has persuaded fans to love the violent nature of the game, regardless of the life-changing medical effects. Until both players and fans aggressively advocate for player safety and protective contract provisions, football will continue to be America’s most beloved sport. Consequently, players will needlessly suffer the adverse long-term brain injuries.

¹²⁴ *Frequently Asked Questions About CTE*, BOSTON UNIVERSITY RESEARCH CTE CTR., <http://www.bu.edu/cte/about/frequently-asked-questions/> (last visited July 20, 2019).

¹²⁵ Burkhardt, *supra* note 4.