

# JUNIOR SEAU, HEAD TRAUMA, AND THE NFL’S CONCUSSION PROBLEM

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## I. INTRODUCTION

By all accounts, Tiaina “Junior” Seau was an extraordinary professional athlete.<sup>1</sup> Seau’s career in the National Football League (“NFL”) spanned two decades as he battled furiously as a linebacker for the San Diego Chargers, Miami Dolphins, and the

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<sup>1</sup> Mark Gaughan, *Seau Makes Sure Chargers Defense Never Rests*, BUFFALO NEWS, Oct. 15, 2000, at C1; Mark McGuire, *Calling It Quits Will Be Seau’s Call*, ALBANY TIMES UNION, Feb. 2, 2008, at C1.

New England Patriots.<sup>2</sup> His performance on the field of play was exceptional; he was selected to the Pro Bowl twelve times and will most certainly be voted into the NFL Hall of Fame when he becomes eligible in 2015.<sup>3</sup> Despite Seau's unparalleled career, athletic accomplishments, and financial rewards, he committed suicide on May 2, 2012, at the age of forty three, just two years after his retirement from professional football.<sup>4</sup> Newspaper accounts in the immediate aftermath of Seau's suicide recounted an impulsive man who became disconnected, volatile, and erratic following his retirement from the NFL,<sup>5</sup> his family speculated that this erratic behavior and disconnectedness were uncharacteristic of the man that befriended thousands,<sup>6</sup> and was unfailingly committed to representing the Seau name with honor.<sup>7</sup> Upon his

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<sup>2</sup> Gaughan, *supra* note 1; McGuire, *supra* note 1.

<sup>3</sup> Sam Farmer & Rick Rojas, *A Great, Unknown*, L.A. TIMES, May 6, 2012, at C1; Jerry Magee, *Retiring Seau Won't Have Long to Wait for Canton*, SAN DIEGO UNION-TRIB., Aug. 14, 2006, at E-1 (soon after his retirement in 2006, remarking that the Hall of Fame better start chiseling Seau's bust because his selection into the Hall is a "no-brainer").

<sup>4</sup> Greg Bishop & Rob Davis, *Seau Dies at 43; Suicide Is Suspected*, N.Y. TIMES, May 3, 2012, at B13; Jill Lieber Steeg, *Song of Sorrow*, SAN DIEGO UNION-TRIB., Oct. 14, 2012, at B1.

<sup>5</sup> Jill Lieber Steeg, *Junior Seau: Bitter Endgame*, SAN DIEGO UNION-TRIB., Oct. 21, 2012, available at <http://www.utsandiego.com/news/2012/oct/21/bitter-endgame/> (painting the portrait of a man that had become uncomfortable, even dysfunctional, outside of the spotlight of NFL stardom).

<sup>6</sup> Teddy Greenstein et al., *12 Year in Review: The Departed*, CHICAGO TRIB., Dec. 30, 2012, at C15 ("In addition to being one of the greatest linebackers anybody ever saw, he was always ebullient, a life-of-the-party guy. And someone who seemed like he had it all together."); Jamie Reno, *Sudden Suicide of NFL Great Junior Seau Baffles Family, Fans*, DAILY BEAST (May 3, 2012, 4:45 AM), <http://www.thedailybeast.com/articles/2012/05/03/sudden-suicide-of-nfl-great-junior-seau-baffles-family-fans.html> (one fan said, "Everyone loves Junior. He is the most popular athlete ever to play in San Diego . . . He cared so much about this community. He loved life, he loved kids and the ocean and so many things, and he really seemed to like being a role model."); Lieber Steeg, *supra* note 4 ("For 17 years, he played Santa Claus at Christmas time, taking 250 kids shopping at the Target in Mission Valley to buy gifts for family and friends in his Shop With A Jock program. Every Thanksgiving, he hosted dinner at Seau's The Restaurant in Mission Valley, footing the bill for 700 residents of homeless shelters, victims of domestic violence, military families and families from nonprofit agencies.").

<sup>7</sup> Lieber Steeg, *supra* note 4 (underscoring the "Good Junior and the Bad Junior" because of his extreme behaviors). The family would retreat to opposite ends of the home to avoid his bad moods. *Id.* Junior at one time was blessed with a photographic memory, but he eventually became forgetful, and he had a tendency to snap at his friends and family without warning. *Id.*; Barry Wilner, *Researchs: NFL's Seau Had*

suicide, some speculated that repeated concussive head trauma and brain disease led to Seau's devolving behavioral changes and ultimate suicide.<sup>8</sup>

During Seau's twenty-year NFL career, he was never diagnosed with a concussion, nor did he miss a game because of concussion-like symptoms.<sup>9</sup> This single fact alone is stunning because following Seau's suicide, the National Institute of Health (NIH) conducted neutral/blind examinations of his brain tissue and found widespread evidence of "chronic traumatic encephalopathy [(“C.T.E.”)], a degenerative brain disease widely connected to athletes who have absorbed frequent blows to the head.”<sup>10</sup> According to reports, Seau had privately complained that in the final five or six years of his life, he endured a headache that never relented.<sup>11</sup> Indeed, at age forty three, Junior Seau's brain was found to contain “abnormal, small clusters called neurofibrillary tangles of protein known as tau” which are found “in the brains of those with Alzheimer's disease and other progressive neurological disorders.”<sup>12</sup> Junior Seau was afflicted with late-stage chronic brain disease when he committed suicide.

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*Brain Disease*, ASSOCIATED PRESS, Jan. 10, 2013, available at <http://news.yahoo.com/researchers-nfls-seau-had-brain-disease-231315598—nfl.html> (his son Tyler said, “He emotionally detached himself and would kind of ‘go away’ for a little bit. And then the depression and things like that. It started to progressively get worse.”).

<sup>8</sup> Lieber Steeg, *supra* note 4. Both his ex-wife, Gina, and his children wished they had known the symptoms of C.T.E. earlier. His son, Tyler, said, “But now, in hindsight, we know that my Dad had every single [sign and symptom of traumatic brain injury].” *Id.* Gina often questioned whether his behavioral changes resulted from concussions. She remarked, “After games where he'd been knocked around, dazed and was seeing stars, I worried about him. Now, they say to wake up the players who've had concussions, every hour that first night afterward. I wished I'd known it then.” *Id.* “One business partner remarked, ‘Something was going on in his brain. I noticed the change in 2009, when he was playing with New England. You couldn't keep up a long conversation with him anymore. We used to be able to talk numbers, but it had gotten to the point where he just couldn't do it.’” *Id.*

<sup>9</sup> *Id.*; Cf. Peter Keating, *After the Aftermath*, ESPN, May 17, 2012, available at [http://espn.go.com/nfl/story/\\_id/7930585/nfl-junior-seau-suicide-raises-more-questions-nfl-handling-concussions-espn-magazine](http://espn.go.com/nfl/story/_id/7930585/nfl-junior-seau-suicide-raises-more-questions-nfl-handling-concussions-espn-magazine).

<sup>10</sup> Mary Pilon & Ken Belson, *Seau Had Brain Disease Found in Other Ex-Players*, N.Y. TIMES, Jan. 11, 2013, at B13.

<sup>11</sup> Lieber Steeg, *supra* note 4. Cf. Peter Keating, *supra* note 9 (although never officially listed with a concussion in his 20 years, Seau told a friend in 2008, “I've had a headache for years. I can't tell you how many concussions I've had.”).

<sup>12</sup> Pilon & Belson, *supra* note 10.

Emerging medical evidence confirms that Seau is not alone. Recent studies conducted by teams of researchers led by both Dr. Julian Bailes at West Virginia University and Dr. Ann McKee at Boston University have uncovered jarring evidence that an overwhelming percentage of former NFL players, those who have allowed their brains to be autopsied and studied, are afflicted with C.T.E.<sup>13</sup> The issue of brain disease and traumatic head injury has become so clamorous that President Barack Obama recently speculated that if he had a son, he would most likely not let that son play tackle football.<sup>14</sup> To that end, the NFL and the sport of American football seem to be quickly approaching a crossroads. A strong probability exists that many of the athletes that have played tackle football, at all levels, but particularly those that played for many years, are at some level of risk of serious brain disease. Questions abound.

This article seeks to answer a few of those questions. Will American football continue its meteoric rise in popularity as a cultural phenomenon in the United States as more is learned about the damage that its athletes are enduring? Did the NFL incur liability by ignoring and actively discounting the seriousness of head trauma to thousands of athletes that played in the league, as alleged by a class of former players currently suing the NFL for damages (including the Seau family)?<sup>15</sup> Will a player of Junior Seau's magnitude bring the kind of attention to traumatic head injuries in football that will require determined action by pee-wee,

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<sup>13</sup> Julian Bailes, *There is Help for Battered Athletes and TBI patients!*, BRAIN HEALTH RESOURCES (May 9, 2012), <http://brainhealthresources.wordpress.com/2012/05/09/there-is-help-for-battered-athletes-and-tbi-patients/>; Steve Fainaru & Mark Fainaru-Wada, *CTE found in living ex-NFL players*, ESPN (Jan. 22, 2013, 4:19 PM), [http://espn.go.com/espn/otl/story/\\_/id/8867972/ucla-study-finds-signs-cte-living-former-nfl-players-first-time](http://espn.go.com/espn/otl/story/_/id/8867972/ucla-study-finds-signs-cte-living-former-nfl-players-first-time); Steve Fainaru & Mark Fainaru-Wada, *Study: New cases of CTE in Players*, ESPN (Dec. 3, 2012, 8:40 PM), [http://espn.go.com/espn/otl/story/\\_/id/8697286/boston-university-researchers-discover-28-new-cases-chronic-brain-damage-deceased-football-players](http://espn.go.com/espn/otl/story/_/id/8697286/boston-university-researchers-discover-28-new-cases-chronic-brain-damage-deceased-football-players); Ann C. McKee et al., *The Spectrum of Disease in Chronic Traumatic Encephalopathy*, 136 BRAIN 43 (2012).

<sup>14</sup> Franklin Foer & Chris Hughes, *Barack Obama is Not Pleased*, NEW REPUBLIC, Jan. 27, 2013, available at <http://www.newrepublic.com/article/112190/obama-interview-2013-sit-down-president#> ("I'm a big football fan, but I have to tell you if I had a son, I'd have to think long and hard before I let him play football.")

<sup>15</sup> Ken Belson, *Seau's Family Files Suit Against the N.F.L.*, N.Y. TIMES, Jan. 24, 2013, at B12.

middle school, high school, college and professional football organizations to protect its players? Can American football continue in its trajectory of rising popularity or will it eventually decline in relevance and become an afterthought, much like boxing or horseracing, because of its insidious dangers.<sup>16</sup>

This article begins by detailing Junior Seau's influence and career as a professional athlete. The article then briefly explores the most recent medical findings that connect head trauma and concussions with brain disease, and the implications of these findings. Next, the article examines the NFL's response to head trauma and concussions, particularly the NFL's early and sustained refusal to acknowledge a connection between concussions and brain disease. The article concludes by considering what the future holds for the NFL and American football and offers proscriptions to address the player safety crisis in the NFL.

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<sup>16</sup> Lawrence Downes, *The Dangerous Game*, N.Y. TIMES, Jan. 30, 2013, available at <http://takingnote.blogs.nytimes.com/2013/01/30/the-dangerous-game-2/> ("You may find it hard to imagine that a sports-media-popular-culture-commercial phenomenon as huge and momentous as professional football would ever become obscure, culturally irrelevant or functionally extinct. But this is precisely what happened to two of the biggest spectator sports of the 20<sup>th</sup> century: horse racing and boxing."); Andrew O'Hehir, *Football's Death Spiral: Corroded by Scandal and Undermined by Shocking New Science, America's Killer Sport May be Nearing Collapse*, SALON, Feb. 3, 2013, available at [http://www.salon.com/2013/02/03/footballs\\_death\\_spiral/singleton/](http://www.salon.com/2013/02/03/footballs_death_spiral/singleton/) ("All the loudness and emptiness of the Super Bowl spectacle can't conceal the aura of doubt around the future of the game, or the collective shock of our discovery that the endpoint of this gladiatorial combat is actual death. Football is a central ingredient in the American narrative of masculinity, and it's also the zillion-dollar linchpin of network television. But in case you haven't heard the news, both those institutions are in crisis. Is it hard to imagine America without football? Yeah, but it's time to start. It's a killing game, and we have to let it die."); Ta-Nehisi Coates, *The Impending Death of Pro Football*, THE ATLANTIC, Jan. 22, 2013, available at <http://www.theatlantic.com/entertainment/archive/2013/01/the-impending-death-of-pro-football/267412/#> ("This is when you start thinking about football and an existential crisis. I don't know what the adults will do. But you tell a parent that their kid has a five percent chance of developing crippling brain damage through playing a sport, and you will see the end of Pop Warner and probably the end of high school football. Colleges would likely follow. (How common are college boxing teams these days?").

## II. JUNIOR SEAU

Junior Seau, whose parents both hail from American Samoa, grew up in Oceanside, California. He played college football at the University of Southern California (“USC”), and was a terror on the field of play in both college and in the NFL.<sup>17</sup> Seau played football with reckless abandon.<sup>18</sup> He was fearless, relentless, fierce and uncompromising.<sup>19</sup> Seau was best known as a San Diego Charger, but he also played with the Miami Dolphins and New England Patriots. Seau was an incredible leader on the field and in the locker room, both in word and deed.<sup>20</sup> He was always the captain

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<sup>17</sup> Chris Dufresne, *What A Junior Season for Seau*, L.A. TIMES May 4, 2012, at C3 (teammates described him as “an animal,” that he was “turned loose,” and that he could “one-man-show[] it”). Teammate John Jackson said of Junior, “It was a different style. He brought an enthusiasm and energy that was rare for those days.” *Id.* T.J. Simers, *Seau Was Joyous, But We Didn’t Really Know Him*, L.A. TIMES, May 3, 2012, at C2.

<sup>18</sup> Dufresne, *supra* note 17. Teammate John Jackson said, “He was good as a sophomore and off the charts as a junior.” *Id.* Also, teammate Tim Ryan said, “I don’t think anyone in the country can block Junior Seau one up.” *Id.* David Elfin, *Chargers LB Seau Peeks Past 49ers to Hall of Fame*, Jan. 26, 1995, WASH. TIMES, at B1 (Seau said of himself, “One thing I have is the desire to succeed, the will to go out and play smash-mouth football and use the talent I was blessed with.”); Simers, *supra* note 17 (“He was all out, all the time, and so out of control. But he was also so fast he could almost always recover to make the incredible play.”).

<sup>19</sup> *Thousands Turn Out For Memorial Tribute To Junior Seau*, CBS, May 11, 2012, available at <http://losangeles.cbslocal.com/2012/05/11/thousands-turn-out-for-memorial-tribute-to-junior-seau/>. Hall of Famer Dan Fouts said that the first time he met Seau, he wanted to be sure to pronounce his name correctly, so he asked Seau. Seau’s response: ‘Say-Owww’ because when I tackle someone, they . . . say . . . owww.’ *Id.*; Tony Perry & Sam Farmer, *A Sad End to NFL Star’s Life*, L.A. TIMES, May 3, 2012, at AA1 (Oakland Raiders receiver Tim Brown feared him, “He was big, fast, smart, strong and fearless. You put all that in a weak-side linebacker, and you’ve got somebody who’s scary. For many, many years he was just that for us.”).

<sup>20</sup> Nick Canepa, *Sunset Not On Seau’s Horizon*, SAN DIEGO UNION-TRIB., Sept. 17, 2002, at D-1 (Seau said, “I’m afraid of being average. I have to win at practice, I have to win in the weight room and I have to win in the film room. I have to win beating everybody to the facility in the morning.”); Chris Dufresne, *What A Junior Season for Seau*, *supra* note 17. Even in 2004, fifteen years after leaving USC, wearing Junior’s uniform number 55 mattered. “When [Keith] Rivers took it over in 2004, and was caught loafing at practice, teammate Lofa Tatupu sidled up and said, “Man, you have the 5s on. It means too much. You’re supposed to be good if you’re wearing it.” *Id.*; Charles Robinson, *Muscle Man; Junior Seau Remains a Physical Prototype. Have 13 NFL Years Slowed him?*, ORLANDO SENT., Aug. 19, 2003, at D1; Jim Trotter, *Role Model Seau Comes Next for LT*, SAN DIEGO UNION-TRIB., Oct. 20, 2003, at E6 (LaDainian Tomlinson, a former teammate of Seau’s in San Diego, was thankful to learn from Seau. After Seau was cut from the team, Tomlinson said, “When you lose a

of the team on defense as coaches often joked that when Seau was around, he was the head coach in the locker room and that they were merely assistant coaches to their larger-than-life linebacker.<sup>21</sup>

Junior Seau was not just an incredible football player; he was a force of nature off the field.<sup>22</sup> In sync with his Polynesian culture, Seau was kind and loving, even magnanimous.<sup>23</sup> He counted thousands of people as his friends.<sup>24</sup> He ran a successful foundation, the Junior Seau Foundation, and his charity golf tournament was fantastically popular, raising significant money

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player of that magnitude, in Junior Seau, not only do you lose a great player on the field, but you lose a leader that's going to step up and say, 'Guys, this is (bull); this is not going to happen.' You lose that inspirational leader.").

<sup>21</sup> Matthew Kredell, *Life Without Seau Chargers Trying to Replace Institution*, DAILY NEWS, Sept. 4, 2003, at S13.

<sup>22</sup> Elfin, *supra* note 18 (when talking about why he does the work off the field to help prevent child, drug, and alcohol abuse, Seau said, "My upbringing helps me appreciate what's going on today"); Don Norcross, *For Seau, Toughest Foe is Recruiters*, SAN DIEGO UNION-TRIB., Feb. 9, 1987, at D1. Even in high school, Seau said that he was "soft-hearted" and that "[he] [didn't] like to be rude to anyone [because he has] a hard time saying no." *Id.* He would always hug every relative that made it down to the field. *Id.*; Perry & Farmer, *supra* note 19 (Rev. Shawn Mitchell, the Chargers' chaplain for 28 years, said of Junior, "As great a football player as Junior was, he was a greater human being.").

<sup>23</sup> *Ex-coaches, teammates fondly remember Junior Seau*, ASSOCIATED PRESS, May 5, 2012, available at <http://aol.sportingnews.com/nfl/story/2012-05-05/junior-seau-death-former-coaches-teammates-fondly-remember> (Darren Bennett, an Australian punter, reflected on Seau's words of encouragement as they played together in the Pro Bowl, "Listen, kangaroo leg, man, you've got the biggest leg I've ever seen. Let's get to work.' Then he says, 'Mate, we're from the islands together. Australia is the biggest island in the world, mate.' All of a sudden, Australia was part of Polynesia: 'We're all islanders, part of the same deal.'"); Fred Mitchell, *Suicides Hard for Carrier to Grasp*, CHICAGO TRIB., May 26, 2012 at C2 (USC teammate Mark Carrier could not comprehend Seau's death because Seau was always so "upbeat" and caring); Perry & Farmer, *supra* note 19 (Former Chargers General Manager Bobby Beathard, who drafted Seau, said that Junior was "[j]ust a great guy. He loved playing the game. He loved his teammates. He loved life."); *Junior Seau dies at 43*, ESPN.COM (May 3, 2012), [http://espn.go.com/nfl/story/\\_id/7882750/junior-seau-former-san-diego-charger-found-dead-cops-probe-suicide](http://espn.go.com/nfl/story/_id/7882750/junior-seau-former-san-diego-charger-found-dead-cops-probe-suicide) (Patriots chairman and CEO Robert Kraft said, "For four seasons, after every game he played, he would always find me in the locker room just to give me a big hug and squeeze tighter than anyone I remember.").

<sup>24</sup> *Thousands Turn Out For Memorial Tribute To Junior Seau*, *supra* note 19; Ken Stephens, *Super Charger: Junior Seau is the NFL's Premier Linebacker On and Off the Field*, DALLAS MORNING NEWS, Jan. 27, 1995, at 1B.

for troubled youth.<sup>25</sup> Yet his post-retirement life was deeply troubled.<sup>26</sup>

Many wondered how a superstar former professional football player, in his post-retirement life, could be deeply troubled to the point of suicide. One of his former teammates, Gary Plummer,<sup>27</sup> had this to say after Junior Seau pointed a handgun at his chest and killed himself in 2012:

In the 1990s I [attended] a concussion seminar . . . They said a Grade 3 concussion meant you were knocked out, and a Grade 1 meant you were seeing stars after a hit, which made me burst out in laughter. As a middle linebacker in the NFL, if you don't have five of these Grade 1 effect concussions each game, you were inactive the next game. Junior played for 20 years; that's five concussions a game, easily. How many in his career, then? That's over 1,500 concussions. I know that's startling, but I know it's true. I had over 1,000 in my 15 years. I felt the effects of it. I felt depression going on throughout my divorce. Junior went through it with his divorce.<sup>28</sup>

At the time of his death, was Seau an entitled, spoiled former athlete who had trouble adjusting to a post-retirement life, like so many media portrayals tended to indicate? Or did he suffer from a brain condition, brought on by more than a thousand head traumas that made living life unbearable? Seau's former wife Gina Seau provides insight:

The difference with Junior . . . from an emotional standpoint (was) how detached he became emotionally . . . It was so obvious to me because early, many, many years ago, he used to be such a phenomenal communicator. If there was a

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<sup>25</sup> Elfin, *supra* note 18 (highlighting that Seau was honored as the NFL's Man of the Year for his work with the Junior Seau Foundation); Ken Stephens, *Super Charger: Junior Seau is the NFL's Premier Linebacker On and Off the Field*, 24; *Community Champions*, SPORTING NEWS, Aug. 2, 1999, at 17.

<sup>26</sup> Lieber Steeg, *supra* note 5.

<sup>27</sup> Cam Inman, *Former Seau teammate Gary Plummer: 'He was crying out for help,'* SAN JOSE MERCURY NEWS, May 3, 2012, available at [http://www.mercurynews.com/49ers/ci\\_20542616/former-seau-teammate-gary-plummer-he-was-crying](http://www.mercurynews.com/49ers/ci_20542616/former-seau-teammate-gary-plummer-he-was-crying) (describing how Plummer and Seau played together for four years).

<sup>28</sup> *Id.*



problem in any relationship, whether it was between us or a relationship with one of his coaches or teammates or somewhere in the business world, he would sit down and talk about it. [Seau frequently said “[l]et’s sit down and break bread and figure this out” . . . He didn’t run away from conflict.<sup>29</sup>

Why did a man that had been a phenomenal communicator early in his career, completely shut down emotionally and engage in the ultimate act of conflict avoidance?

### III. HEAD TRAUMA

Understanding head trauma in the context of American football requires awareness of certain explanations for head injury including Traumatic Brain Injury, concussion, and Chronic Traumatic Encephalopathy. Traumatic Brain Injury (TBI) is defined as follows:

Caused by a bump, blow, or jolt to the head or body that causes the head and brain to move quickly back and forth. This sudden movement can literally cause the brain to bounce around or twist in the skull, damaging brain cells and creating chemical changes in the brain.<sup>30</sup>

A concussion has been defined as: “[A] clinical syndrome characterized by an immediate and transient alteration in brain function, including an alteration of mental status and level of consciousness, resulting from mechanical force or trauma.”<sup>31</sup> Following a concussion, symptoms often persist in what has been

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<sup>29</sup> Mark Fainaru-Wada, Jim Avila & Steve Fainaru, *Doctors: Junior Seau’s Brain Had CTE*, ESPN, Jan. 9, 2013, available at [http://espn.go.com/espn/otl/story/\\_/id/8830344/study-junior-seau-brain-shows-chronic-brain-damage-found-other-nfl-football-players](http://espn.go.com/espn/otl/story/_/id/8830344/study-junior-seau-brain-shows-chronic-brain-damage-found-other-nfl-football-players) (“Tyler, Gina and her two oldest children, 19-year-old Sydney and 17-year-old Jake, all said they found some solace in the CTE diagnosis because it helped explain some of Seau’s uncharacteristic behavior. Still, it also left them conflicted that a sport so much a part of their lives had altered them so terribly.”).

<sup>30</sup> Julian Bailes, *Understanding Traumatic Brain Injury*, BRAIN HEALTH RESOURCES, May 9, 2012, <http://brainhealthresources.wordpress.com/category/dr-julian-bailes/>.

<sup>31</sup> American Association of Neurological Surgeons, Concussion, Nov. 2005, [http://www.neurosurgerytoday.org/what/patient\\_e/concussion.asp](http://www.neurosurgerytoday.org/what/patient_e/concussion.asp) (last visited Feb. 4, 2013).

described as “post concussion syndrome,” which can include loss of consciousness, vertigo, headaches, impaired steadiness, memory disturbance, lightheadedness, decreased vision, and drowsiness.<sup>32</sup> For decades, this type of Traumatic Brain Injury and its accompanying symptoms were classified by grade; Grade One, Grade Two, or Grade Three.<sup>33</sup> A Grade One concussion typically involved transient confusion, no loss of consciousness and concussion symptoms that lasted less than 30 minutes.<sup>34</sup> A Grade Two concussion typically included a loss of consciousness lasting less than five minutes and post traumatic amnesia lasting more than 30 minutes but less than 24 hours.<sup>35</sup> A Grade Three concussion typically involved a loss of consciousness for longer than five minutes and post traumatic amnesia lasting longer than 24 hours.<sup>36</sup> Because the brain is such a complex organ and brain injury research is relatively nascent at this point in time, some in the medical and neuroscience communities are beginning to move away from the grading of concussions.<sup>37</sup> At times, a Grade One concussion has lasting effects and impacts, similar to a Grade Three, and at other times, a Grade Three might resolve much earlier than expected making it extremely difficult to diagnose and resolve concussive head injuries.<sup>38</sup>

Chronic traumatic encephalopathy is commonly understood as: “a progressive tauopathy that occurs as a consequence of repetitive mild traumatic brain injury.”<sup>39</sup> C.T.E. is a “progressive neurodegeneration characterized by widespread deposition of hyperphosphorylated tau (p-tau) as neurofibrillary tangles.”<sup>40</sup> Symptoms that are clinically associated with C.T.E. include

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<sup>32</sup> Bennett I. Omalu et al., *Chronic Traumatic Encephalopathy in a National Football League Player*, 57 NEUROSURGERY 128, 131-32 (2005).

<sup>33</sup> *Classification of Coma, Concussion and Traumatic Brain Injury*, CLINICAL PSYCHOLOGY ASSOCIATES <http://cpancf.com/headinjuryclassification.asp> (last visited Jan. 31, 2013).

<sup>34</sup> *Id.*

<sup>35</sup> Robert C. Cantu, *Return to Play Guidelines After a Head Injury*, 17 CLINICS IN SPORTS MED. 45, 53-55 (1998).

<sup>36</sup> *Classification of Coma, Concussion and Traumatic Brain Injury*, *supra* note 33; Cantu, *supra* note 35, at 53-55.

<sup>37</sup> Symposium Transcript, *The Impact of Concussion Lawsuits on the Future of Football*, 2 MISS. SPORTS L. REV. 3, 12-17 (2013)(remarks of Dr. Andrew Gregory).

<sup>38</sup> *Id.*

<sup>39</sup> McKee et al., *supra* note 13, at 43.

<sup>40</sup> *Id.* at 44.

“irritability, impulsivity, aggression, depression, short-term memory loss and heightened suicidality that usually begin 8-10 years after experiencing repetitive mild traumatic brain injury.”<sup>41</sup>

As the disease advances, “more severe neurological changes develop that include dementia, gait and speech abnormalities and parkinsonism. In late stages, CTE may be clinically mistaken for Alzheimer’s disease or frontotemporal dementia.”<sup>42</sup> C.T.E. was originally reported in 1928, and described clinical aspects of a progressive neurological deterioration (being ‘punch drunk’) that occurred after repeated brain trauma in boxers.<sup>43</sup> C.T.E. is the most common type of brain disease found in the brains of an alarming number of deceased football players.

#### *A. Dr. Julian Bailes*

Dr. Julian Bailes, head of neurosurgery at West Virginia University, is one of the world’s foremost experts on head trauma and concussions in professional athletes. For the past decade, Bailes and his team studied the brain tissue of deceased athletes who committed suicide or met premature deaths. The players’ families or instructions left in suicide notes typically granted permission to study the brain tissue of these deceased athletes.

In my 2010 book entitled *Reversing Field*, Bailes reported the details of one of his teams’ first studies conducted in 2006-07.<sup>44</sup> In this groundbreaking report, where Bailes and his team studied the brain tissue of four former NFL football players and Chris Benoit, the former professional wrestler that killed his family before committing suicide, Bailes records:

My team and I recently had the chance to do autopsies on four modern-day NFL players. By the families’ permission, we were also given the opportunity to do an autopsy on professional wrestler Chris Benoit. Our team found brain damage in all five professional athletes. The degree and type of damage we found is similar to changes in the brain due to

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<sup>41</sup> *Id.*

<sup>42</sup> *Id.*

<sup>43</sup> *Id.*

<sup>44</sup> andré douglas pond cummings & ANN MARIE LOFASO, *REVERSING FIELD: EXAMINING COMMERCIALIZATION, LABOR, GENDER & RACE IN 21<sup>ST</sup> CENTURY SPORTS LAW* (2010).

Alzheimer's Disease, and should never be exhibited in people this young.<sup>45</sup>

For this study, Bailes autopsied Mike Webster, former center for the Pittsburgh Steelers, who died at age fifty. He autopsied Chris Benoit, who committed suicide in his thirties. He autopsied Terry Long, former Pittsburgh Steeler, who ingested antifreeze to kill himself at forty five. He autopsied Andre Waters, Philadelphia Eagles defensive back who died of a self-inflicted gunshot wound at the age of forty four. What he found in these men was tau protein in the brain, which was reflective of Alzheimer's victims that are ninety years old. Bailes presentation included slides where he explained that the neurons in the slides, the tau proteins, turned brown, indicating that they were dead neurons in the brains of thirty to fifty-year old athletes, yet these dead neurons and brown patches of tau protein had previously only been found in Alzheimer's patients in their nineties.<sup>46</sup>

Bailes continued:

These were our findings. All of the brain tissue samples we examined initially appeared normal, no loss of structure, no growth, no appearance of stroke, no tumors, no infections. Their brains appeared completely normal, even when examined with regular stains under the microscope. When we used special stains that specifically attach to tau proteins, however, we saw evidence of old, dead neurons. This is particularly important because tau protein has been discovered to be one of the abnormalities found in the brains of people with Alzheimer's disease. When you apply abnormalities found in the brains of people with Alzheimer's disease, when you apply tau staining to a normal brain to look for damaged neurons, the background normally turns a bluish color so that any brown you see is dead tissue: i.e., dead tau protein. Tau constitutes a major structural protein of neurons in their connections. Regarding Chris Benoit, even at the age of 40, Chris' brain was replete with innumerable

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<sup>45</sup> Julian Bailes, *Performance Enhancing Drugs and How They Affect Today's Athlete: Views From A Medical Doctor*, in REVERSING FIELD: EXAMINING COMMERCIALIZATION, LABOR, GENDER AND RACE IN 21<sup>ST</sup> CENTURY SPORTS LAW, 136,139-40 (andré douglas pond cummings & Anne Marie Lofaso eds., 2010).

<sup>46</sup> *Id.*

areas of abnormal tau protein staining. We believe that these represent multiple concussive injuries.<sup>47</sup>

Following this study and publication of his findings, Dr. Bailes began working more closely with and counseling living athletes and various groups of retired NFL players. In a follow-up study to the five athletes reported in 2007, Bailes conducted another study that cemented for many, the connection between concussions and head trauma with brain disease. According to Bailes:

. . . Our work with active and former NFL players really took off when we partnered with the Los Angeles Chapter of the Retired NFL Players Association to perform the world's largest brain imaging/brain rehabilitation study [ever conducted to date]. As part of the rehabilitation study we scanned the brains of 116 NFL players and found that 113 suffered brain damage and the level of brain damage was just awful. People who have chronic, traumatic brain injuries, which almost all football players have because they get hit in the head thousands of times in their careers; have a much higher incident of depression and suicidal ideas and suicidal behavior. Thirty percent of the players we studied had issues with severe depression. That is four times the rate of depression among the general population! Even worse, linebackers like Junior Seau, who lead with their heads on the field, suffer the most significant damage. The study showed patterns in damage to the front part of the brain and temporal lobes, under the temples and behind the eyes, which manage memory, mood stability and impulse and temper control.<sup>48</sup>

The magnitude of finding brain damage and C.T.E. in 113 out of 116 athletes studied is a bellwether. No longer is dementia, memory loss, pain, impulse control, and mood stability a problem for only a handful of former players, as had previously been believed.<sup>49</sup> The possibility now exists that a majority of former NFL players and athletes that engaged in repeated violent contact

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<sup>47</sup> *Id.*

<sup>48</sup> Bailes, *supra* note 30.

<sup>49</sup> *Id.*

have suffered extensive brain damage. Still-living former players are beginning to express deep concern about their futures.<sup>50</sup> Will these findings portend a sea change in American football and United States football culture?

### *B. Boston University*

In a pathmarking report released on December 2, 2012, Boston University's ("BU") Center for the Study of Traumatic Encephalopathy found C.T.E. in 33 of the 34 former NFL players that allowed this study to examine their brains.<sup>51</sup> "Linemen made up 40 percent of those cases, supporting research that suggests that repetitive head trauma occurring on every play – not concussions associated with violent collisions – may be the biggest risk."<sup>52</sup>

According to the study, 31 of the 34 former professional football players had advanced Stage III or Stage IV C.T.E., with Stage III characterized by memory loss, executive dysfunction, depression, cognitive impairment, explosivity, and difficulty with attention and concentration, among other symptoms.<sup>53</sup> The study for the first time identified four stages of C.T.E. including Stage I where "symptoms range from headaches to short-term memory loss" through Stage IV where severe memory loss was accompanied by "subjects show[ing] signs of full-blown dementia, including 'profound loss of attention and concentration, executive dysfunction, language difficulties, explosivity, aggressive tendencies, paranoia, depression' and difficulties walking and with

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<sup>50</sup> Jane McManus, *Thomas Jones Fears Developing CTE*, ESPN (Jan. 16, 2013, 4:25 PM), [http://espn.go.com/new-york/nfl/story/\\_id/8848510/thomas-jones-elects-donate-brain-science-dies](http://espn.go.com/new-york/nfl/story/_id/8848510/thomas-jones-elects-donate-brain-science-dies). Thomas Jones, a retired running back, announced that he will donate his brain to science fearful that he will suffer from serious brain damage and C.T.E. *Id.* After receiving many "baby concussions," Jones states "It's like taking a fresh, ripe apple and tapping it with your thumb over and over again." *Id.* Former defensive end Adewale Ogunleye when considering all of the head trauma he experienced, commented "Damn, I hope these concussions don't come back to haunt us in the end." *Id.*

<sup>51</sup> McKee et al., *supra* note 13; Fainaru & Fainaru-Wada, *supra* note 13.

<sup>52</sup> Fainaru & Fainaru-Wada, *supra* note 13; Ken Belson, *Study Bolsters Link Between Routine Hits and Brain Disease*, N.Y. TIMES, Dec. 3, 2012, at D1, available at [http://www.nytimes.com/2012/12/03/sports/study-bolsters-link-between-routine-hits-to-head-and-long-term-brain-disease.html?\\_r=0](http://www.nytimes.com/2012/12/03/sports/study-bolsters-link-between-routine-hits-to-head-and-long-term-brain-disease.html?_r=0).

<sup>53</sup> Fainaru & Fainaru-Wada, *supra* note 13; McKee et al., *supra* note 13.

depth perception.”<sup>54</sup> Of those subjects that were afflicted with Stage IV C.T.E., “31% were suicidal at some point in their course,”<sup>55</sup> with 14% completing suicide.<sup>56</sup>

This report received widespread attention and spurred a national debate that continues in connection with American football, player safety, and the future of the game as currently constituted. The evidence seems to suggest a causal link between head trauma in American football and the development of debilitating brain disease. The researchers at BU, led by Dr. McKee and Dr. Robert Cantu are on the cutting edge of this issue and believe that their findings are crucial. They conclude the report highlighting that “this study clearly shows that for some athletes and war fighters, there may be severe and devastating long-term consequences of repetitive brain trauma that has traditionally been considered only mild.”<sup>57</sup> Not everyone in the global medical community agrees, however, with some finding problems with the study and the conclusions drawn by the BU report.<sup>58</sup>

### *C. Detractors*

Despite what appears to be overwhelming preliminary evidence that head trauma and concussions in the NFL lead to brain disease and C.T.E., Dr. Bailes and the BU center have come under criticism, often times severe, for purportedly overstating the significance of their findings and fueling unwarranted concern about the risks of playing football.<sup>59</sup> At a 2012 International Consensus Conference on Concussion held in Zurich, the BU research team “faced open skepticism from medical experts with the International Olympic Committee and FIFA, among others.”<sup>60</sup>

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<sup>54</sup> Fainaru & Fainaru-Wada, *supra* note 13 (quoting Ann C. McKee et al., *The Spectrum of Disease in Chronic Traumatic Encephalopathy*, 136 *BRAIN* 43, 59 (2012)).

<sup>55</sup> McKee et al., *supra* note 13, at 59.

<sup>56</sup> *Id.* (“Subjects with Stage IV CTE were uniformly demented with profound short-term memory loss, executive dysfunction, attention and concentration loss, explosivity and aggression. Most also showed paranoia, depression, impulsivity and visuospatial abnormalities.”).

<sup>57</sup> *Id.* at 61.

<sup>58</sup> Fainaru & Fainaru-Wada, *supra* note 13.

<sup>59</sup> *Id.*

<sup>60</sup> *Id.*

Because C.T.E. can only be diagnosed posthumously, critiques revolve around the sample selected for examination, typically those former players that exhibited dementia and other behavioral changes prior to death, a lack of causal relationship between repetitive head trauma and C.T.E., and that the sample size to date has been too small.<sup>61</sup>

Other experts are quick to condemn a rush to judgment reminding that the brain is a complex organ and one that medicine is just beginning to research fully and understand.<sup>62</sup> Because so little is currently understood about brain function and the effects of trauma, those that draw definite conclusions from early C.T.E. studies are warned that preliminary findings are just that, and too much attention focused on these studies may unnecessarily alarm athletes and drive them from the sport.<sup>63</sup>

One member of the NFL's Head, Neck and Spine Committee and co-director of the Matthew Gfeller Sport-Related Traumatic Brain Injury Research Institute at the University of North Carolina stated "The vast majority of the neuroscience community does not believe that research has yet identified a causal relationship linking repetitive head trauma in football and CTE; I include myself in that."<sup>64</sup> Further, critics point to the presence of steroid abuse and other illicit drug use as a complicating factor in drawing links between brain disease and repetitive head trauma.<sup>65</sup>

Responding to the detractors, the BU research team and Julian Bailes are circumspect. The BU researchers respond that they have never drawn definitive conclusions about the prevalence of C.T.E. in the brains of football players, rather they are simply examining donated brain tissue and releasing their findings.<sup>66</sup> The

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<sup>61</sup> *Id.*

<sup>62</sup> See Gregory, *supra* note 37 at 15-16; see also Geoffrey Christopher Rapp, *Suicide, Concussions, and the NFL*, 8 FIU L. REV. (forthcoming 2013), available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2233383](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2233383) (describing the difficulties plaintiffs face when attempting to use scientific studies that are in the early stages of investigation to establish causal connections that satisfy legal standards necessary for tort recovery).

<sup>63</sup> See Gregory, *supra* note 37 at 16.

<sup>64</sup> Fainaru & Fainaru-Wada, *supra* note 13 (quoting Kevin Guskiewicz, University of North Carolina).

<sup>65</sup> *Id.*

<sup>66</sup> *Id.*



BU study itself states that individual cases coming from a skewed data pool of athletes who are profoundly impaired “will never establish the incidence or prevalence” of C.T.E., but can provide a foundation for additional and future research.<sup>67</sup> The BU study is direct about its limitations:

Even though brain donors were not screened for cognitive impairments, an autopsy-based case series is limited by significant ascertainment bias, as families of individuals showing behavioural or cognitive symptoms are much more likely to initiate and participate in a brain donation programme than families of normally functioning individuals. Consequently, no generalizations regarding the incidence and prevalence of CTE in living athletes and veterans can be made. Furthermore, in several of the cases, the clinical symptoms were confounded by drug and alcohol abuse; therefore the degree to which extensive p-tau, TDP-43 and axonal pathology and neurodegeneration is responsible for the subject’s clinical presentation is unclear.<sup>68</sup>

Despite this clear limiting language, the researchers are, however, surprised at the vitriol aimed at them by those responding to their study with doubts: “You know, scientists are human beings . . . I think that people are jealous of the amount of exposure that [Ann McKee]’s gotten, and others are jealous of her being in the right place at the right time, to get all these brains to get to study this.”<sup>69</sup>

Dr. Bailes sweeps aside criticism and spends his time and resources arguing for greater player safety and protections, and working to rehabilitate the brains of those players that have retired from the game.<sup>70</sup> Bailes is also working diligently to find ways to diagnose brain damage in living athletes, recognizing the dire limitations of only diagnosing C.T.E. posthumously.<sup>71</sup>

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<sup>67</sup> McKee et al., *supra* note 13; Fainaru & Fainaru-Wada, *supra* note 13.

<sup>68</sup> McKee et al., *supra* note 13, at 60.

<sup>69</sup> Fainaru & Fainaru-Wada, *supra* note 13 (quoting Dr. Robert Cantu).

<sup>70</sup> Bailes, *supra* note 30.

<sup>71</sup> See generally Ken Belson, *PET Scan May Reveal C.T.E. Signs, Study Says*, N.Y. TIMES, Jan. 23, 2013, at B16, available at [www.nytimes.com/2013/01/23/sports/football/study-suggests-pet-scans-may-identify-cte-in-living-patients.html?\\_r=0](http://www.nytimes.com/2013/01/23/sports/football/study-suggests-pet-scans-may-identify-cte-in-living-patients.html?_r=0) (describing preliminary research that appears to diagnose C.T.E. in living athletes); Stephanie Smith, *Scan May Detect Signs of NFL*

Dr. McKee, for her part, is stunned by the backlash to the BU study.

One of the leaders of the [Zurich] conference was very pointed when he said ‘I read your papers and frankly I think they’re very poor scientific evidence . . . . It seemed like denial to me. I hadn’t really experienced denial for about four years. . . . It was like déjà vu. I agree we don’t know how big a problem this is, we don’t know what all the risks are. There’s a lot we don’t know, but I think we know enough to know that this is a problem.’<sup>72</sup>

The déjà vu that McKee refers to is when in 2009 she reported early connective findings to the NFL’s Mild Traumatic Brain Injury (MTBI) Committee, “which for more than a decade denied the connection between football and chronic brain damage.”<sup>73</sup>

#### IV. THE NFL’S CONCUSSION PROBLEM

As the concussion class action filed by former players against the NFL makes its way through the courts, potentially harmful evidence against the NFL will likely be entered as the NFL repeatedly refused to take the concussion issue seriously through the latter part of the twentieth century and early part of the twenty first century.<sup>74</sup> The NFL in the past has gone so far as to

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*Players’ Brain Disease*, CNN (Jan. 23, 2013), <http://www.cnn.com/2013/01/22/health/cte-study/index.html>.

<sup>72</sup> Fainaru & Fainaru-Wada, *supra* note 13.

<sup>73</sup> *Id.*

<sup>74</sup> See Complaint at 23–49, *In re National Football League Players’ Concussion Injury Litigation*, No. 2:12-md-02323-AB (E.D. Pa. July 17, 2012), ECF No. 2642, *available at* <http://www.nflconcussionmdl.org/wp-content/uploads/2012/08/NFLLitigationMasterComplaint.pdf>. According to the complaint, in 1937, the American Football Coaches Association asserted that concussed players were to leave the field. *Id.* Into the 1990s, concussion studies continued to be performed, concluding that football players were to leave the game, that chronic encephalopathy makes for a “Parkinsonian” pattern of progressive decline, that impacts to concussed brains can lead to severe swelling and concussions slowed recovery. *Id.* In 1981, the NCAA implemented head injury safety guidelines. *Id.* In 1994, the NFL finally takes some action—albeit a sham—creating a MTBI committee with a chair who had no specialized concussion training and was employed by the NFL as a team trainer. *Id.* In 2002, a study in *Neurosurgery* explained that deceased NFL players had suffered CTE; the NFL asked the journal to retract the study. *Id.* In 2003,

publicly deny any link between on-field concussions and brain disease, in many ways mimicking the tobacco industry's denial of any links between smoking cigarettes and lung disease and cancer.<sup>75</sup> The NFL established a board of medical experts in 1994, the MTBI Committee, charged with studying the issue of concussions, but instead spent more time debunking early linking research than it did studying concussions and player safety.<sup>76</sup> The NFL's MTBI committee continually denied linkage to and sought to undermine all reports that tied concussions and head trauma to brain disease.<sup>77</sup> Despite the MTBI's creation, ostensibly to

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the MTBI claimed that concussions had no long-term health implications, and again in 2004, concluding that NFL players did not show a decline in brain function. *Id.* Meanwhile, independent studies showed a correlation of concussions to depression, brain impairment, Alzheimer's disease, and a greater risk of future injury. *Id.* In 2005, the NFL rejects all these premises. *Id.* In the meantime, multiple studies continued to assert many of the earlier findings of the cognitive impairment of NFL players. *Id.* Finally, after recognizing that the MTBI committee's work was "infected," the NFL, in 2011, said that there was "no science" in the MTBI's studies. *Id.*; see generally Daniel J. Kain, Note, *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 (2009); Press Release, National Football League, NFL Outlines For Players Steps Taken to Address Concussions (Aug. 14, 2007), available at <http://www.nfl.com/news/story/09000d5d8017cc67/article/nfl-outlines-for-players-steps-taken-to-address-concussions>; Steve Fainaru and Mark Fainaru-Wada, *NFL Board Paid \$2M to Players While League Denied Football-Concussion Link*, PBS FRONTLINE, Nov. 16, 2012, available at <http://www.pbs.org/wgbh/pages/frontline/sports/concussion-watch/nfl-board-paid-2m-to-players-while-league-denied-football-concussion-link/>.

<sup>75</sup> *In re National Football League Players' Concussion Injury Litigation*, *supra* note 74, at 32-44; Kain, *supra* note 74, at 717-18; *The N.F.L.'s Embattled Concussions Panel*, N.Y. TIMES, Mar. 17, 2010, available at [http://www.nytimes.com/interactive/2010/03/17/sports/football/20100317\\_CONCUSSION\\_TIMELINE.htm](http://www.nytimes.com/interactive/2010/03/17/sports/football/20100317_CONCUSSION_TIMELINE.htm). See also Tobacco Litigation Master Settlement Agreement, 1998, available at [publichealthlawcenter.org/sites/default/resources/master-settlement-agreement.pdf](http://publichealthlawcenter.org/sites/default/resources/master-settlement-agreement.pdf) (Settling the massive tobacco litigation lawsuit filed by forty six state attorney generals' against the four major cigarette companies).

<sup>76</sup> *In re National Football League Players' Concussion Injury Litigation*, *supra* note 74, at 35; Ta-Nehisi Coates, *The NFL's Response to Brain Trauma: A Brief History*, THE ATLANTIC, Jan. 25, 2013, available at <http://www.theatlantic.com/entertainment/archive/2013/01/the-nfls-response-to-brain-trauma-a-brief-history/272520/>; *The N.F.L.'s Embattled Concussions Panel*, *supra* note 75.

<sup>77</sup> Kain, *supra* note 74; Joseph M. Hanna, *Paying the Piper: NFL's concussion policy results in huge class action lawsuit*, REUTERS (Aug. 15, 2012), [http://www.newsandinsight.thomsonreuters.com/Legal/Insight/2012/08\\_-\\_August/Paying\\_the\\_Piper\\_NFL's\\_concussion\\_policy\\_results\\_in\\_huge\\_class\\_action\\_lawsuit/](http://www.newsandinsight.thomsonreuters.com/Legal/Insight/2012/08_-_August/Paying_the_Piper_NFL's_concussion_policy_results_in_huge_class_action_lawsuit/); Jesse Goodman, *Bad Brains: The NFL and Its Concussion Crisis*, MOTLEY

research head trauma, but in practice acted more to debunk emerging research, the NFL recently began to sound a schizophrenic tone that now includes player safety as a priority and implementation of measures meant to protect the brain health of its players.<sup>78</sup> Neutral medical evaluators will begin patrolling the sidelines of NFL games in 2013-14 in an effort to identify concussed players and put safety first on the field of play.<sup>79</sup>

Despite NFL machinations that player safety is a priority, many current players doubt the sincerity of the owners and the NFL Commissioner Roger Goodell. The National Football League Players Association (NFLPA) has challenged the league to make safety a true priority identifying several policies that belie that notion, including the NFL's proposed 18 game season, the use of replacement referees to begin the 2012-13 season, and the NFL's refusal to allow neutral medical evaluators onto NFL club sidelines during games until recently.<sup>80</sup>

Further, current NFL linebacker Scott Fujita hotly responded to NFL Commissioner Goodell's attempt to suspend Fujita as part

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FOOL(Feb. 2, 2013), <http://www.fool.com/investing/general/2013/02/01/bad-brains-the-nfl-and-its-concussion-crisis.aspx>

<sup>78</sup> *New NFL rules designed to limit head injuries*, NFL.COM(July 26, 2012, 8:40 PM), <http://www.nfl.com/news/story/09000d5d81990bdf/article/new-nfl-rules-designed-to-limit-head-injuries>; *NFL Season Kicks Off With New Safety Rules* (NPR Radio Sept. 8, 2011), available at <http://www.npr.org/2011/09/08/140297255/nfl-season-kicks-off-with-new-safety-rules>; *Commissioner Goodell says NFL was misled in 'bounty' probe*, NFL.COM (Mar. 21, 2012, 4:37 PM), <http://www.nfl.com/news/story/09000d5d827c28ff/article/goodell-sounds-off-on-saints-bounty-penalties> (Commissioner Goodell said that, in being lied to about the New Orleans Saints Bountygate, "I don't think you can be too hard on people that put at risk our players' health and safety. That is a critical issue for us. . . .We always protect that."). See generally *NFL: Saints defense had 'bounty' fund*, ESPN (last updated Mar. 4, 2012, 1:26 AM), [http://espn.go.com/nfl/story/\\_id/7638603/new-orleans-saints-defense-had-bounty-program-nfl-says](http://espn.go.com/nfl/story/_id/7638603/new-orleans-saints-defense-had-bounty-program-nfl-says).

<sup>79</sup> Ken Belson, *N.F.L. Set to Add Specialists On Head Injuries to Sideline*, N.Y. TIMES, Feb. 1, 2013, at B14, available at <http://fifthdown.blogs.nytimes.com/2013/01/31/league-hopes-to-make-another-move-on-concussions>.

<sup>80</sup> *NFLPA voices safety complaints*, ESPN (Jan. 31, 2013, 11:46 PM), [http://espn.go.com/nfl/story/\\_id/8903292/demaurice-smith-domonique-foxworth-nflpa-lay-complaints-safety-issues](http://espn.go.com/nfl/story/_id/8903292/demaurice-smith-domonique-foxworth-nflpa-lay-complaints-safety-issues). Union president Domonique Foxworth said, "The league, their No. 1 focus—at least they say their No. 1 focus—is health and safety. And we say our No. 1 focus is health and safety. How come we have such a hard time moving the ball on some health and safety issues?" *Id.*

of the New Orleans Saints “Bountygate” scandal, by referencing the Commissioner’s hypocrisy when it comes to player safety.<sup>81</sup> Upon having his suspension reversed, Fujita released the following letter to the media:

For me, the issue of player health and safety is personal. For the league and the Commissioner, it’s about perception and liability. The Commissioner says he is disappointed in me. The truth is, I’m disappointed in him. His positions on player health and safety since a 2009 congressional hearing on concussions have been inconsistent at best. He failed to acknowledge a link between concussions and post-career brain disease, pushed for an 18-game regular season, committed to a full season of Thursday night games, has continually challenged players’ rights to file workers compensation claims for on-the-job injuries, and he employed incompetent replacement officials for the start of the 2012 season. His actions or lack thereof are by the league’s own definition, “conduct detrimental.”<sup>82</sup>

Whether the NFL and its Commissioner genuinely care about the long-term health of its players is a subject that is strongly disputed. The League began to address this issue since the former players filed the class action, but current policies being adopted are arguably attempts to mitigate the potential liability that the NFL faces based on its previous policies of obstruction and denial. Certainly, many athletes believe that the NFL is disingenuous, if not outright deceitful in its claims that player safety is a priority.

Additionally, the NFL failed and continues to mismanage the transition from the field of play to retirement for its athletes. Post-career counseling is practically non-existent in the NFL.<sup>83</sup> Tales of

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<sup>81</sup> *Scott Fujita Criticizes Roger Goodell*, ESPN (Oct. 10, 2012), [http://espn.go.com/nfl/story/\\_id/8486424/cleveland-browns-scott-fujita-says-goodell-abusing-power](http://espn.go.com/nfl/story/_id/8486424/cleveland-browns-scott-fujita-says-goodell-abusing-power). Commissioner Goodell suspended several New Orleans Saints athletes and coaches, including linebacker Scott Fujita, for allegedly offering cash payments, a bounty, to injure opposing team players. *Id.*

<sup>82</sup> *Id.*

<sup>83</sup> Jim Steeg, *NFL: NFL must better prepare players for life after football*, USA TODAY, May 31, 2012, available at [http://content.usatoday.com/communities/thehuddle/post/2012/05/nfl-nfl-must-better-prepare-players-for-life-after-football/1?csp=34sports&utm\\_source=dlvr.it&utm\\_medium=twitter#.UQ6\\_pWdGaSp](http://content.usatoday.com/communities/thehuddle/post/2012/05/nfl-nfl-must-better-prepare-players-for-life-after-football/1?csp=34sports&utm_source=dlvr.it&utm_medium=twitter#.UQ6_pWdGaSp) (recommending that more needs to be done to aid the post-career transition); *Player*

player dysfunction at the end of their playing days are too numerous to mention.<sup>84</sup> Very few athletes leave the NFL voluntarily as most are cut, told that they can no longer perform at the level required, and forced to leave unwillingly. Athletes typically leave a life that was once extremely regulated, complete with a regimented schedule that dictated nearly every hour of the day. Often, former players accumulated large amounts of cash flow in a very short period of employment. Once released, a player loses regimentation and regulation, and the NFL does next to nothing to assist in the transition from regimentation to unemployment. Bankruptcies and failed investments are commonplace in the lives of former NFL players.<sup>85</sup> Adulation and adoration are often replaced with dejected loneliness.<sup>86</sup>

These post-retirement challenges are exacerbated now by brain disease and the incredibly difficult symptoms brought on by Stage III and Stage IV C.T.E., including memory loss, explosivity, impulsiveness, relationship disconnection, suicidality, and even dementia. There is very little attention paid by the NFL to post-career counseling and post-career advice for the athletes that have often destroyed their bodies and their brains for the game and the League. The behavior and negligence of the NFL in these matters has become unconscionable.

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*Programs and Benefits*, NFL LIFE LINE, <http://nfllifeline.org/resources/programs-and-benefits/>.

<sup>84</sup> Jeffri Chadiha, *Life After NFL a Challenge for Many*, ESPN (May 31, 2012), [http://espn.go.com/nfl/story/\\_id/7983790/life-nfl-struggle-many-former-players](http://espn.go.com/nfl/story/_id/7983790/life-nfl-struggle-many-former-players).

<sup>85</sup> See generally Alejandro Bodipo-Memba, *Life after the NFL: Typically a Struggle*, USA TODAY, Jan. 28, 2006, available at [http://usatoday30.usatoday.com/sports/football/super/2006-01-28-retirement-perils\\_x.htm](http://usatoday30.usatoday.com/sports/football/super/2006-01-28-retirement-perils_x.htm); Warren Sapp files for bankruptcy, ESPN (Apr. 7, 2012), [http://espn.go.com/nfl/story/\\_id/7785883/warren-sapp-files-bankruptcy-more-67-million-debt](http://espn.go.com/nfl/story/_id/7785883/warren-sapp-files-bankruptcy-more-67-million-debt) (detailing Warren Sapp's bankruptcy filing); Vinnie Iyer, *Jets backup QB Mark Brunell facing financial crisis*, SPORTING NEWS, Nov. 2, 2011, available at <http://aol.sportingnews.com/nfl/story/2011-11-02/jets-backup-qb-mark-brunell-facing-financial-crisis> (showing Mark Brunell's poor investment strategy on the way to bankruptcy); Lieber Steeg, *supra* note 5 (commenting on Junior Seau's struggles with money following retirement, including \$6.8 net buy-in in Las Vegas casinos and losing tens of thousands in a failed Ruby Tuesday venture).

<sup>86</sup> Chadiha, *supra* note 84.

## V. A WAY FORWARD

The NFL is a multi-billion dollar industry built on the backs of athletes that have suited up for their respective teams, cities, and owners for decades. Without a doubt, the rewards for playing the game can be incredible. Additionally, athletes assume some of the risk and responsibility for agreeing to play such a violent game for remuneration. That said, this multi-billion dollar industry has failed and continues to fail to address the problems of brain disease and dysfunction that many of its players face when they hang up their cleats. Whether the NFL will be forced to pay massive damages for its failures remains to be seen as of this printing, the class action concussion lawsuit continues in the federal courts. Regardless of the outcome of that litigation, it is incumbent upon the NFL and its owners to take decisive action now.

First, the league must adopt and implement robust post-career brain care for its former athletes. Dr. Bailes indicates that brain injury can be rehabilitated through counseling, brain exercise, and careful attention by physicians and neurologists. “Dave Duerson, Junior Seau and Ray Easterling did not need to take their own lives out of frustration, fear and despair! Most likely they could have been saved, if they had been under the care of physicians... that specialize in the treatment of patients with CTE and TBI conditions.”<sup>87</sup>

An incredibly interesting development that will surely assist in this post-retirement brain rehabilitation is emerging evidence that brain scans are now able to find signs of brain disease in living athletes.

An insidious, microscopic protein that has been found in the brain tissue of professional football players after death may now be detectable in living people by scanning their brains. Researchers say they found tau protein in the brains of five living retired [NFL] players with varying levels of cognitive and emotional problems. “It’s definite, we found it, it’s there,” said Dr. Julian Bailes, co-director of the NorthShore Neurological Institute . . . and co-author of a new study that

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<sup>87</sup> Bailes, *supra* note 30.

identified the tau. “It was there consistently and in all the right places.”<sup>88</sup>

In an NFL sponsored retirement regime, a brain scan could begin to assist former athletes in adjusting to life-after-football, and the process of rehabilitating damaged brains could begin in earnest.

Second, the NFL must adopt, fund and implement a comprehensive and vigorous post-retirement regime of counseling, job training, education, family counseling and financial counseling, in order to assist athletes in transitioning from the field of play to the rest of their lives. A 2009 Sports Illustrated story found that “78 percent of NFL retirees have ‘gone bankrupt or are under financial stress because of joblessness or divorce’ within two years of their careers ending.”<sup>89</sup> Former professional athletes across the spectrum struggle mightily in adjusting to life after professional sports, with only a handful finding success in coaching or broadcasting (though many attempt).<sup>90</sup> Former quarterback Trent Green is on record saying:

The hardest part is your daily routine. For 15 years I knew exactly what I was doing in March, June and September because there was a schedule. When you take that away, you suddenly have a lot more time on your hands. I’ve been out of the game since 2008, and I still have a tough time with it. I find myself thinking, “what’s my motivation today?”<sup>91</sup>

When late stage C.T.E. is added to this “motivation” equation for former football athletes, it is clear that a toxic blend of psychological trauma can be a potential outcome.

Third, the player’s union and NFL contract advisors (the athlete’s agents) must accept their own responsibility for the failures that accompany so many of these athletes that retire from the game. While the NFLPA regulates agents on the front-end, it must regulate agents in connection with assisting in the post-retirement transition of its players. While distrust of the NFL and

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<sup>88</sup> Smith, *supra* note 71.

<sup>89</sup> Chadiha, *supra* note 84.

<sup>90</sup> *Id.*

<sup>91</sup> *Id.*



Commissioner Goodell is common amongst athletes,<sup>92</sup> player agents often have a relationship of trust built with their clients and can wield important influence in many cases. Instituting financial counseling and family counseling during an athlete's career seems obligatory and would be an important improvement for many agencies, in addition to focusing intense attention on post-retirement employment opportunities and brain care.

Additionally, the NFLPA must get legitimately serious about addressing post-career care for its athletes in its collective bargaining agreement negotiations with NFL club ownership. With science moving forward in very hopeful ways, the NFLPA must make brain rehabilitation care for current and former players a central objective in negotiations.<sup>93</sup> Often, the NFLPA is criticized for emphasizing salary advances for its star players rather than the well-being of the rank and file membership. It is difficult to imagine any objective more important than the quality of life for long-time and former athletes that the union represents. If medical research continues in its advance to the point where current and former living players living with C.T.E. are able to be diagnosed,<sup>94</sup> then these scans must be made available to every current and former player at no cost and a vigorous brain care program must be made available to every athlete diagnosed with brain disease.

Fourth, the very culture of American football must be altered significantly, with the NFL leading the way.<sup>95</sup> To begin, the NFL must add neutral observers to NFL sidelines in order to overrule conflicted team doctors, often influenced by the needs of the team rather than the health of the players when diagnosing concussions and concussive symptoms.<sup>96</sup> Next, the athletes must take some

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<sup>92</sup> *Player Poll: Roger Goodell Unpopular*, ESPN (Jan. 28, 2013, 4:29 PM), [http://espn.go.com/nfl/story/\\_id/8889528/nfl-player-poll-61-percent-disapprove-roger-goodell](http://espn.go.com/nfl/story/_id/8889528/nfl-player-poll-61-percent-disapprove-roger-goodell) (showing that of 300 current players polled, 61% disapprove of Goodell's performance as NFL Commissioner).

<sup>93</sup> Smith, *supra* note 71.

<sup>94</sup> *Id.*

<sup>95</sup> Symposium Transcript, *The Impact of Concussion Lawsuits on the Future of Football*, 2 MISS. SPORTS L. REV. 3, 28-42 (2013).

<sup>96</sup> See e.g., Curtis Crabtree, *NFL will have independent neurological consultants on sidelines next season*, NBC SPORTS (Jan. 31, 2013, 4:10 PM), <http://profootballtalk.nbcsports.com/2013/01/31/nfl-will-have-independent-neurological-consultants-on-sidelines-next-season/> (unaffiliated physicians "remove[s] any question

responsibility for their own long-term health when experiencing head trauma by removing themselves from the field of play. Of course, this is easier said than done when many players know that if they take a game off or a few plays off, their very livelihoods could be jeopardized as the “next player in line” may step in and assume their job.<sup>97</sup>

Additionally, a culture of safety must take root in peewee, middle school, high school and college football. Researchers out of Purdue University conducted a study that found that high school football players that have never had a concussion are nevertheless suffering alteration in brain function due to routine and consistent blows to the head.<sup>98</sup> As these dangers become common knowledge, it is likely that parents will refuse to allow their children to continue to play American football. Further, coaches at all levels must be educated as to the dangers of concussions and TBI. Rule changes must be effectuated from peewee football all the way up through the NFL. While incremental rule changes are beginning

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of impropriety”); Saf Eifling, *Walk It Off, Champ*, SLATE (Jan. 30, 2013), [http://www.slate.com/articles/sports/sports\\_nut/2013/01/nfl\\_team\\_doctors\\_the\\_problem\\_with\\_pro\\_football\\_s\\_medical\\_sponsorship\\_deals.html](http://www.slate.com/articles/sports/sports_nut/2013/01/nfl_team_doctors_the_problem_with_pro_football_s_medical_sponsorship_deals.html); Rick Maese, *NFLPA survey: Nearly four in five football players don't trust team medical staffs*, WASH. POST, Jan. 31, 2013, available at [http://articles.washingtonpost.com/2013-01-31/sports/36648066\\_1\\_football-players-nfl-teams-demaurence-smith](http://articles.washingtonpost.com/2013-01-31/sports/36648066_1_football-players-nfl-teams-demaurence-smith).

<sup>97</sup> A recent example of this occurred when San Francisco 49er quarterback Alex Smith missed games in 2012 because of a concussion and was replaced in the lineup by Colin Kaepernick who led the 49ers to the Super Bowl. See *Alex Smith Discusses Demotion*, ESPN (Nov. 20, 2012), [http://espn.go.com/nfl/story/\\_id/8691877/alex-smith-san-francisco-49ers-wondering-how-lost-starting-job](http://espn.go.com/nfl/story/_id/8691877/alex-smith-san-francisco-49ers-wondering-how-lost-starting-job) (“Alex Smith is trying to understand how he lost his job as starting quarterback of the San Francisco 49ers a month after being named NFL Offensive Player of the Week. . . . Smith is now completely healthy from the concussion he suffered in that Nov. 11 game and has been medically cleared to play. But he'll be Kaepernick's backup for the second consecutive week. Smith is uncertain what Harbaugh's decision means for him the rest of this season. 'I feel like the only thing I did to lose my job was get a concussion,' Smith said.”).

<sup>98</sup> Thomas M. Talavage, et al., *Functionally-Detected Cognitive Impairment in High School Football Players Without Clinically-Diagnosed Concussion*, JOURNAL OF NEUROTRAUMA, Oct. 1, 2010, <http://online.liebertpub.com/doi/abs/10.1089/neu.2010.1512>; *Brain Changes Found in Football Players Thought to be Concussion-Free*, PURDUE INFORMATION SERVICES, Oct. 7, 2010, available at <http://www.purdue.edu/newsroom/research/2010/101007NaumanFootball.html> (“A study by researchers at Purdue University suggests that some high school football players suffer undiagnosed changes in brain function and continue playing even though they are impaired.”).

to be implemented in the NFL (i.e., the reduction of violent collisions on defenseless receivers), they do not address the equally serious problem of repetitive mild head trauma injury that occurs on the offensive and defensive lines virtually every play upon the snap of the football. Ultimately, if the NFL, all football athletes at all levels, parents and families of athletes, and the general public genuinely care about the long-term health and well being of the players, then radical rule changes seem to be the only avenue toward a reversal of the devastating brain injuries that afflicts many of those athletes that play the game.

## VI. CONCLUSION

While some of the prescriptions above may appear paternalistic, one must consider them against the backdrop of what professional athletics has become in the United States. In an era where adulation and hero-worship is common, there are many athletes in the professional sports leagues who are simply disconnected from the realities of a life unaccompanied by the accoutrements of stardom. From the naïve and coddled college athletes like Manti Te'o,<sup>99</sup> to the entitled and still naïve professional athletes like Mark Brunell<sup>100</sup> and Warren Sapp,<sup>101</sup> the services detailed here must at least be made available to the athletes when they leave the game, if not mandated. While convincing former professional athletes that they need post-career employment, family and financial counseling might be difficult given the current culture of the NFL, the option must be made available and strongly encouraged. Certainly, mandated brain rehabilitative counseling should be offered as part of an “exit interview” type of regime that players undergo as they transition out of the league. Here again, the culture of the “warrior” athlete

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<sup>99</sup> Ben Zimmer, *Catfish: How Manti Te'o's Imaginary Girlfriend Romance Got its Name*, BOSTON GLOBE, Jan. 27, 2013, available at <http://www.bostonglobe.com/ideas/2013/01/27/catfish-how-manti-imaginary-romance-got-its-name/inqu9zV8RQ7j19BRGQkH7H/story.html>; Erik Brady & Rachel George, *Manti Te'o Catfish Story is a Common One*, USA TODAY, Jan. 13, 2013, available at <http://www.usatoday.com/story/sports/ncaaf/2013/01/17/manti-teos-catfish-story-common/1566438/>.

<sup>100</sup> Iyer, *supra* note 85.

<sup>101</sup> *Warren Sapp files for bankruptcy*, *supra* note 85.

must change so that former players count counseling and brain rehabilitation care as the new normal for post-retirement life.

While the emerging science is promising, albeit distressing, significant additional research must be conducted to fully address the brain disease problem in American football. Some avenues this research might take include the following: (a) more inclusive C.T.E. studies on the brains of former NFL players, particularly the brains of those players that did not exhibit radical behavioral changes prior to death, thus eliminating ascertainment bias in recent studies;<sup>102</sup> (b) additional and more inclusive studies scanning the brains of living players allowing more particularized and peer reviewed findings into tau protein in the brains of living athletes;<sup>103</sup> (c) comparison head trauma studies into athletes that play other sports including rugby and soccer versus American football, where other athletes do not wear protective helmets but engage in similar tackling and violent behavior;<sup>104</sup> (d) surveys of parents of school-aged boys determining whether emerging research is discouraging modern parents from allowing their children to participate in American football;<sup>105</sup> (e) critical race research into the racial and social implications of the future options available to young men of color versus privileged young men, particularly if parents begin aggressively withdrawing their from American football participation—will the result have disproportionate racial impacts where those families in lower socioeconomic circumstances continue to allow their sons to

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<sup>102</sup> See *supra* note 68 and accompanying text.

<sup>103</sup> Belson, *supra* note 71.

<sup>104</sup> Reed Albergotti & Shirley S. Wang, *Is it Time to Retire the Football Helmet? New Research Says Small Hits do Major Damage—and There's Not Much Headgear Can Do About It*, WALL ST. J., Nov. 11, 2009, available at <http://online.wsj.com/article/SB10001424052748704402404574527881984299454.html>.

<sup>105</sup> Identifying trends among parents who refuse to allow their sons to play football may become the most important cultural change that can eventually spur a nationwide cultural shift away from a sport that looks increasingly to seriously damage the participants. See *supra* note 98 and accompanying text. *But see Goodell: 'Absolutely' Would Let Son Play Football*, SPORTS ILLUSTRATED, Feb. 3, 2013, available at <http://sportsillustrated.cnn.com/nfl/news/20130203/roger-goodell-football-son.ap/> (“NFL Commissioner Roger Goodell would “absolutely” want his own child to play football. After President Barack Obama recently said he’d “have to think long and hard” about allowing a son to take part in the sport, Goodell was asked the same question hours before Sunday’s Super Bowl during an interview on CBS’s ‘Face the Nation.’”).

participate in football for the potentially lucrative outcomes;<sup>106</sup> and (f) critical race research into the racial implications of the potentially disproportionate impact of deadly brain disease impacting athletes in a league where now more than 70% of NFL players are African American and the overwhelming viewing audience is white.<sup>107</sup>

The nation stands at a historic crossroads. Despite the need for additional research, and the NFL's never-ending, disingenuous cry that "more research is needed before we know anything for certain,"<sup>108</sup> we know enough now about American football and brain disease to take decisive action. Will the NFL, the NCAA, parents of athletes, and the general public stand up and take meaningful steps to curb if not end the affliction of C.T.E. and brain disease in football? The simple fact remains, that had Junior Seau received post-retirement care, including post-career employment counseling, financial counseling, family strategy counseling, and transition options, and most importantly rehabilitative care for his brain injuries then a strong likelihood exists that Junior Seau would still be alive today.

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<sup>106</sup> See generally cummings & Lofaso, *supra* note 44 (various chapters describing the familial and community pressure on young athletes of color to "make it" in professional sports).

<sup>107</sup> *Id.* (various chapters describing the potential exploitation of athletes of color).

<sup>108</sup> In responding to the BU C.T.E. study, the NFL released the following statement: "The finding underscores the recognized need for additional research to accelerate a fuller understanding of C.T.E." Mary Pilson & Ken Belson, *Seau Suffered From Brain Disease*, N.Y. TIMES, Jan. 10, 2013, available at <http://www.nytimes.com/2013/01/11/sports/football/junior-seau-suffered-from-brain-disease.html?pagewanted=all>.

