

# NFL CONCUSSION PROTOCOL: A SYSTEM REDESIGN

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## **I. Introduction to the Conflict**

The issue of the dangers of concussions in professional sports has reached a critical mass within our society. Over the years numerous scientific studies have indicated the dangers associated with this type of injury. One of these dangers is a condition known as chronic traumatic encephalopathy (CTE). CTE is a progressive degenerative disease of the brain brought on by repetitive brain trauma<sup>1</sup>. As a result of this repetitive trauma, build-up of an abnormal protein known as tau occurs within the brain causing lesions that eventually lead to brain cell death<sup>2</sup>. These changes in the brain can begin to manifest months or even years after the last concussion has been sustained, and the condition can only be diagnosed postmortem<sup>3</sup>. As a result, this condition has become commonplace among professional athletes, but is just now beginning to receive the widespread attention that such a serious affliction requires.

Symptoms of CTE were first observed among boxers in 1928, and have since then been identified in athletes from other major sports, such as hockey, wrestling, soccer, and most notably, football<sup>4</sup>. However, it was not until 2002 that CTE was formally diagnosed in a former National Football League (NFL) player<sup>5</sup>, and not until 2009 that the condition was officially acknowledged by the NFL itself<sup>6</sup>. Prior to 2009, the NFL repeatedly denied and

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<sup>1</sup> <http://www.bu.edu/cte/about/frequently-asked-questions/>

<sup>2</sup> <http://www.bu.edu/news/2012/05/17/boston-university-veterans-affairs-boston-healthcare-system-study-shows-first-case-series-of-chronic-traumatic-encephalopathy-in-blast-exposed-military-service-personnel-and-mechanism-of-injury-in-b/>

<sup>3</sup> <http://www.sportslegacy.org/research/cte/>

<sup>4</sup> Michael Saulle and Brian D. Greenwald, *Chronic Traumatic Encephalopathy: A Review*, Volume 2012, Article ID 816069 (2012)

<sup>5</sup> <http://www.gq.com/sports/profiles/200909/nfl-players-brain-dementia-study-memory-concussions?printable=true>

<sup>6</sup> <http://www.nytimes.com/2009/12/21/sports/football/21concussions.html>

downplayed the long-term effects of repetitive head trauma. After the NFL's acknowledgement of the condition, numerous tort claims were filed against the NFL by former players<sup>7</sup>, eventually resulting in a consolidated case consisting of over 4,800 player plaintiffs<sup>8</sup>. The complaints of the consolidated suit allege, among other things, that the NFL had knowledge of the dangers associated with repetitive head trauma, but failed to pursue adequate measures to mitigate the damage<sup>9</sup>.

As a result of this litigation the NFL has approached our design team in order to facilitate the redesign of their current system for dealing with head trauma within the sport. Recognizing the glaring deficiencies of the NFL's current system, our team accepted the task without hesitation<sup>10</sup>.

## **II. Information Gathering**

The first step that our team will undertake in order to facilitate the redesign process will be to gather relevant information regarding the conflict, stakeholders, current system, and goals of the new system.

### **1. Conflict**

In order to properly identify the conflict and its scope, the design team will conduct meetings with members of the committee responsible for designing and implementing the existing concussion protocols throughout the league, the NFL Head, Neck and Spine Committee. During these initial meetings, the design team will familiarize itself with the Committee's existing protocols and the rationale behind them. The meetings will be conducted in a

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<sup>7</sup> <http://deadspin.com/a-timeline-of-concussion-science-and-nfl-denial-1222395754>

<sup>8</sup> [http://nflconcussionlitigation.com/?page\\_id=274](http://nflconcussionlitigation.com/?page_id=274)

<sup>9</sup> <http://nflconcussionlitigation.com/wp-content/uploads/2012/01/NFL-Master-Complaint1.pdf>

<sup>10</sup> Throughout their undergraduate educations, members of the design team have had the opportunity to befriend several collegiate football players. These friendships have given the design team a unique perspective of the culture of the sport, and the dangers that result from said culture. Players are taught from an early age to ignore injury, and continue to compete at all costs for fear of ridicule from coaches and other players. This is why the design team felt adamant about tackling (no pun intended) this problem.

traditional meeting room setting, with multiple parties from the committee and the design team engaging in open-ended discussions regarding the current system, and the NFL's stance on various issues relating to that system. As the NFL will be our employer throughout this process, it will be important to thoroughly explore its concerns and reasoning behind acquiring our design team to conduct the redesign, and its ultimate vision and expectations for the new system<sup>11</sup>.

## **2. Stakeholders**

The next step will be for the design team to identify the various stakeholders involved in the conflict, and assess their goals and bargaining power. This will allow us to further define the scope of the conflict, and steer us towards the proper methods to address it.

### **A. NFL**

The first stakeholder in this conflict is the party that hired us to address it, the NFL. The NFL's goal is to design a new concussion protocol system that will educate all parties involved about the dangers associated with concussions and the failure to administer proper treatment in a timely manner. The NFL also seeks to address the deficiencies of the existing system in order to ensure that players are accurately diagnosed and removed from competition when appropriate. This, in turn, will serve the NFL's ultimate goal of limiting its future liability regarding concussion-related litigation. Furthermore, the NFL is going to be concerned with maintaining the entertainment value of the sport, as well as its perception among the public. Thus, the league will not only be concerned with the way they are perceived in handling this situation, but also with ensuring that their product is still exciting to watch after the changes in protocol are implemented.

The NFL, by its very nature, possesses the most bargaining power within this situation; because ultimately they have the final

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<sup>11</sup> This situation could present an ethical issue for our design team as we will be tasked with designing a system to benefit multiple parties, but will be being compensated by only one of those parties. It will be important for our design team to make clear to the NFL that our intention is to achieve its goals, but that we must do so in a manner in which the safety and well-being of the players is not undermined.

say on the conditions that are imposed upon its constituents, the players and teams. Players and teams have little choice but to acquiesce to the league's policies and rules.

### **B. Players**

The player's goal is to achieve success in competition in order to attain maximum compensation, while at the same time preserving his health in order to prolong the length of his career; thus allowing him to maximize his total career individual earnings. The player inherently possesses the least bargaining power of all the parties involved, as there are many more potential players available than there are potential roster spots for them. Thus, the individual player often feels forced to sacrifice his well-being for that of his team's. In light of this, the design team must make itself aware of this imbalance, and ensure that it is properly taken into account throughout the system redesign process.

### **C. Teams**

The team's goal is to achieve success in competition; however, success from the overall team perspective is valued over the individual success of any one player. The team possesses more bargaining power than the player, because as previously stated, most players are readily replaceable. Thus, teams often leverage this power in order to maximize the potential for team success with little regard for the safety and well-being of the individual player. For example, through use of this enhanced bargaining power, teams are often able to negotiate incentive-laden player contracts, with very little money guaranteed to the player. This puts the player in a position in which they are incentivized to stay on the field by any means necessary in order to receive their compensation.

### **D. Fans**

The goal of the fans is to be entertained; plain and simple. Fans want the games to be exciting and fast-paced. As a result, concern for player safety may vary greatly among members of this class of stakeholders. Thus, while the interests of the fans should not be ignored during the system redesign process, their concerns should be weighed accordingly in order to ensure that the system adequately accomplishes what should be its primary goal, safety.

### 3. Current System

In order to assess the current system and its deficiencies, the design team will use various methods of information gathering depending on who the information is being elicited from. After the aforementioned meetings with the NFL Head, Neck, and Spine Committee are conducted, the next step in the information gathering process will be to gather information from the players. This will be done through a variety of methods to ensure that all relevant feedback from these stakeholders is received by the design team. Players may be hesitant to freely express themselves for fear of backlash from coaching staffs, team doctors, or even other players.

Therefore, anonymous surveys will first be administered in order to properly assess the attitude of the players toward the current system. Participation will be required of every player, and the surveys will ask various questions about their experience with the league's current concussion protocols, as well as their general knowledge regarding head injuries<sup>12</sup>. In addition to these surveys players will be selected randomly to participate in one-on-one meetings with a member of the design team. These meetings will be designed to assess player concerns by way of a more open-ended discussion, conducted in an intimate atmosphere. These meetings will allow players to voice their concerns in a more in-depth manner than a survey will allow. In addition to random selection, players will also have the option to discreetly volunteer to participate in one of these meetings<sup>13</sup>. This will allow players

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<sup>12</sup> Sample questions:

- On a scale of 1 to 5, how effective do you feel the current protocols are in diagnosing concussions?
- Have you ever had a concussion and been allowed to return to competition without the protocols being administered?
- Have you ever had a concussion and been allowed to return to competition after completing the protocols?
- On a scale of 1 to 5, how likely would you be to return to competition after a concussion if the decision was up to you?
- If you knew you had a concussion would you still feel compelled to return to the game even if you didn't want to?
- Do you feel being removed from competition due to a concussion would place you in disfavor with your coaching staff or jeopardize your spot on the depth chart?

<sup>13</sup> An email account will be set up by the design team in order to schedule these meetings. Each player will receive an email with instructions on how to utilize a

who wish to speak freely with the design team a way to do so without the appearance of voluntary participation.

In order to gain an even broader player-centered perspective the design team will also conduct meetings with the NFL Players Association (NFLPA), the union representing current and former players. These meetings will be conducted in a similar manner to those conducted with the NFL Head, Neck, and Spine Committee. They will be open-ended discussions between multiple members of the NFLPA and multiple members of the design team. Often the union will be better in a better position to articulate the concerns of the players as a collective group than any one individual player. The NFLPA will also be able to provide insight from former players as well. These meetings will provide the design team with the final piece of the players' perspective regarding the existing system.

The next step will be to conduct meetings with each team's coaching staff. These meetings will also be conducted in a group setting in order to facilitate open-ended discussion. The goal of these meetings will be to gain insight into the coaches' feelings regarding concussions and the league's existing protocols. The design team will try to glean the coaches' feelings toward players when they are forced to leave the game after failing the administration of the concussion protocols.

After meeting with the coaching staff, the design team will then meet with each team's medical staff, including team doctors and trainers. These meetings will be conducted in the same manner as that of the coaching staff meetings, with the goal of discerning how each team's doctors identify potential head injuries on the field, and how they administer the protocols once they have made such identification. The design team will also try to assess the level of influence the coaching staff exerts over the medical staff, as currently each team's medical staff has the final say on whether a player may return to competition after being observed to have potentially suffered a concussion. This assessment is imperative to

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temporary anonymous email system in order to schedule the meeting with the design team. The player will schedule the meeting without providing identifying information. From the outward appearance no one will be able to tell who was randomly selected and who discreetly volunteered.

the redesign process, as many players have indicated distrust for team doctors in the past<sup>14</sup>.

Due to the possibility of potential bias on the part of team doctors, the design team will also conduct meetings with disinterested doctors specializing in head trauma. This will allow the design team to gain unbiased medical advice regarding deficiencies in the existing system, and possible solutions to address said deficiencies.

### **III. Identifying Deficiencies of Current System**

After the information gathering stage is complete the design team will then use that information in order to identify the deficiencies of the current system that should be addressed during the redesign process. A brief overview of the existing system will now be given in order to facilitate the identification of its deficiencies<sup>15</sup>.

The current process begins with a preseason baseline assessment. During this assessment team doctors perform physical and neuropsychological testing. A physical examination is performed; during which team doctors assess functions such as memory, concentration, and balance. Doctors also gather information regarding each player's concussion history and any symptoms they currently may be experiencing. Then neuropsychological tests are administered that assess memory, reaction time, attention span, problem-solving abilities, and other cognitive skills.

During practice and competition players who are suspected of suffering a concussion are removed from the field and evaluated

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<sup>14</sup> <http://www.nfl.com/news/story/0ap1000000133534/article/nflpa-78-percent-of-players-dont-trust-team-doctors> (In a January 2013 survey conducted by the NFLPA, 78% of participating players indicated distrust for their team's doctors.)

<sup>15</sup> For a detailed enunciation of the protocols see:  
<http://www.nfl.com/news/story/0ap2000000253716/article/nfls-2013-protocol-for-players-with-concussions>  
<http://static.nfl.com/static/content/public/photo/2013/10/01/0ap2000000254002.pdf>  
<http://static.nfl.com/static/content/public/photo/2014/02/20/0ap2000000327057.pdf>

utilizing the same testing procedure that was administered prior to the season<sup>16</sup>. The results of these tests are then compared to the preseason baseline results, and a determination is made as to whether the player has indeed suffered a concussion. This process takes between 8 and 12 minutes, and if a player is diagnosed with a concussion he is not allowed to return to practice or competition.

In the days following concussion diagnosis, the player is reevaluated by team doctors until he returns to baseline status, and passes a graduated exercise challenge. At this point, he must be medically cleared by both team doctors and an independent neurological consultant.

This system presents several glaring deficiencies that render it ineffective to protect the overall welfare of the player. The first problem with the current system lies with its inability to properly educate the stakeholders involved of the severity of repetitive head trauma. Players still operate in a culture in which “toughness” is a valued trait. Players can be ridiculed by both coaches and other players for admitting they have suffered an injury that they do not feel it is safe to play with.

The next deficiency of the system lies in the system’s diagnosis process. Brain injuries are complex in nature, and therefore there is no simple way to accurately diagnose them. The current system’s battery of tests is too simplistic in nature to diagnose concussions in a consistent manner. Players do not always exhibit symptoms immediately after suffering a concussion<sup>17</sup>. Thus, the current system’s 8 to 12 minute evaluation process will never yield reliable diagnosis results.

In addition, even recognizing which players have potentially suffered a concussion is a difficulty for the current system<sup>18</sup>. Currently each team’s medical staff is responsible for

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<sup>16</sup> The determination as to whether a player has potentially suffered a concussion is made by the team’s doctor. Currently there is one NFL official designated to assist teams in identifying players who have potentially suffered concussions during games, but the final decision regarding diagnosis is left to the team doctor.

<sup>17</sup> <http://deadspin.com/why-the-nfls-new-concussion-protocols-arent-working-1437228632>

<sup>18</sup> Id.

spotting potential concussions among its players. Each team is provided an independent neuro-trauma consultant to aid in this process. However, the final determination is made by the team's medical staff. During competition, there are 11 players from each team on the field, and it is often difficult to recognize when players have sustained head trauma amongst the commotion of each play. This failure to recognize potential head injuries leads to a breakdown in the protocol because if the injury is not recognized, the player is not evaluated.

To make matters worse, players often lie in order to stay on the field<sup>19</sup>. There have been many instances of players telling team doctors that they are not experiencing symptoms, when in fact they are. This deficiency brings the problem back, full-circle, to the lack of education regarding the severity of failing to receive timely treatment for head trauma. These are the main deficiencies that the design team will seek to remedy during the redesign process.

#### **IV. Process and Structure**

##### **1. Design**

After the information gathering stage is complete, the design team will compile the data collected, looking for trends, as well as for portions of data that may be unreliable. Survey answers will be compiled and arranged by the frequency with which they were chosen. Notes from meetings will be reviewed by the team, as a whole, in order to isolate common themes that arose during the conversations. These results will be compared with the design team's initial assessment of the conflict and stakeholders in order to assess the accuracy of that original assessment, and make adjustments where necessary. The design team will also make note of situations in which they felt any of the stakeholders were not speaking or answering questions candidly.

Then the design team will gather a team of head trauma specialists to aid in the technical aspects of the redesign process; such as coming up with a new battery of medical testing to administer to potentially injured players, and designing an education program for players, coaches, and team doctors. The

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<sup>19</sup> Id.

newly created system will be designed in a way in which all parties' interests are taken into consideration, and weighed according to their bargaining power and need for protection; while at the same time ensuring our employer's goals are satisfied.

## **2. Education**

The new system will begin with a sophisticated education program for players, coaches, and team doctors. Prior to ever stepping foot on the field, each player, coach, and team doctor must attend an informational presentation administered by head trauma specialists hired by the NFL. These presentations will provide all parties in attendance with scientific information explaining the dangers of undiagnosed and untreated head trauma. Doctors will explain the process by which concussions are sustained, and how to recognize the symptoms associated.

In addition to the medical information presented at these presentations, Former NFL players who currently are suffering symptoms of CTE will be brought in to talk to the parties in attendance. These former players will serve the role of grounding the information the parties have just received in the reality of someone's real life experience. During these presentations, the players, coaches, and doctors will be encouraged to ask questions and engage in discussion with the presenters. This education process will provide the parties involved with the perspective necessary to affect a culture change within the sport regarding the way injured players are perceived; and thus increase the active participation in, and compliance with the new system.

At the end of this process, players will be required to sign waivers acknowledging their understanding of the dangers and risks associated with repetitive head trauma, and with the failure to properly comply with the concussion protocol system<sup>20</sup>. Thus, this aspect of the new system will not only benefit the players, coaches, and team doctors, but also the NFL; in that it will serve to increase the safety of the game, while simultaneously decreasing the NFL's exposure to future liability.

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<sup>20</sup> This could result in a due process issue, as the signature of this waiver could effectively limit a player's ability to sue the league should the new system prove to be ineffective.

### **3. Arbitration Approach**

After the education process is complete the new concussion protocols will be administered by a team of head trauma specialists employed by the NFL. These NFL head trauma specialists will administer the system, taking the role of an arbitrator, as opposed to the mediation approach taken by NFL head trauma specialists in the previous system<sup>21</sup>.

During competition, a team of these head trauma specialists will be stationed at various vantage points around the field, and given access to video review of every play from a variety of angles. They will also be equipped with radios in order to communicate with one another during the game. Several of these doctors will each be assigned a specific position group from each team to continuously monitor for potential head injury throughout the game; while other NFL doctors will take a more free-lance approach to the injury monitoring process.

When potential head trauma is identified, the identifying NFL head trauma specialist will confer with the injured player's team doctors and coaching staff in order to have that player removed from the game. Then the appropriate medical testing will be administered to the player solely by NFL doctors, not team doctors; although team doctors will still be permitted to provide insight regarding their medical opinions during this process. Ultimately, however, the diagnosis and determination regarding whether the player is fit to return to competition lies solely with NFL doctors in the new system. This approach will ensure that the system is administered in a uniform manner throughout the league; thus, decreasing the likelihood of protocol break-down. The administration of the system in this manner will also increase the likelihood that players participate in the testing process honestly; because they will not face the same fear of retaliation from an NFL

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<sup>21</sup> In the previous system, one NFL head trauma specialist was appointed to each team. However, this NFL official merely served a mediation role during the concussion protocol administration, with little authority to make determinations as to the condition of the player, and whether that player was fit to return to competition. Ultimately, players and team doctors would engage in a negotiation process at times; as players would tend to insist upon their ability to return to competition, and doctors would often become willfully ignorant of the reality of the situation. Thus, in the new system, NFL head trauma specialists will be more numerous and have binding authority in all instances.

doctor as they would from a team doctor who ultimately reports to the coaching staff.

#### **4. Enforcement Mechanisms**

The new system will also incorporate various monitoring and enforcement mechanisms imposed by the league to ensure increased compliance. The league will review video of each game after every week in order to look for compliance violations, and upon discovering violations, assess a penalty commensurate to the violation observed.

While enforcement mechanisms such as fines and suspensions were available to the NFL to impose upon violators of the previous system, they were seldom utilized, and violators of the protocols often went unpunished<sup>22</sup>. Under the new system there will be a fine schedule in place for blatant violations by players or teams. In addition to fines, mandatory player suspensions will also be imposed for repeat violations by players, and forfeiture of draft picks will be imposed for repeat violations by teams. The goal of these enforcement mechanisms is not to come across as draconian, but to ensure that all parties involved fully realize the importance of compliance with the new system.

#### **5. Assessment**

At the end of the season, the instances of recorded violations will be tallied and logged, in order to facilitate comparison of system compliance from year to year. In addition to this statistical data, anonymous surveys will be completed by each player, team doctor, and coaching staff. The surveys will assess, among other things, each party's opinion regarding the system's effectiveness and any short-comings the system may have exhibited during its implementation.

In addition to the surveys, brief meetings will be conducted at the end of the first two seasons under the new system in a similar manner to the ones conducted during the information gathering stage. One-on-one meetings will be conducted with randomly-selected players at the end of each season in order to gauge their general impression of the system's implementation, as

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<sup>22</sup> <http://nfl.si.com/2014/01/16/nfl-concussion-protocol/>

well as any concerns they may have. Similarly to the one-on-one player meetings conducted during the initial information gathering stage, players will also have the ability to anonymously volunteer to participate if they so choose. Meetings with each coaching staff and team medical staff will be conducted in order to gauge their opinions and address any concerns regarding the new system as well.

## **V. Conclusion**

This new system should ensure that each stakeholder's goals have been adequately addressed and met to the greatest extent possible. The system should increase the level of safety of the game, with minimal burden to game speed and pacing above what the prior system imposed. This will allow the league to be portrayed in a favorable light amongst its fans, while still limiting their exposure to future concussion-related litigation. Players will benefit from an increased level of understanding of head injuries, and teams will benefit in the long run by allowing their players to adequately recover from such injuries; thereby increasing the long-term availability of the player to the team, and prolonging the player's career, allowing for maximum earnings.

## Appendix A

### Exit Survey

Please complete all sections applicable to you. Your answers will be anonymous.

All Parties:

1. On a scale of 1 to 5 how effective do you feel the NFL's head trauma specialists were in identifying potential concussions during games? Circle one:
  - a. 1 (extremely ineffective)
  - b. 2 (somewhat ineffective)
  - c. 3 (adequately effective)
  - d. 4 (very effective)
  - e. 5 (extremely effective)
  
2. On a scale of 1 to 5 how effective do you feel the concussion protocols were in diagnosing concussions? Circle one:
  - a. 1 (extremely ineffective)
  - b. 2 (somewhat ineffective)
  - c. 3 (adequately effective)
  - d. 4 (very effective)
  - e. 5 (extremely effective)

Player:

1. During this past season, did you suffer a concussion? Circle one:
  - a. Yes
  - b. No
  
2. If yes, how many concussions did you suffer over the last season?
  - a. \_\_\_\_\_
  
3. If you suffered a concussion last season, was it identified by an NFL head trauma specialist? Circle one:
  - a. Yes, my concussion was identified by an NFL head trauma specialist, and I was removed from competition.

- b. Yes, my concussion was identified by an NFL head trauma specialist, but I was not removed from competition.
  - c. No, I suffered a concussion, but it was not identified by an NFL head trauma specialist.
  - d. N/A (I did not suffer a concussion last season)
4. Please list any concerns, comments, or feedback regarding the administration of the concussion protocol system here:
- a. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Coach:

- 1. During the past season, have you observed any instance of a player suffering a concussion without being removed from competition? Circle one:
  - a. Yes
  - b. No
  
- 2. On a scale of 1 to 5 how effective do you feel NFL head trauma specialists were in communicating with the coaching staffs in order to facilitate the removal of potentially injured players from competition? Circle one:
  - a. 1 (extremely ineffective)
  - b. 2 (somewhat ineffective)
  - c. 3 (adequately effective)
  - d. 4 (very effective)
  - e. 5 (extremely effective)
  
- 3. Please list any concerns, comments, or feedback regarding the administration of the concussion protocol system here:
  - a. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Team Medical Staff:

1. During the past season, have you observed any instance of a player suffering a concussion without being removed from competition? Circle one:
  - a. Yes
  - b. No
  
2. On a scale of 1 to 5 how effective do you feel NFL head trauma specialists were in communicating with the team medical staffs during administration of the concussion protocol testing process? Circle one:
  - a. 1 (extremely ineffective)
  - b. 2 (somewhat ineffective)
  - c. 3 (adequately effective)
  - d. 4 (very effective)
  - e. 5 (extremely effective)
  
3. Please list any concerns, comments, or feedback regarding the administration of the concussion protocol system here:
  - a. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Appendix B

Dialogue: One-on-one player meeting during information gathering stage

- **Design team member:** Thank you for meeting with me. The purpose of this meeting is just to get a sense of your thoughts about the current concussion protocol system. Just things like your personal experience, if any, with the system, your thoughts about how effective it was, etc. This meeting is completely confidential so please feel free to speak freely. I am not associated with your team in any way. I have been hired by the NFL in order to redesign the current concussion protocols. Your identity will be kept anonymous, and anything we talk about will only be shared with other members of my design team in order to help us design a better system.
- **Player:** Ok, I am still a little uneasy talking about the system, but I'm starting to worry more and more about my long-term health. I just don't want to be labeled as "difficult" or a "troublemaker" or anything like that. Guys have been cut from rosters for less.
- **Design team member:** I completely understand, and I assure you no one outside of my design team will know what we talked about. We take this very seriously, as we are all big fans of the game and want to make sure its players are treated properly and kept as safe as possible.
- **Player:** Ok, I'll certainly try to help if I can.
- **Design team member:** Great. To start off, have you ever suffered a concussion during a game?
- **Player:** Yeah, I've had a couple throughout my career.
- **Design team member:** When you had these concussions, did your team doctor make sure you were taken out of the game, and were you kept out once he determined you had a concussion?

- **Player:** All except for one time. There was one instance where I took a big hit on a play, and the doctors took me out and tested me, but I passed the tests and told them I was fine. To be honest, I felt ok initially, but I don't remember much about that game from about 30 minutes after I passed the tests. I definitely had a concussion though. I was pretty out of it for the next few days. But it was at the end of the season, and I was 4 tackles away from reaching the statistic incentive bonus my agent negotiated into my contract. I get a \$250,000 bonus for getting 125 tackles in a season. The average length of an NFL player's career is only three and a half years. A lot of guys don't stay in the league for very long so you have to get what you can, when you can, to make sure your family is taken care of in the future.
- **Design team member:** Do you know if any of your teammates had similar experiences? Have any of them been able to get through the testing process after sustaining a concussion?
- **Player:** Yeah, I know of at least a few. Guys will do all sorts of things to stay on the field. Their livelihood depends on it. I've even seen guys purposely perform poorly on the baseline tests before the season so that way when they get tested during a game their baseline results will be pretty close to the results of the tests when they are concussed. Other guys just keep insisting they are fine during the tests, and a lot of the time the team doctors will believe them. You don't want to be labeled "soft" or "weak." Coaches will make comments to guys in meetings if that guy has missed a lot of time with injuries. Not always, but sometimes. Just comments like, "I need to know I can count on you," etc. It depends on the coach.
- **Design team member:** So do you feel like the team doctors and coaches aren't that concerned with the health of their guys, as long as they can physically be out on the field?

- **Player:** Sometimes it definitely feels that way. There were some coaches I've had that I felt genuinely cared for the well-being of their guys, but not all of them, and team doctors are viewed by players as just an extension of the coaching staff. You really need to be careful how you come across to a team doctor because it will almost always get back to the coaches. You really don't want to see a team doctor unless you absolutely have to. I once played on a fractured ankle for two weeks before I had it looked at by a team doctor. I just hoped it would go away on its own, but when it didn't start to get better at all I figured I should have it looked at; and the older you get, as a player, the more you worry that you are expendable to a team.
- **Design team member:** I can see how that puts you guys in a difficult situation. Is there anything else you can think of that may help us fix these issues when we design the new system?
- **Player:** Well... It's really going to be tough to fix all the problems. I mean, a lot of it is just the culture of the sport. It's a violent game, and from an early age football players are taught to be "tough," and there's always going to be coaches who are good at their jobs but don't really care about their players' well-being outside of football. They win, and that's what will get them their job, not their compassion and understanding.
- **Design team member:** Ok, well thank you very much for your help. I really appreciate it, and we will do our best to alleviate as many of these problems as we can in the new system. If you can think of anything else you would like to share, please don't hesitate to contact me. Here is my card.
- **Player:** Ok, no problem. I will give you a call or email if I think of anything else.