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Former NFL Players: Disabilities, Benefits, and Related Issues

Abstract

[Excerpt] Professional football is a very popular sport, and the physical nature of the game of football is part of its appeal, but, at the same time, playing the game can exact a physical and mental toll on players. Violent collisions, as well as other aspects of the sport, can and do cause injuries. Each week during the season, the National Football League (NFL) releases an injury report that lists, for each team, players who are injured, the type or location of the injury (for example, "concussion," "knee," or "ribs"), and the players' status for the upcoming game. During the 2007 season, aside from weeks one and eight, at least 10% of NFL players were identified each week as being injured. Players' injuries and current health conditions (for example, excess weight and sleep apnea) might have long-term consequences for their health, meaning that today's injury might become a chronic health problem or disability during retirement from the NFL. The issue has received considerable attention from Congress, including hearings in both chambers. Through collective bargaining agreement (CBA) negotiations and other discussions, the NFL and the NFL Players Association (NFLPA) have established a number of benefits, including retirement benefits (that is, a pension), severance pay, total and permanent disability benefits, and an annuity program. Some benefits are available to all players, while other benefits are available only to players who played in the NFL during certain years. Additionally, some benefits have eligibility requirements. Funds for benefits that are included in the CBA come from the portion of the league's total revenues that is allocated to the players. Apparently, the NFL and the NFLPA determine how to fund other benefits. The NFL and the NFLPA have taken steps to promote the health and safety of players. The league has established several committees, such as the Mild Traumatic Brain Injury (MTBI) Committee, and, through NFL Charities, awards grants for medical and scientific research related to health and safety issues. The NFLPA has a medical advisor and a performance consultant, and there is an NFL-NFLPA joint committee on player safety. The subject of injuries, disabilities, and benefits is a complex one, and there are a variety of issues surrounding this subject. For example, it has been argued that the way compensation is structured within the NFL might induce an individual to play while injured instead of seeking medical treatment. The oldest retired players might make up a subset with exceptional financial and medical needs, because they (1) might not have been protected as well as current players are; (2) might have received medical care that, while the best available at the time, was not as effective as the care available today; and (3) are not eligible for all of the benefits available to current players. Another issue involves MTBI research and whether multiple concussions might have long-term effects. The NFLPA proposed three legislative options in 2007. Other possibilities include establishing one or more ombudsman offices or taking steps to mitigate the economic risk of injuries and disabilities. This report will be updated as events warrant.

Keywords

professional football, National Football League, NFL, injury, disability, retirement, public policy, Congress, NFL Players Association, NFLPA

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CRS Report for Congress

Former NFL Players: Disabilities, Benefits, and Related Issues

April 8, 2008

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Government and Finance Division



Prepared for Members and
Committees of Congress

Former NFL Players: Disabilities, Benefits, and Related Issues

Summary

Professional football is a very popular sport, and the physical nature of the game of football is part of its appeal, but, at the same time, playing the game can exact a physical and mental toll on players. Violent collisions, as well as other aspects of the sport, can and do cause injuries. Each week during the season, the National Football League (NFL) releases an injury report that lists, for each team, players who are injured, the type or location of the injury (for example, “concussion,” “knee,” or “ribs”), and the players’ status for the upcoming game. During the 2007 season, aside from weeks one and eight, at least 10% of NFL players were identified each week as being injured. Players’ injuries and current health conditions (for example, excess weight and sleep apnea) might have long-term consequences for their health, meaning that today’s injury might become a chronic health problem or disability during retirement from the NFL. The issue has received considerable attention from Congress, including hearings in both chambers.

Through collective bargaining agreement (CBA) negotiations and other discussions, the NFL and the NFL Players Association (NFLPA) have established a number of benefits, including retirement benefits (that is, a pension), severance pay, total and permanent disability benefits, and an annuity program. Some benefits are available to all players, while other benefits are available only to players who played in the NFL during certain years. Additionally, some benefits have eligibility requirements. Funds for benefits that are included in the CBA come from the portion of the league’s total revenues that is allocated to the players. Apparently, the NFL and the NFLPA determine how to fund other benefits.

The NFL and the NFLPA have taken steps to promote the health and safety of players. The league has established several committees, such as the Mild Traumatic Brain Injury (MTBI) Committee, and, through NFL Charities, awards grants for medical and scientific research related to health and safety issues. The NFLPA has a medical advisor and a performance consultant, and there is an NFL-NFLPA joint committee on player safety.

The subject of injuries, disabilities, and benefits is a complex one, and there are a variety of issues surrounding this subject. For example, it has been argued that the way compensation is structured within the NFL might induce an individual to play while injured instead of seeking medical treatment. The oldest retired players might make up a subset with exceptional financial and medical needs, because they (1) might not have been protected as well as current players are; (2) might have received medical care that, while the best available at the time, was not as effective as the care available today; and (3) are not eligible for all of the benefits available to current players. Another issue involves MTBI research and whether multiple concussions might have long-term effects. The NFLPA proposed three legislative options in 2007. Other possibilities include establishing one or more ombudsman offices or taking steps to mitigate the economic risk of injuries and disabilities. This report will be updated as events warrant.

Contents

Introduction	1
The Game of Football and the Health of Players	4
Introduction	4
The Nature of the Game of Football	5
Health Problems	12
NFL and NFLPA Benefit Programs and Plans	18
History of Benefits	18
How Benefits Are Funded	24
Benefits for Former Players	28
NFLPA Retired Players Department	40
Players Assistance Trust (PAT) Fund	41
The Alliance	45
Other Efforts to Aid Former Players	48
Selected Organizations and Websites	48
Active Players' Efforts	49
NFL and NFLPA Health and Safety Initiatives	50
NFL Injury and Safety Panel	50
NFL Cardiovascular Health Committee	51
NFL Medical Research Grants	52
NFL Mild Traumatic Brain Injury Committee	53
NFL and NFLPA Education Efforts for Players	54
NFLPA Medical Consultant and Performance Consultant	55
NFL and NFLPA Joint Committee on Player Safety and Welfare	56
Discussion of Selected Issues	58
Injuries and Financial Considerations	58
Selected Challenges for Some Retired Players	74
Total and Permanent (T&P) Disability Benefit	76
Is There a Subset of Former Players with Exceptional Needs?	86
What Is Known about Injuries and Possible Long-Term Consequences? ..	92
Studies on Possible Long-Term Effects of MTBI	92
Susceptibility to an Additional MTBI	97
Chronic Traumatic Encephalopathy (CTE)	98
NFL's Approach to MTBI	104
Funding for the Retirement Plan	110
What Is the Extent of the NFLPA's Capacity?	112
Medical Care for Active Players	113
Access to Medical Records	113
Arrangements for Medical Care and Treatment	114
Workers' Compensation	118
Possible Courses of Action	119
NFLPA's Suggestions for Legislative Action	119

Establish Federal Standards for Workers' Compensation	120
Permit Unions to Manage Their Benefit Plans	120
Eliminate the Requirement for the Disability Initial Claims Committee (DICC)	121
Other Suggestions	122
Mitigation of Economic Risk	122
Independent Studies	123
Data: Collection, Quality, and Access	124
Establish an Ombudsman Office	126
Concluding Observations	126
Appendix A. Glossary	128
Appendix B. NFL and NFLPA Studies Concerning Players' Health	134
Planned or Ongoing Studies	136
Appendix C. Members of the Mild Traumatic Brain Injury Committee and Retired Player Study Investigators	138
MTBI Committee	138
Retired Player Study Investigators	139
Appendix D. Acronyms	141

List of Tables

Table 1. The NFL's Major Television Rights Contracts, 2006-2013	1
Table 2. Number of Players Listed on the NFL's Injury Report, 2007 Season ...	7
Table 3. NFL Players' Injuries by Type of Injury, 1997-1999	9
Table 4. Selected NFL-NFLPA Benefits as of October 2007	30
Table 5. Players Assistance Trust Fund Grants, by Grant Type, 1991-2007 ...	43
Table 6. Players Assistance Trust Fund Grants, by Year, 1991-2007	43
Table 7. NFL Charities' Grants for Research Related to Players' Health, 2003-2007	53
Table 8. Signing Bonuses Among NFL Players, 1993-1997	64
Table 9. Signing Bonuses Among NFL Players, 1998-2002	66
Table 10. Signing Bonuses Among NFL Players, 2003-2007	68
Table 11. Range of Percentage of Total Players Who Received a Signing Bonus, by Signing Bonus Amount	70
Table 12. Total and Permanent Disability Payments by Category	78
Table 13. Selected Criteria for Football Degenerative and Inactive Categories	80
Table 14. Effect of 15-Year Threshold on Eligibility for "Football Degenerative" Benefits	81
Table 15. Number of Players Who Are Receiving or Have Received T&P Benefits, as of October 23, 2007	83
Table 16. Benefits Available to Players	89
Table 17. Recipients of NFL Charities Grants for MTBI and Related Research, 2003-2007	106

Former NFL Players: Disabilities, Benefits, and Related Issues

Introduction¹

Professional football, notably the National Football League (NFL), is the favorite sport of many in the United States.² Recognized by some as “America’s most popular spectator sport,” the NFL’s “popularity has never been greater: in the past 20 years, football has sharply widened its lead over baseball as America’s favorite professional sport, according to a Harris Poll in December [2005]. Fans choose football over baseball, basketball and auto racing combined...”³ The popularity of the sport also is reflected in the league’s major television rights deals, which are summarized in **Table 1**.

Table 1. The NFL’s Major Television Rights Contracts, 2006-2013

Network or Cable Channel	Years Covered by the Contract	Total Rights Fee	Average Annual Value
CBS and Fox	2006-2011	\$8.0 billion	\$1.3 billion
NBC	2006-2011	\$3.6 billion	\$600 million
ESPN ^a	2006-2013	\$8.8 billion	\$1.1 billion
Total		\$20.4 billion	\$3.0 billion

Source: *Sports Business Resource Guide & Fact Book, 2006* (Charlotte, NC: Street and Smith’s Sports Group, 2005), p. E-120.

a. A comparable television rights deal between Major League Baseball and ESPN, for the period 2006-2013, has a total rights fee of \$2.37 billion and an average annual value of \$296 million. (*Sports Business Resource Guide and Fact Book, 2006, 2005*, p. E-120.)

Throughout the documents that govern retirement and disability benefits, “active” players are distinguished from inactive, or retired, players. In this context, “active” players generally are those under contract to a club or between teams; the

¹ This report was prepared at the request of the House Committee on the Judiciary.

² A list of acronyms used in this report may be found at **Appendix D**.

³ Hoover’s, Inc., “National Football League,” Dec. 11, 2007, available at [<http://www.lexisnexis.com/>]; and Steven Levingston, “NFL Plays Smash-Mouth Ball When It Comes to Branding,” *Washington Post*, Feb. 5, 2006, p. A7.

term roughly corresponds to the bargaining unit under the CBA. The term “active player” also can arise in distinguishing among categories of players who are employed by teams. For example each team is permitted a maximum of 53 players on its roster for a game. This limited roster comprises an Active list, not exceeding 45, and an Inactive list. However, “active players,” as used generally in this report extends beyond roster players those players employed while in other categories, injured reserve, for example.

Active and future players are represented by the NFL Players Association (NFLPA), which is the sole and exclusive bargaining representative for players.⁴ The average length of an NFL career is three and one-half seasons, and the average salary (which may include other types of compensation; see below for additional information) is \$1.1 million.⁵ Including both vested (i.e., having earned a sufficient number of “credited seasons” to qualify for retirement benefits) and nonvested players, the number of retired (or former) players is approximately 13,000. Vested players number approximately 7,900.⁶ Although, under the collective bargaining agreement (CBA), the NFLPA does not represent former players, it does negotiate with the NFL for benefits for retired players.⁷

Playing professional football can, for some individuals, exact a significant physical, and, in some cases, mental, toll. Yet, the excitement of big hits is part of the attraction of the sport. In 2003, ESPN introduced a segment, “Jacked Up,” that featured the five biggest hits from the weekend’s games, except for plays that

⁴ National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, Mar. 8, 2006, p. 3. The term “future players” refers to individuals who had been previously employed by an NFL team and who are seeking employment with an NFL team; all rookie players, once they have been selected in the current year’s draft; and all undrafted rookie players, once they begin negotiations with an NFL team. (Ibid.)

⁵ NFL Players Association, “FAQs: NFL Hopefuls FAQ,” available at [http://www.nflpa.org/Faqs/NFL_HopefulsFaq.aspx] as of Jan. 14, 2008, on file with the author. The NFL Players Association established a new website in Mar. 2008, replacing the original url [<http://www.nflpa.org>], with this url: [<http://www.nflplayers.com>]. (NFL Players Association, “Ready, Set, Click! NFLPA to Launch New Website This Month,” Mar. 6, 2008, available at [<http://www.nflplayers.com/user/content.aspx?fmid=178&lmid=443&pid=310&type=n>].) Following this change, some of the NFLPA documents obtained from the previous website apparently are no longer readily accessible at the new website. Citations for these documents include the date the author accessed and printed the relevant document. However, some of these documents are pdf documents, which means that the dates they were accessed via the previous NFLPA website do not appear on the document. The citations for this particular group of documents notes the month and year they were downloaded. Regarding documents obtained from the previous website that are accessible at the new website, the current url is provided.

⁶ Letter from Eugene Upshaw, Executive Director, NFL Players Association, to Reps. John Conyers, Jr., Lamar S. Smith, Linda T. Sanchez, and Christopher B. Cannon, Nov. 5, 2007, p. 8.

⁷ A Supreme Court ruling stated that “the ordinary meaning of ‘employee’ does not include retired workers....” (*Allied Chemical & Alkali Workers of America, Local Union No. 1 v. Pittsburgh Plate Glass Co., Chemical Division*, 404 U.S. 157 (1971), at 392.)

resulted in an injury or a penalty.⁸ Television news broadcasts often carry video replays of especially hard collisions. Some players achieve renown as “big hitters.”

Despite the popularity of the physical nature of the game, it is balanced by concern for the players. One sports journalist has written of the game’s violence, “Players live for it, fans love it, media celebrate it — and all bemoan its devastating consequences. The brutal collision of bodies is football’s lifeblood, and the NFL’s biggest concern.”⁹

For the purposes of this report, distinctions are made between injuries, disabilities classified as such under the Bert Bell/Pete Rozelle NFL Player Retirement Plan (“retirement plan”), disabilities generally, and chronic health problems. An injury is damage that occurs to an individual’s body, in this case a professional football player, such as an abrasion, or a sprained ankle, torn muscle, or concussion. A retirement plan disability is a medical condition that qualifies as a disability under the NFL and NFLPA retirement plan. (See below for additional information about the different types of disabilities for which benefits are provided under the retirement plan.) The term “disability” also may be interpreted more broadly to include any inability or incapacity. Thus, a retired player who is incapable of performing one or more particular activities or functions, but does not receive any retirement plan disability benefits, also may be considered to be disabled.¹⁰ The phrase “chronic health problems” refers to conditions or illnesses that interfere with the activities of daily living, but do not rise to the level of rendering a player unable or incapable of performing an activity or function. For example, as reported by the *Los Angeles Times* in 2000, Joe Montana, former quarterback for the San Francisco 49ers, “does not qualify for disability payments ... [and appears] to be living a healthy, active post-career life, [but he] suffers from an aching knee that makes [playing] golf painful, a numb foot that makes walking awkward and occasional blurred vision from too many hits to the head.”¹¹

Although the focus of this report is on former players, and their health problems and benefits, the report also covers certain issues involving active players. The health of retired players derives in part from the injuries and medical conditions (such as excessive weight, if not obesity) that they may have experienced during their playing days. Accordingly, some of the conditions, terms, or policies under which active players perform might have some bearing on their current and long-term health. The issue of former players and their health and benefits has received considerable attention from Congress, including hearings in both chambers.

⁸ Tim Layden, “The Big Hit,” *Sports Illustrated*, July 30, 2007, p. 58.

⁹ *Ibid.*, p. 53.

¹⁰ For example, a former player who is disabled but does not receive any disability benefits might not have applied for benefits; might not be eligible for disability benefits; might have applied and have his application pending; or might have applied, but had his application denied.

¹¹ Steve Springer, “After Care: Medical Benefits; Disability Payments Ease Pain; Unlike in Years Past, Former Players Who Are Totally and Permanently Disabled Receive Monetary Compensation,” *Los Angeles Times*, Jan. 25, 2000, p. D8.

The next section describes the physical nature of the game of football, injuries, and health problems and is followed by a section on benefit programs and plans available to former players. After an overview of other organizations' efforts to aid former players, this report examines the NFL's and the NFL Players Association's health and safety initiatives, examines selected issues, and discusses possible courses of action.

The Game of Football and the Health of Players

Introduction

Comprehensive data about the health of former players apparently are not collected and maintained, either by the NFLPA or the NFL, or by a third party. The NFLPA is not aware of "any source of general data on the current health" of the 7,900 former players who are vested.¹² Individual teams may have some information, but, apparently, the Retirement Plan Office does not.¹³

Neither the players association nor the league collects data on number or percentage of players who retire because of an injury or injuries.¹⁴ The NFLPA notes:

[Players] may leave the game for several reasons. Statistics about why NFL players retire can be misleading. Most careers are not affected by a muscle or bone problem that causes a person to be one-half of a second slower in the 40-yard dash. In the NFL, that half-second could cost a player his job. The vast majority of players who leave the NFL, including those who leave because of injury, are in most respects quite healthy and capable of other employment.¹⁵

Although the last statement in this passage may be accurate, confirmation is difficult due to the dearth of evidence, and possibly some of the individuals who are "quite healthy" upon leaving the NFL might develop football-related disabilities later in life.

The NFL offers several possible reasons individuals retire from professional football: "Players retire for many reasons: because they do not make the team, because they wish to start their second career, because they lose the desire to play, or because they wish to spend more time with their families."¹⁶ Nevertheless, the NFL has some information on this subject which suggests that, for the period 1994-2004, at least 181 players retired for health reasons. This figure is 4% of the "4,362 players who earned a Credited Season" during the same period and who "appear to

¹² Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, p. 8.

¹³ Ibid., p. 7. The Retirement Plan Office is responsible for administering the retirement plan which is part of the collective bargaining agreement.

¹⁴ Ibid., p. 13; Letter from Roger Goodell, Commissioner, National Football League, to Reps. John Conyers, Jr., and Lamar S. Smith, Nov. 2, 2007, p. 9.

¹⁵ Ibid.

¹⁶ Ibid.

have retired.”¹⁷ The NFL was able to identify these 181 players because they received additional compensation after they “did not pass their pre-season physical[s] due to [injuries] sustained during the prior season and thus were unable to play.” Not included in this count are players who decided to retire because of their injuries and thus did not submit to a pre-season physical.

Without comprehensive, complete, detailed, and accurate data, including the number and extent of all disabilities and chronic health problems, it is difficult to know the health status, or employment or financial status, of all former players, and not just those who already receive, in particular, disability benefits.¹⁸ As suggested above, some former players may have chronic health problems or may suffer from disabilities, as broadly construed, but do not receive any disability benefits from the retirement plan. The absence of information about this group of retirees makes it difficult to determine whether any of them do not receive sufficient assistance, and also might hamper efforts to determine the effects or consequences of football-related disabilities.

Despite the lack of data on the health of former players, however, descriptive information can provide some insight into the nature of professional football and football injuries, which, for some former players, might have long-term health consequences.

The Nature of the Game of Football

Physical contact is integral to the game of professional football. For some, though, the phrase “physical contact” is an inadequate description. Notably, Mike Ditka, a former player and coach in the NFL, stated, during a congressional hearing, that “[i]t is not a contact sport, it’s a collision sport.”¹⁹

Timothy Gay, a professor of physics at the University of Nebraska and author of *Football Physics: The Science of the Game*, asks,

What is the force of that hit? Well, you’re talking about classical physics, which puts us in the province of Isaac Newton: Force equals mass times acceleration. What you come up with in this case is that each man exerts about 1,500 pounds of force, or three quarters of a ton, on the other. Which is why they call football a contact sport.²⁰

¹⁷ Letter from Goodell to Reps. Conyers and Smith, p. 9.

¹⁸ In some cases, an individual’s health status and financial status may be related.

¹⁹ U.S. Congress, Senate Committee on Commerce, Science and Transportation, “Oversight of the NFL Retirement System,” statement of Mike Ditka, unpublished hearing, 110th Cong., 1st sess., Sept. 18, 2007, p. 99.

²⁰ Layden, “The Big Hit,” pp. 55-56. See also Timothy Gay, *Football Physics, The Science of the Game* (Emmaus, PA: Rodale Inc., 2004), pp. 35-36; and Gene Wojciechowski and Chris Dufresne, “Life Expectancy Low, Some Say: Football Career Is Taking Its Toll on NFL’s Players,” *Los Angeles Times*, June 26, 1988, available at [<http://www.lexisnexis.com/>].

At Virginia Polytechnic Institute and State University (Virginia Tech), a mechanical engineering professor put impact recorders in football players' helmets in 2003. The devices recorded 3,300 hits to the heads of players in 10 games and 25 practices. He also found that "[a] typical skull absorbed 50 wallops measured at 40 times the force of gravity...."²¹ Players collide during training camp, practice, pre-season, regular season and post-season games.²² Some players tear muscles and ligaments, break bones, and lose consciousness.²³

Each week during the season, the NFL releases an injury report that lists, for each team, players who are injured, the type or location of the injury (for example, "concussion," "knee," or "ribs"), and the injured player's status for the upcoming game (for example, "out," "questionable," or "probable").²⁴ **Table 2** includes data for each week in the 2007 season. The data in this table may not provide an accurate count of the number of injuries sustained by NFL players for the following reasons: (1) only one type of injury or injury location was listed on the report, but some players listed may have had more than one injury; (2) a player may not have reported his injury or injuries to his team's medical staff, and, hence, his name did not appear on the report; (3) a player may have reported his injury or injuries to the medical staff, but the type or severity of the injury or injuries did not preclude him from playing; and (4) a player whose injury status kept him from playing in games for more than one week could be listed on the injury report each week. More accurate injury data are submitted to the NFL's Injury Surveillance System (see below for additional information) by each team's medical staff.

²¹ Carl Prine, "Extra Pounds Cause Trouble Later in Life," *Pittsburgh Tribune-Review*, Jan. 9, 2005, available at [http://www.pittsburghlive.com/x/pittsburghtrib/news/specialreports/specialInfl/s_291051.html].

²² Carl Prine, "Bloody Sundays," *Pittsburgh Tribune-Review*, Jan. 9, 2005, available at [http://www.pittsburghlive.com/x/pittsburghtrib/news/specialreports/specialInfl/s_291033.html].

²³ Peter Carlson, "For the NFL's Retirees: Know Pain, No Gain," *Washington Post*, Aug. 21, 2007, p. C7; and Paul Gutierrez, "NFL Injuries; Pain Game," *Los Angeles Times*, Jan. 25, 2000, available at [<http://www.lexisnexis.com/>].

²⁴ According to a news article, "The [NFL's] injury lists have roots in two mandates: State workers' compensation laws and federal reporting requirements force teams to record injuries. Because a paper trail is needed to substantiate a potential on-the-job disability or safety issue, broken bones, joint tears, ruptured muscles, head wounds and other ailments are written down. NFL bylaws also require teams disclose to their opponents their players' pre-game injury status so coaches can prepare strategies." (Prine, "Bloody Sundays.") Regarding an injured player's status, Prine reported that "even a player marked 'probable' for Sunday's game has a 'serious' injury, much as a bad fall or a degenerative bone condition would be considered serious on a workers' compensation filing. 'As a fan, maybe you don't think it's serious because the player is playing, but [the injury] can still be serious,' said Dr. Derek Jones, one of the nation's foremost orthopedic surgeons at the Ochsner Clinic in New Orleans." (Ibid.)

Table 2. Number of Players Listed on the NFL's Injury Report, 2007 Season

Week During the Season	Number of Players ^a	Percentage of Players ^b
1	132	8%
2	167	10%
3	202	12%
4	208	12%
5	207	12%
6	179	11%
7	190	11%
8	159	9%
9	188	11%
10	185	11%
11	195	11%
12	181	11%
13	198	12%
14	211	12%
15	207	12%
16	203	12%
17	216	13%

Source: National Football League, "Injuries," available at [<http://www.nfl.com/injuries>].

- a. These figures do not include any player who was listed on a team's injury report, but for whom the entry in the "Injury" column was "Appendicitis," "Coach's Decision," "Migraine," "Personal," "Personal Decision," "Personal Reason," "Team decision," or "Illness."
- b. Percentages have been rounded.

Aside from weeks one and eight, at least 10% of NFL players are identified each week as being injured. The relatively small variation in the percentage of players identified as being injured each week throughout a 17-game season — 10% to 13% — suggests, despite questions about the accuracy of the data, that a fairly consistent number of players are injured throughout the season.

A journalist for the *Pittsburgh Tribune-Review* conducted an analysis of four years of data culled from the NFL's weekly injury reports, interviewed 200 current and former players, coaches, and managers about injuries, and reviewed medical literature. A summary of his findings is as follows:

In the 2000 through the 2003 seasons, NFL players racked up 6,558 injuries. More than half the athletes are hurt annually, with the number spiking at 68% in 2003-04, according to the NFL's weekly injury reports.

Defenders are injured more than their foes on the offense. A defensive back alone is 30 percent more likely to get hurt than a quarterback, even though a passer touches the ball on every possession. Two out of three cornerbacks and safeties suffer injuries in the NFL annually, and half of those will suffer a second, unrelated injury before the Super Bowl.

Quarterbacks, tight ends, wide receivers, safeties and cornerbacks routinely suffer high rates of brain concussions and spine injuries that could trigger paralysis, dementia, depression and other ailments later in life. During typical four-year careers, one of every 10 NFL receivers experiences a concussion. On average, seven pro football players a week face potentially life-altering head, spine or neck trauma.²⁵

Additionally, the news article noted that, during the four-year period studied, 1,205 players had knee injuries; 652 sustained head, spine, or neck trauma; 683 injured their hamstring and groin muscles; and 928 broke or sprained their ankles.²⁶ Reportedly, the "2003 NFL injury rate was nearly eight times higher than that of any other commercial sports league, according to the U.S. Department of Labor — and that includes the National Hockey League, the National Basketball Association, and professional auto racing."²⁷

Another newspaper, the *Los Angeles Times*, also used the NFL's weekly injury reports to compile data for several seasons, 1997-1999. In 1997, 335 players were sidelined for 937 games; in 1998, 398 players sat out 1,340 games; and, in 1999, 364 players did not play in 1,061 games.²⁸ **Table 3** shows the types of injuries sustained by NFL players for these three years. The data in this table are not comparable to the data provided in **Table 2**. A key difference between the two datasets is that the *Los Angeles Times* researcher who compiled the data found in **Table 3** tracked individual players.²⁹ Nevertheless, some of the same caveats that apply to **Table 2** also might apply to **Table 3**. That is, the data in **Table 3** may not provide an accurate count of the number of injuries sustained by NFL players for the following reasons: (1) only one type of injury or injury location was listed on the report, but some players listed may have had more than one injury; (2) a player may not have reported his injury or

²⁵ Prine, "Bloody Sundays."

²⁶ Ibid.

²⁷ Ibid.

²⁸ Gutierrez, "NFL Injuries; Pain Game."

²⁹ Specifically, he "tracked every player who suffered an injury during the 1997, '98, and '99 seasons. Those players who were sidelined for a game or more because of injury were logged, as were the number of games they were sidelined and the types of injuries. Players who were injured in the previous season or in the exhibition season and missed games the next season ... were not counted." (Houston Mitchell, "NFL Injuries; Injury Report; Methodology," *Los Angeles Times*, Jan. 25, 2000, available at [http://www.lexisnexis.com/].)

injuries to his team's medical staff and hence his name did not appear on the report; (3) a player may have reported his injury or injuries to the medical's staff, but the type or severity of the injury or injuries did not preclude him from playing.

Table 3. NFL Players' Injuries by Type of Injury, 1997-1999

Type of Injury or Illness	1997 ^a	1998 ^a	1999 ^a
Abdomen	2 1%	6 1%	1 <1%
Abrasions	0	0	1 <1%
Achilles tendon	3 1%	3 1%	5 1%
Ankle	50 14%	54 13%	52 14%
Arm	5 1%	5 1%	4 1%
Back	12 3%	23 5%	9 2%
Biceps	0	4 1%	1 <1%
Blood clot	0	0	1 <1%
Buttocks	1 <1%	0	0
Calf	4 1%	10 2%	7 2%
Chest	0	5 1%	2 1%
Concussion	5 1%	5 1%	11 3%
Elbow	7 2%	4 1%	5 1%
Ear	1 <1%	0	0
Eye	3 1%	2 <1%	0
Face laceration	0	0	1 <1%

CRS-10

Type of Injury or Illness	1997 ^a	1998 ^a	1999 ^a
Finger	1 <1%	4 1%	1 <1%
Foot	8 2%	23 5%	19 5%
Groin	12 3%	14 3%	10 3%
Hamstring	29 8%	35 8%	30 8%
Hand	12 3%	9 2%	2 1%
Head	3 1%	2 <1%	1 <1%
Heel	1 <1%	0	0
Hernia	1 <1%	0	1 <1%
Hip	6 2%	2 <1%	4 1%
Jaw	2 1%	2 <1%	1 <1%
Kidney	0	1 <1%	0
Knee	104 30%	131 31%	122 33%
Leg	14 4%	7 2%	7 2%
Liver	0	0	1 <1%
Neck	11 3%	13 3%	14 4%
Nose	1 <1%	0	0
Pelvis	1 <1%	0	0
Quadriceps	3 1%	2 <1%	7 2%

Type of Injury or Illness	1997 ^a	1998 ^a	1999 ^a
Ribs	6 2%	4 1%	4 1%
Shin	0	1 <1%	0
Shoulder	22 6%	35 8%	31 8%
Thigh	3 1%	1 <1%	0
Throat	0	0	1 <1%
Thumb	5 1%	4 1%	4 1%
Toe	5 1%	3 1%	6 2%
Triceps	1 <1%	2 <1%	1 <1%
Wrist	3 1%	3 1%	0
Total	347	419	367

Source: Houston Mitchell, "NFL Injuries; Injury Report; Methodology," *Los Angeles Times*, Jan. 25, 2000, available at [<http://www.lexisnexis.com/>].

a. Percentages have been rounded.

According to **Table 3**, players sustained 43 different types of injuries. Four types of injuries accounted for 50% of the injuries in each year: knee, ankle, hamstring, and shoulder. The breakdown for each of these injuries, by year, is as follows:

- Knee: 30%, 31%, and 33%
- Ankle: 14%, 13%, and 14%
- Hamstring: 8% each year
- Shoulder: 6%, 8%, and 8%

Given the focus on mild traumatic brain injury (MTBI, or concussions) in 2007, and the related anecdotal evidence on the frequency of concussions, it is notable that only 21 concussions were recorded for this three-year period (1997-1999). Concussions accounted for 1% of injuries in 1997 and in 1998, and 3% in 1999.

For some players, the injuries they sustain playing in the NFL might lead to disabilities later in life. David Meggyesy, a former player and the director of NFLPA's San Francisco office, reportedly referred to post-NFL injuries as "the

elephant in the room that no one wants to say is in the room.... Everybody walks away with an injury.... You just don't see that being done to the human body and not think there are going to be consequences later in life."³⁰ Echoing Meggyesy's comments, a former president of the NFLPA, Trace Armstrong, offered his observations of other former players: "You go to our retired players' conventions ... and some of these guys don't look so good. Young men, onetime great athletes, but they don't move around so well."

Health Problems

Although accurate, complete, comprehensive, and detailed data about former and active players are necessary to construct a comprehensive picture of their health, the following information is useful for illustrating some of the health problems football players might experience, whether as active players or as retirees.

An obvious feature of most football players is their size. From 1985 through 2005, the average weight of a player in the NFL grew by 10% to an average of 248 pounds. At the heaviest position, offensive tackle, the average weight of players has increased from 281 pounds in the mid-1980s to 318 pounds in 2005.³¹ As of 2005, 552 players weighed 300 pounds or more, which is 33% of all active players, and 82 other players weighed between 295 and 299 pounds.³²

Not only are football players large, but some of them also may be classified as obese. Joyce B. Harp and Lindsay Hecht calculated the body mass index (BMI) of NFL players active during the 2003-2004 season and reported these findings:³³

- 97% of the players had a BMI of 25 or greater.
- 56% had a BMI of 30 or greater. This was 32 percentage points higher than the percentage of 20- to 39-year-old men who had comparable BMIs in the 1999-2002 National Health and Nutrition Examination Survey (NHANES).³⁴
- 26% of the players had a BMI of 35 or greater.

³⁰ David Steele, "Adding Insult to Injury," *San Francisco Chronicle*, Sept. 1, 2002, available at [<http://sfgate.com>].

³¹ Thomas Hargrove, "Heavy NFL Players Twice as Likely to Die Before 50," *Espn.com*, Jan. 31, 2006, available at [<http://sports.espn.go.com/nfl/news/story?id=2313476>].

³² Mark Maske and Leonard Shapiro, "NFL Is Soul Searching After Herrion's Death," *Washington Post*, Aug. 25, 2005, p. E8.

³³ For this study, "body mass index (BMI) was calculated for each of the players as weight in kilograms divided by height in meters squared, as was mean BMI for each team and position across all 32 teams and a frequency distribution of BMI for all players." (Joyce B. Harp and Lindsay Hecht, "Obesity in the National Football League," *Journal of the American Medical Association*, vol. 293, no. 9, Mar. 2, 2005, p. 1061.)

³⁴ Information about the National Health and Nutrition Examination Survey is available at [<http://www.cdc.gov/nchs/nhanes.htm>].

- 3% of the players had a BMI of 40 or greater. This percentage was similar to the percentage (3.7%) of 20- to 39-year-old men who had comparable BMIs in the 1999-2002 NHANES.
- Cornerbacks and defensive backs had the lowest mean BMI (26.8).
- Guards had the highest mean BMI (38.2).³⁵

In this study, “body mass index was classified according to the National Institutes of Health guideline: normal weight (BMI 18.5-24.9), overweight (25-29.9), obese class 1 (30-34.9), obese class 2 (35-39.9), and obese class 3 (\geq 40).”³⁶ These data show that slightly more than half of the players were obese, with 26% having a BMI that “qualifie[s] as class 2 obesity.”³⁷ The authors concluded their article with the following comment:

Although measurements of body composition are needed to determine the source of the increased weight, it is unlikely that the high BMI in this group, particularly in the class 2 obesity range, is due to a healthy increase in muscle mass alone. The high number of large players was not unexpected given the pressures of professional athletes to increase their mass. However, it may not be without health consequences. A recent study described increased sleep-disordered breathing in professional football players, particularly those with a high BMI; linemen, who had the highest BMIs, also had higher blood pressures than did other players. The high prevalence of obesity in this group warrants further investigation to determine the short- and long-term health consequences of excessive weight in professional as well as amateur athletes.³⁸

Dr. Elliott Pellman, former medical advisor/liaison to the NFL Commissioner, reportedly critiqued the Harp and Hecht article by saying: “[The BMI] is okay if you’re an actuary for life insurance.... But medically, we don’t define obesity that way. It’s not designed for people that large. The study the [NFL] commissioner ordered will do a lot more than take heights and weights off the Internet. The data must be gathered in a scientific way.”³⁹

³⁵ Harp and Hecht, “Obesity in the National Football League,” pp. 1061-1062.

³⁶ Ibid., p. 1061.

³⁷ Ibid., p. 1062.

³⁸ Ibid., p. 1062.

³⁹ Maske and Shapiro, “NFL Is Soul Searching After Herrion’s Death,” p. E8. It is unclear whether the subject of obesity will be part of the NFL’s study on cardiovascular health, or it will be the subject of a separate study. See **Appendix B** for a list of planned or ongoing studies. Elliot Pellman was medical advisor/liaison to the NFL Commissioner for the period 2001-2006. (Elliot J. Pellman, “Curriculum Vitae,” provided by the House Committee on the Judiciary to the author on Nov. 6, 2007, p. 3.) Dr. Pellman served as the Chairman of the NFL Committee on Mild Traumatic Brain Injury (MTBI) from 1994 through 2007. His residencies and fellowship were in the fields of internal medicine and rheumatology. He continues to serve on the MTBI Committee, and he also serves on the Alliance for NFL Retired Football Players (member, 2007-present), the NFL’s Foot and Ankle Committee (advisor, 2005-present) and Cardiovascular Health Committee (advisor, 2004-present), the NFL-NFLPA Joint Committee on Player Safety (member, 2001-present), the NFL’s Injury and Safety Panel (advisor, 1995-present). Previously, he served as a member of the National

(continued...)

Reportedly, some NFL linemen have a provision in their contracts saying they agree to maintain their size.⁴⁰ In Article XXIV, Section 7(c) of the CBA, which addresses financial incentives in players' contracts, examples of incentives that are considered "within the sole control of the player" include "weight bonuses."⁴¹ "Weight bonuses" is open to interpretation. For example, a player may be required to not exceed a certain weight or not to fall below a certain weight. Reportedly, Gene Upshaw, executive director of the NFLPA, said, in 2002, that the players association and the league had been discussing "how to deal with weight-loss demands by coaches. Is science involved? What factors do height and weight play? How long does it take the player to lose it?"⁴² It is unclear, though, whether this reference to weight loss is related to the possibility of a weight contract clause.

Obesity itself, plus simply being overweight, can lead to other health problems, both indirectly and directly. Players who have retired from the NFL may have difficulty decreasing their weight and staying in shape, particularly if they suffer from other health problems that preclude or limit their physical activity.⁴³ Kevin Guskiewicz, research director of the Center for the Study of Retired Athletes (CSRA), University of North Carolina at Chapel Hill, as quoted in the *New York Times*, adds pain to the equation and describes a possible chain of events for former players: "What happens is that the retired athlete can't exercise because of the injuries he's sustained and the pain he is in, and that leads to higher weight, depression, bad eating habits, high blood pressure and so on."⁴⁴

Sleep apnea and cardiovascular disease (CVD) are examples of two health problems associated with excess weight. A 2003 study by SleepTech Consulting Group found that 34% of offensive linemen suffered from sleep apnea.⁴⁵ As reported by the *New York Times*, an associate team physician with the New York Giants, Dr. Allan Levy, describes what some NFL players might experience:

The problem with sleep apnea is in the neck. A 17 ½-inch neck is usually where the problem begins. When they sleep, the muscles relax in the body. Now the

³⁹ (...continued)

Football League Physicians Society's executive committee, from 1994 through 2003. (Ibid., pp. 1-5.)

⁴⁰ Prine, "Extra Pounds Cause Trouble Later in Life."

⁴¹ National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, p. 109.

⁴² Thomas George, "Care by Team Doctors Raises Conflict Issue," July 28, 2002, available at [<http://query.nytimes.com/gst/fullpage.html?res=990DEFDE173BF93BA15754C0A9649C8B63>].

⁴³ Ibid.

⁴⁴ Harvey Araton, "Stealth Killer Puts Doctor on Mission with N.F.L.," *New York Times*, May 8, 2007, available at [<http://query.nytimes.com/gst/fullpage.html?res=9C02EED71631F93BA35756C0A9619C8B63&n=Top/News/Sports/Columns/Harvey%20Araton>]. Information about the Center for the Study of Retired Athletes may be found at [<http://www.csra.unc.edu/index.htm>].

⁴⁵ Prine, "Extra Pounds Cause Trouble Later in Life."

weight of their neck clasps down on their airway. They stop breathing. They momentarily wake up, then the cycle starts over again, and they never get into deep sleep. They develop heart disease and hypertension. Sleep apnea is a killer. One of the kids that played for us, we did a sleep study on [him], [he] had 440 awakenings during the night.⁴⁶

Dr. Arthur Roberts, a cardiac surgeon who played in the NFL for three years, summarized the cardiovascular risk for professional football players. His summary, which was included in a *Washington Post* news article, follows:

The real problem is what's happening inside these men to their cardiovascular risk factors. The combination of large body size is associated with increased risk factors for diabetes and hypertension, which lead to so many other problems. Doctors have learned over the last 30 years that so many bad outcomes are related to cardiovascular problems that might have been avoided Cardiac arrest in the locker room is tragic but, thank God, a rare event But many of the risk factors that are in these players' bodies are not apparent now but will be apparent later in life. We have to shift the pendulum and evaluate and educate the younger players, make it a total process. With retired players we're finding high cholesterol and high blood pressure. We already know sleep apnea is associated with heart arrhythmia and hypertension. You have a lot of risk factors building in players. We have to make them aware and start educating them on how to take care of themselves to avoid problems later on. We have the technology to do it. We have a support system of doctors and hospitals involved in this study willing to do it. It's now a matter of getting players to buy into it.⁴⁷

Roberts was referring to a study of past and present players involving, among other things, the consequences of excess weight for cardiovascular health.⁴⁸ In contrast, a study designed to assess whether there is a link between playing professional football and reduced risk later in life for CVD, osteoporosis, and higher muscle mass reached an encouraging conclusion:

In this small [16 former NFL players] sample of older men, former successful professional athletes who remained physically active in middle age have a favorable body composition and reduced risk factors for CVD and osteoporosis compared with health age- and BMI-matched older men.⁴⁹

The findings of this study do not necessarily contradict Kevin Guskiewicz's comment above. This study included former players "who remained physically active in

⁴⁶ Clifton Brown, "Ex-Players Dealing With Not-So-Glamorous Health Issues," *New York Times*, Feb. 1, 2007, available at [<http://query.nytimes.com/gst/fullpage.html?res=9D0CEFDDB153FF932A35751C0A9619C8B63&n=Top/Reference/Times%20Topics/People/B/Brown,%20Clifton>].

⁴⁷ Maske and Shapiro, "NFL Is Soul Searching After Herrion's Death," p. E8.

⁴⁸ *Ibid.*

⁴⁹ Nicole A. Lynch, Alice S. Ryan, Joyce Evans, Leslie I. Katznel, and Andrew P. Goldberg, "Older Elite Football Players Have Reduced Cardiac and Osteoporosis Risk Factors," *Medicine & Science in Sports & Exercise*, 2007, p. 1124.

middle age,” while Guskiewicz was referring to retired players who are unable to exercise because of injuries sustained during their NFL careers.

Responding to a request from the NFLPA, the National Institute for Occupational and Safety and Health (NIOSH) conducted a mortality study in the early 1990s of the rate and causes of death of NFL players.⁵⁰ The study found the following:

- Former offensive and defensive linemen “had a 50% greater risk of cardiovascular disease than the general population.”⁵¹
- Linemen “had a 3.7 times greater risk of cardiovascular disease” than players in other positions.⁵²

Possibly lending credence to questions about the size of players, the authors noted that “[i]t is not possible from this analysis to determine specifically what it is about the linemen, besides BMI, that contributes to this increased risk.”⁵³

As described above, players sustain hits to the head, which may or may not result in a mild traumatic brain injury (MTBI) or concussion. Reportedly, league data show that approximately 100 players a year sustain concussions.⁵⁴ (For more information on MTBI, see below, in the “Discussion of Selected Issues” section.)

A study that focused on the long-term effect of concussions, however, also reported information about other health problems experienced by former players. The researchers found, by questioning 2,488 former NFL players, that 22% had knee surgery and 10% had back or disc surgery after their careers ended.⁵⁵ In response, the NFL’s medical advisor/liaison reportedly said that there is little credible research on whether playing football leads to serious medical problems later in life.⁵⁶

⁵⁰ A January 2006 news article reported that Dr. Sherry Baron, co-author of the 1994 study, was planning to repeat her study of mortality rates within the NFL. (Thomas Hargrove, “Compared to Baseball, Football Players Die Younger,” *Espn.com*, Jan. 31, 2006, available at [<http://sports.espn.go.com/nfl/news/story?id=2313520>].) The status of the planned study is not known.

⁵¹ Letter from Sherry Baron, M.D., M.P.H., and Robert Rinsky, U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health, to Frank Woschitz, National Football League Players Association, Jan. 10, 1994, p. 4. This letter is popularly known as the “NFL mortality study.”

⁵² *Ibid.*, p. 4.

⁵³ *Ibid.*, p. 4.

⁵⁴ Peter Keating, “Doctor Yes,” *ESPN.com*, Oct. 28, 2006, available at [<http://sports.espn.go.com/espn/print?id=2636795&type=story>].

⁵⁵ Ellen E. Schultz, “A Hobbled Star Battles the NFL,” *Wall Street Journal*, Dec. 3, 2005, p. A2.

⁵⁶ *Ibid.*, pp. A2-A3.

A study of depression and pain experienced by former NFL players also surveyed them about the most common problems they experience in retirement. The results, “in descending order of frequency as quite or very common” were: “difficulty with pain (48%), loss of fitness and lack of exercise (29%), weight gain (28%), trouble sleeping (28%), difficulty with aging (27%), and trouble with transition to life after professional football (27%).”⁵⁷ Regarding the thrust of the study, the study’s authors wrote:

Although pain and depression are commonly comorbid in the general population ..., the frequency with which retired professional football players report difficulty with pain seems to put them at additional risk of both developing depression and experiencing associated difficulties with retirement. The high level of psychosocial dysfunction and significant barriers to receiving help put a small but important subgroup of all retired NFL players at significant risk of adverse life events and disability, almost certainly including an increased risk of suicide.... Retired professional football players experience depressive symptoms at a rate that is similar to that found in the general population, presumably with a corresponding rate of clinical depression. They bear an additional burden of substantial chronic pain. Depressive symptoms and pain interact to result in a strong correlation with self-report perceptions of the risk of sleeping problems, difficulty with aging, loss of fitness and lack of exercise, financial problems, and concerns about their use of prescription and recreational drugs and alcohol.⁵⁸

What, if any, relationship exists between playing professional football and mortality is unclear. The 1994 NIOSH study mentioned above found that professional football players had “a 46% lower overall mortality rate than the general United States male population with a similar age and race distribution.”⁵⁹ A review of data on the mortality of those who played football, and those who played baseball, a sport with less physical contact. Deceased players from both sports born before 1955”were about equally likely to suffer an early death.”⁶⁰ However, differences between these two groups of athletes did appear for players born after 1955.

- At least 130 of the 8,961 football players and 31 of the 4,382 baseball players born after 1955 are known to have died. That is, 1 in every 69 football players and 1 in every 154 baseball players born after 1955 have died.
- The most common cause of death for baseball players was accidents; only one-third died of medical causes. Over half (52%) of the deceased football players “succumbed to conditions such as coronary

⁵⁷ Thomas L. Schwenk, Daniel W. Gorenflo, Richard R. Dopp, and Eric Hipple, “Depression and Pain in Retired Professional Football Players,” *Medicine & Science in Sports and Exercise*, 2007, pp. 600-601.

⁵⁸ *Ibid.*, pp. 603-604.

⁵⁹ Letter from Baron and Rinsky to Woschitz, p. 4.

⁶⁰ Thomas Hargrove, “Compared to Baseball, Football Players Die Younger.”

disease, stroke and cancer — diseases known to be more common among obese people.”⁶¹

- “The deceased baseball players averaged 192 pounds during their athletic careers while the dead football players averaged 238 pounds. Football players who died of medical causes averaged 248 pounds.”⁶²

Complete, detailed, comprehensive, and accurate data are needed to construct a profile of the health of active players and former players. Furthermore, this type of initiative potentially could facilitate efforts to determine what links exist, if any, between injuries sustained as an active player and chronic health problems and disabilities (as broadly construed) experienced as a retired player.

NFL and NFLPA Benefit Programs and Plans

History of Benefits

Both the league and the players association are involved in the funding and provision of benefits to former players as well as active players. Most of the benefits for former players are administered by joint boards “to which the NFLPA and the NFL each appoint three voting members. The day-to-day administration of these jointly-trusted benefits occurs at the ‘Plan Office’ in Baltimore” That is, neither the NFLPA nor the NFL administers certain benefits, such as the benefits included in the retirement plan, although the NFL is the sole administrator for severance pay and post-career health insurance.⁶³

Although the name and composition of the league has changed over the years, the league was formed in 1920, and adopted its current name in 1922.⁶⁴ The NFL Players Association was founded a number of years later, in 1956.

The following history of selected events shows the evolution of benefits for NFL players. Events that are not directly related to the establishment or enhancement of benefits are included to provide context or background information. Such events may include strikes, lockouts, and lawsuits, which are included for the period 1987-1993, when several events and decisions culminated in significant changes in benefits. However, since this is not a history of labor relations between the league and the players association, the chronology does not necessarily include all of the labor-management issues or milestones.

⁶¹ Ibid.

⁶² Ibid.

⁶³ Ibid., p. 29.

⁶⁴ The NFL as it exists today was created through a merger in 1966 with another league, the American Football League, which was formed in 1959.

- 1958. Team owners created “a benefit plan that included hospitalization, [and] medical and life insurance with a plan for retirement benefits at age 65.”⁶⁵
- 1960s. “Players pushed through pension coverage [for] a group of 110 players who were in the league in 1959, when benefits were introduced. Life insurance and health coverage benefits were improved and, for the first time, two player reps [representatives] were designated to sit on the Retirement Board.”⁶⁶
- 1962. The NFLPA obtained the first pension agreement, known as the Bert Bell NFL Player Retirement Plan. The plan does not include players who left the game before 1959 (known as the “pre-59ers”).⁶⁷
- 1966. The Commissioner of the NFL announced that the NFL and American Football League (AFL) will merge into one league.
- 1968. The NFLPA, which represented players on only 16 of the 26 teams (the AFL Players Association represented players on the remaining 10 teams), “proposed new pension demands” A lockout is followed by a brief strike, and eventually the parties agreed to what was the first CBA, which was effective from July 15, 1968, through February 1, 1970.⁶⁸ Negotiations resulted in “a minimum salary of \$12,000, better pay for exhibitions, and a doubling of the annual pension-fund contribution to \$3 million.”⁶⁹ The NFLPA demands included a retirement age of 45; but, the retirement age in the CBA was set at age 65.⁷⁰
- 1970. The AFL Players Association and the NFL Players Association merged and retained the latter’s name. The NFLPA was

⁶⁵ NFL Players Association, “About Us: NFLPA History,” n.d., available at [http://www.nflpa.org/AboutUs/NFLPA_History.aspx] as of Oct. 2, 2007, on file with the author.

⁶⁶ Ibid.

⁶⁷ NFL Players Association, “History of Retirement and T&P Benefits for NFL Players,” n.d., available at [http://nflpa.org/pdfs/NewsAndEvents/History_of_the_NFLPA%E2%80%99s_Retired_Player_Benefits.pdf], downloaded Sept. 2007, on file with the author.

⁶⁸ NFL Players Association, “About Us: NFLPA History”; *The Business of Football 2001* (Carmel, CA: Paul Kagan Associates, Inc., 2001), p. 392.

⁶⁹ Stephen Fox, *Big Leagues, Professional Baseball, Football, and Basketball in National Memory* (Lincoln, NE: University of Nebraska Press, 1994), p. 425.

⁷⁰ *The Business of Football 2001*, p. 393.

certified as a union.⁷¹ The American Football League (AFL) and the NFL merged and retained the latter's name. "The Players Negotiating Committee and the NFL Players Association announced a four-year agreement guaranteeing approximately \$4,535,000 annually to player pension and insurance benefits.... The owners also agreed to contribute \$250,000 annually to improve or implement items such as disability payments, widows' benefits, maternity benefits, and dental benefits."⁷² Players also were given the "right to meaningful representation on the Retirement Board, and the right to impartial arbitration of injury grievances."⁷³ Total and permanent (T&P) disability benefits and line-of-duty (LOD) disability benefits were established.⁷⁴ The pension plan was revised and set up in its present structure. Monthly pension is based on the number of years an individual plays football, not on the amount of his salary.⁷⁵

- 1973. A nonprofit organization, NFL Charities, was created "to support education and charitable activities and to supply economic support to persons formerly associated with professional football who were no longer able to support themselves."⁷⁶
- 1974-1976. NFL and NFLPA played three seasons without a CBA.⁷⁷
- 1977. The NFL Management Council and the NFLPA ratified a CBA which continued "the pension plan — including years 1974, 1975, and 1976 — with contributions totaling more than \$55 million.... The agreement ... reduced pension vesting to four years ... [and] improved insurance, medical, and dental benefits."⁷⁸ Specifically, Group Insurance was established.⁷⁹ Players were permitted to get a lump sum "early payment benefit" from their pension; the lump sum equaled 25% of their pension.⁸⁰

⁷¹ NFL Players Association, "About Us: NFLPA History."

⁷² National Football League, "History, 1961-1970," n.d., available at [<http://www.nfl.com/history/chronology/1961-1970>].

⁷³ NFL Players Association, "About Us: NFLPA History."

⁷⁴ Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, p. 4.

⁷⁵ NFL Players Association, "History of Retirement and T&P Benefits for NFL Players."

⁷⁶ National Football League, "History, 1971-1980," n.d., available at [<http://www.nfl.com/history/chronology/1971-1980>].

⁷⁷ *The Business of Football 2001*, p. 394.

⁷⁸ National Football League, "History, 1971-1980."

⁷⁹ Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, p. 4.

⁸⁰ NFL Players Association, "History of Retirement and T&P Benefits for NFL Players."

- 1982. The strike-shortened season resumed after the CBA was ratified on November 21-22. The CBA included, among other things, increases in players' medical, insurance, and retirement benefits; and a severance pay system.⁸¹ Players also gained rights related to their medical care: the right to a second opinion, the "right to select a surgeon for injury-related operations, and the right to inspect their club medical records."⁸²
- 1987. The 1982 CBA expired. The 1987 season included a strike, the use of replacement players, the NFLPA filing an antitrust lawsuit against the NFL and then filing charges with the National Labor Relations Board (NLRB), alleging unfair labor practices.⁸³ A "special payment program was adopted to benefit nearly 1,000 former NFL players who participated in the League before the current Bert Bell NFL Pension Plan was created and made retroactive to the 1959 season. Players covered by the new program spent at least five years in the League and played all of part of their career prior to 1959. Each vested player would receive \$60 per month for each year of service in the League for life."⁸⁴ Players continued to play through the 1993 season without a new CBA.
- 1987 and 1988. The owners agreed to allow benefit credits to accrue at the then-rate of \$150 per Credited Season.⁸⁵
- 1989. A court ruling in the NFLPA's antitrust lawsuit suggested that "players had to choose between being a union and using their right to strike under labor laws, or relinquishing their union rights and [pursuing] their antitrust rights as individuals in court." Players ratified a decision for the NFLPA to decertify as a union, which freed the players to pursue their antitrust rights.⁸⁶ Team owners refused to allow continued accruals of benefit credits. Instead, owners created their own plan, called the "Pete Rozelle NFL Player Retirement Plan." The Rozelle plan was similar to the Bell plan, "except that it [Rozelle plan] was run totally by the owners and had

⁸¹ National Football League, "History, 1981-1990," n.d., available at [<http://www.nfl.com/history/chronology/1981-1990>]; Peter King, "The Surreal Strike of 1987," *Sports Illustrated*, Oct. 15, 2007, p. 22; NFL Players Association, "About Us: NFLPA History"; Stephen Fox, *Big Leagues, Professional Baseball, Football, and Basketball in National Memory* (Lincoln, NE: University of Nebraska Press, 1994), p. 426; Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, p. 4.

⁸² NFL Players Association, "About Us: NFLPA History."

⁸³ *Ibid.*; *The Business of Football 2001*, p. 395.

⁸⁴ National Football League, "History, 1981-1990."

⁸⁵ NFL Players Association, "History of Retirement and T&P Benefits for NFL Players," p. 4.

⁸⁶ NFL Players Association, "About Us: NFLPA History."

no player trustees.”⁸⁷ By comparison, the union had the right to appoint three of the Bert Bell Plan’s six voting trustees. The owners refused “to make further contributions [to the Bell Plan], and the trustees appointed by the union ... sued the trustees appointed by the owners.”⁸⁸

- 1990. The NFLPA was re-formed as a professional association. Its goal was to “pursue litigation on behalf of individual players....”⁸⁹ The change in status of the NFLPA “caused a rapid domino effect in court cases.” For example, the NLRB awarded back pay to 1,400 players prevented from playing for one week after they ended their strike in 1987; a case filed in 1990 “resulted in a jury awarding damages to players; and the 1989 *Brown v. NFL* case awarded \$30 million to practice squad players....”⁹⁰
- 1992. “The NFL agreed to provide a minimum of \$2.5 million in financial support to the NFL Alumni Association and assistance to NFL Alumni-related programs. The agreement included contributions from NFL Charities to the Pre-59ers and Dire Need Programs for former players.”⁹¹
- 1993. The NFL and the players association signed a seven-year CBA, “which guarantee[d] more than \$1 billion in pension, health, and post-career benefits for current and retired players....”⁹² Specifically, the agreement provided for free agency; gave players a guaranteed percentage of the gross revenues; retroactively increased pre-59ers’ pensions by 30% and all other players’ pensions by 40%; added pre-59ers to the Bert Bell Pension Plan (which added 906 players to the plan); decreased the vesting requirement to three credited seasons; and established the Retiree Medical benefit, Second Career Savings Plan, and Total and Permanent (T&P) Disability benefits.⁹³ Additionally, “WWII years were included for

⁸⁷ NFL Players Association, “History of Retirement and T&P Benefits for NFL Players,” p. 4.

⁸⁸ *Ibid.*

⁸⁹ NFL Players Association, “About Us: NFLPA History.”

⁹⁰ *The Business of Football 2001*, p. 396.

⁹¹ National Football League, “History, 1991-2000,” available at [<http://www.nfl.com/history/chronology/1991-2000>].

⁹² *Ibid.*

⁹³ NFL Players Association, “About Us: NFLPA History”; NFL Players Association, “Recent Pensions & Disability Improvements Timeline,” n.d., available at [http://www.nflpa.org/pdfs/NewsAndEvents/Timeline_of_NFLPA_Pension_and_Disability_Improvements.pdf], downloaded Sept. 2007, on file with the author; NFL Players Association, “History of Retirement and T&P Benefits for NFL Players,” p. 5; and Letter (continued...)

pension eligibility, increasing [the number of] credited seasons for 159 players,” and “Korean War and Vietnam years were included for pension credits, adding 182 players.”⁹⁴ A single plan counsel (Groom Law Group) and a single plan actuary (Aon Corporation) were selected. The CBA “based future contributions strictly on negotiated actuarial factors.”⁹⁵ The Pete Rozelle Plan and its assets merged with the Bert Bell Plan, and the NFLPA becomes a certified union again.⁹⁶

- 1998. The 1993 CBA was extended through at least 2003. The extension established an annuity plan; provided for salary guarantees for certain players; increased minimum salaries, increased the lowest benefit credit from \$80 to \$100; increased the T&P disability benefit; and changed the pension eligibility requirement from five to four credited seasons.⁹⁷
- 2002. The CBA was extended again. The extension allowed injured reserve seasons prior to 1970 to be counted toward pension eligibility and raised the lowest benefit credits from \$100 to \$200.⁹⁸
- 2006. The CBA was extended and became effective until the last day of the 2012 league year. The extension raised the lowest benefit credit from \$200 to \$250 (for individuals who played during the period 1920-1982); tripled widows’ and surviving children’s benefits; created the Plan 88 program; and increased the monthly pension amount by 10% for individuals who played from 1983-2006.⁹⁹
- 2007. The following benefits and programs were announced or established: Health Reimbursement Account Plan, Cardiovascular

⁹³ (...continued)

from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, pp. 4-5.

⁹⁴ NFL Players Association, “Recent Pensions & Disability Improvements Timeline.”

⁹⁵ NFL Players Association, “History of Retirement and T&P Benefits for NFL Players,” p. 5.

⁹⁶ NFL Players Association, “History of Retirement and T&P Benefits for NFL Players,” p. 5.

⁹⁷ NFL Players Association, “About Us: NFLPA History”; NFL Players Association, “History of Retirement and T&P Benefits for NFL Players,” p. 6; Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, p. 5; and NFL Players Association, “Recent Pensions & Disability Improvements Timeline.”

⁹⁸ Ibid.; NFL Players Association, “History of Retirement and T&P Benefits for NFL Players,” p. 6.

⁹⁹ NFL Players Association, “Recent Pensions & Disability Improvements Timeline”; NFL Players Association, “History of Retirement and T&P Benefits for NFL Players,” p. 6.

Health Program, NFL Player Joint Replacement Benefit Plan, and assisted living arrangements.¹⁰⁰

- 2008. The following changes and programs were announced or established: expanded health screening that focuses on cardiovascular health, obesity, and prostate cancer; discounted rates and special services at three national assisted living providers; and a prescription drug card that will allow former players to purchase prescription medications at a discount.¹⁰¹ Additionally, the NFL and NFLPA announced changes that have been, or will be, made to T&P and LOD disability benefits. These changes are noted in **Table 4**.

How Benefits Are Funded

Funds for benefits that are included in the CBA come from the portion of the league's total revenues that is allocated to the players. A summary of the definition of "total revenues" (TR) is as follows:

[T]he aggregate revenues received or to be received on an accrual basis ... by the NFL and all NFL Teams ... from all sources, whether known or unknown, derived from, relating to or arising out of the performance of players in NFL football games, with only the specific exceptions set forth below [in Article XXIV, Section 1(a)(ii) of the CBA].... Total Revenues shall include, without limitation: ... gate receipts ... the sale, license or other conveyance of the right to broadcast or exhibit NFL preseason, regular season and playoff games on radio and television ... revenues derived from concessions, parking, local advertising, signage, magazine advertising, local sponsorship agreements, stadium clubs, luxury box income ... Internet operations... and sales of programs and novelties....¹⁰²

Under the current CBA, the portion of total revenues that goes to players (that is, the "player costs percentage"¹⁰³) each year is as follows:

¹⁰⁰ Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, p. 5; National Football League, "NFL & NFL Players Association Create New Joint Replacement Benefit Plan," news release, Dec. 10, 2007; and "14 Leading Medical Institutions Selected to Assist Retired Players Needing Joint Replacement Surgery," news release, Dec. 10, 2007. Few details are available about some of these initiatives, which means that eligibility criteria, the application process (if any), and the extent of benefits are unknown.

¹⁰¹ National Football League and NFL Players Association, "NFL and NFL Players Association Expand Disability Benefits Program for Retired Players," Feb. 29, 2008, available at [<http://www.nflplayers.com/user/content.aspx?fmid=178&lmid=443&pid=422&type=n>], p. 3. Detailed information about these initiatives is provided later in this report.

¹⁰² National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, pp. 82-83.

¹⁰³ Player costs include "the total Salaries and Benefits attributable to a League Year for all NFL Teams under all of the rules set forth in Article XXIV (Guaranteed League-wide Salary, Salary Cap & Minimum Team Salary), but not including loans, loan guarantees, (continued...)

- 2006: 57%
- 2007: 57%
- 2008: 57.5%
- 2009: 57.5%
- 2010: 58%
- 2011: 58%¹⁰⁴

The amount of money equivalent to the player costs percentage in a given year is allocated between active players' salaries and benefits for both active players and retired players. The following description of how a team's salary cap is determined shows the relationship between salaries and benefits: in 2008, the amount of a team's salary cap will be "57.5% of Projected Total Revenues, less League-wide projected benefits, divided by the number of Teams playing in the NFL during such year...."¹⁰⁵ The following definition of "benefits" lists the different benefits for active players and former players that are funded in the manner described above:

Benefits "mean the aggregate for a League Year of all sums paid ... by the NFL and all NFL Teams for, to, or on behalf of present or former NFL players, but only for: (i) pensions funding, including the Bert Bell/Pete Rozelle NFL Player Retirement Plan ... and the Second Career Savings Plan ...; (ii) Group insurance programs, including life, medical, and dental coverage ... and the Second Career Savings Plan; (iii) Injury protection ...; (iv) Workers' compensation, payroll, unemployment compensation, social security taxes, and contributions to the fund described in Article LIV, Section 4 below [Worker's Compensation Offset Provisions]; (v) Pre-season per diem amounts ... and regular season meal allowances ...; (vi) Expenses for travel, board and lodging for a player participating in an off-season workout program ...; (vii) Payments or reimbursements made to players participating in a Club's Rookie Orientation Program ...; (viii) Moving and travel expenses ...; (ix) Postseason pay ...; and salary paid to practice squad players ...; (x) Player medical costs ...; (xi) Severance pay ...; (xii) The Player Annuity Program ...; (xiii) The Minimum Salary Benefit ...; (xiv) The Performance Based Pool ...; (xv) The Tuition Assistance Plan ...; (xvi) The NFL Players Health Reimbursement Account ...; (xvii) The "88 Benefit" ...; (xviii) The NFL Player Benefits Committee...."¹⁰⁶

The portion of the "League-wide projected benefits" needed "to fund the Retirement Plan is calculated actuarially, in accordance with federal law."¹⁰⁷ The

¹⁰³ (...continued)

unpaid grievances attributions, and unearned incentives." (National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, p. 7.)

¹⁰⁴ NFL Players Association, "NFLPA Term Sheet - Basic Economic Terms," Mar. 7, 2006, available at [http://www.nflpa.org/pdfs/CBA/2006_CBA_Extension_Term_Sheet.pdf], downloaded Sept. 2007, on file with the author.

¹⁰⁵ National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, p. 96.

¹⁰⁶ *Ibid.*, pp. 93-94.

¹⁰⁷ Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, p. 29.

same is also true for the Health Reimbursement Account Plan.¹⁰⁸ (The retirement plan and the Health Reimbursement Account Plan are described below.) According to the NFL and the NFLPA, the actuarial assumptions, or factors, that are used are negotiated during the collective bargaining process and are “acceptable to the plan’s Enrolled Actuary.”¹⁰⁹ The following excerpt from the CBA describes the process:

For the 1993 Plan Year and continuing for each Plan Year¹¹⁰ thereafter that begins prior to the expiration of the Final League Year,¹¹¹ a contribution will be made to the Retirement Plan on behalf of each NFL Club as actuarially determined to be necessary to fund the benefits provided in this Article [of the CBA], based on the actuarial assumptions and methods contained in Appendix J [of the CBA]. No provision of this Agreement will eliminate or reduce the obligation to provide the benefits described in this Article, or eliminate or reduce the obligations of the NFL Clubs to fund retirement benefits. Contributions will be used exclusively to provide retirement benefits and to pay expenses.¹¹²

Similar language is found in the Bert Bell/Pete Rozelle NFL Player Retirement Plan:

For each Plan Year that begins prior to the expiration of the Final League Year, a contribution to the Trust [the trust agreement for the Retirement Plan] will be made by the Employers, as actuarially determined to be necessary to fund the benefits provided in this Plan based on the actuarial assumptions and methods contained in Appendix A [of the Retirement Plan].¹¹³

Funding for benefits other than the retirement plan and the Health Reimbursement Account apparently is not calculated using actuarial methods and assumptions. The NFLPA has stated that “[t]he contribution necessary to fund other benefit plans is more simply calculated as the total of the benefits provided plus all costs of administration. For the new 88 Plan, the consultants estimated an initial

¹⁰⁸ Ibid.

¹⁰⁹ Letter from Goodell to Reps. Conyers and Smith, p. 10; NFL Players Association, “History of Retirement and T&P Benefits for NFL Players,” p. 5. In 1993, a single plan counsel, Groom Law Group, and a single plan actuary, Aon Corporation, were selected for the retirement plan. (NFL Players Association, “History of Retirement and T&P Benefits for NFL Players,” p. 5.)

¹¹⁰ “‘Plan Year’ means a 12-month period from April 1 to March 31. A Plan Year is identified by the calendar year in which it begins.” (*Bert Bell/Pete Rozelle NFL Player Retirement Plan*, Apr. 1, 2001, p. 6.)

¹¹¹ Final League Year is “the League Year which is scheduled prior to its commencement to be the final League Year of the Collective Bargaining Agreement.” A “League Year” is “the period from February 20 of one year through and including February 19 of the following year, or such other one year period to which the NFLPA and the [NFL’s] Management Council may agree.” (*Bert Bell/Pete Rozelle NFL Player Retirement Plan*, pp. 4 and 6.)

¹¹² National Football League and NFL Players Association, *NFL Collective Bargaining Agreement: 2006-2012*, p. 203.

¹¹³ *Bert Bell/Pete Rozelle NFL Player Retirement Plan*, p. 10.

contribution of \$1.88 million, all to benefit retired players.”¹¹⁴ The method or methods used to determine how much money to allocate to this and other benefits is unknown.

Data provided by the NFL and the NFLPA show that possibly \$919.6 million was spent on benefits for retired players in 2006 and 2007. However, the ways in which the data are presented by the two organizations leave room for interpretation. The NFLPA states that “active players gave up approximately” the following amounts (which total \$181.6 million) during the period April 2006 through March 2007 for benefits for former players:¹¹⁵

- \$96.5 million for retirement benefits for retired players;
- \$31 million for medical benefits for retired players (\$18 million for health reimbursement accounts, \$2 million for the 88 Plan, and \$11 million for “five years post-retirement fully paid health care”);
- \$20 million for disability benefits for retired players; and
- \$34.1 million to fund workers’ compensation coverage.¹¹⁶

In fall 2007, the NFLPA also noted that 38% of vested former players were receiving monthly benefits at that time.¹¹⁷

According to the NFL, “... clubs contributed approximately \$388 million” in 2006 to fund the Supplemental Disability Plan, Second Career Savings Plan, Annuity Program, Group Insurance Plan, Health Reimbursement Account Plan, 88 Plan, Severance Plan, and Tuition Reimbursement (which is not included in this report).¹¹⁸ The NFL estimated that the costs of these benefits in 2007 would be \$350 million.

Although the NFLPA regularly describes the amount of funds provided for retirees’ benefits in terms of how the “[b]enefit costs reduce the revenue available for active players under the” CBA, it appears that this description refers to the process described above for the allocation of funds for benefits.¹¹⁹ Regarding the NFL’s statement that the teams contribute funds for benefits, it seems plausible that this statement, too, refers to the allocation process described above.

The differences in the information provided by the NFL and NFLPA make it difficult to determine exactly how much money was spent for each benefit in 2006

¹¹⁴ Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, p. 29.

¹¹⁵ The NFLPA describes the amount of funds provided for retirees’ benefits in terms of how the “[b]enefit costs reduce the revenue available for active players under the” CBA. (NFL Players Association, “NFLPA White Paper” n.d., available at [<http://www.nflpa.org/whitepaper/>], downloaded Sept. 2007, on file with the author, p. 4.) This description appears to refer to the allocation process described above in this report.

¹¹⁶ Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, pp. 29-30.

¹¹⁷ *Ibid.*, p. 9.

¹¹⁸ The NFL will have contributed a total of \$2.2 billion for these benefits during the period 1998-2007. (Letter from Goodell to Reps. Conyers and Smith, p. 12.)

¹¹⁹ NFL Players Association, “NFLPA White Paper,” p. 4.

or 2007. The NFLPA provided information that covers both years, while the NFL provided an amount for each year. Additionally, the NFLPA provided a breakdown by type of benefit (that is, retirement benefits, medical benefits, and disability funds) and amount, while the NFL provided an aggregate amount for eight different benefits, each of which is listed by the name of the benefit.

Benefits for Former Players

Table 4 provides a summary of the benefits available to former players; eligibility requirements vary by benefit. This overview includes selected features for each type of benefit. For detailed information about a particular benefit, it is best to consult the appropriate document, such as the CBA. Workers' compensation is included because, although states administer workers' compensation programs, the NFLPA and the NFL provide funding for workers' compensation for their players.

The following is a list of the benefits included in **Table 4**. Shortened names are used in the table because this format makes it easier to identify the description or purpose of the benefit. Each benefit is identified by its complete name, as well as a shortened version. For example, the NFL Players Health Reimbursement Account appears as "Health Reimbursement Account" in the table. An asterisk identifies a benefit that is included in the CBA.

- 88 Benefit (or Plan)*
- Cardiovascular Health (CVH) Program
- Bert Bell/Pete Rozelle NFL Player Retirement Plan — Death Benefits ("death benefits")*
- Bert Bell/Pete Rozelle NFL Player Retirement Plan — Line-of-Duty Disability ("line-of-duty disability" or "LOD disability")*
- Bert Bell/Pete Rozelle NFL Player Retirement Plan — Retirement Benefits ("retirement benefits" or "pension")*
- Bert Bell/Pete Rozelle NFL Player Retirement Plan — Total and Permanent Disability Benefits ("total and permanent disability benefits" or "T&P benefits")*
- NFL Player Annuity Program ("annuity program")*
- NFL Player Joint Replacement Benefit Plan ("joint replacement benefit plan")
- NFL Player Second Career Savings Plan ("second career savings plan")*
- NFL Player Supplemental Disability Plan ("supplemental disability plan" or "supplemental disability benefits")*

- NFL Players Health Reimbursement Account (“health reimbursement account”)*
- Retiree Medical* (This benefit is part of Group Insurance, which is how the benefit is listed in the CBA. The remainder of the Group Insurance benefit is available to only active players.)
- Severance Pay*
- Workers’ Compensation

Table 4. Selected NFL-NFLPA Benefits as of October 2007

Name of Benefit or Program and Year Established	Players from These Years May Participate	Summary of Eligibility Criteria ^a	Selected Features ^{b,c}
88 Plan ^{d,e} February 1, 2007	All years	Vested player who is suffering from dementia.	<ul style="list-style-type: none"> — Plan will reimburse, or pay for, certain costs related to dementia. — A maximum of \$88,000 may be paid annually for expenses for care provided by a third party (for example, institutional custodial care or home custodial care provided by an unrelated third party). The maximum amount of this benefit is \$50,000 annually for care that is not provided by a third party (for example, a relative provides care at home).
Annuity Program ^d April 1, 1998	1998-present	Minimum of four credited seasons.	<ul style="list-style-type: none"> — This is a deferred compensation program. — An allocation of \$65,000 will be made for each eligible player who earns a credited season in an annuity year and who has a total of four or more credited seasons as of the end of such annuity year.
Cardiovascular Health (CVH) Program July 25, 2007	All years	Apparently, this program is open to all players.	<ul style="list-style-type: none"> — Provides cardiovascular screening and education.
Death Benefits ^d September 19, 1962	All years	Vested inactive or active player.	<ul style="list-style-type: none"> — Provides financial assistance to widow and/or surviving minor children of a former or active player. — Monthly benefit equal to \$3,600 or 50% of the player's benefits, whichever is greater. For first 48 months after player's death, the amount of the benefit cannot be less than \$6,000/month for a player who was an active player after 1976 plan year, or \$9,000/month for a

Name of Benefit or Program and Year Established	Players from These Years May Participate	Summary of Eligibility Criteria ^a	Selected Features ^{b,c}
			<p>player who was an active player after the 1981 plan year.</p> <p>— For a widow, benefit ends with her death or remarriage. For children, benefit ends upon reaching the age of 19 (or 23, if in college). Termination based on age does not apply if child is mentally or physically incapacitated.</p>
<p>Health Reimbursement Account (HRA)^d March 1, 2007</p>	<p>2004-present</p>	<p>At least eight credited seasons for a player whose last credited season was 2004 or 2005. At least three credited seasons for a player who earned a credited season in 2006 or any later year.</p>	<p>— An annual contribution is made to a player's account in the amount of \$25,000 or \$50,000, depending upon the terms of the CBA. Total contributions shall not exceed \$300,000.</p> <p>— Player may receive reimbursement for medical care expenses only during periods of time when he is not covered by the Group Insurance in the CBA or the Extended Post-Career Medical and Dental Insurance in the CBA.</p>
<p>Joint Replacement Benefit Plan 2007^f</p>	<p>All years</p>	<p>Unknown.</p>	<p>— Assists retired players who need joint replacement surgery.</p> <p>— Plan provides financial assistance to all eligible former players to cover the cost of surgery.</p> <p>— Additional financial assistance is available from the NFL Player Care Foundation.</p>
<p>Line of duty (LOD) disability benefit^d April 1, 1970</p>	<p>All years</p>	<p>Any player who incurs a substantial disablement (but is not totally and permanently disabled) arising out of NFL football activities, as</p>	<p>— Amount of monthly benefit will equal the sum of the player's benefit credits (see Retirement Benefits) or \$1,000, whichever is greater.</p> <p>— Payments continue for duration of substantial disablement, but no longer than 7 ½ years.</p>

Name of Benefit or Program and Year Established	Players from These Years May Participate	Summary of Eligibility Criteria ^a	Selected Features ^{b,c}
		determined by the Retirement Board or the Disability Initial Claims Committee (DICC), that is a significant factor in causing his retirement from football. Player does not have to be vested.	<ul style="list-style-type: none"> — If both an LOD benefit and a T&P benefit are payable, only the larger of the two benefits will be paid. — Application for LOD benefit must be submitted within 48 months after player ceases to be an active player.^e
Retiree Medical ^{d,h} May 6, 1993	1993-present	Vested.	<ul style="list-style-type: none"> — Active players receive group insurance benefits: life insurance, and medical and dental benefits. The same medical and dental benefits are provided to former players for a set amount of time, as described below. — Players released or who otherwise severed employment after the first regular season game in the 2002 season, but before the first regular season game in 2005 season, continue to receive medical and dental benefits for 48 months. — Players released after the first regular season game in the 2005 season and prior to the expiration or termination of the 2006-2012 CBA will receive medical and dental benefits for the following 60-month period.
Retirement Benefits ^{d,i} September 19, 1962	All years	Vested player.	<ul style="list-style-type: none"> — A player earns a benefit credit for each credited season, and a vested player's monthly pension is the sum of his benefit credits for each of his credited seasons. Under the 2006-2012 CBA, the benefit credits are as follow:^j

Name of Benefit or Program and Year Established	Players from These Years May Participate	Summary of Eligibility Criteria ^a	Selected Features ^{b,c}
			<p>Credited Season ----- Benefit Credit</p> <p>Before 1982 ----- \$250 1982-1992 ----- \$255 1993-1994 ----- \$265 1995-1996 ----- \$315 1997 ----- \$365 1998-present^k ----- \$470</p> <p>— Any vested inactive player may choose to receive his benefits at the normal retirement age, which is 55 under the retirement plan, or later (that is, deferred retirement). A vested inactive player with at least one credited season prior to 1993 plan year may elect for early retirement (which begins at age 45). Benefits will be adjusted accordingly for a player who chooses deferred retirement or early retirement. Benefits will be increased for deferred retirement, and decreased for early retirement.</p> <p>— A vested player who leaves the NFL on or after March 1, 1977, has at least one credited season prior to the 1993 plan year, and is no longer an employee may elect to receive an early payment benefit in the form of a lump sum, a life-only pension, or a qualified joint and survivor annuity. If a player receives an early payment benefit, his monthly pension will be based upon 75% of the sum of his benefit credits.</p> <p>— A player who chooses an early payment benefit after March 31,</p>

Name of Benefit or Program and Year Established	Players from These Years May Participate	Summary of Eligibility Criteria ^a	Selected Features ^{b,c}
			1982, will have any subsequent payments for certain benefits (for example, total and permanent disability benefits, line-of-duty disability benefits) reduced by 25%.
Second Career Savings Plan ^d July 1, 1993	1993-present	A first-year player may contribute to the plan. A player must have at least two credited seasons, at least one of which is for Plan Year 2006 or later, in order to receive a club contribution.	<ul style="list-style-type: none"> — Matching contributions shall be two dollars for each dollar provided by a player. The maximum matching contributions, which vary by plan year under the CBA, are as follow: \$20,000 for each year, 2006-2008; \$22,000 for 2009; \$24,000 for 2010, and \$26,000 for 2011. — Beginning at age 45, a player may withdraw money from his account.
Severance Pay ^d November 16, 1982	1982-present	Minimum of two credited seasons. At least one of the seasons must have occurred during the period 1993-2011. Player's written request for severance pay must indicate that he intends to permanently sever employment as an active player.	<ul style="list-style-type: none"> — A player's severance pay will equal the sum of the following: \$5,000 per credited season for each season during the period 1989-1992; \$10,000 per credited season for each season during the period 1993-1999; \$12,500 per credited season for each season during the period 2000-2008; and \$15,000 per credited season for each season during the period 2009-2011. — Severance pay is paid in a single lump sum. Payment date varies depending upon when the individual was last involved in a league playing activity and when he submits an application.
Supplemental Disability Plan ^{d,1} July 1, 1993	1993-present	Former players who receive T&P disability benefits in the "active football," "active	<ul style="list-style-type: none"> — Supplemental disability plan benefits are automatically paid to each eligible player. — Effective April 1, 2000, the monthly and annual supplemental

Name of Benefit or Program and Year Established	Players from These Years May Participate	Summary of Eligibility Criteria ^a	Selected Features ^{b,c}
		nonfootball,” and “football degenerative” categories.	<p>disability plan benefit for each category is as follows: “active football,” \$14,670 monthly and \$176,040 annually; “active nonfootball,” \$7,167 monthly and \$86,004 annually; and “football degenerative,” \$5,167 monthly and \$62,004 annually.^m</p> <p>— Players who receive T&P “inactive” category benefits do not receive any benefits under this plan.^m</p>
Total and Permanent Disability Benefit ^{d,h,n} April 1, 1970	All years, except for an inactive player who does not have a credited season after 1958.	Active player (he does not have to be vested) or vested inactive player who is totally and permanently disabled, as determined by the Retirement Board or the DICC.	<p>— The amount of a player’s benefit will be equal to the sum of his benefit credits, excluding benefit credits for credited seasons prior to 1958. The benefit amount may be increased as follows for each benefit category:</p> <p>(a) Active football: monthly benefit will not be less than \$4,000 if the disability or disabilities arise out of NFL football activities, arise while the player is an active player, and cause the player to be totally and permanently disabled “shortly after” the disability or disabilities first arise.^o</p> <p>(b) Active nonfootball: monthly benefit will not be less than \$4,000 if the disability or disabilities do not result from NFL football activities, but do arise while the player is an active player, and cause the player to be totally and permanently disabled “shortly after” the disabilities first arise.^o</p> <p>(c) Football degenerative: monthly benefit will not be less than \$4,000 if the disability or disabilities arise out of NFL football activities and result in T&P disability before 15 years after the end of the player’s last credited season.</p>

Name of Benefit or Program and Year Established	Players from These Years May Participate	Summary of Eligibility Criteria ^a	Selected Features ^{b,c}
			<p>(d) Inactive: The monthly benefit will not be less than \$1,500 (\$1,750 for applications received on or after April 1, 2007)^p if the T&P disability or disabilities arise from other than NFL football activities while the player is a vested inactive player, or the disability or disabilities arise out of NFL football activities and result in total and permanent disability 15 or more years after the end of the player’s last credited season, whichever is later.</p> <p>(e) Dependent child: monthly benefit will increase \$100 per each child who is a dependent.^q</p> <p>— Effective for payments made on and after November 1, 1998, a player may receive a T&P payment for a disability resulting from a psychological/psychiatric disorder. This provision applies only to the “active nonfootball” and “inactive” categories, and special rules that pertain to disabilities resulting from other than a football injury.</p> <p>— A T&P disability that is a result of a psychological/psychiatric disorder may be awarded under the provisions for “active football” and “football degenerative” disabilities (and under special rules that pertain to disabilities resulting from a football injury incurred while an active player) if the requirements for such a disability are met and the disorder “(1) is caused by or relates to a head injury (or injuries) sustained by a Player arising out of League football activities (e.g., repetitive concussions); (2) is caused by or relates to the use of a substance prescribed by a licensed physician for an injury (or injuries) or illness sustained by a Player arising out of League football activities; or (3) is</p>

Name of Benefit or Program and Year Established	Players from These Years May Participate	Summary of Eligibility Criteria ^a	Selected Features ^{b,c}
			<p>caused by an injury (or injuries) or illness that qualified the Player for total and permanent disability benefits under Section 5.1(a) [active football].”^r</p> <p>— T&P benefit is payable for life or until cessation of total and permanent disability.</p>
Workers’ Compensation ^s	All years	Apparently, all players are eligible. However, workers’ compensation is regulated and administered by state governments, which also means that eligibility requirements and other details vary from state to state.	<p>— NFLPA has made arrangements for all players to be covered by workers’ compensation, which is available to employees who have been injured or disabled on the job.</p> <p>— Workers’ compensation may include disability pay or wage loss benefits, a lump sum benefit to compensate for permanent loss of function, and/or payment or reimbursement for medical expenses.</p>

Sources: National Football League and NFL Players Association, *NFL Collective Bargaining Agreement: 2006-2012*, Mar. 8, 2006; NFL Players Association, “Line of Duty Disability,” Mar. 12, 2008, available at [<http://www.nflplayers.com/user/content.aspx?fmid=178&lmid=443&pid=367&type=n>]; NFL Players Association, “NFLPA and NFL Announced New Retirement Benefit Initiatives,” news release, July 25, 2007; *Bert Bell/Pete Rozelle NFL Player Retirement Plan*, Apr. 1, 2001; *NFL Player Supplemental Disability Plan*, Apr. 1, 2001; Letter from Eugene Upshaw, Executive Director, NFL Players Association, to Reps. John Conyers, Jr., Lamar S. Smith, Linda T. Sanchez, and Christopher B. Cannon, Nov. 5, 2007, p. 1; NFL Players Association, “CBA: Workers’ Compensation Benefits,” available at [http://www.nflpa.org/CBA/Workers_Comp.aspx] as of Nov. 15, 2007, on file with the author; National Football League, “NFL & NFL Players Association Create New Joint Replacement Benefit Plan”; and National Football League “14 Leading Medical Institutions Selected to Assist Retired Players Needing Joint Replacement Surgery,” news release, Dec. 10, 2007; and Gregory P. Guyton, “A Brief History of Workers’ Compensation,” *Iowa Orthopaedic Journal*, 1999, available at [<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1888620>].

Note: See the glossary in **Appendix A** for the definition of terms, such as “credited season,” “plan year,” and “vested player.”

- a. Since this is only a summary, additional criteria or conditions may apply.
- b. The actual amount that a particular individual receives is determined by a number of factors, including, for example, the years in which he played and whether the amount of a particular benefit is altered by a succeeding CBA. Also, the receipt of a certain benefit may affect the amount of another benefit an individual receives. For example, receipt of an 88 Plan benefit may result in a decrease in Total and Permanent disability benefits as follows: “The maximum benefit payable for any month shall be reduced, but not below zero, by the amount of any total and permanent disability benefits paid by the Bert Bell/Pete Rozelle NFL Player Retirement Plan and the NFL Player Supplemental Disability Plan. However, the maximum benefit payable for any month shall not be reduced by those total and permanent disability benefits paid to players who are receiving the Inactive total and permanent disability benefit described in Section 5.1(d) of the Bert Bell/Pete Rozelle NFL Player Retirement Plan.” (National Football League and NFL Players Association, *NFL Collective Bargaining Agreement: 2006-2012*, Mar. 8, 2006, pp. 215-216.)
- c. The amount, eligibility criteria, and other details of a particular Retirement Plan benefit may change over the years as new CBAs are negotiated and the Retirement Plan is changed accordingly. The details of other (non-retirement plan) benefits may be changed, too, by the NFL and the NFL Players Association.
- d. This benefit plan or program is included in the CBA.
- e. The 88 Plan was so named to honor John Mackey, a former Baltimore Colts tight end and member of the Hall of Fame who wore number 88. (NFL Players Association, “NFLPA White Paper,” n.d., available at [<http://www.nflpa.org/whitepaper/>], p.23.), downloaded Sept. 2007, on file with the author.
- f. The NFL announced in Dec. 2007 the establishment of the Joint Replacement Benefit Plan, but it appears that implementation will occur at some later date.
- g. As announced on Feb. 29, 2008, the NFL and the NFLPA modified the deadline for applying for LOD benefits. A player will have 48 months or the number of credited seasons he has earned within which to apply. For example, a player who has six credited seasons will have six years, instead of four years, within which he must apply. The deadline will equal the number of credited seasons a player has, which means, for example, that a player with six credited seasons will have six years
- h. Retiree Medical is part of the Group Insurance benefit in the CBA, where it is identified as “Extended Post-Career Medical and Dental Benefits.” It is unclear whether Retiree Medical covers injuries sustained as a player. The remainder of the Group Insurance benefit is available to only active players. (National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, pp. 218-219.)
- i. A former player who is receiving T&P disability benefits when he reaches the normal retirement age of 55 will have his disability benefits converted to a retirement benefit (pension). The amount of the benefit will not change. (*Bert Bell/Pete Rozelle NFL Player Retirement Plan, Summary Plan Description*, Apr. 2005, p. 18.)
- j. For example, “[a]n Active Player for three or more games of the 1996 through 1999 seasons [would receive] Benefits Credits [in the amount of] \$1,465 (\$285 + \$330 + \$425 +\$425 = \$1,465). The player will, therefore, receive \$1,465 per month when he begins to receive his pension benefit at age 55.” (NFL Players Association, “Rules and Regulations: Player Benefits,” n.d., available at [<http://www.nflpa.org/RulesAndRegs/PlayerBenefits.aspx>] as of Aug. 21, 2007, on file with the author.)
- k. Specifically, the benefit credit of \$425 is for each credited season from 1998 “through the Plan Year that begins prior to the expiration of the Final League Year.” (*Bert Bell/Pete Rozelle NFL Player Retirement Plan*, p. 11.)
- l. Per the NFLPA, the Supplemental Disability Plan was created because, pursuant to federal statute(s), there is a cap on the amount of disability benefits a plan may pay, such as the retirement plan for former players. (Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, p. 19.)
- m. See “Total and Permanent Disability Benefit” in the table for information about the four categories of T&P benefits.

- n. In Feb. 2008, the NFL and the NFLPA announced the following changes to the T&P disability benefit: “Players who took their NFL pension early, and are therefore ineligible to apply for and receive disability benefits, will be offered a new one-time opportunity to apply for total and permanent disability benefits. These players may establish their disability through either a medical examination or by a total and permanent disability determination from Social Security. The opportunity to apply for benefits will begin on April 1, 2008. Applications will be accepted through July 31, 2008. Players who have received a total and permanent disability determination from Social Security will not need to separately establish disability under the NFL plan. Players who were denied benefits under the NFL plan but have subsequently been found [to be] disabled by [the] Social Security [Administration] may have their NFL cases reconsidered. The other good news for retired NFL players is that NFL disability awards are not offset by the amount of any award paid by Social Security.” (National Football League and NFL Players Association, “NFL and NFL Players Association Expand Disability Benefits Program for Retired Players,” Feb. 29, 2008, available at [<http://www.nflplayers.com/user/content.aspx?fmid=178&lmid=443&pid=422&type=n>], p. 1.)
- o. “A Player who becomes totally and permanently disabled no later than six months after a disability(ies) first arises will be conclusively deemed to have become totally and permanently disabled ‘shortly after’ the disability(ies) first arises, as that phrase is used in subsections (a) and (b) above [descriptions of benefits for players who experience active football and active nonfootball disabilities], and Player who becomes totally and permanently disabled more than 12 months after a disability(ies) first arises will be conclusively deemed not to have become totally and permanently disabled ‘shortly after’ the disability(ies) first arises as that phrase is used in subsections (a) and (b) above. In cases falling within this six-to twelve-month period, the Retirement Board or the Disability Initial Claims Committee will have the right and duty to determine whether the ‘shortly after’ standard is satisfied.” (*Bert Bell/Pete Rozelle NFL Player Retirement Plan*, p. 20.)
- p. The NFL and the NFLPA announced on Feb. 29, 2008, that “the minimum benefit post-career” for “non-football ‘total and permanent’ disability” had doubled from “\$20,000 to \$40,000 per year for retired players who become disabled unrelated to football.” (National Football League and NFL Players Association, “NFL and NFL Players Association Expand Disability Benefits Program for Retired Players,” p. 1.)
- q. A child is considered to be a dependent only until reaching the age of 19; if he or she is in college, age 23 is the threshold. (*Bert Bell/Pete Rozelle NFL Player Retirement Plan*, p. 4.)
- r. *Bert Bell/Pete Rozelle NFL Player Retirement Plan*, p. 21.
- s. The year that this benefit was established is unknown.

NFLPA Retired Players Department

The Retired Players Department, established in 1984,

acts to meet players' needs with the right services; continuously communicates and involves players of all ages to create an exclusive fraternity; works collaboratively with other NFLPA departments and Players Inc.¹²⁰ to give outstanding value to its members; provides leadership, administration, coordination and implementation to serve the needs of retired players and retired player chapters.¹²¹

The department's objectives are

- “To establish more local chapters [of retired players]”;
- “To increase the future pensions and benefits for all players”;
- “To establish a formal line of communication between active and retired players”;
- “To build a network of retired players for business contacts and second careers”;
- “To help build the image of the game and promote it to the benefit of players; and”
- “To raise funds for the Players Assistance Trust (PAT).”¹²²

Accomplishments of the Retired Players Department include

- “[Assisting players] in gaining pension and disability benefit increases”;

¹²⁰ “In September 2000, NFL PLAYERS and the NFL entered into a historic partnership to provide player group licensing rights to NFL sponsors. With this deal, NFL sponsors are given the right to utilize players as part of their sponsorship agreements.... Activities include marketing, licensing, special events, corporate sponsorship, media and content development, publishing, website (NFLPLAYERS.COM) and other promotional programs. PLAYERS INC is a fully integrated marketing company for active and retired NFL players. These activities generate guaranteed royalties to PLAYERS INC and the players, in addition to providing financial support to the NFLPA. The organization is committed to meeting the needs of all NFL players in the National Football League by creating player marketing opportunities, increasing brand awareness and developing valuable business partnerships.” (NFL Players Association, “Sponsors/Licensees,” available at [<http://www.nflplayers.com/user/template.aspx?fmid=182&lmid=243&pid=0&type=1>].) (Capitalization is in the original.)

¹²¹ NFL Players Association, “Retired Players Department: FAQs,” n.d., available at [http://www.nflpa.org/Faqs/Faqs.aspx?printer_friendly=yes] as of Nov. 2, 2007, on file with the author, p. 1.

¹²² Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, p. 27.

- “[Administering] the PAT Fund, resulting in over \$5 million in payments on behalf of former players in need”;
- “[Assisting] in networking between former players and potential employers”;
- “Helping former players take advantage of workers compensation benefits under state law; and”
- “Providing the services of medical professionals in various areas including orthopedic and cardiovascular.”¹²³

Any player who had signed a contract with a team is eligible to join a chapter, and there are 33 chapters of former players across the country.¹²⁴ Chapter presidents attend the annual chapter officers meeting and the Retired Players Convention. An election is held at the latter for the Retired Players Steering Committee, which is “the only elected national body representing retired players....”¹²⁵

Players Assistance Trust (PAT) Fund

The players association created the Professional Athletes Foundation (PAF), a 501(c)(3) organization under the Internal Revenue Code, in 1987.¹²⁶ The foundation’s mission is to “provide vocational, educational, recreational and athletic opportunities for people of all races, religions and nationalities, male and female, wherever they may live, including but not limited to needy, former, amateur and professional athletes and young people who might not have the fullest opportunity to develop their vocational and educational capabilities.”¹²⁷

In 1992, the foundation established the Player Assistance Trust (PAT) to “provide financial assistance to former professional and amateur players and their families....”¹²⁸ Specifically, the PAT is to provide

short-term financial assistance to former players who find themselves in a financial crisis. A primary goal of the fund is to assist players who are faced with financial problems created by catastrophic illness.... The funds cannot be used for long-term financial support. Grants are not available for supplemental

¹²³ Ibid.

¹²⁴ Ibid., p. 26.

¹²⁵ NFL Players Association, “Retired Players Department: FAQs,” p. 1.

¹²⁶ This organization is a tax-exempt organization under the Internal Revenue Code. For more information, see U.S. Dept. of the Treasury, Internal Revenue Service, “Exemption Requirements,” available at [<http://www.irs.gov/charities/charitable/article/0,,id=96099,00.html>].

¹²⁷ NFL Players Association, “Retired Players Department: FAQs,” pp. 4-5.

¹²⁸ Ibid., p. 5.

income to pension benefits. Grants are not available as loans for business transactions.¹²⁹

The maximum grant amounts available are \$10,000 for educational purposes and \$20,000 for financial or medical assistance; not every applicant, however, receives the maximum amount.¹³⁰

Donations from the players association, the NFL, and individuals, and a percentage of the fines levied against active players provide funding for the PAT. Since 2000 and through fall 2007, the amount of money from fines contributed to the PAT was \$2,814,692.¹³¹ The NFL has contributed the following amounts, which total \$6,350,000:

- 1997: \$350,000
- 1998: \$350,000
- 1999: \$350,000
- 2000: \$700,000
- 2001: \$700,000
- 2002: \$700,000
- 2003: \$700,000
- 2004: \$1,000,000
- 2005: \$1,250,000
- 2006: \$1,250,000¹³²

Data about grants awarded during the period 1991-2007 are provided in the following two tables. **Table 5** shows how many grants were awarded, by type (for example, education, financial, and medical). **Table 6** shows how many grants were awarded each year. A total of 860 grants have been awarded since the inception of the PAT, and, according to other information provided by the NFLPA, grants have been awarded to 662 different players and widows of players.¹³³

¹²⁹ NFL Players Association, "Players Assistance Trust Fund Grant Guidelines," n.d., available at [http://www.nflpa.org/pdfs/Charitywork/PAT_Application_2007.pdf], downloaded Sept. 2007, on file with the author, p. 1.

¹³⁰ *Ibid.*, p. 2.

¹³¹ Letter from Goodell to Reps. Conyers and Smith, p. 12.

¹³² *Ibid.*

¹³³ Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, p. 28.

**Table 5. Players Assistance Trust Fund Grants,
by Grant Type, 1991-2007**

Type of Grant	Number and Percentage of Grants ^a	Amount and Percentage of Money ^a
Education	92 11%	\$398,393.22 7%
Education/Financial	11 1%	\$72,597.66 1%
Financial	585 68%	\$3,861,965.46 70%
Medical	119 14%	\$698,313.49 13%
Medical/Financial	52 6%	\$473,941.67 9%
Unknown	1 <1%	\$3,315.00 <1%
Total	860	\$5,508,526.50

Source: Data provided by the NFL Players Association; calculations performed by the author.

Note: The data for 2007 may be incomplete as the data were provided before the end of 2007.

a. Percentages have been rounded.

Significant percentages of the number of PAT grants (88%) and the amount of money (92%) have been awarded for financial or medical purposes, or for a combination of the two. Only 12% of the grants, and 8% of the money, were awarded for education and education/financial purposes. The largest average grant, \$6,855.29, was for medical and medical/financial purposes. The average amount of a financial grant was \$6,601.65. The average amount of an education and education/financial grant was \$4,572.73. Overall, the average amount of a grant was \$6,405.26.

**Table 6. Players Assistance Trust Fund Grants,
by Year, 1991-2007**

Year	Number and Percentage of Grants ^a	Amount and Percentage of Grants ^{a,b}	Average Amount of Grant ^b
1991	2 <1%	\$4,836 <1%	\$2,418
1992	19 2%	\$92,120 2%	\$4,848

Year	Number and Percentage of Grants ^a	Amount and Percentage of Grants ^{a,b}	Average Amount of Grant ^b
1993	33 4%	\$134,937 2%	\$4,089
1994	25 3%	\$122,609 2%	\$4,904
1995	37 4%	\$190,019 3%	\$5,136
1996	48 6%	\$354,419 6%	\$7,384
1997	51 6%	\$341,975 6%	\$6,705
1998	46 5%	\$275,267 5%	\$5,984
1999	46 5%	\$387,044 7%	\$8,414
2000	17 2%	\$91,668 2%	\$5,392
2001	35 4%	\$210,493 4%	\$6,014
2002	32 4%	\$205,505 4%	\$6,422
2003	45 5%	\$281,239 5%	\$6,250
2004	56 7%	\$360,824 7%	\$6,443
2005	130 15%	\$867,392 16%	\$6,672
2006	143 17%	\$834,881 15%	\$5,839
2007 ^c	95 11%	\$753,300 14%	\$7,929
Total	860	\$5,508,528	\$6,405

Source: Letter from Eugene Upshaw, Executive Director, NFL Players Association, to Reps. John Conyers, Jr., Lamar S. Smith, Linda T. Sanchez, and Christopher B. Cannon, Nov. 5, 2007, exhibit C; calculations performed by the author.

a. Percentages have been rounded.

b. Dollar amounts have been rounded to the nearest dollar.

c. The data for 2007 may be incomplete as the data were provided before the end of 2007.

Despite the possibility that the data for 2007 may be incomplete (for the reason stated above), over 40% of the grants were awarded during the years 2005-2007; 368 grants, 43% of the total, were awarded during this period. Accordingly, the percentage of grants awarded in each of these years is in double digits. For the previous 14 years, the percentage of grants awarded each year ranged from less than 1% to 7%. Consistent with these results, 45% (\$2,455,573) of the total amount of the grants was awarded during the period 2005-2007. The reasons for the relatively consistent percentage of grants for each year from 1991 through 2004, and the noticeable increase in 2005 followed by similarly high percentages in 2006 and 2007 are unknown. More former players needed assistance during these three years, but it is unclear whether the rise in the number of grants is related to, for example, the type and amount of benefits the players received from NFL/NFLPA-funded benefits and whether these benefits met their needs; wider dissemination of information about the PAT (if indeed information was disseminated more widely than had been done previously); or changes, if any, that were made to the PAT applications process.

Regarding the average amount of a grant, there has been a general upward trend. Aside from the initial year, when only two grants were awarded and the average grant amount was \$2,418, the average amount has increased from \$4,848 in 1992 to \$7,929 in 2007. However, the highest average amount, \$8,414, was in 1999, and the average amount in 2006 was \$5,839.

The NFL has noted that individual clubs also fund efforts involving former players; usually, these efforts are directed toward players who were members of a particular club.¹³⁴

The Alliance

In May 2007, four organizations — the NFL, the NFLPA, the NFL Alumni Association, and the Pro Football Hall of Fame — came together to form the “Alliance,” which “is aimed at addressing the medical concerns and needs of retired players, including joint replacements, cardiovascular health programs and assisted living arrangements.”¹³⁵ In December 2007, the NFL announced the establishment of the NFL Player Care Foundation, which is “governed by representatives of members of the Alliance,” and which apparently will administer the \$17 million that has been donated to date.¹³⁶ In February 2008, the NFL and the NFLPA announced that four former players — Andre Collins, Willie Lanier, Randy Minniear, and Ozzie Newsome — had been appointed to the board of the directors for the NFL Player Care Foundation, and that these board members would select additional members.¹³⁷

¹³⁴ Letter from Goodell to Reps. Conyers and Smith, p. 12.

¹³⁵ Ibid.; National Football League, “NFL Clubs Commit \$10 Million in Additional Funding to Retired Players for Medical Assistance.”

¹³⁶ National Football League, “NFL & NFL Players Association Create New Joint Replacement Benefit Plan.”

¹³⁷ National Football League and NFL Players Association, “NFL and NFL Players Association Expand Disability Benefits Program for Retired Players,” p. 3.

The foundation will coordinate and provide funds to the programs established by the Alliance.¹³⁸

When the league and the players association announced, in July 2007, the formation of this group, they also announced that the Alliance had received \$7 million.¹³⁹ NFL team owners approved a donation of an additional \$10 million in October 2007.¹⁴⁰ Fines paid by active players to the NFL for on-field infractions, and contributions from the NFLPA, other members of the Alliance, and “other interested retired player groups” will supplement the \$17 million.¹⁴¹

As part of this initiative, the NFL and the players association created the NFL Player Joint Replacement Plan in fall 2007. Fourteen medical centers have been selected to provide these services:

[The medical centers will] assist eligible retired players in need of joint replacement surgery.... The medical facilities, carefully chosen for their expertise, high-quality service and reputation, will make available specialized, coordinated care to players covered by this new program. The program provides a common application process to assist them gain access to the institutions. The plan also will provide financial assistance to all players, regardless of their financial situation, to cover the cost of the operations. For players not covered by insurance and who cannot pay for the procedure, additional financial assistance will be available from the newly created NFL Player Care Foundation. Players eligible for assistance from the NFL Player Care Foundation will not be responsible for the cost of either the joint replacement surgery or post-operative rehabilitation.¹⁴²

As reported in *The New York Times*, only retired players who are vested are eligible for this benefit.¹⁴³

The following 14 institutions will provide joint replacement surgery: St. Vincent’s Birmingham/Andrews Sports Medicine & Orthopaedic Center (Birmingham, AL), Broward General Medical Center (Ft. Lauderdale, FL), Centinela Freeman Regional Medical Center (Marina del Rey, CA), Cleveland Clinic Foundation (Cleveland, OH), Lenox Hill Hospital (New York, NY), MedStar Health — Georgetown University Hospital and Union Memorial Hospital (Washington,

¹³⁸ Information provided electronically by the NFL Players Association to the author on Mar. 3, 2008.

¹³⁹ NFL Players Association, “NFLPA and NFL Announce New Retirement Benefit Initiatives.”

¹⁴⁰ National Football League, “NFL Approves Additional \$10 Million for Retired Players,” news release, Oct. 24, 2007, available at [<http://search.nfl.com/search/?query=recent&sort=date&page=5>].

¹⁴¹ National Football League, “NFL Approves Additional \$10 Million for Retired Players.”

¹⁴² National Football League, “NFL & NFL Players Association Create New Joint Replacement Benefit Plan,” news release, Dec. 10, 2007.

¹⁴³ Frank Listky, “Rehab Plan Announced for N.F.L.’s Ex-Players,” *New York Times*, Dec. 11, 2007, available at [<http://www.nytimes.com/2007/12/11/sports/football/11joints.html>].

DC, and Baltimore, MD, respectively), Methodist Hospital, (Houston, TX), Mount Sinai Medical Center (New York, NY), Northwestern Memorial Hospital (Chicago, IL), OASIS MSO, Inc. (San Diego, CA), St. Joseph's Hospital-Atlanta (Atlanta, GA), Texas Orthopedic Hospital (Houston, TX), and University of Pittsburgh Medical Center (Pittsburgh, PA).¹⁴⁴ Houston, New York, the Washington, DC, metropolitan area, and the state of California have two facilities each that are on the list. The remaining six institutions are in Alabama, Florida, Georgia, Ohio, Illinois, and Pennsylvania. Without information about the location of former players, it is unknown how many retired players reside in or near these 10 cities or metropolitan areas.

Post-surgery rehabilitation and physical therapy will be provided to eligible former players by HCR Manor Care, which has 280 skilled nursing and rehabilitation centers and 85 outpatient rehabilitation therapy clinics across the country.¹⁴⁵

The Alliance has also developed the following programs:

Health screening — Two doctors, funded by the NFL Player Care Foundation, are working with medical centers throughout the country to make it easier for players to get cardiovascular screening without cost. Players found to need cardiovascular care will receive affordable medical, nutritional and other treatment. Obesity screening and education also is provided.

Prostate cancer screening — In conjunction with the American Urological Association, the Alliance will establish a comprehensive program of prostate cancer screening, care and education.

Assisted living arrangements — Negotiated discounted rates and special services are made available to former players at three leading national assisted living providers — Brookdale Senior Living, Inc.; Belmont Village L.P., and Silverado Senior Living, Inc.

Prescription drug card — The NFL and NFLPA are providing retired players with a prescription drug card that permits them to purchase prescription medications at a substantial discount. This new benefit is provided at no cost to former players.¹⁴⁶

¹⁴⁴ Ibid.

¹⁴⁵ Ibid. Information about HCR Manor Care is available at [<http://www.hcr-manorcare.com>].

¹⁴⁶ National Football League and NFL Players Association, "NFL and NFL Players Association Expands Disability Benefits Program for Retired Players," p. 3. (Boldface included in original.)

Other Efforts to Aid Former Players

Selected Organizations and Websites

Several former players and other individuals have established organizations or websites with the goal of aiding retired players. Examples of these organizations and websites include the following:

- Dignity After Football Inc. This organization is “committed to giving a voice to past heroes of the NFL and to finally restoring dignity to the lives of thousands of disabled and under-pensioned former players.”¹⁴⁷
- Fourth & Goal. Bruce Laird, a former NFL player, founded this organization to assist retired players.¹⁴⁸
- Gridiron Greats. “The Gridiron Greats Assistance Fund is a non-stock, non-profit corporation that has been established to provide financial assistance and coordination of social services to retired players who are in dire need due to a variety of reasons including inadequate disability and/or pensions.”¹⁴⁹
- Hall of Fame Enshrinee Assistance Fund. One of the objectives of this organization “is to help its own by offering support to former pros experiencing financial or medical hardship.”¹⁵⁰
- Hall of Fame Players Association. One of the association’s six purposes is to “assist Hall [of Fame] members who have financial difficulties.”¹⁵¹ Established in 2001, the Hall of Fame Players Association (HOFPA) Charitable Foundation “will contribute to local and national charities, create a relief fund for members who are in need and support awards and scholarship efforts in selected regional areas.”¹⁵²

¹⁴⁷ Dignity After Football Inc., “Mission,” n.d., available at [<http://www.dignityafterfootball.org/>].

¹⁴⁸ Greg Johnson, “More NFL Players Donating Game Checks to Charity,” *Los Angeles Times*, Dec. 12, 2007, available at [http://www.latimes.com/sports/football/nfl/la-sp-nfl12dec12,1,1897270_story?coll=la-headlines-sports-nfl].

¹⁴⁹ Gridiron Greats, “About the Gridiron Greats Fund,” available at [<http://www.gridirongreats.org/aboutthefund.html>].

¹⁵⁰ NFL Alumni, “Mission Statement,” available at [<http://www.nflalumni.org/>].

¹⁵¹ Hall of Fame Players Association, “About Us,” available at [<http://www.hofplayers.com/index.asp?PageAction=Custom&ID=15>].

¹⁵² Hall of Fame Players Association, “Charities,” available at [<http://www.hofplayers.com/index.asp?PageAction=Custom&ID=140>].

- The John Mackey Fund, Inc. The fund was established “to raise public awareness and fund research to find a cure for Frontotemporal Dementias.”¹⁵³
- NFL Alumni Association’s Dire Need Fund. This is a joint effort of the NFL and NFL alumni to provide “assistance to former NFL players and coaching staff members experiencing financial or medical hardship.”¹⁵⁴
- Ralph Wenzel Trust. The trust was established initially to receive donations to help cover expenses for the care of Wenzel, who suffers from Alzheimer’s-type dementia. Wenzel now participates in an NFL program¹⁵⁵ that pays for a portion of his care, so the website continues as a tribute to Wenzel and as a means of collecting information about problems faced by former football players.¹⁵⁶
- Retired Professional Football Players for Justice. This website was created “to inform former football players, fans and supporters of the actions being taken by retired players to collect what they fairly deserve, but that has not been distributed by the organizations that claim to be acting in the players’ best interest.”¹⁵⁷

Active Players’ Efforts

In fall 2007, a lineman for the Kansas City Chiefs, Kyle Turley, announced that he would donate his paycheck from his team’s game on December 23 to help retired players who are in need. Reportedly, Turley talked to approximately 20 players who said they will donate to Gridiron Greats, and he sent a letter to other players in late November on the subject of donations.¹⁵⁸ Turley is quoted, in a *New York Times* article, as saying: “Are we going to wait until guys die? Are we going to wait until guys commit suicide before we make a difference and change this thing?” [He added:] “If this system doesn’t get fixed, no matter how much money you make ... you are a serious surgery away from being broke.”¹⁵⁹ At least 12 other active players also have contributed funds to Gridiron Greats, and Turley’s goal is to raise \$8

¹⁵³ The John Mackey Fund, Inc., available at [<http://johnmackeyfund.org/>].

¹⁵⁴ NFL Alumni, “NFL Alumni Dire Need Charitable Trust,” available at [http://www.nflalumni.org/dire_need.html].

¹⁵⁵ This statement may be a reference to the 88 Plan.

¹⁵⁶ Ralph Wenzel Trust, available at [<http://www.ralphwenzeltrust.org>].

¹⁵⁷ Retired Professional Football Players for Justice, “About Us,” available at [<http://www.playersforjustice.org/aboutus.html>].

¹⁵⁸ “N.F.L. Players Plan to Donate to Retirees,” *New York Times*, Nov. 27, 2007, available at [<http://www.nytimes.com/aponline/sports/AP-FBN-NFL-Disability.html?ex=1353906000&en=8264ea3f9c77d661&ei=5088&partner=rssnyt&emc=rss>].

¹⁵⁹ Ibid.

million, according to another news article.¹⁶⁰ Additionally, it has been reported that former tennis player John McEnroe, former NBA player Charles Barkley, and sports broadcaster Bob Costas have indicated that they will donate money to Gridiron Greats.¹⁶¹

NFL and NFLPA Health and Safety Initiatives

As noted in the introduction to this report, a former player's disabilities (as interpreted broadly) or chronic health problems might, in some cases, have their origins in what occurred, or did not occur, while the individual was an active player in the NFL. A potentially significant factor for active players is the NFL's and the NFLPA's efforts to safeguard their health, safety, and general welfare. Such efforts may include, at a minimum: (1) keeping players informed of, and actively soliciting their suggestions and ideas on, health and safety issues and initiatives; (2) helping players prepare for the rigors of playing professional football; (3) identifying and mitigating all possible conditions and factors that could affect a player's health and safety; and (4) upon being made aware of a potentially unsafe or unhealthful condition, practice, piece of equipment, or rule or guideline, for example — which, in any case, could involve an act committed or omitted — acting in a timely fashion to remedy the situation. Some health or safety problems, such as excessive weight, concussions, and injuries to joints, might have significant, long-term implications for players. Thus, a comprehensive approach to the health and safety of players might also include research that examines the possible long-term effects or consequences of the different types of injuries sustained by players.¹⁶²

The material in this next section describes the league's and the players association's health and safety initiatives.

NFL Injury and Safety Panel

The NFL Injury and Safety Panel was founded in 1993. The panel

- “developed and manages an injury surveillance system that reports the types and severity of injuries that players experience each year. These reports are used by team medical staffs to assist in injury prevention and treatment, and by the Competition Committee to

¹⁶⁰ Pat Borzi, “Fund for N.F.L. Retirees in Need of Help Is Gaining Support,” *New York Times*, Dec. 12, 2007, available at [<http://www.nytimes.com/2007/12/12/sports/football/12veterans.html>]; Greg Johnson, “More Players Donating Game Checks to Charity,” *Los Angeles Times*, Dec. 12, 2007, available at [<http://www.latimes.com/sports/football/nfl/la-sp-nfl12dec12,1,1897270.story?coll=la-headlines-sports-nfl&ctrack=1&cset=true>].

¹⁶¹ *Ibid.*

¹⁶² As noted below, the NFL is planning to request or sponsor a study on the long-term effects of concussions.

assist in the development of playing rules that promote safety. Rules and enforcement are reviewed annually...”; and the panel¹⁶³

- “evaluates proposals and makes recommendations regarding grants to support research.”¹⁶⁴

The NFL has had the injury surveillance system since 1980, and team physicians and athletic trainers use it “to record data on injured players and circumstances surrounding injuries.”¹⁶⁵ The league produces two reports each year — one approximately midway through the regular season and the other after the Super Bowl — that are detailed medical analyses of the data submitted to, and maintained in, the injury surveillance system. The NFL provides a copy of each report to the NFLPA.¹⁶⁶

The panel’s Subcommittee on Foot and Ankle Injuries, which was founded in 2005, “collects and analyzes injury data on foot and ankle injuries, works with shoe manufacturers to encourage the development of more protective equipment, and educates team equipment managers and medical staffs on these matters. The subcommittee has commissioned studies by Boise State University and Michigan State University analyzing how shoe and turf factors related to these injuries.”¹⁶⁷

The NFL does not know how many players decided to retire because of injuries they sustained while playing football. However, the league estimates that 181 players who retired during the period 1993-2004 may have done so because of such injuries.¹⁶⁸

NFL Cardiovascular Health Committee

The Cardiovascular Health Committee, which was established in 2004, consists of team physicians, athletic trainers, and experts in “cardiology and cardiovascular

¹⁶³ Letter from Goodell to Reps. Conyers and Smith, p. 8.

¹⁶⁴ Ibid.

¹⁶⁵ Elliot J. Pellman, et al., “Concussion in Professional Football: Epidemiological Features of Game Injuries and Review of the Literature,” *Neurosurgery*, vol. 54, no. 1, Jan. 2004, p. 82.

¹⁶⁶ Personnel affiliated with the NFL have used data from the injury surveillance system for articles on NFL players and health issues. For example, see the preceding footnote. Additionally, data from the surveillance system were used in this article: Bryan T. Kelly, et al., “Shoulder Injuries to Quarterbacks in the National Football League,” *American Journal of Sports Medicine*, vol. 32, no. 2, 2004, pp. 328-331.

¹⁶⁷ Ibid., p. 9.

¹⁶⁸ Ibid. The basis for the league’s “assessment” is that 181 players received additional compensation that is available or provided to players who do not “pass their pre-season physical due to an injury sustained during the prior season and thus [are] unable to play.” (Letter from Goodell to Reps. Conyers and Smith, p. 9.)

medicine, endocrinology and obesity, sleep medicine and cardiovascular disease epidemiology.”¹⁶⁹ The committee’s objectives are to investigate

the prevalence of cardiovascular risk factors in NFL players, including hypertension, diabetes, sleep apnea and obesity; [assess] how those risk factors relate to different body types and positions on the field; and [evaluate] the effect of cardiovascular risks on various aspects of an NFL player’s life, such as aerobic training, nutrition, family history and demographics.¹⁷⁰

This committee also oversees the CVH program, which involves screening and education, for retired players.¹⁷¹

NFL Medical Research Grants

Through NFL Charities, a nonprofit organization that was established in 1973, the NFL awards charitable grants for sports-related medical research.¹⁷² Nonprofit educational and research institutions may apply for these grants, the focus of which must be “sports injury prevention, injury treatment, [or] other related research that affects the health and performance of athletes.”¹⁷³ Within the category of sports-related medical research grants, there are four subcategories: education, medical, MTBI, and scientific research. The following list shows what types of research or activities have been funded by each grant subcategory:

- Education grants are used to fund the National Athletic Trainers’ Association Non-Medical Research and Scholarship Fund, the annual meeting of the NFL Physicians Society, and the Professional Football Athletic Trainers Society Foundation’s Ethnic Minority Scholarship Program.
- Medical grants are used to pay the manager of the NFL’s injury surveillance system and to pay for studies on concussions and cardiovascular disease.
- MTBI grants have paid for studies involving concussions and related subjects.

¹⁶⁹ Ibid., pp. 6-7. The former commissioner of the NFL selected the co-chairmen who, in turn, selected the other members of the committee. (Ibid., p. 7.)

¹⁷⁰ Ibid.

¹⁷¹ Ibid.

¹⁷² National Football League, NFL Charities, “NFL Charities Grant Guidelines,” available at <http://www.nflpa.org/pdfs/CharityWork/2006NFLCHARITIESGRANTGUIDELINES.pdf>, downloaded Sept. 2007, on file with the author.

¹⁷³ National Football League, “NFL Charities, Medical Research Grants,” available at <http://www.jointheteam.com/programs/program.asp?p=39&c=6>.

- Scientific research grants have funded studies on, for example, arthritis, heat illness, orthopedic injuries and treatments, and cardiac disease.¹⁷⁴

Table 7 shows the amount of money awarded for grants in each of the four subcategories.

Table 7. NFL Charities' Grants for Research Related to Players' Health, 2003-2007

Year	Total Amount of Grants by Subcategory			
	Education	Medical	MTBI	Scientific Research
2003	\$65,000	\$70,935	\$200,000	\$5,126,666
2004	\$92,000	\$70,935	\$180,000	\$862,825
2005	\$92,000	\$263,715	\$200,000	\$1,182,900
2006	\$92,000	\$502,385	\$345,900	\$1,154,875
2007	\$112,000	\$1,184,030	\$100,000	\$1,230,073
Total	\$453,000	\$2,092,000	\$1,025,900	\$5,126,666

Source: Letter from Roger Goodell, Commissioner, National Football League, to Reps. John Conyers, Jr., and Lamar S. Smith, Nov. 2, 2007, attachment 8.

The percentage of total funds awarded for grants, by subcategory and in descending order, is: scientific research, 59%; medical, 24%; mild traumatic brain injury, 12%; and education, 5%. Although the percentage of funds for MTBI grants might seem relatively small, some medical grants have been awarded for research into concussions, and the league's MTBI Committee has conducted numerous studies (see below and **Appendix B**).

NFL Mild Traumatic Brain Injury Committee

The Committee on Mild Traumatic Brain Injury was established in 1994, by then-Commissioner Paul Tagliabue. After addressing the definition of "concussion," undertaking an effort to collect data, and reviewing available safety equipment, the committee recommended to the commissioner that

the NFL should independently fund scientific research that would enable scientists to better understand the cause(s) of MTBI; that this research should be

¹⁷⁴ Letter from Goodell to Reps. Conyers and Smith, attachment 8.

funded to independent scientific researchers; and that the NFL Mild Traumatic Brain Injury Committee should be charged with oversight of the project.¹⁷⁵

To date, the committee has published 14 studies, all in the journal *Neurosurgery*, and has contributed to “the development of a clearer understanding of the nature of concussions in football, how they are caused, and the types of impacts that are more likely to result in concussions.”¹⁷⁶ The National Operating Committee on Standards for Athletic Equipment (NOCSAE), which, among other things, develops standards for and tests football helmets, and helmet manufacturers have received the committee’s research.¹⁷⁷

A list of members of the committee, and their professional affiliations, is found in **Appendix C**.

NFL and NFLPA Education Efforts for Players

Although the NFL has noted that “education regarding injuries and related matters is principally done by team medical staffs,”¹⁷⁸ the league has provided some information to players. In addition to the information on concussions disseminated by the league (see below), the NFL and the players association have prepared and distributed information on their substance of abuse policy and program, and their policy on anabolic steroids and related substances.¹⁷⁹ Materials on heat and hydration that were developed by the NFL Physicians Society have been shared with team medical staffs.¹⁸⁰

For its part, the NFLPA has stated that it “does not conduct any formalized educational program for players concerning injuries, their treatment, or rehabilitation.

¹⁷⁵ Elliot J. Pellman, “Background on the National Football League’s Research on Concussion in Professional Football,” *Neurosurgery*, vol. 53, no. 4, Oct. 2003, pp. 797-798.

¹⁷⁶ Letter from Goodell to Reps. Conyers and Smith, p. 5.

¹⁷⁷ *Ibid.*, pp. 5-6. Additional information about the National Operating Committee on Standards for Athletic Equipment (NOCSAE) is available at [<http://www.nocsae.org/>].

¹⁷⁸ Letter from Goodell to Reps. Conyers and Smith, p. 13.

¹⁷⁹ The following substances are considered substances of abuse under the NFL-NFLPA policy: alcohol (under certain circumstances), cocaine, marijuana, amphetamine and its analogues, opiates, phencyclidine (PCP), and methylenedioxymethamphetamine (MDMA) and its analogues. (National Football League and NFL Players Association, *National Football League Policy and Program for Substances of Abuse*, 2007, available at [http://www.nflplayers.com/images/pdfs/RulesAndRegs/Drug_Policy_2007.pdf], pp. 6, 20.) The categories of prohibited substances included in the latter policy are anabolic agents (steroids), masking agents, and certain stimulants. (National Football League and NFL Players Association, *National Football League Policy on Anabolic Steroids and Related Substances 2007*, 2007, available at [<http://www.nflplayers.com/images/pdfs/RulesAndRegs/BannedSubstances.pdf>], pp. 13-16.) See CRS Report RL32894, *Anti-Doping Policies: The Olympics and Selected Professional Sports*, by L. Elaine Halchin, for additional information about the NFL’s steroids policy and doping in general.

¹⁸⁰ Letter from Goodell to Reps. Conyers and Smith, p. 13.

Under the standard NFL Player Contract form, Club medical staff has full discretion on the treatment of injuries, subject to the player's right to a second opinion and the right to choose his own surgeon should surgery become necessary."¹⁸¹ The players association provides free legal representation for grievances having to do with injuries; includes information on injury grievances and related topics in the Player Planner; maintains a list of physicians whom players may consult when seeking second opinions; and, though union representatives, brings issues related to injuries to the attention of the Joint Committee on Player Safety and Welfare.¹⁸²

NFLPA Medical Consultant and Performance Consultant

The NFLPA's medical consultant (or advisor) "participates in various studies conducted by the NFL and helps monitor compliance with a set of medical guidelines the NFL clubs have been advised to follow regarding acclimatization, emergency medical care, heat prostration, and other medical issues."¹⁸³ It is unclear whether this individual is responsible for monitoring each team's compliance with the NFL's medical guidelines. In any case, the method used for monitoring, how often it occurs, and whether the medical consultant has a staff to aid him or her are unclear.

The extent of the medical consultant's responsibilities raises the following questions. Does the medical advisor personally monitor the teams, perhaps visiting each team on a regular basis; reviewing the team's policies, protocols, and other materials; reviewing a sample of players' medical records to see how players were treated; and talking with medical staff as well as players? Or do teams use a "self-report" model for compliance, whereby team staff members submit a verbal or written report to the medical advisor that indicates to what extent the team complies with medical guidelines?

The performance consultant attends NFLPA's annual meeting and "advises player reps [representatives] on a variety of health-related issues, including conditioning, rehabilitation of injuries, use of nutritional supplements, and proper equipment."¹⁸⁴

¹⁸¹ Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, pp. 30-31.

¹⁸² Ibid., p. 31. The Player Planner is an appointment book that the NFLPA provides to players and that includes information about, for example, benefits, the NFLPA, and the NFL season.

¹⁸³ Ibid., p. 11. Dr. Thom A. Mayer, CEO and president of BestPractices and chairman, Dept. of Emergency Medicine, Inova Fairfax Hospital, is the NFLPA's medical consultant. (Ibid.)

¹⁸⁴ National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, p. 11. The players association's performance consultant is Mark Verstegen, founder and chairman, Athletes' Performance, a personal training company.

NFL and NFLPA Joint Committee on Player Safety and Welfare

The following excerpt from the CBA describes the committee's composition, responsibilities, and authority:

A Joint Committee on Player Safety and Welfare (hereinafter the "Joint/Committee") will be established for the purpose of discussing the player safety and welfare aspects of playing equipment, playing surfaces, stadium facilities, playing rules, player-coach relationships and any other relevant subjects. The Joint Committee will consist of six members: three Club representatives (plus advisors) and three NFLPA representatives (plus advisors). The Joint Committee will hold two regular meetings each year on dates and at sites selected by the Committee. Special meetings may be held at any time and place mutually agreeable to the Committee. The Joint Committee will not have the power to commit or bind either the NFLPA or the [NFL] Management Council on any issue. The Joint Committee may discuss and examine any subject related to player safety and welfare it desires, and any member of the Committee may present for discussion any such subject. Any Committee recommendation will be made only to the NFLPA, the Management Council, the Commissioner, or any appropriate committee of the NFL; such recommendation will be given serious and thorough consideration.¹⁸⁵

Pursuant to the 2006-2012 CBA, an additional task was assigned to the committee, which is as follows: "The NFLPA and the [NFL] Management Council agree that a task for the Joint Committee to undertake promptly upon the execution of this Agreement is a review of all current materials on the player safety aspects of player equipment, playing surfaces, including artificial turf and other safety matters."¹⁸⁶

The NFLPA has the right to initiate an investigation "before the Joint Committee if the NFLPA believes that the medical care of a team is not adequately taking care of player safety."¹⁸⁷ Two or more neutral physicians will investigate the issue raised by the NFLPA, write a report, and submit recommendations to the joint committee within 60 days of being selected.¹⁸⁸ If the NFLPA disagrees with the outcome of this process, it is unclear what recourse, if any, the players association has.

Although the joint committee has the authority to discuss virtually any subject related to the safety and welfare of players, it does not appear to have the authority necessary to implement any proposals or remedies it might develop. That is, the committee may make recommendations to the NFLPA, the Management Council, the Commissioner, or an NFL committee, but it does "not have the power to commit or

¹⁸⁵ National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, p. 38.

¹⁸⁶ *Ibid.*

¹⁸⁷ *Ibid.*, p. 39.

¹⁸⁸ *Ibid.*

bind either” the players association or the Management Council on any issue.¹⁸⁹ This limitation on its authority may exist because any changes the committee proposes possibly would have to be negotiated pursuant to the collective bargaining process. On the other hand, this limitation might hamper the ability of the NFL and the NFLPA to enact in a timely manner any rule or policy changes necessary to protect the health and safety of the players. Moreover, whereas it appears that the joint committee focuses exclusively on player safety and health, when a recommendation made by the committee is forwarded to one or more of the other parties, it is unclear what other factors, interests, or considerations might be raised by these other parties when discussing the committee’s recommendation.

The joint committee also has a role to play if the NFLPA believes that any proposed playing rule changes, which are issued following the NFL’s annual meeting, would adversely affect player safety. The process is as follows:

If the NFLPA believes that the adoption of a playing rule change would adversely affect player safety, then within seven days of receiving such notice the NFLPA may call a meeting of the Joint Committee [on Player Safety and Welfare] to be held within one week to discuss such proposed rule change. Within five days after such meeting, if the NFLPA continues to believe that the adoption of a playing rule change would adversely affect player safety, the NFLPA may request an advisory decision by one of the arbitrators designated in Article IX [of the CBA]. A hearing before such arbitrator must be held within seven days of the Joint Committee meeting and the arbitrator must render his decision within one week of the hearing. No such playing rule change will be made by the Clubs until after the arbitrator’s advisory decision unless the arbitrator has not rendered his decision within one week of the hearing. The arbitrator’s decision will be advisory only, not final and binding. Except as so limited, nothing in this section will impair or limit in any way the right of the Clubs to make any playing rule change whatsoever.¹⁹⁰

While the joint committee’s role in this type of situation is relatively minor, the description of the process for addressing rule changes that might adversely affect player safety shows that, ultimately, neither the joint committee, the players association, nor the arbitrator has any capability to modify or rescind a potentially problematic proposed rule change. It is not known how many rule changes, if any, were enacted despite the objections of the NFLPA. Conversely, considering the following excerpt from the CBA, it appears that the NFLPA is not included in the process for proposing new rules and thus cannot propose any rules directed at improving player safety, let alone participate in discussions of rules proposed by the NFL and/or teams: “Immediately following the NFL annual meeting, the NFLPA will be given notice of all proposed playing rule changes, either tentatively adopted by the Clubs or put over for further consideration at a later league meeting.”¹⁹¹

¹⁸⁹ Ibid., p. 38.

¹⁹⁰ Ibid., pp. 38-39.

¹⁹¹ Ibid., p. 38.

Discussion of Selected Issues

Injuries and Financial Considerations

Anecdotal accounts suggest that a player might be concerned that, if he is unable to play because of an injury, his compensation, or his position on the team, might be jeopardized. Faced with one or more possible financial disincentives, a player might choose, then, to conceal an injury and continue to play, thus risking further injury. Moreover, by delaying or not seeking treatment — or even by downplaying the severity of his injury — a player may not receive appropriate, effective medical treatment. The lack of medical treatment, or even just the lack of timely medical care, could have long-term health consequences. Even if a player considers this possibility, the immediate financial incentives of continuing to play might outweigh concerns about possible long-term consequences, particularly since those consequences might not be well known and might be unlikely to occur.

A player does have a financial incentive to report an injury, but this incentive is relatively small. Failure to promptly report an injury to a club physician trainer may result in a fine of up to \$1,500.¹⁹² The financial penalty for failing to report an injury promptly might be less important to a player than the perception, if not the reality, of potential adverse financial consequences related to his willingness to play while injured. If an individual continues to play with an injury, an action that can be facilitated by the use of pain medications, it is possible that he risks aggravating the original injury, or that other parts of his body may be forced to compensate for the injured body part. A possible long-term consequence is that, since the injury is not part of the player's medical records, he might not have documentation he will need as a former player to be eligible for retirement plan disability benefits.

Anecdotal information, in the form of statements by players that have been reported in news articles, suggests that the perception exists among at least some players that, in some cases or situations, a player who reports an injury might be jeopardizing his career.¹⁹³ Bob Brudzinski, who was a linebacker for the then-Los Angeles Rams and Miami Dolphins, was quoted as saying

I can't say the owners and coaches didn't care. They wanted to see how tough you are. Anybody can play not injured. They wanted to see if you can play injured. There were a lot of injections and stuff like that. And the other thing is, you didn't want to sit out a game, because there's always somebody behind you who can take your spot. I never thought about concussions, never thought about blowing my knee out. The one thing I wish is that I could remember more. We used our head too much, in the wrong way.¹⁹⁴

Another player, Jim Kelly, former quarterback for the Buffalo Bills, reportedly said

¹⁹² Ibid., p. 19.

¹⁹³ Dustin Dow, "Much Pain, No Gain?" *Cincinnati Enquirer*, July 1, 2007, available at [<http://www.factiva.com/>].

¹⁹⁴ Brown, "Ex-Players Dealing With Not-So-Glamorous Health Issues."

The game is played with pain.... If you can't play in pain you should be playing golf, like I'm doing now. I think that's the mentality of players. There's a lot at stake. Big contracts, the pressure of losing your job — a lot of things force some guys to do things that maybe they shouldn't do. I know I played in a lot of games that I should not have been playing in, but I did.¹⁹⁵

Referring to the use of painkillers in order to keep playing, an unnamed offensive lineman was quoted in a news article as saying: “When you have 300-pound guys smashing into one another, what do people expect? People just see Sundays, but we hit each other every day.... Ultimately, players take them to stay on the field. Basically you're in a very competitive sport that is cutthroat. There is little tolerance for someone who's not playing.”¹⁹⁶ A former linebacker for the San Francisco 49ers, Dan Bunz, reportedly said, “The coaches dangled that carrot — if you're not ready to play, you're going to get cut [...] They just wanted you back on the field. They don't care about you, they just care about the game.”¹⁹⁷

The following comments by a former linebacker for the Cleveland Browns, Randy Gardner, suggest that performance incentives (which are discussed below) might contribute to the problem of playing injured: “You have guys who have a lot of incentives based upon playing time, you know? How many catches, maybe, how many tackles — whatever is written into contracts.... And if you don't meet that, you lose out on a lot of money. Guys understand that. They push themselves through the injuries, you know, in order to play and pretty much just to keep their jobs.”¹⁹⁸

Comments by the former director of football operations for the Pittsburgh Steelers, are consistent with the concerns expressed by players. As quoted in a *Washington Post* article, Tom Donahoe said: “Durability becomes a significant factor because there is so much money involved.... If a guy misses five or six games a year, you'll think about whether you want to sign him. And I don't know about all coaches, but many would rather have a guy with less talent who is more dependable than a more talented guy who you don't know when he'll show up.”¹⁹⁹

¹⁹⁵ Mike Freeman, “Painkillers, and Addiction, Are Prevalent in N.F.L.,” *New York Times*, Apr. 13, 1997, available at [<http://query.nytimes.com/gst/fullpage.html?res=950CE7DD1F3CF930A25757C0A961958260>].

¹⁹⁶ *Ibid.* The player who made this comment was not identified in the article.

¹⁹⁷ Ron Kroichick, “Glory Has Its Price: The 1981 49ers, Dan Bunz: Pain, Personal Welfare No Match for Pressure to Play On,” *San Francisco Chronicle*, Jan. 21, 2007, available at [<http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2007/01/21/SPG0ANLNFN11.DTL>].

¹⁹⁸ Carl Prine, “Finances Worsen Woes, Critics Say” *Pittsburgh Tribune-Review*, Jan. 9, 2005, available at [http://www.pittsburghlive.com/x/pittsburghtrib/news/specialreports/specialInfl/s_291052.html], p. 4.

¹⁹⁹ Dave Sell, “Football's Pain-Taking Process; Playing Hurt Can Be a Complicated Decision,” *Washington Post*, Dec. 8, 1996, p. D1.

Some observers might attribute the players' comments and concerns to the lack of "guaranteed contracts" in the NFL.²⁰⁰ There is no definition of a "guaranteed contract," but the term is taken to mean that a player who has a guaranteed contract will continue to receive some or all of his compensation even if he is, for example, injured and thus unable to play. The following excerpts from the NFL Player Contract, which permit a team to terminate a player's contract for reasons having to do with, among other things, the player's physical condition and performance, may contribute, at least in part, to the notion that players in the NFL do not have so-called guaranteed contracts:

8. PHYSICAL CONDITION. Player represents to Club that he is and will maintain himself in excellent physical condition. Player will undergo a complete physical examination by the Club physician upon Club request, during which physical examination Player agrees to make full and complete disclosure of any physical or mental condition known to him which might impair his performance under this contract and to respond fully and in good faith when questioned by the Club physician about such condition. *If Player fails to establish or maintain his excellent physical condition to the satisfaction of the Club physician, or make the required full and complete disclosure and good faith responses to the Club physician, then Club may terminate this contract.*

9. INJURY. Unless this contract specifically provides otherwise, if Player is injured in the performance of his services under this contract and promptly reports such injury to the Club physician or trainer, then Player will receive such medical and hospital care during the term of this contract as the Club physician may deem necessary, and *will continue to receive his yearly salary for so long, during the season of injury only and for no subsequent period covered by this contract, as Player is physically unable to perform the services required of him by this contract because of such injury.* If Player's injury in the performance of his services under this contract results in his death, the unpaid balance of his yearly salary for the season of injury will be paid to his stated beneficiary, or in the absence of a stated beneficiary, to his estate.

11. SKILL, PERFORMANCE AND CONDUCT. Player understands that he is competing with other players for a position on Club's roster within the applicable player limits. *If at any time, in the sole judgment of Club, Player's skill or performance has been unsatisfactory as compared with that of other players competing for positions on Club's roster, or if Player has engaged in personal conduct reasonably judged by club to adversely affect or reflect on Club, then Club may terminate this contract.* In addition, during the period any salary cap is legally in effect, this contract may be terminated if, in Club's opinion, Player is anticipated to make less of a contribution to Club's ability to compete on the playing field than another player or players whom Club intends to sign or attempts to sign, or another player or players who is or are already on Club's roster, and for whom Club needs room [under the salary cap].²⁰¹

As discussed below, a player may have a "skill guarantee" or an "injury guarantee" written into his contract that protects some or all of his compensation in the event his

²⁰⁰ E.M. Swift, "One Big Headache," *Sports Illustrated*, Feb. 12, 2007, p. 23.

²⁰¹ National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, pp. 252-253. (Italics added to aid in identifying significant text.)

skills decline or he sustains an injury that keeps him from playing, respectively.

The idea of a “guaranteed contract” is, perhaps, an overly broad concept for the NFL, given the different ways in which player compensation may be structured. Generally, the composition and amount of total compensation, and whether all or a portion of the compensation is guaranteed, varies from player contract to player contract. (Generally, a player has an agent who negotiates the terms of his contract with the team. However, a player may negotiate his own contract.) A player’s total compensation from the NFL may include, for example, salary, one or more bonuses, and one or more incentives.²⁰² Incentives are also known as performance bonuses; however, not all bonuses are incentives. One of the better-known bonuses an NFL player may have included in his contract is a signing bonus, which means he will receive a bonus for signing his contract with the team. Some incentives are tied to a team’s performance, such as “points scored by offense,” “points allowed by defense,” and “[number of] sacks allowed.”²⁰³ Examples of individual incentives include number of interceptions made, passer rating, and total number of receptions.²⁰⁴ A portion of a player’s compensation might be guaranteed, depending upon what was negotiated with the team, but how much is guaranteed, for what reason or reasons, and for which year or years of the contract varies from player to player.

It is difficult to know, then, how much of each player’s compensation from the league is guaranteed and how much is not guaranteed. Without this information, and, in particular, data that show how many players, if any, have none, or only a negligible portion, of their NFL compensation guaranteed, it is difficult to know whether, and how many, players could be at risk of adverse financial consequences if they are unable to play because of injuries.²⁰⁵

²⁰² Section 8 of Article XXXVIII of the CBA describes the different types of compensation a player might be entitled to in addition to his salary: “A player will be entitled to receive a signing or reporting bonus, additional salary payments, incentive bonuses and such other provisions as may be negotiated between his Club (with the assistance of the [NFL] Management Council) and the player or his NFLPA-certified agent.” (National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, p. 180.)

²⁰³ *Ibid.*, p. 111.

²⁰⁴ *Ibid.*, p. 112. The incentives that are included in a player’s contract might serve as an inducement to continue playing with an injury instead of seeking treatment, which might put the player at risk for not meeting the goal(s) in one or more of his incentive clauses. A team physician for the Pittsburgh Steelers, Jim Bradley, reportedly has suggested that “players will beg doctors to get them back into a game so they can make the three catches needed to trigger hundreds of thousands of dollars in incentive clauses in their contracts.... During games, he has signaled trainers to hide an injured player’s helmet to prevent a return to the field.” (Dan Vergano, “NFL Doctors, Players Face Off Over Painful Choices,” *USA Today*, Jan. 31, 2004, available at [<http://www.usatoday.com/news/health/2002-01-31-football-medicine.htm>].)

²⁰⁵ In the absence of comprehensive data, the long-term financial consequences for players who sustain an injury or injuries, and, as a result, are unable to play, are unknown. The
(continued...)

Apparently, however, during the 2007 season, approximately 94% of NFL players had only a portion, if any, of their compensation guaranteed. The NFLPA has noted that, if “the term ‘guaranteed’ is defined as an individually negotiated clause in a player’s contract that assures that he will receive all or most of his salary for the term of the contract, even if he is unable to play due to injury or declining skills, only about 6 per cent of all NFL player contracts are ‘guaranteed’.”²⁰⁶ This percentage equates to approximately 102 players for the 2007 season.²⁰⁷ Looking further back, “from the 1982 through 1992 seasons only *eleven* players had *any* of their base salary guaranteed....” and “[t]he average number of players with guaranteed base salary from 1995 through 2002 [was] 40 per season....”²⁰⁸

The NFLPA has noted, nevertheless, that signing bonuses are preferable to salary guarantees, and has suggested, generally, that such bonuses equate to guaranteed compensation. Specifically, the players association has stated that “a signing bonus is far more preferable to a salary guarantee” for these reasons: the money is given to the player “up front” (that is, “before he renders his services to the club”); if the club wants some or all of the signing bonus returned (for example, if the player fails to perform), the team “must legally prove its entitlement to a return of any of that money”; and the player can invest the money as soon as he receives it (unlike a salary, which is paid periodically).²⁰⁹ The NFLPA adds,

It should therefore be clear that signing bonuses, representing a more secure form of compensation than the typical ‘guaranteed contracts’ in professional baseball and basketball, more than qualify as ‘guaranteed’ compensation under any definition of that term. In 2006, approximately 52% of all compensation paid to players in the NFL was paid in the form of signing or similar bonuses or

²⁰⁵ (...continued)

actual consequences may differ from players’ perceptions, although an analysis performed by the *Pittsburgh Tribune-Review* suggests that a connection might exist between sustaining an injury and having one’s salary decreased. The *Tribune-Review*, which analyzed salary and bonus data for 109 individuals who played for the Steelers during the period 1999-2003, found that every game an injured player missed led to “nearly \$73,000 [on average] in wage concessions the next season.” (Prine, “Bloody Sundays.”)

²⁰⁶ NFL Players Association, “Guaranteed Contracts in Professional Team Sports: How Does the NFL Compare?” NFLPA issue paper, n.d., p. 3.

²⁰⁷ The percentage was calculated using 1,696 as the total number of players (each of the 32 teams has a roster of 53 players).

²⁰⁸ NFL Players Association, “A New Look at Guaranteed Contracts in the NFL,” n.d., available at [http://www.nflpa.org/PDFs/Shared/Guaranteed_Contracts.pdf], downloaded Sept. 2007, on file with the author. (*Italics in original.*)

²⁰⁹ NFL Players Association, “Guaranteed Contracts in Professional Team Sports: How Does the NFL Compare?” p. 4. In this statement, “the term ‘signing bonus’ includes bonuses which are either labeled as such or are payable ‘up front’ or with a similar degree of certainty, such as first year roster bonuses, reporting bonuses, or option bonuses.” (*Ibid.*, p. 4.)

guaranteed salary. In a very real sense, it can therefore be said that at least 52% of all compensation in the NFL is, in fact, ‘guaranteed’ to players.²¹⁰

Although, league-wide, 52% of all compensation in 2006 was virtually “guaranteed,” this does not mean that 52% of each player’s compensation was “guaranteed.”

Variations among players’ contracts, specifically signing bonuses, provide a better indication of each player’s financial status, and, as the NFLPA has suggested, could indicate what portion of a player’s contract is “guaranteed.” The NFLPA acknowledges that it “knows better than anyone that not all players can negotiate large signing bonuses or otherwise lucrative contracts.”²¹¹ The size of a player’s signing bonus might have some bearing on whether and how vulnerable a player might be to internal or external factors inducing him to play when he is injured, recognizing that an individual’s decision to play when injured could be the result of a combination of many different factors or considerations.

Signing bonus data are presented in **Tables 8** (1993-1997), **9** (1998-2002), and **10** (2003-2007). Each table shows, for each range of signing bonus amounts, information regarding two groups of players: (1) players who received signing bonuses; and (2) all players, including those who did not receive signing bonuses.

²¹⁰ Ibid. See the preceding footnote for a description of what the NFLPA includes in the term “signing bonus” in this context.

²¹¹ Ibid.

Table 8. Signing Bonuses Among NFL Players, 1993-1997

	1993		1994		1995		1996		1997	
Total Signing Bonus ^a	\$183,413,792		\$272,809,813		\$460,308,221		\$563,184,962		\$523,047,173	
Average Signing Bonus	\$308,258		\$271,723		\$364,745		\$480,533		\$436,965	
Total # of Signing Bonuses ^b	595 (40.0%)		1,003 (67.6%)		1,262 (79.4%)		1,172 (73.7%)		1,197 (75.3%)	
Total # of NFL Players ^c	1,484		1,484		1,590 ^d		1,590		1,590	
	% of Players w/ Bonus	% of Total Players^e	% of Players w/ Bonus	% of Total Players^e	% of Players w/ Bonus	% of Total Players^e	% of Players w/ Bonus	% of Total Players^e	% of Players w/ Bonus	% of Total Players^e
\$1-\$250,000	73.3	29.4	75.5	51.0	73.5	58.4	70.7	52.1	71.3	53.6
\$250,001-\$500,000	12.4	5.0	10.1	6.8	9.4	7.5	9.0	6.6	8.9	6.7
\$500,001-\$750,000	4.2	1.7	3.8	2.6	5.1	4.0	4.0	3.0	5.2	3.9
\$750,001-\$1,000,000	2.0	0.8	3.7	2.5	2.7	2.1	3.2	2.4	3.8	2.8
\$1,000,001-\$1,250,000	2.4	0.9	1.2	0.8	1.5	1.2	1.6	1.2	1.0	0.8
\$1,250,001-\$1,500,000	1.8	0.7	1.5	1.0	1.5	1.2	1.6	1.2	2.1	1.6
\$1,500,001-\$1,750,000	1.0	0.4	0.5	0.3	0.7	0.6	0.6	0.4	0.7	0.5
\$1,750,001-\$2,000,000	0.5	0.2	1.2	0.8	1.1	0.8	2.0	1.4	1.6	1.2
\$2,000,001-\$3,000,000 ^e	1.0	0.4	1.6	1.1	2.6	2.1	3.8	2.8	2.7	2.0
\$3,000,001-\$4,000,000	0.5	0.2	0.5	0.3	1.0	0.8	1.0	0.8	1.2	0.9
\$4,000,001-\$5,000,000	0.4	0.1	0.4	0.3	0.4	0.3	1.1	0.8	0.7	0.5

CRS-65

	1993		1994		1995		1996		1997	
\$5,000,001-\$6,000,000	0.1	0.06	0.1	0.06	0.2	0.2	0.7	0.5	0.5	0.4
\$6,000,001-\$7,000,000	0	0	0	0	0.2	0.2	0.5	0.4	0.2	0.1
\$7,000,001-\$8,000,000	0	0	0	0	0.1	0.01	0	0	0.2	0.1
\$8,000,001-\$9,000,000	0	0	0	0	0	0	0	0	0	0
\$9,000,001-\$10,000,000	0	0	0	0	0	0	0	0	0.1	0.06
\$10,000,001 +	0	0	0	0	0.2	0.2	0.1	0.06	0.2	0.1

Source: Information provided by the NFL Players Association to the author on Jan. 8, 2008; as described in table note e, some calculations performed by the author.

- a. The term “signing bonus” “includes bonuses which are either labeled as such or are payable ‘up front’ or with a similar degree of certainty, such as first year roster bonuses, reporting bonuses, or option bonuses.” (NFL Players Association, “Guaranteed Contracts in Professional Team Sports: How Does the NFL Compare?” NFLPA Issue Paper, n.d., p. 4. Information provided by telephone by the NFL Players Association to the author on Jan. 15, 2008.) Although some signing bonuses may be multiyear, each signing bonus in this table is included only in the year in which it was negotiated and agreed to.
- b. Each percentage in this row is the percentage of the total number of players who received a signing bonus.
- c. The total number of players was calculated by multiplying the number of teams by the number of players each team is permitted to have on its regular season and post-season roster, which is 53.
- d. Two expansion teams were added to the league in 1995: the Carolina Panthers and the Jacksonville Jaguars.
- e. The percentage of total players was calculated in this manner: the figure in the column “% of Players w/Bonus” was multiplied by the “Total # of Signing Bonuses.” The result of this calculation was rounded and then divided by the “Total # of NFL Players.” For example, for the year 1993, .733 (% of Players w/Bonus”) was multiplied times 595 (“Total # of Signing Bonuses”). The result was 436.135, which was rounded to 436. Dividing 436 by 1,484 (“Total # of NFL Players”) resulted in .2938, or 29.4%.

Table 9. Signing Bonuses Among NFL Players, 1998-2002

	1998		1999		2000		2001		2002	
Total Signing Bonus ^a	\$831,580,214		\$953,514,150		\$1,052,590,699		\$973,098,236		\$857,847,526	
Average Signing Bonus	\$710,145		\$767,107		\$788,457		\$784,124		\$689,588	
Total # of Signing Bonuses ^b	1,171 (73.6%)		1,243 (75.7%)		1,335 (81.3%)		1,241 (75.5%)		1,244 (73.3%)	
Total # of NFL Players ^c	1,590		1,643 ^d		1,643		1,643		1,696 ^e	
	% of Players w/ Bonus	% of Total Players ^e	% of Players w/ Bonus	% of Total Players ^e	% of Players w/ Bonus	% of Total Players ^e	% of Players w/ Bonus	% of Total Players ^e	% of Players w/ Bonus	% of Total Players ^e
\$1-\$250,000	66.6	49.1	63.0	47.7	62.5	50.8	62.9	47.5	67.8	49.7
\$250,001-\$500,000	8.3	6.1	8.9	6.8	9.4	7.6	9.2	6.9	8.4	6.1
\$500,001-\$750,000	4.7	3.5	3.7	2.8	3.1	2.5	4.4	3.3	3.2	2.4
\$750,001-\$1,000,000	3.2	2.3	4.2	3.2	4.0	3.2	2.6	1.9	2.6	1.9
\$1,000,001-\$1,250,000	1.6	1.2	1.9	1.5	2.2	1.8	1.8	1.3	1.8	1.3
\$1,250,001-\$1,500,000	1.6	1.2	2.5	1.9	2.6	2.1	3.0	2.3	2.4	1.8
\$1,500,001-\$1,750,000	0.9	0.7	2.3	1.8	2.0	1.6	1.0	0.7	1.4	1.0
\$1,750,001-\$2,000,000	1.5	1.1	2.3	1.8	2.0	1.6	2.0	1.5	1.6	1.2
\$2,000,001-\$3,000,000	3.7	2.7	3.7	2.8	4.6	3.7	5.3	4.0	3.9	2.9
\$3,000,001-\$4,000,000	4.0	3.0	2.7	2.1	2.5	2.0	3.3	2.5	2.7	2.7
\$4,000,001-\$5,000,000	1.2	0.9	2.3	1.8	2.1	1.7	1.3	1.0	1.3	0.9

CRS-67

	1998		1999		2000		2001		2002	
\$5,000,001-\$6,000,000	0.9	0.7	0.6	0.4	0.7	0.5	1.0	0.7	1.1	0.8
\$6,000,001-\$7,000,000	0.3	0.3	0.6	0.4	0.7	0.5	0.4	0.3	1.0	0.7
\$7,000,001-\$8,000,000	0.8	0.6	0.4	0.3	0.5	0.4	0.5	0.4	0.1	0.06
\$8,000,001-\$9,000,000	0.2	0.1	0.3	0.2	0.2	0.2	0.5	0.4	0.1	0.06
\$9,000,001-\$10,000,000	0.2	0.1	0.2	0.1	0.3	0.2	0.2	0.1	0.4	0.3
\$10,000,001 +	0.4	0.3	0.5	0.4	0.5	0.4	0.5	0.4	0.4	0.3

Source: Information provided by the NFL Players Association to the author on Jan. 8, 2008; as described in table note f, some calculations performed by the author.

- a. The term “signing bonus” “includes bonuses which are either labeled as such or are payable ‘up front’ or with a similar degree of certainty, such as first year roster bonuses, reporting bonuses, or option bonuses.” (NFL Players Association, “Guaranteed Contracts in Professional Team Sports: How Does the NFL Compare?” NFLPA Issue Paper, n.d., p. 4. Information provided by telephone by the NFL Players Association to the author on Jan. 15, 2008.) Although some signing bonuses may be multiyear, each signing bonus in this table is included only in the year in which it was negotiated and agreed to.
- b. Each percentage in this row is the percentage of the total number of players who received a signing bonus.
- c. The total number of players was calculated by multiplying the number of teams by the number of players each team is permitted to have on its regular season and post-season roster, which is 53.
- d. One team was added to the league in 1999 with the re-activation of the Cleveland Browns franchise. (The original Cleveland team was moved, by its owner, to Baltimore in 1995, and became the Baltimore Ravens.)
- e. One expansion team was added to the league in 2002, the Houston Texans.
- f. The percentage of total players was calculated in this manner: the figure in the column “% of Players w/Bonus” was multiplied by the “Total # of Signing Bonuses.” The result of this calculation was rounded and then divided by the “Total # of NFL Players.” For example, for the year 1998, .666 (“% of Players w/Bonus”) was multiplied times 1,171 (“Total # of Signing Bonuses”). The result was 779.886, which was rounded to 780. Dividing 780 by 1,590 (“Total # of NFL Players”) resulted in .4906, or 49.1%.

Table 10. Signing Bonuses Among NFL Players, 2003-2007

	2003		2004		2005		2006		2007	
Total Signing Bonus ^a	\$833,446,205		\$989,681,552		\$775,180,194		\$908,253,709		\$898,656,147	
Average Signing Bonus	\$701,554		\$882,069		\$746,083		\$889,759		\$889,759	
Total # of Signing Bonuses ^b	1,188 (70.0%)		1,122 (66.2%)		1,039 (61.3%)		1,069 (63.0%)		1,010 (59.6%)	
Total # of NFL Players ^c	1,696		1,696		1,696		1,696		1,696	
	% of Players w/ Bonus	% of Total Players ^d	% of Players w/ Bonus	% of Total Players ^d	% of Players w/ Bonus	% of Total Players ^d	% of Players w/ Bonus	% of Total Players ^d	% of Players w/ Bonus	% of Total Players ^d
\$1-\$250,000	65.1	45.6	61.6	41.0	65.0	40.0	62.3	39.3	64.6	38.4
\$250,001-\$500,000	9.7	6.8	9.2	6.1	9.3	5.7	9.4	5.9	9.5	5.7
\$500,001-\$750,000	4.0	2.8	5.0	3.3	3.8	2.3	4.3	2.7	3.8	2.2
\$750,001-\$1,000,000	3.1	2.2	2.9	1.9	4.2	2.6	3.4	2.1	4.0	2.4
\$1,000,001-\$1,250,000	1.8	1.2	2.3	1.5	1.6	1.0	1.9	1.2	1.6	0.9
\$1,250,001-\$1,500,000	2.8	1.9	2.6	1.7	2.6	1.6	2.2	1.4	2.2	1.3
\$1,500,001-\$1,750,000	1.6	1.1	1.2	0.8	1.1	0.6	1.3	0.8	0.6	0.4
\$1,750,001-\$2,000,000	2.2	1.5	2.1	1.4	2.3	1.4	2.6	1.7	1.8	1.1
\$2,000,001-\$3,000,000	3.8	2.6	4.7	3.1	2.9	1.8	4.1	2.6	3.8	2.2
\$3,000,001-\$4,000,000	1.6	1.1	2.6	1.7	2.1	1.3	2.5	1.6	1.9	1.1
\$4,000,001-\$5,000,000	1.4	1.0	1.8	1.2	1.5	0.9	2.3	1.5	1.5	0.9

CRS-69

	2003		2004		2005		2006		2007	
\$5,000,001-\$6,000,000	0.9	0.6	1.0	0.6	1.1	0.6	1.0	0.6	1.3	0.8
\$6,000,001-\$7,000,000	0.4	0.3	0.8	0.5	1.2	0.7	0.8	0.5	0.7	0.4
\$7,000,001-\$8,000,000	0.4	0.3	0.7	0.5	0.1	0.05	0.7	0.4	0.6	0.4
\$8,000,001-\$9,000,000	0.2	0.1	0.6	0.4	0.5	0.3	0.3	0.2	0.2	0.1
\$9,000,001-\$10,000,000	0.5	0.4	0.2	0.1	0.2	0.1	0.2	0.1	0.7	0.4
\$10,000,001 +	0.5	0.4	0.7	0.5	0.5	0.3	0.8	0.5	1.5	0.9

Source: Information provided by the NFL Players Association to the author on Jan. 8, 2008; as described in table note d, some calculations performed by the author.

- a. The term “signing bonus” “includes bonuses which are either labeled as such or are payable ‘up front’ or with a similar degree of certainty, such as first year roster bonuses, reporting bonuses, or option bonuses.” (NFL Players Association, “Guaranteed Contracts in Professional Team Sports: How Does the NFL Compare?” NFLPA Issue Paper, n.d., p. 4. Information provided by telephone by the NFL Players Association to the author on Jan. 15, 2008.) Although some signing bonuses may be multiyear, each signing bonus in this table is included only in the year in which it was negotiated and agreed to.
- b. The percentage in this row is the percentage of the total number of players who received a signing bonus.
- c. The total number of players was calculated by multiplying the number of teams by the number of players each team is permitted to have on its regular season and post-season roster, which is 53.
- d. The percentage of total players was calculated in this manner: the figure in the column “% of Players w/Bonus” was multiplied by the “Total # of Signing Bonuses.” The result of this calculation was rounded and then divided by the “Total # of NFL Players.” For example, for the year 2003, .651 (“% of Players w/Bonus”) was multiplied times 1,188 (“Total # of Signing Bonuses”). The result was 773.338, which was rounded to 773. Dividing 773 by 1,696 (“Total # of NFL Players”) resulted in .4558, or 45.6%.

The percentage of total players who received a signing bonus each year varied from a low of 40.0% in 1993 to a high of 81.3% in 2000. The largest change between consecutive years was a 27.6 percentage point increase from 1993 (40.0%) to 1994 (67.6%), which might be related to the approval of a new CBA in 1993. For the period 1995-2003, the percentage was at or above 70.0%. However, after reaching 81.3% in 2000, the percentages have declined each year so that, in 2007, 59.6% of total players received a signing bonus, which is a decrease of 21.7 percentage points since 2000. The signing bonus category, the range, and the difference between the lowest and highest percentages are in **Table 11**.

Table 11. Range of Percentage of Total Players Who Received a Signing Bonus, by Signing Bonus Amount

Amount of Signing Bonus	Range of Percentage of Total Players for the Years 1993-2007	Difference in Percentage Points Between Lowest and Highest Percentage
\$1-\$250,000	29.4%-58.4%	29.0
\$250,000-\$500,000	5.0%-7.6%	2.6
\$500,001-\$750,000	1.7%-4.0%	2.3
\$750,001-\$1,000,000	0.8%-3.2%	2.4
\$1,000,001-\$1,250,000	0.8%-1.8%	1.0
\$1,250,001-\$1,500,000	0.7%-2.3%	1.6
\$1,500,001-\$1,750,000	0.3%-1.8%	1.5
\$1,750,001-\$2,000,000	0.2%-1.8%	1.6
\$2,000,001-\$3,000,000	0.4%-4.0%	3.6
\$3,000,001-\$4,000,000	0%-3.0%	3.0
\$4,000,001-\$5,000,000	0.1%-1.8%	1.7
\$5,000,001-\$6,000,000	0.06%-0.8%	0.74
\$6,000,001-\$7,000,000	0%-0.7%	0.7
\$7,000,001-\$8,000,000	0%-0.6%	0.6
\$8,000,001-\$9,000,000	0%-0.4%	0.4
\$9,000,001-\$10,000,000	0%-0.4%	0.4
\$10,000,001+	0%-0.9%	0.9

Sources: Tables 8-10.

The largest percentage of players who received a signing bonus each year received a bonus valued at \$250,000 or less. The percentage of total players who received an amount in this category ranged from 29.4%, in 1993, to 58.4%, in 1995. Except for 1997 and 2000, the percentage steadily declined from 1995 through 2007. The percentage dropped by 20.0 percentage points over this period. Consequently,

in 2007, the percentage (38.4%) is only 9.0 percentage points higher than the 1993 figure (29.4%). The percentages of total players who received other signing bonus amounts experienced much smaller changes over the 15-year period. Thus, **Table 11** shows that the overall decrease in the percentage of players who received signing bonuses was due primarily to the steady decline in the percentage of players who receive signing bonuses valued at \$250,000 or less.

The nature of the game of football, and, in particular, the risk of injury and how that risk is apportioned between players and teams appears to have some bearing on how compensation is structured. News accounts regarding three players who had sustained injuries — Wayne Chrebet, Matt Birk, and Dan Morgan — and how their respective teams responded to their situations illustrates how risk is allocated between the team and the player. A description of how then-New York Jet Wayne Chrebet’s contract was re-structured shows the complexity of one player’s contract, and illustrates how a team can protect itself financially. Of particular concern to the team, apparently, was the number of concussions that Chrebet already had sustained; reportedly, he had had at least six concussions by the time he retired several months after the end of the 2005 season.²¹² The article on Chrebet’s “concussion clause” stated the following:

Chrebet, signed through 2008, agreed to a \$1.3 million pay cut that lowers his base salary this season [2004] to \$1.5 million, according to NFL Players Association documents. The pay cut isn’t a surprise, considering Chrebet probably will lose his starting job, but the new contract does include an injury-related wrinkle. The Jets got Chrebet to sign a ‘split’ contract, a complicated deal that would save them from having to pay his entire \$1.5 million salary if he’s placed on injured reserve with a concussion. Ordinarily, a player receives his full salary on injured reserve. Clearly, the Jets are concerned that another concussion would end Chrebet’s season — and quite likely his career. The ‘split’ salary, as negotiated by both parties, is \$500,000. It means that, if Chrebet were to land on injured reserve, his salary would drop to \$500,000 from \$1.5 million. Pro-rated over the course of a season, the difference is about \$60,000 per week. The contract states that only a concussion, and no other injury, can trigger the ‘split’ salary. To sweeten the deal for Chrebet, the Jets guaranteed \$500,000 of the \$1.5 million salary. He receives that amount no matter what, even if he’s not on the opening-day roster.²¹³

In 2005, Matt Birk, a center for the Minnesota Vikings, considered how much risk he wanted to take in continuing to play while injured, as recounted in a news article.²¹⁴ Although he had had three hernia operations and was experiencing chronic

²¹² William C. Rhoden, “A Jet Who Led with His Head, and His Heart,” *New York Times*, Sept. 24, 2007, available at [http://www.nytimes.com/glogin?URI=http://www.nytimes.com/2007/09/24/sports/football/24rhoden.html&OQ=_rQ3D1&OP=1744e5c7Q2FIokA16_YRx_r717Q51Q51.IQ51Q2717bIRW_xrRIQ7E_rAycc17bxQ5D_6kztQ5DrBc].

²¹³ Rich Cimini, “Jets Give Chrebet Concussion Clause,” *New York Daily News*, Mar. 31, 2004, available at [http://www.nydailynews.com/archives/sports/2004/03/31/2004-03-31_jets_give_chrebet_concussion.html].

²¹⁴ Joseph Nocera, “The Union That Can’t Throw Straight,” *New York Times*, Sept. 17, (continued...)

pain, Birk played in most games during the 2004-2005 season. At the beginning of the 2005-2006 season, he asked the team to guarantee his salary for the 2006-2007 season. He offered to play injured — he had a hip injury — during the 2005-2006 season in exchange for guaranteed salary the following season. Reportedly, Birk explained his reasoning as follows:

Playing with pain is part of the game.... But I felt that I had risked my career by playing injured last year [2004], and probably shortened it. And I wasn't willing to do it again unless the team was going to assume some of the risk." So he asked the Vikings to guarantee the \$3.94 million his contract called for him to get next year [2006]. The Vikings declined. On Tuesday, Mr. Birk went under the knife. He's done for the season.²¹⁵

Another player who, reportedly, had his contract restructured because of his team's concern about his history of concussions is Dan Morgan. *The New York Times* article described his situation as follows:

... teams are wary of players with a history of concussions. An example is Carolina Panthers linebacker Dan Morgan — who has sustained at least five concussions but was cleared to continue playing — and faced being cut had he not agreed to restructure his \$2 million roster bonus into payments of \$125,000 for each game he played. Beyond acknowledging the team's concerns about subsequent concussions, the contract gave Mr. Morgan financial incentive not to reveal any concussion for treatment. Mr. Morgan has missed most of this season [2007] with a torn Achilles' tendon, and has declined interview requests by *The New York Times*. Regarding the restructuring of his contract, Mr. Morgan told *The Herald of Rock Hill, S.C.*, "I didn't have a problem with that, because that's just them protecting themselves."²¹⁶

Without data, it is impossible to know how many players have faced situations similar to Chrebet's, Birk's, or Morgan's; have obtained one or more guarantees in their contracts; or have been unsuccessful in obtaining any type of guarantees.

Andrew Zimbalist, an economics professor at Smith College who has written extensively on sports economics, summarized the situation in the NFL: "The lack of guaranteed contracts is a natural outcome of football players getting hurt."²¹⁷ In a similar vein, the NFL Players Association offered this explanation for "no-cut" contracts (that is, contracts that do not include any guarantees):

There's no argument that no-cut contracts in the NFL have been a rarity. For a lot of reasons. Mainly, owners just said "No." That's the way "Things had always been" and traditionally owners held virtually all of the leverage in contract negotiations. That meant that players, who rarely — if ever — had a

²¹⁴ (...continued)
2005, p. C1.

²¹⁵ Ibid.

²¹⁶ Alan Schwarz, "For Jets, Silence on Concussions Signals Unease," *New York Times*, Dec. 22, 2007, p. A20.

²¹⁷ Nocera, "The Union That Can't Throw Straight."

viable alternative if they wanted to have a pro football career, were forced to sign a series of one year non-guaranteed contracts. The NFL was “unique,” owners argued, because injury rates to players (who, ironically took all the risks) were so high that there was no desire to have [to] keep on paying players no longer in the league.²¹⁸

If injury risk were re-allocated and the compensation structure were altered accordingly, players might be less likely to play with injuries, which would benefit them immediately, and might also positively affect their long-term health. On the other hand, NFL teams might be adversely affected if they were required to bear more of the risk related to injuries than they do presently. A team cannot pay its players more than the NFL-established salary cap each year.²¹⁹ The existence of a salary cap means that a team would be unable to hire and pay additional players to play in place of injured players while it continues to pay the salaries of the injured players. A related problem is that a team may be unwilling or unable financially to pay the salaries of more than 53 players (a team can have only 53 players on its regular season and postseason rosters). The NFLPA describes this dilemma for teams as follows:

In the NFL, the salary cap rules require that any salary paid in a given year must count against the cap for that year even if the player is no longer playing. If a team has a large number of guaranteed contracts, a rash of injuries to players covered by those contracts could cause severe cap problems for the team and diminish its ability to compete with healthy players on the field.²²⁰

A journalist for *The New York Times* explains further how “guaranteed contracts” could adversely affect a team’s ability to maintain a competitive team:

... there are seasons when dozens of players on one roster will miss at least some games because of injury. If football teams had to pay every player whose abilities were diminished as a result of injury, or had to continue paying a player who had suffered a career-ending injury, there is no way they’d be able to stay

²¹⁸ NFL Players Association, “A New Look at Guaranteed Contracts in the NFL.” A related issue is the length of contracts: “Fans often read about multiyear deals, but NFL compensation packages are really a series of one-year contracts. Because of career-ending injuries, players increasingly rely on signing bonuses struck at the beginning of the contract and performance incentives after they take the field. Signing bonuses now constitute half of a player’s take-home pay, according to the National Football League Player’s Association.” (Prine, “Bloody Sundays.”) Reportedly, the rationale offered by an employee of the NFL for one-year contracts is as follows: “The NFL is a competitive sports league We put the world’s best athletes on the field, so it’s a competitive business by its very nature. Let’s say a team gave someone a long-term contract. What’s the player’s incentive to compete? You must have an incentive to get out there and compete at the highest level, or you won’t have the competitive excellence that we have in the NFL.” (Ibid.)

²¹⁹ The “salary cap” is the “absolute maximum amount of Salary that each Club may pay or be obligated to pay” its players each year. (National Football League and the NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, p. 7.)

²²⁰ NFL Players Association, “Guaranteed Contracts in Professional Team Sports: How Does the NFL Compare?” p. 3.

within the [salary] cap. There would be too much “dead money” going to players who weren’t playing.²²¹

Combining the salary cap with so-called guaranteed contracts possibly could undermine a team’s ability to field a competitive team, which, in turn, might affect the team’s revenues.

There may be a particular group of players who are especially vulnerable to choosing to play while injured, because of the way risk is allocated between the team and the players. Framed as a question, are the players who are less likely to have guarantees (or to have large guarantees) included in their contracts also the players who are more likely to be cut from the team? For some positions on a team, there are two, three, or possibly four individuals who can play a particular position. After the starter (the player who, generally, is the best at that position), the other players are listed on the depth chart, in descending order, so that the individual who is number four on the depth chart is possibly the least experienced, or least skilled, player at that position. Players who are number three or number four on the depth chart for their respective positions might feel pressured to play when injured in the hope of moving up the depth chart, or not being cut from the team following the end of the season.²²² Since these players, generally, are the least skilled or least experienced on the team, it seems possible that they are less likely than players who are ahead of them on the depth chart to have guarantees written into in their contracts. Tiki Barber, upon retiring from the New York Giants, reportedly acknowledged that this might be a problem: “Barber was quick to point out that he didn’t start to ponder such things [the fact that he was no longer able to recover as quickly after games as he had in the past] until after he was an established star. He said a player trying to make a team, seize a role and earn a payday almost certainly isn’t thinking about his long-term health.”²²³

Selected Challenges for Some Retired Players

Clearly, some former players are very successful after their careers have ended. Among the most well-known, by virtue of their success as players and their post-NFL careers as sports broadcasters, are, for example, Terry Bradshaw, Boomer Esiason, Howie Long, Dan Marino, and Phil Simms.²²⁴ Other former players may, for a variety of reasons, experience very different circumstances, as described here:

²²¹ Nocera, “The Union That Can’t Throw Straight,” p. C1.

²²² Here is another description of what might occur: “NFL depth charts are malleable. Job security is minimal. A player goes down in a practice or a game and is quickly replaced within the next-man-up framework. Many coaches systematically ensure that injured players are out of view of the rest of the team, rehabilitating out of sight and, hopefully, out of mind.” (Paul Kuharsky, “Players Sacrifice Health for Game,” *Tennessean.com*, Dec. 13, 2007, available at [<http://ashlandcitytimes.com/apps/pbcs.dll/article?AID=/20071213/SPORTS01/712130408/1001/NEWS>].)

²²³ Ibid.

²²⁴ CBS, “CBS Sports Team,” available at [<http://sportsline.com/cbssports/team>]; Fox Sports, “2007 NFL Schedule on Fox,” available at [<http://msn.foxsports.com/nfl/story/6671136>].

While ex-NFL players can always seek employment in other professional football leagues, such as the Canadian Football League or the Arena Football League, salaries for players in those leagues usually pale in comparison to NFL salaries. Thus, for most NFL players, when their NFL career ends, so too does their professional football career. So instead of continuing a professional football career, many ex-NFL players gravitate toward positions in coaching, scouting, finance, sales or real estate, all of which can offer a good wage by most standards, but typically not by NFL standards. Other ex-NFL players lack the education, skills, or life experience to obtain continuous employment outside of football. In short, life in the NFL may be good, but it's usually very short, and the vast majority of ex-NFL players are headed for lives more akin to those of their fans than of their star teammates.²²⁵

For some retired players, then, finding gainful employment might be relatively difficult. The lack of gainful or continuous employment could be particularly problematic for a retiree who has chronic health problems or one or more disabilities. In addition to financial remuneration, having a job, generally, provides access to health insurance or some other type of health care plan or program. If a retired player is employed by a company that does not provide medical benefits, however, it may be difficult and costly for him to obtain his own health insurance, depending upon the injuries he sustained as a player. As reported by a journalist, Joe Montana, former quarterback of the San Francisco 49ers, needed health insurance upon retiring from the NFL. The lowest estimate he received was \$106,000 per year, because he was considered to be in a high-risk group.²²⁶ Kansas City Chiefs' guard Kyle Turley reportedly has posed the following question: "How am I going to go to an insurance company and say, 'I'm overweight and have all kinds of injuries and now I've got to pay for insurance for the rest of my life'?"²²⁷ According to another news article, Miki Yaras-Davis, director of the NFLPA's benefits department, suggested that "most players never make enough over their careers to afford out-of-pocket costs for long-term conditions, and very few insurance carriers will treat gridiron [football] ailments...."²²⁸

Another aspect of the financial-medical relationship is that an individual who has one or more chronic health problems or disabilities (as interpreted broadly), might not be able to get or keep a job. The lack of steady employment might decrease the probability that an individual has the resources necessary to obtain health care.

²²⁵ Michael McCann, "NFL Retirement System Not As Bad, or Good, As Argued, *SI.com*, Sept. 18, 2007, available at [http://sportsillustrated.cnn.com/2007/writers/michael_mccann/09/18/hearings/index.html].

²²⁶ Charles Chandler, "Ex-Players Say NFL Neglects Retirees; Hall of Famers: League, Union Leader Fall Short in Providing Benefits," *Charlotte Observer*, June 4, 2007, available at [<http://www.factiva.com/>].

²²⁷ Les Carpenter, "Split on NFL Union's Effectiveness Lingers," *Washington Post*, Jan. 28, 2008, p. E5.

²²⁸ Prine, "Finances Worsen Woes, Critics Say."

A former player's size — that is, the combination of his height and weight — might lead to difficulties in finding nursing home care. Eleanor Perfetto, the wife of former San Diego Charger Ralph Wenzel, had trouble finding a facility that would take her husband. Wenzel suffers from Alzheimer's-type dementia, and “victims of Alzheimer's-type diseases occasionally become violent, and former football players of his size (6 feet 2 and 215 pounds) are difficult for staff members to subdue. ‘These facilities are used to older people who are fairly decrepit — who have strokes or blindness or use a walker, that sort of thing,’ Dr. Perfetto said.”²²⁹ While the 88 Plan will help former players with dementia and their families pay for their care, Dr. Perfetto's comments suggest that cost may be only part of the challenge in obtaining appropriate health care for players with certain types of diseases.

Total and Permanent (T&P) Disability Benefit

While former players may be concerned about several of the different benefits available to them, the T&P disability benefit seems to be particularly contentious. At congressional hearings in 2007 and in news articles, several former players recounted their experiences in attempting to obtain T&P benefits. The following account about Dave Pear, a former player for the Oakland Raiders and Tampa Bay Buccaneers, appeared in the *Washington Post Magazine*:

Since football, he has undergone seven spinal surgeries, including a 1984 operation to fuse a disk in his neck. He had his most recent spinal surgery last April [2007], when doctors fused two herniated disks in his back. Not unexpectedly, the four screws holding the disks together have left Pear with postoperative discomfort, and at this moment he is experiencing a new throbbing in his right hip. His doctors have said that at some point he'll need two new hips.... At 54, he shuffles like an ailing 80 year-old man. He suffers from chronic fatigue that leaves him falling asleep without warning on most mornings and afternoons....

Off and on for the past quarter-century, [Pear] has been unsuccessfully pressing the NFL for disability benefits that he believes have been unjustly denied him by the league's retirement board. His monthly NFL pension is \$606, but he estimates that he often spends about \$1,000 alone out-of-pocket on medication.... In 1995, he believed his working days were running out. He applied for the league's total and permanent disability benefit with the retirement board. The doctor commissioned by the board to assess his condition portrayed Pear as a man whose physical ailments left him able to do little. Presented with evidence that included reports on Pear's acute fatigue, the doctor said that Pear would require a job that granted him “frequent rest breaks.” He would also need, the doctor added, to be limited to sedentary work. Pear should not stand for lengthy periods, should not bend and could not be expected to lift anything more than 15 pounds, the doctor wrote.... The six-man board ... rejected his claim. Three years later, eager to put his hands on cash wherever he could find it, Pear filed for his early retirement pension from the league at the minimum age of 45 and started collecting \$484 a month initially. The small benefit came to Pear's

²²⁹ Alan Schwarz, “Wives United by Husbands' Post-N.F.L. Trauma,” *New York Times*, Mar. 14, 2007, p. C15.

savings account at a severe cost: In accepting it, he sacrificed any claim to a disability payment forever, according to the rules of the retirement board plan.²³⁰

The following is the NFLPA's account of Pear's efforts to obtain disability benefits:

Mr. Pear played professional football in the NFL from 1975-1980.... Mr. Pear applied for LOD benefits in 1983. At that time, the Retirement Board was required to determine that the player's injury caused him to leave football before it could grant LOD benefits. After evaluating the report of the neutral physician who examined Mr. Pear, the three player trustees [on the Retirement Board] wanted to award Mr. Pear the LOD benefits, but the three management trustees refused to do so. As a result of this deadlock, the Board sent the issue to an arbitrator, who ultimately ruled that the injury did not cause Mr. Pear to leave football.... Mr. Pear applied for T&P benefits in 1995. The [Retirement] Plan doctor who examined Mr. Pear determined that he could work. The [Retirement] Board therefore concluded that Mr. Pear did not qualify for T&P disability benefits.²³¹

When the T&P disability benefit was established, only two categories of benefits, "active football" and "active nonfootball," were included. The "football degenerative" and "inactive categories" were added in 1993. An individual does not have to be vested to receive "active football" or "active nonfootball" T&P benefits, but he must be vested to receive "football degenerative" and "inactive benefits."²³² The four benefit categories, including the amount of monthly payment, are as follow:

- Active football. The monthly benefit will not be less than \$4,000 if the disability or disabilities arise out of NFL football activities, or arise while the player is an active player, and otherwise cause the player to be totally and permanently disabled "shortly after" the disability or disabilities first arise.²³³
- Active nonfootball. The monthly benefit will not be less than \$4,000 if the disability or disabilities do not result from NFL football activities, but do arise while the player is an active player, and cause the player to be totally and permanently disabled "shortly after" the disabilities first arise.
- Football degenerative. The monthly benefit will not be less than \$4,000 if the disability or disabilities arise out of NFL football activities and result in T&P disability before 15 years after the end of the player's last credited season.

²³⁰ Michael Leahy, "The Pain Game," *Washington Post Magazine*, Feb. 3, 2008, pp. 10, 23.

²³¹ NFL Players Association, "NFLPA White Paper," pp. 14-15. As a result of the collective bargaining process for the 1993 CBA, the requirement for the LOD disability benefit that a player's injury must have forced him to retire was eliminated from the retirement plan. (Ibid., p. 15.)

²³² Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, p. 5.

²³³ See **Table 4**, note o. for an explanation of "shortly after."

- Inactive. The monthly benefit will not be less than \$1,500 (\$1,750 for applications received on or after April 1, 2007) if the T&P disability arises from other than NFL football activities while the player is a vested inactive player, or the disability or disabilities arise(s) out of NFL football activities and result(s) in total and permanent disability 15 or more years after the end of the player's last credited season, whichever is later.²³⁴

Individuals who receive active T&P benefits in the “active football,” “active nonfootball,” or “football degenerative” categories automatically qualify for NFL Player Supplemental Disability Plan benefits.²³⁵ **Table 12** shows the amounts of payments for each category of T&P benefit. The NFL and the NFLPA announced on February 29, 2008, that “the minimum benefit post-career” for “non-football ‘total and permanent’ disability” had doubled from “\$20,000 to \$40,000 per year for retired players who become disabled unrelated to football,” which, apparently, is a reference to “inactive” benefits.²³⁶ However, because details involving this change are not available yet, **Table 12** does not incorporate this change.

Table 12. Total and Permanent Disability Payments by Category

Category	T&P Disability Benefit Amount	Supplemental Disability Plan Benefit Amount	Total
Active Football			
Monthly	\$4,000	\$14,670	\$18,670
Annually	\$48,000	\$176,040	\$224,040
Active Nonfootball			
Monthly	\$4,000	\$7,167	\$11,167
Annually	\$48,000	\$86,004	\$134,004
Football Degenerative			
Monthly	\$4,000	\$5,167	\$9,167
Annually	\$48,000	\$62,004	\$110,004

²³⁴ Bert Bell/Pete Rozelle NFL Player Retirement Plan, p. 20.

²³⁵ Bert Bell/Pete Rozelle NFL Player Retirement Plan, Summary Plan Description, Apr. 2005, p. 15.

²³⁶ National Football League and NFL Players Association, “NFL and NFL Players Association Expand Disability Benefits Program for Retired Players,” p. 1.

Category	T&P Disability Benefit Amount	Supplemental Disability Plan Benefit Amount	Total
Inactive			
Monthly	\$1,500 ^a	0	\$1,500
	\$1,750 ^b	0	\$1,750
Annually	\$18,000 ^a	0	\$18,000
	\$21,000 ^b	0	\$21,000

Sources: National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, Mar. 8, 2006; Bert Bell/Pete Rozelle NFL Player Retirement Plan, Apr. 1, 2001.

a. This amount is for players who applied for T&P benefits prior to Apr. 1, 2007.

b. This amount is for players who applied on or apply after Apr. 1, 2007 for T&P benefits.

An active player who sustains an injury that results in a T&P disability receives the largest annual payment, \$224,040. Comparing the latter three categories with this category (“active football”) shows that the “active nonfootball” total annual amount equates to 60% of the “active football” benefit total annual amount; “football degenerative” equates to 49%; and “inactive” equates to 8% (\$18,000) and 9% (\$21,000). The size of the payment for the “inactive” category, when compared to the size of the payments for the other three categories, and the threshold for distinguishing between a “degenerative football” disability and an “inactive” disability (which is discussed below), might contribute to the contentious nature of disagreements between retirees, on the one hand, and the NFL, the NFL Players Association, and the Plan Office, on the other hand.

As **Table 12** shows, the benefit amount decreases if the disability is not related to football, and whether a disability is related to football is determined by the amount of time that has passed since retirement from the NFL. In the following explanation of how T&P benefits are structured, the NFLPA essentially confirms that this is the methodology for determining the size of benefit for each category:

The criteria for all of these T&P benefits [the four categories] were forged in collective bargaining. Which category applies in a specific case generally depends on (1) the cause of the disability and (2) the length of time between a player’s NFL career and his inability to work. In the view of the NFLPA, it is appropriate for the benefit to be greater where NFL football was the cause and it is appropriate that the payment amount may depend in part on the length of time between the player’s NFL career and his inability to work.²³⁷

This explanation raises a few questions. For example, does scholarly literature indicate that total and permanent disabilities caused by injuries peculiar to playing professional football manifest themselves within a certain time frame? Specifically, is the time frame selected by the NFL and the NFLPA — 15 years — supported by

²³⁷ Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, p. 18.

scholarly literature? Additionally, do some types of disabilities appear later than others?

The threshold (that is, time frame) for determining whether a player’s disability can be classified as “football degenerative” instead of “inactive” was changed in 2006 for applications received on or after September 1, 2006. **Table 13** shows the relevant language prior to the 2006 amendment — which still applies to applications received prior to September 1, 2006 — and the current (post-amendment) language, which applies to applications received on or after September 1, 2006. The key difference between the two versions, as shown below, is that the time threshold, which is used to determine whether a player who is otherwise eligible for T&P benefits receives the “football degenerative” benefit, has changed.

Table 13. Selected Criteria for Football Degenerative and Inactive Categories

Retirement Plan Version	Football Degenerative	Inactive
Prior to 2006 Amendment ^a	“(c) The monthly benefit will not be less than \$4,000 if the disability or disabilities arise out of NFL football activities and results in T&P disability before age 45 or 12 years after the end of the player’s last credited season, whichever is later.”	“(d) Inactive: monthly benefit will not be less than \$1,500 if the T&P disability arises from other than NFL football activities while the player is a vested inactive player, or the disability or disabilities arises out of NFL football activities and results in total and permanent disability after age 45 or 12 years after the end of the player’s last credited season, whichever is later.”
2006 Amendment ^b	“(c) Football degenerative: monthly benefit will not be less than \$4,000 if the disability or disabilities arise out of NFL football activities and results in T&P disability before 15 years after the end of the player’s last credited season.”	“(d) Inactive: monthly benefit will not be less than \$1,500 [or \$1,750 for individuals who applied on or after April 1, 2007] if the T&P disability arises from other than NFL football activities while the player is a vested inactive player, or the disability or disabilities arises out of NFL football activities and results in total and permanent disability 15 or more years after the end of the player’s last credited

Retirement Plan Version	Football Degenerative	Inactive
		season, whichever is later.”

Sources: *Bert Bell/Pete Rozelle NFL Player Retirement Plan*, Apr. 1, 2001; “Bert Bell/Pete Rozelle NFL Player Retirement Plan, Amendment,” amendment to Sec. 5.1(c), signed Sept. 12, 2006; “Bert Bell/Pete Rozelle NFL Player Retirement Plan, Amendment,” amendment to Sec. 5.1(d), signed Oct. 4, 2006.

- a. The language in this row applies to applications received prior to Sept. 1, 2006.
- b. The language in this row applies to applications received on or after Sept. 1, 2006.

Table 14 shows how the change in the threshold will affect players, depending upon the age at which they retire, who file for T&P disability benefits on or after September 1, 2006.

Table 14. Effect of 15-Year Threshold on Eligibility for “Football Degenerative” Benefits

Age at Which Player Retires	Latest Age at Which Player Can Receive “Football Degenerative” Benefits	
	Prior to 2006 Amendment	2006 Amendment
23 ^a	45	38
25	45	40
30	45	45
35	47	50
40	52	55
45	57	60
50	62	65

Sources: Table developed by the author using the following information: *Bert Bell/Pete Rozelle NFL Player Retirement Plan*, Apr. 1, 2001; “Bert Bell/Pete Rozelle NFL Player Retirement Plan, Amendment,” amendment to Sec. 5.1(c), signed Sept. 12, 2006; “Bert Bell/Pete Rozelle NFL Player Retirement Plan, Amendment,” amendment to Sec. 5.1(d), signed Oct. 4, 2006.

- a. This is most likely the youngest age at which a player could retire and be vested. A player must have three credited seasons to be vested, and it is assumed that no one younger than 20 enters the NFL. Pursuant to the CBA, an individual shall not be eligible for the draft “until three regular NFL seasons have begun and ended following either his graduation from high school or graduation of the class with which he entered high school, whichever is earlier. For example, if a player graduated from high school in December 2006, he would not otherwise be eligible for selection, until the 2010 Draft.” (National Football League and NFL Players Association, *NFL Collective Bargaining Agreement*, 2006-2012, Mar. 8, 2006, p. 46.)

This table shows that the change in criteria will affect differently players younger than age 30 and players older than age 30 at the time of retirement. For players who are younger than 30 when they retire, their disabilities, if any, will need to surface at a younger age than under the previous criteria for them to be eligible for the “football degenerative” benefit. Players who retire at age 31 or older will have an additional three years, compared to the previous criteria, in which their disabilities may surface for them to be eligible for the “football degenerative” category. The implications of this change in criteria for players who retire before they reach age 30 are unknown. As noted above, the length of an average career is 3½ seasons, so a significant number of players might retire before age 30. Accordingly, players who have relatively short careers probably sustain fewer injuries than their peers who play for 10 or 15 years.

Applications for disability benefits are initially considered by the Disability Initial Claims Committee (DICC). Subsequently, an applicant may have an application reconsidered by the Retirement Board. (29 CFR §2560.503-1(h)(3)(ii) and (4) require a disability plan to have a mechanism for an applicant to appeal an adverse benefit determination, and stipulate that neither the individual who made the adverse determination, nor anyone subordinate to this individual, can hear the appeal.) On its review, the Board is not bound by the evidence presented to the DICC or its findings, but rather has broad discretion as to what it may take into account, including evidence not previously presented. Decisions of the Board may be appealed to federal courts.

Overall, from July 1, 1993, through June 26, 2007, 1,052 individuals applied for LOD or T&P disability benefits: 428 applications were approved; 576 were denied; and 48 are pending. The approval rate, which does not include the cases that are pending, is 42%.²³⁸ The following series of statements shows the status of applications at each step of the process.

- 1,052 applications submitted for disability benefits.
 - 358 (34%) applications approved.
 - 675 (64%) applications denied.
 - 19 (2%) applications are pending.
- 223 (33% of 675) applications denied at the initial stage were appealed.
 - 69 (31%) approved on appeal.
 - 132 (60%) denied on appeal.
 - 22 (10%) appeals are pending.
- 32 (24% of 132) applicants whose appeals were denied filed a lawsuit.
 - 1 (3%) lawsuit resulted in a reversal of the Retirement Board’s decision.

²³⁸ Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, pp. 9-10.

- 24 (75%) lawsuits resulted in the Retirement Board’s decisions being upheld.
- 7 (22%) lawsuits are pending.²³⁹

This tally shows that of the cases it decided, the DICC’s approval rate was a little over 34%. The Retirement Board’s approval rate of the cases it reviewed following DICC consideration was similar, at 31%. The opportunity for Retirement Board review resulted in a greater overall approval rate of about 42% of applications filed. On the other hand, were the Retirement Board alone to have considered applications, it is not certain that the overall approval rate would have been lower than 42%, or if the approval rate might be equal to or even exceeding the 42% rate.

The reasons applications are denied, which are not publicly available, might shed some light on why applicants decide not to appeal, or otherwise challenge, adverse decisions. Some applicants may have missed a deadline, not been able to provide satisfactory documentation to the Disability Initial Claims Committee (DICC), or applied for T&P benefits while already receiving a retirement plan pension (a player who is receiving a pension is not eligible for disability benefits). Information on the reasons for denial possibly could be useful in identifying processes, policies, or guidelines that could be improved. Information on the reasons for denial, particularly if made available to former players (if not to the public as well), could provide some transparency and possibly facilitate accountability.

Table 15 shows how many former players receive, or have received, T&P benefits as of a single day. The latter group includes players who, upon reaching age 55, had their T&P benefits automatically converted to pension payments, with no reduction in the amount of money they receive. The data in **Table 15** are current as of a single day, October 23, 2007.

Table 15. Number of Players Who Are Receiving or Have Received T&P Benefits, as of October 23, 2007

T&P Disability Category	Number and Percentage of Players Receiving T&P Benefits as of October 23, 2007 ^a	Number and Percentage of Players Who Are Age 55 or Older and Who Previously Received T&P Benefits ^b	Total
Active Football	6 (4%)	2 (3%)	8 (4%)
Active Nonfootball	9 (6%)	3 (4%)	12 (5%)
Football Degenerative	91 (60%)	21 (30%)	112 (50%)

²³⁹ Ibid.

T&P Disability Category	Number and Percentage of Players Receiving T&P Benefits as of October 23, 2007 ^a	Number and Percentage of Players Who Are Age 55 or Older and Who Previously Received T&P Benefits ^b	Total
Inactive	48 (31%)	44 (63%)	92 (41%)
Total	154	70	224

Source: Letter from Eugene Upshaw, Executive Director, NFL Players Association, to Reps. John Conyers, Jr., Lamar S. Smith, Linda T. Sanchez, and Christopher B. Cannon, Nov. 5, 2007, pp. 6-7.

- a. This column includes former players who are age 54 or younger.
b. Disability benefits are converted to retirement benefits at age 55. The amount of the benefit does not change when the conversion occurs.

According to **Table 15**, eight players receive the highest payment available (\$224,040). Moving on to “active nonfootball,” 12 former players receive payments that equate to 60% of the highest payment; 112 players in the “football degenerative” category receive payments that are 49% of the highest amount; and 92 players in “inactive” category receive 8% or 9% of the highest amount. Comparing the total number of players who are younger than age 55 with the total number of players who are age 55 or older shows that more than twice as many players receiving T&P benefits are under age 55. **Table 15** also shows that the percentages of players receiving “active football” and “active nonfootball” benefits are similar. A significant difference between the two age groups is evident in the percentages of players who receive “football degenerative” and “inactive” benefits: 60% of the players younger than 55 receive “football degenerative” benefits while only 30% of players older than 55 receive the same type of benefit. The percentages are reversed for “inactive benefits.” It is not clear why this difference exists. It may be due, for example, to changes in the benefit plan over the years. As noted above, the benefit plan initially included only two types of T&P benefits.

A comparison between active players and former players shows that only 9% (active football and active nonfootball) of the T&P disabilities occurred when an individual was in the NFL. Conversely, the data suggest that most T&P disabilities — 91% — surface after players have retired and been out of the NFL more than six months.

The league and the players association have taken steps designed to improve the disability application process. In December 2007, the NFL announced that the organizations had agreed on a series of improvements involving disability benefits, including providing prescription drug cards to retired players that will permit them to buy prescription medications at a discount.²⁴⁰ The changes are as follow:

²⁴⁰ National Football League, “Improvements Made to Disability Plan Procedures,” news release, Dec. 12, 2007.

1. Medical Director — The plan will retain a medical director to consult with the two-person initial claims committee and, as needed, with the retirement board to assist in resolving claims. It is expected that this will reduce the number of initial denials at the claims committee level, expediting both initial approvals and the processing of appeals. In addition, the medical director can help ensure that standards are consistently applied, that reports are prepared in a timely basis, and otherwise monitor the performance of neutral physicians.

2. Physician Panels — The plan will establish a series of physician “panels” or “teams,” consisting of doctors with experience in orthopedic and other practices. These teams will be located in areas where there is the largest concentration of retired players, including in Arizona, California, Florida and Texas, as well as in other major metropolitan areas. This change will reduce the trips required of people needing to be examined by doctors in different specialties.

3. Claims Specialist — The plan will provide a specialist to receive calls from applicants via a toll-free number. This specialist will assist in preparing applications and advise applicants on the information that is required. The completed application will be sent to the applicant for review, verification and signature. The 45-day review period will begin once the signed application is returned. This service will make it more likely that applications are completed correctly the first time and thus reduce the processing time.

4. Expedited Email Appeals — The retirement board will, whenever possible, decide appeals via email ballots. This will allow for faster decisions on many appeals and will avoid requiring applicants to wait for the next scheduled meeting of the retirement board.

5. Extending Review Period — The plan will reduce the number and frequency of continuation reviews for those applicants receiving total and permanent disability benefits by extending the current three-year maximum to at least five years. Any three trustees may require a continuation review more frequently, although not more frequently than annually, if they decide there is reason to do so.²⁴¹

Furthermore, the NFL and the NFLPA have agreed that any eligible former player who is receiving Social Security disability benefits will be granted disability benefits automatically and will not have to be examined by a retirement plan doctor.²⁴² Other changes to T&P disability benefits may be found in **Table 4**.

Conducting a program evaluation of the T&P disability benefit plan, which would include an examination of the outcomes and unintended consequences, if any, of these changes, could aid in establishing and maintaining an efficient, effective, and responsive disability plan and application process. Sharing the results of the study with all interested parties, including, for example, the NFL, NFLPA, former players, and active players, could promote transparency and accountability.

²⁴¹ Ibid.

²⁴² NFL Players Association, “NFLPA White Paper,” n.d., pp. 5-6.

Is There a Subset of Former Players with Exceptional Needs?

For a variety of reasons, it seems possible that a former player's financial and medical needs might be related to his age. While the usual effects of the aging process can affect a retiree's health and employment situation, there may be additional factors that could affect older retirees. Over the years, improvements and advances have taken place in these areas: playing rules,²⁴³ equipment, and playing surfaces; medical knowledge, procedures, and technologies; and benefits. Therefore, it seems likely that individuals who played 20, 30, and 40 years ago might not have been protected as well as current players; might have received medical care that, while the best available at the time, was not as effective or successful as the care available today; and are not eligible for all of the benefits available to current players. Thus, older players might be a subset with, for the reasons stated here, exceptional financial and medical needs, and their needs exceed the benefits available to them.

Playing rules, protective equipment, and playing surfaces have evolved over the years. For example, until it was prohibited in 1977, a player could use the "head slap" (that is, slap another player on the side of his helmet) to disorient another player.²⁴⁴ As for protective equipment, the helmet, which, in addition to shoulder pads, is the only piece of protective equipment players are required to wear, has evolved from wool stocking caps (1800s) and leather (1920s) to fiber shell (1934) and plastic (1943-present).²⁴⁵ Additionally, it was not until the early 1970s that the first safety requirements for football helmets were instituted.²⁴⁶ Regarding the

²⁴³ Over the years, the NFL has forbade a number of techniques used by players against one another that were deemed dangerous, such as "clothes lining," "spearing," and "cut blocking." See National Football League, "Summary of Penalties," available at [<http://www.nfl.com/rulebook/penaltysummaries>].

²⁴⁴ U.S. Congress, House Committee on the Judiciary, Subcommittee on Commercial and Administrative Law, "The National Football League's System for Compensating Retired Players: An Uneven Playing Field?" statement of Cy Smith, unpublished hearing, 110th Cong., 1st sess., June 26, 2007, p. 4.

²⁴⁵ Alan Schwarz, "Far From Grandpa's Leather, Helmet Absorbs Shock a New Way," *New York Times*, Oct. 27, 2007, p. A10.

²⁴⁶ *Ibid.* The organization that developed the test standards for football helmets, the National Operating Committee on Standards for Athletic Equipment (NOCSAE), was formed in 1969. NOCSAE comprises "representatives from a number of groups which have an interest in athletic equipment. These include manufacturers, reconditioners, athletic trainers, coaches, equipment managers, sports medicine and consumer organizations." (National Operating Committee on Standards for Athletic Equipment, "About NOCSAE," available at [<http://www.nocsa.org/about/index.html>].) Improvements in helmet technology continue. A new helmet, the Xenith X1, has been developed that "features 18 black, thermoplastic shock absorbers filled with air that ... can accept a wide range of forces and still moderate the sudden jarring of the head that causes concussion. Moreover, laboratory tests have shown that the disks can withstand hundreds of impacts without any notable degradation in performance, a longtime drawback of helmets' traditional foam. Dr. Robert Cantu of Brigham and Women's Hospital in Boston, one of the nation's leading experts in concussion management, reportedly called it 'the greatest advance in helmet design in at (continued...)

playing surface in NFL stadiums, the type or types of artificial turf used in the past were found to contribute to players' injuries. A 1974 study commissioned by the NFL reportedly found that "natural grass was safer to play on than the artificial surfaces then being produced for football."²⁴⁷ A 1985 *Sports Illustrated* article reported that "[t]he NFLPA found that the average turf injury took longer to heal, that the number of players placed on injured reserve increased by a third and that the number of missed games doubled when the injuries occurred on turf."²⁴⁸

It seems likely, because of ongoing medical research and advances in medical care, procedures, and technologies, that players today receive better medical care than individuals received in the past. The following excerpt from an article summarizes some of the advances that have occurred since the early 1980s:

Arthroscopy. Doctors can now repair knees, shoulders and other joints without making huge incisions. Instead, they use tiny tools snaked via tubes under the skin to perform surgery. In the early 1980s, reconstructing a knee ligament could require a two-foot long incision and a two-hour procedure. Now it may only take a few half-inch ones and only 40 minutes to complete.

Imaging. Players might get daily X-rays to assess the progress of a broken bone. Steelers linebacker Earl Holmes was hurt in the second quarter of one playoff game; doctors had magnetic resonance imaging pictures of his knee by the third quarter.

Year-round training. Players now get nutrition, sports psychology and strength-training advice designed specifically around their injuries and train year-round to prevent them.²⁴⁹

In the following excerpt from a news article, a fullback for the Tennessee Titans plans to rely on improvements the field of medicine for treating his injuries, and notes a difference between his father's experience and his experience with knee surgery:

²⁴⁶ (...continued)

least 30 years'." (Schwarz, "Far From Grandpa's Leather, Helmet Absorbs Shock a New Way," p. A1.)

²⁴⁷ John Underwood, "Just an Awful Toll," *Sports Illustrated*, Aug. 12, 1985, available at [<http://www.lexisnexis.com/>], p. 48.

²⁴⁸ *Ibid.* As of 2007, 19 NFL stadiums had grass playing fields, and the remainder had artificial turf, though it seems likely that, because of improvements over the years, the artificial turf installed in stadiums in the 21st century is better than the products that were installed 20 and 30 years ago. (Stadiums of the NFL, "Comparisons," available at [<http://www.stadiumsofnfl.com/comparisons.htm>].) According to this source, among the stadiums that have artificial turf, 11 have had FieldTurf installed, and one stadium has a SportExe product. Information about these companies and their products is available at [<http://www.fieldturf.com/index.cfm>] and [<http://www.sportexe.com/>], respectively. These companies' websites include descriptions of how their products are designed and constructed.

²⁴⁹ Vergano, "NFL Doctors, Players Face Off Over Painful Choices."

... Casey Cramer said he's thought about the effects of poundings, but he's placing a large degree of faith in medical advances. He remembers how arduous it was for his dad, a former player, to recover from knee surgery 30 years ago. He also remembers being able to walk within hours of his own knee operation. "I feel like the science is getting a lot better," Cramer said. "Surgeries, medicines, and all of those things have improved over the years. I've said jokingly that I'm banking on science to fix my body afterwards, [but] I feel like 20 or 30 years from now, science will be a lot better."²⁵⁰

Former players who did not have the benefit of the rules, protective equipment, and medical procedures and technologies that are available to today's players also have fewer benefits available to them. As shown in **Table 16**, individuals who played in the NFL prior to 1982 have eight benefits available to them; current players have 14 benefits. While this comparison shows that the number of benefits has increased over the years, it also shows how many and which benefits are not, or were not, available to some former players. For the reasons described above, however, older retirees might have the greatest medical and financial needs.

The NFL and the NFLPA announced, on February 29, 2008, that five additional benefits had been, or would be, established for former players: a joint replacement surgery and rehabilitation program, a screening program for cardiovascular health and obesity, a prostate cancer screening program, discounted rates for assisted living facilities managed by three companies, and a prescription drug card.²⁵¹ Additional information regarding these benefits is provided above, but because, for example, eligibility criteria, implementation dates, and other details have not been publicized yet, these benefits are not included in **Table 16**.

At least a few benefits were made retroactive when established or at some later date, which means that a benefit is available to all players, regardless of which year or years they played in the NFL. The 88 Plan is an example of a benefit that is retroactive, and, in 1993, the players known as "pre-59ers" were added to the Bert Bell Pension Plan. The nature of some benefits, however, seems to have precluded making them retroactive. Examples include the Second Career Savings Plan and severance pay.

²⁵⁰ Ibid.

²⁵¹ National Football League and NFL Players Association, "NFL and NFL Players Association Expand Disability Benefits Program for Retired Players," Feb. 29, 2008, pp. 2-3.

Table 16. Benefits Available to Players

If an Individual Played in the NFL During the Following Period:	The Benefits Available to Him Are:^a
Not later than 1981	88 Plan Cardiovascular Health Program Death Benefits Line of Duty Disability NFL Player Joint Replacement Benefit Plan Retirement Benefits Total and Permanent Disability Benefits Workers' Compensation
1982-1992	88 Plan Cardiovascular Health Program Death Benefits Line of Duty Disability NFL Player Joint Replacement Benefit Plan Retirement Benefits Severance Pay ^b Total and Permanent Disability Benefits Workers' Compensation
1993-1997	88 Plan Cardiovascular Health Program Death Benefits Line of Duty Disability NFL Player Joint Replacement Benefit Plan Retiree Medical ^b Retirement Benefits Second Career Savings Plan ^b Severance Pay Supplemental Disability Plan ^b Total and Permanent Disability Benefits Workers' Compensation
1998-2003	88 Plan Annuity Program ^b Cardiovascular Health Program Death Benefits Line of Duty Disability NFL Player Joint Replacement Benefit Plan Retiree Medical Retirement Benefits Second Career Savings Plan Severance Pay Supplemental Disability Plan Total and Permanent Disability Benefits Workers' Compensation
2004-Present	88 Plan Annuity Program Cardiovascular Health Program ^b

If an Individual Played in the NFL During the Following Period:	The Benefits Available to Him Are: ^a
	Death Benefits Health Reimbursement Account Plan ^b Line of Duty Disability NFL Player Joint Replacement Benefit Plan ^b Retiree Medical Retirement Benefits Second Career Savings Plan Severance Pay Supplemental Disability Plan Total and Permanent Disability Benefits Workers' Compensation

Source: Letter from Eugene Upshaw, Executive Director, NFL Players Association, to Reps. John Conyers, Jr., Lamar S. Smith, Linda T. Sanchez, and Christopher B. Cannon, Nov. 5, 2007, p. 20.

- a. A player has to meet the eligibility criteria to receive a benefit.
 b. The benefit was established during this time period. If the benefit is retroactive, it appears in the list for previous time period(s).

In some cases, it is possible that an individual made one or more decisions that, ultimately, resulted in adverse consequences. For example, players are, or have been, able to choose when and how they receive certain benefit payments, but the consequences of some choices can negatively affect the individual's financial status. Examples of such choices are the following:

- Prior to the 1993 CBA, a player could choose to begin receiving his pension at age 45, which is 10 years earlier than the NFL's normal retirement age of 55. By electing to begin his pension 10 years early, the "age-55 benefit is actuarially reduced by more than 50% in this situation, since [the former player] will receive [his] pension for ten more years." This option is no longer available, except to former players who played in at least one season prior to 1993. Despite being warned about the consequences of opting for an early pension, players continue to do so.²⁵²
- Some former players chose a "Social Security Adjustment" form of benefit, "in which the majority of their retirement benefit is paid prior to age 62, with only a token benefit starting at age 62." Electing this option decreases a player's retirement benefits when he

²⁵² NFL Players Association, "NFLPA White Paper," pp. 22-23. As noted above, players who took their NFL pension early "will be offered a new one-time opportunity" in 2008 to apply for T&P disability benefits. (National Football League and NFL Players Association, "NFL and NFL Players Association, "NFL and NFL Players Association Expand Disability Benefits Program for Retired Players," p. 1.)

reaches age 62.²⁵³ “For example, instead of receiving \$271 a month for life beginning at age 45, a player could use this ... option to receive about \$384 a month from age 45 up to age 72, and only \$50 a month thereafter.”²⁵⁴

- Beginning with the 1977 CBA, a player was able to choose a lump sum “early payment benefit” (EPB), which was equal to 25% of his pension, one year after retiring from the NFL. As a result, all pension payments he would have received later were reduced by 25%.²⁵⁵

The 1993 CBA eliminated all three of these options for players who entered the NFL in 1993 or later. According to the plan counsel for the retirement plan, under federal law, these options remain available to players who earned a credited season before 1993.²⁵⁶

In congressional testimony, the plan counsel showed, through the following account of an unnamed former player’s circumstances, how a series of decisions can adversely affect an individual’s finances:

[He] complains that his retirement benefit is too small, but doesn’t mention that he 1) chose to retire at age 45 with a 45% actuarial reduction, 2) elected the social security option providing the lion’s share of his pension up front, 3) knew that he would only receive a token pension when he became 62, and 4) was ordered by a divorce court to share his pension with his ex-wife.²⁵⁷

As reported by a journalist, Leroy Kelly, a former running back for the Cleveland Browns, requested that his pension begin at age 45. Consequently, his \$800 monthly payment decreased to \$112 when he began drawing Social Security payments.²⁵⁸ Another former player, Joe DeLamielleure, also chose to take his pension early. Faced with a family financial crisis, the former guard for the Cleveland Browns and Buffalo Bills opted for an early pension, which resulted in a monthly payment of \$992; if he had waited until he reached age 55 (normal retirement age for players), he would have received \$2,200 per month.²⁵⁹ These examples show that a player’s

²⁵³ Ibid., p. 23.

²⁵⁴ U.S. Congress, House Committee on the Judiciary, Subcommittee on Commercial and Administrative Law, “The National Football League’s System for Compensating Retired Players: An Uneven Playing Field?” statement of Douglas W. Ell, unpublished hearing, 110th Cong., 1st sess., June 26, 2007, p. 6.

²⁵⁵ Ibid.

²⁵⁶ Ibid., p. 8.

²⁵⁷ Ibid., p. 18.

²⁵⁸ Charles Chandler, “Ex-Players Say NFL Neglects Retirees; Hall of Famers: League, Union Leader Fall Short in Providing Benefits,” *Charlotte Observer*, June 4, 2007.

²⁵⁹ Ibid.

decisions and personal circumstances (for example, getting a divorce) also might affect the level of benefits that he receives.

What Is Known about Injuries and Possible Long-Term Consequences?

Considering the frequency and extent of football injuries, the potential risk of certain medical conditions (such as excessive weight, cardiovascular disease, and sleep apnea), and the possibility that injuries and medical conditions might have long-term consequences, how much is known about these subjects? Specifically, what do the NFL and the NFLPA know; what are their sources of information; and how do they use the information? The league and the players association have conducted or sponsored, separately as well as jointly, studies and articles on subjects related to players' health, and the NFL has several studies planned or in progress.²⁶⁰ However, as demonstrated by the following examination of MTBI research, contradictions among the findings of different studies contribute to the challenge of understanding injuries, medical conditions, and their possible long-term consequences.

The following four subsections present scholarly research on the long-term effects of concussions, susceptibility to additional MTBI, and chronic traumatic encephalopathy (CTE). It is beyond the scope of this report to assess the merits and drawbacks of scholarly articles in the field of neurology. Excerpts from articles and peer reviews of articles are included to show the findings and the nature or extent of disagreement among authors. Some disagreements may flow from methodological differences, such as the type of survey instrument used (for example, telephone, mail, or personal interview) or the method used to select study participants.

Several of the articles included here were written by members of the NFL's MTBI Committee. The other articles were written by professionals in the field of neurology or related fields who are not affiliated with the NFL or the NFLPA. Members of the MTBI Committee have published 14 articles in the journal *Neurosurgery*.²⁶¹ Within each heading, articles are presented in the order in which they were published. In *Neurosurgery*, peer reviewers' comments on particular articles are published following the articles, and excerpts from each peer reviewer's comments are included with the applicable article.

Studies on Possible Long-Term Effects of MTBI. Although members of the MTBI Committee did not publish an article focused exclusively on the long-term effects of concussions, they did address the issue in an article on neuropsychological testing. In the sixth article of the 14-article series, committee members suggested that multiple MTBIs would not permanently affect an individual. Pellman, et al., wrote the following:

²⁶⁰ A list of these studies and articles is found in **Appendix B**.

²⁶¹ These articles are included in **Appendix B**.

The strong correlation between the results of clinical and neuropsychological evaluations also provides supportive evidence for the position that there is no evidence in this study of widespread permanent or cumulative effects of single or multiple MTBIs in professional football players. In other words, the results of this present study support the authors' previous work, which indicated that there was no evidence of worsening injury or chronic cumulative effects of multiple MTBIs in NFL players.²⁶²

NFL players did not demonstrate evidence of neurocognitive decline after multiple (three or more) MTBIs or in those players out 7+ days [from the date of the concussion]. The data show that MTBI in this population is characterized by a rapid return of neuropsychological function in the days after injury.²⁶³

A theme among peer reviewers' comments was that the finding — the evidence does not support a link between single or multiple MTBIs and long-term effects — was questionable. The following are excerpts from peer reviewers' comments:

In addition, I do not believe that this study, with correlation between clinical and neuropsychological evaluation, proves that there are no widespread permanent or cumulative effects of single or multiple MTBI in NFL players. I think that it is premature to conclude that there are no long-term consequences of MTBI in football while players are still active, for many reasons.²⁶⁴
... these results should be interpreted with caution. Further follow-up of players sustaining MTBI is needed to better determine the cumulative effect of multiple concussions.²⁶⁵

The authors possess a remarkable data set. My strongest impression after reading the article was that the data set was so important that it deserved additional analysis and that a good place to start would be to remove the outliers and see the results.²⁶⁶

It is specifically recommended that the statement that there are no widespread permanent or cumulative effects of single or multiple MTBIs in professional football players be softened somewhat.²⁶⁷

²⁶² Elliot J. Pellman, et al., "Concussion in Professional Football: Neuropsychological Testing — Part 6," *Neurosurgery*, vol. 55, no. 6, Dec. 2004, p. 1299.

²⁶³ *Ibid.*, p. 1290. As quoted in a news article in the *Wall Street Journal*, Dr. Pellman said that he has studied players who had multiple concussions and that "they had all returned to normal. Does that mean there may or may not be problems 10 to 15 years from now? I don't know, but the early objective data say no." Dr. Pellman says the NFL hasn't studied former players' health because they are no longer employees and are geographically scattered." (Ellen E. Schultz, "A Hobbled Star Battles the NFL," p. A2.)

²⁶⁴ Elliot J. Pellman, et al., "Concussion in Professional Football: Neuropsychological Testing — Part 6," see comments by Julian E. Bailes, p. 1304.

²⁶⁵ *Ibid.*, see comments by Daniel F. Kelly, p. 1304.

²⁶⁶ *Ibid.*, see comments by Joseph Bleiberg, p. 1304.

²⁶⁷ *Ibid.*, see comments by Joseph C. Maroon, p. 1305.

Given the methods and statistical design used, it is difficult to understand how they can comment that ‘The strong correlation between the results of clinical and neuropsychological evaluations also provides supportive evidence for the position that there is no evidence in this study of widespread permanent or cumulative effects of single or multiple MTBIs in professional football players.’ They only studied the acute neuropsychological effects of single and repeat concussion, and the data presented tell us nothing about potential ‘permanent’ or long-term complications. The authors cannot assume that there could not be chronic effects, especially since they have only looked at a brief window of time.²⁶⁸

A study carried out by physicians who are not affiliated with the NFL and led by the research director of the Center for the Study of Retired Athletes (CSRA), Kevin M. Guskiewicz, focused specifically on the long-term effects of concussions in former NFL players. As the following excerpt shows, Guskiewicz, et al., reached a different conclusion than did Pellman, et al., regarding possible long-term consequences of MTBIs.

These data describe a significant association between recurrent concussion and MCI, as well as with self-reported memory impairments confirmed by a spouse or close relative. Retired professional football players with three or more concussions were twice as likely to be diagnosed with MCI as those with one or two previous concussions, and five times more likely than those with no previous concussions. This trend continued with respect to self-reported significant memory problems. These findings suggest that the clinical features of dementia-related syndromes ... may be initiated by repetitive cerebral concussions.²⁶⁹

Another result of the survey conducted by Guskiewicz, et al., involved the prevalence of concussions among retired NFL players. Among former players who participated in the study, 60.8% reported having had at least one concussion during their NFL careers, and 24% reported sustaining three or more concussions.²⁷⁰

Peer reviewers’ comments on Guskiewicz, et al., noted, among other points, that relying on self-reported information might affect the accuracy of the data collected. Several peer reviewers also commented on the value and possible implications of the study.

Like all retrospective studies that rely upon self-reported medical histories and health problems, this one is subject to bias in the accuracy with which problems were recalled and reported. Nevertheless, these results are of considerable interest. The authors make appropriate recommendations for further prospective studies....²⁷¹

²⁶⁸ Ibid., see comments by Kevin M. Guskiewicz, p. 1305.

²⁶⁹ Kevin M. Guskiewicz, et al., “Association Between Recurrent Concussion and Late-Life Cognitive Impairment in Retired Professional Football Players,” *Neurosurgery*, vol. 57, no. 4, Oct. 2005, p. 723.

²⁷⁰ Ibid., p. 721.

²⁷¹ Ibid., see comments by Alex B. Valadka, p. 725.

Studies such as this have the potential to provide important information [regarding the possibility of neurologic impairment surfacing after a player has retired]. Unfortunately, this particular study is confounded by a critical design flaw of relying on retired athletes to accurately recall events from decades earlier and relating those events to their current memory problems.²⁷²

This study has important and far-reaching implications. To my knowledge, this is one of few studies to show a positive association between repetitive concussion and long-term cognitive impairment and Alzheimer's disease.²⁷³

This is an interesting paper that poses an intriguing hypothesis regarding the consequences of recurrent concussion, not only to create short-term problems, but also to accelerate the decline of cognitive function in later years. While tantalizing, the findings are soft. The data are derived from a questionnaire administered to a group that may have substantial bias, especially considering the recent reports and concerns expressed by physicians and the media.²⁷⁴

This is an extremely valuable contribution. Most concussion studies focus on the days and weeks following the injury with the implicit assumption that recovery to preinjury levels is the end of the issue. The present paper provides strong suggestion that some residua of a concussion may not become manifest until decades after the injury.... The authors are to be commended for clearly stating the limitations of their retrospective self-report experimental design. However, the "gold-standard" methodology would require a multi-decade prospective study.²⁷⁵

This is an important paper on the relationship between cerebral concussion and subsequent cognitive impairment in retired professional football players. Its major flaw, as the authors acknowledge, is that the history of previous concussion was based on the players' "retrospective recall of injury events." Nonetheless, their data strongly suggests there is a cumulative deleterious effect of repeated concussion on later cognitive function.²⁷⁶

The present study does not dispel uncertainties regarding the relationship between repeated concussions and subsequent onset of brain disorders, most importantly Alzheimer's disease.... Society must provide the author with the necessary funds and incentive to do the study correctly based on professionally obtained prospective data.²⁷⁷

A second article by Guskiewicz, et al., examined another possible long-term consequence of concussions, specifically a possible connection between MTBIs and depression in former NFL players. The authors wrote,

²⁷² Ibid., see comments by Donald Marion, p. 725.

²⁷³ Ibid., see comments by M.R. Ross Bullock, p. 725.

²⁷⁴ Ibid., see comments by Arthur L. Day, p. 726.

²⁷⁵ Ibid., see comments by Joseph Bleiberg.

²⁷⁶ Ibid., see comments by Daniel F. Kelly, p. 726.

²⁷⁷ Ibid., see comments by Charles H. Tator, p. 726.

The findings from our study of retired professional football players support the notion that lifetime prevalence of depression and feelings commonly associated with a depressed state increases as a function of previous head injury exposure.... Our observed threefold prevalence ratio for retired players with three or more concussions is daunting, given that depression is typically characterized by sadness, loss of interest in activities, decreased energy, and loss of confidence and self-esteem. These findings call into question how effectively retired professional football players with a history of three or more concussions are able to meet the mental and physical demands of life after playing professional football. Furthermore, our findings suggest that a single concussion does not provide the risk for subsequent depression, and they provide an extension to the findings on the cumulative risk of repeat concussion demonstrated in collegiate football players. In combination, these suggest that football players with three or more concussions are at a threefold risk for sustaining future concussions, with a subsequent threefold risk of being diagnosed with clinical depression compared with those with limited or no prior history.²⁷⁸

Guskiewicz, et al., then explain the impact that depression may have on an individual, noting that “[d]epression can affect one’s ability to function in multiple realms, including interpersonal relationships, productivity at work, and self-care. In older adults, depression is associated with significantly higher health care costs and significant risk of functional decline.”²⁷⁹

Additional findings reported by Guskiewicz, et al., in this article suggest that certain players, because of a combination of injuries and circumstances, may experience a range of problems during retirement. The following excerpt describes these circumstances and problems:

Our findings also suggest that, in general, retired professional football players who have a history of concussion and depressive episodes report greater physical limitations that interfere with their ability to perform daily physical activities compared with those without depression. The SF-36 [Short Form 36] results for mental and physical functioning reveal that those with a history of depression are more likely to be restricted by muscle and joint pain, feel helpless, have difficulty sleeping, and, in general feel as though their health is declining.²⁸⁰ Individuals with a history of depression also reported more alcohol-related problems and were more likely to be separated or divorced.²⁸¹

The journal in which this article appeared did not publish any peer review comments on this article.

²⁷⁸ Kevin M. Guskiewicz, et al., “Recurrent Concussion and Risk of Depression in Retired Professional Football Players,” *Medicine and Science in Sports and Exercise*, June 2007, p. 906.

²⁷⁹ *Ibid.*, pp. 907-908.

²⁸⁰ The title of the SF-36 is “Short Form 36 Measurement Model for Functional Assessment of Health and Well-Being,” and it “assesses health status and estimates how well a retired athlete functions with activities of daily living.” (Kevin M. Guskiewicz, et al., “Recurrent Concussion and Risk of Depression in Retired Professional Football Players,” p. 904.)

²⁸¹ *Ibid.*, p. 906.

Susceptibility to an Additional MTBI. A study of 2,905 football players, which was also led by Kevin Guskiewicz, explored the possibility that a player who has suffered one or more concussions is more likely to sustain an additional concussion than an individual who has not had any concussions. In a published article, Guskiewicz, et al., reported that a player who has sustained a concussion, and, in particular, a player who has sustained three or more concussions, has a greater probability of having another concussion than a player who has not had three concussions. The authors wrote,

Players reporting a history of 3 or more previous concussions were 3.0 ... times more likely to have an incident concussion than players with no concussion history.... Our study suggests that players with a history of previous concussions are more likely to have future concussive injuries than those with no history; 1 in 15 players with a concussion may have additional concussions in the same playing season; and previous concussions may be associated with slower recovery of neurological function.... These results illustrate that a history of previous concussions may be associated with an increased risk of future concussive injuries and that these previous concussion may be associated with slower recovery of neurological function following subsequent concussions. Within a given season, there may be a 7- to 10-day window of increased susceptibility for recurrent concussive injury, but this finding should be further studied in a larger sample of athletes with recurrent in-season concussions.²⁸²

This article was not published in *Neurosurgery*; hence, there are no comments by peer reviewers.

In an article on return-to-play considerations, which are used to determine when it is acceptable, from a medical perspective, for a player who has sustained a concussion to return to practice or to a game, Pellman, et al., suggest that a player who has sustained an MTBI does not have a greater risk of sustaining another concussion than a player who has no history of concussions.

Players who are concussed and return to the same game have fewer initial signs and symptoms than those removed from play. Return to play does not involve a significant risk of a second injury either in the same game or during the season. The current decision-making of NFL team physicians seems appropriate for return to the game after a concussion, when the player has become asymptomatic and does not have memory or cognitive problems.²⁸³

The NFL experience thus suggests that players who become asymptomatic with normal examinations at any time after injury, while the game is still in progress, have been and can continue to be safely returned to play on that day. This indicates that the '15-minutes rule' in the current guidelines may be too conservative for the NFL. Many of the currently accepted guidelines also indicate that any player who experiences loss of consciousness with MTBI

²⁸² Kevin M. Guskiewicz, et al., "Cumulative Effects Associated with Recurrent Concussion in Collegiate Football Players," *Journal of the American Medical Association*, vol. 290, no. 19, Nov. 19, 2003, pp. 2549 and 2554.

²⁸³ Elliot J. Pellman, et al., "Concussion in Professional Football: Players Returning to the Same Game — Part 7," *Neurosurgery*, vol. 56, no. 1, Jan. 2005, p. 79.

should not be allowed to return to play that day.... Although the numbers were small, there were a few players in this study who had recorded loss of consciousness as a result of MTBI and later returned to play in the same game. There was no evidence of any adverse effect of this action. These data suggest that these players were at no increased risk of repeat MTBI or prolonged postconcussion syndrome compared with other players.²⁸⁴

The peer reviewers' comments on Pellman, et al., are as follows:

A study of this magnitude has some inherent limitations, as the authors acknowledge. However, this is an interesting analysis that demonstrates that, at least in the acute phase and during their active playing years, these athletes seem to perform well with a risk for intracranial hemorrhage or a later high incidence of recurrent concussion or postconcussion symptoms.²⁸⁵

The conclusions cited in this article are supported by the data presented.... Multiple studies in the past several years have indicated that the incidence of concussion cited by the athlete questioned after the season is over is many times higher, four to seven times, than that currently reported by the team medical personnel. That most athletes do play through most minor concussions is supported by these studies.²⁸⁶

The present study evaluated the safety of returning concussed professional football players to the same game immediately or after a period of rest.... As would be predicted, players who returned to the same game have significantly lower incidences of cognitive and memory problems than players removed from play or hospitalized This article essentially confirms that the practice by team physicians and trainers in the NFL of not allowing symptomatic or neurologically abnormal athletes to return to play in the same game is a safe practice.²⁸⁷

Return-to-play decisions regarding athletes who sustain concussion can be difficult for the sports medicine team. Pellman et al., in Part 7, describe signs, symptoms, and management of NFL players who sustained concussions and returned to the same game during the 6-year period. The authors of this study conclude that the results of this NFL study differ from previous articles and did not reveal the same return-to-play concerns.²⁸⁸

Chronic Traumatic Encephalopathy (CTE). Chronic traumatic encephalopathy which is also known as dementia pugilistica and is a long-term problem associated with traumatic brain injury, “primarily affects career boxers. The most common symptoms of the condition are dementia and parksonism [apparently, a reference to Parkinson’s Disease] caused by repetitive blows to the head over a long

²⁸⁴ Ibid., p. 88.

²⁸⁵ Ibid., see comments by Julian E. Bailes, p. 90.

²⁸⁶ Ibid., see comments by Robert C. Cantu, p. 91.

²⁸⁷ Ibid., see comments by Joseph C. Maroon, p. 91.

²⁸⁸ Ibid., see comments by Russ Romano, p. 91.

period of time. Symptoms begin anywhere between 6 and 40 years after the start of a boxing career, with an average onset of about 16 years.”²⁸⁹

In 2002, Dr. Bennet I. Omalu, a neuropathologist and a forensic pathologist with the Office of the Medical Examiner, Allegheny County, PA, performed the autopsy of Mike Webster, a former player for the Pittsburgh Steelers, and found signs of CTE in Webster’s brain.²⁹⁰ Writing in an article that was published in *Neurosurgery* in July 2005, Omalu, et al. described what was found during the autopsy and suggested that additional research was warranted:

... the results of the autopsy of a retired professional football player ... revealed neuropathological changes consistent with long-term repetitive concussive brain injury.²⁹¹ This case draws attention to the need for further studies in the cohort of retired National Football League players to elucidate the neuropathological sequelae of repeated mild traumatic brain injury in professional football.... Autopsy confirmed the presence of coronary atherosclerotic disease with dilated cardiomyopathy.... Chronic traumatic encephalopathy was evident.... This case highlights potential long-term neurodegenerative outcomes in retired professional

²⁸⁹ National Institutes of Health, National Institute of Neurological Disorders and Stroke, “Traumatic Brain Injury: Hope Through Research,” available at [http://www.ninds.nih.gov/disorders/tbi/detail_tbi.htm].

²⁹⁰ Dr. Omalu studied the brains of four former NFL players after they died : Terry Long, Justin Strzelczyk, Andre Waters, and Mike Webster. Dr. Omalu “found [the brains of the four players] to have had a condition similar to that generally found only in boxers with dementia or people in their 80s.... a condition evidenced by neurofibrillary tangles in the brain’s cortex, which can cause memory loss, depression and eventually Alzheimer’s disease-like dementia.” (Alan Schwarz, “Lineman, Dead at 36, Shed Light on Brain Injuries,” *New York Times*, Jun 15, 2007, p. C14.) Terry Long, a former lineman for the Pittsburgh Steelers, committed suicide, in Jan. 2006, at age 45 (“Ex-Steeler Long Drank Antifreeze to Commit Suicide,” *Espn.com*, Jan. 26, 2006, available at [<http://sports.espn.go.com/espn/print?id=2307003&type=story>].) Justin Strzelczyk, who also had played for the Steelers, as an offensive lineman, was killed, at age 36, in a car crash. (Schwarz, “Lineman, Dead at 36, Shed Light on Brain Injuries,” p. C18.) Following his retirement from the NFL, Strzelczyk “spiraled downward ... enduring a divorce and dabbling with steroid-like substance, and soon before his death complained of depression and hearing voices from what he called ‘the evil ones.’ He was experiencing an apparent breakdown the morning of Sept. 30, 2004, when, during a 40-mile high-speed police chase in central New York, his pickup truck collided with a tractor-trailer and exploded, killing him instantly.” (Ibid.) Andre Waters, a former defensive back for the Philadelphia Eagles, committed suicide at age 44 in Nov. 2006. (Ibid.) Mike Webster died at age 50, in Sept. 2002, of heart failure. (Greg Garber, “A Tormented Soul,” *Espn.com*, Jan. 24, 2005, available at [<http://sports.espn.go.com/nfl/news/story?id=1972285>].)

²⁹¹ Although a diagnosis of CTE is complicated, the following rudimentary description of the process and effect may be useful: “When slides were made of the [brain] matter [from Mike Webster], then magnified 200 times, the telltale red flecks of abnormal protein appeared. The proteins appear when the brain is hit, [Dr. Bennet] Omalu said, but disappear as the healthy brain cells devour them, leading to recovery. Yet when the brain suffers too many blows, the brain cells can’t keep up with the protein and eventually give up and die, leaving just the red flecks.” (Les Carpenter, “‘Brain Chaser’ Tackles Effects of NFL Hits,” *Washington Post*, Apr. 25, 2007, p. E4.)

National Football League players subjected to repeated mild traumatic brain injury. The prevalence and pathoetiological mechanisms of these possible adverse long-term outcomes and their relation to duration of years of playing football have not been sufficiently studied. We recommend comprehensive clinical and forensic approaches to understand and further elucidate this emergent professional sports hazard.²⁹²

Although Omalu, et al., indicate that CTE was evident in Webster's brain, they also note that further studies are needed. It appears that this was the first article to examine the possibility that professional football players could sustain damage sufficient to cause CTE.

In response to this article, several members of the MTBI Committee submitted a letter in May 2006 to *Neurosurgery* critiquing Omalu, et al., and suggesting that their article should be retracted or revised. An excerpt from Casson, et al., follows:

[We] disagree with the assertion that Omalu et al.'s ... recent article actually reports a case of 'chronic traumatic encephalopathy in a National Football League (NFL) player.' We base our opinion on two serious flaws in Omalu et al.'s article, namely a serious misinterpretation of their neuropathological findings in relation to the tetrad characteristics of chronic traumatic encephalopathy and a failure to provide an adequate clinical history.... We have demonstrated that Omalu et al.'s ... case does not meet the clinical or neuropathological criteria of chronic traumatic encephalopathy. We, therefore, urge the authors to retract their paper or sufficiently revise it and its title after more detailed investigation of this case.²⁹³

Omalu, et al., replied to the Casson, et al., letter and others in the field of neurology also commented on the article and the Casson et al. letter. In their reply, Omalu, et al., explained why they would not withdraw their article and concluded by encouraging the NFL to study the long-term consequences of MTBI. In concluding their letter, Omalu, et al., wrote,

In fact, our case is important primarily because it indicates that there may be brain damage in NFL players that is currently under-reported, because of a lack of long-term clinical follow-up focused on evaluating such a condition. We suggest that the NFL begin examining the long-term effects of brain injury in its former players. We would be happy to collaborate with the Mild Traumatic Brain Injury Committee and the NFL in developing and implementing an optimal research program that will address these newly emerging issues.²⁹⁴

²⁹² Bennet I. Omalu, et al., "Chronic Traumatic Encephalopathy in a National Football League Player," *Neurosurgery*, vol. 57, no. 1, July 2005, p. 128.

²⁹³ Ira R. Casson, Elliot J. Pellman, and David C. Viano, "Chronic Traumatic Encephalopathy in a National Football League Player," correspondence, *Neurosurgery*, vol. 58, no. 5, May 2006, p. E1003.

²⁹⁴ Bennet I. Omalu, et al., "Chronic Traumatic Encephalopathy in a National Football League Player," correspondence, *Neurosurgery*, vol. 58, no. 5, May 2006, p. E1003.

The following excerpts from others' letters are provided to show the range of comments offered by others who addressed Omalu, et al.'s, July 2005 article and Casson, et al.'s, May 2006 correspondence. Although one correspondent supported retraction of the Omalu, et al., article; others note the article's limitations but suggest that it has value.

... I agree that retraction or a major revision by the authors is warranted.²⁹⁵

They [Casson, et al.] do not dispute his [Omalu, et al.] findings, they simply dispute the name Omalu et al. have given to those findings.... In summary, I see the Casson et al. letter as raising several valid points regarding the intrinsic limitations of the case material used in Omalu et al.'s study. However, because these limitations were noted by Omalu et al. in the published version, I do not see the point of publishing a letter reiterating them.²⁹⁶

[Casson, et al.] should be thanked for compiling this detailed historical review of our understanding of the neuropathology of chronic brain injury.... Omalu et al.'s report may serve to stimulate interest in the area of neurodegenerative histological findings in athletes. However, the bar has clearly been raised. Future studies will need to use standardized or widely accepted histological criteria in addition to firm and accurate medical histories.²⁹⁷

Casson et al., conveniently omitted the obvious contribution of this [Omalu, et al.] study. Namely, this is a seminal study in the field.... Casson et al.'s letter seems to have exceeded protocol for scientifically providing an additional opinion for a published story. Specifically, they took an extreme stand in actually urging the authors to retract the article.... Articles should be considered for retraction if they contain fabricated data, contamination of data, or allegation of misconduct. It is my opinion that there is no justification for retracting this article.²⁹⁸

As members of the Mild Traumatic Brain Injury Committee of the NFL, and clinician-scientists that are clearly devoted to the investigation of sports-related concussion, Drs. Casson, Pellman, and Viano should welcome the contribution from Omalu et al. and consider the findings of that report highly relevant to their own research, rather than recommending retraction of the article. The need to obtain more details regarding premorbid neuropsychological deficits and specific episodes of concussion is clearly recognized and stated by Omalu et al. ... in their

²⁹⁵ Daniel F. Kelly, "Chronic Traumatic Encephalopathy in a National Football League Player," correspondence, *Neurosurgery*, vol. 58, no. 5, May 2006, p. E1003.

²⁹⁶ Joseph Bleiberg, "Chronic Traumatic Encephalopathy in a National Football League Player," correspondence, *Neurosurgery*, vol. 58, no. 5, May 2006, p. E1003.

²⁹⁷ Alex B. Valadka, "Chronic Traumatic Encephalopathy in a National Football League Player," correspondence, *Neurosurgery*, vol. 58, no. 5, May 2006, p. E1003.

²⁹⁸ Kenneth C. Kutner, "Chronic Traumatic Encephalopathy in a National Football League Player," correspondence, *Neurosurgery*, vol. 58, no. 5, May 2006, p. E1003.

paper, but the histopathological findings are clearly described and consistent with a previous history of brain injury.²⁹⁹

In November 2006, Omalu, et al., presented the results of an examination of the brain of another retired NFL player. The autopsy confirmed that this individual had CTE, but it also discovered “neuropathological features that differ from those of the first reported case.”³⁰⁰ The reasons for the differences were not clear, and, again, Omalu called for further studies “to identify and define the neuropathological cascades of chronic traumatic encephalopathy in football players, which may form the basis for prophylaxis and therapeutics.”³⁰¹ Excerpts from peer reviewers’ comments are as follow:

This is an interesting study linking the chronic head trauma in professional football players with chronic traumatic encephalopathy. There is a temporal association of the symptoms with the patient’s football career. Also, it does not prove that head injury from playing football was the sole cause of this patient’s disease; the association is intriguing and is important to report.³⁰²

With such multifactorial and incomplete history, I think it is extremely speculative to suggest that his [former player] psychosocial behavior and neuropathological findings are attributable to football-induced traumatic encephalopathy, especially because he demonstrated no residual evidence of a post concussion syndrome after his one documented cerebral concussion, after which he returned to full football participation for several years. Nevertheless, although more than daunting, to perform postmortem neuropathological examinations on all NFL Hall of Fame inductees would be of interest.³⁰³

Following on their initial case report, this autopsy study is of interest and further raises the question of the possibility of chronic or cumulative effects of multiple, subclinical concussions resulting in neurodegenerative changes.... Notwithstanding the absence of documentation of multiple clinical concussive episodes, this case nonetheless stimulates the discussion of whether or not, in a small number of players, such football exposure can cause a widespread neurodegenerative process with ultimate clinical manifestations.³⁰⁴

This article adds to the increasing literature regarding cognitive deficits associated with low-grade repetitive head injury. Although, as a case report, no

²⁹⁹ Donald W. Marion, “Chronic Traumatic Encephalopathy in a National Football League Player,” correspondence, *Neurosurgery*, vol. 58, no. 5, May 2006, p. E1003.

³⁰⁰ Bennet I. Omalu, et al., “Chronic Traumatic Encephalopathy in a National Football League Player: Part II,” *Neurosurgery*, vol. 59, no. 5, Nov. 2006, p. 1086.

³⁰¹ *Ibid.*

³⁰² *Ibid.*, see comments by Kenneth Aldape, p. 1092.

³⁰³ *Ibid.*, see comments by Joseph C. Maroon, p. 1092.

³⁰⁴ *Ibid.*, see comments by Julian E. Bailes, p. 1093.

definitive statements can be made, it is important to have such cases presented and discussed.³⁰⁵

The authors compare and contrast this case with a previous case report. The relationship of the onset of his depressive disorder after his history of participation in football is purely temporal. This is a difficult relationship, given a potential history of antisocial behavior before his retirement. It becomes additionally more complex given a history of steroid use.³⁰⁶

In the August 2007 issue of *Neurosurgery*, Robert C. Cantu offered his comments on the CTE issue.³⁰⁷ Excerpts from his comments follow:

The NFL's own publications in this journal [*Neurosurgery*] on concussions state that they had seen no cases of CTE in the NFL.... That finding is not a surprise as the NFL study included only active players in their 20s and 30s during a short 6-year window from 1996 to 2001.

It was Corsellis who also reported CTE not only in boxers but other sports with a high risk of head injury, including those in which head injury occurred in declining frequency; among these were jockeys (especially steeplechasers), professional wrestlers, parachutists, and even a case of battered wife syndrome. With this history, it is no surprise to have cases from NFL football.³⁰⁸

³⁰⁵ *Ibid.*, see comments by Colin Smith, p. 1093.

³⁰⁶ *Ibid.*, see comments by Min Park, Andy Nguyen, and Michael L. Levy, p. 1093.

³⁰⁷ A critique by Cantu of the NFL's research on MTBI might provide some insight into why other, though not all, professionals in the field of neurology raise questions about the articles published by the MTBI Committee. Cantu wrote: "Other significant limitations of the NFL studies include the following: 1) History of concussion: previous concussions either in the NFL in the years before the study began or during their playing careers in high school, college, or other levels of football were not included. 2) The population of NFL players changes from year to year: new players enter the league, older players leave the league, and we do not know the number of players who constituted the 1996 population who are still in the league in subsequent years. 3) There was difficulty collecting data on loss of consciousness; the initial data collection sheet did not ask for data regarding loss of consciousness. 4) This was a multisite study with numerous different examiners; there was no uniform method of evaluation of concussion in this study. 5) Return to play data were collected on players with initial and repeat concussions: there are many other factors that go into the decision of whether or not the player should return to play, including the importance of the player to the team; the importance of the upcoming game to the team; and pressure from owners, players, and their families, coaches, agents, and media may certainly influence the final decision on when the player returns to play. 6) The results apply to mainly NFL-level players: extrapolation to younger players has not been demonstrated." (Robert C. Cantu, "Chronic Traumatic Encephalopathy in the National Football League," *Neurosurgery*, vol. 61, no. 2, Aug. 2007, pp. 223-224.) Also see text at footnote 329.

³⁰⁸ *Ibid.*, p. 224. "Corsellis" in this quotation refers to one or both of these articles: J.A. Corsellis, C.J. Bruton CJ, and D. Freeman-Browne, "The Aftermath of Boxing," *Psychological Medicine*, vol 3, 1973, pp. 270-303; and J.A. Corsellis, "Brain Damage in Sport," *Lancet*, 1, 1976, pp. 401-402.

... I have personally examined and spoken with a number of retired NFL players with postconcussion/CTE symptoms. Only an immediate prospective study will determine the true incidence of this problem. Although this study could be funded by the NFL charities, the NFL should refrain from introducing potential bias with regard to the team of neurosurgeons, neurologists, neuropsychiatrists, and neuropathologists with athletic head injury expertise chosen to carry out the study.³⁰⁹

Finally, it is clear that not all players with long concussion histories have met premature and horrific ends to their lives. However, as the list of NFL players retired as a result of post-concussion symptoms (e.g., Harry Carson, Al Toon, Merrill Hoge, Troy Aikman, Steve Young, Ted Johnson, Wayne Chrebet) grows and as the number of documented CTE cases increases, I believe the time for independent study of the problem as well as NFL recognition that there is a problem is now.³¹⁰

NFL’s Approach to MTBI. It is unclear whether the NFL has, or has had, a league-wide policy on MTBI that teams — including medical staff, coaches, and players — are required to follow. A news article from fall 2006 stated: “The NFL allows each team to manage concussions as it sees fit. When a player is injured, the team doctor, sometimes with input from trainers and specialists, decides when he can return to the field.”³¹¹ In 2007, following league meetings in March and May, the NFL undertook several initiatives involving the management of MTBI, which are as follows:³¹²

- Held a medical and scientific conference (known popularly as the “concussion summit”) on concussions in June. Physicians and head trainers from every team, and active players and NFLPA medical representatives attended. Doctors and scientists from the NFL and from outside the league gave presentations.
- Prepared a pamphlet for players and their families that, among other things, describes the symptoms of a concussion.
- Established a hotline to be used for reporting confidentially when a player is being forced to practice or play despite medical advice that says he should not play.
- Worked with the NFLPA’s medical advisors, prepared a summary of key factors to be used by team doctors and athletic trainers in

³⁰⁹ Ibid.

³¹⁰ Ibid.

³¹¹ Keating, “Doctor Yes.”

³¹² “Goodell Orders Teams to Concussion Meeting,” *NFL News*, May 2, 2007, available at [<http://www.nfl.com/news/story/10162742>]; Letter from Roger Goodell, Commissioner, National Football League, to Chief Executives, Club Presidents, General Managers, Head Coaches, Team Physicians, and Head Athletic Trainers, “Materials re Management of Concussions,” memorandum, Aug. 10, 2007, p. 1.

determining when it is safe for a player to practice, or to return to the same game in which the concussion occurred.

- Expanded the use of neuropsychological testing so that, before the beginning of the 2007 season, all NFL players underwent testing.
- Directed that players removed from a game due to a concussion be re-tested.
- Continued to enforce safety rules involving the use and proper wearing of helmets. And,
- Continued to research concussions with “a particular focus on long-term effects” and expanded the membership of its MTBI Committee.³¹³

The concussion summit included presentations by members of the MTBI Committee and presentations by at least two neurologists who either have written articles that conflict with articles published by MTBI Committee members or have critiqued the committee’s research.

The establishment of a hotline has the potential to aid a player who is pressured to play after sustaining a concussion or who observes that a teammate is being pressured to play. It is appropriate to expect a player to take responsibility for his health, and team personnel may use the hotline, too. However, considering the financial incentives (as discussed above) that might convince someone to play with a concussion, some may inquire why owners, coaches, medical staff, and other team personnel are not prohibited from implicitly or explicitly pressuring a player to practice, or to play in a game, when it is not medically advisable to do so. As quoted in a news article, a former tight end for the New Orleans Saints, Ernie Conwell, addresses this problem and offers a cautionary note that “stiffer guidelines” might have an unintended effect:

There’s already kind of a counterculture in the N.F.L. of self-treating, of not letting trainers and doctors know when something’s wrong with you My biggest concern [about stiffer guidelines on how to deal with players who may have suffered concussions] is that we’ll push players away Guys will say ‘Hey man, be careful, you don’t want to say anything about getting dinged because they might rip you out of the game, or you might be labeled as a guy with a soft head.’³¹⁴

³¹³ Letter from Roger Goodell, Commissioner, National Football League, and Eugene Upshaw, Executive Director, NFL Players Association, to NFL players, Aug. 2007, pp. 1-2; National Football League, “NFL Outlines for Players Steps Taken to Address Concussions,” news release, Aug. 14, 2007, pp. 1-2.

³¹⁴ Alan Schwarz, “Player Silence on Concussions May Block N.F.L. Guidelines,” *New York Times*, June 20, 2007, available at [<http://www.nytimes.com/2007/06/20/sports/football/20concussions.html>].

The case of former New York Jets wide receiver Wayne Chrebet, as reported by the *New York Times*, shows how he viewed the decision to play, after having had six concussions diagnosed during his 11-year NFL career.

“If they took it [the decision to play] out of my hands, there was nothing I could do about it,” Chrebet said. “I’d have to do what they said.” On the other hand, if he were not permitted to come back, there might not have been a Wayne Chrebet with the Jets. He was an undersized receiver from Hofstra, an obscure college by N.F.L. standards, who felt he did not have the luxury to miss a game. “Especially players who were in my situation, you can’t afford to take a play off,” he said. Chrebet cited the story of Wally Pipp, who was replaced in the Yankees’ starting lineup by Lou Gehrig and never regained his spot. In the N.F.L., nonguaranteed contracts add to the normal competitiveness and insecurity. “You take one play off, and somebody takes your spot,” Chrebet said. “They make a play, [and] it [your career] could be over.”³¹⁵

The last item in the list of NFL initiatives above mentions additional MTBI research that is planned or ongoing; a list of these studies is in **Appendix B**. Additionally, NFL Charities has awarded, during 2003-2007, grants for research involving, among other things, concussions, MTBI, and related topics. **Table 17** includes a list of these grants.

Table 17. Recipients of NFL Charities Grants for MTBI and Related Research, 2003-2007

Institution	Amounts and Years of Grants ^b	Description of Research or Title of Study
Biokinetics and Associates, Ltd. ^a	— \$189,914 2005	— “MTBI Advanced Concussion Research Study”
	— \$175,900 2006	— “Concussion studies”
	— \$105,000 2006	— “MTBI Advanced Concussion Research Study”
	— \$111,413 2007	— “MTBI Advanced Concussion Research Study”
Institute for Injury Research ^c	— \$155,000 2005	— “Concussion-Comparing Injuries in the NFL Animal Model with those from an Established Head Injury Model by Marmarou.”
	— \$75,000 2007	— “Concussions-Studying Protein Deposits in the Brain After Concussions”
Mark R. Lovell	— \$7,500 2007	“NFL Pilot Study Neuropsychological Testing”

³¹⁵ Rhoden, “A Jet Who Led With His Head, and His Heart.”

Institution	Amounts and Years of Grants ^b	Description of Research or Title of Study
University of Maryland-Baltimore	— \$59,000 2003	“Assessment of brain blood flow following concussion.”
Wayne State University Sports Lab ^d	— \$200,000 2003	— “Concussion studies”
	— \$180,000 2004	— “Concussion studies”
	— \$45,000 2005	— “Mouth guards-Development of a Mandible and Teeth for the Hybrid III Dummy Head to Test the Influence of Mouth guards on Risk of Concussions”
	— \$170,000 2006	— “Helmet and Mouth Guard-Concussion Studies”
	— \$25,000 2007	— “Mouth guard and Helmet Testing”
	— \$352,887 2007	— “Helmet Impact Study”

Source: Letter from Roger Goodell, Commissioner, National Football League, to Reps. John Conyers, Jr., and Lamar S. Smith, Nov. 2, 2007, attachment 8.

- a. Biokinetics and Associates, Ltd., is a Canadian firm that, according to its mission statement, “provides engineered solutions to human impact protection for sports, transportation and defence/law enforcement applications.” (Biokinetics, “Mission,” available at [http://www.biokinetics.com/profile_index.html].)
- b. Amounts have been rounded to the nearest dollar.
- c. David Viano, who is co-chair of the MTBI Committee, is the president of the Institute for Injury Prevention. (David C. Viano, “Résumé,” provided by the House Committee on the Judiciary to the author on Nov. 6, 2007, p. 5.)
- d. Apparently, the full name of this organization is Sports Injury Biomechanics Lab. David Viano, who is co-chair of the MTBI Committee, is the director of the Sports Injury Biomechanics Lab. (Wayne State University, “Sports Injury Biomechanics Lab,” available at [<http://ttb.eng.wayne.edu/>]; Viano, “Résumé,” p. 1.)

As reported by *ESPN.com*, the NFL has taken, or plans to take, some additional steps regarding its MTBI Committee. Reportedly, the commissioner has told the MTBI Committee “to involve new researchers in its work,” and a member of the committee said: “We’re going to reach out to other people, to all the experts in MTBI, and try to have an open, meaningful scientific dialogue.”³¹⁶ Thom Mayer, the NFLPA’s medical advisor, reportedly said: “We [apparently, this is a reference to the NFLPA] expect to have a seat at the table for virtually anything that occurs from

³¹⁶ Peter Keating, “NFL Retools Approach to Concussion Research,” *ESPN.com*, Apr. 20, 2007, available at [<http://sports.espn.go.com/nfl/news/story?id=2844041>].

this point forward.”³¹⁷ Additionally, the MTBI committee reportedly has subjected its research findings “to a new round of statistical analysis....” and has asked team doctors and consultants to provide “hundreds of neuropsychological tests conducted on NFL players” that apparently had not been included in studies on the effects of concussions.³¹⁸

The “NFL Player Concussion Pamphlet” identifies and describes the most common symptoms of concussions and also addresses, in question and answer format, a number of concussion-related subjects. Two of these questions and the NFL’s responses are as follow:

Am I at risk for further injury if I have had a concussion? Current research with professional athletes has shown that you should not be at greater risk of further injury once you receive proper medical care for a concussion and are free of symptoms.

If I have had more than one concussion, am I at increased risk for another injury? Current research with profession athletes has not shown that having more than one or two concussions leads to permanent problems if each injury is managed properly. It is important to understand that there is no magic number for how many concussions is too many. Research is currently underway to determine if there are any long-term effects of concussion in NFL athletes.³¹⁹

These responses apparently rely exclusively on the MTBI Committee’s studies, for no mention is made of other research that addresses the possible long-term consequences of sustaining one or more concussions (this research is presented above). The following comments by researcher Kevin Guskiewicz and Greg Aiello, senior vice president of media relations for the NFL, as reported in the *New York Times*, capture the different perspectives:

[Kevin Guskiewicz] noted that “The first half of their statement is false.... And the second part, if they’re managed properly? What does that mean? They’re just trying to raise ambiguity when the science is becoming more and more clear.” Greg Aiello, NFL spokesman, responded in a statement: “We certainly respect the work that Dr. Guskiewicz and others have done on this subject and look forward to continuing to work with him. Our medical advisers, including neurosurgeons and neurologists, do not fully share his view of the science. We are conducting research on long-term effects of concussions that we hope will clarify this important issue.”³²⁰

³¹⁷ Ibid.

³¹⁸ Ibid.

³¹⁹ National Football League, “NFL Player Concussion Pamphlet,” n.d. (Considering the context in which a reproduction of pamphlet material was received, the pamphlet most likely was produced in 2007.)

³²⁰ Schwarz, “For Jets, Silence on Concussions Signals Unease,” p. A20.

Another development in 2007 was that the MTBI Committee reaffirmed the following summary of return-to-play considerations for players who sustain concussions:

Team physicians and athletic trainers should continue to exercise their clinical judgment and expertise in the treatment of each player who sustains a concussion and to avail themselves of additional expert consultation when clinically indicated. We encourage team physicians and athletic trainers to continue to take a conservative approach to treating concussion.

Team physicians and athletic trainers should continue to take the time to obtain a thorough history, including inquiring specifically about the common symptoms of concussion, and to conduct a thorough neurological examination, including mental status testing at rest and post-exertional testing, before making return to play decisions in a game or practice.

The essential criteria for consideration of return to play remain unchanged. The player should be completely asymptomatic and have a normal neurologic examination, including mental status testing at rest and post-exertional testing, before being considered for return to play.

Team physicians and athletic trainers should continue to take into account certain symptoms and signs that have been associated with a delayed recovery when making return to play decisions. These include confusion, problems with immediate recall, disorientation to time, place and person, anterograde and retrograde amnesia, fatigue, blurred vision and presence of three or more signs and symptoms of concussion.

If the team medical staff determines a player was unconscious, the player should not be returned to the same game or practice.

Team physicians and athletic trainers should continue to consider the player's history of concussion, including number and time between incidents, type and severity of blow, and time to recover.

Team physicians and athletic trainers should continue to educate players about concussion and to emphasize the need for players to be forthright about physical and neurological complaints associated with concussion.³²¹

The third item from the bottom, which advises that a player who was unconscious should not be returned to the same game or practice, appears to conflict with an article written by members of the MTBI Committee. The relevant portion of the 2005 *Neurosurgery* article is as follows:

Many of the currently accepted guidelines also indicate that any player who experiences loss of consciousness with MTBI should not be allowed to return to play that day Although the numbers were small, there were a few players in this study who had recorded loss of consciousness as a result of MTBI and later returned to play in the same game. There was no evidence of any adverse effect

³²¹ Letter from Roger Goodell, Commissioner, National Football League, and Eugene Upshaw, Executive Director, NFL Players Association, to NFL players, Aug. 2007, p. 5.

of this action. These data suggest that these players were at no increased risk of repeat MTBI or prolonged postconcussion syndrome compared with other players.³²²

Without additional information, the reason for the discrepancy between the league's return-to-play guidelines and the committee's article is unknown. The league's general counsel reportedly stated that the NFL was "erring on the side of player safety ... it may be that a player will be held out of a game when it is not medically required or indicated by the data. Certainly it's a less-risky approach in terms of player safety.... It reflects an effort to avoid this debate going forward."³²³

In the same *Neurosurgery* article, Pellman, et al., also discuss various factors that may play a role in deciding when a player may return to the game or practice. They cite the player's medical condition as the most important factor, but then appear to acknowledge that other considerations also may influence the return-to-play decision. Pellman, et al., wrote:

Although the medical condition of the player certainly is the most important factor in determining return-to-play decisions by team physicians, there are many other factors that go into the decision of when the player should return to play. The importance of the player to the team; the importance of the game to the team; and pressure from owners, players and their families, coaches, agents, and media certainly may influence the decision of when the player returns to play. The authors believe, however, that the medical factors regarding the patient's recovery are and should be the overriding factors that guide the team physicians' decisions-making on return to play.³²⁴

Funding for the Retirement Plan

Maintaining full funds for the retirement plan is a priority of the NFL and the NFLPA, and is made possible by the use of actuarial assumptions (or factors) and methods, and by ensuring that benefits are awarded only to eligible individuals. Under the CBA, the amount of money needed to fund certain benefits, including the retirement plan, is determined using "negotiated actuarial factors."³²⁵ The factors (or assumptions) are "determined by collective bargaining" and are "acceptable to the plan's Enrolled Actuary."³²⁶ At a congressional hearing in 2007, the plan counsel

³²² Elliot J. Pellman, et al., "Concussion in Professional Football: Players Returning to the Same Game — Part 7," p. 88.

³²³ Alan Schwarz, "New Advice by N.F.L. in Handling Concussions," *New York Times*, Aug. 21, 2007, available at [<http://www.nytimes.com/2007/08/21/sports/football/21concussions.html>].

³²⁴ Elliot J. Pellman, et al., "Concussion in Professional Football: Players Returning to the Same Game — Part 7," p. 89.

³²⁵ NFL Players Association, "History of Retirement and T&P Benefits for NFL Players," p. 5. In 1993, a single plan counsel, Groom Law Group, and a single plan actuary, Aon Corporation, were selected for the retirement plan. (Ibid.)

³²⁶ NFL Players Association, "History of Retirement and T&P Benefits for NFL Players," (continued...)

stated: “Because of the repeated increases in benefits and thus liabilities, the Retirement Plan is somewhat under funded from an actuarial point of view. Both the Players Association and the NFL view pension funding as a priority, and full funding may occur in the next few years, at least until the next negotiated benefit increase.”³²⁷

The use of actuarial assumptions and methods is necessary to ensure that a benefit plan has sufficient funds to meet its obligations — that is, to pay benefits to eligible individuals. Accordingly, it is necessary “that only those persons who qualify for the benefits receive them.”³²⁸ According to an article that appeared in the *Washington Post Magazine*, and which quoted the executive director of the NFLPA, Gene Upshaw, the players association is committed to ensuring that funds are available for eligible players. An excerpt from the article follows:

[Gene Upshaw] fears that, if disability payments “go to any borderline cases out there,” the floodgates will open, and there “might be thousands” of claims from NFL retirees who will “say they hurt somewhere on their bodies.... Heck, a lot of guys have little things.” He says that the league couldn’t endure such a press of claims. “We couldn’t afford that,” he says. “And the [active] players wouldn’t go for it.... The players right now give up \$82,000 a year [on average] to fund all the things we’re doing with disability [payments] and pensions.... We can’t pay for everything for all the [retirees] asking for it. We want to protect money for the retired players who really need and deserve it.”³²⁹

Appendix J of the CBA contains the actuarial assumptions and actuarial cost method used to determine how much money is needed to fund the benefits provided by the retirement plan.³³⁰ Calculations that use these assumptions and cost method determine how much money is needed to fund the retirement plan. Some of the actuarial assumptions in Appendix J are based on established tables, such as the 1980 Railroad Retirement Board rates, which is used for the “Remarriage and mortality rates for widow’s benefit” factor; and *The RP-2000 Table*, which is used for “Mortality rates” and “Disability mortality before age sixty-five.”³³¹ The “Football

³²⁶ (...continued)

p. 5; Letter from Goodell to Reps. Conyers and Smith, p. 10.

³²⁷ U.S. Congress, House Committee on the Judiciary, Subcommittee on Commercial and Administrative Law, “The National Football League’s System for Compensating Retired Players: An Uneven Playing Field?” statement of Douglas W. Ell, Plan Counsel for Bert Bell/Pete Rozelle NFL Player Retirement Plan, unpublished hearing, 110th Cong., 1st sess., June 26, 2007, p. 10.

³²⁸ U.S. Congress, House Committee on the Judiciary, Subcommittee on Commercial and Administrative Law, “The National Football League’s System for Compensating Retired Players: An Uneven Playing Field?” statement of Dennis Curran, Senior Vice President, National Football League, unpublished hearing, 110th Cong., 1st sess., June 26, 2007, p. 4.

³²⁹ Leahy, “The Pain Game,” p. 22.

³³⁰ National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, p. 203.

³³¹ National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, pp. 282-283. The 1980 Railroad Retirement Board rates are (continued...)

related disability rates” factor apparently is not based on a table. Instead, the disability rates are the following: “As of April 1, 2007, the rates are “[.10%] per year for active players and [.08%] per year for inactive players until age forty-five, after which it becomes zero. Active players are assumed to become inactive after one year or age thirty, whichever comes later.”³³² The method and information used for determining these rates is unclear. The NFLPA has noted that “the amount to fund the Retirement Plan is calculated actuarially, in accordance with federal law.”³³³ Is it possible that retired (that is, inactive) players’ needs for medical care exceed the amount of funds for disability benefits that are calculated using this disability rate?

What Is the Extent of the NFLPA’s Capacity?

The extent of the NFLPA’s authority and capabilities regarding health and safety issues, and its position on such issues are, at times, unclear. For example, the NFL has a number of committees that deal with injuries, safety, and health. Apparently, the NFLPA does not have any similar committees or entities, although, along with the NFL, it is part of the joint committee on player safety and welfare.³³⁴ The NFLPA has a medical advisor; but, apparently, this is not a full-time position, for the current advisor is CEO and president of BestPractices and chairman of the Department of Emergency Medicine, Inova Fairfax Hospital.³³⁵ Additionally, it is unclear what resources, including staff, are available to the medical advisor.

The NFLPA apparently is not included in discussions about proposed rule changes that may affect the health and safety of players. Furthermore, the description of the process for addressing rule changes that might adversely affect player safety shows that, ultimately, neither the joint committee, the players association, nor the

³³¹ (...continued)

available at U.S. Railroad Retirement Board, “Financial, Actuarial and Statistical,” [http://www.rrb.gov/mep/fin_act_stat.asp]. The other document, *The RP-2000 Mortality Tables*, is available at [http://www.soa.org/files/pdf/rp00_mortalitytables.pdf].

³³² National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, p. 282.

³³³ Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, p. 29.

³³⁴ In the absence of evidence of the committee’s accomplishments, certain features of the committee suggest that its influence might be limited. The committee holds only two regular meetings per year, although special meetings may be convened, and the committee does not have the power “to commit or bind” the NFLPA or the NFL on any issues. (National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, Mar. 8, 2006, p. 38.) The names of the NFLPA’s 13 departments are: Benefits Department, Communications Department, Executive Department, Finance and Asset Management Department, Financial Programs and Advisor Administration Department, Information Systems, Legal Department, Membership Services, NFL PLAYERS Department, NFLPA Retired Players Department, Player Development, Regional Directors, and Salary Cap and Agent Administration. (NFL Players Association, “Departments,” n.d., available at [<http://www.nflplayers.com/user/template.aspx?fmid=181&lmid=238&pid=0&type=1>].)

³³⁵ Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, p. 11.

arbitrator (if one is involved) has authority to modify or rescind a potentially problematic proposed rule change. (The issue of rule changes is discussed above.)

The subject of MTBI research and guidelines, in particular, raises several questions regarding whether the players association has sufficient capacity and authority to participate effectively in matters involving safety and health issues. For example, while members of the MTBI Committee have been involved in an ongoing dialogue with other professionals in the field of neurology (as documented above), it appears that the NFLPA has not commented publicly on any of the issues, such as the possible long-term effects of concussions and the possibility that multiple mild traumatic brain injuries could result in CTE. The NFLPA has “supported and/or participated in several studies concerning the physical effects of playing professional football.”³³⁶ Those studies include “[s]tudies conducted by the Center for the Study of Retired Professional Athletes at the University of North Carolina at Chapel Hill, including the ‘Recurrent Concussion and Risk of Depression in Retired Professional Football Players’ study done by Dr. Kevin M. Guskiewicz and others in 2006.”³³⁷

A joint NFL-NFLPA letter on concussions and concussion management noted that the NFLPA’s medical advisor had attended the June 2007 “concussion summit” and that he “will remain closely involved” in ongoing projects involving MTBI research.³³⁸ The extent of the authority of the NFLPA medical advisor regarding the committee’s decisions, actions, and recommendations is unclear, as are his possible courses of action, if any, should he disagree with the decisions of the committee. Additionally, the NFLPA’s involvement in the MTBI’s development of the concussion management guidelines and, specifically, the return-to-play guidelines is unclear.

Medical Care for Active Players

Access to Medical Records. Under the CBA, a player may examine his medical records and athletic trainers’ records only twice per year: “once during the pre-season and [once] after the regular season.”³³⁹ Additionally, he may obtain a copy of the records during the off-season.³⁴⁰ The rationale for not permitting a player to see his records during the pre-season and regular season is unclear. While obtaining records after the season is useful for the player who wants to, among other

³³⁶ Ibid., p. 12.

³³⁷ Ibid., pp. 12-13.

³³⁸ Letter from Goodell and Upshaw to NFL players, pp. 1-2.

³³⁹ National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, p. 199. Having access to one’s medical records, albeit only twice per year, apparently is an improvement. As quoted in the *New York Times* in 2002, Gene Upshaw noted the following changes to players’ medical care: “‘Before 1986-87, guys could not select the doctor for their surgery, they could not get second opinions and they could not even see a copy of their medical records.... All of that is in place now.’” (Thomas George, “Care by Team Doctors Raises Conflict Issue.”)

³⁴⁰ National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, p. 199.

things, maintain his own medical history, timely access to the records might be useful to a player who has been injured and is receiving, or has received, medical treatment. Furthermore, a player might be more likely to recognize inaccurate, incomplete, or erroneous information if he is permitted to examine his records during the season, rather than having to wait until the conclusion of the season. Team medical staff, however, may not have time during the season to provide access to, or copies of, medical records, because they are fulfilling their primary responsibility, which is to diagnose and treat injured players. The access issue also raises the question of whether a player is permitted to have corrections added to his health records.

In a reminder to players to review their medical records following the season, the NFLPA touched on several issues related to the importance of knowing what is in medical records created and maintained by the team. The NFLPA stated the following:

With injuries being such a critical factor in determining the quality and longevity of an NFL player's career, it is important for players to become knowledgeable about the injuries they sustain and to learn what their club medical staff thinks about those injuries....

According to Tim English, NFLPA Staff Counsel who regularly represents injured NFL players in Injury Grievance arbitrations, "players who review their club's medical records for the first time while preparing their arbitrations are often surprised to read what has been written about their injuries by the club doctors and trainers. The level of detail in the records far exceeds what is told to them by the club." Invariably, those players regret not having taken the time to review their records previously.

Many times, the additional information contained in the club's records may assist a player in planning or altering his off-season treatment and training activity. All too often during the season a player who sustains an injury is only focused on getting back out on the field, and not on the extent of his injury and the best course of action to take for long-term health. The off-season is therefore the time to re-evaluate those injuries, and a review of the club medical and trainers' records is the place to start.³⁴¹

Arrangements for Medical Care and Treatment. Article XLIV of the CBA governs the players' right to medical care and treatment. As the employer, a team provides medical care for its players, which includes team physicians and athletic trainers. Under the CBA, a team's medical staff must include a board-certified orthopedic surgeon; the team is responsible for the cost of medical services that its physicians provide; and all full-time head trainers and assistant trainers must be certified by the National Athletic Trainers Association.³⁴²

³⁴¹ NFL Players Association, "News and Events: Off-Season and Medical Records, Off-Season Is the Time for Players to Review Their Medical Records," available at [<http://www.nflpa.org/newsandevents/021908.aspx>] as of Feb. 21, 2008, on file with the author.

³⁴² National Football League and NFL Players Association, *NFL Collective Bargaining* (continued...)

Article XLIV includes several additional safeguards for players, including the following:

If a Club physician advises a coach or other Club representative of a player's physical condition which adversely affects the player's performance or health, the physician will also advise the player. If such condition could be significantly aggravated by continued performance, the physician will advise the player of such fact in writing before the player is again allowed to perform on-field activity.³⁴³

While the requirement to provide written notification to a player is an important safeguard, it is unclear whether this step would be feasible in some situations. For example, is it possible to provide written notification to players during a game?

A player may seek a second opinion, and he may have his team pay for the costs associated with doing so as long as he follows this provision in the CBA:

A player will have the opportunity to obtain a second medical opinion. As a condition of the responsibility of the Club for the costs of medical services rendered by the physician furnishing the second opinion, the player must (a) consult with the Club physician in advance concerning the other physician; and (b) the Club physician must be furnished promptly with a report concerning the diagnosis, examination and course of treatment recommended by the other physician.³⁴⁴

At least one former team doctor has suggested, however, that some players may believe the team prefers that they not seek a second option. As quoted in a news article, Dr. Robert Huizenga, a team doctor for the Oakland Raiders and past president of the National Football League Team Physicians Society, "said he always suspected that the Raiders he treated believed it would be held against them if they sought a second opinion. 'Some of them were afraid to even admit to being injured at all,' Dr. Huizenga said...."³⁴⁵ Although it is not known whether any team has discouraged a player from seeking a second opinion, the expense involved and the possibility that a non-team doctor's diagnosis and recommendation for treatment might conflict with, or be more costly than, the team doctor's diagnosis and recommendation might have some bearing on a team's perspective on second opinions. It is unclear whether the team would be required to pay for any non-surgical treatment recommended by a non-team physician. Under the CBA, a team will pay for a player's surgery regardless of who — team doctor or non-team doctor — performs the surgery:

³⁴² (...continued)

Agreement, 2006-2012, p. 197.

³⁴³ *Ibid.*

³⁴⁴ *Ibid.*

³⁴⁵ Bill Pennington, "Sports Medicine; Sports Turnaround: The Team Doctors Now Pay the Team," *New York Times*, May 18, 2004, available at [<http://query.nytimes.com/gst/fullpage.html?sec=health&res=9501E6D8153FF93BA25756C0A9629C8B63>].

A player will have the right to choose the surgeon who will perform surgery provided that: (a) the player will consult unless impossible (e.g., emergency surgery) with the Club physician as to his recommendation as to the need for, the timing of and who should perform the surgery; and (b) the player will give due consideration to the Club physician's recommendations. Any such surgery will be at Club expense; provided, however, that the Club, the Club physician, trainers and any other representative of the Club will not be responsible for or incur any liability (other than the cost of the surgery) for or relating to the adequacy or competency of such surgery or other related medical services rendered in connection with such surgery.³⁴⁶

The condition that requires a player to “give due consideration” to the team physician's recommendations might be open to interpretation. Specifically, this phrase might concern how much discretion a player has, or how much discretion he thinks he has, to select his own surgeon, which could differ from the team's view on how much discretion a player has.

Another issue regarding the medical care provided to players is the potential for a conflict of interest. Some would argue that a team physician, as an employee of the team, might find it challenging to balance the interests of his patients — players — with the interests of the coaches, if not the team owners. The following excerpt from a news article describes the issue: “There is a complex tapestry occurring in players' medical treatments. Coaches often want players rushed back onto the field to win games. Players themselves often push to get back quickly. But when some injured players balk, coaches and teammates might consider them loafers and pressure them to return. Coaches pressure doctors for medical releases for players to play. And trainers are often caught in the middle, receiving pressure from coaches and even from owners to influence doctors' decisions.”³⁴⁷ A former assistant team physician with the Carolina Panthers, Dr. Walter Beaver, indicated, though, that in his experience, “[y]ou had total authority to take care of the players the way you felt they should be taken care of.... They (team officials) would never question it.”³⁴⁸ A team physician for the Pittsburgh Steelers, Jim Bradley, also has asserted that his team's head coach did not intervene in medical decisions. Reportedly, Bradley said: “If I tell Bill (Cowher, the [former] Steelers coach) a guy can't go, he never gives me any problem.... It's my call.”³⁴⁹ A related issue is the possibility that the premier players on a team receive better medical treatment than other players. During a malpractice suit against a former team doctor, it was “revealed that players believe, in some cases, that star players are treated differently medically than lesser players.”³⁵⁰ Reportedly, the executive director of the NFLPA stated: “We never

³⁴⁶ Ibid.

³⁴⁷ Thomas George, “Care by Team Doctors Raises Conflict Issue.”

³⁴⁸ Charles Chandler, “Consent at Heart of Lawsuit Facing Panthers, Doctor; Four Ex-Panthers Say Surgeries Went Further Than They Expected,” *Charlotte Observer*, p. 1A.

³⁴⁹ Vergano, “NFL Doctors, Players Face Off Over Painful Choices.”

³⁵⁰ Thomas George, “Care by Team Doctors Raises Conflict Issue.” The player, Jeff Novak, an offensive lineman for the Jacksonville Jaguars, filed a lawsuit against Stephen Lucie,

know if it's the patient-doctor relationship or the doctor-owner relationship' that matters in a team's medical decisions.”³⁵¹ In 2002, it was reported that the NFLPA and the league were “seeking a uniform standard for the relationships between team doctors and players and to make them more doctor-patient relationships. The league wants players treated effectively and fairly but also wants to protect its teams from expensive liability awards.”³⁵² The status of this effort is unclear.

A related issue is the nature of the business arrangement between a team and its medical staff. As described in the following excerpt, some doctors (or their medical practices) pay a team for the privilege of serving as team doctor(s).

In an upside-down scenario spawned by an increasingly competitive health-care market, hospitals and medical practices — eager for any promotional advantage — have begun bidding to pay pro teams as much as \$1.5 million annually for the right to treat their high-salaried players. In addition to the revenue, sports franchises get the services of the provider's physicians without charge or at severely discounted rates. In return, the medical groups and the hospitals are granted the exclusive right to market themselves as the teams' official hospital, H.M.O. or orthopedic group.... Despite concerns among many doctors and the players' unions over the ethics of putting health care out to bid, about half the teams in the four major North American professional sports are now tied contractually to a medical institution....³⁵³

Criticism is generally not directed at the quality of medical care dispensed, because it is difficult, if not impossible, to ascertain how these marketing arrangements directly affect player treatment. Almost everyone agrees that the pool of sophisticated sports medicine practitioners is so deep that the level of care is likely to be excellent. But the manner in which the doctors and the hospitals are selected and the potential for conflicts of interest bother many people in sports....³⁵⁴

³⁵⁰ (...continued)

who had been a Jacksonville team doctor, and won a \$5.35 million malpractice award. A news article summarized Novak's story as follows: “[Novak] injured his right knee in training camp on July 28, 1998. Lucie drained blood and fluid from the knee on Aug. 3 in a training room at Alltel Stadium. Two days later, Novak returned to practice, but by Sept. 10 had staph and E-coli infections in the knee and had bleeding episodes. Two operations followed. Novak ... played in only three more games that season, and was not offered a new contract and retired. Lucie testified that he ‘had a patient who was in a lot of pain who was having trouble walking around and wanted relief; the best way to provide relief was to remove this pressure and drain the hematoma.’ Doctors testifying for Novak said that he should have rested after the surgery, that it was performed in an unsterile environment, that maybe Novak should not have had the surgery at all but should have allowed the knee to rest and heal.” (Ibid.)

³⁵¹ Vergano, “NFL Doctors, Players Face Off Over Painful Choices.”

³⁵² Thomas George, “Care by Team Doctors Raises Conflict Issue.”

³⁵³ Pennington, “Sports Medicine; Sports Turnaround: The Team Doctors Now Pay the Team,” *New York Times*.

³⁵⁴ Ibid.

Although the medical care provided may not suffer as a result of the business relationship between a team and its team doctor or doctors, concern persists about the appearance of a conflict of interest. Reportedly, Dr. Andrew Bishop, the Atlanta Falcons' team doctor for 11 years, said: "It compromises you as a physician.... The perception is that if this individual was so eager to do this he's willing to pay to do it, then he's going to do whatever management wants to keep the job he paid for."³⁵⁵ Dr. James Bradley, president of the N.F.L. Physicians Society, counters this notion, reportedly saying: "If you are an N.F.L. team doctor and don't have the best interests of the players in mind ... you are a fool."³⁵⁶ Reportedly, a spokesman for the NFLPA, Carl Francis, said: "We're always concerned about the relationships between teams and physicians.... But we're willing to give the teams the benefit of the doubt. You would hope that a corporate relationship wouldn't prevent a team from doing the proper research before hiring a medical staff."³⁵⁷ A final comment on the topic comes from a player, Troy Vincent, then president of the NFL Players Association. Vincent was quoted in a news article as saying: "Our medical care is the only part of our game that isn't regulated.... There are uniform rules on everything else, including how to wear your uniform socks. Shouldn't there be some rules about who gets to treat the players when they're injured? That's when we are most vulnerable, and we should know that the doctor who comes out on that field to help us is the best around, chosen because he is the best, and not for any other reason."³⁵⁸

Workers' Compensation

The NFLPA and the NFL have taken steps to ensure that workers' compensation, which is administered by states, is available to NFL players. The players association has taken steps to ensure that all players are covered by workers' compensation, and "has established a panel of qualified lawyers to help players file and pursue their claims."³⁵⁹ Similar to other benefits, funding for workers' compensation comes from the portion of the league's total revenues that is allocated to the players. A player may receive both disability benefits and workers' compensation, and the players association and the league have agreed that the disability benefits will not be reduced.³⁶⁰ The NFLPA has written that it "strongly advises each player to preserve his rights under Workers' Compensation for life-time medical care for his football injuries."³⁶¹

³⁵⁵ Ibid.

³⁵⁶ Ibid.

³⁵⁷ Mike Bianchi, "Doctors, Teams, Players Work in Strange Ways," *Orlando Sentinel*, Sept. 17, 2003, p. D1.

³⁵⁸ Pennington, "Sports Medicine; Sports Turnaround: The Team Doctors Now Pay the Team."

³⁵⁹ Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, p. 4; NFL Players Association, "NFLPA White Paper," p. 21.

³⁶⁰ Ibid.

³⁶¹ Ibid.

Since workers' compensation is administered by states, benefits, requirements, and filing procedures may vary by team location. As the NFLPA has noted, "every state has a time limit within which to file a claim, which could be as short as one (1) year from the date of injury."³⁶² Despite the efforts of the NFLPA to publicize workers' compensation benefits, some players might not explore this option until, for example, they retire or one or more disabilities arise, when it might be too late for them to apply. A successful application for workers' compensation benefits might limit a player's options for recourse concerning his team (including the team's medical staff), which might serve as a deterrent to some players. Generally, an individual who files for and receives workers' compensation may not be permitted to file a lawsuit against his employer.³⁶³ Reportedly, the trial of a former team doctor who was sued by a player "showed that workmen's compensation laws and the league's current collective bargaining agreement protect some doctors and teams from litigation unless ... they are independent contractors."³⁶⁴

Possible Courses of Action

The subject of injuries, chronic health problems, disabilities (interpreted broadly), and benefits for former players is a complex one, and involves a variety of issues, some of which are discussed in this report. Accordingly, developing possible courses of action is a challenging undertaking, particularly given the interrelationships among different facets and issues.

The next section examines three proposals offered by the NFLPA, while the following section explores other possible options.

NFLPA's Suggestions for Legislative Action

At a hearing in September 2007, the executive director of the players association proposed three legislative options.³⁶⁵ The NFLPA did not discuss how it developed these proposals, including whether the suggestions were based on any data or documentation.

³⁶² NFL Players Association, "CBA: Workers' Compensation Benefits."

³⁶³ Cornell University Law School, Legal Information Institute, "Workers Compensation," n.d., available at [<http://www.law.cornell.edu/wex/index.php/Workerscompensation>]; Gregory P. Guyton, "A Brief History of Workers' Compensation," *Iowa Orthopaedic Journal*, 1999, available at [<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1888620>], pp. 108-109; California Department of Industrial Relations, "Division of Workers' Compensation - Employer Information," n.d., available at [<http://www.dir.ca.gov/dwc/Employer.htm>].

³⁶⁴ Thomas George, "Care by Team Doctors Raises Conflict Issue."

³⁶⁵ U.S. Congress, Senate Committee on Commerce, Science, and Transportation, "Oversight of the NFL Retirement System," statement of Eugene Upshaw, Executive Director, NFL Players Association, unpublished hearing, 110th Cong., 1st sess., Sept. 18, 2007, p. 3.

Establish Federal Standards for Workers' Compensation. The NFLPA suggested that the federal government develop federal standards for workers' compensation, which currently is administered by states. The players association argues that the current system "causes the vast majority of hurt workers, not just NFL players, to settle for a lump sum, and give up their rights to lifetime medical care for their injuries on the job."³⁶⁶ Without additional, detailed information about states' workers' compensation systems or programs, including data about the disposition of workers' compensation applications, the extent of the problem raised by the NFLPA is unknown. This suggestion might be interpreted as applying to all employers and employees, and not just the NFL and professional football players, yet it would be helpful to have an explicit declaration of the scope of the suggestion. In any case, whether the suggestion is for the NFL only or for all employers, the implications of such a change could be far-reaching. Another consideration is whether, since states, historically, have been responsible for administering workers' compensation, this is an area in which the federal government would want to intervene. In sum, additional, detailed information is needed in order to assess this proposal.

Permit Unions to Manage Their Benefit Plans. The NFLPA suggested that the Taft-Hartley Act (29 U.S.C. §§141-197) should be changed to allow the players association, if not all unions, to manage their own "plans." It appears that the NFLPA is referring to 29 U.S.C. §186(c)(5)(B), which requires that a plan subject to the act be administered by a board of trustees, and that the union and the employer be represented equally on the board. As with the first proposal, it is unclear whether the NFLPA is suggesting this change for only the NFL-NFLPA retirement plan, or for all negotiated retirement plans. If the NFLPA is proposing that the suggested change to the Taft-Hartley Act apply to all negotiated plans, it is unclear how other unions and employers might respond to the NFLPA's suggestion.

The rationale offered by the NFLPA for amending the Taft-Hartley Act is as follows: "since the NFLPA has been criticized when applications are denied (even though a majority vote of the six trustees is necessary for a decision), and since current players are funding the system, it makes sense for the players to be the ones making the disability decisions."³⁶⁷ The players association has also said that "allow[ing] the trustees appointed by the NFLPA to have the sole responsibility to decide applications for disability benefits ... [would] avoid deadlocks and expedite payments."³⁶⁸

Changing the composition of the Retirement Board might not significantly affect the application approval rate, which means that criticism of the NFLPA might not lessen. As the NFLPA executive director noted in his comments regarding this proposal, "the negotiated contribution by employers is fixed and plan actions cannot impose extra liability."³⁶⁹ Thus, the NFLPA does not assert that changing the

³⁶⁶ Ibid., p. 3.

³⁶⁷ Ibid., p. 3.

³⁶⁸ Letter from Upshaw to Reps. Conyers, Smith, Sanchez, and Cannon, p. 14.

³⁶⁹ U.S. Congress, Senate Committee on Commerce, Science, and Transportation, (continued...)

composition of the board would result in an increase in overall payments. Furthermore, as mentioned above, the plan counsel testified that the retirement plan is underfunded actuarially. However, one of the suggestions presented below, regarding the Sports Broadcasting Act of 1961, includes a mechanism that, if enacted, might yield additional funds for benefits.

While it might be important symbolically for the board to consist solely of NFLPA representatives, the substantive significance of the second element of the NFLPA's rationale for this proposal — players fund the retirement plan — is not readily apparent. Furthermore, under the proposed arrangement, the NFLPA alone most likely would bear the brunt of criticism about the disability application process, whereas currently both the league and the players association might be viewed as sharing responsibility for the Retirement Board's decisions.

In his testimony, the NFLPA's executive director mentioned "six trustees," which suggests that he was referring to the Retirement Board (the DICCC has only two members) when he proposed that the NFLPA choose all of the individuals who make disability application decisions. Giving the NFLPA sole responsibility for the decisions of the Retirement Board would, according to the players association, end deadlocked votes which, in turn, would aid in expediting payments to applicants. Currently, resolving tie votes involves sending the applicant to a medical advisory physician or using arbitration (the arbitration is among the board members; the applicant "is not a party to the arbitration").³⁷⁰ Thus, if there are no deadlocks, the application process would end with the board's decision.

Eliminate the Requirement for the Disability Initial Claims Committee (DICCC). In his 2007 testimony, the NFLPA's executive director asked Congress to eliminate the requirement to have "an extra level of decision-making in disability decisions." The executive director appeared to be referring to 29 CFR §2560.503-1(h)(3)(ii) and (4), which require a disability plan to have a mechanism for an applicant to appeal an adverse benefit determination, and stipulate that neither the individual who made the adverse determination, nor anyone subordinate to this individual, can hear the appeal. No rationale accompanied the NFLPA's suggestion, although it seems likely that this step would decrease the amount of time needed to process applications.

On the one hand, eliminating a level of review might reduce the cost and duration of the application process as a whole. On the other hand, as the plan counsel, Douglas W. Ell, testified in 2007, "... one man's 'red tape' is another man's due process."³⁷¹ The application process, as summarized by Ell, is as follows:

³⁶⁹ (...continued)

"Oversight of the NFL Retirement System," statement of Eugene Upshaw, p. 3.

³⁷⁰ U.S. Congress, House Committee on the Judiciary, Subcommittee on Commercial and Administrative Law, *The National Football League's System for Compensating Retired Players: An Uneven Playing Field?* statement of Douglas W. Ell, p. 15.

³⁷¹ *Ibid.*, p. 16.

A player seeking disability benefits begins by completing a written application and sending it to the [Retirement] Plan's administration office in Baltimore. The Plan office has a toll-free number that players call to ask questions and get forms, and also has a website for downloading forms. The player is then sent to a nearby physician approved by the Retirement Board for an examination. These physicians are called neutral physicians and they provide a written report.

Disability claims are decided at the first level by a separate committee, the Disability Initial Claims Committee. Since 2002 the Department of Labor has required the existence of this separate committee. If a player is dissatisfied in any way with the decision of the Committee, he has the right to appeal to the full Retirement Board. Players who appeal are sent to a different second Neutral Physician, as required by federal law. If a player is dissatisfied in any way with the decision of the Retirement Board, he has the right to file suit in federal court.³⁷²

Eliminating one level of review — specifically, the DICC — might affect the overall approval rate, which is 42%. Currently, the DICC performs the initial review, and its approval rate is 34%. As discussed above, the second level of review (the Retirement Board) in the current configuration appears to contribute to a higher overall approval rate. If the DICC were eliminated, would the overall approval rate decrease from 42%, stay the same, or increase?

Other Suggestions

Mitigation of Economic Risk. The health of active and former players might have implications for the NFL, the NFLPA, and society as a whole. Relatively healthy individuals and former players who, through their employment, earn sufficient wages to support themselves and their families are less likely to need government benefits and NFL/NFLPA-provided benefits than individuals who are unemployed, underemployed, or suffer from chronic health problems and/or disabilities. Dave Pear is an example of a former player who relies on government benefits and NFL/NFLPA benefits. A former defensive lineman for the Oakland Raiders and the Tampa Bay Buccaneers, Pear receives a \$606 monthly pension payment from the retirement plan and \$2,000 per month in Social Security disability benefits.³⁷³ Medicare has paid most of the costs of his surgeries.³⁷⁴

Since the injuries and medical conditions an active player sustains most likely will have some bearing on his health in retirement, mitigation begins with active players. (The NFL and NFLPA policies on steroids and substances of abuse are examples of efforts to mitigate risk.³⁷⁵) To aid in mitigating the economic risk

³⁷² Ibid., pp. 14-15.

³⁷³ Leahy, "The Pain Game," p. 10.

³⁷⁴ Ibid.

³⁷⁵ National Football League and NFL Players Association, *National Football League Policy on Anabolic Steroids and Related Substances 2007*; National Football League and NFL Players Association, *National Football League Policy and Program for Substances of* (continued...)

associated with the health and safety of players, two options are available. A neutral party could conduct a single review, or multiple reviews, of the conditions, terms, policies, and procedures involving player health and safety. Within the federal government, the National Institute for Occupational Safety and Health and the Institute of Medicine (IOM) of the National Academies are examples of two entities that, with appropriate funding, might be able to undertake this initiative.³⁷⁶ Another option for facilitating the mitigation of risk would be to have the Occupational Safety and Health Administration (OSHA) review the working conditions of NFL players, set and enforce standards, and provide education.³⁷⁷

Independent Studies. While the NFLPA has not conducted its own research or written its own articles on medical subjects and related subjects, the NFL has awarded grants for research, and members of the MTBI Committee, and perhaps other NFL committees as well, have written articles on medical subjects.³⁷⁸ (See **Appendix B** for a list of studies and articles that each entity has sponsored or published. The recipients of NFL Charities grants for MTBI and related research are

³⁷⁵ (...continued)

Abuse. Substances of abuse include, for example, marijuana and cocaine. The policy also covers the abuse of prescription drugs, over-the-counter medications, and alcohol. (Ibid., p. 1.)

³⁷⁶ NIOSH, which is located within the Dept. of Health and Human Services, Centers for Disease Control, “is the federal agency responsible for conducting research and making recommendations for the prevention of work-related injury and illness. (Dept. of Health and Human Services, Center for Disease Control, National Institution for Occupational Safety and Health, “About NIOSH,” available at [<http://www.cdc.gov/niosh/about.html>].) IOM “provides unbiased, evidence-based, and authoritative information and advice concerning health and science policy to policy-makers, professionals, leaders in every sector of society, and the public at large.” (Institute of Medicine, “About,” available at [<http://www.iom.edu/CMS/AboutIOM.aspx>].)

³⁷⁷ OSHA, which is part of the Dept. of Labor, “aims to ensure employee safety and health in the United States by working with employers and employees to create better working environments.” (Dept. of Labor, Occupational Safety and Health Administration, “OSHA Facts — August 2007,” available at [<http://www.osha.gov/as/opa/oshafacts.html>].)

³⁷⁸ Although the NFL has referred to the MTBI Committee as “the NFL’s independent committee on mild-traumatic brain injury,” and has noted that the “MTBI Committee will continue to operate as an independent group,” it is unclear what is meant by “independent” in these statements. (National Football League, “NFL Outlines Standards for Concussion Management,” news release, May 22, 2007, p. 1.) The degree of independence might depend upon, for example, the terms and conditions governing members’ service on the committee; whether committee members are compensated in any way for their service; and whether any other committee, office, or individual in or affiliated with the NFL conducts a pre-publication review of articles produced by committee members. At the conclusion of at least one of the articles published by members of the MTBI Committee is a statement that disavows any conflict of interest. The text of the statement is as follows: “None of the Committee members have a financial or business relationship posing a conflict of interest to the research conducted on concussion in professional football. Funding for this research was provided by the National Football League and NFL Charities. The Charities is funded by the NFL Players’ Association and League.” (Pellman, et al., “Concussion in Professional Football: Players Returning To the Same Game — Part 7,” p. 90.)

shown in **Table 17.**) Selecting individuals and organizations that are not affiliated, either directly or indirectly, with the NFL to conduct research on subjects and issues related to player health might provide a fresh perspective while helping to alter the perception, if not the reality, that, as some observers allege, the NFL uses its own research “to justify league practices.”³⁷⁹ The National Institute of Occupational Safety and Health (NIOSH) and the Center for the Study of Retired Athletes (CSRA), University of North Carolina at Chapel Hill, are two organizations that are independent of the NFL and the NFLPA and may have the capability to conduct studies of active and former NFL players.³⁸⁰ In the early 1990s, the NFLPA asked NIOSH to conduct a mortality study to “investigate the rate and causes of death of National Football League Players.”³⁸¹ Additionally, as noted above, Dr. Bennet I. Omalu and his co-authors offered to “collaborate with the Mild Traumatic Brain Injury Committee and the NFL in developing and implementing an optimal research program that will address these newly emerging issues.”³⁸²

Data: Collection, Quality, and Access. The collection, analysis, and reporting of certain data might serve a number of purposes, such as providing additional, or more complete, information to active players about injuries and possible long-term consequences, and helping the NFL, the NFLPA, and the retirement plan office to identify and remedy possible problems associated with the administration of benefits. Possible options include providing injury surveillance system reports to active players, which could aid them in understanding, for example, the scope and frequency of injuries, which positions are at risk for certain injuries, and why certain protective equipment or safety procedures are necessary for players’ safety. Provision of the data (in addition to the two reports that are produced each season) to the NFLPA would make it possible for the players association to conduct its own analysis of injuries.

Suggestions for new data collection efforts include conducting exit interviews with players who are retiring, carrying out a survey of former players, and establishing and maintaining a database on the disposition of applications for disability benefits. Exit interviews might provide information useful to the league, the players association, and the players themselves. An exit interview could cover a range of topics including, for example, reason(s) for retirement, feedback on the nature and quality of health care received as a player, a discussion of health and safety issues (including the player’s narrative of injuries sustained), and retirement

³⁷⁹ Peter Keating, “See No Evil? The NFL Won’t Face Concussion Facts,” *ESPN.com*, Jan. 19, 2007, available at [<http://sports.espn.go.com/nfl/columns/story?id=2736505>].

³⁸⁰ Information about NIOSH and CSRA is available at [<http://www.cdc.gov/niosh/>] and [<http://www.csra.unc.edu/>], respectively.

³⁸¹ Letter from Baron and Rinsky to Woschitz, p. 1.

³⁸² Omalu, et al., “Chronic Traumatic Encephalopathy in a National Football League Player,” May 2006, p. E1003. According to a 2000 news article, the NFLPA had tried to get the NFL to join the players association in asking the Centers for Disease Control to conduct a “comprehensive injury study,” but the NFL was not interested. The NFL apparently responded that no such offer had been made by the players association. (Gutierrez, “NFL Injuries; Pain Game.”)

plans.³⁸³ One or more surveys of former players could be used to gather information about their health and employment status, and could aid in determining how well existing benefits meet active and retired players' needs. Benefit program evaluation efforts also might be enhanced by a survey of retired players. Considering that the disposition of applications for disability benefits is a sensitive issue,³⁸⁴ detailed, information that shows how many applications were denied, and why, at each step of the LOD application process and at each step of the T&P application process might be useful in explaining how the application process works and why applications were denied.

Ensuring that the information gleaned from the initiatives described above is provided to, at a minimum, active players, former players, the NFL, and the NFLPA could yield several advantages. Active and former players would be better informed about a number of subjects and issues related to health, safety, and benefits; the NFL, the NFLPA, and the retirement plan office would receive feedback about benefits and the administration of benefits; and NFL and NFLPA personnel who deal with health and safety issues would receive potentially significant information about the medical treatment of players, and the health of two groups of former players — those who have just concluded their NFL careers and those who have been retired for a number of years. Additionally, an overarching benefit could be enhanced accountability and transparency as all of the stakeholders would have access to the same information. The actual benefits of such initiatives, and the validity and reliability of the data collected, would depend upon a number of factors, such as the way in which

³⁸³ An exit physical examination might be useful, too, to both the player and the team. The player would have complete documentation of his health, including neurological health, upon the conclusion of his NFL career, and the information could be submitted to the NFL's injury surveillance system, which then might aid in tracking the long-term effects of injuries, if any. NFL teams are responsible for the cost of medical services provided by team physicians. Having team physicians conduct exit physical examinations might increase the cost of such services to the team. A player might be hesitant to submit to an exit examination if the results could possibly affect his ability to purchase health insurance at a reasonable price after the health insurance provided by the NFL and NFLPA expired. Additionally, although an active or former player may request a copy of his medical records and trainer's records during the off-season, perhaps a copy of both sets of records could be provided automatically to a player upon his retirement. (National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, p. 199.) Under Article XLIV, "Players' Right to Medical Care and Treatment," of the CBA, each player is required to undergo a standard minimum pre-season physical examination. The protocol for standard minimum pre-season physical examination, which includes the following, might serve as a model for an exit examination: general medical examination, orthopedic examination, flexibility, EKG, stress test (at physician's discretion), blood test, urinalysis, vision test, hearing test, dental examination, chest x-ray (at appropriate intervals), and x-ray of all previously injured areas. (Ibid., pp. 197, 279-281.)

³⁸⁴ U.S. Congress, House Committee on the Judiciary, Subcommittee on Commercial and Administrative Law, *The National Football League's System for Compensating Retired Players: An Uneven Playing Field?* statement of Douglas W. Ell; letter from Douglas W. Ell, to Rep. Linda Sanchez, Chair, Subcommittee on Commercial and Administrative Law, July 3, 2007; and U.S. Congress, Senate Committee on Commerce, Science, and Transportation, *Oversight of the NFL Retirement System*, unpublished transcript, 110th Cong., 1st sess., Sept. 18, 2007.

information was collected, how respondents were selected, and how survey questions were worded.

Establish an Ombudsman Office. Although the NFLPA does not represent former players, the organization has a Retired Players Department, which “acts to meet players’ needs with the right services; continuously communicates and involves players of all ages to create an exclusive fraternity; works collaboratively with other NFLPA departments and Players Inc to give outstanding value to its members; provides leadership, administration, coordination and implementation to serve the needs of retired players and retired player chapters.”³⁸⁵ Active players are represented by the players association, and they select the members of the NFLPA’s Board of Player Representatives. (Members of each team elect a player representative and an alternate player representative. Both serve on the Board of Player Representatives.³⁸⁶)

Additional options for involving current and former players in issues of interest to them and for identifying and addressing problems include expanding the membership of each committee involved in health and safety issues and establishing one or more ombudsmen. Opening up committee membership to active players would promote participation by the individuals who have a direct stake in the work of the committees. Furthermore, players might bring a fresh perspective and innovative ideas to the work of each committee. Expanding committee membership in this way might not be feasible, however. Player-members might find it difficult to attend meetings that are held during the season, and their contributions might be limited during discussions that require specialized knowledge. Establishing an ombudsman office in one or more of the following organizations — the NFL, NFLPA, and retirement plan office — would provide an outlet for active and/or former players. In addition to responding to complaints and requests for assistance, an ombudsman office could function akin to an auditor or a government inspector general, identifying and examining issues and problems. Planning for the establishment of an ombudsman office would probably have to address, at a minimum, funding, organizational independence, and the culture of the organization in which it is to be located.

Concluding Observations

Professional football is an immensely popular sport in the United States, yet it exacts a physical toll on the men who play the game. Injuries and health problems sustained by active players run the gamut from sprained knees and ankles to concussions and broken bones, and injuries might have long-term consequences for a player’s health. It has been suggested by several studies, for example, that mild traumatic brain injuries might lead to depression or Alzheimer’s-like disease. The NFL and the NFLPA, through collective bargaining and other discussions, have

³⁸⁵ NFL Players Association, “Retired Players Department: FAQs,” p. 1.

³⁸⁶ NFL Players Association, “FAQs,” n.d., available at [<http://www.nflplayers.com/user/template.aspx?fmid=181&lmid=237&pid=0&type=c#a1>].

created a variety of benefits for retired and active players, including benefits for individuals who are totally and permanently disabled. Additionally, the league has established several committees that deal with health and safety issues, and the players association has its own medical advisor. Organizations not affiliated with the NFL or the players association also have taken steps to provide assistance to former players.

The subject of players' injuries, disabilities, and benefits is a complex one, and, accordingly, there are a host of issues surrounding this subject. Although the number and type of benefits have grown over the years, older retirees, particularly those who played prior to 1982, have fewer benefits available to them than their successors have. Yet, this subset of former players might have the greatest financial and medical needs. MTBI research has been a somewhat controversial issue, because some experts have published articles whose findings do not agree with those of the NFL's MTBI Committee. These issues, and the others discussed above, suggest that there may not be any simple or easy answers to the health problems experienced by active and former players, or to the questions raised about the sufficiency of benefits for retirees in particular. The players association has suggested three legislative options, and it might be possible, for example, to mitigate the risk of playing professional football and to gather data that could be used to educate players, improve the administration of existing benefits programs, and determine the extent of former players' needs.

Appendix A. Glossary

Active Player — “A Player who is obligated to perform football playing services under a contract with an Employer; provided, however, that for purposes of Section 5.1 only, Active Player will also include a Player who is no longer obligated to perform football playing services under a contract with an Employer, but is between the period beginning when his last such contract expired or was terminated for any reason, and ending on the later of (a) the July 15 following the beginning of the period, or (b) the first day of preseason training camp.”³⁸⁷

Affiliate — “means, with respect to a particular Employer, (a) any corporation, other than the Employer, which is a member of a controlled group of corporations (within the meaning of [Internal Revenue] Code [of 1986, as amended] section 414(b) of which such Employer is a member, (b) any trade or business, other than the Employer, which together with such Employer are under common control (within the meaning of [Internal Revenue] Code section 414(c)), (c) any employer, other than the Employer, which is a member of an affiliated service group (within the meaning of [Internal Revenue] Code section 414(m)) of which such Employer is a member, and (d) any other entity required to be aggregated with the Employer under section 414(o) of the [Internal Revenue] Code.”³⁸⁸

Annuity Year — The 12-month period beginning April 1 and ending March 31 of the following year.³⁸⁹

Arising out of League football activities — This means “a disablement arising out of any League pre-season, regular-season, or post-season game, or any combination thereof, or out of League football activity supervised by an Employer, including all required or directed activities. [This phrase] does not include, without limitation, any disablement resulting from other employment, or athletic activity for recreational purposes, nor does it include a disablement that would not qualify for benefits but for an injury (or injuries) or illness that arises out of other than League football activities.”³⁹⁰

Benefit credit — “means the credit in Section 4.1 [of the Retirement Plan] for the corresponding Credited Season.”³⁹¹

Credited season — “[A] Plan Year in which a Player: (a) is an Active Player (including an injured Player who otherwise satisfies the definition of ‘Active Player’) on the date of three or more Games, not including Game dates when he was on the Future List; (b) after April 1, 1970, is injured in the course and scope of his

³⁸⁷ *Bert Bell/Pete Rozelle NFL Player Retirement Plan*, p. 2.

³⁸⁸ *Ibid.*

³⁸⁹ Information provided telephonically by Benjamin L. Zelenko, Esq., to the author on Dec. 10, 2007.

³⁹⁰ *Bert Bell/Pete Rozelle NFL Player Retirement Plan*, p. 26.

³⁹¹ *Ibid.*, pp. 2-3.

employment for an Employer and by reason of such injury receives payment equivalent to his salary for three or more Games or for a number of Games which, when added to the number of Games in such Plan Year for which he otherwise has credit, totals three or more; (c) after reporting to at least one official pre-season training camp or official practice session during such Plan Year, (1) dies, (2) becomes totally and permanently disabled under Section 5.1(a) [active football] or Section 5.1(b) [active nonfootball], or (3) incurs a disability that subsequently qualifies for a benefit under Section 6.1 [line-of-duty disability]; (d) is absent from employment by an Employer while serving in the Armed Forces of the United States, provided such Player returns as an Active Player, after first being eligible for discharge from military service, by the later of (i) 90 days or any longer period prescribed by applicable law, or (ii) the opening of the official pre-season training camp; (e) effective June 1, 2003, was absent from employment by an Employer while serving in the Armed Forces of the United States during the periods set forth in the table below [the periods cover World War II, the Korean War, and the Vietnam War] if (1) during the one year period ending on the date he entered the Armed Forces, such Player either played professional football for an Employer or signed a contract (or a similar document) stipulating his intent to play professional football for an Employer, and (2) such Player was alive on the date set forth in the table below for the corresponding period ... provided that Credited Seasons under this Section 1.10(e) [definition of “credited season”] will be granted only if and to the extent necessary for such Player to become a Vested Player; or (f) effective April 1, 2001, has a season with at least eight games on the practice squad in a Plan Year (either before or after April 1, 2001) in which he did not otherwise earn a Credited Season, provided that he is otherwise vested and earns a Credited Seasons in 2001 or later. A player may earn a maximum of one Credited Season under this Section 1.10(f) regardless of the number of seasons in which he has at least eight games.”³⁹²

Disability Initial Claims Committee (DICCC) — This committee, which has two members (one is appointed by the NFLPA, the other by the NFL Management Council), is “responsible for deciding all initial claims for any and all disability benefits under [the Retirement] Plan. The Disability Initial Claims Committee also will make initial decisions under Sections 5.3 [total and permanent disability] and 6.3 [line-of-duty disability] as to whether Players currently receiving disability benefits should continue to receive those benefits. At the request of a member of the Disability Initial Claims Committee, the Disability Initial Claims Committee will reconsider any decision it has made. When making the decisions described in this [section], the Disability Initial Claims Committee will have full and absolute discretion, authority and power to interpret the Plan and the Trust.”³⁹³

Employee — “[A]n individual who (a) is employed by an Employer as an Active Player, or (b) is employed by an Employer or an Affiliate in a capacity other than as

³⁹² Ibid., pp. 3-4.

³⁹³ Ibid., pp. 31-32.

an Active Player (provided that such employment immediately precedes or immediately follows, without interruption, employment as an Active Player).³⁹⁴

Employer — “A member club of the League.”³⁹⁵

Final League Year — is “the League Year which is scheduled prior to its commencement to be the final League Year of the Collective Bargaining Agreement.”³⁹⁶

Inactive vested player — See “vested inactive player.”

League Year — is “the period from February 20 of one year through and including February 19 of the following year, or such other one year period to which the NFLPA and the [NFL’s] Management Council may agree.”³⁹⁷

Life only pension — “Equal monthly pension payments payable during the Player’s lifetime only.”³⁹⁸

Line of Duty Disability — “Any player who incurs a ‘substantial disablement’ (as defined in Section 6.4(a) and (b) [of the *Bert Bell/Pete Rozelle NFL Player Retirement Plan*]) ‘arising out of League football activities’ (as defined in Section 6.4(c) [of the *Bert Bell/Pete Rozelle NFL Player Retirement Plan*]) will receive a monthly line-of-duty disability benefit³⁹⁹”

Normal retirement date — “[T]he first day of the calendar month coincident with or next following a Player’s 55th birthday.”⁴⁰⁰

Plan Year — “[A] 12-month period from April 1 to March 31. A Plan Year is identified by the calendar year in which it begins.”⁴⁰¹

Player — “Any person who is or was employed under a contract by an Employer to play football in the League and who is or was (a) on the Active List or the Inactive List (as such lists are or have been defined in the Constitution and By-Laws of the League) of an Employer; (b) on an Employer’s roster without being on the Active List by reason of injuries sustained in the Chicago Tribune All-Star Game; (c) injured in the course and scope of his employment for an Employer and by reason of such

³⁹⁴ Ibid., p. 4.

³⁹⁵ Ibid.

³⁹⁶ Ibid.

³⁹⁷ Ibid., p. 6.

³⁹⁸ Ibid., p. 13.

³⁹⁹ Ibid., p. 25.

⁴⁰⁰ Ibid., p. 6.

⁴⁰¹ Ibid.

injury paid under such contract for all or part of the Plan Year in which the injury occurs or occurred; (d) on the Move List, or, for the purposes of the benefits provided by Articles 5, 6 and 7, on the Future List of an Employer after April 1, 1970 (as such lists have been defined in the Constitution and By-Laws of the League); or (e) on the Reserve/Physically Unable to Perform or the Reserve/NFI-EL Lists of an Employer (as such lists have been defined in the Constitution and By-Laws of the League).⁴⁰²

Pre-59ers — The first pension plan, the Bert Bell NFL Player Retirement Plan, was established in 1962, but it was retrospective to only 1959. Players who left football before 1959 — the pre-59ers — were not covered by this plan.⁴⁰³

Projected total revenues — “[T]he amount of Benefits projected in accordance with the rules set forth in Article XXIV [of the CBA] (Guaranteed League-wide Salary, Salary Cap & Minimum Team Salary).”⁴⁰⁴

Qualified joint and survivor annuity — “[A] monthly annuity for the life of the Player with a monthly survivor annuity for the life of the Spouse equal to 50% of the amount of the monthly annuity payable during the life of the Player, which benefit will be the Actuarial Equivalent of the life only pension form of benefit”⁴⁰⁵

Retired player — same as former or inactive player. NFL and NFLPA documents define “active player” and the implication is that an individual who does not fall into the active category is inactive.

Retirement Board — “The Retirement Board will be the ‘named fiduciary’ of the [Retirement] Plan within the meaning of section 402(a)(2) of ERISA [Employee Retirement Income Security Act], and will be responsible for implementing and administering the Plan, subject to the terms of the Plan and Trust. The Retirement Board will have full and absolute discretion, authority, and power to interpret, control, implement, and manage the Plan and the Trust.”⁴⁰⁶

Salary cap — “[T]he absolute maximum amount of Salary that each Club may pay or be obligated to pay or provide to players or Player Affiliates, or may pay or be obligated to pay to third parties at the request of and for the benefit of Players or Player Affiliates, at any time during a particular League Year, in accordance with the rules set forth in Article XXIV (Guaranteed League-wide Salary, Salary Cap & Minimum Team Salary), if applicable.”⁴⁰⁷

⁴⁰² Ibid.

⁴⁰³ NFL Players Association, “History of Retirement and T&P Benefits for NFL Players,” p. 1.

⁴⁰⁴ National Football League and NFL Players Association, *NFL Collective Bargaining Agreement, 2006-2012*, p. 7.

⁴⁰⁵ *Bert Bell/Pete Rozelle NFL Player Retirement Plan*, p. 13.

⁴⁰⁶ Ibid., pp. 29-30.

⁴⁰⁷ National Football League and NFL Players Association, *NFL Collective Bargaining* (continued...)

Substantial disablement — “(a) For applications received on or after May 1, 2002, a ‘substantial disablement’ is a ‘permanent’ disability that: (1) Results in a 50% or greater loss of speech or sight; or (2) Results in a 55% or greater loss of hearing; or (3) Is the primary or contributory cause of the surgical removal or major functional impairment of a vital bodily organ or part of the central nervous system; or (4) For orthopedic impairments, using the American Medical Association *Guides to the Evaluation of Permanent Impairment* (Fifth Edition, Chicago IL) (‘AMA Guides’), is (a) a 38% or greater loss of use of the entire lower extremity; (b) a 23% or greater loss of use of the entire upper extremity; (c) an impairment to the cervical or thoracic spine that results in a 25% or greater whole body impairment; (d) an impairment to the lumbar spine that results in a 20% or greater whole body impairment; or (e) any combination of lower extremity, upper extremity, and spine impairments that results in a 25% or greater whole body impairment. In accordance with the AMA Guides, up to three percentage points may be added for excess pain in each category above ((a) through (e)). The range of motion test will not be used to evaluate spine impairments. (b) A disability will be deemed to be ‘permanent’ if it has persisted or is expected to persist for at least 12 months from the date of its occurrence and if the Player is not an Active Player.”⁴⁰⁸

Totally and permanently disabled⁴⁰⁹ — “An Active Player or a Vested Inactive Player, other than a Player who has reached his Normal Retirement Date [age 55] or begun receiving his monthly pension under Article 4 [Retirement Benefits], will be deemed to be totally and permanently disabled if the Retirement Board or the Disability Initial Claims Committee finds that he has become totally disabled to the extent that he is substantially prevented from or substantially unable to engage in any occupation or employment for remuneration or profit, but expressly excluding any disability suffered while in the military service of any country. A Player will not be considered to be able to engage in any occupation or employment for remuneration or profit within the meaning of this Section 5.2⁴¹⁰ merely because such person is employed by the League or an Employer, manages personal or family investments, is employed by or associated with a charitable organization, or is employed out of benevolence.”⁴¹¹

Vested player — A player who: “(a) earns five Credited Seasons; (b) earns four Credited Seasons, including a Credited Season after the 1973 Plan Year; (c) earns three Credited Seasons, including a Credited Season after the 1992 Plan Year; (d)

⁴⁰⁷ (...continued)

Agreement, 2006-2012, p. 7.

⁴⁰⁸ *Bert Bell/Pete Rozelle NFL Player Retirement Plan*, p. 26.

⁴⁰⁹ A definition of “permanent disability” may be found in Article 6, “Line-of-Duty Disability,” of the *Bert Bell/Pete Rozelle NFL Player Retirement Plan*: “A disability will be deemed ‘permanent’ if it has persisted or is expected to persist for at least 12 months from the date of its occurrence and if the Player is not an Active Player.” (Ibid., p. 26.) It is unclear whether this definition also applies to the determination of total and permanent disabilities made by the Retirement Board and the Disability Initial Claims Committee.

⁴¹⁰ This definition is the text of Section 5.2.

⁴¹¹ *Bert Bell/Pete Rozelle NFL Player Retirement Plan*, p. 21.

after the 1975 Plan Year, is an Employee on his Normal Retirement Date; (e) after receiving total and permanent disability benefits under Article 5 [of the retirement plan], is found to no longer qualify for total and permanent disability; (f) is an Employee after the 1975 Plan year and has at least 10 Years of Service (only for the purpose of applying Article 4 [of the retirement plan] or Section 7.3 [of the retirement plan] and not for any other purpose); (g) is an Employee after the 1988 Plan Year and has at least four Years of Service, at least one of which occurred after the 1988 Plan Year and is a Plan Year in which the Employee did not earn a Credited Season (only for the purpose of applying Article 4 [of the retirement plan] or Section 7.3 [of the retirement plan] and not for any other purpose); (h) is an Employee after the 1992 Plan year and has at least three Years of Service, at least one of which occurred after the 1992 Plan Year and is a Plan Year in which the Employee did not earn a Credited Season (only for the purpose of applying Article 4 [of the retirement plan] or Section 7.3 [of the retirement plan] and not for any other purpose); or (i) (1) earned at least four (4) Credited Seasons, the last of which is earned prior to the 1974 Plan Year, and (2) is alive on June 1, 1998 (only for the purpose of applying Article 4 [of the retirement plan] or Section 7.3 [of the retirement plan] and not for any other purpose).⁴¹²

Vested inactive player — “A Vested Player who is not an Active Player.”

⁴¹² Ibid., p. 7.

Appendix B. NFL and NFLPA Studies Concerning Players' Health

The following information was provided by the NFL and the NFLPA, except for the first item in the list. The study sponsor, participant, or author (for example, the MTBI Committee) is identified following the citation.

Letter from Sherry Baron, M.D., M.P.H., and Robert Rinsky, U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health, to Frank Woschitz, National Football League Players Association, Jan. 10, 1994.⁴¹³ (NFLPA)

Ira R. Casson, Elliot J. Pellman, and David C. Viano, "Chronic Traumatic Encephalopathy in a National Football League Player," *Neurosurgery*, Nov. 2006, pp. 1182-1184. (MTBI Committee)

Kevin M. Guskiewicz, et al., "Recurrent Concussion and Risk of Depression in Retired Professional Football Players," 2006. (NFLPA)⁴¹⁴

Elliot J. Pellman, "Background on the National Football League's Research on Concussion in Professional Football," *Neurosurgery*, Oct. 2003, pp. 797-798. (MTBI Committee)

Elliot J. Pellman, et al., "Concussion in Professional Football: Reconstruction of Game Impacts and Injuries," *Neurosurgery*, Oct. 2003, pp. 799-814. (MTBI Committee)

Elliot J. Pellman, et al., "Concussion in Professional Football: Location and Direction of Helmet Impacts — Part 2," *Neurosurgery*, Dec. 2003, pp. 1328-1341. (MTBI Committee)

Elliot J. Pellman, et al., "Concussion in Professional Football: Epidemiological Features of Game Injuries and Review of the Literature — Part 3," *Neurosurgery*, Jan. 2004, pp. 81-96. (MTBI Committee)

Elliot J. Pellman, et al., "Concussion in Professional Football: Repeat Injuries — Part 4," *Neurosurgery*, Oct. 2004, pp. 860-876. (MTBI Committee)

⁴¹³ This study was published as correspondence, and the letter notes that the mortality study was conducted at the request of the NFL Players Association. This document is popularly known as the "NFL mortality study."

⁴¹⁴ Guskiewicz, et al., did not publish an article in 2006. The information from the NFLPA appears to be a reference to this article: Kevin M. Guskiewicz, et al., "Recurrent Concussion and Risk of Depression in Retired Professional Football Players," *Medicine and Science in Sports and Exercise*, June 2007, pp. 903-909.

- Elliot J. Pellman, et al., “Concussion in Professional Football: Injuries Involving 7 or More Days Out — Part 5,” *Neurosurgery*, Nov. 2004, pp. 1100-1119. (MTBI Committee)
- Elliot J. Pellman, et al., “Concussion in Professional Football: Neuropsychological Testing — Part 6,” *Neurosurgery*, Dec. 2004, pp. 1290-1305. (MTBI Committee)
- Elliot J. Pellman, et al., “Concussion in Professional Football: Players Returning to the Same Game — Part 7,” *Neurosurgery*, Jan. 2005, pp. 79-92. (MTBI Committee)
- Elliot J. Pellman, et al., “Concussion in Professional Football: Helmet Testing to Assess Impact Performance — Part 11,” *Neurosurgery*, Jan. 2006, pp. 78-96. (MTBI Committee)
- Elliot J. Pellman, et al., “Concussion in Professional Football: Recovery of NFL and High School Athletes Assessed by Computerized Neuropsychological Testing — Part 12,” *Neurosurgery*, Feb. 2006, pp. 263-274. (MTBI Committee)
- Elliot J. Pellman and David C. Viano, “Concussion in Professional Football,” *Neurosurgical Focus*, Oct. 2006, pp. 1-10. (MTBI Committee)
- Beverly Pitts, “After the Battle: Report on Lives of Former Players,” May 1994. (NFLPA)
- Beverly Pitts, “A Study of Players Who Left Professional Football in the 90’s,” June 2002. (NFLPA)
- Mark Popovich and Beverly Pitts, “Life After Football: A Survey of Former Players” May 1989. (NFLPA)
- Mark Popovich and Beverly Pitts, “Aftermath of an NFL Career: Injuries.” (NFLPA) May 1990
- Mark Popovich and Beverly Pitts, “Lifestyle After Football,” Spring 1994. (NFLPA)
- Mark Popovich and Beverly Pitts, “Life After Football: Careers and Opportunities,” Sept. 1996. (NFLPA)
- Arthur Roberts, “Determinants of Cardiovascular and Respiratory Risk in Elite Professional Football Players,” 2004. (NFLPA)
- Thomas Schwenk, et al., “Depression and Pain in Retired Professional Football Players,” n.d. (NFLPA)
- Paul Tagliabue, “Tackling Concussions in Sports,” *Neurosurgery*, Oct. 2003, p. 796. (NFL)

David C. Viano, “Report on ProCap Helmet Tests at Biokinetics,” Jan. 17, 2002. (MTBI Committee)⁴¹⁵

David C. Viano and Elliot J. Pellman, “Concussion in Professional Football: Biomechanics of the Striking Player — Part 8,” *Neurosurgery*, Feb. 2005, pp. 266-280. (MTBI Committee)

David C. Viano, et al., “Concussion in Professional Football: Brain Responses by Finite Element Analysis: Part 9,” *Neurosurgery*, Nov. 2005, pp. 891-916. (MTBI Committee)

David C. Viano, et al., “Concussion in Professional Football: Comparison with Boxing Head Impacts,” *Neurosurgery*, Dec. 2005, pp. 1154-1172. (MTBI Committee)

David C. Viano, et al., “Concussion in Professional Football: Performance of Newer Helmets in Reconstructed Game Impacts — Part 13,” *Neurosurgery*, Sept. 2006, pp. 591-606. (MTBI Committee)

David C. Viano, Ira R. Casson, and Elliot J. Pellman, “Concussion in Professional Football: Biomechanics of the Struck Player — Part 14,” *Neurosurgery*, Aug. 2007, pp. 313-328. (MTBI Committee)

Planned or Ongoing Studies

In 2007, the NFL stated that studies are in progress or planned for the following subjects (the organization(s) conducting the study or studies are also listed):

- Protective effects of mouthguards, by Biokinetics and Associates, Ltd.⁴¹⁶
- Biomechanical [research], Wayne State University and the University of Göteborg (Sweden).
- Long-term effects of concussions. The organization(s) conducting this study were not identified, although it was noted that “[d]ifferent phases of the study are being managed by different researchers.”⁴¹⁷

⁴¹⁵ This article was not published.

⁴¹⁶ Biokinetics and Associates, Ltd., is a Canadian firm that, according to its mission statement, “provides engineered solutions to human impact protection for sports, transportation and defence/law enforcement applications.” (Biokinetics, “Mission,” available at [http://www.biokinetics.com/profile_index.html].)

⁴¹⁷ In a *New York Times* article dated May 31, 2007, it was reported that the Commissioner of the NFL had said that the MTBI Committee “had just begun its own study ‘to determine if there are any long-term effects of concussions on retired N.F.L. players.’ Dr. Casson, the committee’s co-chair, said that players who retired from 1986 through 1996 would be (continued...)

- Cardiovascular health of active players, NFL's Cardiovascular Health Committee.⁴¹⁸

⁴¹⁷ (...continued)

randomly approached to undergo 'a comprehensive neurological examination, and a comprehensive neurologic history, including a detailed concussion history,' using player recollection cross-referenced with old team injury reports. He said that the study would take two to three years to be completed and another year to be published." (Alan Schwarz, "Study of Ex-N.F.L. Players Ties Concussion to Depression Risk," *New York Times*, May 31, 2007, p. C18.) It is possible that this excerpt refers to the same study that the NFL mentioned in its letter to the House Committee on the Judiciary, which is the source for the studies included in this list. Team injury reports may not include all of the concussions that a player experienced, for reasons discussed above regarding financial incentives that may cause a player not to report an injury.

⁴¹⁸ Letter from Goodell to Reps. Conyers and Smith, pp. 3-4.

Appendix C. Members of the Mild Traumatic Brain Injury Committee and Retired Player Study Investigators

The following information is current as of October 30, 2007. The position or role that each individual has or fills on the committee is listed first in each entry, following the individual's name and academic degree(s) or certification. Eight committee members are employed by NFL teams; the team is included in the list of each individual's professional affiliations.⁴¹⁹

MTBI Committee

David Viano, M.D., Ph.D. — Co-chair and biomedical engineer; Biomedical Engineer, ProBiomechanics LLC; Adjunct Professor of Engineering, Wayne State University.

Ira Casson, M.D. — Co-chair and neurologist; Assistant Professor of Neurology, Albert Einstein School of Medicine and Long Island Jewish Medical Center.

Ronnie Barnes, ATC — Head athletic trainer, New York Giants.⁴²⁰

Rick Burkholder, ATC — Head athletic trainer, Philadelphia Eagles.

Henry Feuer, M.D. — Neurosurgeon; Neurosurgeon, Indiana University Medical Center and Indianapolis Neurosurgical Group; Indianapolis Colts.

Mark Lovell, Ph.D. — Neuropsychologist; Director, University of Pittsburgh Medical Center (UPMC) Sports Concussion Program; Associate Professor of Neurological Surgery, University of Pittsburgh.⁴²¹

⁴¹⁹ Unless noted otherwise, the sources of information in this appendix are National Football League, "NFL Outlines Standards for Concussion Management," n.d., pp. 4-5; National Football League, "NFL Subcommittee on Mild Traumatic Brain Injury Membership and Affiliations As of October 30, 2007," n.d.

⁴²⁰ ATC is the acronym for "certified athletic trainer." (National Athletic Trainers Association, "The Facts about Certified Athletic Trainers and the National Athletic Trainers Association," available at [<http://www.nata.org/consumer/docs/Factsaboutathletictrainers.pdf>].)

⁴²¹ Mark Lovell also is the Chairman and Software Developer, ImPACT Applications, Inc., which sells neurocognitive testing software to NFL teams. (ImPACT Applications, "Developers/Clinical," available at [<http://www.impacttest.com/contact.php#anc1>]; ImPACT Applications, Inc., "Professional Teams," available at [<http://www.impacttest.com/currentusers.php?type=proteam>].) For additional information on ImPACT, see Peter Keating, "NFL's Concussion Expert Also Sells Equipment to League," *ESPN.com*, Aug. 10, 2007, available at [<http://sports.espn.go.com/nfl/news/story?id=2967678>].

Joseph Maroon, M.D. — Neurosurgeon; Neurosurgeon, UPMC; Clinical Professor and Vice Chairman, Department of Neurological Surgery, University of Pittsburgh School of Medicine; Pittsburgh Steelers.⁴²²

Joel Morgenlander, M.D. — Neurologist; Professor of Neurology, Duke University Medical Center.

Thomas Naidich, M.D. — Neuroradiologist; Professor and Chief of Neuroradiology, Mount Sinai School of Medicine.

Elliot Pellman, M.D. — NFL Medical Liaison; Member, NFL Injury and Safety Panel, NFL Subcommittee on Cardiovascular Health, and NFL Foot and Ankle Subcommittee; Medical Director, ProHEALTH Care Associates; Associate Clinical Professor of Medicine and Orthopedics, Mount Sinai School of Medicine; New York Jets.

John Powell, Ph.D., ATC — Epidemiologist; NFL Consultant, Injury Studies, Med Sports Systems; Associate Professor, Departments of Kinesiology and Physical Medicine and Rehabilitation, Michigan State University.

Doug Robertson, M.D. — Sports medicine; Indianapolis Colts.

Andrew Tucker, M.D. — Sports medicine; Co-Chairman, NFL Subcommittee on Cardiovascular Health; Member, NFL Injury and Safety Panel; Chief of Sports Medicine, Union Memorial Hospital; Baltimore Ravens.

Joe Waeckerle, M.D. — Emergency medicine; Editor Emeritus, *Annals of Emergency Medicine*; Clinical Professor of Medicine, University of Missouri School of Medicine; Kansas City Chiefs.

Retired Player Study Investigators

The professional affiliations of investigators who are also members of the MTBI Committee may be found above.

Ira Casson, M.D. — Member of MTBI Committee.

⁴²² Information about Joseph Maroon’s employment with the Pittsburgh Steelers came from University of Pittsburgh Medical Center, “Joseph C. Maroon, M.D.,” available at [<http://www.upmc.com/Communications/MediaRelations/UPMCExperts/ByName/M/MaroonJosephC.htm>]. Joseph Maroon also is the Chief Medical Officer, ImPACT Applications, Inc., which sells neurocognitive testing software to NFL teams. (ImPACT Applications, “Developers/Clinical,” available at [<http://www.impacttest.com/contact.php#anc1>]; ImPACT Applications, Inc., “Professional Teams,” available at [<http://www.impacttest.com/currentusers.php?type=proteam>].) For additional information on ImPACT, see Peter Keating, “NFL’s Concussion Expert Also Sells Equipment to League,” *ESPN.com*, Aug. 10, 2007, available at [<http://sports.espn.go.com/nfl/news/story?id=2967678>].

Kathleen Finzel, M.D. — Chief of Radiology, ProHEALTH Care Associates. [no entry in parentheses for her indicating her role on the committee]

Mark Haacke, Ph.D. — Biomedical engineering; Professor of Biomedical Engineering, Wayne State University; Director of the MRI Institute for Biomedical Research.

Brian Hainline, M.D. — Neurologist; Associate Clinical Professor, New York University School of Medicine; Chief of Neurology, ProHEALTH Care Associates.

Victor Haughton, M.D. — Neuroradiologist; Professor and Chief of Neuroradiology, University of Wisconsin-Madison.

Danielle LeStrange, R.N. — Study coordinator.⁴²³

Mark Lovell, Ph.D. — Member of MTBI Committee.

Joseph Maroon, M.D. — Member of MTBI Committee.

Joe Morgenlander, M.D. — Member of MTBI Committee.

Thomas Naidich, M.D. — Member of MTBI Committee.

Elliot Pellman, M.D. — Member of MTBI Committee.

Chi-Sing Zee, M.D. — Neuroradiologist; Professor of Radiology and Director of Neuroradiology, Keck School of Medicine, University of Southern California.

David Viano, M.D., Ph.D. — Member of MTBI Committee.

⁴²³ No information was provided about Danielle LeStrange's professional affiliations in the NFL's May 22, 2007, news release.

Appendix D. Acronyms

CBA — collective bargaining agreement.

CTE — chronic traumatic encephalopathy.

DICC — Disability Initial Claims Committee.

LOD — line-of-duty.

MTBI — mild traumatic brain injury.

NFL — National Football League.

NFLMC — National Football League Management Council.

NFLPA — NFL Players Association.

T&P — total and permanent.