

Barr [a neuropsychologist at Long Island Jewish Hospital], for example, conducted 217 baseline tests from 1996 to 2001. Periodically, he forwarded results to the league, but at the time Barr learned the committee was planning to publish its results, he had sent only 149. Barr remembers finding Pellman in the Jets' training room in 2003 and saying, "Elliot, I haven't sent data for a year." **According to Barr, Pellman didn't want the additional tests.** "I don't want the data to be biased because I'm with the Jets," Barr recalls him saying, suggesting that additional results would skew the data because the Jets would be overrepresented in the sample. **That made no sense to Barr. A scientific study should include, or at least address, all available data.**

Pellman denies this conversation ever took place. "Bill Barr was a consultant for the Jets who tested individual players to help us make decisions," he says. "I did not discuss the committee's research with him." **Whoever is right, the fact is the group didn't have all of Barr's data for its paper.**

Barr's wasn't the only research that didn't make the cut. Over the period covered by the committee's research, Christopher Randolph, a Chicago neuropsychologist, collected baselines for 287 Bears players. **He says Lovell never asked for his data, either.**

Nor did the committee seek complete data from John Woodard, neuropsychologist for the [Atlanta] Falcons and associate psychology professor at the Rosalind Franklin University of Medicine and Science in North Chicago. According to Woodard, in December 2003, Lovell said the league was pressuring him to compile team results. "I was asked to provide data on only concussed players," **Woodard says. "I had data for slightly more than 200 baseline evaluations. I don't know why I was not asked for them."**

In 2004, Lovell also asked Richard Naugle, consultant to the Browns and head neuropsychologist at the Cleveland Clinic, for data on just the players who had already suffered concussions, according to an e-mail Naugle wrote to a colleague in March 2005. Naugle declined to comment for this story, citing a confidentiality deal between his medical group and the NFL, but The

Magazine has obtained a copy of that message. "I don't have that sorted out from the results of other testing," Naugle wrote of the request. "I explained that and added that if he could name players, I could send data on those individuals. I recall sending him data on two or three players ... I have a few hundred baselines."

This means Pellman, Lovell and their colleagues didn't include at least 850 baseline test results in their research—more than the 655 that ultimately made it into their 2004 *Neurosurgery* paper. At best, their numbers were incomplete. At worst, they were biased.

Pellman, Lovell and their colleagues published their sixth paper in *Neurosurgery* in December 2004. It examined baseline data on 655 players and results for 95 players who had undergone both baseline testing and postconcussion testing. It concluded that NFL players did not show a decline in brain function after suffering concussions. Further analysis found no ill effects among those who had three or more concussions or who took hits to the head that kept them out for a week or more. **The paper didn't explain where the players in the groups came from specifically or why certain players were included and hundreds of others were not. Neither Pellman nor Lovell has provided those details since.** (Emphases added).

147. Scientists concurred with this assessment. As the ESPN The Magazine

article noted:

The decision to publish the paper was controversial. "I highly doubt this study would have seen the light of day at this journal were it not for the subject matter of NFL players," says Robert Cantú, chief of neurosurgery and director of sports medicine at Emerson Hospital in Concord, Mass., and a senior editor at *Neurosurgery*. "The extremely small sample size and voluntary participation suggest there was bias in choosing the sample. The findings are extremely preliminary at best, and no conclusions should be drawn from them at this time."

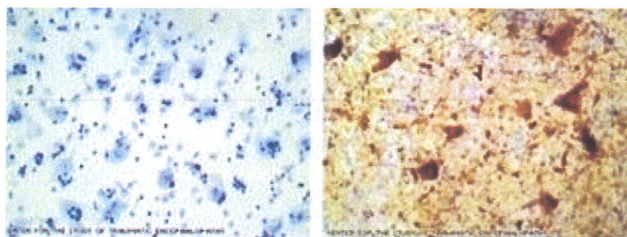
One of the scientists who reviewed the committee's work is equally blunt. **"They're basically trying to prepare a defense for when one of these players sues," he says. "They are trying to say that what's done in the NFL is okay because in their studies, it doesn't look like bad things are happening from concussions. But the studies are flawed beyond belief."** (Emphases added).

148. Guskiewicz was also quoted as saying, **"[t]he data that hasn't shown up makes their work questionable industry-funded research."** (Emphases added).

149. Pellman was not the only NFL hired gun peddling disinformation about head impacts or concussions and brain injuries. Casson and Viano of the NFL's MTBI Committee were playing a similar role, assisted by Lovell.

150. Between 2005 and 2007, Omalu and Dr. Robert Cantu ("Cantu"), Co-Director for the Center for the Study of Traumatic Encephalopathy ("CSTE") at the Boston University School of Medicine ("BUSM"), examined the brain tissue of three deceased NFL players: (a) Mike Webster ("Webster") of the Pittsburgh Steelers, who died of heart failure at the age of 50; (b) Terry Long ("Long") of the Pittsburgh Steelers, who died at 45 after drinking antifreeze; and (c) Andre Waters ("Waters") of the Philadelphia Eagles and Arizona Cardinals, who committed suicide at the age of 44. All three of these individuals suffered multiple concussions during their respective NFL careers. All three exhibited symptoms of sharply deteriorated cognitive functions, paranoia, panic attacks, and depression. In articles published in Neurosurgery in 2005 and 2006, Omalu found that Webster's and Long's respective deaths were partially caused by CTE, related to multiple NFL concussions suffered during their professional playing years. Cantu reached a similar conclusion as to Waters in an article published in Neurosurgery in 2007.

151. The following photographs, available from Brain-Pad Blog, show the contrast between a normal brain (depicted on the left) and Webster's autopsied brain (depicted on the right):



152. In response to Omalu's article on Webster, Casson of the NFL's MTBI Committee wrote a letter in July of 2005 to the editor of *Neurosurgery* asking that Omalu's article be retracted.

153. In 2008, Dr. Ann McKee ("McKee") of the CSTE at BUSM examined the brain tissue of two other deceased NFL players: (a) John Grimsley ("Grimsley") of the Houston Oilers, who died of a gunshot wound at the age of 45; and (b) and Tom McHale ("McHale") of the Tampa Bay Buccaneers, Philadelphia Eagles and Miami Dolphins, who died of a drug overdose at the age of 45. McKee found that Grimsley and McHale's brain tissue exhibited indications of CTE. As she stated, **"the easiest way to decrease the incidence of CTE [in contact sport athletes] is to decrease the number of concussions."** (Emphases added). She further noted that "[t]here is overwhelming evidence that [CTE] is the result of repeated sublethal brain trauma." A *Washington Post* article published in early 2009 reported the following comments by McKee with respect to her analysis of McHale's brain:

"Is this something that happened by chance?" asked Ann McKee, a neuropathologist at Boston University pointing to pictures of McHale's brain that she said resembled that of a 72-year-old boxer. **"I can tell you I've been looking at brains for 22 years, and this is not a normal part of aging. This is not a normal part of the brain."** (Emphases added).

154. In response to McKee's studies, **Casson continued his campaign of NFL-sponsored disinformation by characterizing each as an isolated incident from which no conclusion could be drawn and said he would wait to comment further until McKee's research was published in a peer-reviewed journal.** When it was so published in 2009, Casson asserted that **"there is not enough valid, reliable or objective scientific evidence at present to determine whether...repeat head impacts in professional football result in long[-]term brain damage."** (Emphases added).

155. The increasing controversy drew the attention of Congress. On June 23, 2007, hearings on the NFL's compensation of retired players were held before the Commercial and Administrative Law Subcommittee of the Judiciary Committee of the United States House of Representatives ("C&A Subcommittee"). Plaintiff Boyd testified about post-retirement health problems he faced as a result of concussions he received while he played for the Minnesota Vikings. Goodell was one of those who testified at this hearing. In follow-up responses to the C&A Committee that Goodell sent in November of 2007, he continued to rely on the discredited survey research being undertaken by the MTBI Committee.

156. In response to these hearings and associated media reports, the League scheduled a Concussion Summit in June of 2007. Independent scientists, including Omalu, Cantu and Guskiewicz, presented their research to League and to representatives of the National Football League Players Association ("NFLPA"). As one contemporaneous news article reported:

"I'm not even sure we athletes know what a concussion is," said safety Troy Vincent, who also is president of the