

A Second Chance for Brain Injured Athletes

By Elsa Baehr, Ph.D.

In recent months, the National Football League (NFL) has begun to acknowledge that players should not continue to play the game after suffering from a Traumatic Brain Injury (TBI). On Feb.7, before the broadcast of the Steelers-Brown game, the NFL issued a public service announcement advocating that coaches, players and parents "take head injuries out of play" by recognizing the signs of concussions (also known as TBIs) and preventing a player from returning to a game after a head injury.

The stories of those players who have had several concussions are tragic. Studies show the long-term effects of untreated brain injuries. Bennet Omalu, a neuropathologist at the University of Pittsburgh School of Medicine, has studied the brains of several NFL players who died in their 40s and 50s identified a condition generally found in boxers with dementia or people in the elderly. Some of these NFL veterans died from rare trauma-induced brain damage. "This is irreversible brain damage," Omalu said. "It's most likely caused by concussions sustained on the football field."

What's frustrating and difficult for those of us who treat this type of head injuries is that we know that the brain damage is not irreversible. Treatments are available and successful. However, few patients and doctors know about them.

In the past, neurologists used hospital EEGs, CAT scans, PET scans and MRIs to gauge a patient's brain damage. These tests may not detect the subtleties of brain dysfunction. Often, these diagnostic tools fail to identify the problem and patients continue to exhibit signs of a brain injury including difficulties with memory, concentration, decision making, fatigue, confusion, mood swings and sleep. Until recently, neurologists believed that traumatic brain injuries may heal in time. Research shows the brain makes some adjustments, but it does not repair itself. In addition, new research shows that if an individual has one concussion, he is three times as likely to have another. If he has two, he is eight times as likely to have a third.

But now, new technologies such as the Quantitative EEG give practitioners more information that reveals and measures factors indicating brain damage. Using a database to compare an individual's performance to his age and gender-matched peers, the computerized QEEG analyzes brain function to identify mild traumatic brain damage with nearly 95 percent accuracy. The QEEG provides the map for treatment, identifying abnormal brainwave regions that are targeted for training and assessing a patient's progress. Consequently, through EEG brainwave biofeedback, also known as neurofeedback, we essentially can train patients to alter their brain waves by rewarding normal activity. Continued reinforcement leads to permanent changes. . The brain wants to normalize itself but it needs help to do so.

But the situation is not hopeless. Recently, we treated a 41-year-old man who had played soccer for 13 years. He had greatly diminished brain function. He could not do math, he struggled with speech and he suffered with attention problems. After 1½ years of neurofeedback, including many LENS treatments, his QEEG showed that his brain did not deviate from the norm based upon our database. More importantly, he felt completely recovered. "I'm thrilled with the results," he said at the end of his treatment. "Everyone notices that my speech is improved and I'm much more comfortable socially." He had recaptured his former self and his earlier abilities to think clearly.

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