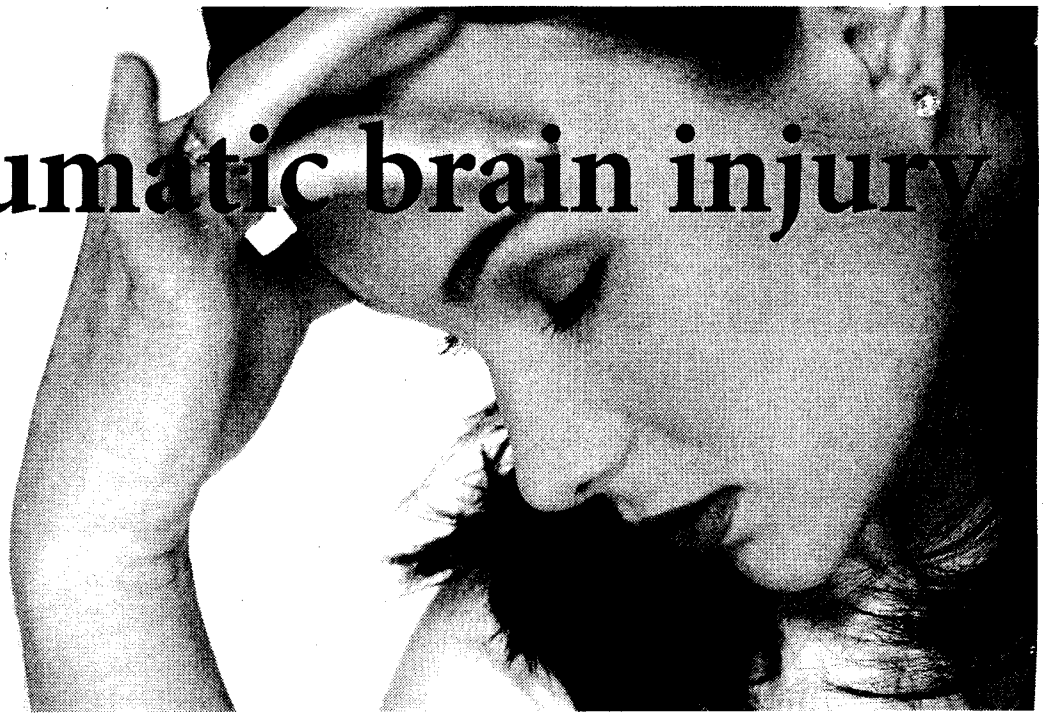
TRIAL LAW 2004

Realities:
Mild traumatic brain injury



By Gerald Tramontano

Until recently, an individual with a "mild" traumatic brain injury (or concussion) often went uncompensated, regardless of his or her disabilities, because the plaintiff's attorney — and, in many cases, physicians — did not recognize that a significant brain injury had occurred.

Post-concussion — one of the invisible syndromes of injury to the central nervous system — is beginning to be viewed differently today. Personal injury attorneys tend to be more aware of disabling cognitive disorders, such as attention and dysexecutive syndromes that result from mild traumatic brain injury. (TBI). Yet, there are still many lawyers who fail to understand that the emotional, psychiatric and behavioral changes suffered by clients with mild TBI can be just as consequential as their cognitive and physical injuries in determining future earning capacity and quality of life.

Case study

Take the case of one young man who suffered a mild TBI in an industrial accident at his workplace. MRI and CT scans, as well as an EEG, were unremarkable, as they showed no evidence of hemorrhages, blood clots, structural damage or seizure activity. He never lost consciousness and experienced only a few minutes of post-traumatic amnesia — the period after a brain injury in which the patient cannot encode new memories. Several weeks later, after he recovered from feelings of nausea, headaches, sensitivity to light and temporary cognitive impairment which he described as "feeling foggy" — all typical post-concussive symptoms — he returned to work.

Everything appeared normal. However, over the next several weeks he found he had very limited stamina; what I term "premature cognitive saturation," which actually has nothing to do with physical activity. His frustration tolerance was significantly reduced in comparison to his pre-injury ability to tolerate stress, and his moods were volatile and disinhibited. His supervisor noted these personality changes and reassigned him to a more menial position with less stress.

The patient eventually sued his employer as a result of his injury. The defense countered by arguing that since tests revealed no structural brain damage — according to the various brain scans — and no sign of permanent cognitive loss, they were not liable for damages.

Plaintiff's attorney acknowledged this, but based his case on the outcome of a battery of neuropsychological tests to assess cortical functions, as well as clinical interviews and diagnostic questionnaires administered to family members. Neuropsychological assessment detects neuropathology based on test results and normative data sensitive to brain injury that cannot be diagnosed by traditional neurological and psychiatric exams. It reveals brain pathology — even when there is little, if any, cognitive impairment or memory loss.

While no substantial change in his intellect was witnessed, testing and interviews revealed extensive personality, interpersonal and behavioral changes consistent with an injury to the orbital frontal structure of the brain. This is the portion of the brain where few, if any, cognitive networks exist (keeping cognition relatively intact).

Such findings in patients with these injuries are not unusual. Given that the orbital frontal cortex sits on some very bony structures, this area is very vulnerable to damage from head injury — unlike posterior cortical functions, which are better protected by smoother portions of the skull.

Known as "orbital prefrontal syndrome," it's almost never diagnosed in a traditional neurological or psychiatric evaluation. Most neurologists do not test olfaction

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(sense of smell), which is the only way to diagnose this common post-brain-injury syndrome. Additionally, most physicians and psychologists are unaware of the syndrome and do not recognize these symptoms, which instead are often attributed to some ill-defined psychiatric disorder such as an agitated depression or post-traumatic stress disorder. Incidentally, either one or both of these psychiatric conditions can co-exist with orbital prefrontal syndrome.

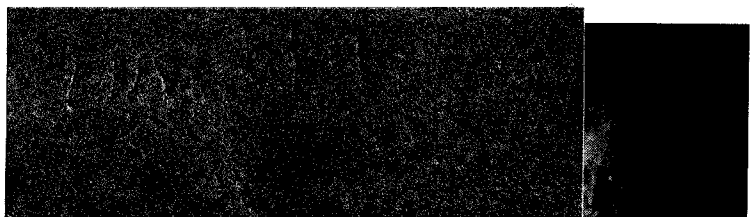
We found that the young man's ability to regulate his emotions and make appropriate social decisions had been devastated by the injury. According to his family, he now suffered from bouts of depression, anxiety and irritability. He experienced mood swings and became emotionally labile, suddenly weeping for no apparent reason. He said inappropriate things and, where he had once been fastidious about his appearance, no longer paid attention to his dress or personal hygiene.

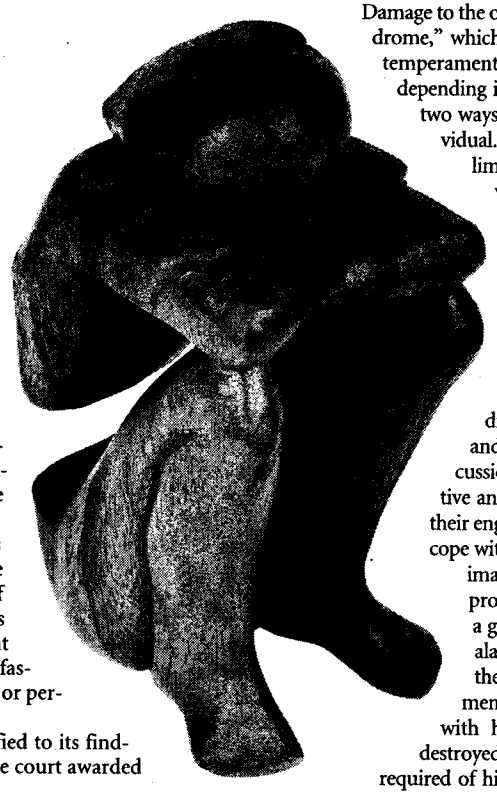
The NeuroRehab Institute, of which I am clinic director, testified to its findings in court. Based on this, and the testimony of lay witnesses, the court awarded him significant damages as a result of the injury.

Demonstrating brain damage

As with any personal injury case, the attorney needs to demonstrate that the brain injury suffered in the accident affected the client's life in terms of limitations and disabilities. However, the difference here is that the plaintiff must also be able to prove the injury itself.

As opposed to physically showing before-and-after evidence, as one would in an accident involving broken bones or paralysis, the plaintiff can often only prove injury occurred by demonstrating an inability to function emotionally, socially and/or vocationally. Many individuals look normal in person and in terms of their cognitive abilities, but when placed in interpersonal situations they exhibit symptoms that have adversely affected their lives.





Damage to the orbitofrontal lobes can result in "organic personality syndrome," which, simply put, means that personality functioning (i.e., temperament and personal characteristics) has changed. Often, depending if the syndrome is partial or complete, it will present in two ways — both of these can and often exist in the same individual. If the surrounding environment is relatively tranquil or limited in stimulation, these patients may show little motivation or activity, suffering from what is clinically known as dysbulia, which often is mistaken for depression. However, if the environment is perceived as over-stimulating, the result may be emotional and behavioral dysregulation. Additionally, these patients often present with social pragnosia — a condition where they no longer make appropriate social judgments.

Organic personality syndrome is not an invisible syndrome. The clinical head injury literature contains studies and case vignettes of lives ruined by this syndrome. A concussion prevented one young woman from fostering a positive and enduring relationship with her fiancé, who broke off their engagement due to her inability to regulate her moods and cope with life as she did before her injury. He said he could not imagine she would ever be able to raise children, despite her progress in neurorehabilitation. In another case, it deprived a grandfather of seeing his grandchildren, due to his son's alarm over his inappropriate and even lewd remarks with the children. Fortunately, this patient responded to treatment and later was allowed to continue the relationship with his grandchildren. For one corporate executive, it destroyed his ability to handle the stress and multitasking required of his position, eventually costing him his job. In all three cases, these individuals were cognitively intact, but limited in their ability to deal with the demands of life.

Manifesting over time

Much of this emotional deregulation doesn't manifest overnight. It happens once patients become integrated back into each layer of their life. During the weeks following injury, mild TBI victims typically take it easy, recovering from the symptoms common to a concussion. Once they begin feeling better and are again confronted by the full spectrum life presents, they become more symptomatic. Psychologically, they may experience secondary and tertiary reactions that make things worse. Noting the changes in themselves are not disappearing, patients often become increasingly anxious and depressed, even suicidal.

A neuropsychological workup is the only standard test for evaluating cortical functions. While a psychological test will diagnose psychiatric disorders like post-traumatic stress disorder and schizophrenia, it will not discern neurocognitive and neurobehavioral syndromes. Since psychiatric disorders, like major depression, also can affect brain functions, a psychiatric exam is built into every neuropsychological evaluation.When it comes to patients with injuries to the orbital frontal structure, the assessment itself may include a range of exams from a smell identification test (the olfactory bulb sits right in the middle

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of the orbital front cortexes), to tests of cortical inhibition, to family members being asked to rate the individual on personality and emotional/social functions pre- and post-injury using standardized neurobehavioral measures.

This kind of testing is not only valuable for the attorney who needs to show, quantify and document evidence of brain pathology, it also can demonstrate normal brain functioning and help identify individuals who are malingering or embellishing their cognitive and psychiatric symptoms.

Testing for malingering

The motivation for litigants to perform poorly on cognitive and psychological tests can be extremely powerful due to the potential for earning lucrative rewards.

No DNA test indicates conclusively whether a patient exhibits signs of malingering. As a result, the clinical neuropsychologist must reach a determination based on various criteria, as he or she would with any other behavioral diagnosis, such as depression or visual hallucinations.

While the lack of a biological marker makes it less than an exact science, experts must look at discrepancies between history and presentation, as well as between information observed and obtained during clinical interviews and standardized neuropsychological test results. For example, discrepancies between the interview and the testing must be examined. A patient who appears articulate and shows no dysnomia (naming problems) or cortical pathology, for example, should not perform poorly on a naming test. If a significant discrepancy exists, malingering may be an issue.

The advent of more sensitive brain scans, improved tests and the identification of new criteria have added important tools in determining and diagnosing possible, probable and definitive malingering.

Before the onset of testing, we strongly encourage patients to exert their best efforts. We explain that while they may have a brain injury and, as such, are struggling to perform many of the tasks they once took for granted, they must avoid "highlighting" their symptoms. This, we tell them, will only compromise their position.

Although the classic malingering tests appear very difficult at first glance, they are, in fact, really simple. Designed to diagnose malingering, they bait patients to show whether they are malingering since even those suffering from severe brain injuries will be able to perform at a certain level.

We categorize the results based on chance. Using statistics, we determine that on a certain test a patient will score 50 percent right and 50 percent wrong. If the test-taker falls below chance, this indicates a "negative response bias."

The second category of malingered cognitive and psychiatric tests are traditional diagnostic ones that have been statistically analyzed to identify implausibilities leading the examiner to suspect symptom exaggeration. Likewise, computer-generated

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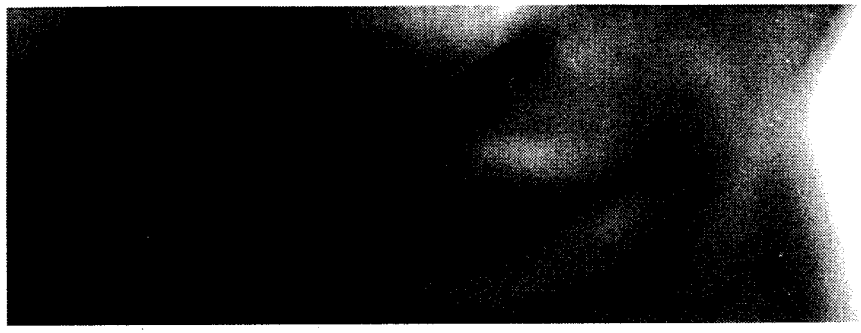

pattern analysis of an individual's test performance can also indicate malingering. If, for example, the patient is found to be in the mildly impaired range on the encoding or retrieval portions of a memory test, but falls into the severe impairment range on the recognition format, something is amiss — since that's not how the brain works.

We interpret all neurological testing on a "pre-morbid estimate IQ," viewing the current neuropsychological results not only on regular norms, but on the patient's pre-injury intelligence. An individual previously with an IQ of 140 may now fall into the average range. Falling three standard deviations indicates severe brain damage, and yet his scores are "normal."

Similarly, from a malingering perspective, we look at results that don't match the individual's history. If a very bright person with an IQ in the superior range has what all evidence points to as a mild brain injury, test results should not fall far below what is likely to be scored by someone with that pre-morbid estimated IQ.

Although advancement in the diagnosis and treatment of acquired and traumatic brain injury continues to be a rapidly growing segment of the clinical neuroscience literature, it has failed to trickle down to mainstream medicine — and certainly not into the litigation arena. Hopefully, this summary on the patient with organic personality syndrome offers a glimpse into a common, yet rarely diagnosed syndrome with disabling consequences for the patient afflicted with mild TBI. ——•