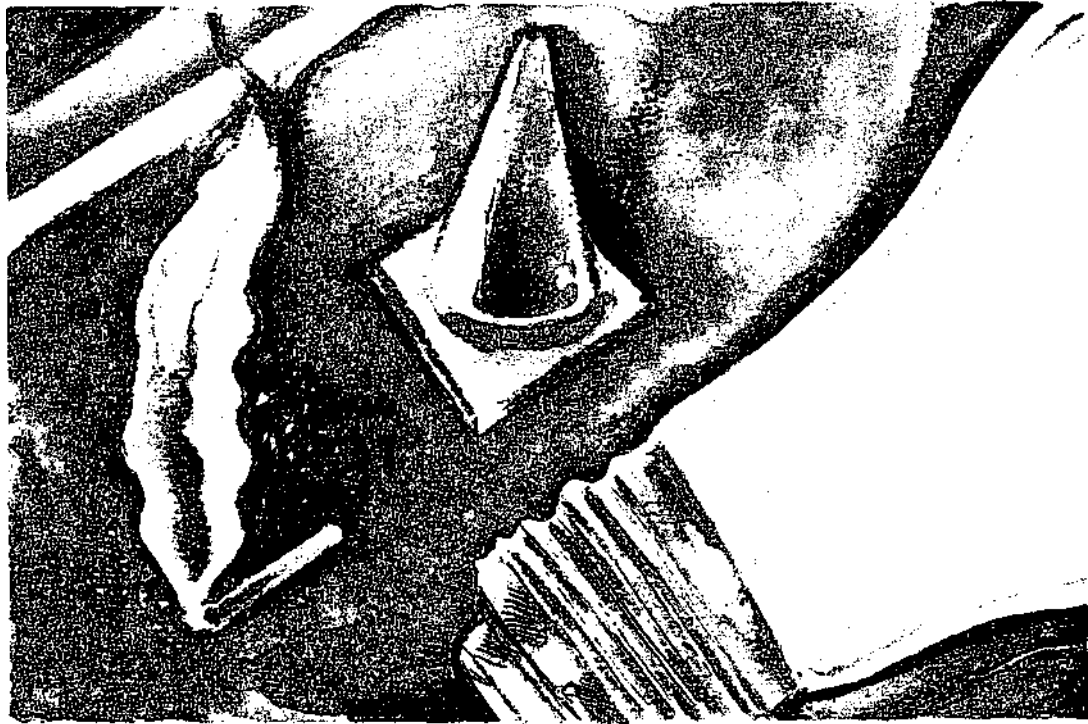


Auto Accident



Counsel's role in recognizing symptoms of traumatic brain injury and assisting medical professionals in its evaluation

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Head injuries occur at an alarming rate in the United States, despite the increasing use of safety devices such as airbags and bicycle helmets.¹ In many instances relatively subtle traumatic brain injuries ("TBI") may take place, the results of which may plague the victim for the remainder of his or her life. Because such injuries are often not ascertainable by traditional diagnostic methods, such as CT-Scan or magnetic resonance imaging ("MRI"), counsel for those suffering head injuries must be especially vigilant in ensuring that mild TBI is not overlooked.² What initial and subsequent symptoms are indicative of TBI and what steps should counsel undertake to assist medical professionals in evaluating whether TBI have taken place?

Symptoms immediately following a head injury

In the minutes, hours and days after a patient has suffered a head injury,³ patients may exhibit a series of symptoms consistent with traumatic brain injury. The existence of any one symptom or constellation of symptoms does not, of course, establish TBI, but should alert counsel to the need to investigate the

issue. The following symptoms are illustrative, and not intended to be exhaustive of the myriad difficulties TBI patients may experience.

- **Loss of consciousness**

Clinicians will invariably ask whether the patient lost consciousness following head trauma. Medical professionals traditionally had thought that a brain injury could only occur if a patient had lost consciousness, but more recent research has confirmed that it is clearly not a predicate for TBI.

[I]t is well known that cerebral injuries can occur without major changes or alterations in the level of consciousness.⁴

Nonetheless, loss of consciousness is an indication of brain injury, and prolonged loss of consciousness (in excess of 20-30 minutes) is especially significant.

- **Post-traumatic amnesia**

Patients who suffer head injuries may find that they cannot recall events following the trauma for a period of minutes, hours, or even days. The existence and extent of such post-traumatic amnesia is quite significant, since it constitutes "one of the most

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distinctive markers of closed head injury,"⁵ and its

- length is one of the best indicators of the severity of a brain injury. If PTA exists but its length and nature is not documented in medical records, counsel should ask the treating physician to evaluate the issue in taking a history.

- **Alteration in mental status**

Even if the patient did not fully lose consciousness, counsel should inquire as to whether the patient experienced any impairment in consciousness. Such impairment could manifest itself in disorientation, feeling dazed, confusion, etc.

- **Headaches**

Headaches are the most common physical manifestation of a traumatic brain injury.⁶ Counsel should ask the patient to describe the character, location and duration of the headaches; when they started; what, if any, factors exacerbate them; and how relief is afforded.⁷

- **Nausea and Vomiting**

Less frequently, patients who have suffered a brain injury may feel nauseous and experience vomiting. Counsel should inquire about such symptoms and check medical records, especially nursing notes, for evidence of such problems.

Post-acute symptoms TBI patients may exhibit

Patients who have experienced a traumatic brain injury may exhibit a host of physical, cognitive and behavioral difficulties⁸ long after the initial insult. Since clients often contact counsel long after their initial injury, counsel must understand and recognize these symptoms as potentially indicative of a brain injury.

- **Attention**

In interviewing a head-injured client, counsel should inquire whether the client has experienced problems with attention since the trauma. One researcher has commented that "attention disorders [are]... one of the most common deficits of higher mental function" TBI patients suffer.⁹ If the patient loses significant time from work or school, he may not notice the problem until he returns to an environment that demands sophisticated attentional skills.

One manifestation of impaired attention may involve a reduced ability to read for long periods of time, especially if the subject matter is complex.

- **Short term memory impairment**

TBI patients commonly experience memory deficits and that impairment may interfere with patients' cognitive recovery.¹⁰ The impairment may stem from problems acquiring new information (i.e., learning), difficulties storing new information into a long-term memory base, or problems accessing the information once it has been stored." Lay witnesses,

especially spouses or children, may provide as much or more insight into the day-to-day nature of memory deficits as the client.

- **Speech and language impairment**

Head injuries may produce neurologically based impairment in speech in a variety of ways. Patients, for example, may complain of newly discovered difficulties in word finding, word substitution (e.g., using "universal" for "university") and slurring of words (especially when tired).

- **Cognitive inefficiency**

Brain-injured patients commonly suffer from cognitive inefficiency in the form of slowed thinking, or reduced speed of information processing.¹²

- **Impaired ability to smell or taste**

Brain injuries may affect a patient's sense of smell and/or sense of taste. Researchers have found that such deficits may be associated with a poor prognosis for long-term memory and functional independence.¹³

- **Balance deficits**

TBI patients may complain of dizziness, vertigo or other indicia of vestibular damage from head injury. Problems may be more pronounced at night, if a patient attempts to walk in the dark across a room, or when performing certain activities, such as riding a bicycle.

- **Hypersensitivity to noise or light**

As a result of a head injury, patients may become abnormally sensitive to light or noise.¹⁴ For example, family members may be acutely aware of repeated, uncharacteristic requests to turn down television or radios, or to lower voices in conversation.

- **Fatigue**

TBI may produce unusual fatigue in patients. Counsel should inquire whether clients have reduced energy levels, whether they started taking naps after the head injury, whether bedtimes have been altered, and whether social outings have been cut back. Patients are likely to "run out of gas" easily, especially soon after they return to work or resume school.

- **Divided attention**

Activities in which we often engage require that we perform multiple tasks simultaneously, such as reading a newspaper and watching television, or preparing a meal while speaking with our children about their day at school. TBI patients may suddenly find themselves unable to divide their attention between these tasks.

Patients suffering from divided attention problems and difficulties in concentration may experience significant problems while driving. Patients may be unable to drive and listen to a radio, or drive and carry on a complex conversation simultaneously.



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in divorce proceedings or criminal records, if any.

An accurate pre-injury baseline is critical in diagnosing a mild brain injury in those cases where the client, having above-average abilities before the injury, tests in the average range post-injury. Without the benefit of the pre-injury baseline (which enables the expert to predict a range of performance on standardized tests), the client's mild brain injury would be missed. Counsel must be sensitive to this issue and must stay focused on the difference between pre-injury and post-injury performance, and not be sidetracked by the defense testimony that all the neuropsychological tests are in the "normal range."

Diminution in pre-morbid functioning is the critical issue.

• Neuropsychological testing

To reach a diagnosis, the neuropsychologist will administer a battery of tests which have been developed to determine the functioning of the brain in areas such as motor skills, information processing and retention, and abstract reasoning. The benefit of such testing to plaintiff's counsel is that it is recognized as providing objective and valid data regarding brain functioning.¹⁸ The battery includes examination in the following areas:

1. standard intellectual functioning;
2. motor skills;
3. tactile and sensory function;
4. attention and concentration;
5. auditory, visual, and tactile perceptual skills;
6. language processing ability;
7. memory functions across a variety of modalities, materials, and lengths of time;
8. problem solving;
9. information processing to assess the commonly comprised characteristics of mental stamina; and
10. examination of personality function.

At the completion of the testing, the neuropsychologist presumably will be able to state an opinion whether or not the client has suffered a mild brain injury. Additionally, the neuropsychologist may be able to recommend treatment, which often involves the client having to learn techniques to compensate for acquired deficits. Counsel should discuss the results of the testing with the client, and provide him or her with a copy of the neuropsychologist's report. Frequently, the neuropsychologist is the first healthcare provider who is able to provide the client with an explanation as to what he or she has experienced. That information and the treatment recommendations are reassuring to the client, and often help the client in dealing with the injury.

• Conclusion

All lawyers handling personal injury cases must be sensitive to the possibility that a head-injured client has suffered a mild brain injury. Such injuries can

have permanent and profound effects on the injured individual. We are duty bound to assist the client in the diagnosis and treatment of such injuries, and to obtain full and fair compensation for them.

Notes

1. Estimates range as high as 3 million head injuries annually in the United States. *Neuropsychiatry of Traumatic Brain Injury*, xix (Silver, et al, eds. 1994).
2. In instances in which neurodiagnostic testing is positive, e.g., where a CT-scan reveals a skull fracture, the predicate for establishing brain injury will be stronger, at least in the eyes of defense counsel and insurance adjusters, and the brain injury may no longer be considered "mild."
3. The authors' focus is on TBI arising from blows to the head, but obviously TBI can result from a variety of sources, such as anoxia from suffocation or strangulation.
4. Bigler, "Neuropathology of Traumatic Brain Injury," in Bigler, *Traumatic Brain Injury* 14 (1990).
5. Ruff, et al, "Recovery of Memory After Mild Head Injury: A Three Center Study," in *Mild Head Injury* 177 (Levin, et al eds. 1989).
6. Petrocelli, et al, *Traumatic Brain Injury: Evaluation and Litigation* 182 (1994).
7. Zasler, "Post-Traumatic Headaches: A Pain in the Brain?" in *12 Headway* (No. 4) 5 Fall 1994 (Virginia Head Injury Foundation). Headaches may continue long after the initial head injury. *Id* at 4.
8. Certain of these symptoms may occur from the outset and be recognized as such, while others may exist and not be recognized, while still others may develop subsequently.
9. Wood, "Disorders of Attention and Their Treatment in Traumatic Brain Injury Rehabilitation" in *Traumatic Brain Injury*, note 4, *supra*, at 331.
10. Cullum, "Neuropsychological Assessment of Traumatic Brain Injury in Adults," in *Traumatic Brain Injury*, *supra*, note 4 at 150.
11. Alves and Jane, "Mild Brain Injury: Damage and Outcome" in *CNS Trauma Status Report*, 1985 262 (Becker and Povlishock, eds.).
12. Alves and Jane, *supra*, note 11 at 262; Gentilini, et al, "Assessment of Attention in Mild Head Injury," in *Mild Head Injury* 164 (Levin, et al eds. 1989).
13. Petrocelli, et al, *supra*, note 6 at 185.
14. Taylor and Price, "Neuropsychiatric Assessment" in *Neuropsychiatry of Traumatic Brain Injury*, *supra*, note 1 at 86.
15. Petrocelli, *supra*, note 6 at 184.
16. Barth, Gideon, Sciarra, et. al., 1 (no. 2) *J Head Trauma Rehabil* 63 (86).
17. *Id*.
18. Boll & Barth, *Mild Head Injury*, 1 (no. 3) *Psychiatric Developments* 263 (Autumn 83).