

Using Neuropsychological Experts

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Attorneys retain neuropsychologists as experts on brain injury cases to opine about the presence and extent of cognitive deficits and disability. Neuropsychological testing can provide attorneys with informative data about whether a brain injury occurred, the extent of brain regions involved, current functional impairments and impressions about long-term prognosis for recovery.

The usefulness of neuropsychological test data is dependent on developing an effective assessment strategy that provides a scientifically validated method for assessing cognitive function in brain injury and discriminates impairment due to trauma from pre-existing function. Tests selected need to account for:

1. The presence or absence of brain impairment.
2. Location and extent of cognitive deficits.
3. Impression about permanency of findings.
4. Identification of other conditions affecting brain function to determine whether there are non-neurological, psychological or factitious disorders affecting assessment findings.¹

While tests measuring cognition and memory are standard, tests evaluating personality, pain, depression and anxiety are not and may be included or omitted at the

neuropsychologist's discretion. Neuropsychologists and attorneys may view questions of interest differently. It is important that attorneys communicate what specific information is important to them rather than totally leaving the decision for test selection to the discretion of the neuropsychologist. Before an examination, it may not be possible to formulate opinions whether brain injury is present. Once testing is complete, the attorney should contact the neuropsychologist to ascertain his/her opinions and decide whether a report will be helpful since there is no way of knowing beforehand whether test data will be beneficial to a plaintiff's case. This provides the neuropsychologist with an opportunity to orally communicate test findings to the retaining attorney. If test results are not helpful, it is better to ask the neuropsychologist not to author a report.

The expert should be able to provide the attorney:

1. Areas on which opinions will be offered.
2. Specific parameters of opinions.
3. Degree of scientific certainty and reliability of the opinions.
4. Strengths and weaknesses of the opinions.²

The primary question in a personal injury case might be whether the plaintiff has acquired brain impairment resulting from a specific event such as "*Does Mr. Doe have significant brain impairment as a result of a fall from a second story window while at work?*" Neuropsychological testing may either confirm or fail to support the presence of a brain injury. The question leads to several related areas of inquiry that include:

1. What is the extent and severity of cognitive impairment?

2. What cognitive functions are impaired such as attention, concentration, memory, language, and executive function?
3. What is the potential for recovery?
4. Were there premorbid conditions influencing test findings?

Using Test Data

Neuropsychological assessment involves evaluating multiple areas of cognitive function including intelligence, memory, visual and auditory perception, motor and executive skills, personality, emotional function, academic skills and activities of daily living. Tests document the presence or absence of brain injury and provide information regarding capacity for decision-making, educability, and employment.

Most neuropsychological tests have been developed, normed and standardized on normal individuals and yield results meeting the burden of proof for scientific scrutiny.³ Very limited collateral norms exist for special populations. In evaluating special populations such as the developmentally disabled, nonverbal or motorically impaired, neuropsychologists will employ standard test administration and may acquire additional information by modifying test protocols. This approach has the advantage of evaluating some aspects of brain function that may otherwise have been inaccessible with standard test administration but places the neuropsychologist in the defensive position of explaining opinions derived from nonstandard test administration.

One strategy frequently employed by defense counsel to discredit neuropsychological testimony, involves questioning neuropsychologists about normal scores on some tests to

justify that cognitive function *must be better* than the neuropsychologist is opining.

Typical batteries take 6-9 hours to administer and employ between 5-10 different tests with major summary scores and subtest scores. The Wechsler Adult Intelligence Scale (WAIS-IV) has ten subtests and five optional subtests.⁴ The Full Scale IQ is calculated by averaging subtest scores. In brain injury cases, it is possible to obtain widely divergent composite scores that yield an average Full Scale IQ.

A 32 year-old left-handed male with a Master's degree in business administration was a bystander in a drive-by shooting and sustained a gunshot wound to the right side of his brain (temporal lobe). He has moderate to severe cognitive impairment and is unable to return to work as a department manager. He obtained these scores on IQ testing: Verbal Comprehension=118, Perceptual Reasoning=68, Working Memory=92, Processing Speed=71, Full Scale of IQ=85.

In this contrived example, the Full Scale IQ illustrates overall average cognitive function. Component scores are above average for verbal function with average working memory impaired perceptual reasoning and borderline to mildly impaired processing speed. The history of a premorbid individual with above average intelligence *was not reflected* in the current testing. Neuropsychologists are frequently questioned by defense counsel about scores they intentionally isolate from tests administered as part of a complete battery. If asked, "*Isn't true, that this individual's Full Scale IQ is in the average range?*" the answer is yes. The greater number of tests administered, the increased likelihood that some tests may fall in the normal range. Defense counsel, in an attempt to minimize severity, may focus on scores falling within the average range to make an impaired individual appear normal. Plaintiff's counsel should be informed about the structure of neuropsychological tests to be able to recognize when results are being taken out of context. Neuropsychologists do not base their opinions on single test scores but form

opinions based on 1) patterns of test scores, 2) known score patterns typically occurring with brain injury, and 3) how much test scores depart from normal. Brain injured individuals can have one or more scores falling within an average range. In pre-morbidly high functioning individuals, scores may range from above average to average and still signify brain impairment.

Determining Diagnosis

Attorneys should address two questions before engaging experts. First, can the neuropsychologist determine any pre-existing cognitive deficits that may have a bearing on test outcome? This would include individuals who may have had a history of attention and learning problems, substance abuse or prior psychiatric treatment. Second, many individuals with acquired brain injury develop co-morbid depression and/or anxiety associated with chronic pain, impairment from damage to brain regions affecting mood and arousal, and/or feelings of sadness and loss resulting from lost abilities, impaired social relationships, worry about earning capacity, and related post injury concerns.

These conditions can affect test performance. It is important to determine whether structural brain changes account for test results or whether psychologically based factors are present. Tests should discriminate between impairment patterns seen in brain injury versus other patterns typical of psychological injury. If psychological injury is found, the neuropsychologist should consider whether this injury was caused by the trauma or exists independently. Life continues after brain injury and related and unrelated stressors occur. Living with residual cognitive impairment compromises a vulnerable individual's ability to cope with such stressors. These complex multidimensional and interrelated situations

can usually be distinguished by testing although the relative burden of each component on overall function may be difficult to quantify.

Neuropsychological testing of children under age five merits special consideration.

Infant and preschool tests have undergone major revisions in the last decade leading to the ability to make long-term prognoses based on preschool assessment.^{5, 6} Some tests administered at a year of age may correlate with IQ at age two. Preschool tests may strongly predict IQ scores for elementary aged children. The confidence in making long-term predictions is strongest for infants scoring two standard deviations below the mean for their age (standard scores less than 70). Infant and preschool tests used by neuropsychologists can meet the same level of scientific validity as tests for older populations. This may not be true for tests administered by early intervention and special education personnel who test children to determine educational eligibility for special services. Tests administered by educators for infants and preschool children often lack the scientific rigor necessary for detailed cognitive assessment. Many of these tests evaluate developmental function which is different than measuring cognition and do not generate IQ scores but Developmental Quotients which are not equivalent and do not measure the same properties as intelligence. Attorneys interested in obstetrical outcome may wish to consult a neuropsychologist as to when it would be advised to obtain the best information about long-term outcome and what tests might allow for the greatest degree of confidence for predicting developmental function.

Sometimes in pediatric assessment, there is an inaccurate understanding about the role of neurological recovery and the impact of maturation on mental development. Defense attorneys may raise the issue of immaturity and developing compensatory skills through plasticity to introduce doubt about the permanency of poor long-term outcome. The brain has the capacity to adjust to trauma by having other brain regions take over some damaged functions. However, children who have recovered function do not generally perform these cognitive tasks at the same skill level. Children recovering language after a TBI may speak but have poor language comprehension, difficulty learning to read and poor abstract reasoning. The three-year old child with a TBI and impaired language foreshadows a child likely to have later cognitive deficits affecting attention, executive functions, learning and behavior. Pediatric experts should know the strengths and limitations of specific tests and be able to opine with a high degree of confidence about current function and long-term implications.

Evaluating Effort, Malingering and Symptom Validity

Neuropsychologists are asked to address the confidence of data regarding symptom exaggeration, effort, and cooperation or feigning responses in cases where there is potential material gain. This interest has led to developing measures detecting suboptimal performance and stronger evidentiary standards.⁷ Methods detecting suboptimal test performance include conventional tests where usual response patterns can be detected from inconsistent responding or symptom validity tests detecting accurate and consistent response patterns. Suboptimal performance is best determined by a combination of factors including scores on conventional and symptom validity measures,

consistency with known patterns of brain injury, and confirming information by health history and record review.

The American Psychological Association recently revised Specialty Guidelines for Forensic Psychology for psychologists providing expertise when examining or treating persons in legal, contractual and administrative proceedings. Attorneys requiring additional information about the extent of psychological services provided in forensic contexts may wish to consult these guidelines for additional information about the relationship between forensic practitioners and retaining parties.⁸

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