

PRELIMINARY CONSUMER GUIDELINES



for Choosing a Neuropsychologist for Evaluation and Treatment after Acquired Brain Injury

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Selecting a rehabilitation neuropsychologist for evaluation and treatment after brain injury is too important a task to be conducted in a haphazard or uninformed manner. However, few guidelines are available to assist consumers in considering the utility of neuropsychological specialists for evaluation and treatment following brain injury.

Informational searches using the internet and a variety of search engines along with perusal of brain injury related websites, periodicals and newsletters is revealing. Guides for enhancing services to persons with brain injury for providers in most specialty areas including Neuropsychology are fairly easily found. Glossaries and descriptions of neuropsychological services are available from multiple sources and providers. Guides to assist patients in adapting and coping with brain injury sequelae, and seeking rehabilitation interventions and services are similarly available. These guides can be very helpful in identifying and coping with brain injury residua, seeking services, and picking a rehabilitation program and team, but not with selecting or evaluating an individual neuropsychologist.

A quick search conducted through Google (google.com) and the Brain Injury Association of America (biausa.org) using numerous keyword combinations (e.g., neuropsychologists, guides, provider selection, etc.) reveals only a few relevant links. One of the more relevant guides, "The Guide to Selecting and Monitoring Brain Injury Rehabilitation Services" (available at biausa.org) is located on the Brain Injury Association website. It provides a longer handout and a shorter summary brochure and is one of the initial "hits" provided through a Google search. However, this paper, while offering generally useful guidelines for evaluating brain injury rehabilitation programs, provides no specific guidelines for selecting neuropsychological providers.

Visiting the websites of the state chapters of the Brain Injury Association of America, other unaffiliated state brain injury associations, and some of the better brain injury related resource websites finds that specialty providers or even preferred Neuropsychology and other providers can be listed or even have their services advertised. Although this is generally helpful information, it is not specifically useful. Importantly, many of the better brain injury resource websites and available papers offer a wealth of information that spans the range of relevant issues in brain injury rehabilitation. However, these are not necessarily easy to find and when specialty provider guidelines are offered, it is usually incidental to recommendations regarding rehabilitation interventions and approaches and scattered across several sections and topics.

Professional neuropsychological organizations do offer some guidelines regarding professional standards. In the field of clinical Neuropsychology, board certification is recommended as the clearest evidence of professional competence. However, as Dr.'s Lees-Haley and Fox aptly point out in this issue, board certification is problematic on several grounds while available standards for Education and Training in Neuropsychology (i.e., The Houston Conference guidelines (1998)) are also highly controversial. Notably, these standards are not specific to brain injury and appear comparatively less

relevant to rehabilitation than information available from other rehabilitation specific fields including the specialty field of Rehabilitation Psychology. In other words, these standards are more germane to professional training, less relevant to brain injury or rehabilitation specialization, and not very practical for consumers.

As part of a previous effort to generate a list of competency guidelines two of the present authors (MM, NZ) offered competency guidelines related to practice of forensic neuropsychology in the area of brain injury services (Martelli, Zasler and Grayson, 1999; available at <http://villamartelli.com>). However, these guidelines were limited to criteria primarily relevant to assessment in medicolegal evaluations and can be criticized on other grounds as well. Subsequently, Martelli, Zasler and LeFever (2000) offered a set of guidelines to consumers.

In the current paper, we intend to review and update clinically relevant and useful guidelines, intended to assist consumers in identifying, selecting and evaluating well suited rehabilitation neuropsychologists. They continue to be based in large part on a critical evaluation regarding what is useful versus not, based on years of input from our regular consumers, namely, Occupational, Speech and Physical Therapists, Nurses, Physicians, Psychologists and Neuropsychologists, and patients and family members.

The following suggested guidelines are offered with the intention of helping consumers identify the most "useful" rehabilitation informed neuropsychologists. A summary of these guidelines are presented in Table 1. The best suited rehabilitation practitioner:

1. Should have a good assessment record (i.e., reports seem to fit patients; they seem useful; regular consumer opinions are positive regarding utility, benefit)
2. Should provide recommendations that appear individualized, practical, non-generic, variably creative, and useful. They usually seem helpful and often seem to work.
3. Should not overly rely on psychiatric assessment instruments and norms. They should employ normative data derived on similar patients (e.g., brain injury) and not routinely rely on psychiatric norms for evaluations. Psychiatric instruments used with psychiatric norms that are based on with primary psychiatric problems usually represent an improper comparison group. These instruments predispose psychologists to make psychiatric diagnoses and interpretations.
4. Should be familiar with and employ the newest instruments in assessing relevant symptoms and strive to use instruments with the best reliability and validity and most appropriate normative comparison groups (see the paper from Dr. Senior and Douglas in this issue for an excellent illustration).
5. Should adequately describe behavioral observations and test-taking behaviors, especially behaviors relevant to test performance (e.g., headache,

TABLE 1: Diagnostic Realities in Assessment of Acquired Brain Injury (ABI)

Real Organic Disorder (i.e., ABI)		Residual Functional Impairments		Residual Testing Impairments	
1. Yes		1. Yes & Exaggerated		1. Yes & Not Exaggerated	
2. Mixed		2. Yes & Not Exaggerated		2. Yes & Exaggerated	
3. Indeterminate		3. No & Exaggerated		3. No & Exaggerated	
4. No		4. No & Not Exaggerated		4. No & Not Exaggerated	
4	X	4	X	4	=
					64

Summary of Proposed Guidelines for Selecting and Evaluating Rehabilitation Neuropsychologists

1. Reports and conclusions fit patients and are regarded as useful.
2. Recommendations are individualized, practical, helpful.
3. Not overly reliant on psychiatric assessment instruments and norms.
4. Employ the newest and most relevant and valid assessment measures for persons with brain injury.
5. Reports adequately describe observations and important factors relevant to test performance.
6. Reports and conclusions integrate personality data, observational data, collaborative data, test data and premorbid (pre injury) information holistically and sensibly.
7. Avoid reliance on test data alone.
8. Spending enough time with clients and significant others and reasonably understanding them and their situation (per reputation).
9. Diagnostic formulations are not generally black / white or either / or, and are consistent with: a) the complexity of the individual client's situation, b) how common the symptoms are, and c) prevailing biopsychosocial models – recognition that emotional symptoms can be both a reaction to, as well as a cause, of post brain injury symptoms, that psychological factors and biological factors can each affect the other and that both are usually intertwined.
10. Avoids bias or preferential tendencies with regard to inferences about psychological or organic contributions to client conditions (e.g., tendencies to see most things and most clients as psychologically determined; or conversely, tendency to doubt psychological influences and assume everything and everyone's behavior is organically determined).
11. Does not specialize in or primarily do medicolegal work.
12. Is on guard against, and makes efforts to protect against biases in opinions and findings.
13. Reports are clear, logical and "sensible" to most readers.
14. Reports are appropriately tentative and recognize the inherent limitations of testing.
15. Avoids over-reliance on non-doctoral technicians and students.
16. Collects data regarding validity and predictive accuracy of diagnostic inferences, predictions and recommendations.
17. Provides a balanced amount of treatment services (not all or mostly assessment services).
18. Treats many persons with brain injury (and with other problems that may accompany a client's brain injury – e.g., pain, sleep disturbance).
19. Demonstrates openness to new ideas and new learning along with genuine interest in improving services and the lives of the clients.
20. Employed in a specialty brain injury and rehabilitation center.
21. Identified as a specialist in the assessment and treatment of brain injury.
22. Conducts training, talks and/or writings in areas relevant to brain injury and neurorehabilitation.
23. Is listed on one or more national or state Brain Injury Association websites or reputable Brain Injury Resource websites (excluding paid advertisements).

sleep, fear of losing disability, anxiety).

6. Should integrate personality data, observational data, collaborative data, test data and premorbid (pre injury) information in a sophisticated and meaningful way that makes sense to others, and presents a holistic picture of the client in their particular circumstance. Tentativeness regarding diagnosis and clinical formulations should be afforded as indicated.
7. Should avoid reliance on test data alone, making sure to spend enough time with the client and perform a thorough interview while obtaining collaborative data and other information from family members and other relevant persons.
8. Should receive consistent feedback from clients that suggests that adequate time was spent with them and that a reasonable effort was made to understand them in terms of personality and situation (see the paper by Dr. Cripe in this issue).
9. Should generally employ a biopsychosocial assessment and treatment model that recognizes how biological, psychological and social variables interact to affect a client's behavior. All relevant factors should be looked at in a reasonable fashion while simplistic or black / white, either / or unidirectional models should be avoided. Diagnostic formulations should be consistent with: a) the complexity of the individual situation (i.e., things are not typically black and white or either / or), b) known base rates (i.e., how common the symptoms are in the non-affected population), and c) prevailing biopsychosocial models (i.e., multifactorial models that consider vulnerability variables and interaction of multiple factors versus black or white formulations). Dichotomous diagnoses and conclusions as "it's all psychological/psychiatric" or "it's all organic/biological" should be infrequently found versus a recognition that emotional symptoms can be both a reaction to, as well as a cause, of post brain injury symptoms, that psychological factors and biological factors can each affect the other and that both are usually intertwined.
10. Should be free of bias or preferential tendencies with regard to inferences about psychological or organic contributions to client conditions (e.g., tendencies to see most things and most clients as psychologically determined; or conversely, tendency to doubt psychological influences and assume everything and everyone's behavior is organically determined). Notably, Table 1 represents just 64 of the possibilities with regard to brain injury related diagnostic realities. Professionals who typically employ only 2 or 3 of these (e.g., true brain injury or no brain injury, or true brain injury or malingering) are likely demonstrating a predisposition to bias.
11. Should not do an unusually large amount of medicolegal work, or specialize primarily in such work. Such professionals should be critically evaluated for several reasons. One of the salient reasons is that courts and attorneys usually prefer black/white opinions and eschew practitioners with more complex diagnostic and conceptual viewpoints. Practitioners can be subtly to overtly reinforced by much higher reimbursement from forensic sources (vs. much lower reimbursement from clinical fees and dwindling managed care resources) and may therefore be more tolerant of dichotomous and more simplistic (and easier) adversarial "ethic/ or" opinions. This is not to say that these practitioners are intentionally or even consciously biased. However, economic reinforcement is universally powerful and operates below the level of consciousness.
12. Should be sensitive to, and make efforts to avoid, bias. Psychologists are human and possess human frailties, including reinforcement from money and motivation to confirm our beliefs. Recognition of bias in professional psychologists has led to an emphasis on blind clinical trials in research, for example. Clinicians sensitized to the signs and symptoms of their particular specialty may misdiagnose or over-diagnose problems, with inadequate attention to competing explanations. Numerous papers have been written arguing that symptoms of chronic pain can present similarly to those of brain injury. Failure to adequately diagnose and treat these symptoms can limit rehabilitation outcome and produce unnecessarily protracted disability (e.g., Martelli, Zasler, Bender and Nicholson, 2004; Nicholson and Martelli, 2004; Martelli, 2004; Nicholson, 2004). Chapman and Einstein (2000) have discussed how biases can occur in the face of uncertainty in medical decision-making. Examiners may also display response bias by tendencies to either blindly accept (Lees-Haley, Williams, Zasler, et. al, 1997) or doubt the sincerity of complaints and disregard their veracity (McBeath, 2000). Finally, there is increasing realization of bias in arbitrators' case perceptions and award recommendations (Eylon, Gialalone & Pollard, 2000).

Preliminary data regarding the common suspicion that examiner bias is influenced by compensation issues has been provided by Martelli, Zasler and LeFever (2000). Compelling evidence of perceived expert witness bias comes from a recent report from a Federal Judiciary Committee sanctioned study (Johnson, Krafka & Cecil, 2000) involving a large sample of active Federal judges and the lead plaintiff and defense attorneys who presented the docket cases before them. Findings, based on compliance enhanced return rates of 51% for judges and 66% for attorneys, were consistent from 1991 to 1998 in revealing that the primary problem with expert testimony was experts who "abandon objectivity and become advocates for the side that hired them (p5)." On a 1 (very infrequent) to 5 (very frequent) Likert Scale of this problem, the mean response was 3.69 for judges and 3.72 for attorneys.

Better rehabilitation neuropsychologists also:

13. Produce reports that offer logical inferences, with reasonable, easy to follow justification. The report should be clear and "sensible" to most readers, including psychologists as well as non-psychologists.
14. Produce reports that: a) offer strong opinions only in very clear situations and with lots of support; b) are sufficiently tentative in generating hypotheses, recognizing the limited amount of information and time spent in the typical testing and interview situation; c) recognize the inherent limitations of testing situations involving instruments of varying validity and reliability and a host of nonspecific factors affecting test performance and results; and; d) recognize that, in science and medicine, things are rarely either-or, clear cut or unidimensional. This should include understanding the limitations and cautiously interpreting results from any single test or single testing occasion, or results of tests of purported effort or malingering, and so on. A host of factors, including pain, fatigue, medications, perceptions of or expectations of mistreatment, etc., can interact to affect test performance.
15. Avoid over-reliance on non-doctoral technicians and students to spend most of the time and perform most of the billed assessment with the client. In general, the more time a neuropsychologist spends with the patient, the better the rehabilitation assessment and recommendations will be. Technicians and students do not have the necessary training, experience, knowledge and skills to do interviewing. Although they may be trained in administration of tests, they are not adequately trained to assess, interpret or integrate test observations and behavior with interview, test results, personality and collaborative data, or directly observe and analyze and integrate ongoing test behavior to generate hypotheses, modify tests or procedures, make deductive inquiries or add interview questions, etc. In fact, they should not be doing the interview, are not informed by it in general practice, and couldn't fully benefit from even if they were). Unfortunately, many standard practices are established on, and financially dependent upon, the primary utilization of non-doctoral testing technicians who are usually paid a small percentage of the billed service fee.
16. Collect data, formally or informally, regarding validity and predictive accuracy of diagnostic inferences and formulations, and predictions and recommendations. Psychologists are uniquely trained to evaluate the validity and utility of their work. Also, a field as new as neuropsychology is best served when its practitioners seriously, continuously, formally, and critically evaluate the validity and utility of their work. However, we see too few examples of any meaningful efforts at such, and, instead, too much overconfidence and assumed accuracy of diagnoses and predictions. When those most able to evaluate the utility of their work do not try to, consumers should ask questions. When these practitioners are not collecting validation data (i.e., being true scientist-practitioners) needed to refine their ability in order to help patients (i.e., becoming more useful clinicians) one might ask why they do not accept the same accountability of plumbers and mechanics for the results of their work and justification of their fees.

Because this is rarely practiced, we offer a model and suggestions derived from a hospital Rehabilitation Neuropsychology Service's Continuous Quality Improvement program which has been formerly attempted by the first author. It is intended as a guide to self-evaluation for Neuropsychology practitioners in the field.

Formal data collection is ideal and might include a structured Continuous Quality Improvement (CQI) program with continued extended follow-up efforts to assess validity and predictive accuracy longitudinally. It should include a mechanism for modifying practice based on findings. For example, are other potential sources of lower test scores (e.g., chronic pain, sleep distur-

bance, psychological disturbance) being adequately considered in the differential diagnosis of brain injuries? Are provisions for appropriate treatment being made or recommended? Are predictions of ability or inability to benefit from treatment supported? Do predictions about work capacity and ability in other areas of functioning hold true? Are recommendations useful or helpful to patients? Do diagnostic patterns fit expected base rates? To be most useful to patients while serving advancement of the field of Neuropsychology, programs and practitioners should: (i) employ naturalistic, ecologically valid criterion variables (i.e., real world predictor variables versus simplistic models and methods – and not just comparing diagnostic and prognostic statements with those available in cookbooks) and (ii) allow independent inspection of their "track record", and afford open, clear discussion re: efforts, results, and positive effects on service provision (e.g., changes in assessment methods, diagnostic formulations, recommendations, treatment interventions, etc.). For example, follow up phone calls to patient or significant other at one to several years following evaluation are one of many tools for examining the validity of report findings and predictions.

At a minimum, informal data collection is essential, and would be reflected in efforts to solicit, from patients and others, follow up information regarding treatment outcome, etc. Data regarding findings (i.e., track record) should be maintained and available; changes in professional practice should be evident from these practices, and easy to discuss. Importantly, no one would hire a plumber or auto mechanic (i) if the correlation's between their tests and actual problems were as nebulous, and (ii) there was as much disagreement among practitioners about diagnoses or treatment, or (iii) there was no assurance that the problem (e.g., toilet overflowing) would be verifiably diagnosed and repaired. Should anyone settle for a neuropsychologist who makes predictions when he/she may never be held responsible for the accuracy of their diagnoses, ability to fix problems, or even efforts to make credible estimations? If there is no realistic expectation that the "toilet overflow" can be repaired, shouldn't the practitioner be expected to make extra effort to explain why, and to suggest practical alternative strategies for compensating for the problem?

17. Provide balanced or reasonable amount of treatment services and does not perform only (or mostly) assessment duties. Not doing so limits scope of knowledge of some patient types, because follow-up data for evaluation and refinement of diagnostic and prognostic inferences is not seen. Ideally, they should:
 - See a significant portion of the particular patient type being assessed, in individual treatment
 - Have a reputation for treating the particular patient type/ population and have a treatment record, and reputation that seems reasonable, especially in the brain injury community.
 - Seem willing to treat (and does) patients regarded as "challenging" (especially if they have a reputation for getting good results in a fair amount of time)
 - Show openness to new ideas, self examination of the utility of their services and genuine interest in improving services and improving the lives of the persons with whom they work.

With regard to shopping, the best suited rehabilitation neuropsychologists will usually:

- Work in specialty settings which will be differentially recognized by their name (e.g., Brain Injury Rehabilitation Services: Physical Medicine and Rehabilitation Hospital; Rehabilitation Neuropsychology; Physical Medicine and Rehabilitation Hospital / Service). Neuropsychologists working in these settings, and not part-time consultants who specialize in other areas, are usually best qualified.
- Be identified as specialists in the assessment and treatment area of the patient being referred, and not only be identified by working in a setting identified as such by name, as noted above, and reputation, but also by primary duties performed and personal identification (e.g., neuropsychologist, brain injury rehabilitation psychologist).
- Have conducted training, talks and/or writings in areas relevant to brain injury and neurorehabilitation, and/or
- Be listed on a national or state Brain Injury Association website or one of the many reputable and Brain Injury Resource websites (excluding paid advertisements).

Given any uncertainty, it seems prudent to maintain skepticism and critically apply the preceding recommended guidelines in cases similar to the following:

- Psychologists who are primarily employed and associated with Psychiatry or traditional Psychology or mental health delivery services, where traditional psychiatric patients are the focus of treatment. These services will be designated as such (e.g., Psychology Service; Psychiatry Service; Psychological Assessment Clinic; etc.)
- Part-time consultants to rehabilitation or Neuropsychology programs who are employed and primarily associated with traditional psychological assessment and treatment services
- Psychologists who perform primarily assessment versus treatment, including psychologists associated with agencies or departments labeled as assessment specialty services (e.g., Psychological Assessment Service)
- Psychologists associated with traditional agencies (e.g., Psychological Assessment Center in a Psychiatry Department; Psychiatry Service) who purport to also provide neurologic, rehabilitation (in addition to psychiatric evaluation) when formal agencies specializing in such services exist locally. This would be especially true in the case of psychologists who do not work in a setting that affords working relationships and dialogue with equally qualified professionals in the same specialty area - absence of alternate ideas, challenges, feedback, and so on, foster stagnation versus facilitate development and professional growth.
- Psychologists who seem defensive or resentful in response to these inquiries, or who offer purported diplomas or credentials in lieu of the suggested experience and credentials recommended herein.

Finally, the other papers in this issue offer illustrative examples of the utility of the recommendations offered herein. One can only wonder if Scott Hall's poignant review of his post TBI experiences might have benefited had guidelines for both rehabilitation programs and Neuropsychology providers been available.

CONCLUSION

In this paper, an attempt is made to offer a set of preliminary consumer guidelines for evaluating and choosing a well suited rehabilitation neuropsychologist following brain injury. We attempt to reflect the needs of consumers, based on a critical evaluation regarding what is useful, based on years of input from the regular consumers of neuropsychology. We describe what a person should look for in a rehabilitation neuropsychologist but emphasize assessment services. We specifically address things to look for in his/her reports and in his/her rehabilitation program. The "ideal" rehabilitation neuropsychologist ought to be open-minded, accessible, willing to design a program to the needs of his/her client and interested in a holistic picture of the past, present and future of the client. He/she should have a background in the rehabilitation of people with brain injury and enjoy working with them. His/her reports should reflect less of the courtroom's "black-and-white" appearance and more of the scientist's awareness of the many "gray" areas in brain injury. They also should be understandable to non-specialists and offer data to back up the assertions made. The neuropsychological services should track real-

world abilities as well as exam scores that may or may not have immediate utility outside the clinic. The tracking results should be open to anyone's inspection, allowing the neuropsychologist and others to examine accuracy and utility of diagnoses and prediction and affording suggestions for refinement. The person looking for a rehabilitation neuropsychologist should avoid people without a background in brain injury rehabilitation or who are associated with firms or agencies that do not concentrate on neurorehabilitation.

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