



RESEARCH CONNECTION

MARK A. SANDBERG, PhD, & JANA JONES, MEd

Brain Power

Practicing cognitive rehab without all the evidence

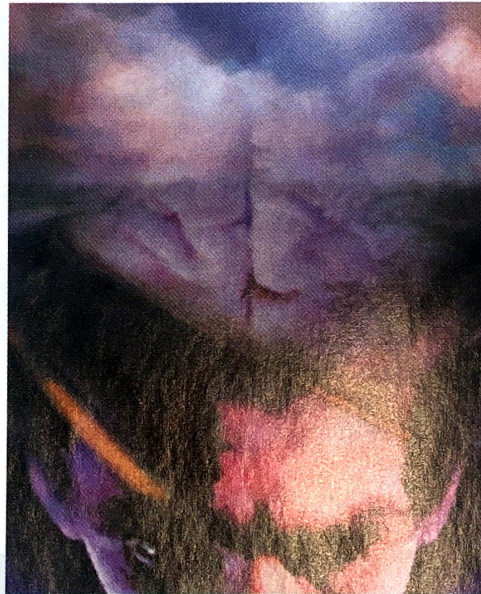
BRAIN INJURY, SOMETIMES CALLED THE hidden disability, can bring a host of physical problems. But even more devastating are the cognitive difficulties—those hidden areas that undermine someone's ability to think and behave.

Traditionally, we've focused our rehabilitation efforts on addressing the physical aspects of the condition, paying little attention to the cognitive and behavioral sequelae of acquired brain injury. But that focus has changed during the past two decades.

The literature abundantly describes how cognitive disturbances adversely affect someone's ability to resume a productive and meaningful life. There is no controversy about this. The same, unfortunately, can't be said about the techniques to address the range of cognitive problems that accompany brain injury—often called cognitive rehabilitation.

The field of cognitive rehabilitation is in a state of optimism and crisis. The outpouring of research over the past decades in areas such as neuroscience and cognitive psychology inspires us. In fact, we have acquired more knowledge about the brain over the last 10 years than in the last 10 centuries.¹ With neuro-imaging techniques, for example, we can pinpoint the location of brain activity as we perform various cognitive tasks, such as reading, writing or learning a list of words. It's only a matter of time before

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our knowledge and other brain imaging advances will help us provide more effective interventions for this population.

Although we're optimistic about these possibilities, we also feel a sense of urgency and crisis. Governmental and private insurers are demanding that we demonstrate the efficacy of cognitive therapies through randomized clinical trials (RCTs). Their demands for evidence-based practice are reasonable; we too want to know more about treatment efficacy and specificity.

What's unreasonable, however, is the trend among insurers to view RCTs as the only acceptable standard for determining evidence-based practice. Not unlike many other therapy approaches employed in the rehabilitation field, clinical practice is governed by levels of evidence other than RCTs. If RCTs were the only standard, "we would have to discard about 80 percent of all practice in medicine today, since most of health care practice has not been tested against the RCT standard," says Gerben DeJong.²

Throughout the 1980s and 1990s, research

and development in cognitive rehabilitation grew at an unprecedented rate. Two trends are particularly prominent. The first has been an outgrowth of standardized treatments. Techniques that address attention and concentration, memory and visuospatial dysfunction have been validated and their efficacy documented.³ The second trend, equally important, is that we're shifting our focus from discrete deficits or impairments to the more global issues of daily life functioning.⁴ When we do this, we want to measure the extent that treatment improves a person's participation in the environment, despite disability or impairment.

The same conceptual change also implies a broader definition of cognitive rehabilitation, which includes not only specific deficits, but also less tangible issues, such as changed identity, motivation and quality of life. A 1998 NIH consensus panel on brain injury had this in mind when it stated that "the evaluation of TBI interventions will require innovative research methods."⁵ Karasu also made a similar suggestion about the efficacy research on psychotherapy, noting that "we need to develop research methods applicable to humanistic sciences."⁶

Cognitive rehabilitation *is* researchable, but with this broader definition, its work is difficult to define operationally and is inexorably linked to a wide range of confounding variables. With this in mind, I'd like to reflect on future research efforts.

First, if our goal is to define the best form of treatment, we need to be more specific about the defining characteristics of the technique or intervention under study. It isn't particularly useful to hear that cognitive rehabilitation is effective, unless the procedure is clearly defined and replicable in future research initiatives and in clinical situations.

Second, the interventions that require study are those that have impact at least at >

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'DID YOU KNOW'
The mortality rate for TBI is 30%. Of these, 50% die within two hours of injury.



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the level of disability, rather than impairment. That is, treatment effectiveness shouldn't be measured by the degree to which a test score has risen, but rather by the extent to which an injured person can increasingly perform a desired real-world activity. We also need to measure effects at the level of handicap, which implies that a person can achieve some quality of life improvement despite continued disability.

Third, we need to consider methodological

approaches other than RCTs. The widely diverse, multifaceted problems presented by each unique person who has sustained a brain injury will *never* be adequately addressed by the kind of knowledge that RCTs produce. Other levels of evidence—single-subject research and quasi-experimental designs, for example—derived in a context of ongoing performance improvement initiatives will provide the continuing empirical basis for our work. Results from these efforts should guide governmental and third party payment policies about brain injury rehabilitation. This research would more than justify its cost, given the immense cost associated with acquired brain injury and the potential benefits of cognitive rehabilitation.

Finally, we need to remember that clinical practice will never work solely on applying scientifically demonstrated techniques. Science at best can offer us only incomplete and partial solutions to complex problems. Yet, we still must reduce

human suffering effectively and benevolently. And we do this in an evidence-based way, gradually shaping our clinical behavior so that therapeutic efforts become increasingly efficient and meaningful to those we serve. George Stricker and Steven Trierweiler address this issue when they speak of the clinician as being a local clinical scientist. They write: "Scientific training—even when it does not present a substantive solution—can provide an attitude and an orientation to the problem at hand that will lead to an informed solution that is the best the state of the art can generate."⁷

Through the combined efforts of the interdisciplinary rehabilitation community and with the right scientific attitude, we will continue to develop more effective practices. In turn, we can make cognitive rehabilitation an effective therapeutic modality endorsed by national policy. ■

For references, call Maria Wolf at (610) 278-1400, ext. 243.



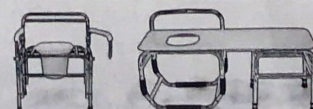
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