

Brain Injury and Residual Employability

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Presented by:

Dr. John Keegan

Clinical Neuropsychologist

Edmonton, Alberta

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BRAIN INJURY AND RESIDUAL EMPLOYABILITY

Following any brain injury, one would expect at least temporary and perhaps permanent cognitive changes to arise. These cognitive changes might be expected to result in temporary and potentially permanent changes in ability patterns that might well affect vocational performance. If a brain injury is of a more mild variety, cognitive changes that might affect work performance would be expected to be more limited in scope and severity. Mild injuries would also typically be expected to ultimately exhibit full recovery. Thus, one would expect that a mild brain injury might result in some temporary vocational sequelae, whereas a more significant brain injury could result in permanent changes that might result in either a change in occupation or unemployment. Neuropsychological assessment can assist in ascertaining the severity of and prognosis for recovery from any brain injury. It may help at the outset to understand how the severity of brain injuries is typically considered by neuropsychologists and the medical profession in general.

The Glasgow Coma Scale (GCS) is a metric designed to be administered in the field to ascertain the level of consciousness at any point in time. It is based upon the addition of three ratings: Eye Opening Response, Verbal Response, and Motor Response. The lowest score is 3/15 and indicates essentially no response. The highest score is 15/15, which indicates a completely normal response.

Mild brain injuries are typically injuries where there has been brief alteration of consciousness, with GCS scores at the scene of the accident ranging between 13-15/15. Alterations of consciousness following mild brain injuries may extend over a number of hours and are prime indicia that a brain injury has, in fact, occurred. Mild brain injuries are typically caused by brain tissue deformation, which results in biochemical changes that further result in cognitive impairment. In a mild brain injury, it is less likely that there is any shearing of neuronal tissue, and thus the recovery amounts to cleansing of biochemical byproducts of the stretched neurons at the time of the incident.

At times, individuals demonstrating the primary indicia of mild traumatic brain injury also demonstrate visualized evidence of damage on CT scans or MRIs. These lesions are referred to as “complications” of the mild brain injury, and when an individual demonstrates evidence of a mild traumatic brain injury with complications, the prognosis is less clear. That is, individuals with such a designation may, in fact, have more prolonged and perhaps even some permanent sequelae to a brain injury they have sustained.

Individuals who have more severe brain injuries, as identified by GCS scores that are between 9-12/15, are described as having sustained a brain injury of moderate severity. Brain injuries of this severity may have permanent cognitive sequelae. Brain injuries with GCS scores of 8 or less are considered severe injuries and, in those instances, individuals are expected to have some permanent cognitive sequelae to the brain injury sustained.

Part of the neuropsychological assessment process is evaluating all the medical materials available in light of the patient's self-report to define the severity of the brain injury sustained. Prognostic statements with regard to outcome are typically made on the basis of those judgments made by the clinical neuropsychologist in terms of severity. In addition to issues of severity, of course, are the issues of localization of the brain damage. Different areas of damage will lead to different types of cognitive and potentially behavioural problems. The neuropsychologist, then, is interested in ascertaining what kind of damage has likely been sustained, which further helps in identifying potential problem areas, both cognitively and behaviorally, which, in turn, would be expected to have an impact upon future vocational prospects.

While mild brain injuries may have some temporary cognitive effects that lead to problems with work performance, these would generally only be considered to be temporary and thus are not the primary focus of this paper. My primary focus is on the effects of brain injuries with complications or more severe brain injuries that are expected to result in some kind of permanent changes of varying severity. The major types of loss that one expects following brain injury are changes in cognition, physical abilities, emotional adjustment, and behavioural control.

The primary cognitive consequences of even a mild brain injury are related to deficits in speed of information processing, which lead to changes in attention. Problems in attention would be expected to result in changes in the acquisition of new information, and these changes, of course, are expected to result in some impairments of memory. Problems with attention and memory would be expected to be of particular significance in dangerous occupations where attention is required, and may even have an impact on an individual's safety in crossing the street. Basic problems with attention are clearly evident in mild brain injuries, but they are even more prevalent as the brain injury becomes more severe.

In addition to the diffuse effects of brain injury, there may also be specific areas of damage leading to particular kinds of limitations. For example, if there are contusions in the speech areas, receptive