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## Predicting The Future For Patients With Severe Traumatic Brain Injury

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The latest study carried out by Dr. Elaine deGuise, Joanne Leblanc, Mitra Feyz and all the clinicians of the Traumatic Brain Injury Program for Adults at the McGill University Health Centre (MUHC) describes the tools that are most effective at providing an objective answer to this question almost as soon as patients leave intensive care. The study was published recently in the Journal of Head Trauma Rehabilitation.

### Better advice and more structured follow-up

"This study is unique as it involved a multidisciplinary team. We could therefore assess the patient from many angles and establish an overall picture," stated Dr. deGuise. "Our findings are important because, in addition to the advice that we can give to families, we can now implement a comprehensive program in the continuum of care that is based on more objective and scientific principles."

### Powerful predictive tools

When patients with a sTBI leave acute care hospitals (generally between 20 to 29 days after the accident), they undergo standard tests to assess their overall level of functioning and to orientate them to appropriate resources to optimize their recovery.

This study proves that their results can also be used to predict the future development of the patient's general condition. The tests used in this study include the GOS-E (Extended Glasgow Outcome Scale), the NRS-R (Neurobehavioral Rating Scale-Revised), and the FIM (Functional Independence Measure).

"The tests that are regularly performed on all our patients with a sTBI are very effective tools as, based on their results, we can give families an idea of the patient's incapacities and progress after the trauma," J. Leblanc explained. "There are many factors that influence post-traumatic recovery, but the measurement scales are complex enough that we can make realistic predictions about patients' future physical, cognitive or emotional states."

### Persistent cognitive and emotional deficiencies

The study was based on the follow-up of 46 patients from 2 to 5 years after an accident that led to a sTBI. The patients took the GOS-E, NRS-R and FIM tests again for the study. The researchers then compared their results with those from the same tests performed when the patients were discharged from acute care hospital.

The researchers found that these patients' physical function and ability to perform daily tasks had improved over time. However, their cognitive and emotional faculties, meaning their ability to perform more complex tasks and to cope in society, did not develop to the same extent.

"These cognitive and emotional deficiencies can have major consequences: most of our patients could not keep the same job after their accidents," said Feyz. "This leads to other psycho-social problems that often result in psychological vulnerability. Out of all the patients observed in this study, 52% presented depressive or anxiety disorders two to five years after the trauma."

The effects of a serious accident that leads to a sTBI are not limited to patients alone: their friends and family members, as well as the entire health care system, are also affected, which has emotional and financial consequences. Prevention is still the best way to manage these kinds of events.

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