

# Quick Review of Model System Research

## Factors Associated with Remission of Posttraumatic Brain Injury Fatigue in the Years Following Traumatic Brain Injury (TBI): a TBI Model Systems Module Study<sup>1</sup>

### What is the study about?

This study examined characteristics of patients with post-traumatic brain injury fatigue (PTBIF) in order to assess characteristics of those whose fatigue persisted as compared to those whose fatigue resolved. The characteristics reported included: level of disability, sleep quality, mood, and community participation, as well as level of independence as measured by the Functional Independence Measure (FIM).

### Who participated in the study?

The study interviewed 79 patients from the TBI Model Systems (TBIMS) database. All patients had moderate to severe traumatic brain injury. All patients were over 16 years of age. All patients entered the TBIMS hospital within 72 hours after injury. All patients were a part of an inpatient rehabilitation program. All patients (or a designated surrogate, usually a family member or significant other) gave permission to participate in the study.

### How was the study conducted?

The study measured fatigue by using the Multidimensional Assessment of Fatigue questionnaire. The study collected data between 2007 and 2012. There were two groups: The study interviewed the Y1-2 group at one and two years after injury and interviewed the Y2-5 group two and five years after injury. There were no meaningful differences between groups for demographics, injury characteristics, age, education, or hospitalization variables. The study looked at the group differences over time using statistical models designed to compare group means based on specific factors, like sleep quality.

### What did the study find?

The people in the Y1-2 group whose fatigue level resolved reported less disability and better sleep than those whose fatigue persisted. The people in the Y2-5 whose fatigue resolved demonstrated greater level of community participation. There was no significant difference between the two groups with respect to their ability to be independent in their activity of daily living as measured by the FIM. Less than half of the sample showed recovery from PTBIF between interviews. Signs of PTBIF could be related to level of disability and depression. More research is needed to determine whether there may be different subtypes of PTBIF and to develop appropriate treatments to improve a patient's quality of life.

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<sup>1</sup> Lequerica, A.H., Botticello, A.L., Lengenfelder, J., Chiaravalloti, N., Bushnik, T., Dijkers, M.P., ... Rosenthal, J. (2016): Factors associated with remission of post-traumatic brain injury fatigue in the years following traumatic brain injury (TBI): a TBI model systems module study, *Neuropsychological Rehabilitation*, DOI: 10.1080/09602011.2016.1231120