

# Quick Review of Model System Research

### Post-traumatic epilepsy associations with mental health outcomes in the first two years after moderate to severe TBI: A TBI Model Systems analysis1

### What is the study about?

The purpose of this study was to assess the association between post-traumatic epilepsy (PTE), occurring during the first 2 years post-injury, and frequency of mental health outcomes (depression and/or anxiety) during that same time period in a group of individuals with moderate-to-severe TBI who received acute inpatient rehabilitation.

### What did the study find?

This study found that PTE occurring during year-1 post injury was not significantly related to depression status at either year-1 or year-2 after TBI. However, individuals with PTE in year-2 had 3.34 times the likelihood (p=.002) of having clinically significant anxiety at year-2, even after accounting for other relevant predictors of anxiety. Also, participants who self-identified as Black were more likely to report clinical symptoms of anxiety in year-2 than those who identified as White. PTE was the only significant factor that predicted having both depression and anxiety at year-2.

### Who participated in the study?

### This study consisted of 867 participants, with 453 participants at year-1 and 434 at year-2 post-injury. Participants had a documented moderate/severe TBI, were 16 years or older, and were admitted to a participating hospital within 72 hours of injury with ongoing acute care and inpatient rehabilitation at a TBI Model Systems hospital.

### How was the study conducted?

This study used information from people enrolled in the TBI Model System National Database to examine differences in depression and anxiety symptoms based on having or not having post-traumatic epilepsy at 1 and 2 years after injury.

### How can people use the results?

Clinicians can use the results of this study to help decide whether to screen for and treat anxiety in people with TBI who have developed PTE. People with TBI can use these results to better understand the relationship between PTE and anxiety.

Juengst, Shannon B, Wagner, Amy K., Ritter, Anne C., Szaflarski, Jerzy P., Walker, William C., Zafonte, Ross D., Brown, Allen W., Hammond, Flora M., Pugh, Mary Jo., Shea, Timothy, Krellman, Jason W., Bushnik, Tamara, Arenth, Patricia M. (2017). Post-traumatic epilepsy associations with mental health outcomes in the first two years after moderate to severe TBI: A TBI Model Systems analysis*. Epilepsy and Behavior, 73(1), 240-246.* Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/28658654>

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