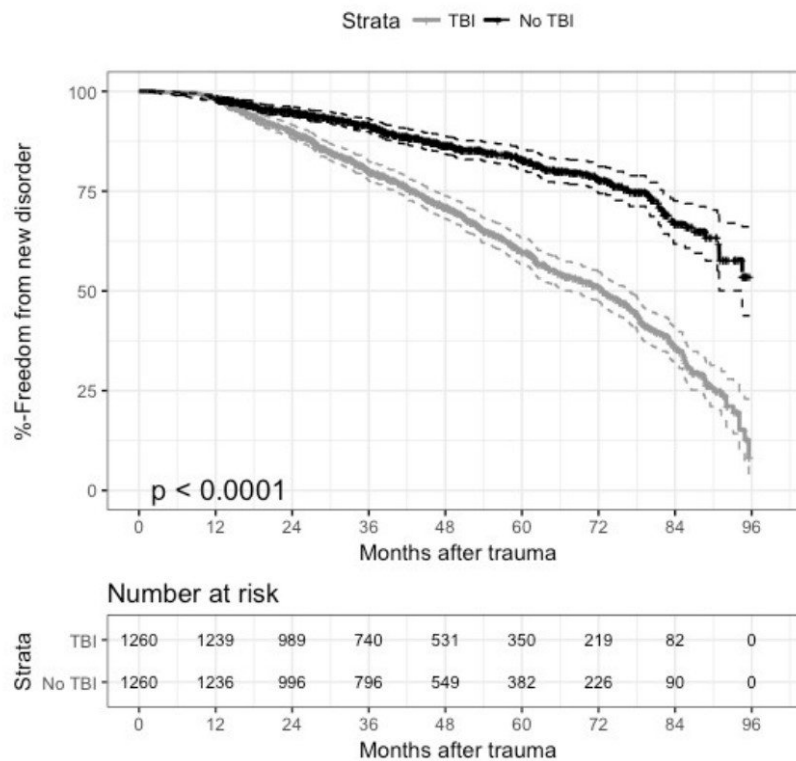


Traumatic brain injuries can lead to long-term neurological and psychiatric disorders

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5-year appraisal of freedom from new neuropsychiatric diagnosis

Sixty percent of patients in the TBI cohort were free from new neuropsychiatric diagnosis at 5 year follow-up whereas 80% of patients in the orthopedic cohort were free from new diagnosis at 5 years.



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diagnosis at 5 year follow-up whereas 80 percent of patients in the orthopedic cohort were free from new diagnosis at 5 years. Credit: Lindsey Armstrong

Traumatic brain injury is a leading cause of morbidity and mortality in children, and rates of injury have increased over the past decade. According to a study being presented at the 2018 American Academy of Pediatrics National Conference & Exhibition, these injuries have long-term consequences; researchers found children who experience traumatic brain injury are at higher risk of developing headache, depression, and mental or intellectual disorders up to five years after the event.

For the study abstract, "Long-term Outcomes Following Traumatic Brain Injury (TBI) in Children," researchers obtained diagnostic codes from medical records in the Military Health System Data Repository to analyze clinical data on [children](#). They compared patients diagnosed with traumatic brain injury to those who suffered orthopedic injury, matching patients by age, gender and injury severity score.

In the study population, 55 percent had mild injury severity score, 41 percent had moderate injury severity score, and 4 percent had severe injury severity score. Among children who sustained traumatic brain injury, 39 percent of children developed neuropsychiatric symptoms as follows:

- Headaches—15 percent
- Mental disorder—15 percent
- Intellectual disability—13 percent
- Depression/anxiety—5 percent
- Seizure—4 percent
- Brain damage—4 percent

Researchers found that 16 percent of children who experienced orthopedic injury also developed neuropsychiatric symptoms including:

- Intellectual disability—8 percent
- Mental disorder—4 percent
- Depression/anxiety—3 percent
- Headaches—2 percent
- Seizure—less than 1 percent
- Brain damage—less than 1 percent

"With the incidence of concussion and traumatic brain injury rising in this nation's children, it is vital that we continue to evaluate mechanisms for prevention and treatment," said Lindsey Armstrong, MD MPH, surgical critical care and research fellow, Boston Children's Hospital, Boston, Mass. "These data provide evidence to support close monitoring of injured children, even years after the event"

Researchers examined how injuries affected children up to five years later. They found that only 59 percent of children with traumatic [brain injury](#) could expect to be symptom-free in 5 years, versus 80 percent of those with orthopedic injuries.

"While primary prevention is most important, early recognition and education are essential to ensure the best possible outcome for these children," Armstrong said. "Neuropsychiatric diagnosis following [traumatic brain injury](#) can cause impairment in cognitive function thus affected children may experience difficulty in school or with personal relationships. It's our hope that data we are presenting will help clinicians identify children at increased risk, resulting in improved follow-up and care."

Provided by American Academy of Pediatrics

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