

# Gauging five-year outcomes after concussive blast traumatic brain injury

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Most wartime traumatic brain injuries (TBIs) are mild but the long-term clinical effects of these injuries have not been well described. A new article published by *JAMA Neurology* identifies potential predictors of poor outcomes in service members diagnosed with concussive blast TBI.

The study by Christine L. Mac Donald, Ph.D., of the University of Washington School of Medicine, Seattle, and coauthors included 50 active-duty U.S. [military service members](#) with concussive blast TBI and 44 service members who were combat-deployed but had no TBI. They were enrolled from November 2008 until July 2013 either in Afghanistan or after evacuation to a medical center in Germany. Clinical evaluations in the United States were done after one and five years.

Overall, 36 of the 50 patients with concussive blast TBI (72 percent) had a decline in an overall measure of disability from the one- to five-year evaluations, according to the results.

Satisfaction with life, global disability, neurobehavioral symptom severity, psychiatric symptom severity and sleep impairment were worse in patients with concussive blast TBI compared with the combat-deployed service members without TBI, although performance on cognitive measures was no different between the two groups at the evaluation after five years, according to the article.

Risk factors for poor outcomes after five years appear to be brain [injury](#) diagnosis, preinjury intelligence, motor strength, verbal fluency and

neurobehavioral symptom severity at one year, the authors report.

In addition, between the one- and five-year evaluations, 18 combat-deployed service members without TBI (41 percent) and 40 patients with concussive blast TBI (80 percent) reported seeking help from a licensed mental health professional but only nine combat-deployed service members without TBI (20 percent) and nine patients with concussive blast TBI (18 percent) reported that mental health programs helped, according to the results.

The study notes some limitations, including its modest sample size.

"Together these findings indicate progression of [symptom](#) severity beyond one year after injury. Many [service](#) members with concussive [blast](#) TBI experience evolution rather than resolution of symptoms from the one- to five-year outcomes. Even a small percentage of combat-deployed controls appeared to experience worsening over time. In both groups, this finding appears to be driven more by psychiatric symptoms than by cognitive deficits. ... We believe that by being informed from longitudinal studies such as this one, the medical community can be proactive in combatting the potentially negative and extremely costly effect of these wartime injuries," the article concludes.

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