

# Veterans with multiple brain injuries twice as likely to consider suicide, compared with those with one or none

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Dr. Robert Shura is a neuropsychologist at the W.G. (Bill) Hefner VA Medical Center in North Carolina. Credit: Luke Thompson

A new Veterans Affairs study finds that post-9-11 veterans with a history of repeated traumatic brain injuries—versus none—are at much greater risk for considering suicide.

The study, funded by VA's Mid-Atlantic Mental Illness Research, Education and Clinical Center (MIRECC), appeared online in the journal *Psychological Services* in November 2018.

The researchers found that Iraq and Afghanistan veterans who have suffered multiple traumatic brain injuries (TBIs) were about twice as likely to report recent suicidal ideation—[suicidal thoughts](#) over the past week—compared with vets with one TBI or none at all.

Dr. Robert Shura, a neuropsychologist at the W.G. (Bill) Hefner VA Medical Center in North Carolina, led the study.

"Suicide is a major concern with veterans," he says. "Right now, the prime point of intervention is at the level of thinking about suicide. Therefore, identifying characteristics of veterans who are more likely to think about suicide is a high priority."

The findings stemmed from interviews with more than 800 veterans who held combat roles in Iraq and Afghanistan. The researchers were mainly interested in whether the vets had experienced suicidal thoughts in the past week. About half of the veterans reported at least one TBI. Of those, nearly 20 percent with a history of multiple TBIs told of recent suicidal ideation, compared with 11 percent with one TBI and 9 percent with no history of a traumatic brain injury.

The level of suicidal thinking was defined by the Beck Scale for Suicidal Ideation.

The veterans with at least one TBI were much younger and more likely

to be white and male than those with no brain injuries. The TBI group also reported significantly poorer sleep quality and much higher rates of depression, both of which are risk factors for suicidal ideation. Of the veterans with at least one brain injury, 18 percent met the criteria for major depressive disorder (MDD), which is intense feelings of sadness over long periods of time.

All the participants were enrolled in VHA benefits, but some were not using VA for care, Shura says. The researchers used specific items in the interviews, such as a positive response on the Beck Scale, to identify those who may need help. In those cases, a licensed mental health professional promptly completed a suicide risk assessment and proceeded based on clinical judgment, he explains.

Shura says the results were consistent with prior research that has found a link between multiple TBIs and suicide. "But we need to be careful not to oversimplify things," he adds. "There are folks with a single TBI in their past who have had suicidal ideation, and there are those with many TBIs who have not."

However, he found it "somewhat unexpected" that PTSD wasn't consistently associated with suicidal ideation in veterans with TBI.

"There's research suggesting a relationship between PTSD and suicidal ideation," he says. "Our results are only one piece of a complex puzzle and should not be taken to mean that veterans suffering PTSD do not have suicidal ideation. Suicidal ideation is not a defining symptom for PTSD, but it certainly is for major depressive disorder. Depression was consistently related to suicidal ideation in our sample, due to how we defined the diagnosis. A more interesting and clinically relevant result is that poor sleep quality was related to recent suicidal ideation. Providers probably need to pay more attention to returning veterans who continue to have sleep issues after re-adjustment from deployment."

The results in Shura's study mirrored those in a civilian-based study that appeared in August 2018 in the *Journal of the American Medical Association*. The study included more than 7 million people living in Denmark between 1980 and 2014, of which nearly 35,000 died by suicide.

Ten percent of those who killed themselves were diagnosed with some form of a TBI. Those people were nearly twice as likely to die by suicide, compared with those with no TBI diagnosis, according to the research. In addition, people with a severe TBI were at much higher risk of suicide than those with a mild brain injury.

Shura isn't certain why [traumatic brain injury](#) may increase the possibility of suicide. His best guess is that the risk isn't related primarily to the brain injury, but to the theory that a series of difficult life events can have a cumulative effect on someone.

"For example, during deployment, a service member is exposed to traumatic events, possible stressful situations at home, and chronic sleep deprivation," he says. "On returning home, the [veteran](#) may struggle with chronic pain, difficulty adjusting, continued sleep issues, depression, and heavy alcohol use. TBI may have little to do with all of that. But those with multiple TBIs may be more likely than others to have that cumulative trajectory and thus thoughts of [suicide](#)."

Another possibility is raised by a study published earlier this month in the *Journal of the International Neuropsychological Society*, by a VA team in San Diego. Based on assessments of 282 Iraq and Afghanistan Veterans with a history of mild TBI, the researchers linked certain specific cognitive deficits that often occur in TBI to higher rates of suicidal thinking. They concluded, "Slowed processing speed and/or memory difficulties may make it challenging to access and use past experiences to solve current problems and imagine future outcomes,

leading to increases in hopelessness and suicidal ideation in Veterans with three or more mTBIs."

A number of other VA studies to date have looked at TBI and suicidality, and Shura expects to see yet more research on the subject.

"One or two studies does not tell the whole story," he says.

"Accumulating research from a variety of samples and methodologies is necessary to even begin to understand some of the complex relationships of this topic."

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