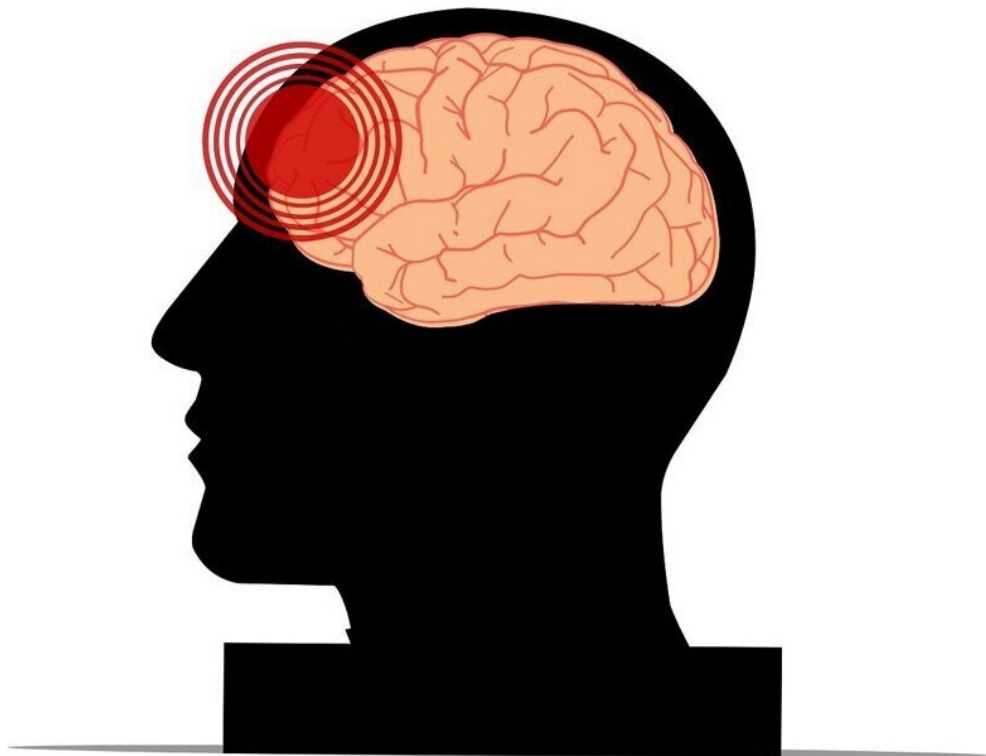


Women at much higher risk of depression after traumatic brain injury, analysis finds

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Women are nearly 50% more likely than men to develop depression after suffering a concussion or other traumatic brain injury (TBI), according to an analysis of nine studies and nearly 700,000 people

presented at the [ANESTHESIOLOGY 2023 annual meeting](#).

"Most studies showing the link between TBI and depression have focused on men," said Isaac G. Freedman, M.D., MPH, lead author of the study and an anesthesiology resident at Massachusetts General Hospital and Harvard Medical School, Boston. "Our study represents the highest-quality evidence to date that a patient's gender influences the risk of depression after [traumatic brain injury](#)."

About 1.5 million Americans suffer a TBI every year, which can lead to long-term health effects such as memory loss and behavioral changes. Common causes of TBI in men include being struck in the head by an object, being in a [motor vehicle accident](#), self-harm (such as from a gun) and assault. In women, common causes include falls and intimate partner violence.

Other common causes of TBI include trauma related to [military service](#) and sports-related concussion. Women's soccer has the highest rate of concussions of all contact sports, a separate study recently found. "Women who have a higher rate of soccer-related, repetitive head injuries and concussions may be at increased risk of depression," said Mani Sandhu, M.B.B.S., M.S., co-author of the study and a neurosurgery resident at the University of Iowa, Iowa City.

Women should be aware of the risk of developing depression after a [brain injury](#), even if they have no prior history of mental health challenges, and should know what signs and symptoms to look for and when to seek help, Dr. Freedman said. Doctors should be aware of the higher risk and may consider screening women for depression if they have had a TBI.

The researchers analyzed nine studies of 691,364 people who had suffered from TBI. Of those, 360,605 were women, an estimated

105,755 (29.3%) of whom developed depression; and 330,759 were men, an estimated 72,432 (21.9%) of whom developed depression. That meant women faced 48% higher odds than men of developing depression.

Researchers aren't sure why TBI is more likely to lead to depression in women. They do know that overall, women are more likely than men to have depression, which is associated with fluctuating reproductive hormones.

"The resulting difference in brain circuits between men and women in combination with factors such as lack of social support, [socioeconomic status](#) and inadequate treatment options may make some women more vulnerable to post-TBI [depression](#)," said Benjamin F. Gruenbaum, M.D., Ph.D., senior author of the study and assistant professor of anesthesiology and perioperative medicine, Mayo Clinic, Jacksonville, Florida.

To help prevent TBIs, people should wear a seatbelt while in the car and a helmet during sports where applicable or while riding a bicycle or scooter, the researchers said.

Provided by American Society of Anesthesiologists

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