

# Women more prone to concussion's long-term harms, study shows

April 8 2021, by Amy Norton

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(HealthDay)—After a concussion, women may be at heightened risk of

lasting physical and mental symptoms, a new study finds.

The study of 2,000 [concussion](#) sufferers found that [women](#) were more likely than men to still have some symptoms one year later. The problems included fuzzy memory and difficulty concentrating, as well as headaches, dizziness or fatigue.

In contrast, women and men showed similar recovery times after traumatic injuries to other areas of the body.

The reasons are unclear, but the study is not the first to find sex differences in concussion recovery. Many have found that on average, women improve more slowly post-concussion, regardless of what caused the [injury](#).

But the new study also included a "control" group of people who had suffered orthopedic injuries, to see whether women tended to recover more slowly from injuries in general.

And that was not the case.

It's an important finding, according to Martina Anto-Ocrah, an assistant professor of emergency medicine and neurology at the University of Rochester Medical Center.

She said it strengthens the case that women's slower recovery is related to concussion, specifically.

Anto-Ocrah co-wrote an editorial published with the study April 6 in the journal *JAMA Network Open*.

While the findings might sound dire, most women rebound fairly quickly after a concussion.

"We expect most patients to recover within weeks," Anto-Ocrah said, noting that about 90% are back on track within three months.

But some people have persistent physical, mental or emotional symptoms, for reasons that aren't fully clear.

In this study, women did have higher rates of depression and anxiety diagnoses before the concussion, compared to men. And those are [risk factors](#) for prolonged concussion symptoms, Anto-Ocrah noted.

However, the researchers accounted for depression and anxiety, and those diagnoses did not seem to explain women's more persistent symptoms.

Regardless of the cause, the findings offer validation. Some women, Anto-Ocrah noted, encounter skepticism when they tell their doctor they are still having concussion symptoms many months after the injury.

"This is additional proof that it's not all in your head," she said.

There's no fix for the [brain injury](#). But there are ways to manage symptoms, Anto-Ocrah said. That could mean cognitive therapy for memory or thinking issues, or medication for problems like persistent headaches.

If women feel their lingering symptoms are being dismissed, she urged them to "be persistent" in getting the care they need.

"You could show your provider this study," Anto-Ocrah suggested.

The findings are based on 2,000 concussion patients and 299 with orthopedic injuries who were treated at any of 18 U.S. hospitals.

Over one year, they periodically completed standard questionnaires on physical, mental and emotional symptoms, as signs of post-traumatic stress disorder (PTSD).

On average, female concussion patients scored higher than their [male counterparts](#) on the measures of physical and mental function (meaning they had worse symptoms). The gender gap narrowed over time, as most patients improved—but was still present one year later.

The study cannot answer the question of why, said lead researcher Harvey Levin, a professor of physical medicine and rehabilitation at Baylor College of Medicine in Houston.

It's possible, he said, that chronic inflammation in the brain tissue or hormonal influences play some role.

The brain has receptors for estrogen, and some research has hinted that women who sustain a concussion at certain times in the menstrual cycle tend to have a slower recovery.

In this study, women between the ages of 35 and 49 typically had worse symptoms than both younger and older women.

Anto-Ocrah called the finding "fascinating," though there is no solid explanation.

It's possible, she speculated, that it signals a hormonal effect, since women in that age range are nearing menopause.

Future studies, Anto-Ocrah said, should try to dig deeper by doing a "hormonal assessment" of female concussion patients—such as whether they were using hormonal birth control, had reached menopause, or were on menopausal hormone therapy.

For now, Levin said the findings on age should be viewed with "caution," and need confirmation in further studies.

**More information:** The U.S. Centers for Disease Control and Prevention has more on [concussion recovery](#).

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