

College athletes experience worse post-injury outcomes for concussions suffered outside of sports

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Researchers from Children's Hospital of Philadelphia (CHOP) have found that college athletes had worse post-injury outcomes related to

concussions they experienced outside sports than those they experienced while playing sports. Additionally, female athletes who sustained their injuries outside sports had more severe symptoms and more days in sports lost to injury, compared to male athletes. These findings suggest the need for improved concussion recognition, reporting, and monitoring outside of sports.

The study was recently published online by the [*Journal of Athletic Training*](#).

Concussions have the potential to impact the daily function and quality of life of those who sustain them. Prompt recognition of symptoms and early access to care can help minimize those effects. Most concussion research has primarily focused on injuries that occur while playing sports, but those studies often exclude concussions that can happen outside sports, usually the result of falls or car crashes. Some research has indicated that patients with non-[sports-related concussions](#) have worse outcomes, but research into those effects in college-age patients is very limited.

"Patients who experience a concussion outside of sports may lack the resources that athletes who sustain their injury on the field have for concussion care, like immediate access to [health care providers](#) such as athletic trainers," said study first author Patricia Roby, Ph.D., an injury scientist who conducted this research while she was a postdoctoral fellow at CHOP.

To help address this gap in knowledge, researchers analyzed data from the National Collegiate Athletic Association-Department of Defense Concussion Assessment, Research, and Education (CARE) Consortium. In total, 3,500 [college athletes](#) were included in the study, including 555 who experienced a non-sports-related concussion. More than 40% of athletes included were female so that potential differences in recovery

between males and females could be explored.

The study found that athletes who experienced non-sports-related concussions were less likely to report their injuries immediately, potentially due to lack of recognition of symptoms outside of the sport setting or hesitation to report the injury caused by unusual or careless mechanisms. Athletes who sustained non-sports-related concussions reported greater severity of their symptoms, more days with symptoms, and more days in sports lost to injury relative to patients who experienced sports-related concussions, and these findings were even more pronounced in female patients compared with male patients.

"Our findings show that non-sports mechanisms of [injury](#) for [concussion](#) are an important consideration in college age young adults, something we had already described in our research in younger children. There is an opportunity to improve clinical outcomes by increasing awareness and education around concussions that happen outside of [sports](#) and reducing health care reporting barriers in this older age group as well," said senior study author Christina L. Master, MD, clinical director of the Minds Matter Concussion Program at CHOP.

"Additionally, our findings related to sex differences in the trajectory of these injuries warrant additional investigation to see the extent to which reporting behaviors and access to medical teams are contributing to this disparity in outcomes," she added.

More information: Patricia R. Roby et al, Post-injury outcomes following non-sport related concussion: A CARE Consortium Study, *Journal of Athletic Training* (2023). [DOI: 10.4085/1062-6050-0181.23](https://doi.org/10.4085/1062-6050-0181.23)

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