

Professor discusses what's new in concussion treatment and management

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There have been significant changes in the last few years in how concussions are identified and treated. Steven Broglio, director of the Michigan Concussion Center and professor at the U-M School of

Kinesiology, can discuss.

The National Athletic Trainers' Association recently released an update to their statement on the management of sports-related concussion. You are the first author. What are the most significant updates from the 2014 statement?

Athletic trainers have been at the forefront of concussion research and care over the previous decade and the current document is an update to the 2014 position statement on concussion.

There are over 25 new and updated recommendations, with key changes to post-concussion driving recommendations, vestibulo-ocular assessments, updated guidance on what assessments to administer and when, stronger mental health evaluations, and strategies to return patients to the classroom and their activities.

U-M researchers recently led studies examining recovery patterns in [female college athletes](#) and [female military cadets](#). They appear in *Annals of Biomedical Engineering*.

Why is this important, and how do those patterns differ from men?

The CARE Consortium continues to produce outstanding evidence on factors that place athletes and military service members at risk for concussion and how they recover.

The medical literature has historically shown that our female athletes report more symptoms and recover at a slower rate than men. However, the most recent data shows that collegiate-level female athletes are returning to play at the same rate as their male counterparts when

participating in sex comparable sports.

Women are returning to pre-injury levels at the same rate on common tools used to evaluate athletes for concussion. We don't fully understand why this is the case, but we believe that access to medical care (for instance, [athletic trainers](#)) is more consistent at the collegiate level than in high school athletics, and [health care access](#) is known to improve outcomes.

U-M researchers co-authored a [study on teen mental health after concussion](#). What should parents, physicians and trainers look for after a teen is concussed?

It's not clear why, but concussion seems to exacerbate preexisting conditions like anxiety and depression. Health care providers and, more importantly, parents who know the child the best, should keep an eye on the concussed athlete following injury.

They should look for any [warning signs](#) for [self-harm](#) such as expressing feeling hopeless or having no reason to live, or withdrawing from activities or isolating themselves in a way that isn't consistent with who they were before the injury. If there is any doubt or concern, don't be afraid to call the suicide hotline at 988.

Many physicians still prescribe cocoon therapy as post-concussion treatment, but research shows it's not helpful. What is the preferred post-concussion treatment?

Following concussion, it was initially believed that removing all physical activity and mental stimulation would give the brain time to rest and heal. Emerging science is showing us removing a patient from the social

aspects of life, and particularly school, actually increases symptoms. More recent data shows that progressively increasing cognitive and [physical activity](#) following 1–2 days of rest accelerates the recovery process and gets patients back to what they love faster.

In 2022, the Concussion in Sport Group released an updated Consensus Statement on Concussion in Sport. What were the most significant changes in prevention and treatment?

Preventing concussions will always be better than the most sophisticated recovery techniques. There has been significant work in showing that reducing impacts (ice hockey checking, for example) that occur during practices can substantially reduce [concussion](#) risk, as does wearing a mouthguard.

Others have identified specific training techniques (Oklahoma drill in football, for instance) that have been eliminated at many levels of play. More work needs to be done to identify aspects of all sports that place athletes at risk and have them removed or altered to reduce injury risk.

Is there anything else new or forthcoming in concussion news that you'd like to discuss?

U-M Concussion Center alumna Dr. Allyssa Memmini recently published data showing the time to return to the classroom among collegiate student-athletes. Students were quick to return—five days on average—with women and those with more severe symptoms slower to get back into the classroom.

More information: Landon B. Lempke et al, Female Collegiate Athletes' Concussion Characteristics and Recovery Patterns: A Report from the NCAA-DoD CARE Consortium, *Annals of Biomedical Engineering* (2023). [DOI: 10.1007/s10439-023-03367-y](https://doi.org/10.1007/s10439-023-03367-y)

Landon B. Lempke et al, Initial Mild Traumatic Brain Injury Characteristics and Recovery Patterns Among Females Across the United States Military Service Academies: A Report from the NCAA-DoD CARE Consortium, *Annals of Biomedical Engineering* (2023). [DOI: 10.1007/s10439-023-03374-z](https://doi.org/10.1007/s10439-023-03374-z)

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