SIRC

Are sport-related concussions different in male and female athletes?

Yes, evidence suggests that concussions in male and female athletes are not the same!

Compared to male athletes, female athletes often exhibit:

- number of symptoms
- symptom severity
- recovery time

Return to Play

may take longer for female athletes after a concussion

PRELIMINARY EVIDENCE SUGGESTS THAT SEX-RELATED DIFFERENCES MAY BE DUE TO:

Biomechanics

Biomechanical differences (e.g., in the head neck-segment) may contribute to female athletes' increased risk of injury

Brain anatomy

Differences in brain anatomy (e.g., axon size) may contribute to female athletes' increased risk of injury

Hormone levels

Hormonal differences between male and female athletes may impact concussion recovery

It is important to understand how individual differences (like biological sex) may influence concussion risk and recovery and to adapt training and management programs as needed.

QUICK TIPS

Girls and women may be more likely to report a concussion than boys and men, but concussion reporting in both groups remains low. Challenging "play through the pain" and "win at all cost" attitudes may encourage more athletes to report a suspected concussion.

DID YOU KNOW?

Canadian female high school rugby players had a

70%

higher concussion rate than males (Shill et al., 2024).

For more information visit sirc.ca/concussion

Canada

The information on this page was initially informed by a SIRC Literature Review. This infographic was updated Summer 2025.