

Concussions: understanding the invisible injury

Sarah Fraser MSc MD CCFP, ASSOCIATE SCIENTIFIC EDITOR



Boom. Flip. Bang! One moment I was pedaling my bike and the next I was on the ground with strangers all around. In a blink, a freak accident had knocked me out—literally and figuratively. *Mechanism: head trauma. Diagnosis: concussion. Impact: reduction in function.*

Of course, the injury happened during the COVID-19 pandemic, when I was receiving regular requests to work more. Physicians were coming out of retirement to help with immunization. Now hospitalists need shifts covered. I am still mostly on the sidelines, a family doctor unable to help when my community needs me most.

So it feels appropriate that I'm writing the editorial for this issue on concussions, which are known as the "invisible injury" for a reason. The bruise to the brain is hidden behind the skull. Findings on imaging are negligible. Neurologic examination findings may well be normal. Symptoms can be vague and challenging to describe. Once, when asked how I was feeling, I said it felt like a big syringe of water had been injected into the recesses of my brain. Other friends have described a brain transformed into static wool or dropped into a tub of custard. How can we take such an imprecise and variable experience and shape it into something we can assess, measure, and treat?

Prognostic uncertainty is also frustrating. Patients want to know one important thing. *When?* When can I return to sport? *Work?* School? When will I feel normal? The answer is dissatisfying because the recovery process is different for everyone. This uncertainty can be accompanied by guilt, grief, and pressure about endless time on the sidelines. And the experience can be filled with fear informed by increasing knowledge about long-term harms. We wonder, *What if this happens again? What if this never ends?*

Despite the challenges, clinical medicine can guide us. In this issue Provvienza et al evaluate the SCHOOLFirst tool (page e92),¹ a resource designed to help educators support students returning to school after concussion. A retrospective study examines relapse and explores why rates are higher with return to learning than return to play (page e87).² Qualitative research focuses on challenges teenage girls face in returning to school after concussion, revealing important findings about the unique social pressures they endure (page 203).³ Psychiatrist Dr Julia Gibson has created thought-provoking artwork to complement the article.

In an accompanying *CFP Podcast*,⁴ hockey icon and family medicine resident Dr Hayley Wickenheiser describes her

experience. Although she was never formally diagnosed, she is certain she has had concussions. She describes her career, from playing at the Olympics to working in medical wards, and delves into the shifting landscape of concussion culture. Management has changed drastically. We no longer advise patients to sit in a dark room. Rather, outcomes are generally superior with early treatment and the resumption of activities.^{5,6} The injury is also taken more seriously in professional sport, with accompanying policy updates.⁷ Dr Wickenheiser is determined to help us understand this elusive disease better and has even decided to donate her brain to concussion research.

Like hockey, concussion management requires excellent teamwork. A commentary highlights the crucial role of collaboration (page 175).⁸ In my case, improvement has hinged on this approach. I had not realized the intensity and specificity of the physiotherapy, which includes cardiovascular exercise coupled with ocular and vestibular rehabilitation. An occupational therapist has also played a major role in my healing, helping me structure my day, regain my executive functioning, and prepare for returning to clinical duties. All of this is key to recovery, as are support, empathy, and understanding of concussion by our schools, teams, workplaces, and communities.

Treating concussions might feel like the disease itself. Intangible, obscure, and woolly. We hope the information in this issue will help clear the mind, making this stigmatized, poorly understood condition more visible for patients in our practices.

The opinions expressed in editorials are those of the authors. Publication does not imply endorsement by the College of Family Physicians of Canada.

References

1. Provvienza CF, Greenspoon D, Cogliano A, Carson JD, Csenge B, King-Taylor P, et al. Exploring the value of the SCHOOLFirst return-to-school resource. Evaluating usability and satisfaction. *Can Fam Physician* 2022;68:e92-9.
2. Carson JD, Diep D, Baker C, Kraft SA, Kuwahara N, Garel A, et al. Relapse of concussion symptoms in the context of premature return to learn and return to play. Comparative analysis of 2006 to 2011 and 2011 to 2016. *Can Fam Physician* 2022;68:e87-91.
3. Wildgoose P, Diep D, Rendely A, Kuwahara N, Carson JD. Barriers to and facilitators of return to learning following a sport-related concussion. Perspectives of female secondary school students. *Can Fam Physician* 2022;68:203-10.
4. *CFP Podcast*. Mississauga, ON: Canadian Family Physician; 2022. Available from: <https://cfppodcast.libsyn.com/>. Accessed 2022 Feb 18.
5. Eagle SR, Puligilla A, Fazio-Sumrok V, Kegel N, Collins MW, Kontos AP. Association of time to initial clinic visit with prolonged recovery in pediatric patients with concussion. *J Neurosurg* 2020;26:165-70. Epub 2020 Apr 24.
6. Leddy J, Wilber C, Willer B. Active recovery from concussion. *Curr Opin Neurol* 2018;31(6):681-6.
7. Raftery M, Tucker R, Falvey EC. Getting tough on concussion: how welfare-driven law change may improve player safety—a Rugby Union experience. *Br J Sports Med* 2021;55(10):527-9.
8. Carson JD, Baker C, Frémont P. Collaboration is key to concussion management in family medicine. *Can Fam Physician* 2022;68:175-6 (Eng), e61-2 (Fr)

Cet article se trouve aussi en français à la page 169.

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Scan to listen to the podcast with Drs Fraser and Wickenheiser.

