

How concussion research is changing university sports

By Bill Atwood | watwood@cjournal.ca
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The importance of tracking, preventing and treating concussions has been a hot topic in the world of sports, at both a professional and university level. Photo courtesy of Pixabay, Creative Commons Licensed

Recently, there has been major emphasis on the tracking, prevention and treatment of concussions in professional sports. Likewise, [U Sports Canada](#) — the body that governs university sports in Canada — has taken some steps to protect its athletes.

However, it isn't currently tracking concussions or providing the information needed to judge if those steps are effective, due to what U Sports president Graham Brown says are privacy concerns.

The importance of such measures has been highlighted over the past few years as professional sports organizations have struggled with increasing public awareness about the extent of concussions among their athletes and the long-term effect these injuries can have on them.

How has the NHL handled concussions?

The NHL has been targeted with a [potential class-action lawsuit](#) that was originally filed in 2014 by nine former players. It has since grown to name 138 former players as plaintiffs.

Stuart Davidson, one of the lawyers representing the former players, explained the goal of the players is “to obtain medical monitoring for all retired NHL players, which would provide each retiree neurological and neuropsychological testing over their lifetime to check for the presence of CTE and other neurodegenerative diseases and hopefully give the retirees the information they need to obtain counseling, medication and other therapies to deal with the effects of these diseases.”

But, in July 2018, a Minnesota judge denied the lawsuit class-action status. That means the players must now pursue individual cases against the NHL. In 2013, the NFL settled its own [class-action lawsuit](#) with former players for an estimated \$1 billion.

The NFL's stance



The National Football League (NFL) first acknowledged a link between football-related head trauma and chronic traumatic encephalopathy, or CTE, in 2016. *Photo courtesy of [Pixabay](#), [Creative Commons Licensed](#)*

The NFL has admitted that there is a direct link between football and the degenerative brain disease chronic traumatic encephalopathy, while the NHL continues to deny any link between their sport and the disease.

Both leagues have developed concussion recovery policies, but they don't apply to retired players who played before those policies were put in place.

The science of concussions

Dr. Victor Lun of the Acute Sport Concussion Clinic at the University of Calgary says that the reason why this is still a fairly new issue is because science and medicine is just now understanding the effects of concussions.

“One thing we do know for sure is that people that suffer multiple concussions — especially when they return to sport or get a concussion before their previous one is resolved — is that they can get a concussion more easily, their symptoms are more severe and their symptoms last longer,” says Lun.

Glen Bergeron, an athletic therapist and professor of kinesiology and applied health at the University of Winnipeg, agrees.

“We’re really in the infancy stage of trying to understand what’s going on,” says Bergeron.

“We’re starting to realize that this concussion thing is not just ‘you had your bell rung and you’ll be fine in a day or two.’ You actually have long term consequences to the individual and it has long term consequences to the family of that individual and it has long term consequences to society that has to support that individual.”

The concern about concussions and repeated hits to the head has also been raised at the university-level.

U Sports and concussions



In collaboration with Glen Bergeron, an athletic therapist and professor of kinesiology and applied health at the University of Winnipeg, U Sports is working on a software for schools to track all injuries, including concussions. *Photo courtesy of [Pixabay](#), [Creative Commons Licensed](#)*

In the 2011-2012 (then Canadian Interuniversity Sport, now U Sports) season, Dr. Paul Echlin of the Elliott Sports Medicine Clinic was involved in a [study looking at 45 men and women hockey players](#).

During the study, physician and non-physician spotters watched the games from the stands. The spotters would then evaluate any player that was suspected of sustaining a concussion or a serious hit to the head.

Part one of the four-part study reported a serious resistance from the coaches and athletic trainers to the spotters. That resistance included more than one coach insisting an athlete continue to play despite being told not to by the spotters.

The study also found a reluctance from the players to self-report concussion symptoms, with Lun explaining that it's easy to understand why athletes are reluctant to self-report.

“All athletes want to continue playing,” says Lun. “I think sometimes they may not think their symptoms are as serious as they really are.”

In 2014, Echlin was prepared to lead a similar study involving nine schools of the CIS's Atlantic conference and 425 men and women hockey players.

Half the games included in the study would have been played with one less forward per team. Echlin's theory was that by lowering the number of players, there would naturally be a lowered number of collisions, consequently lowering the number of concussions.

The province of Nova Scotia funded the project's \$1.4 million cost, but the project was stopped by the schools before it even started.

Echlin explains that he was offered very little explanation for why the project was cancelled.

Phil Currie, executive director of the Atlantic University Sport (AUS) conference, denied a request to be interviewed, but stated via email, “Dr. Echlin proposed a program to the AUS and based on our own professional medical assessment locally we elected not to proceed with his proposal.”

To Echlin, that is an example of what he calls “an incredible resistance to change” that exists across all sports both at the professional and university level.

“In our highest academic institutions, why would they not let us monitor and make these sports safer and better to show what we had already shown in previous studies — that these athletes are suffering traumatic brain injuries at an unacceptably epidemic level,” says Echlin.

“It’s unreasonable, because in an academic institution it should be the health of the student-athlete first.”

U Sports president Graham Brown questions the results of the aforementioned 2012 study because it was not led by U Sports. He also brushes off Echlin’s concerns over the cancellation of the 2014 study.

“Neither of them were official and weren’t led by a university,” says Brown.

Despite Brown questioning the validity of the studies, the [results of the 2012 study](#) were published by the academic Journal of Neurosurgery.

In response to Brown’s comments, Echlin says, “Is he a scientist, is he a physician? No. We were working with Harvard. Do you think Harvard invests in things that don’t have validity? No.”

While Echlin thinks that some coaches may not fully understand the impact of concussions, Bergeron explains that he understands where the coaches are coming from.

“I think that all coaches are motivated to win, that’s their job,” says Bergeron. “That’s what they’re supposed to do.”

Brown says that not everyone approaches concussions in the same way, but denies that there is any resistance from coaches and athletic trainers.

“I think there certainly may be a discrepancy between how a coach approaches concussion protocol and maybe how a doctor or even a school administrator [does],” says Brown.

He also explains that the coach and support staff are key in handling concussions.

“They are working to address the issue of concussions, not just from an education standpoint but [also] dealing with it in terms of the athlete,” says Brown.

According to Stephanie Cowle of [Parachute Canada](#) — a charity dedicated to preventing injuries — another issue is that U Sports does not openly track and publish their concussions statistics.

“First of all we need to understand the injury itself in order to determine how we're going to address it,” says Cowle, who is now Parachute’s manager of knowledge transition after serving as the project manager for Parachute Canada’s concussion protocol harmonization project.

“We need to understand if our injury prevention efforts are making a difference. We need that initial number to look at how many concussions we're seeing in the population at this point in time. When we look ahead a few years, have we made any progress?”

In 2014, the NCAA (U.S college sports governing body) released their own [report](#) on the number of concussions suffered by their athletes.

Likewise, U Sports has only published one small [report](#) on the number of concussions suffered by their athletes.

Conducted by Bergeron, the study looked at stats that U Sports schools collected from August 2016 to March 2017. In total there were 839 concussions reported over that period.

However, Bergeron says that the number is most likely a lot higher.

“Most of the research will tell you that concussions go under-reported by at least 30 percent,” says Bergeron. “There could be 30 per cent more and even more ... people who have concussions who just didn't tell us.”

He also explains that not every U Sports school collected concussion stats over that time.

What’s next for concussions and U Sports Canada?

Bergeron is currently working with U Sports on a software for schools to track all injuries, including concussions. Each school will be trained on software this season, with the goal that the schools are familiar enough with the software to start tracking injuries during the 2019-2020 season.

However, use of the software and injury tracking is voluntary for each school and each athlete will have the option of removing their information from the report.

Bergeron says the privacy of the athletes is the main reason for this.

“You can’t force an athlete to divulge private information. It’s their information. The athletes will have the option to opt-in or opt-out.”

Brown agrees: “Privacy is a massive variable here. We do not own the medical data of the student athlete. If they don’t wish to provide it, then we cannot provide it. It is a very private aspect of life.”

Echlin disagrees, saying, “Privacy is an excuse for not doing the work, because all science involves people’s results and individual’s personal data, but you code them to get rid of any attached personal data.”

He also says that he is totally against the idea of removing statistics based on privacy.

“You can’t have science without tracking and to use personal information as an excuse to not do progressive scientific tracking is wrong,” says Echlin.

“That’s not the way science works.”

Editor: Colin Macgillivray | cmacgillivray@cjournal.ca