

Teen trauma most serious

Study shows brain less efficient if it had concussion within six months

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Published: Thursday, January 19 2012

Parents and coaches who believe young athletes can play through a concussion because they are young and resilient may be putting their children at grave risk, according to a new study from the Universite de Montreal.

Neuroscientist Dave Ellemberg found that not only were the concussions of all children as serious and long-lasting as those of adults, but the concussions suffered by adolescents had the most serious consequences of all.

"The slow neuron responses and cognitive deficits were even greater in adolescents," said Ellemberg, who works in the university's department of kinesiology.

He measured electrical activity of the brain while his subjects were doing cognitive tasks and found the neurons fired significantly less in people who had suffered a concussion six months earlier - and there was significantly less neuron activity in adolescents. Ellemberg said parents who are so concerned about the injuries of famous hockey players, including the Pittsburgh Penguins' Sidney Crosby, ought to start worrying a lot more about their own children.

Crosby famously missed almost 11 months of action after he was injured with a concussion in 2011. He returned for eight games in November before being sidelined again.

"Kids are having concussions every day and they're not stars being followed by doctors and specialists, they have no one to manage their return to play," Ellemberg said. "We have to get away from the thinking that kids having concussions is nothing to worry about. Parents have to stop worrying about their kids missing a game of hockey. It's better to sit out one game than sit out your life."

In the U.S., about 30 states have already passed the Lystedt Law, named after Zackery Lystedt, a young athlete who was permanently disabled after sustaining a concussion in 2006 and prematurely returning to the game. It requires youths showing signs of concussion to be examined and cleared by a medical practitioner and has a maxim that Ellemberg said teams here would be wise to adopt: "When in doubt, sit them out."

Playing before you've fully recovered, he said, makes an athlete five to seven times more likely to suffer another concussion. And then you get into second impact syndrome, which can have far more serious consequences - as in the case of Lystedt - or even death.

He's bound to be unpopular with some hockey fans when he suggests that some aspects of body checking should be "reconsidered."

"As a coach, if you see a kid get a hit, sit them out until they're assessed," said Ellemberg. "We need a major initiative to educate parents, coaches and kids and develop a protocol that is systematically applied to all contact sports."

In fact, the Montreal Children's Hospital Trauma Centre has been doing just that. The centre has a concussion kit which it sells for \$1 to many sports associations through-out the city.

The trauma centre and concussion clinic at the Children's see about 1,000 children a year who suffer a concussion.

Trauma director Debbie Friedman said the worst thing a kid can do is to play through that injury. But she knows it happens a lot, whether a kid doesn't want to admit to the injury, the parent is worried about the child's place on the team, or the coach exerts pressure to return.

Friedman said the centre has been working hard to change the culture in sports that when it comes to concussions, it's OK to tough it out and play through it.