

## Teaching Students, Parents And Teachers About Concussions

Boston University

Children's Hospital of Eastern Ontario (CHEO)



A head-on collision gave Ottawa high school rugby player Rowan Stringer a headache after a game, but she had dismissed it as a mild case of sunstroke. Three days later, during the following rugby game, Rowan complained to her parents about a pain to her knee. It is unfortunate that she did not tell her parents that she had also hit her head during the game. Friends later reported that the teenage athlete had felt dizzy. They also later told Rowan's parents that she had failed her driving test the day after the game. Rowan had not perceived the seriousness of the risk that she was taking in playing a third game that week. But, when taking to the field Rowan took a hit to the head. By itself, this occurrence would have been routine, but Rowan never regained consciousness from that hit. Coupled with the previous instances of probable concussion, Rowan sadly succumbed to second impact syndrome (SIS).

“ Over the past few years, media coverage of the devastating after-effects of traumatic brain injury (TBI) has grown from a trickle to a flood.

Along with rising recognition of the long-term suffering created by severe TBIs, researchers have turned their attention to the more subtle damage caused by mild-to-moderate TBIs, which many health professionals believe go undiagnosed and untreated at a rate of as much as 50%. And, because those who suffer even a mild TBI incident are at risk for moderate-to-severe disability a year after their injury or worse, this lack of diagnosis and treatment is placing untold numbers of people at risk of on-going symptomatology that has no apparent explanation.

Even more alarming, undiagnosed concussion victims often resume dangerous activity. Anyone who experiences a second blow to the head while recovering from an initial concussion—like Rowan—is a risk factor for SIS, which has led to approximately 30 to 40 deaths over the past decade and left uncounted others to endure a lifetime of mental and physical impairment.

Against this backdrop, researchers at Boston University’s Chronic Traumatic Encephalopathy (CTE) Center and the affiliated Sports Legacy Institute are studying Rowan Stringer’s brain tissue to learn more about identifying SIS. Furthermore, with the help of the Institute, the high school Rowan attended is developing a teaching module on concussions destined for a 10th grade biology course.

Rowan’s story also inspired the Children’s Hospital of Eastern Ontario (CHEO) to release guidelines on concussions in June 2014. Developed by a team led by CHEO scientist Dr. Roger Zemek, along with the Ontario Neurotrauma Foundation, these comprehensive guidelines will hopefully be expanded across school boards to educate parents, teachers and coaches about the signs and symptoms of concussions. Furthermore, Bill 149, affectionately called “Rowan’s Law”, establishing a committee to implement the recommendations from a Coroner’s inquest into Rowan’s tragic circumstances, unanimously passed second reading in the Ontario legislature in December 2015.

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