Staying true to Rowan's Law: how changing sport culture can realize the goal of the legislation

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Abstract

Rowan's Law was recently introduced into Ontario legislation following the death of Rowan Stringer, a young rugby player for whom a string of head injuries culminated in her death. The law mandates the removal from play of any youth athlete suspected to have a concussion and makes concussion education mandatory for certain individuals involved with youth sport. This commentary addresses the larger issues within sport culture that may limit the effectiveness of the law, and describes how awareness alone is not sufficient to generate change. The law can sometimes lead to a false sense of security, as well as retaliatory actions for those who are motivated to hide concussion. We describe the role of all persons involved with youth sport in facilitating a cultural shift to honour the intent behind Rowan's Law.

Résumé

La loi Rowan a récemment été introduite dans la législation ontarienne à la suite du décès de Rowan Stringer, une jeune joueuse de rugby, décédée des suites d'une série de blessures à la tête. La loi prescrit le retrait du jeu d'un jeune athlète suspecté d'avoir subi une commotion cérébrale et rend obligatoire l'éducation relative à la commotion cérébrale pour certaines personnes entraînant les jeunes à des pratiques sportives. Ce commentaire aborde les vastes problèmes liés à la culture sportive pouvant limiter l'efficacité de la loi, et décrit comment seule la prise de conscience ne suffit pas à générer un changement effectif. La loi peut parfois mener à un faux sentiment de sécurité, ainsi que des actions de représailles pour ceux qui sont motivés à cacher leur commotion cérébrale. Nous décrivons le rôle de toutes les personnes impliquées dans le sport chez les jeunes pour faciliter un changement de culture afin d'observer l'intention de la loi Rowan.

Keywords Craniocerebral trauma · Sports · Prevention & control · Legislation

Mots-clés Traumatisme craniocérébral · Les sports · La prévention et le contrôle · Législation

There is little doubt that Rowan's Law (2018) represents a significant step forward in proactive attention to proper concussion management for youth athletes. By mandating the removal of an athlete who is suspected of having a concussion

and requiring concussion education for persons involved in youth sport, we send the message that our society prioritizes a lifetime of brain health (and life in general) over a game. The law's impact, however, is curtailed without adjusting sport culture.

We can no longer use the excuse that there is a lack of awareness surrounding concussion. Rowan herself had Googled 'concussion' in the weeks prior to her death, and the plethora of available resources are uniform (McCrory et al. 2017; Purcell 2014; Harmon et al. 2013) in their recommendation that athletes with concussion or suspected concussion should sit out until their symptoms resolve and they have been cleared for play. However, while we now know that athletes are at least aware of concussion symptoms and can identify it as a significant health risk (Echlin et al. 2010;

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Cusimano et al. 2017), there is a disconnect between awareness and application of this knowledge (Cusimano et al. 2017). Athletes dedicate their lives to overcoming physical limitations to propel athletic excellence – including training and competing with injuries. Concussion, however, warrants a different consideration compared with musculoskeletal injuries due to the cumulative and uniquely impactful damage sustained to the brain.

The story of the athlete triumphing over injury is culturally entrenched and repeated – admittedly (albeit, arguably), for good reason. Sport as a symbol of overcoming adversity is part of the reason it is so inspiring and popular, and athletes internalize these stories as they try to live up to their messages. It is difficult, then, for an athlete to reconcile why they may be a hero for competing with, for example, a torn ligament (NHL.com n.d.), but not with a concussion. To change the narrative, we might reinforce that concussion ought not be treated like any other injury; the near unanimity (McCrory et al. 2017; Purcell 2014; Harmon et al. 2013) of the medical community's position on not returning to play while experiencing concussion symptoms should support this notion. For many athletes, the aftermath of musculoskeletal injuries is simply part of the 'cost' of being a former athlete; but ultimately, damaged joints can often be replaced – a brain cannot. While it is undoubtedly true that mismanagement of other injuries can lead to long-term problems, concussion is distinctly different; the aftermath here can involve a fundamental change to who one is as a person.

It is now well recognized that a strong knowledge of concussion symptoms does not always correlate with proper concussion treatment (McCrea et al. 2004; Register-Mihalik et al. 2013; Wallace et al. 2017). This disconnect occurs for many reasons, including a personal belief in invincibility, not believing that their headache is the *result* of a concussion, and the decision to persist *in spite of* knowing they are concussed. These reasons vary from athlete to athlete and even from injury to injury. Teammates can play an important role by holding each other accountable to maintaining their health as primary importance. Coaches have tremendous influence – if they endorse proper concussion care, the athletes will show similar values. Rowan's Law has an important place, therefore, in equalizing concussion knowledge among coaches.

The efficacy of Rowan's Law lies in its ability to deliver a strong, consistent message to sport officials, coaches, and others that the decision of whether someone has a concussion is not and should not be in their hands. Mandatory removal from play, however, can provide a false sense of security that can lead to complacency, as we witness when lip service continues to be paid to proper concussion protocols in national sport organizations. It is important to remember that we all have a positive ethical duty to act to protect children and adolescents. When parents and other sport personnel suspect the law is not being followed, sport organizations must be held accountable.

While Rowan's Law mandates that concussion education is mandatory for individuals involved in youth sport, it is difficult to know its strength to prevent future tragedies. Concussion education has steadily increased over the past two decades, and yet athletes continue to play concussed at multiple levels of sport. Promisingly, in 2009, Washington State adopted the landmark "Lystedt Law" which mandated removal of any youth athlete with suspected concussion, and education for parents and coaches (Adler and Herring 2011). Subsequent research indicates that among affected high school teams, reported concussions sharply increased the next year across all sports, as did the number of days of missed training due to concussion (Bompadre et al. 2014). However, underreporting rates among all high school students remain consistently between 40% and 55% (McCrea et al. 2004; Register-Mihalik et al. 2013; Wallace et al. 2017), indicating that a substantial minority of concussed athletes continue to go undetected.

Rowan's Law (which mirrors the American Lystedt laws) requires sport organizations to develop proper return-to-play (RTP) protocols and specifically avoids stating that medical clearance is required to RTP. This stipulation has complex ethical and practical considerations given the law's broad applicability to all sports. The law may lessen a burden on parents who would otherwise be required to identify and bring their child to a medical institution to obtain clearance to RTP (which can be a substantial challenge to persons in rural regions or parents with demanding work schedules). However, other ethical challenges remain.

Important criticisms have been raised (Frémont et al. 2015) that given limited access to healthcare, the 'medical clearance' criterion can undermine compliance with proper RTP protocols. While we agree that multidisciplinary concussion management is the ideal, it may be prudent to retain a necessary step of involving an independent physician prior to RTP. The expertise of physicians is particularly well suited to ensure that other medical conditions are not missed by way of considering the full range of differential diagnoses. Concussion symptoms are relatively ubiquitous, and there is the potential to miss underlying problems (e.g., tumours, seizures, or psychiatric problems), and physician documentation may be particularly important in the context of multiple concussions. Additionally, primary care physicians and others involved in long-term patient management are uniquely suited to provide more holistic guidance, given their primary duty to the *patient* (and not the 'athlete'). These are important given conflict-of-interest concerns of receiving concussion rehabilitation guidance from healthcare personnel solely affiliated with the sport team or university.

The focus on 'designated persons' who are charged with ensuring compliance with proper RTP protocols also raises ethical concerns. There appears to be no specifications as to the qualifications of such persons other than having to 'review' concussion education materials, thus setting up a

situation with immense potential for conflicts of interest (McNamee et al. 2016). While a physician's duty is to their individual patient, there are no professional requirements of these designated persons that clearly establish their duties and responsibilities, which are then left up to the individual sport organization.

Vigilance is especially important because the unfortunate truth is that as we adopt legislation to take a strong stance on concussion, the pushback can be equally strong. The terms “concussion-like symptoms” and “upper body injury” are thrown around as euphemisms to evade a concussion diagnosis. As athletes recognize these ‘bypasses,’ concussion could potentially be driven further underground. We may see more “upper body injuries” and diagnoses like traumatic migraine, and concussion rates could appear to decline. We continue to see lip service paid to proper concussion protocols at professional games, the “situational ethics” of penalty calls during playoffs (Westhead 2017), and the inconsistent application of punitive sanctions for directed head shots. What message then gets translated down to the youth leagues?

Prominent athletes have a key role in establishing sport culture and some are now leading the way in pushing a cultural change (Boynton 2018). Recently, professional athletes have prematurely retired out of concerns for their brain health (Borland 2015; Block 2016), many are publicly declaring their intent to donate their brain to long-term concussion research (Campbell 2018), and others are advocating for better attention to concussion consequences (Campbell 2018) (including those to mental health). Unfortunately, the voices of many prominent professional athletes are silent in supporting cultural shifts to protect brain health. When athletes see their role models treating concussion with due care and returning to their sport fully recovered, it not only reduces the stigma of concussion but also demonstrates that proper management will allow them to continue to pursue their sport dreams. The media has an important role in highlighting and legitimizing these stories to demonstrate the gravitas that concussion deserves as an impactful and significant injury.

Conclusion

Rowan's Law can go a long way toward equalizing concussion approaches throughout the province of Ontario. One might even question why it is limited to youth – the might of the law could be helpful in ensuring otherwise ineffective concussion policies are upheld, and awaken the voices of athletes in powerful positions to facilitate the change. But proper concussion management will require all persons involved in sport to take it upon themselves to prioritize brain health and act to protect those who are vulnerable. By recognizing the limitations of the law in its current form, such as the change needed to the injury narrative, safeguards to protect athletes,

and the problem of conflicts of interest, we can bridge the gap from concussion knowledge to proper concussion care. In doing so we can support the realization of Rowan's Law into proactive concussion care to protect the futures of all athletes.

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Compliance with ethical standards

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References

- Adler, R. H., & Herring, S. A. (2011). Changing the culture of concussion: education meets legislation. *PM & R: The Journal of Injury, Function, and Rehabilitation*, 3, S468–S470.
- Block, J. (2016). We shouldn't be surprised when NFL players retire early anymore. *Huffington Post*. Retrieved from: https://www.huffingtonpost.ca/entry/dbrickashaw-ferguson-nfl-early-retirement-no-surprise_us_5707c4d5e4b0c4e26a2273fa On 4 July, 2018.
- Bompadre, V., Jingui, T. M., Yanez, N. D., Satchell, E. K., Gilbert, K., Burton, M., Conrad, E. U., & Herring, S. A. (2014). Washington State's Lystedt Law in concussion documentation in Seattle public high schools. *Journal of Athletic Training*, 49(4), 486–492.
- Borland, B. K. C. (2015). Fearing for health, retires from the 49ers. At 24 *New York Times*. <https://www.nytimes.com/2015/03/18/sports/football/49ers-linebacker-citing-injury-risk-joins-list-of-nfl-retirees.html> on 4 July, 2018.
- Boynton, N. (2018). Everything's Not O.K. *The Players' Tribune*. Retrieved from: <https://www.theplayertribune.com/en-us/articles/nick-boynton-everythings-not-ok>. Accessed 23 Dec 2018.
- Campbell, M. (2018). Four high-profile Canadians to donate their brains for research into concussion effects in women. *The Star*. Retrieved from: <https://www.thestar.com/sports/amateur/2018/05/10/four-high-profile-canadians-to-donate-their-brains-for-research-into-concussion-effects-in-women.html> on 4 July, 2018.
- Cusimano, M. D., Topolovec-Vranic, J., Zhang, S., Mullen, S. J., Wong, M., & Ilie, G. (2017). Factors influencing the underreporting of concussion in sports: a qualitative study of minor hockey participants. *Clinical Journal of Sport Medicine*, 27(4), 375–380.
- Echlin, P. S., Johnson, A. M., Riverin, S., Tator, C. H., Cantu, R. C., Cusimano, M. D., Taunton, J. E., Upshur, R. E., Hall, C. R., Forwell, L. A., & Skopelja, E. N. (2010). A prospective study of concussion education in 2 junior ice hockey teams: implications for sports concussion education. *Neurosurgical Focus*, 29(5), E6.
- Frémont, P., Bradley, L., Tator, C. H., Skinner, J., & Fischer, L. K. (2015). Recommendations for policy development regarding sport-related concussion prevention and management in Canada. *British Journal of Sports Medicine*, 49, 88–89.
- Harmon, K. G., Drezner, J. A., Gammons, M., et al. (2013). American medical Society for Sports Medicine position statement: concussion in sport. *British Journal of Sports Medicine*, 47(1), 15–26.
- McCrea, M., Hammeke, T., Olsen, G., Leo, P., & Guskiewicz, K. (2004). Unreported concussion in high school football players: implications for prevention. *Clinical Journal of Sport Medicine*, 14(1), 13–17.
- McCrory, P., Meeuwisse, W., Dvorak, J., et al. (2017). Consensus statement on concussion in sport – The 5th international conference on

- concussion in sport held in Berlin, October 2016. *British Journal of Sports Medicine*, 51, 838–847.
- McNamee, M. J., Partridge, B., & Anderson, L. (2016). Concussion ethics and sports medicine. *Clinics in Sports Medicine*, 35(2), 257–267.
- NHL.com. (n.d.) NHL players endure all sorts of injuries in pursuit of Stanley Cup. <https://www.nhl.com/news/nhl-players-endure-all-sorts-of-injuries-in-pursuit-of-stanley-cup/c-674085>. Accessed 24 Dec 2018.
- Purcell, L. K. (2014). Canadian Paediatric Society, Healthy Active Living Committee. Sport-related concussion: evaluation and management. *Paediatrics & Child Health*, 19(3), 153–165.
- Register-Mihalik, J. K., Guskiewicz, K. M., Valovich McLeod, T. C., Linnan, L. A., Mueller, F. O., & Marshall, S. W. (2013). Knowledge, attitude, and concussion-reporting behaviors among high school athletes: a preliminary study. *Journal of Athletic Training*, 48(5), 645–653.
- Rowan's Law (Concussion Safety). (2018). S.O. 2018, C.1 – Bill 193.
- Wallace, J., Covassin, T., Nogle, S., Gould, D., & Kovan, J. (2017). Knowledge of concussion and reporting behaviors in high school athletes with or without access to an athletic trainer. *Journal of Athletic Training*, 52(3), 228–235.
- Westhead, R. (2017). NHL doctor slams 'situational ethics' on concussions in unsealed lawsuit documents. *TSN*. Retrieved from: <https://www.tsn.ca/nhl-doctor-slams-situational-ethics-on-concussions-in-unsealed-lawsuit-documents-1.708729>. Accessed 23 Dec 2018.