Parental Attitudes toward Concussion
Summary of Research
Introduction

Unintentional injuries are the number one killer of children and youth, resulting in more deaths than any other cause (Statistics Canada, 2012). This increased burden of injury may be related to the increase in maladaptive risk-taking behaviours that occurs among youth (Steinberg, 2004; Steinberg, 2008). Risk-taking and safety behaviours among adolescents is a topic that has been examined at length, yet the social influences on these complex behaviours are still being uncovered. Recent research has established that parents\(^1\) appear to play a critical role in their children’s\(^2\) safety; among many other factors, parents influence the way children approach high-risk situations and can function as strong protective factors against maladaptive risk-taking and the resulting likelihood of injury. Parents have a direct impact on their children’s risk-taking decisions and safety behaviour. This tends to occur through parents’ knowledge of their children’s activities and also through parent modelling of safe practices. Parental influence on risk-taking and safety has been examined in the context of sport, where the risk of head injury and concussions has recently received much attention. This review will examine the ways in which parents influence their children’s adoption of safe practices in sport, and further examine the current state of parents’ knowledge and attitudes toward concussions. Based on these findings, programming and messaging efforts can be informed and developed.

Parents’ Influence on Risk-Taking and Safety

\(^1\) Please note that the descriptive term of “parent” / “parents” has been utilized throughout this review for consistency, but refers to any adult figure in a child’s life who may serve as a key role model within the home environment (e.g., legal guardian, aunt/uncle, grandparent, elder sibling, etc.).

\(^2\) Please note that the descriptive term of “child” / “children” has been utilized from this point on in this review for consistency, but refers to children of any age, unless otherwise specified.
Researchers have identified a number of parent-related factors that contribute to risk-taking behaviour in children. One of the most important factors is parent knowledge, which describes the extent to which parents are aware of their children’s risk-taking behaviour, whereabouts, peers, and so forth (Morrish, Kennedy & Groff, 2009; Stattin & Kerr, 2000). This knowledge typically arises from the amount of disclosure that occurs between parents and their children, rather than parental monitoring/vigilance over their children’s behaviour (Fletcher et al. 2004; Morrish, Kennedy & Groff, 2009; Stattin & Kerr, 2000; Willoughby & Hamza, 2011). Another factor contributing to a child or youth’s decision to engage in a risky behaviour is through observing their parents’ behaviour. Children tend to model the behaviour of their parents, and are more likely to comply with safety rules if their parents do as well (Morrongiello, Corbett & Bellissimo, 2008). This trend has been examined in the context of head injury in sport. A study looking at children’s helmet wearing while skiing and snowboarding found that a child’s decision to wear a helmet was strongly associated with their parents’ helmet-wearing behaviour (Provance, Engleman & Carry, 2012). Thus, it is important for parents to not only explain important safety behaviour, but also demonstrate it consistently.

Overall, parents are an important influence in the decisions children and youth make in risky situations. Previous research indicates that children tend to engage in less maladaptive risky behaviour when their parents are knowledgeable about their activities. Thus, parents need to be aware of possible risks involved in their children’s sports, for example, and strive to understand the best ways they can mitigate the potential dangers while encouraging healthy physical activity. Further, it is important for parents to demonstrate safety
practices to children when possible, as this has been found to be predictive of children’s behaviour.

*Parent Knowledge about Concussions*

Concussion is a specific type of head injury that has recently received a great deal of research and media attention due to the high risk of injury among children and youth involved in sports, and the link between repeated concussions and chronic complications such as chronic traumatic encephalopathy (CTE). Recent research looking at the incidence of concussions on a Canadian minor hockey team suggests that the rate of injury is as much as seven times greater than was previously thought (Echlin et al., 2010). Given the high risk of concussion and the influence parents have on risk-taking behaviour, research has begun to examine parents’ knowledge and attitudes toward concussion.

In terms of parents’ knowledge about concussions, studies have shown mixed results. Some research suggests parents generally understand what a concussion is and can accurately identify the symptoms (Coghlin, Myles & Howitt, 2009; Sullivan et al., 2009; Koo, 2013). For example, parents of high school rugby players in New Zealand were correctly able to recognize concussion symptoms as stated in the Sport Concussion Assessment Tool (SCAT) (Sullivan et al., 2009). However, it was also suggested that while parents were able to properly identify symptoms, they often identified incorrect symptoms at the same time (Coghlin et al., 2009). Other research looking at hockey parents in the Toronto area supports this disconnect in parental knowledge (Cusimano, Chipman, Volpe, & Donnelly 2009). Overall, more research is needed to determine if parents are able to accurately recognize concussion symptoms. In
the meantime, education efforts should focus on the true symptoms of concussion and highlight popular misconceptions.

A common finding between studies shows that irrespective of other concussion knowledge, most parents were unaware of return-to-play guidelines (Koo, 2013; Sullivan et al., 2009) and it appears that little is known regarding parents’ awareness of return-to-learn guidelines, which are particularly important for children suffering from concussions. Further, one study found that regardless of their knowledge about concussions, parents were likely to be influenced by the advice of a medical professional (Koo, 2013). For example, if a doctor advised parents that a child should not be playing due to a concussion, parents were likely to follow this advice. Lastly, some research suggests that the term concussion does not resonate with parents as being a serious injury. One study found that physicians tended to use the term ‘concussion’ instead of ‘head trauma’ or ‘brain injury,’ with the intention of decreasing parental anxiety (DeMatteo et al., 2010).

In sum, more research is needed to determine the state of parents’ knowledge of concussions in a general sense. Existing research suggests that parents can identify concussion symptoms, but often identify symptoms that inaccurately describe the condition at the same time. In addition, they tend to be unaware of return-to-play or return-to-learn guidelines, which could be a target for education efforts. Moreover, the inclusion of trained and recognized professionals appears to be an important programming strategy in reaching and impacting parental behaviours around concussions. Overall, providing parents with education about concussion symptoms, how to recognize these symptoms, the seriousness of this type of injury, and the importance of following return-to-
play and return-to-learn guidelines will help to ensure parents have accurate and up-to-date knowledge (Coghlin et al., 2009).

Parents’ Attitudes toward Concussions

Research examining parents’ attitudes toward concussions is quite limited. Our review found two Canadian surveys examining this topic. The first, entitled Protecting Children and Youth: Canada speaks out on preventing traumatic spine and head injuries in amateur hockey, was conducted by the Rick Hansen Institute and was published in March 2013. The second, the National Brain Injury & Concussion Survey, was conducted by Toronto-based company Field Day in April 2012.

The findings from the Rick Hansen Institute’s survey shed light on parents’ attitudes toward head injury in minor hockey. Some of the survey’s questions related to eliminating body checking in hockey until age 15, in order to reduce the risk of head injury, which was recommended by the American Academy of Pediatrics (2000). Similarly, the Canadian Paediatric Society recommends delaying the allowance of body checking until either the bantam (age 13 or 14) or midget (age 15 and 16) level (Houghton & Emery, 2012). Results of the Rick Hansen survey indicated that 67% of parents surveyed would support delaying body checking until age 15 (with the goal of reducing the risk of head injury and concussion). Further, 75% of parents of peewee players (age 11 and 12) surveyed would support a national policy eliminating body checking in hockey at this level. There was decreasing support for this type of policy as children move to higher levels: for example, only 45% of parents of midget-aged players surveyed supported the idea of this policy. Other findings indicated that 55% of parents surveyed think players would be better off without body
checking before age 15, to reduce their risk of head injury. The full survey can be accessed online:


The survey conducted by Field Day asked questions regarding Canadians’ attitudes toward concussion, but was not specific to parents. However, some questions pertained directly to parents. The findings relating to all Canadians (not parents specifically) highlight some of the misconceptions about concussions:

- It appears that many people may believe wearing a helmet will prevent concussion
- Younger people may tend to believe that physiotherapy and medication could treat a concussion
- It appears that many people may not recognize return-to-play protocols

With regards to parents, the survey examined whether or not they were likely to enrol themselves and their children in an activity that had a risk of concussion. Findings showed that when considering themselves, parents surveyed were unlikely to be influenced by the risk of a concussion, but were more likely to be influenced by the risk of concussion when enrolling their children. Given that children learn safety behaviour modelled by their parents, this is an important finding.

**Conclusion**

In conclusion, parents play an important role in their children’s risk taking and safety behaviour, such as wearing protective equipment in sports. Since we
are aware of this influence, it is important to examine parents’ knowledge and attitudes toward concussions, an important and emerging injury issue for our youth. Recent research is limited, and more research is needed to gain a better understanding of this important issue. Current research suggests that parents are able to recognize concussion symptoms, but may also link unrelated symptoms to concussions. Further, parents may not perceive concussions as being a serious type of injury. Recent Canadian data seems to suggest that parents may be in favour of rule changes to reduce the risk of head injury, but data describes minor hockey parents only and thus represents only a limited sample. Overall, education regarding the signs, symptoms and the seriousness of concussions, as well as return-to-play guidelines, is recommended. It is clear that programming for parents around this important issue is needed and key messages should remind parents of three very important factors: they need to be alert to the issue and the symptoms, model safe behaviours to their children and be aware of how to prevent, identify and treat concussions. Concussions clearly present a high risk for Canadian youth, not only through the traumatizing affects of the injury, but also due to the lack of awareness that may exist among various groups. With a united effort, coupled with clear and consistent messaging, parents can be made aware of the issue and necessary prevention and treatment measures, so they can further the positive influence they can have on their children.
References


