ACTIVE & SAFE

# Evidence Summary: Longboarding

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BC INJURY research and prevention unit

The British Columbia Injury Research and Prevention Unit (BCIRPU) was established by the Ministry of Health and the Minister's Injury Prevention Advisory Committee in August 1997. BCIRPU is housed within the Evidence to Innovation research theme at BC Children's Hospital (BCCH) and supported by the Provincial Health Services Authority (PHSA) and the University of British Columbia (UBC). BCIRPU's vision is *to be a leader in the production and transfer of injury prevention knowledge and the integration of evidence-based injury prevention practices into the daily lives of those at risk, those who care for them, and those with a mandate for public health and safety in British Columbia.*

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**Evidence synthesis tool**

| **SPORT:** | Longboarding | **Target Group:** | People who participate in longboarding as a part of health, transportation, or for recreation. | |
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| **Injury Mechanisms:** | The main injury mechanisms include falling, falling while going down hill, or being injured while using a longboard as a means of transportation (other than falling) | | | |
| **Incidence/Prevalence** | **Risk/Protective Factors** | **Interventions** | **Implementation/Evaluation** | **Resources** |
| **Injury Types**<br>Limited data is available on the incidence and prevalence of longboarding injuries; however, there is some data on the type of injuries that occur from longboarding. The majority of injuries reported include upper extremity fractures (23.6% to 33.1%)[1,2] and in one study, dermal injuries were common with 44.6% of patients sustaining a dermal injury.[1]<br><br>Head, neck, and brain injuries were also common among longboarders. One study found that 31.2% of patients sustained a traumatic brain injury.[1]<br><br>Intracranial injuries were high with 13.7% to 16.4% of patients sustaining an intracranial injury.[1,2] Patients also suffered head and skull fractures in addition to other head and neck injuries.[1,2] | **Sex**<br>The majority of patients seen were male (67.7% to 82.2%) and above the age of 11 (81% to 100%).[1,2]<br><br>**Helmet Use**<br>Helmet use was extremely low among those who were injured (4% to 13.9%)[1,2] | No interventions to reduce injury in longboarding were found from this review.<br><br>However, some studies direct attention to recommendations to reduce the risk of injury:<br><br>More interventions to increase helmet use is need, as reported helmet use in longboarding is low while the incidence of head and traumatic brain injury is high.[1]<br><br>Wearing a helmet while skateboarding has been shown to be effective at reducing head injuries.[1] | No studies were found that examined the implementation or evaluation of longboarding interventions. | |

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| **Works Cited:**<br>1. Fabian, L. A., Thygerson, S. M., & Merrill, R. M. (2014). Boarding injuries: The long and the short of it. *Emergency Medicine International, 2014*<br><br>2. Keays, G., & Dumas, A. (2014). Longboard and skateboard injuries. *Injury, 45*(8), 1215-1219. | **Works Cited:**<br>1. Fabian, L. A., Thygerson, S. M., & Merrill, R. M. (2014). Boarding injuries: The long and the short of it. *Emergency Medicine International, 2014*<br><br>2. Keays, G., & Dumas, A. (2014). Longboard and skateboard injuries. *Injury, 45*(8), 1215-1219. | **Works Cited:**<br>1. Fabian, L. A., Thygerson, S. M., & Merrill, R. M. (2014). Boarding injuries: The long and the short of it. *Emergency Medicine International, 14.* | | |

# Review of Sport Injury Burden, Risk Factors and Prevention

## Longboarding

Longboarding has become a popular sport and method of transportation in recent years. There is a distinct difference in the design of longboards compared to skateboards, and that is longboards are longer, wider, and meant for transportation over performing maneouvers as seen in skateboarding (Fabian, Thygerson, & Merrill, 2014; Keays & Dumas, 2014). Despite the increase in popularity, limited data exists on the injury prevalence and risk factors associated with longboarding.

### Incidence and Prevalence

In a study conducted by Fabian et al. (2014) 474 patients with longboard injuries presented to an emergency department from 2006 to 2011. They found that 46.6% of patients suffered a dermal injury, 31.2% of patients sustained a traumatic brain injury, 23.6% suffered a fracture to the upper extremity, 8.6% suffered a head fracture, 8.2% suffered a skull fracture, and 13.7% suffered an intracranial hemorrhage. In addition, 3 patients died during the study period (Fabian et al., 2014).

In a study by Keays et al. (2014) using data from the Canadian Hospitals Injury Reporting and Prevention Program, 287 patients with longboard injuries under the age of 18 were examined over a two-year period. The majority of injuries were upper extremity fractures representing 33.1% of the injuries. Over 20% of patients suffered a head and neck injury while 16.4% suffered intracranial injuries (Keays & Dumas, 2014).

The major limitation with both studies included in this review is that they were designed to compare the differences between skateboarding and longboarding. There was no emphasis on looking specifically at longboarding injuries (Fabian et al., 2014; Keays & Dumas, 2014). Furthermore, both studies collected injuries from hospital data. Therefore, overall injuries and specifically less severe injuries may be underreported.

### Risk and Protective Factors

In the two studies found from this literature review, the majority of injured patients were male (67.7% to 82.2%) (Fabian et al., 2014; Keays & Dumas, 2014). One study found that 81% of injuries were sustained by those between the ages of 11 and 19 years while the other found that injuries were sustained by those who were over the age of 11 (Fabian et al., 2014; Keays & Dumas, 2014). The authors suggested that age may be an exposure rather than a risk factor; however, it is important to note that their study was restricted to those under the age of 18 so they would only be able to make a statement regarding pediatric patients (Keays & Dumas, 2014). Keays et al. (2014) found that 79.9% of patients fell while traveling, 17.1% fell while going down a hill, 2.4% were injured while preforming tricks or maneuvers. In contrast, 56% of skateboarders fell while traveling, 40.6% were injured doing tricks or maneuvers.

Helmet use has been reported to be low among longboarders. Fabian et al. (2014) found that only 19 out of 474 patients (4.0%) were wearing a helmet at the time of injury. Keays (2014) found that 40 out of 287 patients (13.9%) were wearing a helmet when the injury occurred.

## Opportunities for Prevention: Effective Interventions, Cost-Effectiveness, Implementation and Evaluation

From this review, no studies were found that examined the effectiveness of interventions to reduce injury in longboarding; however recommendations were made from the study by Fabian et al. (2014) to improve safety. First, the authors suggested that helmet campaigns targeted specifically towards the longboarding population may reduce the incidence of head and traumatic brain injury, further, they also suggested that physicians need to be more aware and differentiate between longboarding and skateboarding injuries. Longboarding injuries tend to be more severe than skateboarding and there is a need to differentiate records where the physician used longboarding and skateboarding interchangeably. Practitioners need to be able to differentiate between the two so that they can make appropriate clinical decisions to examine and treat longboarding patients (Fabian et al., 2014).

## References

Fabian, L. A., Thygerson, S. M., & Merrill, R. M. (2014). Boarding injuries: The long and the short of it. *Emergency Medicine International, 2014.*

Keays, G., & Dumas, A. (2014). Longboard and skateboard injuries. *Injury, 45*(8), 1215-1219.