ACTIVE & SAFE

Evidence Summary: Snowshoeing

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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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UBC BC Children's Hospital Research Institute

Review of Sport Injury Burden, Risk Factors and Prevention

Snowshoeing

Incidence and Prevalence

There were only six studies (Browning, Kurtz, & Kerherve, 2012; Gheorghe, 2014; Masson & Lamarche, 2016; Ng, Smith, Wheeler, & McIntosh, 2015; Pasquier et al., 2014; Procter et al., 2014) identified from the literature review that discussed snowshoeing as a recreational sport. Consequently, the incidence/prevalence of injuries is still unknown. As with walking, recreational snowshoeing appears to be a recreational activity that offers social, health and fitness benefits; however, further research is needed to explore the impact of snowshoeing in competition and the backcountry context. Priorities in snowshoeing injury prevention should focus on injury surveillance and establishing the aetiology and mechanisms of injury.

From the few studies that discussed snowshoeing as a recreational activity, injuries in snowshoeing were caused more by environmental conditions rather than intrinsic characteristics of the activity or the equipment (Gheorghe, 2014; Ng et al., 2015; Pasquier et al., 2014; Procter et al., 2014). For example, off-trail snowshoeing exposes participants to more potentially dangerous injury mechanisms such as avalanches, glacier crevasse injuries, or snow immersion and suffocation injuries (Masson & Lamarche, 2016; Ng et al., 2015; Pasquier et al., 2014; Procter et al., 2014).

Risk/Protective Factors

There is no clear association between a risk factor and the risk of injury demonstrated in the snowshoeing literature. Environmental conditions and snowshoe equipment are potential risk factors that require further examination (Ng et al., 2015; Procter et al., 2014).

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

The literature on snowshoeing injuries is limited and does not provide information on intervention effectiveness/cost-effectiveness, implementation of countermeasures, and evaluation. According to the studies retrieved, backcountry users seem to be exposed to potentially more dangerous situations (Gheorghe, 2014; Ng et al., 2015; Pasquier et al., 2014; Procter et al., 2014) and therefore should be a target for further intervention. Safety equipment appears to be a key issue in injury prevention for the backcountry travelers (Ng et al., 2015; Procter et al., 2014). One brief report concludes that snowshoers “should carry a standard set of safety gear (transceiver, shovel, and probe) to improve rescue chances and reduce mortality risk” (Ng et al., 2015). Moreover, advanced equipment such as an artificial air pocket (e.g. the AvaLung) or an avalanche air bag could be useful in suffocation situations by snow immersion.

Some general guidelines for injury prevention exist for other activities with similar environmental conditions (e.g. sea excursions and walking, climbing, skiing, and snowboarding in

the backcountry) (Ng et al., 2015). Mainly, these countermeasures target participants by increasing their knowledge and by modifying their behavior (Procter et al., 2014). In addition, snowshoeing interventions should focus on providing information to improve knowledge about how to avoid dangerous/hazardous situations. They should also aim to modify attitudes of the backcountry snowshoers by influencing them to use safety equipment.

References

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