

POPULATION-BASED ANALYSIS OF SEVERE INJURIES FROM NON-MOTORIZED WHEELED VEHICLES

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Bicycling, skateboarding, and in-line skating are popular recreational activities, with the potential of causing severe injury. A retrospective, population-based analysis of severe injuries and deaths from non-motorized wheeled vehicles (NMWV) was performed to characterize this problem.

Injuries captured by the British Columbia Trauma Registry (BCTR) over a 10-year period (1993-2003) were reviewed. The three most populated health regions of the province (comprising approximately 3 million inhabitants), each with designated trauma centers contributing to the BCTR, formed the study cohort.

During the study period 1475 cyclists, 141 skateboarders, and 112 in-line skaters sustained injury meeting BCTR criteria (length of stay \geq 3 days or death) for annual incidence rates of: 49.8, 4.8, 3.8 per 100 000. The majority of those injured were male. Mean ages (\pm standard deviation) in years were 30.2 (\pm 13.0) for cyclists, 20.8 (\pm 8.7) for skateboarders, and 36.0 (\pm 13.0) for in-line skaters. Lone crashes were the most common mechanism of injury (67.7% vs. 88.7% vs. 81.3%, respectively), although collisions with motor vehicles, which were more common in bicyclists (30.7% vs. 9.9% vs. 15.2%, respectively) accounted for 63.6% (n=44) of observed deaths. Thoracic trauma and head injuries were more common in non-survivors (38.6% vs. 7.6% for thoracic injuries and 84.1% vs. 20.4% for head injuries).

NMWV injuries pose a public health concern. We recommend enforcement of mandatory helmet laws and expansion of the existing law to include skateboarders and in-line skaters. Education initiatives should also be expanded to include adults since this is the majority of those seriously injured. Further study is needed to look at other protective devices, such as chest protectors. Riding in designated areas away from traffic should also be encouraged.