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**Introduction** Bicycling is a sustainable mode of transportation with health benefits, but the risk of injury deters many people. We studied injured cyclists from two urban areas to characterise injury severity and mechanism.

**Methods** Multicentre case-crossover study. Adult cyclists who visit emergency departments in three Toronto and two Vancouver hospitals are being recruited. Canadian Trauma and Acuity Score (CTAS) data are retrieved from hospital records. Descriptive data and comparisons of the first 300 injury events, 150 in each city, are presented.

**Results** The median CTAS score was 3 (IQR: 3–4; n=228). Of the 300 cyclists studied, 27 (9.0%; 95% CI 5.8 to 12.2%) were admitted to hospital. Injury mechanism was classified as a collision in 213 cases (70.9%; 65.9–76.1%) or fall in 87 (29.1%; 23.9–34.1%). Collisions involved motor vehicles in 102 cases (34.1% of all events; 28.6–39.4%), streetcar/train tracks in 46 (15.4%; 10.9–19.0%), curbs/fences/barriers in 38 (12.7%; 8.3–15.7%), pedestrians/other cyclists in 14 (4.7%; 2.3–7.1%), potholes in 9 (3%; 1.1–4.9%) and animals in 3 (1%; 0–2.1%). Manoeuvres to avoid collisions resulted in 28 falls (9.3% of all events). The proportions of injuries involving motor vehicles were almost identical in the two cities, but the odds of an event involving dooring were higher in Toronto than Vancouver (OR 2.83, 95% CI 1.13 to 7.02). Toronto events were more likely to involve streetcar tracks (OR 19.6, 5.9 to 65.0) and less likely to involve pedestrians or cyclists (OR 0.33, 0.13 to 0.83) than those in Vancouver.

**Conclusions** Injury circumstances and differences between cities suggest that transportation infrastructure and interactions with motorised and non-motorised traffic are important factors in cycling injuries.

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# INJURIES TO ADULT CYCLISTS IN TORONTO AND VANCOUVER: DESCRIBING THE CIRCUMSTANCES AS A FIRST STEP TOWARDS INJURY PREVENTION

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