

**0393 COLLISION INVESTIGATIONS OF CHILD PEDESTRIANS OR CYCLISTS STUCK BY MOTOR VEHICLES:**

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**Background** Collisions involving child pedestrians and cyclists represent a large injury burden in Canadians less than 14 years of age. Although motor vehicle collision studies investigating occupants and their injuries are well-established, collisions involving child pedestrians/cyclists have not been reconstructed in this manner. The purpose of this study was to develop a methodology for investigation of child cyclist and pedestrian collisions in order to reconstruct crash events based on data at the scene and medical assessment in hospital, and to discuss potential countermeasures.

**Methods** Children aged 4–15 were included in the study if they were a pedestrian or cyclist involved in a collision with a motor vehicle and as a result, were admitted to the Hospital for Sick Children (HSC) in Toronto, Canada or stayed in the emergency department for over 12 h between 3 July 2007 and 31 October 2008. Crash scene investigations were performed by a collision investigator in collaboration with the Toronto Police Traffic Services Division. Medical trauma data collection was done via the child's medical charts at the HSC.

**Results** Three child pedestrian and one child cyclist versus motor vehicle collisions were successfully reconstructed. Mechanisms of injury were determined.

**Discussion** Investigations of child pedestrian and cyclist versus motor vehicle collisions provide useful insights regarding injury profiles and countermeasures. There were numerous inadequacies in the built-environment which set the stage for these collisions. Focus of countermeasures for prevention of

child pedestrian and cyclist injuries should be directed at the built environment.