46 DO VISIBILITY AIDS REDUCE THE RISK OF MOTOR-VEHICLE INJURY IN BICYCLISTS?

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Background There is limited literature regarding the effectiveness of visibility aids (eg, reflectors, lights, fluorescent clothing) in reducing the risk of a bicyclist- motor-vehicle (MV) collision.

Objectives To determine if visibility aids reduce the risk of a bicyclist-MV collision.

Methods Cases were bicyclists who were struck by a MV and assessed at emergency departments (EDs) from May 2008-October 2010 in Calgary and Edmonton, Alberta, Canada. Controls were bicyclists with non-MV injuries from the same EDs over the same time period. Participants were interviewed about their personal and injury characteristics, including use of visibility aids (clothing colour or reflective clothing, bike reflectors, etc). Injury information was collected from charts. ORs and 95% CIs were estimated for visibility aids after adjustment for confounders using logistic regression.

Results There were 2403 injured bicyclists with 278 MV cases. The risk of a bicyclist-MV collision increased with age. Commuting also increased the odds of MV collision (OR 5.8; 95% CI 4.5 to 7.5). After accounting for location speed limit, bicyclist speed, and previous injury, white (OR 0.25; 95% CI 0.07 to 0.9) or other coloured (OR 0.45; 95% CI 0.2 to 0.9) compared with black clothing on the upper body reduced the odds of collision. Fluorescent clothing was associated with MV collisions (OR 1.7; 95% CI 1.0 to 2.8), even after adjusting for commuting and bicycling location.

Significance Clothing choice may be important in reducing the risk of MV collision; however, factors beyond the individual also need to be examined.