

ALL-TERRAIN VEHICLES ON THE ROAD: A SERIOUS TRAFFIC SAFETY CONCERN

doi:10.1136/injuryprev-2012-040590s.10

¹C Jennissen, ¹C Buresh, ^{1,2}K Harland, ¹D Ellis, ¹G Denning. ¹*Department of Emergency Medicine, University of Iowa Carver College of Medicine, Iowa City, Iowa, USA;* ²*Injury Prevention Research Center, College of Public Health, University of Iowa, Iowa City, Iowa, USA*

Background On-road all-terrain vehicle (ATV) crashes are frequent despite most US states having laws restricting road use.

Aims/Objectives/Purpose To determine the demographics, and the mechanisms and outcomes of injuries of on-road versus off-road ATV crashes.

Methods Data from our Iowa ATV injury surveillance database (2002–2009) was derived and statistically analysed.

Results/Outcomes 976 records were studied, with 38% of injured individuals from on-road crashes. Demographics were similar at each location. Females and youths under 16 were over four times more likely to be passengers ($p < 0.0001$ for each). As compared to off-road crash victims, on-road victims were approximately ten times more likely to be involved in a vehicle-vehicle collision ($p < 0.001$), three times more likely to have a severe brain injury with a GCS ≤ 8 ($p < 0.001$), and twice as likely to have suffered a major trauma with an ISS > 15 ($p < 0.001$). Adult operators in on-road crashes were also twice as likely to test positive for alcohol as those off-road ($p < 0.05$). Helmet use significantly reduced the odds of sustaining a brain injury, and on-road victims were only half as likely to be protected by helmets ($p < 0.01$).

Significance/Contribution to the Field On-road crashes were significantly more likely to involve collision with another vehicle, suggesting on-road ATVs represent a traffic safety concern. Even controlling for helmet use, on-road crash victims suffered more severe injuries than those off-road. Our data reinforces the importance of laws restricting ATV road use and their enforcement, and the need to increase ATV user education about the dangers of on-road riding.