Characteristics of Farm Equipment-Related Crashes Associated with Injury in Children and Adolescents on Farm Equipment

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Purpose: Operating or riding on farm equipment is one of the leading causes of farm-related injuries and fatalities among children and adolescents. The aim of this study is to examine environment, crash, vehicle and occupant characteristics and the probability of injury, given a crash, in youth under age 18 on farm equipment.

Method: Data from the Departments of Transportation on farm equipment-related crashes across nine Midwestern states from 2005–2010 were used. Odds ratios were calculated using logistic regression to assess the relationship between environment, crash, vehicle and occupant characteristics and the probability of injury, given a crash.

Findings: A total of 434 farm equipment-related crashes involved 505 child or adolescent occupants on farm equipment; 198 passengers and 307 operators. Passengers of farm equipment had a 4.1 higher odds of injury than operators. Occupants who used protective equipment or restraints had a significantly lower odds of injury than those who did not use protective equipment or restraints. Furthermore, occupants on farm equipment that was rear-ended, sideswiped, or impacted while turning had significantly lower odds of injury compared to occupants on farm equipment involved in non-collision crashes or moving straight.

Conclusion: Precautions should be taken to limit or restrict the use of farm equipment by youth and ensure direct supervision by an adult. These findings reiterate the need to enforce policies that improve safety measures for youth involved in or exposed to agricultural tasks.

Keywords: agriculture—tractor—transportation—youth—injury

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