Injury patterns among obese children involved in motor vehicle collisions.

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Abstract
PURPOSE: The purpose of this study was to compare injury patterns among obese children to their nonobese counterparts involved in motor vehicle collisions.

METHODS: A nationwide data collection program containing occupant, collision, and injury details from police-reported tow-away crashes between 1997 and 2006 were used. Risk ratios (RRs) and associated 95% confidence intervals (CIs) were adjusted for age, sex, restraint, seat track position, vehicle curb weight, and total velocity change.

RESULTS: An estimated 9 million children aged 2 to 17 years (20.2% obese) were involved in motor vehicle collisions during the study period. Among 2-to-5-year-olds, obesity increased the risk of severe head (RR, 3.67; 95% CI, 1.03-13.08) and thoracic (2.27; 1.01-5.08) injuries. Among 6-to-9-year-olds, obesity increased risk of thoracic (2.31; 1.08-4.95) and lower extremity (LE) injuries (1.89; 1.03-3.47). Among 10-to-13-year-olds, obesity increased the risk of severe thoracic (1.98; 1.08-3.65) and LE (6.06; 2.23-16.44) injuries. Among 14-to-17-year-olds, obesity increased risk of severe LE injuries (1.44; 1.04-2.00) but decreased risk of abdominal (0.20; 0.07-0.60) and head (0.33; 0.18-0.60) injuries, very similar to the pattern reported in obese adults.

CONCLUSION: The pattern of obesity-associated injuries changes from a higher risk of head and thoracic injuries among young children to a pattern in late teenagers that is similar to obese adults.