Passenger car drivers are more likely to die in crashes with SUVs, regardless of crash ratings

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Dietrich Jehle, M.D., University at Buffalo professor of emergency medicine, says that even when two vehicles in a crash are of similar weight, outcomes are still better in SUVs than passenger cars. Credit: Douglas Levere, University at Buffalo

Most consumers who are shopping for a new car depend on good crash safety ratings as an indicator of how well the car will perform in a crash. But a new University at Buffalo study of crashes involving cars and sport utility vehicles (SUVs) has found those crash ratings are a lot less relevant than vehicle type.

The study is being presented May 16 at the annual meeting of the Society of Academic Emergency Medicine in Atlanta.

In head-on collisions between passenger cars and SUVs, the UB researchers found that drivers in passenger cars were nearly 10 times more likely to die if the SUV involved had a better crash rating. Drivers of passenger cars were more than four times more likely to die even if the passenger car had a better crash rating than the SUV.

"When two vehicles are involved in a crash, the overwhelming majority of fatalities occur in the smaller and lighter of the two vehicles," says Dietrich Jehle, MD, UB professor of emergency medicine at Erie County Medical Center and first author.

"But even when the two vehicles are of similar weights, outcomes are still better in the SUVs," he says, "because in frontal crashes, SUVs tend to ride over shorter passenger vehicles, due to bumper mismatch, crushing the occupant of the passenger car."

When crash ratings were not considered, the odds of death for drivers in passenger cars were more than seven times higher than SUV drivers in all head-on crashes. In crashes involving two passenger cars, a lower car safety rating was associated with a 1.28 times higher risk of death for the driver and a driver was 1.22 times more likely to die in a head-on crash for each point lower in the crash rating.

The UB researchers conducted the retrospective study on severe head-on

motor vehicle crashes in the Fatality Analysis Reporting System (FARS) database between 1995 and 2010. The database includes all motor vehicle crashes that resulted in a death within 30 days and includes 83,521 vehicles involved in head-on crashes.

"Along with price and fuel efficiency, car safety ratings are one of the things that consumers rely on when shopping for an automobile," says Jehle. These ratings, from one to five stars, are based on data from frontal, side barrier and side pole crashes that compare vehicles of similar type, size and weight. The one to five star safety rating system was created in 1978 by the National Highway Traffic Safety Administration.

Jehle notes that after manufacturers addressed the roll-over problem with SUVs that plagued these vehicles in the 1980s and 1990s, rollover crashes are now much less common in SUVs.

"Currently, the larger SUVs are some of the safest cars on the roadways with fewer rollovers and outstanding outcomes in frontal crashes with passenger vehicles," he says.

Jehle says that prior studies on frontal crashes have found that compared to passenger cars with a 5-star crash rating, cars with a rating from one to four stars have a 7-36% increase in driver death rates.

"Passenger vehicles with excellent safety ratings may provide a false degree of confidence to the buyer regarding the relative safety of these vehicles as demonstrated by our findings," says Jehle. "Consumers should take into consideration the increased safety of SUVs in head-on crashes with passenger vehicles when purchasing a car."

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