

# Electronic stability control is a lifesaver in rollovers

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Though fewer than a third of new vehicles sold in the United States have electronic stability control, this relatively new technology can reduce the odds of fatal rollovers by 73 percent in sport utility vehicles and 40 percent in passenger cars, say University of Michigan researchers.

"This system acts like a guardian angel sitting on the shoulder of the driver," said John Woodrooffe of the U-M Transportation Research Institute.

"When it senses loss of vehicle control, it reduces engine power and selectively brakes certain wheels to bring the vehicle back in line. It does all this in the background without input from the driver."

A new study by Woodrooffe and UMTRI colleague Paul E. Green—the most comprehensive study of its kind to date—looks at the effect of electronic stability control in relation to fatal and non-fatal crashes, weather conditions, gender and age.

The study shows that electronic stability control can cut in half the odds of fatal single-vehicle SUV crashes (rollovers and other loss-of-control-type crashes) and reduce the odds of fatal single-vehicle crashes for passenger cars by 30 percent. Corresponding percentage reductions for non-fatal, loss-of-control crashes are 70 percent for SUVs and 55 percent for passenger cars.

"Electronic stability control is probably the most significant automotive safety technology since the seat belt," Woodrooffe said. "It provides benefits in various driving conditions, specifically in cases of oversteering and understeering. It also provides safety benefits in bad weather conditions by preventing vehicles from skidding or sliding on wet, snowy or icy roads."

Green and Woodrooffe analyzed national crash data from the Fatality Analysis Reporting System (fatal crashes only) and the General Estimates System (mostly property damage crashes and

those with less severe injuries). They compared vehicles, both SUVs and passenger cars, without electronic stability control technology from model years 1995-1999 to the same vehicles with the technology from model years 2000-2004.

According to the study, electronic stability control can be especially effective on wet and slippery roads. The odds of non-fatal, loss-of-control crashes on roads that are wet, snowy or icy drops 88 percent for SUVs with electronic stability control and 75 percent for passenger cars with electronic stability control. On dry roads, the corresponding percentages are 53 percent and 40 percent, respectively.

Green and Woodrooffe also studied age and gender differences of drivers involved in non-fatal, loss-of-control crashes. The benefits of electronic stability control were similar for both genders.

They found that men under 40 and over 55 had higher odds of crashes in SUVs without electronic stability control. In addition, the predicted odds for male drivers with electronic stability control are nearly identical to female drivers without the system in fatal single-vehicle crashes.

"These findings support the view that males tend to be more aggressive drivers, yet both genders benefit from the technology," Green said.

The researchers also found differences according to age in non-fatal, loss-of-control crashes. Drivers in their mid-30s and 40s benefit the most in passenger cars with electronic stability control, while the odds of SUV crashes is reduced the most for those over 70.

Source: University of Michigan

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