THE OHIO STATE UNIVERSITY
WEXNER MEDICAL CENTER

NEWS

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Editor's note: Video and photos are available for download at http://bit.ly/2fWcRkb.

OHIO STATE RESEARCHERS SEEK TO IMPROVE SAFETY, REDUCE INJURY IN ELDERY DRIVERS

COLUMBUS, Ohio – As baby boomers age, their risk of life-threatening injuries from car crashes also increases. Although car seat belts are safe and save the lives of many drivers of different shapes and sizes, they don't always provide optimal safety for everyone.

In an effort to improve safety and reduce injury in drivers over 65, researchers from The Ohio State University Wexner Medical Center and industry partners are measuring impact and injuries sustained from side car crashes involving elderly drivers who wear seat belts.

John Bolte, associate professor of health and rehabilitation sciences at The Ohio State University College of Medicine and director of Ohio State's Injury Biomechanics Research Center, is analyzing differences in injuries sustained from side impact car crashes to help improve safety system designs for the 36 million elderly drivers on America's roads today.

"When seat belts were first designed about four decades ago, safety dummies tested in car crash simulations resembled the average-size male driver of 40 years old and weighing approximately 170 lbs.," said Bolte, also principal investigator of the study.

Now, thanks to advanced technology, instrumentation and imaging, we know a lot more about the human body and its bones and how they respond to crashes than we did 20 years ago, yet researchers say the biggest obstacle that remains is human variation.

"Age isn't the best predictor of how someone responds to injury. We need to move the field away from age and into something more scientifically based, such as looking at properties of the thorax or upper body to better predict how much impact is associated with certain injuries," Bolte said.

Researchers are conducting newly designed simulations using smaller crash test dummies that are a better representation of the fragile baby boomer population. While measuring impact, they'll also document position and properties of the upper body to better predict appropriate protection for elderly drivers.

Industry experts say that improperly fitted seat belts save lives, but also can cause injury. To a young driver, some injuries sustained during car crashes won't always be critical. However, for an elderly driver, fractured ribs or a broken pelvis can quickly become life threatening.

"We're hopeful our data will assist with safety design modifications to better protect the older, more vulnerable drivers," Bolte said.

Researchers say, one day, individuals will have a personalized car key fob that activates a customized safety system within their vehicles and adjusts the seat belt based on their individual physiology.

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