

Airbags, seat belts associated with reduced likelihood of facial fractures

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Nearly 11 percent of patients examined at trauma centers following motor vehicle collisions had at least one facial fracture, and airbags and seat belts were associated with reduced likelihood of those fractures, according to an article published online by *JAMA Facial Plastic Surgery*.

The National Highway Traffic Safety Administration reported 2.3 million people were injured and 32,719 people were killed in [motor vehicle collisions](#) (MVCs) in 2013. MVCs are a significant source of the [facial fractures](#) treated at U.S. [trauma centers](#).

David A. Hyman, M.D., of the University of Wisconsin, Madison, and coauthors used data from the National Trauma Data Bank to assess facial fractures in MVCs from 2007 through 2012 reported by trauma centers.

The data included 518,106 individuals who were involved in an MVC and required assessment at a trauma center. Of those patients, 56,422 (10.9 percent) sustained a facial fracture, according to the study.

The most common facial fracture was a nasal fracture (5.6 percent), followed by midface (3.8 percent), other (3.2 percent), orbital (2.6 percent), mandible (2.2 percent) and panfacial (0.8 percent) fractures, according to the results.

Of the patients who presented at [trauma](#) centers with a facial fracture, 5.8 percent had airbag protection only, 26.9 percent used only a seat belt and 9.3 percent used both airbags and seat belts, while 57.6 percent used

no protective device.

The authors estimate the use of an airbag alone reduced the likelihood of sustaining any facial fracture by 18 percent compared with using no protective device, a seat belt cut the likelihood by 43 percent and the combination of seat belts and airbags decreased the likelihood by 53 percent.

The likelihood of a facial fracture following a MVC was increased for individuals who were younger, male and used alcohol, the study notes.

Study limitations include limitations in the data from the National Trauma Data Bank.

"Airbags, [seat belts](#) and the combination of the two devices incrementally reduce the likelihood of facial fracture compared with no protective device. This trend may be owing to recent advances in airbag technology during the last 10 to 15 years," the study concludes.

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