

Obese much more likely to die in car crashes than normal weight drivers

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Obese drivers are significantly more likely to die in a road traffic collision than people of normal weight, indicates US research published online in *Emergency Medicine Journal*.

The findings prompt the researchers to consider whether car design might need to change to afford greater protection to the considerable proportion of obese people in the population - currently around a third of all US adults.

The researchers used data from the US [Fatality Analysis Reporting System](#) (FARS) for 1996 to 2008. This is operated by the [National Highway Traffic Safety Administration](#) and records all fatalities arising within 30 days of a traffic collision.

During this period, details of 57,491 road [traffic collisions](#) were submitted to the system.

The researchers looked for collisions in which two passenger vehicles were involved, and for which the impact of the crash was the most harmful component of the incident, resulting in the deaths of one or both drivers.

They also looked for collisions in which both parties had been driving vehicles of similar size and type. They selected 3,403 pairs of drivers for whom data on weight, age, seat belt use and airbag deployment were available.

Almost half of these drivers (46%) were of normal weight; one in three was overweight; and almost one in five (18%) were obese.

Two thirds were male, and almost one in three was aged between 16 and 24; one in three was not using a seat belt properly - lap or shoulder only, rather than both - and in over half (53%) of cases, the airbag deployed.

The analysis showed that risk of death increased the more obese the driver was, according to the [World Health Organization](#) classification, which categorises obesity from levels I to III.

At level I, obese drivers were 21% more likely to die; at level II they were 51% more likely to do so; and at level III they were 80% more likely to do so than drivers of normal weight.

When broken down by gender, [obese women](#) were at even greater risk. At level I they were 36% more likely to die; at level II they were more than twice as likely to do so; and at level III they were almost twice as likely to die.

Interestingly underweight men were also more likely to die in a collision than their normal weight peers.

There were no significant differences among different types of vehicle, collision or use of seat belts, although almost a third of drivers who sustained a fatal injury were not properly belted.

The authors point to other research, showing that the lower body of obese drivers is propelled further forward on impact before the seatbelt engages the pelvis, because of the additional soft tissue which prevents the belt from fitting snugly, while the upper body is held back.

They also suggest that obese drivers may be more likely to have

underlying health problems, which may contribute to their greater risk of death. But [car design](#) may need to change, they venture.

"The ability of passenger vehicles to protect overweight or obese occupants may have increasingly important public health implications, given the continuing obesity epidemic in the USA," they write. And they add: "It may be the case that passenger vehicles are well designed to protect [normal weight](#) vehicle occupants but are deficient in protecting overweight or obese occupants."

More information: www.emj.bmj.com/lookup/doi/10.1136/emmermed-2012-201859

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