Q: What instantly turns 60 pounds into 2,700 pounds? A: A 30-mph crash.

Force = Mass x Acceleration. The fact is: the laws of physics are unyielding. Imagine this: A 60-pound unbelted child in the back seat of a car traveling at a mere 30 miles per hour, involved in a sudden collision, can weigh as much as a young elephant – about 2,700 pounds. A 120-pound teen? Twice as much. 180? Three times. An adult elephant. An unbelted passenger in the back can, during a frontal accident, impact the windshield—or the front seat occupant—with deadly force. Not a pretty physics lesson.

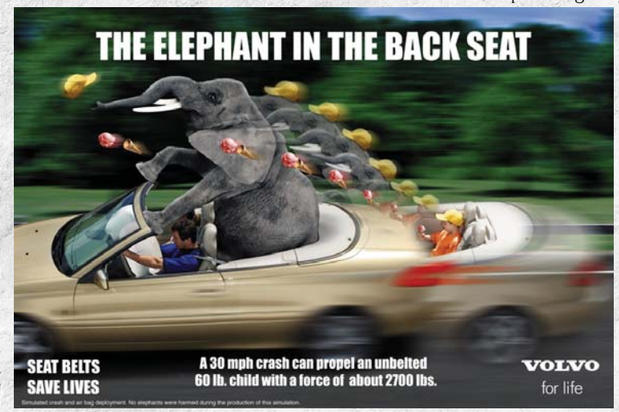
FALSE: An unbelted person in the rear seat is safe.

TRUE: It's a human tragedy that is easy to prevent – CLICK!

Some important statistics

Accidents will happen, but they don't have to become tragedies. 75 percent of all crashes occur within 25 miles of home. And most are on roads with speed limits of 40 mph or less.

According to the National Highway Traffic Safety Administration, an estimated 4,193 children's lives were saved from 1975 to 1998 by the use of safety belts and child restraints. In 1998, 1,765 children age 14 or younger were killed riding as passengers in motor vehicle accidents. Crash injuries are the leading cause of death among 5-12-year olds. Be careful taking your little brother for a ride, and be just as careful with friends your age.



Simulated crash and air bag deployment. No elephants were harmed during the production of this simulation.

But an elephant?

"Unless one studies physics, the numbers seem unreal. But they are very real," according to Christer. "In the rapid deceleration that occurs at the moment of impact, a person's "crash weight" increases dramatically. For instance, at 30 miles per hour, an unbelted passenger will be hurled forward with a force that multiplies the impact approximately 45 times above normal; depending on the object collided with. At 42 miles per hour, those numbers rise to 75 to 150 times normal. So, in effect, the crash weight of a 180-pound person at 42 miles per hour can range from 13,500 to 27,000 pounds. That's an astounding 2 - 4 tons, or about the weight of an elephant. A crushing force indeed."

But weight there's more

A car's seat belt keeps doing its job of retaining the occupant within the safety structure of the cabin after an initial impact has occurred. Accidents might involve secondary impacts and rollovers. It is the seat belts that help keep occupants strapped safely inside the vehicle until the energy of the accident has dissipated. "During a rollover, the effect is very much like clothes in a washing machine during the spin cycle. There are huge forces that can easily eject occupants who are not using a seat belt." states Christer.

Some important thoughts

"Restraints help people and cars move together. Imagine trying to keep your balance in a standing-room-only train car as it lurches forward suddenly or stops abruptly, without something to brace yourself with" comments Christer Gustafsson, Senior Safety Engineer for Volvo Cars, Sweden. "People are just full of reasons for not belting back seat passengers," states Christer. "School's just 3 minutes away, we're just going to the grocery store, or just over to friend's house. We're full of excuses. But in the end, if we don't belt our rear seat passenger, we're setting them up for injuries or death. 'Sorry' doesn't go very far then."

The most important safety feature of all

"I'm often asked, 'What's the most important safety feature in a Volvo?' states Christer. "Without hesitation, I say, 'the driver.' After all, the driver makes the decision to properly use safety devices we engineer into our cars. Using seat belts is so easy. If more people understand the laws of physics, they will see the importance of using seat belts—in both front and rear seats. You should set the example by using your seat belts and insisting the rear seat passengers do the same. Offer your passengers the same safety you do when you buckle up. Having everyone belted is a great gift of life and love." So do your part for car safety. Help protect that most precious cargo of all—buckle them up. No one wants an elephant in the back seat. ■