

Education is not enough

Equipment and legislation also needed to prevent injury

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There is no better advocate for child passenger safety than a parent of a child who was involved in an automobile crash. The parental feelings of child protection can be overwhelmingly strong. I know this because my son and I were involved in a motor vehicle crash in early January.

Why do I share this information with you? My crash involved only my vehicle and a neighborhood tree on January 1, 2005, during a Madison ice storm. The rear passenger side, the side on which my 19-month-old son was sitting in his convertible child safety seat, struck the tree. Our car was equipped with the reinforced doors, side-curtain airbags, Electronic Stability Control (ESC), and all-wheel drive. Because of those safety features, we were able to walk away from the crash uninjured. Our car did not fare so well. It was totally demolished, and by the time this is published, it will have been stripped down for spare parts.

The Federal Motor Vehicle Safety Standard 208 ("Occupant Crash Protection") was amended on July 17, 1984, so that, by 1990, all passenger cars must have airbags. During the past 20 years the automobile industry has responded to growing consumer demands,

regulations, and legislation for safer vehicles. Some automakers were quicker to respond than others, and today, a disparity still exists between lower-priced cars and more expensive cars when it comes to occupant safety. Also, the Insurance Institute for Highway Safety (IIHS; www.iihs.org), a private, consumer-based agency funded by insurance companies, performs crash testing and analysis using criteria that are considered more stringent than those of the National Highway Transportation Safety Administration, the official regulatory agency.

In recent years, one of the major advances in occupant safety has been the reinforcement of the occupant compartment. Controlling the force and direction of crash energy is important in increasing the chances for survival in automobile crashes. Automakers have dramatically improved occupant safety by adding crumple zones, door beams, and hardened roll cages. All of these improvements have reduced the penetration of crash energy into the occupant compartment. These changes have been relatively easy to make because they occur very early in vehicle production and assembly. Of the safety improvements available, they are probably the most cost effective because they involve the strategic placement of steel components within the vehicle's frame.

Another major advance in occupant safety has been side air-

bags, including curtain style airbags for front and rear passengers. The IIHS conducted testing regarding the performance of these airbag systems. A 2005 Ford Escape was tested with and without side airbags. The results for head and torso injury were vastly different, with the airbag-equipped Escape earning a rating of "good," and the Escape not equipped with the airbag earning a rating of "poor." This difference can be the difference between life and death. Unfortunately, this option costs \$595.

ESC is the next generation after antilock brake technology. Speed sensors are located on each wheel and when that wheel begins to slip from the intended line of travel, the ESC brakes individual wheels automatically to keep the vehicle under control. Automakers are equipping their vehicles with various versions of ESC and marketing the systems under different names. For example, Audi, Mercedes, and Volkswagen vehicles use Electronic Stability Program; BMW and Jaguar vehicles use Dynamic Stability Control; Lexus and Toyota vehicles use Vehicle Stability Control; Cadillac uses StabiliTrak; Chevrolets use Active Handling; Volvos use Dynamic Stability and Traction Control; and Acura uses Vehicle Stability Assist.

The IIHS evaluated police-reported crashes in 7 states over 2 years, as well as data from the federal Fatality

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Analysis Reporting System. Crash rates (all crashes, injury crashes, and fatal crashes per registered vehicle year) were compared for vehicles with ESC as standard equipment and prior versions of these vehicles not equipped with ESC. The researchers found that fatal single-vehicle crash risk was decreased by 56% in ESC-equipped vehicles. The researchers noted that most of these single-vehicle crashes involved drivers losing control of their vehicle.

When talking about occupant safety, I would be remiss if I didn't mention child passenger safety. The data are indisputable that children who are properly fastened in a child safety seat have a greater chance at survival. Automakers are complying with new regulations requiring the incorporation of a specific child seat mounting design called LATCH into their vehicles.

The first such regulation involved tether-strap anchors. LATCH requires a lower anchor point in addition to the tether attachment point.

Different states have different child restraint laws. Wisconsin requires child safety seats only until the 4th birthday. In Illinois, The Child Passenger Protection Act requires that all children up to their 8th birthday must be secured in a child safety seat or booster seat that meets NHTSA safety standards. As this is a primary moving violation, motorists can be stopped and ticketed if a child is observed to be improperly restrained in the vehicle. Wisconsin is now considering such a "booster seat law," and booster seats have unequivocally been shown to save lives.

Although the onus of making safer vehicles is placed on the manufacturer, and the proper operation of those ve-

hicles on the user, proper road construction and maintenance is the responsibility of the local, regional, and federal governments. Mother Nature answers to no one. Driving in adverse weather conditions is not intuitive and is a learned skill. Classes to drive in inclement weather should be made more widely available (www.skipbarber.com and www.winterdrive.com).

In our family, we were fortunate to be able to afford such safety equipment options, and thereby received an extra margin of safety. I only wish everyone could have the good fortune to have a full-array of safety equipment on their cars, as well as the help from the Wisconsin government to protect our children through better child-safety legislation, which will give more children a better chance to survive uninjured.

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