

Special issue: child safety

# STATUS REPORT

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FOR HIGHWAY SAFETY

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Doctors don't have to go as far as bringing child safety seats right into the examining room for one-on-one demonstrations. But it would help if they would use the credibility they have with parents to emphasize the importance of properly restraining kids in cars. Right now, such counseling isn't as frequent as it should be. In fact, motor vehicle crashes typically don't rate a mention

when doctors discuss children's health and safety with parents and other caregivers. This is the case even though crashes are a leading cause of death and injury among children in the United States.

Sixty-two percent of parents and other caregivers said physicians never have given them information about "transporting your child safely in a car," a new Institute survey finds. Eighty percent said physicians haven't discussed the dangers of passenger airbags to children riding in front seats.

Doctors are more likely to discuss poisoning, burns, and falls. Fifty percent of parents got information about poisoning, 42 percent about burns, and 41 percent about falls compared with 38 percent about vehicle safety. Yet crashes kill far more children. In 1997, a total of 1,392 child motor vehicle occupants died in crashes in the United States compared with 684 from unintentional fires and burns (federal statistics don't break out burns separately), 112 from unintentional falls, and 81 from unintentional poisonings.

"Physicians, a trusted source of health information for many, are missing a golden opportunity to educate parents and other caregivers about the importance of restraining children and putting them in the rear seat," Institute senior vice president Allan Williams points out.

**All groups poorly informed:** The researchers interviewed Caucasian, African/American, and Hispanic respondents with incomes lower and higher than \$25,000. The only group in which a slim majority (51 percent) reported receiving vehicle safety information was Caucasians with higher incomes, the same people most likely to get the information from the media. Yet most respondents in this group said discussions about vehicle safety occurred rarely.

Pediatricians were more likely than family physicians or hospital or clinic staff to offer vehicle safety advice, and lower-income families were less likely to see pediatricians compared with higher-income families. Forty-five percent of respondents who took their kids to pediatricians reported receiving car safety counseling,

compared with 28 percent who went to a family physician and 38 percent who went to a clinic or hospital.

**Most information is from pamphlets:** Among those who said their doctors did provide car safety information, only 11 percent said the doctor had talked with them. Sixty-one percent said the safety information was from pamphlets, 19 percent

North Carolina. Seventy-seven percent of the respondents were mothers, 16 percent were fathers, 4 percent grandmothers, and 3 percent were other relatives.

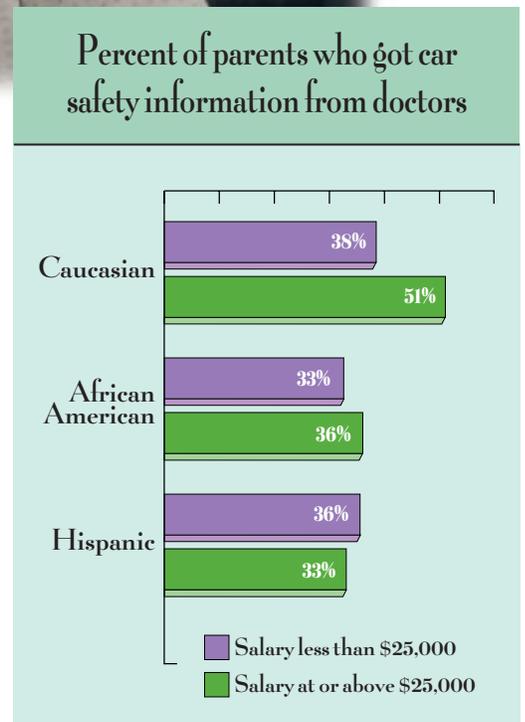
For copy of "Physician counseling about safe vehicle travel for children" by A.F. Williams et al., write: Publications, Insurance Institute for Highway Safety, 1005 North Glebe Road, Arlington, VA 22201.



said posters, 6 percent said videos, and 3 percent gave other responses.

"Physicians not counseling their patients about car safety may be deterred by time constraints, lack of knowledge about recommended practices, or concern about liability if they give specific advice," Williams says. "We need to further examine what barriers exist to communicating vehicle safety advice and how these barriers can be overcome."

The Institute survey was conducted in 1998 with respondents age 17 and older who drove and had children younger than 13. A total of 1,502 interviews were completed in Texas and



## Too many children still ride unrestrained, some in front seat, new survey finds

Despite extensive publicity aimed at getting children restrained and riding in rear seats, observational surveys in three states show many children still ride unrestrained, improperly restrained, or in the front seats of cars equipped with passenger airbags. Institute researchers observed motor vehicle seating positions and restraint use among children ages 12 and younger in Michigan, North Carolina, and Texas in 1998. Among these states, the proportion of children using child restraints or safety belts ranged from 64 to

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Among children age 2 and younger traveling with belted drivers, 71-99 percent were restrained. However, fewer 3-6 year-olds than any other age were restrained in the front seat, even when the driver was using a belt.

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75 percent. But many of the belted children were improperly restrained. That is, they were using the shoulder portion of the belt behind the back or under the arm.

Restraint use varied according to children's ages and whether they were sitting in the front or rear.

The study also confirmed previous findings of higher restraint use among children when drivers use belts. Among children age 2 and younger traveling with belted drivers, 71-99 percent were restrained. However, in the front seat fewer 3-6 year-olds (70 percent) than any other age were restrained, even when the driver was using a safety belt.



“Of particular concern are the 3 to 6 year-olds,” says Institute research vice president Susan Ferguson. “Overall, about half of all children in this age group in North Carolina were observed riding unrestrained or improperly restrained in the front seat, and this is a state where adult belt use is close to 85 percent. Because so many children this age travel unrestrained or improperly restrained in front seats, it probably shouldn’t come as a surprise that a high proportion of the deaths from

deploying airbags among children 1-11 years old — 38 of the 64 deaths in this age group in the United States — were 3 to 6 year-olds.”

It’s permissible in many states to restrain children age 3 and older in adult belts. In Texas, only children age 1 and younger are required to ride in child seats. But some young children using adult belts are too small for the shoulder portion to fit comfortably, so it’s placed behind the back or under the arm. Parents

and others who routinely transport children need to be especially vigilant with younger children to ensure proper restraint use all the time, and booster seats should be used to ensure a better safety belt fit, Ferguson says.

**Problem of riding up front:** Overall, fewer children were observed riding in the front seats of cars with passenger airbags, compared with cars that don't have such airbags. In all three survey states, about a third of 7-12 year-olds and 16-20 percent of 3-6 year-olds were sitting in the front seats of vehicles with passenger airbags. Among children age 2 and younger, the proportion was fewer than 10 percent.

This problem of riding up front may become more dangerous as today's cars with passenger airbags are resold as used cars. "Then if parents who got in the habit of letting kids ride up front in cars without passenger airbags continue to do this, many more children will be at risk of injury from deploying airbags," Ferguson points out.

Children aren't riding in front because it's the only place for them to sit. The survey revealed rear seats unoccupied more than two-thirds of the time that children were observed sitting in front, and about 20 percent of the time there was only one person sitting in the rear.

**What the laws say:** All states have mandatory child restraint laws. However, children 4 and older often are covered by adult belt laws, most of which apply to front-seat occupants only and provide for secondary enforcement (see accompanying story, this page).

"Ideally, all infants and children in all seats should be covered by child restraint laws, adult belt laws, or both. And the kids should be subject to primary enforcement of belt as well as child restraint laws so officers can stop a vehicle for no other reason than an unrestrained child," Ferguson adds.

For a copy of "Child seating position and restraint use in three states" by S.A. Ferguson et al., write: Publications, Insurance Institute for Highway Safety, 1005 North Glebe Road, Arlington, VA 22201.

## Older kids still don't ride restrained as often as youngest ones, despite stronger child restraint laws in some states.

Blue ribbon panel urges closure of remaining gaps in laws that let some kids ride unrestrained, primary enforcement of belt laws, and other measures to protect older kids.

Most people already know about infant car seats and use them. Eighty-five percent of babies ride restrained, but the use of restraints decreases steadily once kids stop using child seats. The use rate among 4-16 year-olds is only 63 percent nationwide. Finding ways to reverse this trend and ensure that older children ride protected are the subjects of a blue ribbon panel convened earlier this year by the U.S. Department of Transportation.

Federal statistics point up the urgency of the problem. Fifty-three percent of 4-7-year-old vehicle occupants killed in crashes are totally unrestrained. So are 66 percent of fatally injured 8-15 year-olds. Increasing public awareness of this problem and encouraging state legislators to improve laws covering older children are among the panel's recommendations.

**Gaps in laws' coverage:** As of July 1985, child restraint laws were on the books in all 50 states and the District of Co-



lumbia. However, not all children were protected. A child riding along with a family friend, for example, might have gone unrestrained, and it would have been perfectly legal because the laws in many states applied only to parents and guardians. Some states exempted all nonresidents from the requirement to buckle children in.

Another problem was that most child restraint laws applied only to children younger than four, leaving a gap where older children were concerned.

Safety belt laws didn't eliminate this gap in coverage, because virtually all such laws covered front-seat occupants only, leaving those in the back seat, often older children, with no restraint requirement.

The belt laws also applied only to occupants who were riding in passenger cars. People riding in trucks, vans, and utility vehicles were exempt.

**Some gaps are closed:**

Now more children are covered by child restraint and safety belt laws because, in recent years, legislators in many states have narrowed the gaps in coverage. The improvements followed 1993 Institute research identifying 41 states where some children younger than 16 weren't covered by either belt or child restraint laws. Fifteen states have since closed all gaps in their laws relating to children.

Still, coverage gaps haven't been eliminated. The most significant remaining one involves rear-seat occupants, who still aren't covered in many states. The blue ribbon panel is urging state legislators to close all such gaps.

**Primary vs. secondary enforcement:**

Child restraint laws typically cover only children age 3 and younger. Older children are covered by safety belt laws, most of which don't allow primary enforcement.

This means police cannot stop a vehicle solely because a child covered by a belt law is unrestrained.

All child restraint laws are primary, but the laws in several states don't apply to all drivers. Nonresidents and/or nonguardians are exempt.

The panel urged state legislators to close these legal gaps and to make the laws more effective by adopting primary enforcement for occupants of all ages. Only 14 states and the District of Columbia have primary enforcement of belt laws.

**Proper fit to increase restraint use:** A problem among children is that adult safety belts don't fit properly. Belt positioning devices, including shoulder belt positioners and booster seats, can change lap and shoulder belt geometry in relation to occupants. Boosters help to properly position lap and shoulder belts across the pelvis and shoulder and make the belts more comfortable, increasing the chance that children will remain properly belted and not put shoulder belts behind their backs or under their arms.

The panel urged the National Highway Traffic Safety Administration to regulate such devices for people up to 100 pounds. Booster seats for kids weighing up to 50 pounds already are regulated, but positioners for shoulder belts aren't. The agency is considering a label that says positioners aren't suitable for use by children younger than 6. But even with such a label in place, boosters should be preferred because shoulder belt positioners have the "potential ... to degrade lap/shoulder belt performance."

Expanding the availability of booster seats also was recommended. Although children younger than 8 are more likely to be restrained than older kids, they frequently ride in front seats or use safety belts instead of booster seats. Eight to 12 year-olds are less likely to be belted and too often ride in front seats. Least likely to use restraints are occupants in their early teens, an age the panel said should be targeted by school-based education and enforcement programs.

More children are covered by child restraint and safety belt laws because, in recent years, legislators in many states have narrowed the gaps in coverage.



## School buses: Federal study seeks to address safety

Does the absence of safety belts on school buses put children at risk? A new government research program may shed more light where there's been plenty of heat for a long time. The debate is commonly phrased as whether or not school buses should have safety belts. But the real question, which will be addressed by the federal research program, is whether school buses should be equipped with lap belts, lap/shoulder belts, or otherwise be redesigned to enhance the protection of child passengers.

### School-age pedestrians at highest risk:

Experts agree that no restraint of any type will do anything about the biggest safety problem faced by children on school buses — what happens once they get off.

An average of 132 school bus-related deaths have occurred each year since 1987. On average, 11 of these deaths were passengers on school buses, the National Highway Traffic Safety Administration (NHTSA) reports. Another 2 of the fatalities were school bus drivers, while 83 involved occupants of other vehicles and 36 were pedestrians or bicyclists.

An average of 23 school-age pedestrians are killed annually, 16 by school buses or vehicles used as school buses and another 7 by the other vehicles involved in school bus crashes. The agency says there's no question of the need to fit buses with equipment like swing-arm stop signs that remind drivers not to pass a stopped school bus while it's boarding passengers or letting them off.

NHTSA adds that, while school-age children traveling on school buses are safer than kids in motor vehicles of any other type, younger children should be restrained. Based on crash tests with preschool-size dummies in school bus seats, the agency recommended in February 1999 that preschoolers always be secured in child safety restraints. Buses



used by preschoolers would require safety belts or other anchorages necessary to secure the restraints to the seats.

**New research program:** Once on a school bus, children's principal protection comes from compartmentalization, or the even spacing of strong vehicle seats that have high backs and are well-padded and well-anchored. This design has been required in large school buses built since April 1, 1977. Its effectiveness will be assessed in a two-year research program an-

nounced by NHTSA in August 1998. The agency says it also will look at alternative systems to come up with the "next generation" of school bus occupant protection requirements. By analyzing real-world school bus crashes, NHTSA says it will develop tests to simulate the crashes that cause serious injuries and then design procedures to evaluate existing and proposed crash protection systems.

"Safety improvements currently under consideration for testing are lap belts,



lap/torso [shoulder] belts, lap bars, bus side wall padding and armrests,” according to NHTSA.

#### Lap belt controversy continues:

The National Association of State Directors of Pupil Transportation Services applauds NHTSA’s research program, saying the “two most logical options to consider in any research program ... are lap and shoulder belts for all designated seating positions and upgrades to compartmentalization.” This group opposes lap belts (without shoulder belts) on school buses, noting that the potential safety benefits of lap or lap/shoulder belts are “very different.” Lap belts, “even when properly positioned and tightened, allow full upper torso movement .... Lap/shoulder belts restrain the upper torso and, thereby, reduce the likelihood of head contact with a surrounding surface.”

The same group of transportation directors emphasizes that compartmentalization already provides “an extremely high level of crash protection for student passengers.” A 1987 National Transportation Safety Board study supports compartmentalization, too, noting that most deaths and injuries on school buses occur

in seats in the direct line of impact where it’s “unlikely any kind of restraint would have improved the injury outcome.”

The National Academy of Sciences also has weighed in on the lap belt controversy, concluding in a 1989 study for Congress that “the overall potential benefits of requiring seat [lap] belts on large school buses are insufficient to justify a federal requirement for mandatory installation” and that “a larger share of the school bus safety effort should be directed to improving the safety of school bus loading zones.”

On the other hand, advocates of installing lap belts on school buses say they reduce the risk of ejection, improve students’ behavior, and reinforce the message that vehicle occupants should always buckle their belts. Cost is the main impediment to installation, according to belt proponents like the National Coalition for School Bus Safety, which says belts on school buses also have been endorsed by the American Medical Association, the American Academy of Pediatrics, American Academy of Orthopedic Surgeons, and the American College of Preventative Medicine, among others.

Only two states, New Jersey and New York, currently require lap belts on school buses. Florida just enacted a law requiring lap belts on buses purchased after December 31, 2000, and Louisiana will require passenger restraints on buses used to transport children by June 30, 2004. Twenty-nine other states have considered similar legislation this year.

Institute president Brian O’Neill cautions that “the case for lap belts isn’t strong. Although they can reduce the risk of ejection, they also can increase head injury potential in frontal crashes. If belts are to be mandated, they should be designs that include upper torso restraints.”

## Experts to assess possible risk to kids from newest airbags

Do the right thing now and avoid regulation later. This is what the National Highway Traffic Safety Administration (NHTSA) is telling automakers about side airbags. The agency expects the manufacturers to ensure that occupants, especially children, sitting close to side airbags aren’t harmed.

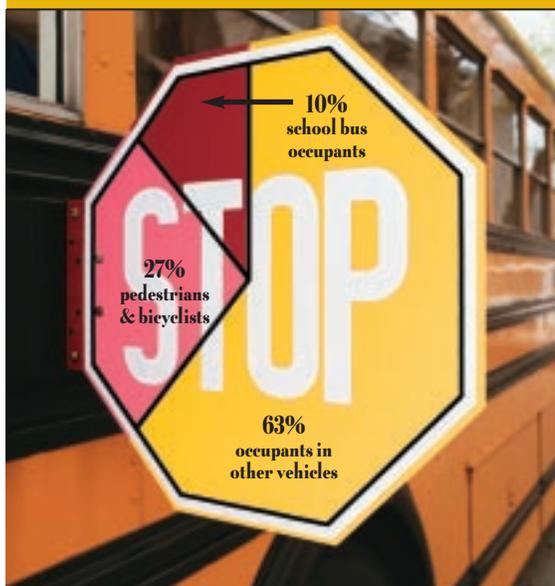
Deploying side bags have caused no deaths or life-threatening injuries, but tests by NHTSA and Transport Canada indicate a potential risk to out-of-position children.

At a NHTSA public meeting, the Alliance of Automobile Manufacturers and Association of International Automobile Manufacturers agreed to work on standardized test procedures to assess the safety of side and head protection airbags. NHTSA Administrator Ricardo Martinez followed up in a letter requesting details about a “specific industry-led plan.” In response, automakers established a technical group and asked Institute senior vice president Adrian Lund to serve as chairman. Members include automakers, restraint suppliers, and researchers with expertise in areas such as crash testing, dummy development, biomechanics, and injury assessment.

The group will develop test procedures and seek input from safety advocates before finalizing test guidelines by the end of the year. This timetable responds to Martinez’s request that the process be completed quickly enough to “rapidly affect technological developments in this area” and “avoid the need for federal standards.”

Public Citizen and the Center for Auto Safety complain that NHTSA is abdicating its rulemaking responsibility. They also say the working group could violate antitrust laws. But Lund notes that the group is sharing data and developing common guidelines for responsible side airbag development long before regulatory action could take place. He adds that regulation isn’t the group’s focus.

### Distribution of deaths in fatal crashes involving school buses



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1005 N. Glebe Rd., Arlington, VA 22201  
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Physicians are missing opportunities to educate parents about the importance of restraining children and putting them in rear seats.

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