



## PREMATURE GRADUATION OF CHILDREN TO SEAT BELTS

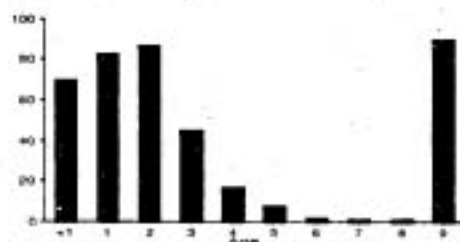
Seat belts do not properly fit young children, which can cause serious injury in the event of a motor vehicle crash. While the occupant fatality rate for children between the ages of 5 and 9 has declined 10.6 percent in the last twenty years, 495 children aged 5 to 9 were killed as occupants in passenger cars, light trucks, or large trucks in 1999. While 272 (55 percent) of these fatally injured children were unrestrained, 161 (33 percent) were restrained in a seat belt.

Children should be restrained in child safety seats or booster seats until the vehicle's lap and shoulder belt fit correctly -- the lap portion of the belt rides low over the hips and the shoulder portion crosses the sternum and shoulder. Children are usually ready for the adult seat belt when they can sit with their back against the back cushion with knees bent over the seat edge and their feet on the floor. Safety professionals recommend that children between 40 and 80 pounds use a belt positioning booster seat. TraumaLink of the Children's Hospital of Philadelphia (CHOP) conducted a study for the National Highway Traffic Safety Administration (NHTSA) to determine reasons why children are being graduated from child safety seats to adult seat belts prematurely, and to suggest strategies for increasing booster seat use.

### Head Injuries Common

Children aged 2 to 5 years who are restrained in adult seat belts before they have attained the recommended weight and height (prematurely graduated) are 3.5 times more likely to have a clinically significant injury than children restrained in child safety seats or booster seats. In addition, children restrained in adult seat belts are 4.2 times more likely to have a clinically significant head injury such as concussion, skull fracture, or a more serious internal brain injury. The percentage of children in compliance with the recommended best practices by

weight and height declined sharply between ages 3 to 8, shown below.



Percentage of Children in the Appropriate Child Safety Seat, Booster Seat, or Adult Seat Belt

### Reasons For Non-Use Of Booster Seats

The parents who used booster seats (compared to seat belts) for their children were more knowledgeable about child passenger safety issues and more proactive in seeking child safety information. Focus groups conducted in New Jersey and Pennsylvania found that these parents perceived a higher risk of injury from a motor vehicle crash for their children. In contrast, parents who used seat belts for their young children expressed confidence that they were effectively protecting the child from injury in the event of a crash using this restraint type.

Two groups of children are prematurely graduated from child restraints to adult seat belts -- children under 40 pounds who should still be in child safety seats; and children over 40 pounds who have outgrown their child safety seats and move to seat belts, but should be restrained in booster seats. While child safety seat usage is as high as 61 percent for children under five, a national survey conducted by the national SAFE KIDS campaign found that less than 5 percent of families used booster seats for their children. In the current study, parents frequently did not recognize the



importance of keeping their child in a booster seat until the seat belt fit the child properly.

### Barriers to Booster Seats

Child resistance was a significant barrier to extended use of booster seats. The parents of children still using booster seats encountered the same types of resistance that had prompted other parents to prematurely graduate their child to seat belts. But these parents approached this as a battle they would not allow the child to win. Other barriers included the need to accommodate other children, motor vehicle design, and situations where the seat was unavailable. Some parents said they altered their standard method of restraint based on the length of the trip, the weather, or their own mood. Parents reported difficulties in installing the booster seats, and expressed concerns about design features that seemed to offer insufficient protection.

### Misperceptions about When a Child is Ready for Adult Seat Belts

There were numerous misperceptions about when a child is ready to graduate into an adult seat belt. Parents want to do the right thing, but some do not have accurate information about which child restraint to use at what time, how to install booster seats, and confusion with laws that provide poor guidance. Participants suggested that strategies aimed at informing the public of the recommended best practice for child restraint and the consequences for not following it could influence accurate choice of restraint type. Presenting real life stories and pictures of children who were injured or had head injuries would encourage parents to put their child in the appropriate child restraint device, they felt.

### Strategies to Increase Booster Seat Use

Parents suggested a number of strategies to encourage booster seat use:

- Educate parents on successful parenting strategies including consistency, setting boundaries, and communication;
- Educate parents on the benefits of booster seats over seat belt adjusters;
- Develop programs to distribute free or low cost booster seats;
- Explain to parents the rationale for recommending a booster seat until a child reaches the recommended size for seat belts;
- Investigate the possibility of transitioning a child in stages from a child safety seat to high back belt positioning booster to low back belt positioning booster;
- Provide parents with information on booster seats, motor vehicle crashes, injuries to children, in favored locales for communication;
- Stress the importance of proper seat belt fit;
- Use media outlets and interested celebrities to get a simple and clear message out;
- Strengthen laws to match best practices;
- Show step-wise progression (infant seat to child safety seat to booster seat to seat belt) on all child safety seat boxes and on in-store displays.

### How To Order

For a copy of *The Premature Graduation of Children from Child Restraints to Vehicle Safety Belts*, (49 pages plus extensive appendices) write to the Office of Research and Traffic Records, NHTSA, NTS-31, 400 Seventh Street, S.W., Washington, DC 20590, or fax to (202) 366-7096. Alan Block was the contract manager for this study.

U.S. Department  
of Transportation  
**National Highway  
Traffic Safety  
Administration**

400 Seventh Street, S.W. NTS-31  
Washington, DC 20590

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Linda Cosgrove, Ph.D., Editor, Evaluation Staff  
Fax (202) 366-7096  
EMAIL: lcosgrove@nhtsa.doe.gov

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