

News Release

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Contact: Suzanne Hill
Phone: (215) 590-1417
Email: hillsu@email.chop.edu

Booster Seats Provide Significant Protection From Injury through Age 7, Say Researchers from The Children's Hospital of Philadelphia

Philadelphia, Pa. — The use of belt-positioning booster seats lowers the risk of injury to children in crashes by 59 percent compared to the use of vehicle seat belts. The finding comes from a study of children ages 4 through 7 by Partners for Child Passenger Safety (PCPS), a State Farm-funded research project at The Children's Hospital of Philadelphia.

The study, published in this week's issue of the *Journal of the American Medical Association*, provides the first real-world evidence of the added safety benefits of belt-positioning booster seats over seat belts alone. In addition, the study demonstrates that proper positioning of the belt by booster seats virtually eliminates injuries associated with seat belt syndrome, including injuries to the abdomen, neck/spine/back, as well as lower extremity injuries. In contrast, children in the study who were restrained in seat belts alone suffered injuries to every body region.

"Now that we have quantified the significant effectiveness of booster seats for children through age 7, I recommend parents and legislators make booster seat use common practice," stated Dennis Durbin, M.D., M.S.C.E. the study's lead author and a pediatric emergency physician at Children's Hospital. "Parents need to transition children from child safety seats directly to booster seats and keep them in booster seats until at least their eighth birthday in order to provide optimal safety."

Vehicle seat belts are designed to protect an average-sized adult male. Improper fit of both lap and shoulder portions of seat belts in younger children place children at risk of injuries to the abdomen and spine. Belt-positioning booster seats function to raise children up on the vehicle seat so that the vehicle lap and shoulder belts are properly positioned across a child's hips and chest, allowing the vehicle seat belt to work as designed. The National Highway Traffic Safety Administration and the American Academy of Pediatrics recommend booster seat use for children who have outgrown child safety seats until they are at least 8 years old, unless they are 57 inches. Until this study, advocates have lacked the real-world evidence to support the recommendation.

PCPS conducted in-depth analysis on 4,243 children ages 4 through 7 who were in crashes reported to State Farm from 1998 through 2002. In 2000, this same research group had previously demonstrated the effectiveness of child restraints, including booster seats, compared to seat belts among 2-to 5-year-old children. At the time of that study, not enough older children were in restraints to quantify relative effectiveness of restraints for children beyond 5 years.

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The PCPS data demonstrate that booster seat use, while on the rise, remains quite low. Only 16 percent of 4-year-olds, 13 percent of 5-year-olds, and 4 percent of 6 and 7-year-olds were using booster seats.

"Motor vehicle crashes remain the leading cause of death and disability in this age group," states Dr. Durbin. "It's important that measures are taken to get children into optimal restraints for their age and size on every trip. Booster seats are easy-to-use, affordable, and effective at protecting our children from injury."

For parents, Dr. Durbin offers four simple steps to optimize safety for children riding in motor vehicles: 1) Restrain children on every trip; 2) Use the rear seat for all children under age 13; 3) Use the appropriate restraint for a child's age and size; 4) Use the restraints correctly. "With each step taken, our data indicate a significant reduction in risk of injury to children in crashes," states Dr. Durbin.

Children's Hospital provides a multimedia Web site to address questions people have about appropriate restraint and correct installation of child restraint systems. Parents can view brief videos, listen to helpful instructions and browse quick tips at www.chop.edu/carseat.

Partners for Child Passenger Safety is a research collaboration among The Children's Hospital of Philadelphia, State Farm and the University of Pennsylvania. Since 1997, PCPS has created a database containing information on more than 246,000 crashes involving more than 367,000 children. It has become the largest source of data on children in motor vehicle crashes. PCPS is based at The Children's Hospital of Philadelphia and is funded by State Farm.

Founded in 1855 as the nation's first pediatric hospital, The Children's Hospital of Philadelphia is ranked today as the best pediatric hospital in the nation by a comprehensive *Child* magazine survey. Through its long-standing commitment to providing exceptional patient care, training new generations of pediatric healthcare professionals and pioneering major research initiatives, Children's Hospital has fostered many discoveries that have benefited children worldwide. Its pediatric research program is among the largest in the country, ranking second in National Institutes of Health funding. In addition, its unique family-centered care and public service programs have brought the 381-bed hospital recognition as a leading advocate for children and adolescents from before birth through age 19. Children's Hospital operates the largest pediatric healthcare system in the U.S. with more than 40 locations in Pennsylvania, New Jersey and Delaware.

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Note to Media: A PCPS fact sheet on 4-to 8-year-old motor vehicle occupants is available at www.chop.edu and statefarm.com® after embargo is lifted.

