

# 4-to 8-year-old Children in Motor Vehicle Crashes

This report contains data on 4-to 8-year old children in car crashes generated from the Partners for Child Passenger Safety (PCPS) study, a research collaboration between The Children's Hospital of Philadelphia and State Farm®.

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Child Passenger Safety  
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## Optimizing Safety in 4 Steps:

With each step taken, PCPS data indicate a significant reduction in risk of injury to children in crashes.

### 1 Restrain Children on Every Trip

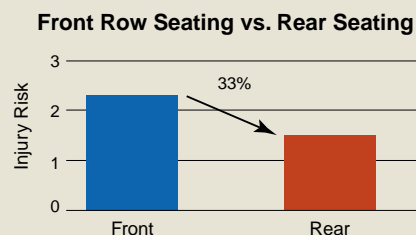
- 48% of children between the ages of 4 and 8 who were killed in motor vehicle crashes in 2001 were unrestrained.

Source: Fatality Analysis Reporting System, April 2003.

### 2 Use Rear Seat for All Children Under 13 Years

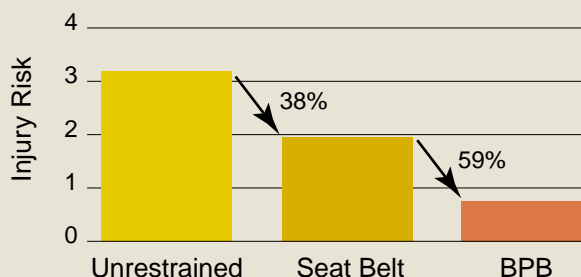
- A child's injury risk is reduced by 33% when moved from the front seat to the rear seat.

Source: PCPS presentation at AAP National Conference, October 2002.



### 3 Use Appropriate Restraint for Age and Size

#### Booster Seat Effectiveness



- BPB seats are effective for children through age 7.\*
- Using a BPB with a seat belt instead of a seat belt alone reduces a child's risk of injury by 59%.
- In 2002, 62% of 4-to 8-year-olds were inappropriately restrained in only a seat belt.
- There are promising increases in booster seat use – particularly among children ages 4 to 6.

Source: JAMA, June 2003.

\* Currently not enough 8-year-old children are using booster seats to evaluate that age group alone.

### 4 Use Restraint Correctly

- Always read the CSS instruction manual AND vehicle owner's manual.
- Never place the shoulder portion of the seat belt behind or under the child's back.
- Contact a certified CPS technician for information on proper restraint use.

## The Recommendation for Proper Restraint of 4-to 8-year-old Children

Children who have outgrown child safety seats (CSS) with internal harnesses should be properly restrained in a belt-positioning booster (BPB) seat until they are at least 8 years old, unless they are 4'9" tall.

Source: The National Highway Traffic Safety Administration (NHTSA) and the American Academy of Pediatrics (AAP).

## Barriers to Booster Seat Use

A study conducted by The Children's Hospital of Philadelphia explored reasons for booster seat use and non-use. The study was funded by NHTSA.

### KEY FINDINGS:

- Parents were unaware of the purpose of booster seats.
- Non-booster seat users had a low risk perception of injury from a crash.
- Parents looked to state laws for guidance to appropriately restrain children. One parent stated, "...the state law indicated that child safety seats only needed to be used until age 4. I figured that meant a seat belt was safe for my 4-year-old."

Source: Pediatrics, October 2002.

## Head and Face Injuries Most Common

- 71% of serious injuries to 4-to 8-year olds are to the head or face.
- Children in seat belts are 4 times more likely to suffer head/brain injury as compared to children who use CSS and BPB seats.
- The brain is the organ least likely to recover from injury.

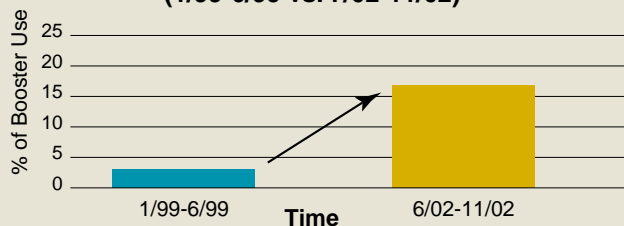
Source: Pediatrics, June 2002, data updated in 2003.

# 4-TO 8-YEAR-OLD OCCUPANTS

## Booster Seat Trends

- There has been a rapid increase in booster seat use since 1999, indicating heightened awareness regarding optimal restraint for children.
- Despite increases, most children are inappropriately restrained.
- Outreach efforts must continue.

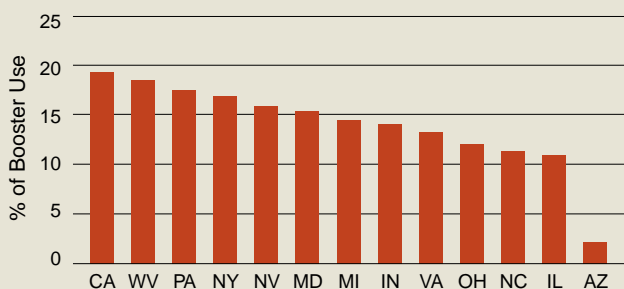
**Overall Booster Seat Use  
(1/99-6/99 vs. 7/02-11/02)**



## Booster Seat Use in 2002

- Booster seat use varies by geographic location.

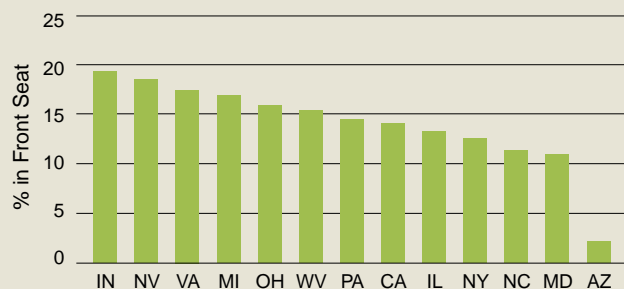
**Booster Seat Use in 2002**



## Front Row Seating

- Children are at greater risk in the front seat versus the rear seat. Education should emphasize rear seating for children.

**Front Row Seating in 2002**



## Most Frequently Asked Questions:

### Do BPB seats work?

Yes. BPB seats reduce a child's risk of injury in a crash by 59 percent.

### Where do I buy one?

BPB seats can be purchased in retail stores or via the worldwide web.

### How much does a booster cost?

BPB seats can be purchased for as little as \$20.00. Private and state-funded distribution programs are available.

## What is Partners for Child Passenger Safety (PCPS)?

Created in 1997, PCPS is the country's largest research project devoted exclusively to pediatric motor vehicle injury. Data are currently being collected in: AZ, CA, DE, IL, IN, MD, MI, NV, NY, NC, OH, PA, TX, VA, WV and Washington, D.C. As of March 2003, PCPS has collected information on more than 219,000 crashes involving more than 332,000 children.

## Child Passenger Safety (CPS) Resources

### Learn the basics of CPS:

[www.chop.edu/carseat](http://www.chop.edu/carseat)

### Find a local CPS certified technician:

<http://www.nhtsa.dot.gov/people/injury/childps/contacts/index.cfm>

### Find a local CSS fitting site:

<http://www.seatcheck.org>

### Does your child need a BPB?

<http://www.carseat.org> (click on the 5-step test icon)

### For information on state child restraint and seat belt laws:

<http://www.saferoads.org>

The results presented in this report are the interpretation solely of the Partners for Child Passenger Safety research team at The Children's Hospital of Philadelphia and are not necessarily the views of State Farm Insurance Companies.

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