

# Partners for Child Passenger Safety

## Child Occupant Protection by State North Carolina



In 1997, The Children's Hospital of Philadelphia joined with the University of Pennsylvania and State Farm Mutual Automobile Insurance Company to create the first comprehensive research study in the United States of how and why children are injured or killed in motor vehicle crashes. Known as Partners for Child Passenger Safety (PCPS), the study remains the largest single research project devoted exclusively to pediatric motor vehicle injury. The results reflect estimates from North Carolina specific data regarding children in crashes in State Farm insured vehicles enrolled in the study. The data, collected between 12/1/98-11/30/00, were generated by the PCPS study.

### Children Sitting in the Front Seat

*Current safety recommendation from the American Academy of Pediatrics (AAP) and The US Department of Transportation's National Highway Traffic Safety Administration (NHTSA):*

- Children age 12 years and under should ride in the rear seat of the vehicle.

### *PCPS finding:*

- Overall, 21% of children in North Carolina age 12 years and under are inappropriately seated in the vehicle front seat.
  - 29% of 4-8-year-olds in North Carolina are inappropriately sitting in the vehicle front seat.
  - 34% of 9-12-year-olds in North Carolina are inappropriately sitting in the vehicle front seat.

### Appropriate vs Inappropriate Restraint of a Child



6-year-old child dummy in a belt-positioning booster seat, restrained by a lap-shoulder belt. 35 mph frontal crash. Little dummy movement.



6-year-old child dummy, scooted forward in seat, restrained by the lap belt only. 35 mph crash. Extensive dummy movement.

## Recommended Restraint for Child Passengers

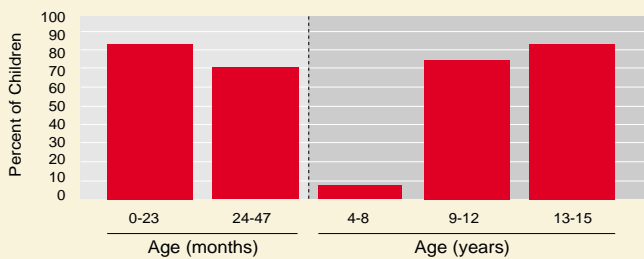
*Current safety recommendations from the AAP and The NHTSA:*

- All children should be restrained regardless of seating position.
- Infants should be restrained in the back seat in a rear-facing car seat until at least age 1 year AND 20 pounds.
- Once turned from rear-facing to forward-facing, children should ride in a car seat with full harness until the seat is completely outgrown based on manufacturer height and weight limits.
- Children who outgrow their forward-facing car seat should ride in a belt-positioning booster (BPB) seat until an adult seat belt fits properly (usually at 4'9" and 80 pounds).

### PCPS findings:

- In the overall study, 23% of infants are incorrectly turned forward-facing in their car seat before age 1 year.
- 78% of 4-8-year-olds in North Carolina are restrained in an adult seat belt.
  - Children restrained in seat belts instead of a car seat or booster seat are 3.5 times more likely to suffer a serious injury. (Pediatrics, June 2000)
  - In the overall study, more than 90% of 4-8-year-old children who were seriously injured were not restrained in a booster seat.
- Only 8% of 4-8-year-olds in North Carolina enrolled in the study were appropriately restrained in a BPB seat.

North Carolina Children in the Recommended Restraint for their Age



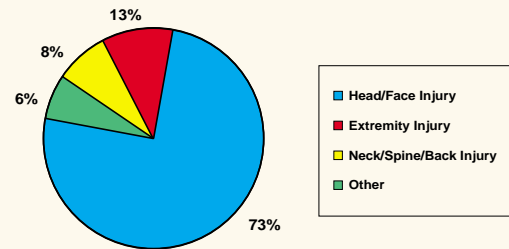
The above graph represents children in North Carolina enrolled in the PCPS study who were using the recommended restraint for their age according to best practice guidelines (as stated by the AAP and The NHTSA). Very few children between the ages of 4-8-years-old were in the appropriate restraint for their age.

## Injuries from Motor Vehicle Crashes

### PCPS findings:

- In North Carolina, 32% of the children in serious crashes sustained an injury.
- 73% of the serious injuries to North Carolina children were to the head or face.

Serious Injuries by Body Region to North Carolina Children\*



\* Serious injuries include concussions, serious brain injuries, facial lacerations, internal organ injury, and fractures.

The North Carolina child restraint and seat belt laws do not meet current best practice recommendations. For more information on the seat belt and child restraint laws, please refer to:

[www.safekids.org](http://www.safekids.org)  
[www.highwaysafety.org](http://www.highwaysafety.org)  
[www.saferoads.org](http://www.saferoads.org)  
<http://actsinc.org>

For a copy of this sheet or more information on the PCPS project, refer to: [www.traumalink.chop.edu](http://www.traumalink.chop.edu) or [www.statefarm.com](http://www.statefarm.com).

This educational tool was created by the PCPS research team with assistance from the State Farm Insurance Companies. The Partners research team and State Farm Insurance Companies would like to thank the Advocates for Highway and Auto Safety and the Automotive Coalition for Traffic Safety, Inc. (ACTS) for their legislative expertise.

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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