Child Passenger Safety: The Basics

National Highway Traffic Safety Administration
• Provides guidelines on how to secure a child seat, and use it properly.
• Issues instructions and advice on when to switch to a booster seat.
• Provides a list of places where parents can go to get free or discounted seats.

Are All Car Seats Safe?
All car seats must meet FMVSS 213 Federal Motor Vehicle Safety Standards and meet other performance standards. All infant seats are tested early, they may either be in use in four basic categories:

1. Evaluation of Instructions: Examines the content and clarity of the instructions manual for the child restraint.
2. Vehicle Installation/Retrieval: Measures the ease of using features that parents must engage when installing the child restraint in a vehicle.
3. Evaluation of Labeling: Examines the content and clarity of the labeling attached to the child restraint.
4. Securing the Child: Examines the ease of using features that parents must use when securing a child in the restraint in the vehicle.

Different car seat types include forward-facing, rear-facing, combination, booster seats, and infant seats (see Figure 1 below).

Government Resources:
• Minimum standards for car seats are set by the National Highway Traffic Safety Administration (NHTSA).
• Provides a list of places where parents can go to get their car seat(s) inspected.
• Allows parents to register their car seat(s).

Figure 1.8 years old or >57 inches tall (adapted from the NHTSA):

In children 4-8 years old, child safety seats reduce the risk of death in MVCs by 45%.
In toddlers 1-4 years old, car seats reduce the risk of death in MVCs by 54%.
In infants <1 year old, car seats reduce the risk of death in MVCs by 71%.

In older children 8-12 years old, proper safety restraints reduce the risk of death in MVCs by 50%.

Unintentional injury was the fifth leading cause of death among all age groups, and it was the leading cause of death in children under age 12.

Motor vehicle related deaths among children of all age groups has steadily declined since 1975. (Adapted from IIHS 3)

Figure 2. "Car Seat Ease-of-Use Ratings." We would like to thank Dr. Michael Hirsh, Esther Borer, and Dr. Mariann Manno for all their help.

Child Passenger Safety: Current Players

Using the correct car seat or booster seat can be a lifesaver: make sure your child is always buckled in an age- and size-appropriate car seat or booster seat.

Population of Focus

POPULATION: Children Under Age 12

- In toddlers 1-4 years old, proper safety restraints reduce the risk of death in MVCs by 54%.
- In infants <1 year old, car seats reduce the risk of death in MVCs by 71%.
- In children 4-8 years old, child safety seats reduce the risk of death in MVCs by 45%.
- In older children 8-12 years old, proper safety restraints reduce the risk of death in MVCs by 50%.

Figure 3. "Car seat recommendations depend on a child’s age and size. (Adapted from NHTSA)"

Social Determinants

LACK OF KNOWLEDGE
• In a study where drivers were asked to identify the airbags in their vehicles, most drivers were unable to do so.

LEGISLATION & LAW ENFORCEMENT
• Child restraints were improperly used in 72% of MVCs.

RACE & ETHNICITY
• Overall, minority children showed lower proportions of age-appropriate restraints.

SOCIAL COSTS
• It costs about $1,500 (2012) to buy a new car seat and over $100 (2012) to buy a new booster seat.

Societal Manifestations & Implications

PHYSICAL & MENTAL HEALTH
• Physical injury and related injury: Fears of permanent and lifelong injury can delay a child’s return to school and result in increased healthcare costs.

POPULATION: Children Under Age 12

Societal Manifestations & Implications

SOCIAL COSTS
• It costs about $1,500 (2012) to buy a new car seat and over $100 (2012) to buy a new booster seat.

Societal Manifestations & Implications

PHYSICAL & MENTAL HEALTH
• Physical injury and related injury: Fears of permanent and lifelong injury can delay a child’s return to school and result in increased healthcare costs.

Population of Focus

• In toddlers 1-4 years old, proper safety restraints reduce the risk of death in MVCs by 54%.
• In infants <1 year old, car seats reduce the risk of death in MVCs by 71%.
• In children 4-8 years old, child safety seats reduce the risk of death in MVCs by 45%.
• In older children 8-12 years old, proper safety restraints reduce the risk of death in MVCs by 50%.

Figure 4. "Motor vehicle related deaths among children of all age groups has steadily declined since 1975. (Adapted from IIHS)"

Taking Action: Promoting Child Passenger Safety

Proposed interventions

INSTRUCTIONAL VIDEOS
• There are many instructional videos and how-to-rear-seat recommendations change as a child grows.
• YouTube advertisements — videos will appear as part of the ads that play before a YouTube video.

SOCIAL MEDIA
• Advertisement on Facebook, Twitter, Facebook, Wordpress — videos will appear as part of the ads that play before a Facebook or Twitter video.

INFORMATIONAL BOARDS
• There are a lot of boards where parents can go to get their questions answered.

COMMUNITY SAFETY DAY
• On safety demonstrations and car seat check will take place during community fairs that focus on safety.
• Car seat “buybacks” = parents are encouraged to bring old/expired car seats to get a free new or upgraded car seat.
• Car seat vendors (Graco, EvenFlo) will be present to provide new car seats to parents with a voucher for a new or upgraded seat or to parents that came with a pediatrician’s prescription (based on financial need).
• Car seat exchanges (free) will be present to provide new or upgraded car seats to parents who have never had one or have a car seat that is no longer recommended by the NHTSA.
• Car seat safety checks and installations will be provided by Child Passenger Safety Technicians (CPSTs) for parents that bring their own car seats as well as for those that receive new car seats at the event.

HOSPITAL SECURITY CHECKPOINTS
• Hospitals will check that all hospital care is being shared between the patient and the family.
• A new barcode scan at the hospital can be shared between the patient and the family.

PEDIATRICIANS OFFICES
• Pediatricians will educate parents about age- and size-appropriate car seats and encourage their use.
• Pediatricians can also provide updated information at each annual well-child visit.

Acknowledgements
• We would like to thank: Dr. Michael Hirsh, Esther Borer, and Dr. Mariann Manno for all their help.
• We would also like to thank Jimmy and Sue for their help at the car seat checkpoint.

References