



## Child Booster Seats

### Introduction

*This issue of Facts on Kids discusses booster seats for 4- to 7-year-olds.*

**Quiz:** *At what age does a seat belt offer a child maximum protection?*

- A. 4 to 5
- B. 6 to 7
- C. 8 or older
- D. It depends

*The correct answer is D. That's because a child's weight, height, and age should be the decisive factors. The National Highway Traffic Safety Administration (NHTSA) recommends waiting to move youngsters from car seats into adult seat belts until they weigh 80 pounds and reach a minimum height of 4 feet, 9 inches, which is reached by ages 7 to 8. And in the interim, NHTSA and the American Academy of Pediatricians recommend using child booster seats.*

### Traffic Crashes

Traffic crashes are the leading cause of death for children of every age – due in part to the fact that most children are unbuckled or improperly restrained in vehicles. Child safety seats keep kids safe. From birth to age 1, restraint use is 97 percent; for ages 1 to 4, it is 91 percent.

From age 5 to 15, restraint use falls to 68.7 percent, and more than 47 percent of fatally injured children age 4 to 7 are completely unrestrained. The safety of that age group is a growing concern. While those youngsters have outgrown a car seat, they are too small for a seat belt to offer maximum protection. A booster seat positions the seat belt to fit kids more as it does adults.

### Why a Booster Seat?

All children between about 40 to 80 lbs. and less than 4'9" tall should be in a booster seat. A child who can't yet sit with back straight against the vehicle seat back cushion and knees bent over a vehicle's seat edge, needs a booster seat. Adult seat belts can be dangerous when used alone if the child is too small. Here's why:

- The lap belt rides up over the abdomen. In a crash this can result in intra-abdominal (lacerations and contusions to the small bowel, intestine, spleen and other organs) and spinal cord injuries.
- The shoulder belt crosses the neck or face of young children, prompting many to slip out of the restraint. In a collision, the head may slam against the knees or interior of the vehicle, resulting in brain injury. And even when used, the shoulder harness can cause serious injuries.

A booster seat, though, positions the seat belt correctly and safely. While booster seat use



Graphic used with permission from the Transportation Safety Training Center, Virginia Commonwealth University

substantially reduces the risk of injury for 4- to 8-year olds, most children in this age group are currently using safety belts designed for adults. A recent study by Children's

Hospital of Philadelphia found that the use of belt-positioning booster seats lowers the risk of injury to children in crashes by 59 percent, compared with the use of vehicle safety belts. The chart on the next page provides information on proper child safety seat use.

| <b>General Child Seat Use Information</b><br>Buckle Everyone. Children Age 12 and Under in Back! |   |  |  |
|--|---|--|--|
|  | AGE / WEIGHT  | SEAT TYPE / SEAT POSITION  | USAGE TIPS   |
| INFANTS  | Birth to at least 1 year <b>and</b> at least 20 pounds. | Infant-Only Seat/rear-facing or Convertible Seat/used rear-facing.<br><br><b><i>Seats should be secured to the vehicle by the seat belts or by the LATCH system.</i></b>                                       | <ul style="list-style-type: none"> <li>• Never use in a front seat where an air bag is present.</li> <li>• Tightly install child seat in rear seat, facing the rear.</li> <li>• Child seat should recline at approximately a 45 degree angle.</li> <li>• Harness straps/slots at or below shoulder level (lower set of slots for most convertible child safety seats).</li> <li>• Harness straps snug on child; harness clip at armpit level.</li> </ul> |
|  | Less than 1 year/ 20-35 lbs.                            | Convertible Seat/used rear-facing (select one recommended for heavier infants).<br><br><b><i>Seats should be secured to the vehicle by the seat belts or by the LATCH system.</i></b>                          | <ul style="list-style-type: none"> <li>• Never use in a front seat where an air bag is present.</li> <li>• Tightly install child seat in rear seat, facing the rear.</li> <li>• Child seat should recline at approximately a 45 degree angle.</li> <li>• Harness straps/slots at or below shoulder level (lower set of slots for most convertible child safety seats).</li> <li>• Harness straps snug on child; harness clip at armpit level.</li> </ul> |
| PRESCHOOLERS<br>/<br>TODDLER   | 1 to 4 years/ at least 20 lbs. to approximately 40 lbs. | Convertible Seat/forward-facing <b>or</b> Forward-Facing Only <b>or</b> High Back Booster/Harness.<br><br><b><i>Seats should be secured to the vehicle by the seat belts or by the LATCH system.</i></b>       | <ul style="list-style-type: none"> <li>• Tightly install child seat in rear seat, facing forward.</li> <li>• Harness straps/slots at or above child's shoulders (usually top set of slots for convertible child safety seats).</li> <li>• Harness straps snug on child; harness clip at armpit level.</li> </ul>   |
| YOUNG CHILDREN   | 4 to at least 8 years/unless they are 4'9" (57") tall.  | Belt-Positioning Booster (no back, base only) or High Back Belt-Positioning Booster.<br><br><b><i>NEVER use with lap-only belts—belt-positioning boosters are always used with lap AND shoulder belts.</i></b> | <ul style="list-style-type: none"> <li>• Booster base used with adult lap and shoulder belt in rear seat.</li> <li>• Shoulder belt should rest snugly across chest, rests on shoulder; and should NEVER be placed under the arm or behind the back.</li> <li>• Lap-belt should rest low, across the lap/upper thigh area—not across the stomach.</li> </ul>  |

Source: NHTSA website: <http://www.nhtsa.dot.gov/people/injury/childps/>

## Types of Booster Seats

There are two kinds of booster seats:

- Boosters for use only with the vehicle lap/shoulder belt. Because raising the child improves belt fit, these are called “belt--positioning boosters.” Some have a high back that gives head support for taller children. Some boosters of this type are built into vehicle seats.
- High-backed boosters, used as belt-positioning boosters. Most have a clip or strap to hold the shoulder belt in place. Some high-backed boosters have removable harnesses, which can be used with the harness for a child less than 40 pounds.

Children who reach 40 pounds before age 3 may not be mature enough to stay seated properly in a belt-positioning booster. A vest that uses the belt system and a tether strap would be an option in this situation.



Graphic used with permission from the Transportation Safety Training Center, Virginia Commonwealth University

## Federal Legislation

On September 1, 1999 a new federal motor vehicle safety standard required motor vehicle manufacturers to provide motorists with a new way of installing child restraints. Vehicles [passenger cars, except convertibles] must have as standard equipment child-restraint anchorage systems that are independent of the vehicle seat belts. Beginning September 1, 2000, all new vehicles, including light trucks, minivans, and SUV's must be equipped with the top tether attachment mounting.

An easy-to-use anchoring system that is independent of the vehicle seat belts increases child safety. The top tether strap helps limit movement of a child's head in a forward crash and reduces the risk of injury.

### South Dakota's Restraint Law

- Effective July 1, 2001, all occupants of a vehicle 17 years of age and under must be buckled up.
- Children younger than 5, who weigh less than 40 pounds must use an approved child safety seat in all seating positions. This is a primary offense, which means a driver can be stopped for having children or youth not restrained in their vehicle even without another violation.
- Drivers are responsible for all passengers from birth to 17, which means they can be ticketed for not having children or youth properly restrained.
- All operators and passengers from 14 to 17 are responsible for buckling up themselves, which means passengers can be ticketed, too. This is a petty offense (\$20 fine).

No ticket will be issued for violations in a vehicle manufactured before 1966 that has not been equipped with seat belts.

Source: South Dakota website:  
<http://www.state.sd.us/dps/hs/newlaws.htm>



SD KIDS COUNT Project  
Business Research Bureau  
The University of South Dakota  
414 East Clark Street  
Vermillion, SD 57069

### Sources:

National Highway Traffic Safety Administration website:

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

Washington State Booster Seat Coalition website:

<http://depts.washington.edu/booster/>

State of South Dakota website:

<http://www.state.sd.us/dps/hs/newlaws.htm>

The Children's Hospital of Philadelphia

<http://www.chop.edu/consumer/index.jsp>

**The South Dakota KIDS COUNT Project** is a national and state-by-state effort, sponsored by the Annie E. Casey Foundation, to track the status of children in the United States. By providing policymakers and citizens with benchmarks of child well-being, KIDS COUNT seeks to enrich local, state, and national discussions concerning ways to secure better futures for children and families. Additional funding for the state project comes from the South Dakota Departments of Education and Cultural Affairs and Human Services. Log on to SD KIDS COUNT

**[www.usd.edu/brbinfo](http://www.usd.edu/brbinfo) then follow the KIDS COUNT link.**

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Susan Randall, South Dakota Coalition for Children  
Betsy Rice, South Dakota Coalition for Children  
Molly Daniel, BRB staff assistant