

Car Safety: One Of Parents' Greatest Responsibilities

Dr. Todd Huffman, for the Eugene Register-Guard, April 2010

Motor vehicle collisions are the leading cause of death and disability in children in America. On average, five children are killed and 568 injured daily across this country in motor vehicle accidents.

The use of a car safety seat reduces the risk of fatal injury by three-fourths in infants and by half in young children ages one to four years. Use of a booster seat reduces injury risk by more than half in children ages four to seven years.

Yet nonuse and misuse of car safety seats are very common. In 2006, nearly half of all children killed in motor vehicle collisions were unrestrained. Clearly too many parents are still not getting the message about the importance of car safety seats for young children.

Infant-only car safety seats are used for infants weighing from 4 to 5 pounds to 22 to 30 pounds, whose maximum height is 27 to 30 inches. The variability in weight and height is related to differences between individual products. After purchasing a car safety seat, parents should become quickly familiar with the product's weight and height limit.

These seats should be placed rear-facing only. Shoulder harnesses should be placed in the slots at or just below the infant's shoulders. The retainer clip should be placed at the level of the underarms, and not at the level of the neck or abdomen.

Convertible car seats are built to accommodate the infant or toddler who weighs up to 40 to 65 pounds, depending on the product. Convertible seats are so-called because they can be situated in either a forward- or rear-facing position.

Infants who've graduated out of an infant-only car safety seat and into a convertible car seat must remain rear-facing until at least their first birthday. However, recent data have demonstrated that children from 12 to 23 months of age are five times safer in a collision when sitting rear-facing compared with forward-facing.

Convertible car seats should be used as long as the child fits well, with the tops of the child's ears below the car seat back, and shoulders below the seat strap slots, or until the child reaches the upper weight limit of the device.

Combination car seats are only used forward-facing, and generally can hold children weighing between 20 and 100 pounds. These seats have the capability of changing from a five-point harness arrangement to a belt-positioning booster seat.

Three primary designs of harness restraints are used to secure children into a car safety seat. Most common is the five-point harness, which buckles between the legs, with two straps across the infant or child at the shoulders, and two straps across the hips.

Overhead shield harnesses use a padded bar that swings over the head and buckles between the child's legs. The "T-shield" harness is the least common and involves a "T" or triangular plastic piece permanently attached to the shoulder straps that latches in between the child's legs.

Belt-positioning booster seats are recommended for children from the time they have outgrown their convertible seat and until they are, according to Oregon law, either 8 years of age or 4 foot 9 inches in height.

The purpose of a booster seat is to raise the child up in the seat to provide appropriate positioning of the car seatbelt across the shoulder and lap. The shoulder belt should rest across the chest without touching the neck or face, and the lap belt should lie over the upper thighs and not over the abdomen. The high-back booster seat is preferred, as they have been proven to reduce the risk of injury from lateral collision by 70 percent when compared with the no-back booster.

Car seatbelts should be used alone only when they fit appropriately, which is usually when the child weighs more than 80 pounds or is at least 4 foot 9 inches tall.

Before installing a car safety seat, parents must read the instructions that accompany the device, as well as the section on child safety restraints in their vehicle's manual. The car safety seat and base must be positioned on a flat surface to be secured safely. Once in place, the vehicle's seatbelt should be threaded through the appropriate slots on the safety seat and fastened. When safely secured, the safety seat should not be able to move 1 inch to either side or forward from its secured position.

The LATCH system (Lower Anchors and Tethers for Children) has been developed to ease installation of the car safety seat without using the car seatbelts. Hooks on the car safety seat base attach to anchors located in

the crease of the rear seats of the vehicle. Forward-facing safety seats have an additional top-tether point that attaches to a higher car anchor or onto the cargo floor in station wagons and vans. All new car safety seats and cars made after September 2002 are equipped for the LATCH system.

Sitting in the back seat results in a 40 percent reduction of serious injury for children younger than 16 years compared to sitting in the front seat. In addition, sitting in the rear-center position adds another 40 percent reduction in injury risk when compared with sitting on either side of the rear seat for children under 3 years of age.

The minimum recommended age for children to sit in the front seat is 12 years. However, if the child weighs less than 100 pounds and the passenger-side airbag cannot be manually disengaged, or does not have a passenger size sensor, it is still best that the child ride in the back seat. Rapid expansion of air bags can cause severe head and cervical spine trauma to a child whose height and weight is less than that of an adult.

Want to know more about car safety seats? Check out the Web sites of the American Academy of Pediatrics (www.aap.org) and the National Highway Traffic Safety Administration (www.nhtsa.dot.gov) for lots of great information. Drive safely!