
service in ACTION

Child restraint systems in automobiles

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Quick Facts

Effective July 1, 1995, Colorado law requires children under age 16 to wear seat belts while riding in both the front and back seats of motor vehicles.

Effective January 1, 1984, Colorado law requires children under 40 pounds and under four years of age to be restrained in an approved child restraint when riding in a car.

The most dangerous place for a child in a car is on the lap or in the arms of another person; the safest place is in a restraint fastened to the center of the rear seat.

Children are 95 percent less disruptive in a car when they are in a restraint system.

If the car is equipped with a passenger side air-bag, always install infant and car seats (facing the rear) in the back seat of the car.

The major factor affecting correct use of seat belts by children, is use of seat belts by the parent(s).

immunized against preventable diseases. The 'vaccination' to combat infant and child car deaths is the proper use of car safety seats and belts."

The Law

Since the 1984 child safety seat law went into effect, the death rate from traffic crashes for children under 4 decreased 34 percent. In contrast, the death rate for children age 4 through 15 increased 26 percent during the same time period. The new 1995 seat belt law closes a gap in the Colorado law. Effective July 1, 1995 Colorado Revised Statutes, Section 42-4-236 mandates children under age 16 wear seat belts while riding in both the front and back seats of motor vehicles.

The Risk

It has been estimated that as few as 2 percent of children under age 10 are properly restrained by safe car seats or lap belts when riding in automobiles. Even when

Do you worry about Sudden Infant Death Syndrome, cancer, fires, pneumonia, drowning? You've missed the one thing that kills more children than all these together--the automobile. Once a baby is beyond the critical early weeks, automobile accidents are the leading cause of death in childhood, claiming more lives than any disease or other accidental cause. Thousands of children are killed every year as passengers in automobiles. Many more are injured or permanently disabled.

A spokesman for the American Academy of Pediatrics said, "We see to it that all children are

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1. Colorado State University Cooperative Extension assistant director, 4-H and youth. ©Colorado State University Cooperative Extension 7/95. For more information, contact your county Cooperative Extension office.

parents are concerned enough to wear their own safety belts, only about 25 percent of the children in their automobiles are protected. Multi-year accident studies in Michigan and Washington have shown that not a single child properly restrained in a safe car seat has been fatally injured. The American Academy of Pediatrics estimates that 91 percent of fatalities and 78 percent of injuries could be avoided if children were secured in approved seat restraints. In a 30-mile-per-hour crash, a 7-pound infant becomes a 210-pound weight. The unrestrained infant will hit the dashboard with the force of a fall from a three-story building.

Myths Adults Must Give Up

Myth 1: While many adults believe that seat belts and child restraints are only important for long highway trips, statistics from the state of Washington indicate the need for restraint use at all times. In a three-year study, it was found that fatal accidents involving young children usually occurred under ordinary conditions on dry roads at low speeds during daylight hours and were not related to alcohol usage.

Myth 2: Many adults believe they can safely hold a child on their laps while traveling in a car. In a series of tests at the Highway Safety Research Institute in Michigan, male and female adult volunteers were safely fastened to a seat with lap and shoulder belts. Each was then subjected to simulated 15- and 30-mile-per-hour impacts. Not one of the volunteers was able to hold onto a lifesize simulated baby doll. Even knowing the precise moment of impact and using all their strength, the doll was ripped from their arms and slammed into the dashboard. A second study was sponsored by the Insurance Institute for Highway Safety in Washington, D.C. It shows what happens to infants held in the arms of adults who were not using proper restraining devices. In this test, a 1979 four-door Chevy Malibu was driven into a solid barrier at just 24 miles per hour. The second major cause of death and injury to children in cars is being crushed by unrestrained adults. The most dangerous place in a car for a child is on the lap or in the arms of another person.

Myth 3: Many people believe they will be killed by fire or drowning if they are belted in the automobile. It is much safer to stay inside an automobile rather than be thrown from it. Even when there is fire or submersion in water, a seat restraint will reduce the risk of incapacitating injury and increase the chance of remaining conscious and escaping the vehicle.

Proper Use of Restraints

An important principle of survival is routinely included in instructions to airline passengers. Adult passengers are instructed to put on their oxygen masks before assisting their children with a mask. The principle underlying this instruction is that adults are only helpful to a child if the adults retain the ability to function. That principle is also applicable to the use of seat restraints in automobiles. An adult not wearing a seat belt may be injured seriously and become unable to provide critical assistance to a child who may be injured. Adults who wear seat belts set a good example, protect their ability to help an injured child, and prevent possible injury to others by the impact of their unrestrained body.

Children of different sizes need different types of seat restraints. Children weighing 40 pounds or more can more safely use a lap belt if it is secured across the hips and adjusted for a snug fit. However, a small child's head is heavier and larger, in proportion to its body than an older child or adult. The small child's head is controlled by weaker head muscles and their bone structure is softer and still forming. A small child can "tunnel under" or slip through a standard lap belt in a crash or sudden stop, and the diagonal shoulder harness could position itself dangerously across the child's neck or face. Adult seat belts can cause injury to a small child in case of a sudden crash. In the rare instance when no child restraint is available, a lap belt is better than nothing.

Small children need restraints that distribute crash forces over a larger portion of their body. The restraint should provide good support for the head and neck to guard against whiplash injuries.

Never put a lap seat belt around both an adult and a child held on their lap. The adult's weight when forced forward by a sudden impact would press the belt into the child and could cause serious injury.

Children between 20 and 40 pounds in weight are safest when riding in restraint systems that use a five-point harness or a large shield to protect the child. Infants up to 20 pounds in weight should travel in rear-facing, semi-reclined restraints anchored with lap belts. Some authorities believe there is no other way to safely transport children of this size.

Selection and Installation

When shopping for restraints, the following guidelines are important: 1) Purchase only those restraints manufactured after January 1, 1981. These restraints have been dynamically tested in a simulated crash. 2) Purchase the restraint that fits your child's present height and weight. 3) Read all instructions for installation and use. Ask for a demonstration of proper use if you are unsure. Be sure the restraint you choose will fit your automobile.

The first rule of child restraint is: Adults who drive with children must use their own seat belt.

If the seat you choose requires a top anchor strap, it is absolutely essential that the top anchor strap be installed properly. Installing the bracket and anchor strap necessary for proper function of the seat is often the only thing that makes the seat safe. Some child restraints are secured by a standard lap belt through or around the child restraint. Follow the manufacturer's instructions exactly for the restraint you purchase. 4) Choose a seat that is comfortable, durable and easily cleaned. 5) Restraints are expensive. If you cannot purchase the correct seat for your child, call your local hospital or medical society for information about child restraint loan programs. In some locations Colorado Extension Homemakers facilitate a child restraint loan program. Restraints purchased at garage sales often are in poor unsafe condition and rarely come with installation or use instructions. Surveys have shown that three out of four safety seats are not used correctly.

To find out whether a child's safety seat has been recalled call the U.S. Department of Transportation at 1-800-424-9393. Be prepared to give: 1) the name of the seat manufacturer, 2) the name of the seat, and 3) the model number or the year the seat was purchased.

Children's Use of Restraints

Research at the University of Kansas Medical Center showed that children restrained by safety seats or belts were 95 percent less disruptive than unrestrained children. If a child is not restrained they will move freely around in the car, distracting the driver and other drivers. When the child is not supported in a restraint, the child can roll or fall off the seat when the vehicle makes sudden stops or sharp turns. If the child is not able to see out the window, they may become bored and disruptive.

Suggestions for Adults with Child Passengers

1. Get started off right by using a child restraint when you bring your newborn home from the hospital. Infants enjoy warmth, motion and security. The first ride can provide all of those if you use a rear-facing car seat for your newborn. Some physicians write a formal prescription for a seat restraint for a newborn.

2. Tell children what you want them to do rather than what they should not do. For example, say, "I want you to sit quietly while I fasten your belt. If you watch carefully you will soon be big enough to buckle up yourself."

3. If a child is making the first trip in a car seat, make it a happy time. Explain the rules for riding in the car--everyone in this car wears a seat belt. Be positive by saying, "We are going for a ride and we will have a good time." Point out exciting things the child can now see

because of the height of the safety seat. Keep the first ride a short one.

4. Children who are not used to riding in a seat restraint will probably resist efforts to secure them. If the child struggles, begs or yells, ignore their negative behavior. Maintain a firm, calm attitude and don't argue. Be persistent and keep the child in the seat. If you must, stop the automobile in a safe place and give all your attention to calming the child. Distract the child with a soft toy, book or doll. Tell the child, "This car does not move until all belts are fastened." If the child attempts to climb out of the seat or release the buckle, say "No" in a firm, calm voice. If the child persists, a firm slap on the back of the hand may be necessary. Never slap the child's face or slap hard enough to injure the small, soft bones of a child. Frequent slapping will not be effective. Use only as a last resort.

5. Remember, praise works better than punishment. Be aware of every positive move the child makes toward using the seat restraint. Praise them liberally and immediately. For example, say, "You are sitting so quietly today. Daddy is happy that you can do that. I'll bet you're proud that you can do it." Brag about their good behavior to other significant people in the child's life--and be sure the child hears you do it.

6. When riding for long periods of time, make frequent stops to give children the chance to move about and let off steam. Even infants like to stretch and kick. Stop only in safe rest areas off the roadway.

7. A study of fifth grade children found that the child's identification with the parent and the parent's instruction to the child to "buckle up" are significant factors in the child's use or nonuse of seat belts. Other studies support the conclusion that the major factor affecting correct use of seat belts by children, is use by the parent. Set a good example and see that all riders, adults and children, wear seat belts. You may need to explain to other adults riding in your automobile that your children need to see good examples of seat belt use.

For More Information

The following groups have been active in promoting the use of child seat restraints:

Physicians for Automotive Safety
725 Dowz Ave
Elizabeth, N.J. 07201
908-351-7500

National Safety Council
1121 Spring Lake Drive
Itasca, Illinois 60143-3201

American Academy of Pediatrics
Division of Public Education
141 Northwest Point Blvd
PO Box 927
Elk Grove Village, IL 60009-0927

"Family Shopping Guide to Carseats"
Send a business-size stamped and self addressed envelope to:

American Academy of Pediatrics
Carseat Guide
P.O. Box 927
Elk Grove Village, IL 60009-0927

Colorado Division of Highway Safety
4201 E. Arkansas Avenue
Denver, Co 80222

American Hospital Association
1 North Franklin
Suite 2700
Chicago, IL 60606
312-422-3000

Colorado Hospital Association
2140 South Holly
Denver, Co 80222
303 758-1630

Michigan Office of Highway Safety Planning
Lansing, MI 48913

National Association for Family and Community Education
Colorado Association for Family and Community Education, Safety Chair
(Contact your county Colorado State University Cooperative Extension office)

AAA Foundation For Traffic Safety
8111 Gatehouse Road
Falls Church, VA 22047

National Highway Traffic Safety Administration (NHTSA)
U.S. Department of Transportation
4007th Street, S.W.
Washington, DC 20590
202-366-2672

1995 Product Information

All products listed meet current Federal Motor Vehicle Safety Standard 213. New models in italics.

INFANT SEATS

Century 565 series
Century 590 series
Cosco Arriva
Cosco Dream Ride
Cosco TLC
Evenflo Dyn-O-Mite
Evenflo Joy Ride
Evenflo On My Way
Evenflo Travel Tandem
Gerry Guard with Glide
Gerry Secure Ride
Kolcraft Infant Rider
Kolcraft Rock 'N' Ride

CONVERTIBLE SEATS

Babyhood Baby Sitter
Century 1000 STE, *1500 Prestige*
Century 2000 STE, *2500 Prestige*
Century 3000 STE, *3500 Prestige*
Century 5500 STE Prestige
Century Smart Move
Cosco Touriva 5-point
Cosco Touriva Overhead Shield
Cosco Touriva Soft Shield
Evenflo Champion
Evenflo Scout
Evenflo Trooper
Evenflo Ultra I
Evenflo Ultra V
Gerry Guard Secure Lock
Gerry Pro-Tech
Kolcraft Auto-Mate
Kolcraft Traveler 700
Safeline Sit 'N' Stroll

VESTS AND BUILT-IN SEATS

(For use after 1 year of age)
E-Z-On Vest (25 lbs and up)
Little Cargo Travel Vest (25-40 lbs)
Chrysler Integral Seats
Ford Built-in Seat (20-60 lbs)

BOOSTER SEAT

Century Breverra Premiere
Century Breverra Sport
Cosco Explorer
Downunder Design Kangaroo
Evenflo Sidekick
Fisher-Price T-Shield
Gerry Double Guard
Kolcraft Tot Rider II