

SAFE KIDS BUCKLE UP

Frequently Asked Child Passenger Safety Questions

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What is the safest way for my child to ride in a vehicle? What is the safest way for my child to ride in a vehicle?

- All children 12 and under should ride properly restrained in a back seat.
- Infants should ride in rear-facing safety seats as long as possible according to manufacturer instructions, until they are at least 12 months old and weigh at least 20 pounds.
- Children who are at least 1 year old, weigh 20-40 pounds and can no longer ride rear-facing should ride in forward-facing child safety seats.
- Children over 40 pounds should be correctly secured in belt-positioning boosters or other appropriate child restraints until the adult lap and shoulder belts fit correctly (around age 8).
- Once the vehicle safety belts fit children, both lap and shoulder belts should be correctly used.
- Any safety seat must be installed and used according to the manufacturer's instructions and your vehicle owner's manual.

Why should I use child safety seats and safety belts?

Even a relatively minor crash can be extremely violent. An unrestrained passenger can be thrown with a force many times his or her own weight. Crash forces can also injure vital internal organs. A properly used child safety seat or safety belt helps to minimize a passenger's motion in a crash, preventing ejection, distributing crash forces over the strongest parts of the body and protecting the head and spinal cord.

Since vehicle safety belts don't fit the physical and developmental needs of young children, appropriate child safety seats are necessary. All states and territories of the United States have child occupant protection laws in place. Because they are minimal requirements, however, most state laws do not fully represent "best practices" for safely transporting children. We must remember that laws vary from state to state, but the laws of physics remain constant. Crashes do not become less violent when we drive across state lines.

Which is the best child safety seat model for my child?

All child safety seats must meet federal performance standards. They should bear labels that state they meet these standards. This ensures that all currently manufactured child safety seats are safe when used according to both the child safety seat and vehicle manufacturers' instructions. When choosing a specific model, parents and caregivers should evaluate it on three levels:

1. **Does it fit the child?** – Check the manufacturer's instructions to ensure that your child is within the allowable weight and height ranges for a specific seat and meets the recommended age/developmental characteristics for a specific type of device.
2. **Does it fit the vehicle?** – Not all child safety seats can be correctly installed in all seating positions of all vehicles. It is important to read both the child safety seat and vehicle instructions and to try installing the seat in your vehicle(s). In general, a correctly installed child safety seat should not move more than one inch side-to-side or forward when pulled at the safety belt path.
3. **Will you use it consistently and correctly?** – Child safety seats vary in design and features. It is very important to choose one that you and your child are comfortable with and that you can correctly install and adjust every time you drive.

These are the basic categories of child safety seats:

Infant-only safety seat: Infants should ride in rear-facing child safety seats as long as possible according to the manufacturer's instructions. At a minimum, they should be at least 12 months old AND weigh at least 20 pounds before they face the front of the vehicle. Until that time, their bones and ligaments are not developed enough to withstand forward-facing crash forces.



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Infant-only seats must ALWAYS be used in the rear-facing position, and most can be used until a baby weighs 20 or 22 pounds. Many infant safety seats have harness dimensions and recline adjustments that fit babies well, and some offer convenience features like carrying handles and detachable bases. If an infant outgrows the weight or height limits of an infant-only model before his or her first birthday, try to find a convertible child safety seat. Many of these can accommodate much larger children who should still face the rear.

NEVER place a rear-facing child safety seat in a seating position with an active frontal air bag! In even a minor crash, a passenger air bag could inflate with enough force to cause serious injury or even death to a rear-facing child. If a rear-facing infant **MUST** ride in the front seat, an air bag on-off switch may be pre-installed or available for your vehicle. More information is available at www.nhtsa.dot.gov or by contacting your vehicle manufacturer.

Convertible child safety seat: In general, convertible child safety seats can be used from the time a child is born until he or she weighs 40 pounds. Convertibles can be used rear-facing for infants who weigh up to 20-35 pounds (depending on the model). After a child is at least 12 months old and weighs at least 20-22 pounds, the convertible seat can be switched to face forward. Forward-facing convertibles generally have upper weight and height limits of around 40 pounds and 40 inches.

There are three basic styles of harnessing systems for convertible child safety seats:

- **5-point harness** – Harnesses are routed through five points of the child safety seat, creating a system that restrains the child at the lap, torso and shoulders. Experts and advocates generally prefer this system, because it can be easily adjusted to fit a wide variety of child sizes.
- **T-shield** – Shoulder harnesses are attached to a padded “T”-shaped or triangular shield. This system is easy to use but not recommended for small infants. The shield may prevent the harnesses from making good contact with the child’s body and in a crash might contact a small baby’s face directly.
- **Tray-shield** – Shoulder harnesses are routed either through or behind (depending on the model) a padded tray-like shield. This system is also easy to use but not recommended for small infants. The shield may prevent the harnesses from making good contact with the child’s body and in a crash might contact a small baby’s face directly.

Forward-facing-only safety seat: This category of child safety seats has several sub-categories.

- **Forward facing safety seats with harnesses** often look similar to convertible seats, but they do not have rear-facing modes. Their weight ranges typically begin at 20-22 pounds, with a maximum weight limit of 40 pounds (depending on model).
- **Integrated seats** are built into vehicles, and their weight ranges vary. Most are for children who are over age 1 and weigh 22-40 pounds.
- **Combination seats** have internal harnesses for children who weigh a minimum of 22-30 pounds and typically have a maximum weight limit of 40 pounds (depending on model). They convert to belt-positioning boosters that accommodate children weighing a minimum of 30-40 pounds and a maximum of 60-100 pounds (depending on model and manufacture date).

My child is too big for a child safety seat. What devices will help him travel safely?

Safety experts recommend that children ride in seats with internal restraining systems (like harnesses or energy-absorbing foam) until they outgrow them. Generally, children should begin riding in booster seats when they weigh around 40 pounds and continue riding in them until the vehicle safety belts alone fit correctly.

There are several styles of booster seats:

Belt-positioning booster: These devices position children so that vehicle safety belts fit correctly, and often have safety belt guides to maintain that positioning. Adult belts do not typically fit a child until around age 8,



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and boosters provide a transition from child safety seats with harnesses to vehicle safety belts. Belt-positioning boosters guide the lap belt snugly across upper thighs, position the shoulder belt snugly across chest and collarbone, and allow the child's knees to bend so correct positioning is maintained. They can ONLY be used with both lap and shoulder safety belts, and have weight ranges from 30-40 pounds to 60-100 pounds (depending on model).

High back belt-positioning booster: This style provides support for a child's head and neck, and is especially useful if the base of a child's skull (center of the ears) is above the top of the vehicle seat when he or she sits in a booster seat. Some models also provide a place for a sleeping child's head to rest.

Backless belt-positioning booster: This style is less expensive than high back versions, and is appropriate if a head restraint is built into the vehicle. They have lap belt guides, and some models have shoulder belt adjusters.

Shield boosters: These devices were popular in the 1980s and early 1990s, when most vehicles had only lap belts in rear seats. The intent was to enhance upper body restraint for children who had outgrown convertible safety seats. Changes to the federal standards in 1996 caused most shield boosters to be removed from the U.S. market, since they have a weight range of 30-40 pounds. While manufacturers may recommend the use of shield boosters at lower weights, children who weigh less than 40 pounds should remain in convertible or forward-facing safety seats.

Current shield boosters have removable shields that allow them to become backless belt-positioning boosters for children who weigh more than 40 pounds. This is the only use of these devices that experts typically recommend.

At what age and weight should I turn my infant around to face forward?

Children should ride in rear-facing child safety seats as long as possible. At a minimum, they should be at least 12 months old AND weigh at least 20 pounds before they face the front of the vehicle. Until that time, their bones and ligaments are not developed enough to withstand forward-facing crash forces.

The rear-facing position reduces the risk of spinal cord injury in a frontal collision, since the safety seat's shell supports the neck and spreads crash forces across the entire back. Most infant-only seats have a limit of 20 or 22 pounds, but most current convertible safety seats have rear-facing limits of 30 pounds or more. They provide better protection for children beyond their first birthdays. Most current convertible safety seats have rear-facing weight limits of 30 pounds or more. Always check labeling for specific weight and height ranges. Read both the child safety seat instructions and the vehicle owner's manual for information about correct use and installation of your child safety seat.

What can I do if there are only lap belts in my back seat?

Vehicles were not required to have rear-seat shoulder belts until model year 1990, and many current models do not have shoulder belts in rear-center seating positions. Since belt-positioning boosters can only be used with both lap and shoulder belts, properly restraining children who weigh more than 40 pounds in these seating positions can require extra effort. Some options are:

- Obtain a forward-facing child safety seat (with harnesses or energy-absorbing foam) that is rated for weights higher than 40 pounds (see below for more information).
- Obtain a special harness that is anchored to vehicle with a tether.
- Contact an auto dealership about installing shoulder belts. If your dealer is unfamiliar with retrofit shoulder belts that are authorized by the manufacturer of your vehicle, contact the manufacturer directly.
- Correctly restrain your child in the front seat, using lap and shoulder belts with a belt-positioning booster, understanding that children are generally much safer in rear seating positions.



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Other devices that may help children travel safely in vehicles without rear-seat shoulder belts are:

Safety seats with harnesses for children weighing over 40 pounds: A few manufacturers design forward-facing seats that have higher weight limits when used with harnesses. These devices help accommodate children who ride in seating positions where no shoulder belts are available (older cars, rear-center positions, etc.) and children at behavioral stages that might interfere with correct booster or lap and shoulder belt use. Examples of such seats include:

Britax Child Safety (888-427-4829; www.britaxusa.com)

- Marathon (rear-facing to 33 pounds; forward-facing to 65 pounds)
- Wizard (rear-facing to 33 pounds; forward-facing to 65 pounds)
- Husky (forward-facing to 80 pounds when top tether is used)

Car Seat Specialty (877-912-1313; www.team-tex.com)

Nania Airway (50 pounds using harness; 80 pounds converted to booster)

When is my child ready to use the vehicle's lap and shoulder belts?

Vehicle safety belts are designed to protect adults and older children (usually starting around age 8), and they must be used correctly to provide that function. To determine whether a child is large enough to use safety belts alone, parents and caregivers need to assess the child for three necessary characteristics:

- The child can sit all the way back against the vehicle seat, with his or her knees bent over the edge.
- The lap belt remains snugly positioned over the bony upper thighs or lower hips, rather than the soft abdomen, for the entire ride.
- The shoulder belt remains snugly positioned across the chest and collarbone for the entire ride.

If any of these characteristics are not present, it is likely that the child needs a belt positioning booster seat. Safety belts should stay on the strong, bony parts of the body, and shoulder belts must never be placed behind the back or under the arm.

My child has special needs. Are there safety devices that are right for her?

Children with special health or developmental issues can often use conventional safety seats, but some may need restraint systems that are designed to address those issues. If your child may have unconventional transportation needs, it is recommended that you discuss them with your pediatrician, physical therapist and a trained transportation specialist. They should be able to refer you to resources that can help you select and use an appropriate system.

Some "special needs" manufacturers and their products can be found at www.snugseat.com, www.columbiamedical.com, www.britaxusa.com and www.ezonpro.com. Looking at available products can make you aware of alternatives, but involving your healthcare professional(s) is critical.

Why do child safety seats need to be replaced after a crash?

Crash forces can weaken or damage child safety seats, safety belts and other protective devices, making them less effective. This type of damage can occur even in minor crashes and is not always visible to the naked eye. For this reason, manufacturers state that child safety seats and safety belts involved in crashes must be replaced. If a restraint system has protected a passenger in a crash, it has already done its job.

Many parents and caregivers are reluctant to replace safety devices after relatively minor crashes. At a minimum, we suggest contacting the appropriate child safety seat or vehicle manufacturer for advice. The manufacturer



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knows the product's capabilities and limitations, and may even be able to assist parents and caregivers with encouraging insurers to pay for replacement.

Why should I be concerned about using second-hand child safety seats?

There are several concerns about used child safety seats, so in general they are not recommended. Here are a few of the concerns:

- *The full history of a second-hand safety seat may be unknown.* It may have been damaged in a previous crash, weakened by inappropriate use and storage, or otherwise compromised.
- *All of the original parts, instructions and labels may not be present and in good condition.* Parts substituted from other models and other user modifications can compromise the safety of the device.
- *The safety seat may have been recalled.* Missing or damaged labels may make that difficult to assess, and determining whether a recalled part has been repaired or replaced can also be difficult.
- *The safety seat may be too old.* Most manufacturers agree that a safety seat that is more than six years old should not be used because performance standards frequently change and devices incorporating new technologies protect children better. In addition, replacement parts and instructions may no longer be available for older safety seats, and manufacturers may no longer be in business, making repair or replacement of defective seats unlikely.

What should I know about installing my child's safety seat?

Hundreds of child safety seat models are in use, and there are dozens of vehicle safety belt configurations and other anchoring systems. As a result, there are thousands of potential combinations, which can make correct safety seat installation confusing. Here are a few pointers on installation:

- Use the correct child safety seat belt path or LATCH system.
- Check your vehicle and child safety seat instructions to see how to lock your child safety seat in place and if you need any special installation hardware.
- Get a tight fit—an installed child safety seat should not move more than one inch from side to side or toward the front of the vehicle.

What is LATCH?

The LATCH (Lower Anchors and Tethers for Children) system is available for installing most new child safety seats in most new vehicles. It can make installation easier, and it is just as safe as installing child safety seats with safety belts. If your vehicle and child safety seat are equipped with LATCH, you can follow vehicle and child safety seat instructions for using the system to install your seat. Make sure you attach the connectors on your child safety seat to the special LATCH anchors in your vehicle and that the child safety seat is tightly locked in place.

NOTE: Safety belts can be used instead of lower anchors for installation if needed in your vehicle.

What are top tethers for?

Most forward-facing and convertible child safety seats manufactured since 1999 come with tether straps. They attach the tops of child safety seats to special anchors in vehicles. A tether can add stability and provide for better head and neck protection when used correctly.

To use a tether strap, you need a tether anchor. Check your vehicle owner's manual to find out if you have an anchor, or contact your vehicle manufacturer to find out if one can be installed. If your child safety seat came with a tether strap, follow the instructions for attaching and tightening it. If your child safety seat didn't come with a tether strap, contact the manufacturer to find out if one is available for your child safety seat.



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At what height or weight is my child ready to ride in a front seat?

A back seat is generally the safest place for a child to ride. While air bags can save lives, kids riding in the front seat can be seriously injured or killed when an air bag comes out. Even with advanced air bags or no air bags, riding in a back seat is safer for children.

The recommendation that children ages 12 and under should ride in the back seat is based on average weights and sizes, physical maturity and emotional maturity. Most crashes involve frontal collisions, and the back seat is further away from that impact. In addition, children under 13 may not be as likely to consistently sit all the way back against the vehicle seat with the lap and shoulder belt properly positioned. That would allow the child to be closer to the air bag during a crash, increasing the possibility of injury.

What should I know about children and frontal air bags?

Since the most common type of crash is frontal, the rear seat is generally the safest place for children to ride, regardless of air bags. One study showed that children are up to 37 percent less likely to die when seated in the rear. Most air bags were designed to help protect adults in frontal collisions, not children. Especially when a child is in a rear-facing safety seat or out of position, a frontal air bag can cause serious or fatal injury.

The best protection is provided when people follow the rules below:

- Children ages 12 and under should be properly restrained in the back seat.
- Never place a rear-facing child in a seating position with an active frontal air bag.
- If it is absolutely necessary for an older child to ride in the front seat:
 - Correctly install and use an appropriate forward-facing child safety seat or safety belt.
 - Move the front seat as far back from the dashboard as possible.
 - Don't let your child lean toward the dashboard or lie on the window or door.
 - Contact your vehicle manufacturer for information about air bag on/off switches.

For additional information on air bag issues and children, you can visit the Air Bag & Seat Belt Safety Campaign (www.nsc.org) and the National Highway Traffic Safety Administration (www.nhtsa.dot.gov).

What if my car has side-impact air bags?

It is well known that lateral (side) impacts are the most dangerous types of crashes. As a result, manufacturers are enhancing protection by installing side-impact air bags and other protective features. Properly placed side-impact air bags can enhance protection against an intruding vehicle, hard interior surfaces and breaking glass.

By testing possible misuses, the National Highway Traffic Safety Administration and auto manufacturers have determined that some side-impact air bags can present a danger to out-of-position children. Because side air bag designs vary, NHTSA recommends that manufacturers notify consumers whether it is safe for children to sit next to their side air bags. NHTSA also recommends that manufacturers of vehicles with rear-seat side air bags ship the vehicles to dealers with the rear bags deactivated and that manufacturers allow consumers with children who are likely to be out of position to have rear-seat side air bags deactivated.

Real-world interaction between correctly installed child safety seats and side-impact air bags has not yet been determined to be positive, negative or inconsequential. The answer depends on the specific bag design and whether the child is too close to it when it deploys. For now, the best answer is to refer to the specific vehicle and child safety seat manufacturers' instructions and to contact the manufacturers for advice on placing children and installing child safety seats. Obviously, this answer does not fully resolve issues for parents and caregivers. At



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the same time, it is the only accurate way to address the issues. Any other method would involve speculation by non-experts.

Why aren't there safety belts on school buses?

The question of having safety belts on school buses is a complex one. There are safety considerations as well as the issue of educational consistency. The National Transportation Safety Board has investigated a substantial number of school bus crashes, and the National Highway Traffic Safety Administration recently released a study of the pros and cons of requiring some sort of safety restraints. A few of the items they addressed are:

- Whether safety belts would have helped children who were hurt in previous crashes (some data shows that they might).
- Whether safety belts could have made the results of previous crashes worse (some data shows that they might).
- Whether the narrow spacing of bus seats make safety belts less effective (some data shows that it might).
- Whether lap belts are adequate or lap/shoulder belts would be necessary (in existing versus new buses).
- The plausibility of retrofitting existing buses with safety belts (considering the structural components of buses).
- The costs of making changes to the requirements versus the potential benefits (and the financial trade-offs that would be required of school systems).
- The costs of ensuring that children would wear the safety belts if they were required (such as driver distraction and paid monitors).

Currently, protection in buses weighing more than 10,000 pounds is provided by a system called "compartmentalization." High, padded seats and narrow seat spacing are intended to provide an "egg crate" effect, keeping children relatively safe. The size of buses, their visibility and the fact that they typically travel familiar routes in daylight hours combine to make them the safest vehicles on the road compared to other passenger vehicles. Smaller buses are required to have safety belts, and a few states and school systems even require them on new full-size buses.

There are unanswered questions that experts will continue to study. Until then, SAFE KIDS encourages parents, caregivers and school systems to educate children about bus stop safety, getting on and off buses safely, and sitting properly on the buses to take full advantage of compartmentalization.

The referenced study and recently created school bus safety materials are available at www.nhtsa.dot.gov.

What's the safest way for my children to travel on an airplane?

Although it is not currently required, children on aircraft should be secured in child safety seats until they weigh at least 40 pounds, depending on your child safety seat model. Once they weigh more than 40 pounds, they should be secured by aircraft lap belts. Properly restraining children and adults provides protection during takeoff and landing, in cases of clear air turbulence and in survivable crashes. Most rear-facing and forward-facing child safety seats are labeled that they meet FAA requirements, though booster seats cannot be used on aircraft. Bringing your child's safety seat with you also provides the practical benefit of having it with you when you land.

Before traveling, check your safety seat for FAA compliance labeling and contact the airline for child safety seat policies and any available fare discounts.

How can I become a child safety seat technician?

The most comprehensive training program available in the United States is the Standardized Child Passenger Safety Training Program. Individuals who complete all requirements for that course can become certified child



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passenger safety technicians. You can find information about the program at www.cpsboard.org and www.nhtsa.dot.gov.

How else can I help?

Even if you can't invest the time right now to become a certified technician (typically four to five days), you can still help protect kids in your community from injury by volunteering with your local SAFE KIDS coalition. Our coalitions are active in a wide range of childhood injury prevention activities, and they will welcome your help! To find your nearest SAFE KIDS coalition, visit www.safekids.org or call 1-800-441-1888.

Where can I receive more child passenger safety information?

There are several resources for additional and up-to-date information on properly restraining children:

- The National SAFE KIDS Campaign – SAFE KIDS BUCKLE UP Program 202.662.0600, www.safekids.org
- U.S. Department of Transportation Auto Safety Hotline (1-800-424-9393, www.nhtsa.dot.gov)
- American Academy of Pediatrics (www.aap.org)
- The Air Bag & Seat Belt Safety Campaign (www.nsc.org)
- SafetyBeltSafe USA (www.carseat.org)

