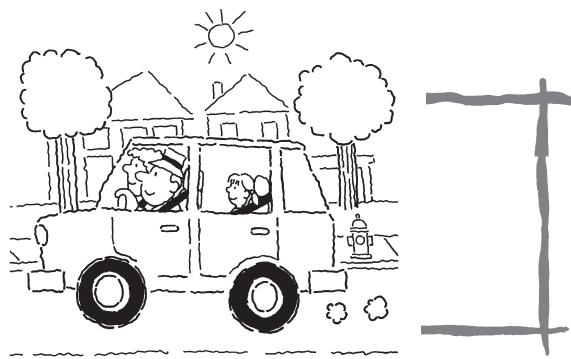


Car Safety Seats:

A Guide for Families

2013 Safety Information (Part 1 of 2)



One of the most important jobs you have as a parent is keeping your child safe when riding in a vehicle. Each year thousands of young children are killed or injured in car crashes. Proper use of car safety seats helps keep children safe. But with so many different car safety seats on the market, it's no wonder many parents find this overwhelming.

The type of seat your child needs depends on several things, including your child's age, size, and the type of vehicle you have. Read on for more information from the American Academy of Pediatrics (AAP) about choosing the most appropriate car safety seat for your child.

Note: The "Types of car safety seats at a glance" chart is a quick guide on where to start your search. It's important to continue reading more about the features and how to use your car safety seat. Additional safety tips and a list of car safety seats are at the end of this publication.

Installation information—seat belts and LATCH

Car safety seats may be installed with either the vehicle's seat belt or the LATCH (Lower Anchors and Tethers for Children) system. These systems are equally safe, but in some cases, it may be easier to install the car safety seat using LATCH.

LATCH is an attachment system for car safety seats. Lower anchors can be used instead of the seat belt to install the seat and many parents find them easier to use in some cars. The top tether improves the safety provided by the seat and is important to use for all forward-facing seats, even those installed using the vehicle seat belt. Read the vehicle owner's manual and the car safety seat instructions for weight limits for lower anchors and top tethers.

Vehicles with the LATCH system have anchors located in the back seat, where the seat cushions meet. Top tether anchors are located behind the seat, either on the panel behind the seat (in sedans) or on the back of the seat, ceiling, or floor (in most minivans, SUVs, and hatchbacks). All car safety seats have attachments that fasten to these anchors. Nearly all passenger

vehicles and all car safety seats made on or after September 1, 2002, come with LATCH anchors.

Seat belts: If you install the car safety seat using your vehicle's seat belt, check the vehicle owner's manual to see if you need a locking clip to keep the belt locked into position. Locking clips are not needed in most newer vehicles, but you may need to fully extend the seat belt first and then allow it to retract in order to keep the seat belt tight around the car safety seat. Many car safety seats have built-in lock-offs to lock the belt.

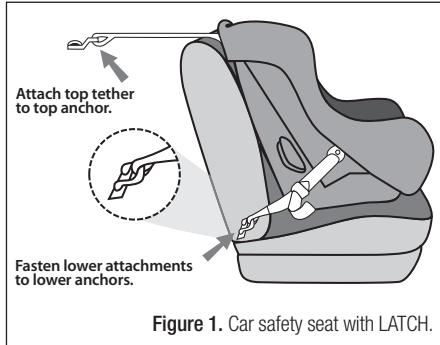


Figure 1. Car safety seat with LATCH.

The safest place for all children younger than 13 years to ride is the back seat. If possible, it may be best to ride in the middle of the back seat. However, it is sometimes difficult to install a car safety seat tightly in the middle if the vehicle seat is narrow or uneven. Also, most vehicles do not have LATCH anchors for the middle seating position. It is safest to put the car safety seat in a position where you can install it tightly with either LATCH or the seat belt; in some cases, this may be on either side of the back seat rather than the middle. A child passenger safety (CPS) technician can help you decide which place is best to install your child's car safety seat in your vehicle.

Infants and toddlers—rear-facing

The AAP recommends that all infants should ride rearfacing starting with their first ride home from the hospital. All infants and toddlers should ride in a **Rear-Facing Car Safety Seat** until they are at least 2 years of age or until they reach the highest weight or height allowed by their car safety seat's manufacturer.

Type of car safety seats at a glance

Age Group	Type of Seat	General Guidelines
Infants/toddlers	Rear-facing only seats and rear-facing convertible seats	All infants and toddlers should ride in a Rear-Facing Car Safety Seat until they are at least 2 years of age or until they reach the highest weight or height allowed by their car safety seat's manufacturer.
Toddlers/preschoolers	Convertible seats and forward-facing seats with harnesses	Any child 2 years and older who has outgrown the rear-facing weight or height limit for their car safety seat should use a Forward-Facing Car Safety Seat with a harness for as long as possible, up to the highest weight or height allowed by their car safety seat manufacturer. This also applies to any child younger than 2 years who has outgrown the rear-facing weight or height limit of their seat.
School-aged children	Booster seats	All children whose weight or height is above the forward-facing limit for their car safety seat should use a Belt-Positioning Booster Seat until the vehicle seat belt fits properly, typically when they have reached 4 feet 9 inches in height and are between 8 and 12 years of age.
Older children	Seat belts	When children are old enough and large enough for the vehicle seat belt to fit them correctly, they should always use Lap and Shoulder Seat Belts for optimal protection. All children younger than 13 years should be restrained in the rear seats of vehicles for optimal protection.

Types of rear-facing car safety seats

There are 3 types of rear-facing car safety seats: rear-facing only seats, convertible seats, and 3-in-1 seats.

When children reach the highest weight or length allowed by the manufacturer of their rear-facing only seat, they should continue to ride rear-facing in a convertible seat or 3-in-1 seat.

1. Rear-facing only seats

- Are used for infants up to 22 to 40 pounds, depending on the model.
- Are small and have carrying handles (and sometimes come as part of a stroller system).
- Usually come with a base that can be left in the car. The seat clicks into and out of the base so you don't have to install the seat each time you use it.
Parents can buy more than one base for additional vehicles.
- Should be used only for travel (not for sleeping, feeding, or other uses outside the vehicle).



Figure 2. Rear-facing-only car safety seat.

2. Convertible seats (used rear-facing)

- Can be used rear-facing, then "converted" to forward-facing for older children. This means the seat can be used longer by your child. They are bulkier than infant seats, however, and do not come with carrying handles or separate bases so are not routinely used outside of the vehicle.
- Many have higher rear-facing weight (up to 40–50 pounds) and height limits than rear-facing only seats, which make them ideal for bigger babies.
- Have a 5-point harness that attaches at the shoulders, at the hips, and between the legs. Convertible car seats with overhead shields are no longer made. However, if you have one you can use it safely until its expiration date.
- Should be used only for travel (not for sleeping, feeding, or other uses outside the vehicle).



Figure 3. Convertible car safety seat used rear-facing.

3. 3-in-1 seats (used rear-facing)

- Can be used rear-facing, forward-facing, or as a belt-positioning booster. This means the seat may be used longer by your child.
- Are often bigger in size, so it is important to check that they fit in the vehicle while rear-facing.
- Do not have the convenience of a carrying handle or a separate base; however, they may have higher rear-facing weight (up to 40–45 pounds) and height limits than rear-facing only seats, which make them ideal for bigger babies.

Installation tips for rear-facing seats

When using a rear-facing seat, keep the following in mind:

- Place the harnesses in your rear-facing seat in slots that are at or below your baby's shoulders.
- Ensure that the harness is snug and that the harness clip is placed at the mid-chest level.
- Make sure the car safety seat is installed tightly in the vehicle. If you can move the seat at the belt path more than an inch side to side or front to back, it's not tight enough.

- Never place a rear-facing car safety seat in the front seat of a vehicle that has an active front passenger air bag. If the air bag inflates, it will hit the back of the car safety seat, right where your baby's head is, and could cause serious injury or death.
- If you are using a convertible or 3-in-1 seat in the rear-facing position, make sure the seat belt or LATCH belt is routed through the correct belt path. Check the instructions that came with the car safety seat to be sure.
- Make sure the seat is at the correct angle so your infant's head does not flop forward. Check the instruction manual to find out the correct angle for your seat and how to adjust the seat angle if needed. All rearfacing seats have built-in angle indicators or adjusters.
- Still having trouble? There may be a certified CPS technician in your area who can help. If you need installation help, see the end of this publication for information on how to locate a CPS technician.

Common questions

Q: What if my baby's feet touch the back of the vehicle seat?

A: Your child can bend his legs easily and will be comfortable in a rear-facing seat. Injuries to the legs are rare for children facing the rear.

Q: What do I do if my baby slouches down or to the side in his car safety seat?

A: Blanket rolls may be placed on both sides of the infant and a small diaper or blanket between the crotch strap and the infant. Do not place padding under or behind the infant or use any sort of car safety seat insert unless it came with the seat or was made by the manufacturer of the seat.



Figure 4. Car safety seat with a small cloth between crotch strap and infant, retainer clip positioned at the midpoint of the infant's chest, and blanket rolls on both sides of the infant.

Q: Why should I dress my baby in thinner layers of clothing before strapping her into a car safety seat?

A: Bulky clothing, including winter coats and snowsuits, can compress in a crash and lead to increased risk of injury. Ideally, dress your baby in thinner layers and tuck a coat or a blanket around your baby over the buckled harness straps if needed.

Q: Do preemies need a special car safety seat?

A: The car safety seat should be approved for the baby's weight. Very small babies who can sit safely in a semireclined position usually fit better in rearfacing only seats. Premature infants should be tested while still in the hospital to make sure they can sit safely in a semireclined position. Babies who need to lie flat during travel should ride in a crash-tested car bed.

Toddlers and preschoolers—forward-facing

Any child aged 2 years and older who has outgrown the rear-facing weight or height limit for their car safety seat should use a **Forward-Facing Car Safety Seat** with a harness for as long as possible, up to the highest weight or height allowed by their car safety seat manufacturer. This also applies to any child younger than 2 years who has outgrown the rear-facing weight or height limit of their seat. It is best for children to ride in a seat with a harness as long as possible, at least to 4 years of age. If your child outgrows his seat before reaching 4 years of age, consider using a seat with a harness approved for higher weights and heights.

Types of car safety restraints

There are 5 types of car safety restraints that can be used forward-facing.

1. **Convertible seats**—Seats that “convert” from rear-facing to forward-facing seats. These include 3-in-1 seats.

2. **Forward-facing only**—

Seats can be used forward-facing with a harness for children who weigh up to 40 to 80 pounds (depending on the model). Although manufacturers are not currently making any forward-facing only seats, many remain in use from previous years.

3. **Combination seat with harness**—Seats can be used forward-facing with a harness for children who weigh up to 40 to 90 pounds (depending on the model) or without the harness as a booster (up to 80–120 pounds, depending on the model).

4. **Built-in seats**—Some vehicles come with built-in forward-facing seats.

Weight and height limits vary. Read your vehicle owner’s manual or contact the manufacturer for details about how to use these seats.

5. **Travel vests**—Vests can be worn by children between 20 and 168 pounds and can be an option to traditional forward-facing seats. They are useful for when a vehicle has lap-only seat belts in the rear or for children whose weight has exceeded that allowed by car safety seats. These vests may require use of a top tether.

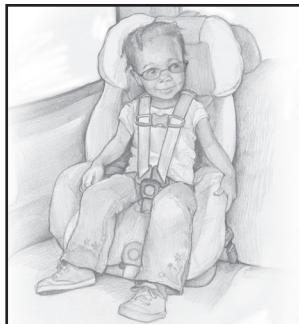


Figure 5. Forward-facing car safety seat.

Installation tips for forward-facing seats

Make sure the car safety seat is installed tightly in the vehicle and that the harness fits the child snugly.

To switch a convertible or 3-in-1 seat from rear-facing to forward-facing

- Move the shoulder straps to the slots that are at or above your child’s shoulders. On some convertible seats, the top harness slots must be used when facing forward. Check the instructions that came with the seat to be sure.
- You may have to adjust the recline angle of the seat so that it sits more upright in your vehicle. Check the instructions to be sure.
- If using a seat belt, make sure the seat belt runs through the forward-facing belt path following car safety seat instructions. If using the LATCH system, follow car safety seat and vehicle owner’s manual instructions.
- Use a tether if possible. A tether is a strap that is attached to the top part of a car safety seat and holds the seat tightly by connecting to an anchor point in your vehicle (often on the seat back or rear shelf; see your vehicle owner’s manual to find where the tether anchors are in your vehicle). Tethers give important extra protection by keeping the car safety seat and the child’s head from moving too far forward in a crash or sudden stop. All new cars, minivans, and light trucks have been required to have tether anchors since September 2000. New forward-facing car safety seats come with tether straps. A tether should always be used as long as your child has not reached the top weight limit for the tether anchor. Check the car safety seat instructions and vehicle owner’s manual for information about the top weight limit and locations of the tether anchors.

Common questions

- Q: What if I drive more children than can be buckled safely in the back seat?**

- A: It’s best to avoid this, especially if your vehicle has air bags in the front seat. All children younger than 13 years should ride in the back seat. If absolutely

necessary, a child in a forward-facing car safety seat with a harness may be the best choice to ride in front. Just be sure the vehicle seat is moved as far back away from the dashboard (and the air bag) as possible.

- Q: What do I need to know if my child will be driven by someone else, such as for child care or school?**

- A: If your child is being driven by someone else, make sure
- The car safety seat your child will be using fits properly in the vehicle used for transport.
 - The car safety seat being used is appropriate for the age and size of your child.
 - The person in charge of transporting your child knows how to install and use the car safety seat correctly.

Child care programs and schools should have written guidelines for transporting children. These guidelines should include the following:

- All drivers must have a valid driver’s license. In some states, school bus drivers need to have a special type of license.
- Staff-to-child ratios for transport should meet or exceed those required for the classroom.
- Every child should be supervised during transport, either by school staff or a parent volunteer, so the driver can focus on driving.
- School staff, teachers, and drivers should know what to do in an emergency, know how to properly use car safety seats and seat belts, and be aware of other safety requirements.

- Q: Should my child ride in a car safety seat on an airplane?**

- A: Most infant, convertible, and forward-facing seats can be used on airplanes, but booster seats and travel vests cannot. The Federal Aviation Administration (FAA) and the AAP recommend that when flying, children should be securely fastened in certified child restraints until 4 years of age, and then should be secured with the airplane seat belts. This will help keep them safe during takeoff and landing or in case of turbulence. Check the label on your car safety seat or call the car safety seat manufacturer before you travel to see if your seat is certified for use on an airplane. You can also consider using a restraint made only for use on airplanes and approved by the FAA. Remember that your child will need an appropriate car safety seat to use at your destination.

School-aged children—booster seats

Booster seats are for older children who have outgrown their forward-facing car safety seats. All children whose weight or height is above the forward-facing limit for their car safety seat should use a

Belt-Positioning Booster Seat until the vehicle seat belt fits properly, typically when they have reached 4 feet 9 inches in height and are between 8 and 12 years of age. The owner’s manual that comes with your car safety seat will tell you the height and weight limits for the seat. As a general guideline, a child has outgrown his forward-facing seat when any one of the following is true:

- He reaches the top weight or height allowed for his seat with a harness. (These limits are listed on the seat and also included in the instruction booklet.)
- His shoulders are above the top harness slots.
- His ears have reached the top of the seat.

Types of booster seats

Booster seats are designed to raise the child up so that the lap and shoulder seat belts fit properly over strong bones. High-back and backless booster seats are available. They do not come with harness straps but are used with the lap and shoulder seat belts in your vehicle, the same way an adult rides. Booster seats should be used until your child can correctly fit in the adult lap

and shoulder seat belts, typically when the child is around 4 feet 9 inches in height and 8 to 12 years old. Booster seats often have a plastic clip or guide to route the vehicle lap and shoulder belts. See the booster seat instruction booklet for directions on how to use the clip or guide.

Installation tips for booster seats

Booster seats usually are not secured to the vehicle with the seat belt or LATCH, but simply rest on the vehicle seat and are held in place once the seat belt is fastened over the child. Booster seats must be used with a lap and shoulder belt. When using a booster seat, make sure

- The lap belt lies low and snug across your child's upper thighs.
- The shoulder belt crosses the middle of your child's chest and shoulder, and is off of the neck.



Figure 6. Belt-positioning booster seat.

Common questions

Q: What if my car only has lap belts in the back seat?

A: Lap belts work fine with rear-facing only, convertible, and forward-facing seats. If your car only has lap belts, use a forward-facing car safety seat that has a harness and higher weight limits. You also could

- Check to see if shoulder belts can be installed in your vehicle.
- Use a travel vest (some can be used with lap belts).
- Consider buying another car with lap and shoulder belts in the back seat.

Q: Is there a difference between high-back and backless boosters?

A: Both types of boosters are designed to raise your child so the seat belts fit properly and both will reduce your child's risk of injury in a crash. Highback boosters should be used in vehicles without head rests or with low seat backs. Many seats that look like high-back boosters are actually combination seats. They come with harnesses that can be used for smaller children and then removed for older children. Backless boosters are usually less expensive and are easier to move from one vehicle to another. Backless boosters can be used safely in vehicles with head rests and high seat backs.

Older children—seat belts

Seat belts are made for adults. Your child should stay in a booster seat until adult seat belts fit correctly (usually when the child reaches about 4 feet 9 inches in height and is between 8 and 12 years of age). When children are old enough and large enough to use the vehicle seat belt alone, they should always use **Lap and Shoulder Seat Belts** for optimal protection.



Figure 7. Lap and shoulder seat belt.

Using a seat belt

1. An adult seat belt fits correctly when

- The shoulder belt lies across the middle of the chest and shoulder, not the neck or throat.
- The lap belt is low and snug across the upper thighs, not the belly.
- Your child is tall enough to sit against the vehicle seat back with her knees bent comfortably over the edge of the seat without slouching and can stay in this position comfortably throughout the trip.

2. Other points to keep in mind when using seat belts include

- Make sure your child does not tuck the shoulder belt under her arm or behind her back. This leaves the upper body unprotected and adds extra slack into the seat belt system, putting your child at risk of severe injury in a crash or with sudden braking.
- Never allow anyone to "share" seat belts. All passengers must have their own car safety seats or seat belts.

Common Questions

Q: I've seen products that say they can help make the seat belt fit better. Should we get one of these?

A: No, these products should not be used. They may actually interfere with proper seat belt fit by causing the lap belt to ride too high on the stomach and making the shoulder belt too loose. They can even damage the seat belt. This rule applies to car safety seats too; do not use any extra products unless they came with the seat or are specifically approved by the seat's manufacturer. There are no federal safety standards for these products, and the AAP does not recommend they be used. As long as children are riding in the correct restraint for their size, they should not need to use additional devices.

Shopping for car safety seats

When shopping for a car safety seat, keep the following tips in mind:

- No one seat is the "best" or "safest." The best seat is the one that fits your child's size, is correctly installed, fits well in your vehicle, and is used properly every time you drive.
 - Don't decide by price alone. A higher price does not mean the seat is safer or easier to use.
 - Avoid used seats if you don't know the seat's history. Never use a car safety seat that
 - Is too old. Look on the label for the date it was made. Check with the manufacturer to find out how long it recommends using the seat.
 - Has any visible cracks on it.
 - Does not have a label with the date of manufacture and model number. Without these, you cannot check to see if the seat has been recalled.
 - Does not come with instructions. You need them to know how to use the seat.
 - Is missing parts. Used car safety seats often come without important parts. Check with the manufacturer to make sure you can get the right parts.
 - Was recalled. You can find out by calling the manufacturer or by contacting the National Highway Traffic Safety Administration (NHTSA) Vehicle Safety Hotline at 888/327-4236. You can also visit the NHTSA Web site at www.safercar.gov.
 - Do not use seats that have been in a moderate or severe crash. Seats that were in a minor crash may still be safe to use, but some car safety seat manufacturers recommend replacing the seat after any crash, even a minor one. The NHTSA considers a crash minor if all of the following are true:
 - The vehicle could be driven away from the crash.
 - The vehicle door closest to the car safety seat was not damaged.
 - No one in the vehicle was injured.
 - The air bags did not go off.
 - You can't see any damage to the car safety seat.
- If you are unsure, call the manufacturer of the seat. See "Manufacturer phone numbers and Web sites" at the end of this publication.

About air bags

- **Front air bags are installed in all new cars.** When used with seat belts, air bags work very well to protect teenagers and adults. However, air bags can be very dangerous to children, particularly those riding in rearfacing car safety seats, and to preschool and young school-aged children who are not properly restrained. If your vehicle has a front passenger air bag, infants in rear-facing seats must ride in the back seat. Even in a relatively low-speed crash, the air bag can inflate, strike the car safety seat, and cause serious brain injury and death.

Vehicles with no back seat or a back seat that is not made for passengers are not the best choice for traveling with small children. However, the air bag can be turned off in some of these vehicles if the front seat is needed for a child passenger. See your vehicle owner's manual for more information.

- **Side air bags** are available in most new cars. They improve safety for adults in side-impact crashes. Read your vehicle owner's manual for more information about the air bags in your vehicle. Read your car safety seat manual and the vehicle owner's manual for guidance on placing the seat next to a side air bag.

If you need installation help

If you have questions or need help installing your car safety seat, find a certified CPS technician. Lists of certified CPS technicians and child seat fitting stations are available on the following Web sites:

NHTSA

www.nhtsa.gov (or call NHTSA Vehicle Safety Hotline at 888/327-4236)

SeatCheck

www.seatcheck.org (or call 866/SEATCHECK [866/732-8243])

National Child Passenger Safety Certified Technicians

<http://cert.safekids.org/> (or call 877/366-8154)

This site provides information in Spanish and also provides a list of CPS technicians with enhanced training in protection of children with special needs.

Important reminders

1. **Be a good role model.** Make sure you always wear your seat belt. This will help your child form a lifelong habit of buckling up.
2. **Make sure that everyone who transports your child uses the correct car safety seat or seat belt on every trip, every time.** Being consistent with car safety seat use is good parenting, reduces fussing and complaints, and is safest for your child.
3. **Never leave your child alone in or around cars.** Any of the following can happen when a child is left alone in or around a vehicle. A child can
 - Die of heat stroke because temperatures can reach deadly levels in minutes.
 - Be strangled by power windows, retracting seat belts, sunroofs, or accessories.
 - Knock the vehicle into gear, setting it in motion.
 - Be backed over when the vehicle backs up.
 - Become trapped in the trunk of the vehicle.

4. **Always read and follow the manufacturer's instructions.** If you do not have the manufacturer's instructions for your car safety seat, write or call the company's customer service department. They will ask you for the model number, name of seat, and date of manufacture. The manufacturer's address and phone number are on a label on the seat. Also be sure to follow the instructions in your vehicle owner's manual about using car safety seats. Some manufacturers' instructions may be available on their Web sites.

All products listed meet Federal Motor Vehicle Safety Standard 213 as of the date of publication. There may be car safety seats available that are not listed in this publication. The following information is current as of the date of publication. Before buying a car safety seat, check the manufacturer's instructions for important safety information about proper fitting and use.

The NHTSA has put together the car safety seat Ease of Use Ratings to educate parents and caregivers about car safety seat features and to assist them in finding the appropriate seat for their needs. You can view this list at www.nhtsa.gov/Safety/Ease-of-Use.

Although the American Academy of Pediatrics (AAP) is not a testing or standard-setting organization, this publication sets forth the AAP recommendations based on the peer-reviewed literature available at the time of its publication, and sets forth some of the factors that parents should consider before selecting and using a car safety seat.

The appearance of the name American Academy of Pediatrics does not constitute a guarantee or endorsement of the products listed or the claims made.

Prices are approximate and may vary.

Listing of resources does not imply an endorsement by the American Academy of Pediatrics (AAP). The AAP is not responsible for the content of the resources mentioned in this publication. Phone numbers and Web site addresses are as current as possible, but may change at any time.

The information contained in this publication should not be used as a substitute for the medical care and advice of your pediatrician. There may be variations in treatment that your pediatrician may recommend based on individual facts and circumstances.

Figure 1 source: *LATCH Makes Child Safety Seat Installation as Easy as 1-2-3* on NHSTA.gov. Accessed January 1, 2012.

Figures 2, 3, 5, and 7 by Anthony Alex Le Tourneau.

Figure 4 from American Academy of Pediatrics Committee on Injury, Violence, and Poison Prevention and the Committee on Fetus and Newborn. Safe transportation of preterm and low birth weight infants at hospital discharge. *Pediatrics*. 2009;123:1424 -1429.

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