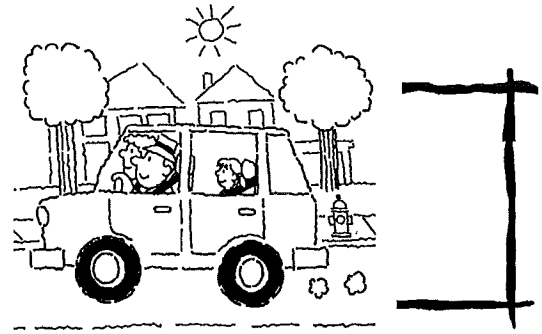


# Car Safety Seats:

## A Guide for Families

Part I 2010 Safety Information



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 size and the type of vehicle you have. To be sure your child is using the most appropriate seat, read on.

### Types of car safety seats at a glance

The chart below is a quick guide on where to start your search; however, it's important to read more about the features and how to use your car safety seat.

### The right car safety seat

#### Infants—rear-facing

The American Academy of Pediatrics (AAP) recommends that all infants should ride rear-facing starting with their first ride home from the hospital. They should remain rear-facing until they reach the highest weight or height allowed by their car safety seat's manufacturer. At a minimum, children should ride rear-facing until they have reached at least 1 year of age *and* weigh at least 20 pounds.

There are 2 types of rear-facing car safety seats: infant-only seats and convertible seats.

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

#### Infant-only seats

- Are small and have carrying handles (and sometimes come as part of a stroller system).
- Are used only for travel (not for positioning outside the vehicle).
- Are used for infants up to 22 to 35 pounds, depending on the model.
- May 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 base each time you use it. Parents can buy more than one base for additional vehicles.

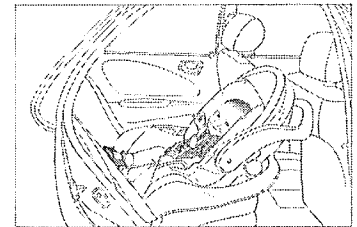


Figure 1. Infant-only car safety seat

Age Group	Type of Seat	General Guideline	Features	How to Use It	Other Questions
Infants	Infant seats and rear-facing convertible seats	Infants should ride rear-facing until they reach the highest weight or height allowed by their car safety seat's manufacturer. At a minimum, children should ride rear-facing until they have reached at least 1 year of age <i>and</i> weigh at least 20 pounds. When children reach the highest weight or length allowed by the manufacturer of their infant-only seat, they should continue to ride rear-facing in a convertible seat.	Page 1	Page 2	Page 2
Toddlers/ Preschoolers	Convertible seats and forward-facing seats with harnesses	It is best for children to ride rear-facing as long as possible to the highest weight and height allowed by the manufacturer of their convertible seat. When they have outgrown the seat rear-facing, they should use a forward-facing seat with a full harness as long as they fit.	Page 2	Page 2	Page 3
School-aged children	Booster seats	Booster seats are for older children who have outgrown their forward-facing car safety seats. Children should stay in a booster seat until adult belts fit correctly (usually when a child reaches about 4' 9" in height and is between 8 and 12 years of age).	Page 3	Page 3	Page 3
Older children	Seat belts	Children who have outgrown their booster seats should ride in a lap and shoulder seat belt and sit in the back seat until 13 years of age.	Page 3	Page 4	Page 4

### 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 a separate base.
- Have higher rear-facing weight and height limits than infant-only seats, which makes them ideal for bigger babies.
- Have 2 types of harnesses.

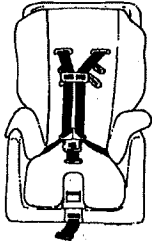


Figure 2. 5-point harness—attaches at the shoulders, at the hips, and between the legs.

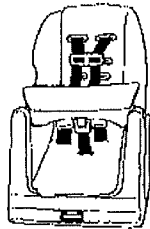


Figure 3. Overhead shield—a padded tray-like shield that swings down over the child.

### 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 positioned at the mid-chest level.
- Make sure the car safety seat is installed tightly in the vehicle.
- *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.
- Be sure you know what kind of seat belts your vehicle has. Some seat belts need locking clips to keep the belt locked into position. Locking clips come with most new car safety seats. If you're not sure, check the owner's manual that came with your vehicle. Locking clips are not needed in most newer vehicles, and some seats have built-in lock-offs to lock the belt.
- If you are using a convertible seat in the rear-facing position, make sure the seat belt is routed through the correct belt path. Check the instructions that came with the car safety seat to be sure.
- If your vehicle was made after 2002, it may come with the LATCH system, which is used to secure car safety seats. See page 4 for information on using LATCH.
- Make sure the seat is at the correct angle so your infant's head does not flop forward. Many seats have angle indicators or adjusters that can help prevent this. If your seat does not have an angle adjuster, tilt the car safety seat back by putting a rolled towel or other firm padding (such as a pool noodle) under the base near the point where the back and bottom of the vehicle seat meet.
- Be sure the car safety seat is installed tightly. 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.
- Still having trouble? There may be a certified Child Passenger Safety (CPS) Technician in your area who can help. If you need installation help, see page 5 for information on how to locate a CPS Technician.

### Common questions

**Q: What if my baby weighs more than 20 pounds but is not 1 year old yet?**

**A:** Use a seat that can be used rear-facing to higher weights and keep your baby rear-facing as long as possible into the second year of life.

**Q: What do I do if my baby slouches down or falls 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.

**Q: Can I adjust the straps when my baby is wearing thicker clothing, like in the winter?**

**A:** Yes, but make sure the harnesses are still snug. Also remember to tighten the straps again after the thicker clothes are no longer needed. Dress your baby in thinner layers instead of a bulky coat or snowsuit, and tuck a blanket around your baby over the buckled harness straps if needed.

**Q: Are rear-facing convertible seats OK to use for preemies?**

**A:** Premature infants should be tested while still in the hospital to make sure they can ride safely in a reclined position. Babies who need to lie flat during travel should ride in a crash-tested car bed. Very small infants who can ride safely in a reclined position usually fit better in infant-only seats; however, if you need to use a convertible seat, choose one without a tray-shield harness. The shields often are too big and too far from the body to fit correctly and the child's face could hit the shield in a crash.

### Toddlers and preschoolers—forward-facing

Once your child has reached the highest weight or height allowed by the manufacturer of the seat for rear-facing, she can ride forward-facing in a convertible seat. She should ride in a forward-facing seat with a harness until she outgrows it (usually at around 4 years of age and about 40–80 pounds).

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

- **Convertible seats**—seats that “convert” from rear-facing to forward-facing seats.
- **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).
- **Combination seat with harness**—These seats can be used forward-facing with a harness for children who weigh up to 40 to 80 pounds (depending on the model) or without the harness as a booster (up to 80–100 pounds).
- **Built-in seats**—Some vehicles come with forward-facing seats built in. Weight and height limits vary. Read your vehicle owner's manual or contact the manufacturer for details about how to use these seats.
- **Travel vests**—these can be worn by children between 20 and 168 pounds and can be an alternative 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.

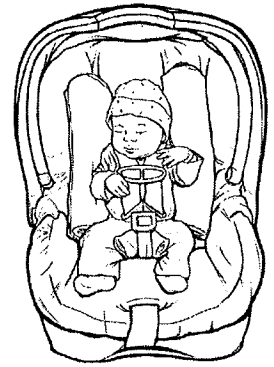


Figure 4. Car safety seat with a small cloth between crotch strap and infant, retainer clip positioned at the midpoint of the infant's chest, and blanket rolls on both sides of the infant.

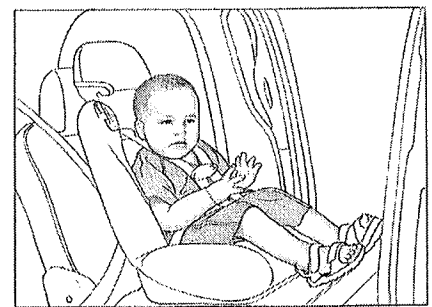


Figure 5. Forward-facing car safety seat.

### 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 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. Check the instructions to be sure.
- Make sure the seat belt runs through the forward-facing belt path. When making these changes, always follow the car safety seat instructions.
- If your vehicle was made after 2002, it should come with the LATCH system, which is used to secure car safety seats. See page 4 for information on using LATCH.

A **tether** is a strap that attaches to the top of a car safety seat and to an anchor point in your vehicle (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 tethers. For older seats, or if your tether is missing, tether kits are available. Check with the car safety seat manufacturer to find out how you can get a tether if your seat does not have one.

### 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 and 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 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.
- For more information on written transportation guidelines for schools and child care programs, visit [www.healthykids.us/chapters/transportation\\_main.htm](http://www.healthykids.us/chapters/transportation_main.htm) and [www.healthychildcare.org](http://www.healthychildcare.org).

#### 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. Some car safety seats are approved by the manufacturer for use on airlines for children weighing more than 40 pounds. You can also consider using a restraint made only for use on airplanes and approved by the FAA.

### School-aged children—booster seats

Booster seats are for older children who have outgrown their forward-facing car safety seats. 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. 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 are also included in the instruction booklet.)
- His shoulders are above the top harness slots.
- His ears have reached the top of the seat.

Booster seats are designed to raise the child up so that the lap and shoulder seat belts fit properly. 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 lap and shoulder seat belts. Booster seats typically include a plastic clip or guide to help ensure the correct use of the vehicle lap and shoulder belts. See the instruction booklet that came with the booster seat for directions on how to use the guide or clip.

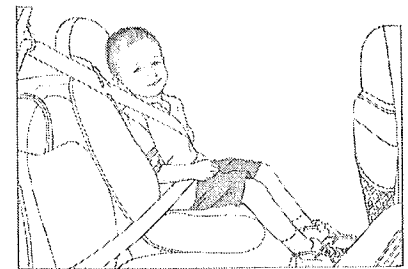


Figure 6. Belt-positioning booster seat

### Installation tips for booster seats

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.

### Common questions

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

**A:** Lap belts work fine with infant-only, convertible, and forward-facing seats. If your car only has lap belts, use a forward-facing car safety seat with a harness and higher weight limits. Other options are

- 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. High-back boosters are useful in vehicles that do not have head rests or have 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 can then be removed for older children. Backless boosters are usually less expensive and are easier to move from vehicle to vehicle. Backless boosters can be safely used in vehicles with headrests 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' 9" in height and is between 8 and 12 years of age). This means

- 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 without slouching and can stay in this position comfortably throughout the trip.

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, 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. In fact, 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. There are no federal safety standards for these products and until there are, 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 any 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 age and 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 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 the **National Highway Traffic Safety Administration (NHTSA) Vehicle Safety Hotline** at 888/327-4236. You can also visit the NHTSA Web site at [www.odl.nhtsa.dot.gov/cars/problems/recalls/childseat.cfm](http://www.odl.nhtsa.dot.gov/cars/problems/recalls/childseat.cfm).

- **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. 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 Part II for manufacturer contact information.

**Installing car safety seats correctly**

**About front air bags**

All new cars come with front air bags. 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 rear-facing 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 and neck 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.

**About side air bags**

Side air bags 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 for guidance on placing the seat next to a side air bag.

**LATCH**

LATCH (Lower Anchors and Tethers for Children) is an attachment system for car safety seats. Lower anchors can be used instead of the seat belt to install the seat and may be 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. (See page 3 for information about tethers.)

Vehicles with the LATCH system have anchors located in the back seat. Car safety seats that come with LATCH 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. However, unless both your vehicle *and* the car safety seat have the lower anchor system, you will still need to use seat belts to install the car safety seat.

## 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 NHTSA Web site at [www.nhtsa.gov](http://www.nhtsa.gov) or at [www.seatcheck.org](http://www.seatcheck.org). You can also get this information by calling 866/SEATCHECK (866/732-8243) or the NHTSA Vehicle Safety Hotline at 888/327-4236.

## 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. 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:

- He can die of heat stroke because temperatures can reach deadly levels in minutes.
- He can be strangled by power windows, retracting seat belts, sunroofs, or accessories.
- He can knock the vehicle into gear, setting it in motion.
- He can be backed over when the vehicle backs up.
- He can become trapped in the trunk of the vehicle.

### 3. Always read and follow 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 the 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 in Part II 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. 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.dot.gov/CPS/CSSRating/Index.cfm](http://www.nhtsa.dot.gov/CPS/CSSRating/Index.cfm).

Although the American Academy of Pediatrics (AAP) is not a testing or standard-setting organization, this guide 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.

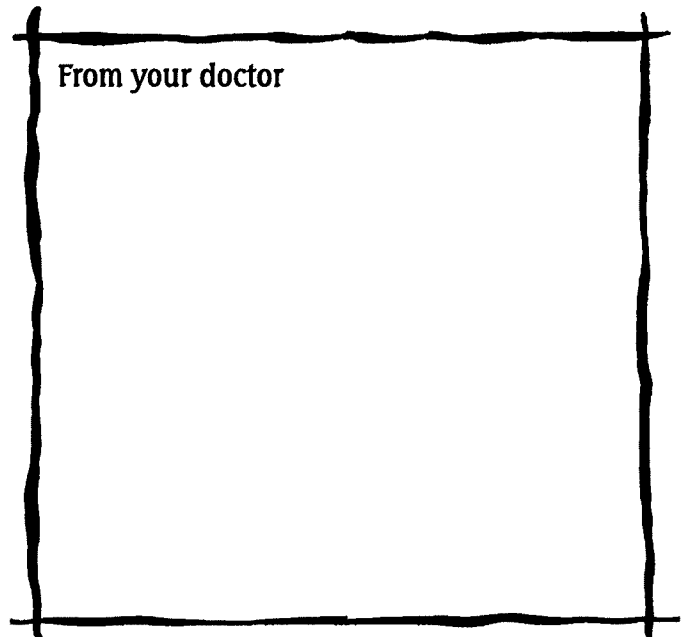
The appearance of the name American Academy of Pediatrics does not constitute a guarantee or endorsement of the products listed or the claims made. Phone numbers and Web site addresses are as current as possible, but may change at any time.

Prices are approximate and may vary.

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.

Figures 1, 5, and 6 by Wendy Wray.

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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