

# Child Passenger Safety

## Guide for Rear-Facing Car Seats



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# Introduction

Safe sleep, bath safety, childproofing—so many things to think about when preparing for and taking care of a new baby or growing toddler. What about safety in the car? The best thing is to use a properly installed car seat (also referred to as a child restraint or child safety seat) starting with baby's first ride. Car seats help prevent injuries or reduce their severity by keeping the child in the vehicle and reducing the crash forces to the body.



Unfortunately, car seats can be complicated. Data from a national child restraint check system showed a misuse rate of over 65% for rear-facing car seats checked in 2022-2024. The good news is that these seat checks were done because over 50,000 parents or other caregivers wanted to make sure the children in their care were riding safely!

Going to a certified **Child Passenger Safety Technician (CPST)** at a car seat inspection (fitting) station or a seat check event is a free, convenient way to make sure your child's seat is installed and set up correctly.

You might be thinking about dropping by your local fire house or police department for a car seat check. Although many CPSTs are first responders, most police agencies, fire stations, etc. do not have a CPST on staff. Be sure you are meeting with a CPST by using one of these resources:

- ▶ Vermont Health Department [\*\*Be Seat Smart\\*\*\*](#) program
- ▶ New York's Governor's Traffic Safety Committee [\*\*Child Passenger Safety\\*\*\*](#) program
- ▶ Safe Kids Worldwide [\*\*National Child Passenger Safety Certification Training\\*\*\*](#) program (only use a few fields, such as state and county for best results)
- ▶ Some car seat manufacturers offer virtual checks—this would be found on their websites
- ▶ The National Safety Council also offers [\*\*virtual appointments\\*\*\*](#)

\* **Note:** See page 24 for the URL for hyperlinks.

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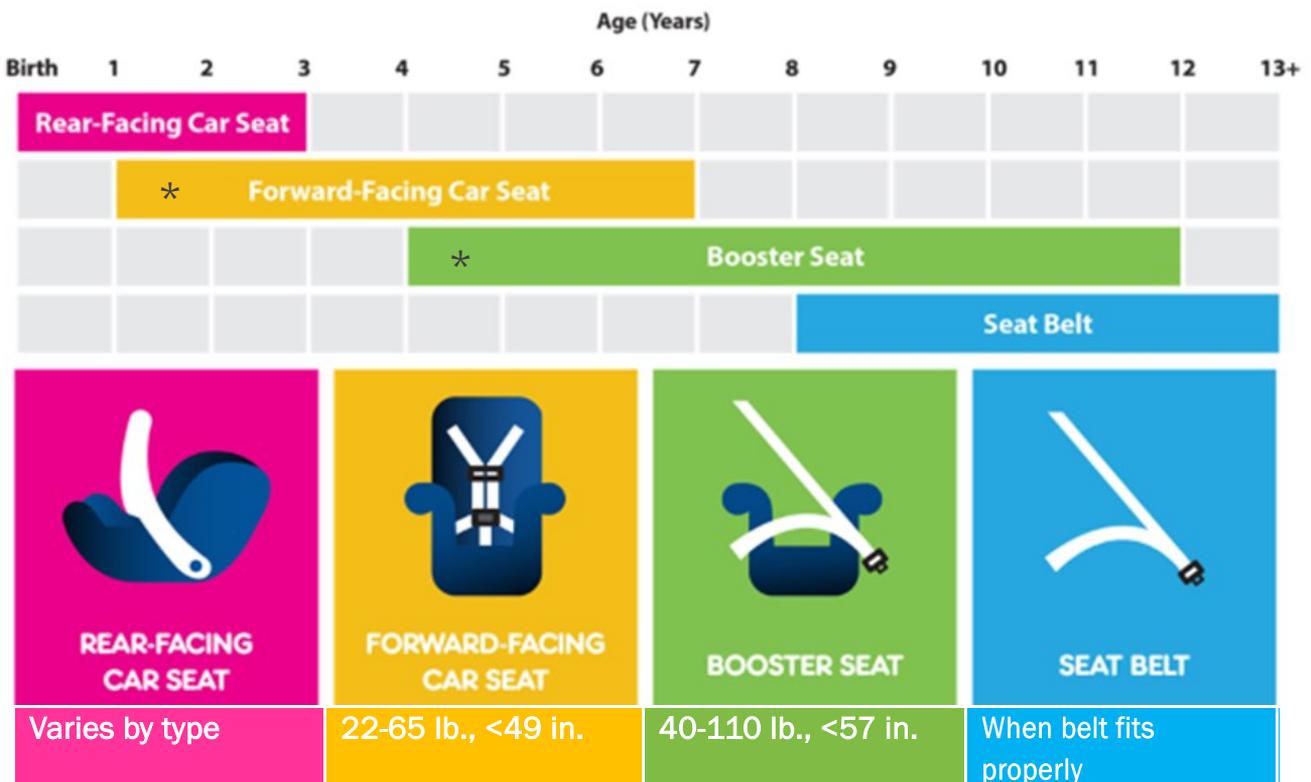


# Stages of Child Passenger Safety

## There are four stages of Child Passenger Safety.

This guidebook focuses on Rear-Facing Car Seats. It offers evidence-based recommendations from the American Academy of Pediatrics (AAP), the National Highway Traffic Safety Administration (NHTSA), and Child Passenger Safety Technicians for parents and other caregivers. It is helpful to avoid thinking of these stages as milestones; something to be rushed. To quote an AAP news article, “child passenger safety is one of the few areas where the next step is not ‘positive’ and where delaying transitions is best practice.”

Buckling up is the best thing an adult can do to protect themselves and it sets a great example. For pregnant people, NHTSA offers suggestions for **“If You’re Pregnant” resource** on the right way to wear a seat belt, how to adjust your vehicle seat, and other steps you can take to protect yourself and your baby (see page 24 for the URL for this hyperlink).



Ranges are approximate. Some child restraints have different minimums or maximums.

\* See Rear-Facing Car Seats—Overview (page 3) and Child Passenger Safety Laws (page 11) for minimums and best practices.

# Rear-Facing Car Seats—Key Messages

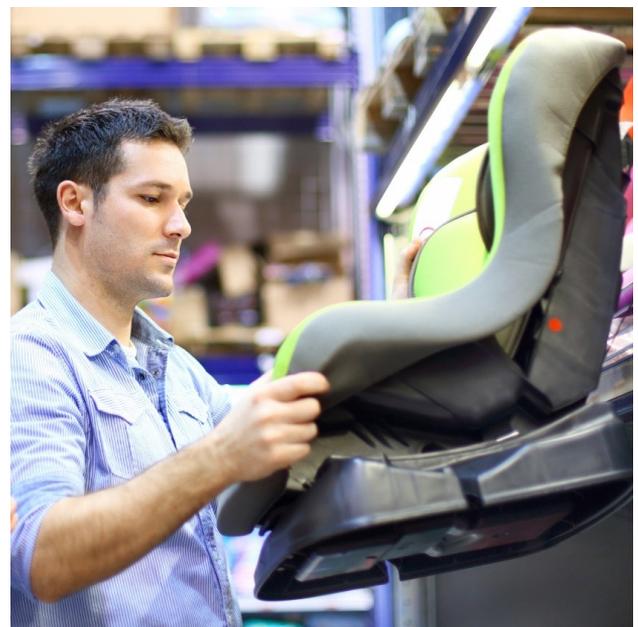
- ▶ Register your seat with the manufacturer.
- ▶ Read the manual for your car seat and vehicle to make sure the car seat is properly **installed** (page 12). Never place a rear-facing car seat in front of an active air bag.
- ▶ Refer to the car seat manual and labels for correctly **harnessing** (page 15) your child and to keep up with any changes that are needed as your child grows (moving the harnesses, removing infant inserts, etc.).
- ▶ Keep children rear-facing until they reach the height or weight limit of their convertible or all-in-one car seat.
- ▶ Follow the manufacturer’s instructions for replacement or reuse after a crash.
- ▶ Make your vehicle smoke-free.
- ▶ Avoid **puffy coats** (page 17) for all vehicle occupants.
- ▶ Prevent vehicular **heatstroke** (page 18).
- ▶ Visit a **CPST** (page ii) to make sure your child’s seat is installed and set up correctly.
- ▶ Consider your child’s transportation safety wherever they are a passenger.

# The Best Car Seat

All child safety seats that can be legally used in the U.S. must meet rigorous federal safety standards. The best seat is one that:

- ▶ Fits your child
- ▶ Fits your vehicle
- ▶ You can use correctly every time

Other considerations include your budget, lifestyle, and other family needs, such as school drop off or transporting three passengers across a back seat. To help narrow down what might work for you and your family, check out the AAP **Car Safety Seat Product Listing** (see page 24 for the URL for this hyperlink). This resource covers car seats by stage and includes weight/height limits, certain features, and price.



# Rear-Facing Car Seats—Overview

**Recommendation:** “Children should ride in a rear-facing car seat as long as possible, up to the car seat manufacturer’s stated limits. This will include virtually all children under two years of age and most children until age four.” (AAP)

There are three types of rear-facing car seats:



**Infant seat:** rear-facing only - has a handle and usually comes with a base.



**Convertible seat:** has a harness and can be installed rear-facing or forward-facing.



**All-in-one (multimode) seat:** similar to a convertible, but also has a booster mode.

**Why rear-facing?** Young children have a large, heavy head in proportion to the rest of their body. Their neck muscles are also less developed than those of an older child. When riding in a rear-facing car seat, the head, neck, and spine move together and are cradled by the shell of the seat. The AAP states, “Evidence continues to show the relative superiority of rear-facing.”

**What about comfort or leg injuries?** Children are very flexible and can easily find a comfortable position when rear-facing. According to the AAP, leg injuries are rare for rear-facing children.

## Infant Seats

Many families start with an infant seat for their newborn. Most infant seats have a lower weight limit of four pounds with a few as low as three pounds. The upper weight limit is usually between 22 and 35 lbs. There are also height minimums for some seats and height maximums generally between 29 and 32 inches. There's often a requirement that the child has least an inch above their head to the top of the car seat. The seat's instruction manual and labels will tell you its limits. Once one limit is met, the child has outgrown that seat.

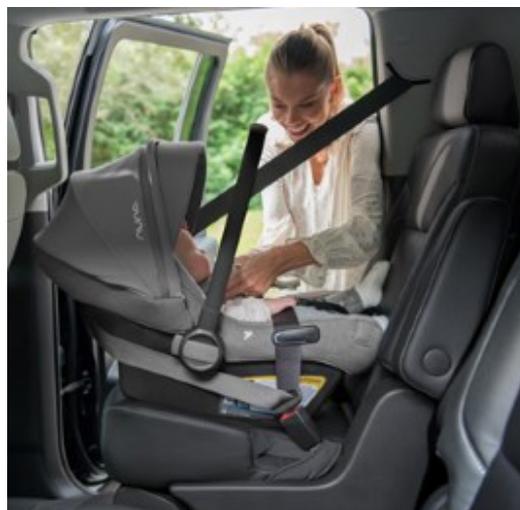
Infant seats usually fit newborns very well. These seats are convenient and portable. Usually, they can be installed without the base—handy for rideshares, taxis, and airplanes. Travel systems (a car seat and stroller set) add to portability and ease of use when “on the go.” Avoid leaving babies in their car seat for prolonged periods, even when it's being used as a stroller. See [Additional Infant Car Seat Tips](#) (page 16) for more information.



**Infant seat installed with the base**

## Tips for Selecting an Infant Seat

- ▶ Consider the weight of the seat when investigating a purchase. Seats range from approximately six pounds to more than ten pounds - empty! Your baby will grow quickly, so the seat will only get heavier to lift and carry.
- ▶ Instead of purchasing multiple bases for different vehicles, buy a seat that can be installed without a base (most can).
- ▶ Buy a convertible or all-in-one seat for one vehicle (see next page for tips on these types of seats for a newborn).
- ▶ Purchase a less expensive infant seat (often these will have lower maximum weights and heights) and plan to move to a convertible or multimode seat sooner.



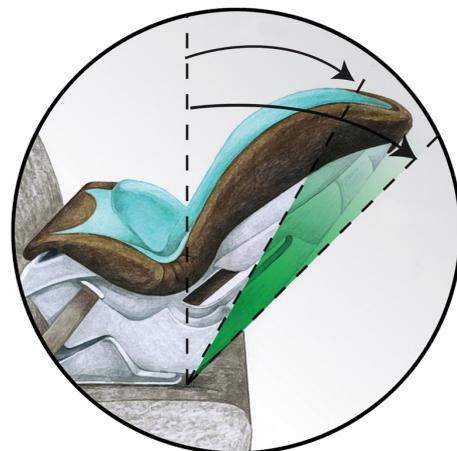
**Infant seat installed without the base**

## Rear-Facing Convertibles and All-in-One Seats

The biggest disadvantage to infant seats is that children outgrow them quickly—possibly as early as five or six months and usually not much past a year old. This is why some families opt to use a convertible or all-in-one seat from their child's birth.

Choosing this style of seat for a newborn can be tricky, however. Here are some considerations:

- ▶ **Fit to vehicle?** These seats take up a lot of room in vehicles when set at the proper recline for an infant. This may be a concern for small vehicles and tall front seat occupants. Once a child has good head and neck control, the seat can be installed more upright and be more compact front-to-back.
- ▶ **Fit to child?** Because these seats are intended for a wide range of children, smaller (and larger) children do not always get a safe harness fit. This can be the case even if the child meets the stated limits of the seat. Think about times when you've bought a pair of shoes the same size as you usually wear, only to find they don't fit!
- ▶ **All-in-one seats - the only (or last) seat your child will ever need?** Unlikely. These seats often don't make good boosters (realizing that will be well into the future). They may expire before your child is ready to ride without a booster (even further into the future). They can be more expensive than purchasing a convertible seat now and a booster seat years later. Kids are messy in the car (and elsewhere!). By the time the child is ready to use a booster, everyone might want something new.



**Tip!** An all-in-one seat may come with a strap in a package. This is for the backless booster mode. Keep it somewhere safe - you will need it years from now.

# Car Seat Features to Consider

If you have been using an infant seat and it's time to switch to a convertible or multimode seat, you will want to look at the maximum weight and height allowed by the seats you are considering. By now, you will know more about where your child falls on the growth charts. A child in the higher percentiles for weight or height will need a **seat with higher limits** to stay rear-facing as long as possible, compared to a more petite child.

When children in infant seats reach the limit for their seat, they should continue to ride rear-facing for as long as possible in a convertible or all-in-one car seat. *AAP*

Consider a seat with **machine washable covers**. If (probably when!) you do need to clean a seat, it is helpful to take photos as you disassemble it, so you can remember how the seat looked when you reassemble it. Always follow the manufacturer's instructions for cleaning.

**NHTSA's Ease-of-Use ratings** (see page 24 for the URL for this hyperlink) can help you evaluate the categories that are most important to you and select the seat that will serve you best. For example, if you will be moving a seat between vehicles often, look for seats that have a 4- or 5-star rating for "installation features." If more than one child will be using the seat, such as for a grandparent's vehicle, a high rating in "harnessing features" might be desirable.

A **No Rethread Harness** provides easy adjustment as a child grows or for multiple children's use.

A **Lock-off or Tensioner** helps achieve a good installation with less effort.

Putting **three passengers in one row** of a vehicle can be a challenge, even if not all occupants are in car seats or boosters. Car seat manufacturers have differing rules about whether seats can touch each other. The good news is many car seat manufacturers have recognized the need for slim (narrow) car seats. Check the manufacturer's website for accurate seat dimensions. Avoid information on retail sites, which may not be accurate. Don't just rely on the name—unfortunately some seats that are called "slim" are not that narrow.

If you have concerns about the fit of a car seat in your vehicle or for your child, especially a newborn, contact a CPST to find out what might work for your situation and pitfalls to avoid.

# Vehicle Considerations

Some vehicles, even some advertised as “family friendly,” can be problematic for car seats. For rear-facing seats, here are key vehicle considerations:

- ▶ **Number of LATCH seating positions:** Lower Anchors and Tethers for Children (LATCH) is a system of hardware for child restraints. Passenger vehicles made after September 2002 are required to have two sets of LATCH and one additional tether anchor (exception: passenger vehicles with a gross vehicle weight greater than 8500 lbs. are not required to have lower anchors and cars with convertible tops do not require tether anchors). Some vehicles, even minivans or three-row SUVs, only offer the minimum number of LATCH seating positions, giving you less flexibility with rider locations. Tethers are usually not required until forward facing, but some car seats have a tether for rear-facing. If you have an older vehicle without tether anchors, a car seat that uses a tether when rear-facing is not for you.
- ▶ **Inflatable Seat Belts:** This type of belt has an airbag built into the belt and was used in some 2011-2020 vehicles. Not all car seat manufacturers permit installation with an inflatable belt.
- ▶ **Vehicle seat shape and size:** A hump in the middle seat or large side seat bolsters can make it difficult to install car seats. Some seats also have large plastic hinges as part of the seat folding mechanism. They can interfere with a proper installation of a car seat. A shallow vehicle seat may cause a car seat or infant seat base to overhang the edge more than what is allowed by the car seat manufacturer.
- ▶ **Vehicles with hollow floors:** Vehicles with stow-and-go seating or an under-floor storage area, battery compartment, or cooler do not permit the use of a load leg (an additional device on some car seats that helps distribute crash forces). Load legs, also called stability legs, support legs, or foot props, are not required, but if you are choosing a car seat with one, you will be disappointed not to be able to use a feature you have paid for!

**Tip!** Purchasing a vehicle? Bring your car seat(s) and check fit!

Vehicle selection is not part of CPST training. However, if you are making a choice among a few vehicle makes, models, and years, a CPST may be able to help you identify potential limitations related to Child Passenger Safety.

# Crashes, Used Seats and Recalls

Most child restraint manufacturers require their seats to be replaced after any **crash**. A few companies, however, allow their seats to be reused after a minor crash. NHTSA defines a minor crash as one in which ALL the following apply:

- ▶ The vehicle was able to be driven away from the crash site.
- ▶ The vehicle door nearest the car seat was not damaged.
- ▶ None of the occupants in the vehicle sustained any injuries.
- ▶ The airbags (if present) did not deploy.
- ▶ There is no visible damage to the car seat.

Read your manual to find out if your seat needs to be replaced after a crash. Contact the manufacturer with questions.

Insurance policies vary and there are no requirements in either New York or Vermont for insurance to cover the cost of a replacement car seat. Often, insurance companies state they only replace child restraints if the crash was not minor or if the seat was occupied in the crash. Sometimes, a company may change their minds if you can provide a copy of the car seat manual or a letter from the child restraint manufacturer stating the seat must be replaced after any crash.

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When considering a **used** car seat, be sure you know its history. Was it ever in a crash? Is it expired, or close to expiring? How was it cared for and cleaned? (Improper cleaning can damage materials such as the harness webbing, buckle, cover, or shell.) Has it been recalled? Was it ever checked as baggage on a plane, which could cause unseen damage? Purchasing a second hand seat at a yard sale or from an on-line seller is different than accepting a hand-me-down seat from a trusted friend or family member.

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It is important to register the seat with the manufacturer, on their website or by using the car seat registration card that comes with a new seat in case of a **recall**. Using the postage-paid card is easy—it already has the seat information (model number, etc.). If you have a second-hand seat, use the label to find the seat information required for registration. Manufacturers are not permitted to use your contact information for purposes other than safety notifications.

# Non-Compliant Child Restraints

There has been a disturbing increase in the sale of non-compliant car seats to U.S. consumers in recent years. Some of these seats are designed and manufactured to the regulations of another country or region, but it is not legal for caregivers to use them in the U.S. Some devices are counterfeit, made of materials that lack the strength and integrity of the real thing and do not meet any safety standards. These are a safety risk in addition to not being legal to use. Be alert to these indicators that a seat may not be compliant:

- ▶ No mention of the U.S. Vehicle Safety Hotline or NHTSA.gov.
- ▶ Labels with more pictograms than text.
- ▶ No manufacturer's address/contact information.
- ▶ No manual or registration card.
- ▶ Spelling/grammatical errors in product literature.
- ▶ Straps narrower than what you are used to seeing.
- ▶ No chest clip—while U.S. federal motor vehicle safety standards do not require a chest clip, almost every compliant harnessed car seat on the market includes a chest clip.
- ▶ A deal “too good to be true.”
- ▶ Brand not listed on the AAP [Car Safety Seat Product Listing](#) (see page 17 for the URL for this hyperlink) - there can be new manufacturers or seats in the U.S. market, so this in and of itself may not be a problem. It is just a potential “red flag,” especially if there are other warning signs that a seat is non-compliant.

# Accessories

Aftermarket products sold separately from your car seat are usually not approved by the seat's manufacturer. Since there are no standards to crash test these products, they are non-regulated. Here are some examples of aftermarket accessories, their risks, and safer options.

- ▶ **Head cushions or other inserts** are not recommended because they can change your child's position in their seat. The best way to support a baby's head (or an older child with a medical condition that affects their head and neck control) is installing the car seat **as reclined as allowed** (page 12). A child with good head and neck control will move if they are uncomfortable.
- ▶ **Swaddlers and bundlers** add layers, which can affect harness fit. For suggestions to keep children warm and safe, see **Winter Coats and Car Seat Safety** (page 17).
- ▶ **Vehicle seat protectors** are prohibited by many car seat manufacturers. Some do allow a thin, single layer blanket, towel, or mat, or sell a mat approved for their products. Avoid thick or grippy mats that can interfere with a **proper installation** (page 12). To protect a vehicle seat, remove the car seat periodically to clean up crumbs and condition the leather. Indentations are a sign of a proper installation and usually disappear quickly after a car seat is uninstalled.
- ▶ **Cameras or mirrors** can be a distraction or a projectile in a crash. Try to do without a camera or mirror. If you must monitor your child, choose a mirror made of soft, flexible material and make sure it is firmly attached to the vehicle headrest.
- ▶ An accessory that is okay, provided it is not attached to the car seat, is an **unbuckling tool**. These are particularly helpful to caregivers with hand pain or limited hand dexterity. Bonus: It also helps prevent broken fingernails!

# Child Passenger Safety Laws: Vermont and New York

These are the highlights of the current laws. For complete information, go to the state's Department of Motor Vehicles website. If you are transporting your child in another state or country, be sure to investigate those laws. Remember, laws are minimums. It is important to follow best practices.

## Vermont

A child under age two must ride rear-facing and not in a front seat with an active airbag. A child under age five must ride in a harnessed car seat. A child under age eight must be in a booster if they are not riding in a harnessed car seat. A child under 13 must, if practical, ride in the back seat. A child under age 18 must use a seat belt if they are not using a child restraint.

**Did you know?** Vermont law bans using lighted tobacco products, e-cigarettes, and other nicotine delivering devices in motor vehicles occupied by a child under age eight. Although New York does not have a smoking law for riding with children, making your vehicle smoke-free helps protect children's health. Even tobacco smoke residue can be harmful.

## New York

A child under age two must be rear-facing. A child under age four must ride in a car seat. Children must ride in a child restraint system until their eighth birthday. A child under age 16 must wear a seat belt (if they are not in a car seat). New York does not prohibit a rear-facing child to ride in a front seat with an airbag, but acknowledges that it is dangerous.

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## Low/No-Cost Child Safety Seat Options

Child safety seats are available at many price points. A lower cost seat does not compromise your child's safety. All U.S.-compliant child restraints pass rigorous safety standards and are safe when used properly. The AAP [Car Safety Seat Product Listing\\*](#) includes pricing.

Vermont's [Be Seat Smart\\*](#) program allows for distribution of free car seats to WIC recipients after completing a child passenger safety seat inspection appointment. A voucher does not mean a child will automatically receive a seat. The CPST will determine if a child needs a seat. Families receiving Reach Up assistance or Dr. Dynasaur, and foster children may be eligible if in need.

New York does not have a statewide program. Check the state [Child Passenger Safety\\*](#) program to learn if inspection stations in your area offer free or reduced-cost seats.

Remember that a [used car seat](#) (page 8) might seem cost-effective, but may not be a safe option, depending on the source of the seat.

\* **Note:** See page 24 for the URL for hyperlinks.

# Using Rear-Facing Car Seats

## Installation Basics

**When to Install?** Remembering that some car seats require replacement after any crash, and all car seats must be replaced after a moderate or severe crash, it probably makes sense to wait until the last few weeks of pregnancy before installing your seat. However, it never hurts to try things out before that. As they say, “practice makes perfect!”

**Where to Install?** The center of the back seat is the furthest distance from crash. However, there are other factors to consider. It might be more challenging to get a secure installation in the center. A vehicle manufacturer may discourage installing a car seat in the center. Ask yourself:

- ▶ How easy will it be to use the car seat in the center?
- ▶ Will the seat fit next to other riders (including ones not in car seats)?
- ▶ What are my family’s needs (school drop-off, separating siblings who don’t get along, etc.)?



**Never place a rear-facing car seat in front of an active airbag.** If you have a single row vehicle, you must be able to manually turn off the airbag for a rear-facing child to ride in the front. Do not rely on the airbag sensor. Read the vehicle manual to make sure the manufacturer allows a child to ride in the front seat. Remember to turn the airbag back on for adult passengers.

**How to Install:** Read your vehicle and car seat manuals, focusing on these points:

- ▶ **Recline angle:** Find the recline angle indicator on the seat or base. Check to ensure the recline is in the proper range. Make sure you are parked on level ground, not on a hill or ramp. **Note: to protect their airway, newborns should ride as reclined as allowed by the car seat manufacturer.**
- ▶ **Overhang:** Most car seat manufacturers allow their seat to protrude a little past the front edge, and possibly the side edges, of the vehicle seat.
- ▶ **Distance needed from front vehicle seats:** varies by car seat and vehicle manufacturer, but a car seat should never be braced against any vehicle seat in front of it.
- ▶ **Carry handle placement:** varies by car seat manufacturer. The manual, and possibly labels on the seat, will tell you what the manufacturer requires.

There may have a recline **adjustor** on the seat or base. Most manufacturers allow using a rolled towel in the vehicle seat crease to increase the recline.

## Seatbelt or Lower Anchors?

These are two separate methods. Most manufacturers do not allow both methods to be used together. Some manufacturers state a “preferred method.”

**Lower Anchors** (may be called “Isofix” or “Lower Universal Anchorage System” by some vehicle and car seat manufacturers):

- ▶ Most passenger vehicles made after September 2002 have at least two sets of lower anchors. Review your vehicle owner’s manual for lower anchor locations.
- ▶ Each set of lower anchors is spaced 11 inches apart. Many vehicles do not have lower anchors for the center seat. Check both the vehicle and car seat manual to determine if you are allowed to “borrow” the inner anchorages from the window seats for a center installation.
- ▶ Some convertible and all-in-one car seats have a rear-facing weight limit for using lower anchors. This is because the vehicle anchor points have strength limitations. The car seat’s labels and manual will state not to use lower anchors for a child weighing over a certain amount. A lower anchor weight limit does not apply for an infant seat.
- ▶ Follow the instructions in the car seat manual for attaching and securing the seat or base.



### Seat Belt:

- ▶ If installing car seats side by side, using seat belts allows you to move the seats further apart and position them closer to the vehicle door(s) than the lower anchors do.
- ▶ **Lock the seat belt:** Lock the seat belt itself (since 1996, all US passenger vehicle seatbelts have been required to lock pre-crash) or use the built-in “lock-off” if the car seat has one. Read your manuals for the type of belts allowed for a car seats, and how the belts lock.
- ▶ Remove all slack from the seat belt.



**Note:** With a convertible or multimode seat, for either installation method, make sure you are using the correct belt path—under your child’s legs, not behind their back. (Exception: some rotating car seats only have one belt path).

## For Either Installation Method

**Check for less than an inch of movement at the belt path.** Grab where you have put the seat belt or connected the lower anchors. This is the belt path. Try to move the seat or base back and forth and front to back using moderate force, like a firm handshake. If you cannot get a tight installation, try another method or another seating position in the back seat.

Recheck that the **recline** is in the acceptable range and at the maximum recline if the seat is for a newborn. You may need to undo the installation to make adjustments.

## Tethering a Rear-Facing Car Seat:

- ▶ The tether is generally not used when rear-facing, but there are a few exceptions. Read your car seat manual to determine if a tether should be used. Read the vehicle owner's manual for the location of tether anchors, and how to route the tether strap. Pickup trucks often have special tether routing requirements, which are covered in the vehicle manual.
- ▶ Test for less than one inch of movement at the belt path before tightening the tether. It is appropriately tight when all slack has been removed and it is slightly compressing the top of the vehicle seat or headrest. Use a rubber band, hair tie, or the strap provided with the child restraint to secure the loose end of the tether.

If you have a **rotating car seat**, do not leave it in an unlocked (side facing) position, even when it is not occupied.

## Harnessing Basics



- ▶ No puffy jackets, snowsuits, or bulky clothes. See [Winter Coats and Car Seat Safety](#) (page 17).
- ▶ Gently straighten “scrunched legs” to make sure there is no hidden slack around the hips.
- ▶ The harness must be snug enough to pass the **pinch test\***. Slide your thumb and forefinger up and down at the child’s shoulders, trying to pinch the harness webbing. If you can grab onto (pinch) any material, it’s too loose. Adjust until your fingers slide off the webbing.
- ▶ Review the manual for any special adjustments for newborns, and keep up with changes (such as removing infant inserts) as your child grows.

### For more information about installation and harnessing, check out these NHTSA videos:

- ▶ [Installing and harnessing a rear-facing-only car seat\\*](#) (NHTSA term “rear-facing only”)
- ▶ [Installing and harnessing a rear-facing convertible\\*](#) (applies to all-in-one seats as well)

\* **Note:** See page 24 for the URL for hyperlinks

## Additional Recommendations

- ▶ Limit the time your child spends in their seat to avoid causing or worsening certain health concerns, including breathing issues, torticollis (head tilt or lean), and even motor delays—babies learn by moving and exploring!
- ▶ Prevent infant seat carrier tip overs. Place the carrier on the floor to put baby in or remove them. Do not put the seat on a shopping cart, as it might be top-heavy. Put the seat in the basket of the cart or leave it in the car and baby wear. Use the carrier only with approved strollers or adapter devices.
- ▶ Whether in or out of a vehicle, always keep the harness snug.
- ▶ Practice **safe sleep** (see page 24 for the URL for this hyperlink). When you reach your destination, if you want baby to sleep, move them from their car seat to a crib, bassinet, pack-and-play, or other flat safe sleep space.



Photo from Safe to Sleep® campaign, Eunice Kennedy Shriver National Institute of Child Health and Human Development.

# Winter Coats and Car Seat Safety

## Recommendation: Puffy coats should not be worn in car seats.

Why? In a crash, a heavy winter coat or snowsuit can flatten out or compress, causing the car seat harness to be too loose to provide the best protection.

Even older children and adults should avoid wearing a bulky coat because it can cause space between the body and the seat belt.



## How do you keep your child warm?

- ▶ Use blankets when going to the car and before it warms up. For an infant seat, you can use a car seat cover. Leave your baby's face uncovered to avoid trapped air and re-breathing. Once in the car, remove the cover - many car seats don't allow anything attached.
- ▶ Dress them in thin layers: Start with tights or leggings and a long-sleeved bodysuit or “onesie.” Long underwear is also an option, but you do not want your child to get too hot when the car has warmed up. Add pants and a warmer top. Well-fitting fleece or a sweater is a good way to keep your child warm without adding a lot of bulk.
- ▶ Once your child is snugly harnessed, cover them with a blanket. For babies, you can tuck the blanket around them like a swaddle. A child in a convertible car seat can use their coat on backwards over the snug harness.
- ▶ Remove blankets and coats as the car warms up so your child does not get too warm.

## Check any coat to find out if your child can wear it safely in the seat.

1. Place your child in the car seat with their coat on. Snug up the harness to pass the [pinch test](#) (see page 24 for this hyperlink).
2. Unbuckle the child from the seat without loosening the harness straps.
3. Take the child's coat off and buckle them in the car seat again.
4. Does the harness still pass the pinch test? If not, the coat is not safe for the car seat. A crash could cause the coat to compress. The harness would be too loose to keep the child safely in their seat.

**Tip!** Be prepared when cold weather is expected: Pack an emergency kit with blankets, flashlights, jumper cables, flares, a snow shovel, non-perishable food, and water for your car.

# Heatstroke Prevention

**Pediatric Vehicular Heatstroke (PVH)** can occur if a child gains access to, or is knowingly or unknowingly left, in a vehicle. A young child is especially vulnerable because their body heats up three to five times faster than an adult's.

The good news is PVH is preventable. Here are some key points to remember.

- ▶ There is no safe amount of time to leave a child (or pet or vulnerable adult) alone in a vehicle. Cars can heat up to dangerous levels quickly, even with the windows open or when parked in the shade. For example, on an 80-degree day, the temperature inside a vehicle can be over 100 degrees after just 15 minutes. If you don't have anyone to watch your child, consider curb-side pickup or home delivery of medication, groceries, or food, or take your child inside with you.
- ▶ Lock your vehicle when it is parked and keep key fobs out of reach of children. Remind them to stay out of parked cars.
- ▶ Loving and capable caregivers can make a mistake, especially when tired, distracted, or out of their routine. Create reminders. Put your purse, cell phone, work badge, etc. the back seat. Or place your child's diaper bag or one of their stuffed animals in the front seat where you can see it easily.
- ▶ Get into the habit of checking the back seat. Most newer vehicles have reminders about doing this—if your vehicle has this technology, do not disable it.
- ▶ Ask your childcare provider to call you if your child does not arrive as expected.
- ▶ Check in with another caregiver to confirm daycare drop off.
- ▶ If you see a child alone in a car, call 911. Fast action can save a life. If a child is missing, check the pool (if there is one nearby) first, then vehicles, including trunks.



A free e-Learning course, [Children in Hot Cars](#) (see page 24 for the URL for this hyperlink), is available from the National Safety Council.

## Motion Sickness

Once a child has good head and neck control, you may be able to adjust the car seat to be more upright (while following the manufacturer's instructions). This can help ease reflux and motion sickness. Follow the manufacturer's instructions for the proper recline angle.

Forward-facing often doesn't help and might even exacerbate motion sickness. Remember, rear-facing until 2 years old is the law in Vermont and New York (and many other states) and rear-facing as long as possible is best practice.

The Car Seat Lady, an organization run by a pediatrician and CPST, is a reputable resource. Their [Motion Sickness](#) (see Resources, page 24, for this hyperlink) webpage contains good information to guide parents with a child who is experiencing motion sickness.

## Frequent or Extended Crying

Having a crying child can be stressful at any time, but especially when everyone is confined in the car. There are several possible causes, some of which have to do with the child's stage of development—they do not want to be restrained, they are feeling alone, they are bored. After confirming that the seat is installed correctly and the child is properly harnessed, here are some additional steps to consider:

- ▶ Make sure the child is not too hot or too cold.
- ▶ Distract them with a soft toy or music (although Baby Shark will wear thin after the first 10 times!).
- ▶ Read your car seat manual to find out if you can remove inserts or shoulder pads that might be making your child feel cramped.
- ▶ If you have been using an infant seat, this might be time to move to a convertible—they usually can be installed more upright, which your child may prefer.

Even if your child is perfectly content in the car, it's important to stop every two hours for everyone to get out and stretch. Always stop the car in a safe location if you need to take your child out of their seat to console them or for these stretch breaks.

# Escaping Behaviors

It is not uncommon for young children to try to unbuckle or get out of their car seat. They are becoming more independent and trying new things. Pushing buttons (including yours!) seems fun. You might be thinking about making the harness even snugger, but this usually increases the child's desire to unbuckle or push the chest clip down. Here are ideas to help with your little "escape artist."

- ▶ Check the harness fit. Remember, for rear-facing, harnesses should be at or below the shoulders (unless otherwise instructed by the car seat manual) and pass the pinch test but not tighter.
- ▶ Experiment with recline angles if the seat allows more than one recline setting. By this age, a child (barring medical concerns) can ride more upright. Seeing more things out the window may decrease the urge to elope.
- ▶ Provide positive reinforcement for staying buckled, such as a sticker or a special treat.
- ▶ A soft toy or book can provide a distraction for busy hands.
- ▶ A social story with simple pictures and sentences emphasizing safety may be a great tool.
- ▶ Give the child the role of "car monitor." They get to make sure everyone stays buckled up.
- ▶ If you are going on a fun outing, turn around and go home if the child unbuckles.



While it can be very scary to have a child unbuckling themselves in a moving car, do not try to modify the car seat yourself. If practice and consistent repetition to change escaping behaviors doesn't seem to be working, get help from a CPST or the car seat manufacturer.

# Transportation of Children with Special Healthcare Needs

Children with health-related transportation needs can often use a conventional child restraint, especially when rear-facing. Newer features on many car seats, such as adjustments to assist in positioning and higher maximum weight limits, have increased the options for using standard restraints for children with medical conditions. Most infant seats and some convertibles have a minimum weight of four pounds and fit small babies well. A few seats have a three pound minimum. The AAP [Car Safety Seat Product Listing\\*](#) includes information about weight and height limits for each car seat listed.

If a conventional restraint cannot be used, adaptive child restraints are available. These devices come from durable medical equipment providers or directly from a manufacturer. The process to obtain an adaptive restraint can be complicated, lengthy, and expensive, and should involve you and your child's clinical team.

Health conditions that might require an adaptive restraint for a newborn or young child include:

- ▶ Heart rate or breathing instability in premature infants
- ▶ Low muscle tone
- ▶ Casts or braces
- ▶ Behaviors such as impulsiveness, distractibility, and short attention span - [see Escaping Behaviors](#) (page 20) for ideas to help children occupied and contained

Some CPSTs have received additional training in "Safe Travel for All Children." They are identified on the Safe Kids Worldwide U.S. [National Child Passenger Safety Certification Training Program\\*](#) website in the Extra Training field. Some of these technicians also do virtual appointments.

Other resources include the Indiana University School of Medicine's [Adaptive Transportation\\*](#) pages and the Cincinnati Children's Hospital and Toyota video [Buckle Up for Life - Special Needs.\\*](#)

\* **Note:** See page 24 for the URL for hyperlinks.

# Child Passenger Safety in Other Modes of Transportation

## Air Travel

Airlines currently allow children under the age of two to fly free as lap children. Nevertheless, the same risks of having an unrestrained child in a car exist on a plane, only at higher speed. You would be unlikely to be able to hold onto your child during violent turbulence or a runway incident. The Federal Aviation Administration (FAA) “strongly discourages” lap children and “strongly urges” the use of a child restraint on an airplane ([Flying With Children](#) - see Resources, page 24, for this hyperlink). The AAP also recommends that children less than 40 pounds use child restraints when flying.



U.S.-based airlines must allow a child to use an FAA-approved car seat when the parent or guardian purchases a seat for the child and accompanies the child, and the child is within the limits for the car seat. There must be a label on the seat stating, “This restraint is certified for use in motor vehicles and aircraft.” Most harness car seats are FAA-approved. Know where this label is, as many airlines require staff to check for it. Infant seat bases are generally not approved so the seat must be used without the base. A multimode car seat is not FAA-approved in booster mode but labels will state if it is approved in harness mode.

Car seats must be installed on a forward-facing airplane seat. Sometimes, airline staff misinterpret this and think that a car seat cannot rear-face. Clarify with staff using your manual, FAA information, or the airline’s website. You may need to install the car seat more upright than in a vehicle.

For a flight on a carrier not based in the U.S., check that airline’s policies. Unfortunately, some non-U.S. carriers do not allow the use of car seats, or they require any car seat to face forward.

If booking premium seating, check airline policies for car seats in various classes of service and the features of the aircraft seats. For example, some premium seats have inflatable seatbelts (many car seats cannot be installed with an inflatable belt) or are angled or rearward facing. Bulkhead seats have fixed armrests, often too narrow for a car seat. A car seat cannot be in an exit row and some airlines do not allow car seats in one or more rows in front of or behind an exit row. While the airline should re-seat you and your child, there’s no sense in paying extra for a premium seat you can’t use!

Checking a car seat as baggage, including gate checking, is risky. The seat may arrive damaged, or not at all! Renting a car seat is also not a good idea. You do not know its history and the seat may not be appropriate for your child.



Photo by author

Note: If you are traveling outside the U.S. or Canada, vehicles may not have locking seat belts. Car seats can be installed with lower anchors (if present and if the child is within the weight limit for use), by using the car seat's lockoff (if equipped), or with a locking clip (see photo). This device holds a lap/shoulder belt at a fixed length for car seat installation when a vehicle belt does not lock. Do not purchase a generic locking clip; either get one from the manufacturer or a CPST. They often have a "stash" from days when more U.S. vehicle seat belts did not lock. Ask a CPST if you need to learn how to use a locking clip.

## Recreational Vehicles

You might be surprised to learn that motorized Recreational Vehicle (RV) cabins are exempt from federal seat belt requirements for rear occupants and are not required to be crash tested. Also, an RV is full of equipment and storage materials that can become projectiles during a collision. Car seats must be installed on a forward-facing vehicle seat but some RV seats do not face the front.

The best way to travel with children and an RV is to choose a non-motorized, towable camper. This way, your children can be properly restrained in the vehicle that is pulling the RV. Another option is to drive children in a separate vehicle.

The Car Seat Lady has an article [about traveling in an RV with children](#) (see Resources, page 24, for this hyperlink).



## Alternative Vehicles

Car seats are designed for vehicles meeting federal motor vehicle safety standard definitions of passenger car and multipurpose passenger vehicle. While some other modes of transportation, such as **low-speed vehicles, golf carts, side-by-sides, ATV's, and snowmobiles**, meet certain safety standards, they are not the same standards as passenger cars or multipurpose passenger vehicles. Therefore, car seats may not perform as designed. Most car seat manufacturers prohibit use of car seats in these types of vehicles. Refer to the individual child restraint manufacturer for more information.

The AAP recommends that children younger than sixteen should not ride as a passenger on an ATV and that children under the age of six should never ride on snowmobiles.

# Resources

Here are Child Passenger Safety (CPS) resources included this guide, plus a few additional ones on CPS and other child safety/health topics. A URL is provided for hardcopy users.

- ▶ Vermont Department of Health Be Seat Smart - [beseatsmart.org](http://beseatsmart.org)
- ▶ New York Traffic Safety Committee CPS - [trafficsafety.ny.gov/child-passenger-safety](http://trafficsafety.ny.gov/child-passenger-safety)
- ▶ Safe Kids Worldwide National Child Passenger Safety Certification Training Program - [cert.safekids.org](http://cert.safekids.org) (click on Find a Tech. Only use a few fields such as state and county for best results. For a tech trained in transportation of children with special healthcare needs, choose “Safe Travel for All Children” in the special training field)
- ▶ National Safety Council virtual seat checks - [carseateducation.org/caregiver-resources](http://carseateducation.org/caregiver-resources)
- ▶ If You’re Pregnant (seat belt use and other tips) - [nhtsa.gov/sites/nhtsa.gov/files/documents/pregnant-seat-belt-use.pdf](http://nhtsa.gov/sites/nhtsa.gov/files/documents/pregnant-seat-belt-use.pdf)
- ▶ Car Safety Seat Product Listing - [downloads.aap.org/HC/carseats/ALL-combined-list-2025.pdf](http://downloads.aap.org/HC/carseats/ALL-combined-list-2025.pdf)
- ▶ Ease of Use Ratings - [nhtsa.gov/campaign/right-seat](http://nhtsa.gov/campaign/right-seat)
- ▶ The “pinch test” - <https://www.youtube.com/watch?v=pnQRvuRIOks>
- ▶ Installation & harnessing videos - [nhtsa.gov/how-install-rear-facing-only-infant-car-seat](http://nhtsa.gov/how-install-rear-facing-only-infant-car-seat) and [nhtsa.gov/car-seats-and-booster-seats/how-install-convertible-car-seat-rear-facing](http://nhtsa.gov/car-seats-and-booster-seats/how-install-convertible-car-seat-rear-facing)
- ▶ UVM Medical Center Safe Sleep - [uvmhealth.org/safesleep](http://uvmhealth.org/safesleep)
- ▶ “Children in Hot Cars” eLearning - [carseateducation.org/product/kids-in-hot-cars](http://carseateducation.org/product/kids-in-hot-cars)
- ▶ Motion Sickness - [thecarseatlady.com/motion-sickness-puking-poncho/](http://thecarseatlady.com/motion-sickness-puking-poncho/)
- ▶ Adaptive Transportation - [preventinjury.medicine.iu.edu/adaptive-transportation](http://preventinjury.medicine.iu.edu/adaptive-transportation)
- ▶ “Buckle Up for Life - Special Needs” video - [youtube.com/watch?v=-TsT5wAYldg](http://youtube.com/watch?v=-TsT5wAYldg)
- ▶ Flying with Children - [faa.gov/travelers/fly\\_children](http://faa.gov/travelers/fly_children)
- ▶ Traveling in an RV with Children - [thecarseatlady.com/rvtravel/](http://thecarseatlady.com/rvtravel/)
- ▶ UVM Medical Center Car Seat Safety - [uvmhealth.org/carseats](http://uvmhealth.org/carseats)
- ▶ UVM Medical Center Grandparent Refresher webinar - [give.uvmhealth.org/grandparentrefresher](http://give.uvmhealth.org/grandparentrefresher) (choose "buy tickets" but the event is free)
- ▶ Safe Kids Vermont website - [uvmhealth.org/safekidsvt](http://uvmhealth.org/safekidsvt) - check out “Preparing for Baby” booklet!
- ▶ Safe Kids Vermont Facebook page - [facebook.com/SafeKidsVT](http://facebook.com/SafeKidsVT)
- ▶ AAP Car Seat Safety Information for Families - go to [healthychildren.org](http://healthychildren.org); search “car seats”
- ▶ NHTSA Car Seats and Booster Seats - [nhtsa.gov/vehicle-safety/car-seats-and-booster-seats](http://nhtsa.gov/vehicle-safety/car-seats-and-booster-seats)

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