



THE USAA  
EDUCATIONAL  
FOUNDATION®

*Good Information for Good Decisions.®*

VEHICLE AND DRIVING SAFETY

# CHILD SAFETY IN AND AROUND VEHICLES



## OUR MISSION

The mission of The USAA Educational Foundation is to help consumers make informed decisions by providing information on financial management, safety concerns and significant life events.



## TABLE OF CONTENTS

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<b>What You Should Know</b> Protecting your child in and around vehicles	2
<b>Child Restraint Recommendations</b> Outlining weight and age guidelines	4
<b>Risks Inside The Vehicle</b> Identifying hazards inside the vehicle	5
<b>Risks Around The Vehicle</b> Understanding external hazards	7
<b>Safety Tips</b> Outlining precautions you can take	8

## 2 WHAT YOU SHOULD KNOW

Keeping children safe in and around vehicles involves more than just using appropriate child safety seats. Parents and caregivers must also take important steps to protect young children from the following risks:

- Hyperthermia (Heatstroke).
- Vehicle rollaways.
- Injuries from power windows or seat belts.
- Trunk entrapments.
- Backover accidents.

Many accidents can be prevented with minimal effort. Become familiar with the safety tips on pages 8–9. **Most importantly, never leave a child alone in or around a vehicle.**

### Child Safety Seats

The chart on page 4 can help you select a child safety seat based on your child's weight and age. Once you know the correct type of child safety seat for your child's stage of growth, look for one that fits snugly in your vehicle and is easy to install.

- Ask your vehicle's manufacturer if they recommend particular brands of child safety seats for the make and model vehicle you own.
- The National Highway Traffic Safety Administration (NHTSA) rates child safety seats by how easy they are to install correctly. Visit [www.nhtsa.gov](http://www.nhtsa.gov). Click on "Child Passenger Safety" and then on "Child seat ratings."
- Install the child safety seat according to the seat instructions and your vehicle's instructions. Keep both sets of instructions in your glove compartment for future reference.
- A certified child safety seat technician can make sure your child safety seat is properly installed, free of charge. Visit [www.nhtsa.gov](http://www.nhtsa.gov) to find an inspection station near you. Click on "Child Passenger Safety" and then on "Seat inspection stations."

## Preventing Distracted Driving

When traveling with infants and young children, make sure they are properly restrained. Provide younger children with access to everything they need for the trip, including snacks and soft toys. Hard toys and other objects can become dangerous projectiles during hard braking and crash situations. If children require assistance while you are driving, pull over to a safe place, stop and assist them with their needs.

Drive defensively with both hands on the wheel. Keep your eyes on the road. Avoid the following distractions while driving:

- Dealing with children.
- Eating, drinking, smoking or personal grooming.
- Using a cell phone, pager or any hand-held electronics.
- Texting.
- Reading maps, directions or any written materials.
- Adjusting vehicle controls: for example, radios, CDs, air conditioning.
- Reaching down or behind the driver's seat; picking up items from the floor.
- Opening the glove compartment.
- Responding to roadside distractions.

If you must do any of these, pull over and stop safely first.

## 4 CHILD RESTRAINT RECOMMENDATIONS

### Choosing The Right Child Safety Seat

	INFANTS	TODDLERS	OLDER CHILDREN		
<b>Weight And Age</b>	<ul style="list-style-type: none"> <li>Until at least 1 year old <b>AND</b> at least 20 pounds. If a child reaches 20 pounds before his first birthday, it is recommended the child remain rear-facing until he turns 1 year old</li> </ul>	<ul style="list-style-type: none"> <li>Until at least 1 year old</li> <li>More than 20 pounds and less than 35 pounds</li> </ul>	Over 1 year old <b>AND</b> over 20 pounds, up to approximately 40 pounds	Over 40 pounds, until at least 8 years old, unless 4 feet 9 inches or taller	<ul style="list-style-type: none"> <li>4 feet 9 inches or taller</li> <li>Children under age 13 are safest when properly restrained in the back seat</li> </ul>
<b>Type Of Seat</b>	Infant seat only or rear-facing convertible seat	Rear-facing convertible seat designed for heavier infants	Convertible/forward-facing/high-back booster with harness	Belt-positioning booster (high-back or no-back)	Vehicle seat belt
<b>Seat Position</b>	Rear-facing position only	Rear-facing position only	Forward-facing position	Forward-facing position	Forward-facing position
<b>Make Sure</b>	Harness straps are <b>at, or below</b> , shoulder level	Harness straps are <b>at, or below</b> , shoulder level	Harness straps are <b>at, or above</b> , shoulder level	Use belt-positioning booster seats with <b>lap/shoulder belt combination only</b>	Use lap and shoulder belt
<b>Remember</b>	Do not place infants in the front seat of vehicles with air bags	Do not place infants in the front seat of vehicles with air bags	5-point harnesses provide the best protection	Make sure the lap belt portion fits tight across the child's upper thighs to avoid abdominal injuries and the shoulder belt is snug across the chest	The child's back should be straight against the back of the vehicle seat with knees bent comfortably at the edge of the seat

New child safety seats have a registration card. Register your child's safety seat with the manufacturer so you can be notified of any recalls. To register, mail your registration card to the manufacturer, or register on the manufacturer's Web site.

For information on state child restraint laws/child passenger safety recommendations, visit the following Web site: The Insurance Institute For Highway Safety (IIHS) [www.iihs.org/laws/childrestraint.aspx](http://www.iihs.org/laws/childrestraint.aspx)

## Hyperthermia (Heatstroke)

**Never leave a child alone in a parked vehicle, even with the windows open.** A vehicle's interior can reach deadly temperatures within 10 minutes, even with the windows cracked. Children's bodies overheat 3 to 5 times faster than an adult's because they absorb more heat and sweat less. Children can suffer heatstroke within 10 minutes, causing high fever, seizures and damage to the brain and other vital organs. *(Source: The American Academy of Pediatrics (AAP))*

Do not assume it is safer to leave a child alone if the vehicle is running with the air conditioner on. A child could slip the vehicle into drive, get caught in a power window, be abducted or be inadvertently taken by a car thief.

## Vehicle Rollover

Most rollover accidents begin when an unattended child releases the emergency brake or shifts the vehicle from park into gear. Once the vehicle is in motion, the child may become frightened and jump out of the vehicle, only to be injured or run over. A child can also be hurt inside a vehicle if it collides with another object.

Brake Transmission Shift Interlock (BTSI) technology forces a driver to depress the foot brake when shifting out of park. It can prevent children from accidentally putting a vehicle in gear. Visit [www.safercar.gov](http://www.safercar.gov) for a list of BTSI-equipped vehicles.

## Power Window Accidents

Each year, children are injured or killed in accidents involving power windows. According to the Insurance Institute For Highway Safety (IIHS), vehicle windows may bruise, dislocate, lacerate, fracture or crush body parts that become trapped in the windows. The most severe incidents occur when parents leave children unattended.

**Vehicle temperatures rise quickly, even with the windows cracked.**

In Just:	Temperatures Rise:
10 minutes	19°F
20 minutes	29°F
30 minutes	34°F
60 minutes	43°F
1–2 hours	45–50°F

*From a San Francisco State University study. Temperature increases may vary based on vehicle interior color.*

A child or adult may unintentionally lean, kneel or stand on the power window switch causing the window to close while someone's head, hand, or arm is in the window.

### TYPES OF POWER WINDOW SWITCHES

<b>Rocker</b>	Pivots on a center hinge that allows you to press down on one side or the other to open and close a window.
<b>Toggle</b>	Moves back and forth to open and close a vehicle window.
<b>Lever</b>	Requires you to press down to open the window, but you must actively lift the switch to close the window.

If your vehicle's power windows feature rocker or toggle switches, consider replacing them with lever switches. Beginning in September, 2010, all new vehicles will be required to have this "pull-to-close" technology.

Some vehicles are equipped with automatic-reverse power windows. These windows function like elevator doors or garage doors, automatically opening when sensors detect an obstruction. Check your vehicle owner's manual to determine whether your vehicle features this technology.

### Seat Belt Entanglement

Children can become entangled in vehicle seat belts. If a seat belt features a locking mechanism, it may retract and strangle the child. Children also may become wrapped in a seat belt when lying down or sleeping on the vehicle seat.

### Trunk Entrapment

Children can become trapped in the trunk and suffer heat stroke or suffocate. They can access the trunk by using the trunk release button, or by climbing through a fold-down seat or other pass-through opening in the back seat of a vehicle. If your child is missing, immediately check your vehicle trunk. Every second counts.

All vehicles manufactured after September 2001 are equipped with a glow-in-the-dark release handle inside the trunk compartment. If you own an older vehicle, ask your mechanic or a nearby dealership to retrofit it with an emergency trunk release. Teach your children how to locate and use the emergency trunk release.

## Backover Accidents

Backover accidents occur when a driver — usually a parent, family member or friend — backs into a child or other pedestrian or cyclist. These accidents typically occur at low speeds as the driver exits a driveway or parking space. They are more likely to happen if you own a large vehicle, such as a van, truck or SUV.

Every vehicle has blind zones — areas around the vehicle that are not visible from the driver seat. Generally, the longer and taller your vehicle, the bigger its blind zone area. The average sedan has a 17-foot blind zone; the average midsize SUV, a 23-foot blind zone. Blind zones are also affected by the following: driver height, driver seat height, shape of the vehicle's windows and mirrors and the driveway or street incline.

The following safety technologies can help prevent backover accidents, but they are not fully reliable in detecting children. Do not rely on these devices alone. The most reliable way to detect children around your vehicle is to walk around it to make sure no one is in the way. As soon as you get inside, roll down windows, so you can hear what is going on nearby.

### DETECTION DEVICES

<b>Rear Camera Systems</b>	Displays the area behind a vehicle on a screen mounted on the instrument display. These systems are most effective as parking aids.
<b>Radar And Ultrasonic-Based Systems</b>	Warns drivers when an obstacle is detected near rear tires and bumpers. They emit a beeping sound or warning lights to notify a driver as the distance closes between the vehicle and an object or individual.
<b>Auxiliary Mirrors</b>	May be mounted on existing side-view mirrors to reduce a vehicle's blind zone.

## School Bus Safety

School-age children should be aware of the danger zone around a school bus — the area on all sides of the bus where children are in the most danger of being hit. Teach your child to stay 10 feet away — or take “5 giant steps” — out from the bus before crossing so they can be seen by the driver. Check with your school or police department for information on school bus safety. For more information on school bus safety, visit [www.nhtsa.gov](http://www.nhtsa.gov). In the search bar type, Tip #10: School Bus Stops.

## 8 SAFETY TIPS

### REDUCING RISKS INSIDE THE VEHICLE

- Never leave your child unattended in a vehicle.

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- Store vehicle keys and remote entry devices out of children's reach.

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- Always lock the vehicle doors and trunk, especially at home.

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- Take steps to remember when your child is with you in the vehicle.  
Install the child safety seat where it is visible from the rear view mirror.
  - Put the diaper bag or a stuffed animal in the front passenger seat when your child is with you.
  - Make a habit of looking through the vehicle before walking away from it.
  - Take extra precautions when changing your routine for taking infants or children to day care. Ask your day care provider to always call if your child is late.

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- Teach children that vehicles are not toys for playing in, or hiding inside.

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- If you see a child alone in a hot vehicle, call the police.  
If the child is in distress, due to the heat:
  - Get the child out as quickly as possible.
  - Cool the child rapidly.
  - Call 9-1-1 immediately.Warning signs of a heatstroke may vary, but include:
  - Red, hot and moist or dry skin.
  - No sweating.
  - A strong rapid pulse, or a slow weak pulse.
  - Throbbing headache.
  - Dizziness.
  - Nausea.
  - Confusion.
  - Grouchiness.
  - Acting strangely.

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- Set the emergency brake every time you park.

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- Properly restrain children in child safety seats or seat belts to prevent them from accidentally activating power windows.

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- Lock power windows.

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- Teach your child not to play with or stand on window switches.

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## REDUCING RISKS INSIDE THE VEHICLE *(CONTINUED)*

- Make sure children are out of the way before raising power windows.
- Teach children that seat belts can be dangerous and are not toys.
- Buckle unused seat belts. Make sure excess strapping is fully retracted.
- Keep the rear fold-down seats closed and locked to keep your child from climbing into the trunk from inside your vehicle.
- Install a glow-in-the-dark trunk release latch in your vehicle.
- Secure unrestrained objects that could become projectiles in an accident or during deceleration. Put small items in the glove box and larger items in the trunk.

## REDUCING RISKS AROUND THE VEHICLE

- Have children play in the backyard instead of the driveway or front yard.
- Teach children not to leave toys or sports equipment in the driveway.
- Never leave a child alone and unattended in or around a vehicle.
- Always walk around a vehicle before getting in to confirm no children are in the way.
- Know where your children are before moving a vehicle.
- Open your vehicle windows before backing up so you can hear if children are nearby.
- Check your mirrors when backing up.
- Be familiar with your vehicle's blind zones. Steep inclines and large SUVs, vans and trucks create larger blind zones.
- Install a rear-view camera, audible collision detector or other back-up detection device in your vehicle.
- Teach your child to move away from the vehicle when a driver is backing up.

**REDUCING RISKS AROUND THE VEHICLE (CONTINUED)**

- Teach children to recognize reverse lights. Teach them that “parked” vehicles might move.

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- Hold your child’s hand when walking through parking lots or other areas where vehicles are moving.

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- Trim landscaping around the driveway so drivers can see the sidewalk, street, children and other pedestrians. Your vehicle should be clearly visible to pedestrians as well.

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- Teach children that even if they can see a vehicle, the driver might not see them.

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- Teach your child about school bus safety.
  - When getting off the bus, stay away from the danger zone and wait for the driver’s signal. The danger zone is the area on all sides of the bus where children are in the most danger of being hit. Children should stay 10 feet away from the bus (or as far away as they can) and never go behind it.
  - Board the bus one at a time.
  - When getting off the bus, look before stepping off the bus to be sure no vehicles are passing on the shoulder (side of the road.) Move away from the bus.
  - Before crossing the street, take “5 giant steps” out from the front of the bus, or until the driver’s face can be seen.
  - Wait for the driver to signal that it is safe to cross.
  - Look left-right-left when coming to the edge of the bus to make sure traffic is stopped. Keep watching traffic when crossing.

*Source: The National Highway Traffic Safety Administration (NHTSA), “Tip #10: School Bus Stops.”*



## 12 NOTES

## RESOURCES



The USAA Educational Foundation offers the following publications.

**BUYING A VEHICLE THAT MEETS YOUR NEEDS (#505)**

**INSTALLING CHILD SAFETY SEATS (#544)**

**SAFE ON THE ROAD (#570)**

**KEEPING EVERY YOUTH SAFE (K.E.Y.S.)**

- **BEHIND THE WHEEL (#565)**
- **ON THE ROAD (DVD) (#567)**
- **COST OF DRIVING (#568)**

**THE EFFECTS OF AGING ON DRIVING SKILLS (#535)**

**AUTO INSURANCE (#526)**

**PREPARING FOR PARENTHOOD (#563)**

**CHOOSING A HEALTHY LIFESTYLE (#546)**

**HELPING CHILDREN DEVELOP HEALTHY HABITS (#547)**

**KEEPING YOUR CHILD SAFE (#549)**

**BALANCING FAMILY AND CAREER (#529)**

**PARENTING A TEEN (#515)**

**CHILDREN WITH SPECIAL NEEDS (#548)**

**MAKING YOUR HOME A SAFER PLACE (#531)**

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