Transportation Safety

The National Highway Safety Administration (NHTSA) works to prevent injuries and fatalities for all road users—including children, teens, older drivers, bicyclists, pedestrians, and drivers with disabilities. Here you’ll find information and resources to keep your loved ones safe on the road, in and around cars. Whether you’re buying your child’s first car seat, deciding whether to let your kids walk to school or take the bus, handing the car keys to your teenager, looking for adaptive equipment for a disabled driver, or you’re concerned about your older parent’s ability to drive, they are available to answer your questions. (NHTSA.gov)

**Car Seats**

*Overview*

Car seats and boosters provide protection for infants and children in a crash, yet car crashes are a leading cause of death for children ages 1 to 13. That's why it's so important to choose and use the right car seat correctly every time your child is in the car.

**Rear-Facing Car Seat**



Birth-12 Months

Your child under age 1 should always ride in a rear-facing car seat. There are different types of rear-facing car seats:

Infant-only seats can only be used rear-facing.

Convertible and all-in-one car seats typically have higher height and weight limits for the rear-facing position, allowing you to keep your child rear-facing for a longer period of time.

1 – 3 Years

Keep your child rear-facing as long as possible. It’s the best way to keep him or her safe. Your child should remain in a rear-facing car seat until he or she reaches the top height or weight limit allowed by your car seat’s manufacturer. Once your child outgrows the rear-facing car seat, your child is ready to travel in a forward-facing car seat with a harness and tether.

**Forward-Facing Car Seat**



1 – 3 Years

Keep your child rear-facing as long as possible. It’s the best way to keep him or her safe. Your child should remain in a rear-facing car seat until he or she reaches the top height or weight limit allowed by your car seat’s manufacturer. Once your child outgrows the rear-facing car seat, your child is ready to travel in a forward-facing car seat with a harness and tether.

**Booster Seat**



4 – 7 Years

Keep your child in a forward-facing car seat with a harness and tether until he or she reaches the top height or weight limit allowed by your car seat’s manufacturer. Once your child outgrows the forward-facing car seat with a harness, it’s time to travel in a booster seat, but still in the back seat.

8 – 12 Years

Keep your child in a booster seat until he or she is big enough to fit in a seat belt properly. For a seat belt to fit properly the lap belt must lie snugly across the upper thighs, not the stomach. The shoulder belt should lie snugly across the shoulder and chest and not cross the neck or face. Remember: your child should still ride in the back seat because it’s safer there.

**Seat Belts**



8 – 12 Years

Keep your child in a booster seat until he or she is big enough to fit in a seat belt properly. For a seat belt to fit properly the lap belt must lie snugly across the upper thighs, not the stomach. The shoulder belt should lie snugly across the shoulder and chest and not cross the neck or face. Remember: your child should still ride in the back seat because it’s safer there.

**Keeping Kids Safe** (www.KidsAndCars.org)

Find out how to keep your child safe in and around your vehicle. The NHTSA offers [prevention tips and information](https://www.nhtsa.gov/document/keeping-kids-safe-parents-guide-protecting-children-and-around-cars) about vehicle features to avoid rollaway, backover, heatstroke, and other dangers to children.

**Heatstroke**

Heatstroke is one of the leading causes of non-crash-related fatalities among children. Vehicle heatstroke occurs when a child is left in a hot vehicle, allowing for the child’s temperature to rise in a quick and deadly manner. Heatstroke begins when the core body temperature reaches about 104 degrees and the thermoregulatory system is overwhelmed. A core body temperature of about 107 degrees is lethal. Unfortunately, even great parents can forget a child in the back seat. Other risk factors include caregivers who aren’t used to driving kids, or whose routine suddenly changes.

Whether you’re a parent, caregiver, or bystander of a child left in a car, it’s vitally important to understand children are more vulnerable to heatstroke than adults.

***Prevention Tips***

Look before you lock. Make it a habit to look before you lock, and try these [tips to avoid putting children at risk of heatstroke](https://www.nhtsa.gov/child-safety/tips-avoid-child-heatstroke). Keep your vehicle locked and keep your keys out of reach; nearly 3 in 10 heatstroke deaths happen when an unattended child gains access to a vehicle.

**TAKE ACTION if you notice a child alone in a car! Protecting children is everyone’s business!**

***What You Need to Know, Now.***

It is never okay to leave a child alone in or around a car for any reason. Even in cooler temperatures, your vehicle can heat up to dangerous temperatures very quickly. An outside temperature in the mid-60s can cause a vehicle’s inside temperature to rise above 110 degrees Fahrenheit. The inside temperature of your car can rise almost 20 degrees Fahrenheit within the first 10 minutes. Heatstroke does not only occur during the summertime or in the Sun Belt States. This deadly issue can occur at any time of year, in any weather condition, in any community—for any parent.

**Backover**

Many children are killed or seriously injured in backover incidents. A backover incident typically occurs when a vehicle coming out of a driveway or parking space backs over an unattended child because the driver did not see him or her.

***Prevention Tips***

Teach children not to play in or around cars.

Always walk around your vehicle and check the area around it before backing up.

Be aware of small children—the smaller a child, the more likely it is you will not see them.

Teach children to move away from a vehicle when a driver gets in it or if the car is started.

Have children in the area stand to the side of the driveway or sidewalk so you can see them as you are backing out of a driveway or parking space.

Make sure to look behind you while backing up slowly in case a child dashes behind your vehicle unexpectedly.

Roll down your windows while backing out of your driveway or parking space so that you'll be able to hear what is happening outside of your vehicle.

Teach your children to keep their toys and bikes out of the driveway.

Because kids can move unpredictably, you should actively check your mirrors while backing up.

Many cars are equipped with detection devices that provide rearview video or warning sounds, but they cannot completely take the place of actively walking around your car to make sure children are safely out of the way. Do not rely solely on these devices to detect what is behind your vehicle.

***What You Need to Know, Now.***

Backover can happen when you least expect it. Never leave a child alone in or around a vehicle.

**Power Windows**

Children can hurt themselves with power windows. Many kids are injured when a window closes on their finger, wrist, or hand. Some kids have been strangled by power windows.

***Prevention Tips***

Teach your children not to play with window switches.

Teach your children not to stand on passenger door arm rests.

Properly restrain your children in car seats or seat belts to prevent them from accidentally activating power windows and sunroofs.

Look and make sure your kids' hands, feet, and head, are clear of windows before raising the windows.

Never leave the key in the ignition or in the "on" or "accessory" position when you walk away from your car.

If available, activate the power window lock switch so that your children cannot play with the windows.

***What You Need to Know, Now.***

Your car may have child safety settings for power windows, but that doesn’t mean your child will not find a way to test the system. Never leave your children alone in a vehicle for any reason.

All model year 2010 vehicles and newer will have "pull to close" switches, which require you to pull up on them to close the window. Older vehicles may have window switches that a child can accidentally step or put weight on, easily causing a window to close.

Some vehicles have power windows that automatically reverse when an object (such as your child's arm or neck) is in the path of a closing window.

**Seat Belt Entanglement**

A child within reach of a seat belt may become entangled if he or she pulls the seat belt all the way out and wraps the belt around his or her head, neck, or waist.

The majority of seat belts have a locking mechanism that is activated when the seat belt is pulled all the way out from the retractor. This feature is designed for car seat installation. In instances when the locking feature activates, the child may not be able to free him or herself.

This can happen if you do not properly restrain your child, for example, if you let the child lie down or sleep on the vehicle seat instead of being properly restrained. Older children who are no longer in a car seat can become entangled by pulling a seat belt all the way out of the retractor or by playing with an unused seat belt.

***Prevention Tips***

Do not let children play in or around cars.

Always ensure children are properly restrained.

Teach children that seat belts are not toys.

Be aware that some seat belts have a retractor that locks if pulled all the way out.

If a child has an unused seat belt within reach, buckle unused seat belts. Pull the seat belt out all the way to the end without yanking. Then, feed the excess webbing back into the retractor.

***What You Need to Know, Now.***

Seat belt entanglement can happen in the blink of an eye. Never leave your children alone in or around a vehicle for any reason.

**Trunk Entrapment**

Children are naturally curious and love to explore their surroundings. If you leave your kids unattended, in or near a vehicle, it may not be long before they are playing in it. Hide and seek can turn deadly if they get trapped in the trunk, where temperatures can rise very quickly—resulting in heatstroke or asphyxiation.

As of September 1, 2001, automobile manufacturers are required to equip all new vehicle trunks with a 'glow in the dark' trunk release inside the trunk compartment. Show your kids how to use the release in case of an emergency. If your car is older and does not have the 'glow in the dark' trunk release, ask your automobile dealership about getting your vehicle retrofitted with a trunk release mechanism.

***Prevention Tips***

Teach children that vehicle trunks are for cargo, not for playing.

Check the trunk right away if your child is missing.

Lock your car doors and trunk and be sure keys and remote entry devices are out of sight and reach of your kids.

Keep the rear fold-down seats closed/locked to keep your children from climbing into the trunk from inside your car.

***What You Need to Know, Now.***

Many factors can contribute to trunk entrapment injury or death. Always supervise your child and never leave him or her alone in or around a vehicle for any reason. Younger children are more sensitive to heat than older children and adults and are at greater risk for heatstroke. High temperature, humidity, and poor ventilation create an extremely dangerous environment in a vehicle trunk. Check the trunk right away if your child is missing. Trunk entrapment has similar risks to heatstroke: Even in cooler temperatures, your vehicle can heat up to dangerous temperatures very quickly. An outside temperature in the mid-60s can cause a vehicle’s inside temperature to rise above 110 degrees Fahrenheit. The inside temperature of your car can rise almost 20 degrees Fahrenheit within the first 10 minutes.

**Vehicle Rollaway**

Brake Transmission Safety Interlock (BTSI) is a system that requires the service brake to be depressed before the transmission can be shifted out of “park.” Before the introduction of BTSI, it was possible to shift vehicles with automatic transmissions "out of park." Unfortunately, this safety risk could occur even if the vehicle's engine was off or in accessory mode, the driver's foot was not on the brake, and the key was in the ignition. This often led to vehicle rollaway, particularly with unsupervised children playing in vehicles.

BTSI was gradually added to new cars until it was finally required in all vehicles by Model Year 2010. As a result, this type of vehicle rollaway, while possible, is increasingly uncommon. However, vehicle rollaway can still be a problem in vehicles equipped with a keyless ignition or push-button start feature when the vehicle has been turned off and not shifted into park. This is why it is essential to always engage your emergency brake every time you park, regardless of the presence (or lack of) BTSI technology.

***Prevention Tips***

Always ensure the vehicle is securely in the Park position before shutting the vehicle off and exiting.

Supervise children carefully when in and around vehicles. Keep vehicle locked when unattended.

Never leave keys in the car. Verify whether your vehicle has BTSI by reading the owner's manual.

***What You Need to Know, Now.***

Vehicle rollaway can happen in an instant. Always supervise children and never leave them alone in or around a vehicle for any reason. When the vehicle is set in motion, a driver may try to jump into the rolling vehicle in an attempt to stop it, only to be injured or run over. Children can also be hurt inside the vehicle, especially if they are unbelted and the vehicle is in motion. Sometimes, the vehicle may end up running over someone else or into other vehicles. Safety equipment such as air bags are not operational when the vehicle is in the Off position. All vehicles with automatic transmission and a Park position, manufactured for sale after September 1, 2010, must have BTSI. A small but growing number of new vehicles have an automatic Shift-to-Park function which is a safety feature intended to prevent vehicles from accidentally being turned off without Park being engaged. Should the vehicle be turned off before being placed into Park, the vehicle will automatically shift the transmission to the Park position.

**Blind Zones** **. . . . . every vehicle has them.**

A blind zone is the area behind a vehicle where the driver cannot see even when looking b ack and using their rear and side view mirrors correctly. Blind zones are also in front of cars but are not as large.

The average blind zone = 15 to 25 feet.

Shorter drivers = larger blind zones

Over 60 % of backovers involve a larger vehicle (truck, van, SUV)

Backovers mainly take place in the driveways and parking lots.

In over 70% of these incidents, a parent or close relative is the driver behind the wheel.

Bye-Bye Syndrome – Children don’t want to be left behind when they hear the words bye bye. Many times, children follow behind the person who is leaving. The driver is unaware the child snuck out, thinking they are still safe inside. The child stands behind the vehicle where they cannot be seen and is backed over.

**Contributing factors.** You cannot avoid hitting something you literally cannot see.

Most drivers are unaware of large, dangerous blind zones behind all vehicles. Children do not understand dangers of a slow-moving vehicle. They also do not understand boundaries. The age most likely to be a victim of backover is one-year-old. (12-24 months) Children younger than 5 years old are at the most risk, but all children are equally affected.

**Statistics**

* On an average, 232 fatalities and 13,000 injuries occur every year due to backovers.
* Thousands of children are seriously injured or killed every year because a driver backing up was not able to see the child behind the vehicle.
* Many elderly people are also backed over by vehicles

**Transportation Quiz**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Total Score: \_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

(Circle one)

1. True/False. Nearly 3 in 10 heatstroke deaths happen when an unattended child gains access to a vehicle.

2. True/False. Car crashes are a leading cause of death for children ages 1 to 13.

3. True/False. Your child under age 1 should always ride in a rear-facing car seat.

4. True/False. Once your child outgrows the rear-facing car seat, your child is ready to travel in a forward-facing car seat with a harness and tether.

5. True/False. Once your child outgrows the forward-facing car seat with a harness, it’s time to travel in a booster seat, but still in the back seat.

6. True/False. Children can hurt themselves with power windows.

7. True/False. Many kids are injured when a window closes on their finger, wrist, or hand. Some kids have been strangled by power windows.

8. True/False. A child within reach of a seat belt may become entangled if he or she pulls the seat belt all the way out and wraps the belt around his or her head, neck, or waist.

9. True/False. The average blind zone = 15 to 25 feet.

10. True/False. The age most likely to be a victim of backover is one-year-old. (12-24 months)

**Fill in the blank**

(Fill in the blank using the word bank below. Some words in the word bank can be used more than once.)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is one of the leading causes of non-crash-related fatalities among children. \_\_\_\_\_\_\_\_\_\_ heatstroke occurs when a child is left in a hot vehicle, allowing for the child’s temperature to rise in a quick and deadly manner. Heatstroke begins when the \_\_\_\_\_\_ \_\_\_\_\_\_\_ temperature reaches about 104 degrees and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ system is overwhelmed. A core body temperature of about \_\_\_\_\_\_\_\_\_ degrees is lethal. Unfortunately, even great parents can forget a child in the back seat. Other risk factors include caregivers who aren’t used to driving kids, or whose routine suddenly changes. Whether you’re a parent, caregiver, or bystander of a child left in a car, it’s vitally important to understand \_\_\_\_\_\_\_\_\_\_ are more \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to heatstroke than \_\_\_\_\_\_\_\_\_\_\_\_\_. For a \_\_\_\_\_ \_\_\_\_\_\_\_ to fit properly the lap belt must lie snugly across the upper thighs, not the stomach. The shoulder belt should lie snugly across the \_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_ and not cross the \_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_. Remember: your child should still ride in the \_\_\_\_\_\_\_\_\_\_ seat because it’s safer there. Many children are killed or seriously injured in \_\_\_\_\_\_\_\_\_\_\_ incidents. A \_\_\_\_\_\_\_\_\_\_\_\_\_ incident typically occurs when a vehicle coming out of a driveway or parking space backs over an unattended child because the driver did not see him or her. A \_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ is the area behind a vehicle where the driver cannot see even when looking back and using their rear and side view \_\_\_\_\_\_\_\_\_\_\_\_ correctly. Blind zones are also in \_\_\_\_\_\_\_\_\_ of cars but are not as large.

**Word Bank**

Heat Stroke Vehicle Core body 107 105

Thermoregulatory adults children vulnerable shoulder

Seat belt neck face front back

Chest backover blind zone mirrors