

Air Bags: Helping Parents Make Tough Choices

Kids should ride in the back seat, if possible. But what if all of them don't fit? Many families have more than two or three young children and don't own a mini-van. What should they do if they have a passenger air bag? These guidelines go beyond the basic advice to keep kids out of the front seat.

Infants

Never place a rear-facing safety seat in the front seat if it has two air bags, unless the vehicle has an air bag cutoff switch which is in the "off" position.¹

Some new parents think they must observe their infant while driving in case the baby stops breathing or chokes. They need to understand that being injured in a traffic collision is a far greater risk while the baby is in the car. Besides, even the most careful parents do not take turns staying awake all night to watch the baby sleep. Medically fragile infants need an adult to sit in the back seat and monitor them, since the driver needs to give full attention to the road.

Infants should face the back of the car as long as possible. For best protection, keep them facing rearward until at least two years in a convertible seat certified for rear-facing use up to 30-50 pounds. The baby's head must be at least one inch below the top edge of the seat.

Small children (age two or more)

If it is absolutely necessary for a forward-facing child to ride up front because all of the safety belts in the back are in use by other children, the child in the front should ride in a safety seat with a five-point harness system, not a booster without an internal harness. Adjust the harness snugly and check that the seat cannot be tipped forward toward the front of the car. Slide the vehicle seat back as far as possible.

Most current safety seats with a harness are certified up to 65 lbs. or more. Booster seats used with vehicle lap and shoulder belts are legal for children above the minimum weight specified by the manufacturer (30-40 lbs., depending on the model), but children under three or four are rarely mature enough to keep the vehicle shoulder belt snug and properly positioned.

Older children

If it is absolutely necessary for a child to ride in the front because all of the safety belts in the back are in use by other children, older children may sit in the front wearing a properly fitted lap and shoulder belt. If the child cannot pass the 5-Step Test* for safety belt fit, use a safety seat with harness, if possible, or a booster seat with the lap and shoulder belt.

Make sure the child does not lean forward to adjust the radio or slump forward while sleeping. In a collision, the un-inflated air bag or the air bag compartment cover could smack the child's head with tremendous force. Slide the vehicle seat back on its track as far as possible.

Why are air bags dangerous to children?

The air bag is dangerous for anyone who is too close when it is "fired." Most of the occupants killed have been rear-facing infants or unrestrained children who were thrown forward during pre-crash braking. Other cases are short drivers sitting too close to the steering wheel and forward-facing children who, although buckled up, apparently were not sitting back against the vehicle seat at the time of the collision. Children in forward-facing safety seats may be injured if the harness is loose or the safety seat is not firmly installed in the vehicle. Older children wearing lap and shoulder belts, with or without a booster, may be injured because they are leaning forward or because the shoulder belt is not properly positioned between the neck and the middle of the shoulder. Never place feet or objects on the dashboard on top of the air bag.

* See SafetyBeltSafe U.S.A. flyer #630

When the air bag shoots out of the steering wheel or dashboard, the tightly folded fabric or plastic compartment cover can crush any object in the "danger zone." Some common injuries to drivers are broken fingers, shattered hands, and skin abrasions. However, injuries suffered by children are more serious because they are hit in the back of the head (infants), the face, or neck.

When first introduced, air bags had to be powerful enough to prevent an unrestrained, 160-pound adult male from being ejected or thrown against the dashboard in a high-speed collision. Unfortunately, many of the deaths of children caused by air bag deployments are in low-speed collisions or near collisions in which the other passengers were not hurt at all. Air bags do not smother children; they fracture their skulls or break their necks. However, current vehicles have air bags designed for occupants who are buckled up and sitting well back from the steering wheel or dashboard.

Current vehicles also may have a sensor that turns off the passenger air bag if it determines (usually by weight) that the occupant is a child. Vehicle manufacturers may prohibit placing any kind of pressure on the back of the front passenger seat, such as a rear-facing child restraint leaning against it, to avoid interference with the sensors that manage air bag deployment. Other possible concerns are placing objects under the front seat or in the pocket behind the back seat. However, as early as the reports in the 2017 LATCH Manual from Safe Ride News Publications, vehicle manufacturers did NOT believe that appropriate tethering Swedish-style to a tether connection strap with D-ring slipped around a non-moving part of the front seat would interfere with air bag sensors.

Should children twelve or under always ride in the back, without exception?

This recommendation is based on the fact that most children over twelve are closer to adults in height, physical development, and behavior. They are old enough to understand and remember the importance of keeping their heads away from the dashboard. But if we follow this rule too rigidly, we might fail to make the safest choice in each individual situation. Whether or not the car has air bags, even adults are safer in the back seat, and one study shows that air bags are dangerous for children up to 15. No one should be riding without a belt, on a lap, or sharing a belt. What if the parent has four or more children who are twelve or under? What if a forward-facing car seat fits best in the front seat because all of the belts in the back are forward of the seat crack? Can the front seat be moved back so there is a generous distance between the child and the dashboard? Look at the whole picture.

What about drivers?

Short drivers should sit back as far as possible from the steering wheel, especially if there is an air bag. Elderly drivers with small frames and fragile bones are most vulnerable to injuries caused by an air bag hitting the face or upper body. They should ride in the passenger seat whenever possible. If they must drive, slide the seat as far back as possible and recline the back of the seat very slightly. Make sure the shoulder belt is touching the chest so the occupant can get the full benefit of the "ride-down" effect. Pedal extenders may be added, if necessary. Studies show that pregnant women should avoid driving, when possible. They have a greater risk of suffering serious bleeding and fetal loss as a result of impact with the dashboard, steering wheel, or even the safety belt – but not the air bag.

How close to the air bag is "too close"?

Air bags differ in the speed and angle of deployment, just as occupants vary in size and shape, so the size of the "danger zone" varies. For drivers, some manufacturers recommend a minimum distance of 12 inches. The best rule is the farther back, the better!

The importance of shoulder belts

All occupants who are not using a child restraint with a built-in harness should wear snug, properly positioned shoulder belts to keep them away from the steering wheel, vehicle interior, or a rapidly moving, not-yet-inflated air bag. In a crash, a passenger wearing only a lap belt will fold forward, possibly suffering severe injuries to the head, abdomen, or spine.

Lap and shoulder belts are almost twice as effective as lap-only belts. Passenger cars made since September 1989 have at least two shoulder belts in the back; many newer cars have a center shoulder belt. In 2008, federal regulations mandated shoulder-lap belts in all rear-seating positions. For seating positions without a shoulder belt, consider using a safety seat with a high harness weight limit.

For adults and children near adult size, stand-alone harnesses and larger safety seats with a harness are available from several manufacturers. Most of them need to be installed with a top tether strap.

How can you tell if the car has a frontal passenger air bag?

Usually there is lettering (“SRS” or “SIR,” for example) imprinted on the part of the dashboard where the air bag is stored, though sometimes the only labeling is on the back of the sun visor. Other places to check if a car has a passenger air bag: the vehicle owner’s manual, a label on the safety belt, a deep groove (like a rounded rectangle) in the appropriate part of the dashboard, a label on the inside of the door frame. The labeling issue is particularly important in the case of rental cars, all of which are equipped with dual air bags, since people usually do not stop to read the owner’s manual when they use a car for just a few days. Newer vehicles have improved warning labels; however, some air bag compartments are hard to recognize because there is no visible outline or groove in the dashboard.

Side air bags

There is no evidence that properly restrained children are at risk from side air bags, many of which are “curtains” that drop down. According to Insurance Institute for Highway Safety, “Side air bags that include head protection are reducing deaths about 45% among drivers of passenger cars struck on the near (driver) side.”

Center front air bag

General Motors announced the front center air bag in 2011 with plans to provide it in some 2013 models. “The front center air bag deploys from the right side of the driver's seat and positions itself between the front row seats near the center of the vehicle. This tethered, tubular air bag is designed to provide restraint during passenger-side crashes when the driver is the only front occupant, and also acts as an energy-absorbing cushion between driver and front passenger in both driver- and passenger-side crashes. The air bag also is expected to provide benefit in rollovers.” (GM announcement.)

Inflatable safety belts

Inflatable safety belts, which contain an internal air bag in the shoulder belt portion, were first introduced by Ford in 2011. Other manufacturers have subsequently developed their own systems. In a crash, the tubular air bag fills with cold compressed air, inflating the safety belt to five times its pre-crash size, and thus reducing crash force on the occupant by reducing pressure to the chest and providing extra support to chest, head, and neck. The Ford belt has two retractors, one on the lap belt and another on the shoulder belt, with a switchable retractor on the lap belt for use with safety seats. However, some safety seat manufacturers have prohibited use of their seats with inflatable safety belts; check manuals carefully for details.

Takata air bag recall

Takata, a supplier to a wide variety of auto manufacturers, produced air bags that can explode, with shrapnel-like effects on occupants, from the frontal air bag compartment. Check your vehicle VIN (vehicle identification number) at <http://www.safercar.gov/Vehicle+Owners/takata-update> at least twice over a month to be sure your vehicle is not included. National Highway Traffic Safety Administration has been finding additional brands/models with the air bags over many months. See flyer 58b from SBS USA for more details.

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