

Protecting Precious Cargo

The Car Seat Challenge

The logo for Circadiance, featuring a stylized blue 'C' with a yellow arc above it, followed by the word 'ircadiance' in a blue sans-serif font.



What is the Car Seat Challenge?

The Car Seat Challenge is a simple, painless test that evaluates your baby's ability to breathe while he or she is positioned in an approved car seat. The Car Seat Challenge is an important test, especially for babies who are born premature or have low birth weight.



For the Car Seat Challenge, you'll be asked to bring in the car seat your child will use for the ride home. While in the seat in the hospital, your baby will be continuously monitored for a minimum of 90 to 120 minutes or the length of the car ride home, whichever is longer. The clinical staff will assess your baby's vital signs and determine if your baby is ready to make the trip home.

These vital signs typically include heart rate, respiration and oxygen saturation information. If your child does not pass the Car Seat Challenge the first time, your physician will evaluate the results, make specific recommendations and, if needed, may request a re-test for your baby. Recommendations could include prescription medicine or home monitoring.

What is infant apnea?

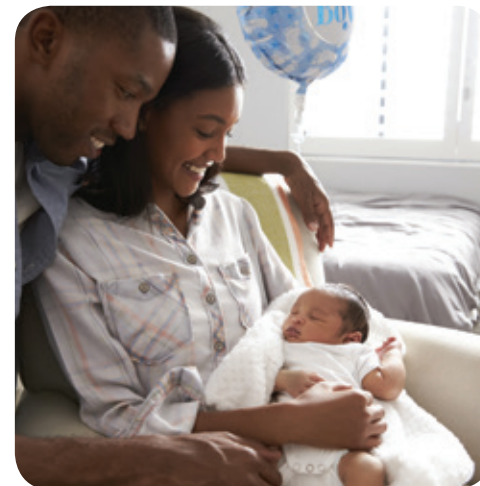
Infant apnea is defined as a stoppage of breathing for 20 seconds or more. Short apneas can be common in many infants but when the pause is too long (more than 20 seconds) or happens frequently, there may be a problem. Some babies, especially those born premature, may need special care to monitor and support their breathing until there is no longer danger of an apnea.

Preparing to go home

While in the hospital, a team of healthcare professionals supports your baby's needs.

But when discharge day finally arrives, you will be in charge. There are so many things to think about. One important consideration is the selection of the proper car seat. You want to select one that is safe, easy to use and holds your baby comfortably. We suggest you purchase the car seat at least a week or two before you go home. If possible, buy a new car seat. If you buy a second-hand seat, verify that it has never been in an accident and check with the manufacturer to make sure the particular model has not been recalled.

There are also car seat safety centers or local police departments that can check the car seat you have purchased.





How do you know which car seat to buy?

The National Highway Traffic Safety Administration (NHTSA) sets strict crash performance standards for all car seats, including rear-facing infant seats, toddler-forward facing seats, convertible seats and child booster seats. The NHTSA uses a five-star rating system to evaluate how easy the car seats are to use. The ratings cover four different categories: evaluation of instructions, evaluation of labels, vehicle installation features and securing the child. All car seats rated by NHTSA meet federal safety standards and strict crash performance standards.

The best car seat is the one that fits your child properly, is easy to use and fits in your vehicle correctly.

Both the NHTSA and the American Academy of Pediatrics (AAP) recommend that all babies ride in the back seat of the car in a rear-facing infant car seat or convertible car seat until they are at least one year of age and weigh 20 pounds. According to the AAP, very small babies who pass the Car Seat Challenge usually fit better in infant-only seats. However, if you need to use a convertible seat, choose one without a tray shield or T-shield harness, since the shields are often too big and too far away from the body to fit correctly.

What if your baby is sent home with a monitor?

If your baby is still experiencing some irregular breathing, he or she may go home with an apnea monitor such as the Circadianc SmartMonitor 2. This is an easy-to-use device that monitors and records your baby's heart rate and breathing patterns. Your hospital nurse or licensed healthcare professional will review instructions with you before discharge so you will be comfortable using the monitor at home or while traveling in the car.

If you are traveling in the car with the apnea monitor, please be sure to follow these safety tips:

1. Never try to control the apnea monitor while driving. If the monitor alarms for any reason, pull over to the closest safe location to address the situation.
2. Place the monitor in a stable location, such as the floor of the vehicle. Ensure that the monitor will not move while you are driving by securing the monitor where possible.
3. Place the monitor so that the alarm is facing away from the infant. The monitor alarm is very loud.





Making the trip home

Connecting the car seat

In order to properly protect your baby, the car seat must be fastened securely in the vehicle with the car seat snug against the vehicle seat back. You should not be able to “wiggle” the seat more than one inch once it has been installed, according to the NHTSA.

Since all car seats are different, you should consult your car seat instruction manual for complete details. Depending on the year and make of your vehicle, you may need to use a locking clip to secure the car seat with your car’s lap and shoulder belt system.

Some cars also have a tether strap to anchor the seat in position. Vehicles and child safety seats manufactured after September 1, 2002 utilize the LATCH (Low Anchors and Tethers for Children) System intended to make installation easier.

Proper positioning

When you bring your car seat to the hospital for the Car Seat Challenge, the nurse or licensed healthcare professional can show you the best way to position and support your baby in the car seat. In some cases, a small blanket or towel can be gently tucked on both sides of your baby for support. Never put blankets under the baby since the car seat will not be able to protect the child as well in the event of a crash. A good time to practice getting your baby in and out of the car seat is while he or she is still in the hospital.

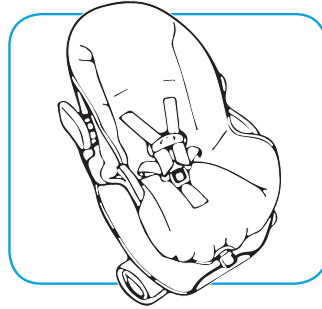
Using a car bed

In rare instances when infants do not pass the Car Seat Challenge but are otherwise ready to go home, the hospital may recommend the use of a car bed instead of a traditional infant car seat. The car bed may be utilized to maintain the infant in the horizontal position during car travel.



Traveling safely with children: The basics (NHTSA and AAP)

- Everybody needs a child safety seat, booster seat or safety belt.
- There must be one safety belt for each person. Buckling two people, even children, into one belt could injure both.
- People who are not buckled up can be thrown from the car or around the inside of the car, and seriously hurt themselves or others.
- Never hold a child on your lap. You could crush him or her in a crash, or the child may be torn from your arms.
- Never ride in the cargo area of a station wagon, van or pickup. Anyone riding in the cargo area could be thrown out and severely injured or killed.
- No one seat is "best". The "best" child safety seat is the one that fits your child and can be installed correctly.
- Children age 12 and under should ride properly restrained in the back.
- An infant should never be left unattended in a car safety seat.



Selection of car seat and placement in car

- A car seat with a depth of less than 5 ½ inches from the crotch strap to the seat back should be used for low birth weight infants to reduce the potential of slumping forward.
- A car seat with a distance less than 10 inches from the lower harness strap to the seat bottom should be selected to reduce the potential of harness straps crossing the infant's ears.
- The car safety seat should be reclined halfway back at a 45 degree tilt to prevent the infant's head from flopping forward.

Placing infant in car seat

- Harness must be snug with retainer clip positioned at the midpoint of the infant's chest, not on the abdomen or in the neck area.
- Blanket rolls may be placed on both sides of the infant to provide lateral support for the head and neck.
- The child safety seat must stay tight to the vehicle at all times. Check for a tight fit by holding the seat at the belt path and by pulling the seat side to side and forward. The child safety seat should not move more than one inch sideways or toward the front of the vehicle.



References

For more information about the SmartMonitor series of apnea monitors or other related products, visit Circadiance at <https://circadiance.com>.

For more information about the American Academy of Pediatrics, visit www.aap.org.

For more information about the National Highway Traffic Safety Administration's car seat ratings or to find out how you can have your car seat checked for free by a local NHTSA inspection station, call the U.S. Department of Transportation Auto Safety Hotline at 1-888-DASH-2-DOT (1-888-327-4236) or visit the web site at www.nhtsa.gov.

For more information on medical terms, visit Merriam-Webster dictionary online at www.m-w.com.

If you have questions about how to attach the car seat correctly to your automobile, contact the car seat manufacturer.

Sources

All information provided in this document was gathered through the research efforts of the American Academy of Pediatrics (AAP) and the National Highway Traffic Safety Administration (NHTSA). Specific sources are noted below:

1. Pediatrics, May 2009; Vol 123: 1424 – 1429
2. American Academy of Pediatrics – www.aap.org/
3. National Highway Traffic Safety Administration – www.nhtsa.gov



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