
HOSPITAL POLICIES TO PROMOTE THE USE OF CHILD RESTRAINT SYSTEMS

Recommendations for the Development and Implementation of a Child Passenger Safety Hospital Discharge Policy

PURPOSE:

Motor vehicle injuries are a leading cause of death among children in the United States. Many of these deaths can be prevented by securing children in an appropriate child restraint that is selected based on the child's age, weight, height, physical development, and behavioral needs. Child restraint systems that meet **Federal Motor Vehicle Safety Standard 213 (FMVSS 213)** are 71% effective in reducing death and injury for rear-facing infants and 54% effective for forward-facing toddlers.

- Current estimates of car seat effectiveness when compared to seat belt use indicate that child safety seats reduce the risk of injury by 71% to 82% (forward-facing car seats & child safety seats vs. booster seats) and reduce the risk of death by 28%. (See AAP Policy Statement "Child Passenger Safety". Pediatrics: Volume 142, Number 5, November 2018: e20182460 <http://pediatrics.aappublications.org/content/142/5/e20182460>)
- Booster seats reduce the risk for serious injury by 45% for children ages 4 to 8 years when compared to seat belts. (Arbogast KB, Jermakian JS, Kallan MJ, Durbin DR. Effectiveness of belt positioning booster seats: an updated assessment. Pediatrics 2009; 124; 1281–1286.)

Pennsylvania Occupant Protection Law (PA Vehicle Code: Title 75 § 4581: Restraint Systems)

Pennsylvania law requires all children younger than age 8 to ride in an appropriate child restraint system that meets FMVSS 213. The child restraint must be used following the car seat manufacturer's instructions.

- **All children under age 4** must ride in a child restraint that meets Federal Motor Vehicle Safety Standard 213 (FMVSS 213), no matter where they are seated in the vehicle.
- **A child younger than two years of age shall be secured in a rear-facing child passenger restraint system, to be used until the child outgrows the maximum weight or height limits designated by the car seat manufacturer.**
 - Violators of this primary law are subject to a maximum fine of \$75.00 plus Court Costs, EMS, Surcharge, and Administrative Fees.
- **All children aged 4 and older, but under age 8** must be secured in a seat belt system and an appropriate child booster seat anywhere in the vehicle.
 - Violators of this primary law are subject to a maximum fine of \$75.00 plus Court Costs, EMS, Surcharge, and Administrative Fees.
- **All children aged 8 and older, but under age 18** must be secured in a seat belt system anywhere in the vehicle.
 - Violators of this primary law are subject to a \$10.00 fine plus EMS, Surcharge, and Administrative Fees.
- **All drivers are responsible** for child passengers.
- **Hospitals, in conjunction with attending physicians, are required to notify parents of the location of car seat loan programs in the community.**
(PA Vehicle Code: Title 75 § 4583: Hospital information program.)

- Hospitals that provide information on Pennsylvania's Occupant Protection Law and educational materials about the correct selection and use of car seats will assist families in keeping their children safe during travel.
- **When an active front passenger-side air bag is present, rear-facing infants must ride in a back seat, unless the frontal air bag can be manually turned off.** Rear-facing child passengers should **never** be seated in the front vehicle seat with an active passenger-side front air bag. Children aged 12 and younger are generally safer in the back seat.
- Hospital personnel should refer any questions they cannot answer to an appropriate safety agency such as the Pennsylvania Chapter of the American Academy of Pediatrics, Traffic Injury Prevention Project at 1-800 CAR BELT.

Discharge Policy Components

PROCEDURES:

Inform parents that each child is required by Pennsylvania law to be discharged in a child restraint system (car seat) appropriate for their age, weight, height, physical development, and behavioral needs. Provide parents/guardians with:

- A **written order** in the child's medical record requiring use of a child restraint system, (per Pennsylvania Law).
 - The American Academy of Pediatrics Policy Statement "Child Passenger Safety" provides 5 evidence-based recommendations for best practices in the choice of a child restraint system to optimize safety in passenger vehicles for children from birth through adolescence. (See Page 3) <http://pediatrics.aappublications.org/content/142/5/e20182460>
- **Testing of each preterm/low birth weight infant for potential problems (positional apnea, bradycardia, oxygen desaturation)** in the child restraint system (car seat) selected by the parent.
 - The American Academy of Pediatrics Clinical Report "Safe Transportation of Preterm and Low Birth Weight Infants at Hospital Discharge" provides guidance for monitoring preterm/low birth weight infants before discharge to determine if physiologic maturity and stable cardio-respiratory function are present.
 - A FMVSS 213–approved car bed is recommended for infants with documented oxygen desaturation, apnea, or bradycardia in the semi-upright position of a rear-facing child restraint.
 - If a car bed is considered, a similar period of cardio-respiratory monitoring should be performed prior to discharge while the infant is secured in the car bed. The monitoring period should be free of such events. (See AAP Clinical Report "Safe Transportation of Preterm and Low Birth Weight Infants at Hospital Discharge", Pediatrics: Volume 123, Number 5, May 2009 Reaffirmed August 2013 and June 2018.) <http://pediatrics.aappublications.org/content/pediatrics/123/5/1424.full.pdf>

STAFF EDUCATION:

Provide education for physicians, nurses, and volunteers on a regular basis to stay current on child passenger safety best practice recommendations, ensure proper documentation, and be aware of car seat features and technological changes. Review child passenger safety materials annually to ensure information provided to patients is current.

- **Provide prenatal education** to stress the importance of car seat use throughout childhood. Increase awareness of:
 - The Pennsylvania Occupant Protection Law and Hospital Policy.
 - **The importance of:**
 - **Reading and following the car seat manufacturer's instructions to learn how to use the car seat correctly.**
 - **Reading and following the vehicle owner's manual** to guide the correct installation of the child restraint in the vehicle using the vehicle seat belt or LATCH system.
 - **Reviewing air bag information** and placing **children aged 12 and younger in a back seat.**
 - **Not leaving children unattended** in a car seat. Car seats are not for use outside of the vehicle for sleeping children and the harness should always be snug, not loosened or unbuckled while the child is in the car seat.

Encourage parents/guardians to learn how to secure the car seat in their vehicle before the baby is born. Provide information on local fitting stations/community checkup events that assist parents/guardians on the correct use of the child restraint. Fitting station locations can be found at www.pakidstravelsafe.org.

- **Postpartum Parent/Guardian Education:**
 - Distribute child passenger safety educational materials/brochures. To obtain current materials on child passenger safety, contact the Pennsylvania Chapter of the American Academy of Pediatrics, Traffic Injury Prevention Project office by calling 1-800-CAR BELT or go to www.pakidstravelsafe.org.
 - **Guide parents/guardians to read and follow the car seat instructions and the vehicle owner's manual.**
 - Discuss the importance of:
 - Securing the car seat in the back **seat** of the vehicle.
 - Placement of a **snug harness**, at or below the child's shoulders in a rear-facing car seat.
 - Installing the car seat at an acceptable recline angle, **no more than 45°**, as directed in the car seat instructions.
 - Provide information on air bags and infants/children/small adults.

DOCUMENTATION:

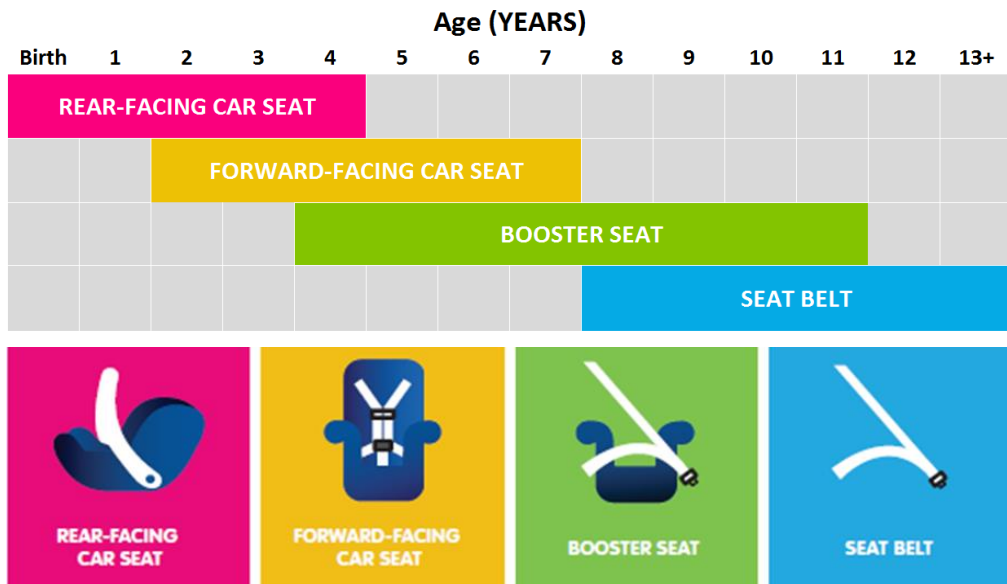
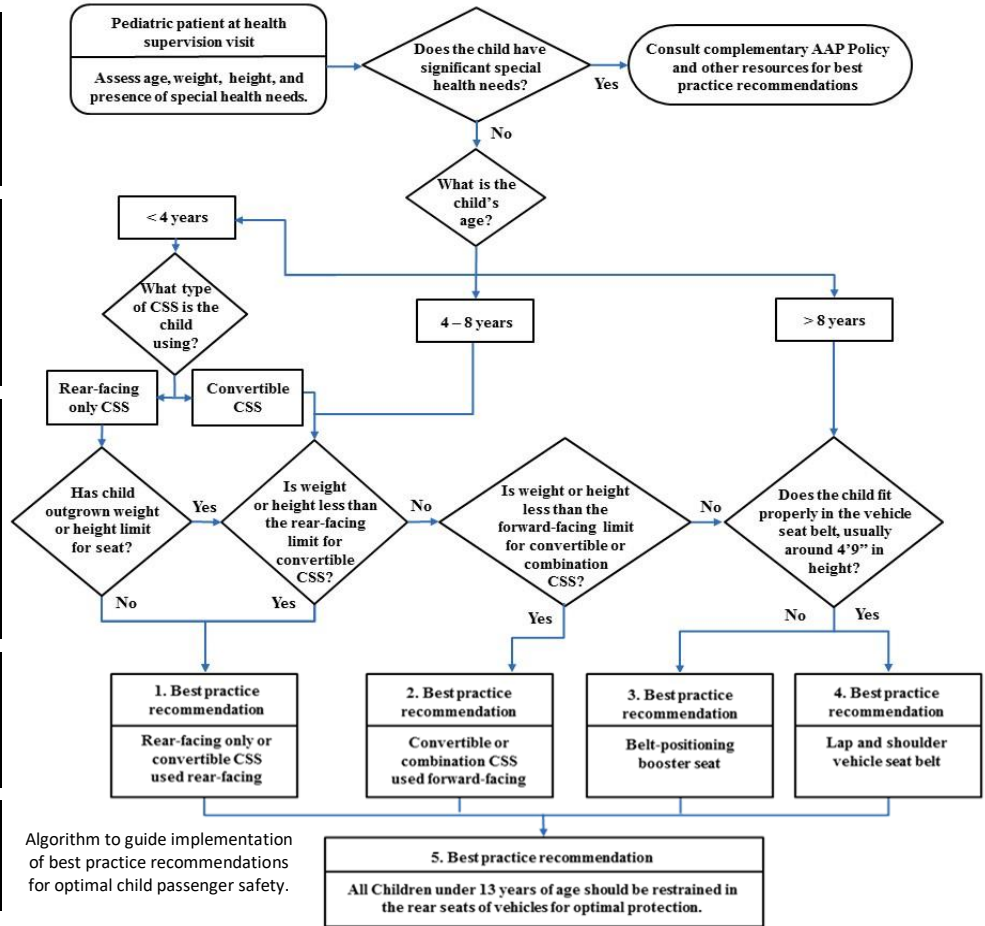
- **Document** that the family was instructed about the Pennsylvania Occupant Protection Law and whether the child was secured in a child restraint system upon discharge. The hospital cannot refuse to discharge a child if an appropriate child restraint system is not used. Documentation should reflect a disregard for medical advice. (A sample entitled "Car Seat/Child Restraint System Release Form" is provided on page 7)
 - Record the child passenger safety information disseminated to the parent/guardian.
 - Obtain the parent/legal guardian signature that child passenger safety information was received and documented on the discharge form.

Policy Statement: Child Passenger Safety
2018 PEDIATRICS, Volume 142, Number 5, November 2018: e20182460
<http://pediatrics.aappublications.org/content/142/5/e20182460>

The American Academy of Pediatrics (AAP) strongly supports optimal safety for children and adolescents of all ages during all forms of travel. This policy statement provides **5 evidence-based recommendations** for best practices in the choice of a child restraint system to optimize safety in passenger vehicles for children from birth through adolescence:

Summary of American Academy of Pediatrics Best Practice Recommendations

1. Rear-Facing Infant-Only or Convertible Child Safety Seat	All infants and toddlers should ride in a rear-facing car safety seat (CSS) as long as possible, until they reach the highest weight or height allowed by the manufacturer of their CSS.
2. Forward-Facing Convertible or Combination Child Safety Seat	All children who have outgrown the rear-facing weight or height limit for the CSS, should use a forward-facing CSS with a harness for as long as possible, up to the highest weight or height allowed by the CSS's manufacturer.
3. Belt-Positioning Booster Seat	All children whose weight or height is above the forward-facing limit for their CSS should use a belt-positioning booster seat until the vehicle lap-and-shoulder seat belt fits properly, typically when they have reached 4 feet 9 inches in height and are between 8 and 12 years of age.
4. Lap & Shoulder Vehicle Seat Belt	When children are old enough and large enough to use the vehicle seat belt alone, they should always use lap-and-shoulder seat belts for optimal protection.
5. Best-Practice	All children younger than 13 years should be restrained in the rear seats of vehicles for optimal protection.



Child Occupant Protection Glossary

DEFINITIONS

Air Bag: A vehicle occupant protection system that automatically deploys during some crashes to create a broad surface on which to spread the forces of the crash, to reduce head and chest injury. The airbag is designed to be used with the vehicle seat belt and is considered a “supplementary” system to enhance protection in a collision.

Anti-Rebound Bar: Rigid bar on some rear-facing car seats used to reduce movement of a car seat toward the rear of the vehicle in a crash.

All-in-One Car Seat: Car seats that can be used rear-facing, forward-facing, and as a belt-positioning booster seat.

Belt Path: The manufacturer’s designated place where the vehicle seat belt or lower anchor connector is routed through the car seat.

Belt-Positioning Booster seat (Booster or BPB): A crash-tested device that raises the child, so the lap and shoulder belts fit correctly over the child’s hips and across the chest. All BPBs must be used with lap and shoulder belts. BPB models may have a high back or no back.

Buckle and Buckle Webbing: Webbing on a car seat with a buckle on one end that goes between the child’s legs to accept the latch plate, often adjustable; also referred to as buckle strap or crotch strap.

Car Bed: A child restraint system, usually for small, premature, or medically fragile infants/children who must lie prone, side-lying or supine. The car bed must be labeled as meeting Federal Motor Vehicle Safety Standard 213.

Car Seat; Child Safety Seat (CSS); Child Restraint System (CRS): A crash-tested device designed to provide protection for an infant or child in the event of a crash. General terms used for rear-facing only (infant), convertible, combination, all-in-one, booster seat, vests or car beds that meet Federal Motor Vehicle Safety Standard 213 (FMVSS 213).

Car Seat Tolerance Screening (CSTS): Recommended period of observation (minimum of 90 to 120 minutes or the duration of travel) in a car seat for an infant at risk of obstructed apnea, bradycardia, or oxygen desaturation.

Chest Clip: Plastic part that holds the harness shoulder straps on a car seat together to position the harness over the child’s shoulders and chest and placed at the arm pit level.

Children with Special Transportation Needs: Children whose physical or behavioral condition make the use of specially designed car seat necessary.

Combination seat: Forward-facing car seat that can be used with the harness up to a certain child size and then, with removal or stowage of the harness, as a belt-positioning booster (BPB) seat.

Convertible car seat: A car seat that “converts” from semi-reclined rear-facing for infants to semi-reclined/upright for forward-facing as the child grows beyond the rear-facing weight limits designated by the car seat manufacturer.

Crotch Roll: Rolled cloth placed between the infant’s legs and the crotch strap to take up extra space to prevent submarining or slouching toward the crotch strap. **Crotch roll can be used if permitted by the car seat manufacturer.**

Expiration Date: Date beyond which the manufacturer states a car seat, booster seat or other child restraint should no longer be used. The length of time allowed for use varies depending on manufacture. It is usually expressed as a length of time from the date of manufacture or date of purchase and communicated on the labels, in the instruction manual, and/or on the car seat manufacturer’s website.

FMVSS 213: Federal Motor Vehicle Safety Standard, set by the National Highway Traffic Safety Administration, that regulates child restraint systems intended for use as crash protection in vehicles for children up to **80 pounds**.

FMVSS 225: Federal Motor Vehicle Safety Standard, set by the National Highway Traffic Safety Administration, that regulates the method of car seat installation that is independent of the vehicle seat belt. This method is referred to as lower anchors and tether for children (LATCH) and is used to install the car seat in place of the seat belt.

Foam Noodle: A foam rod or “pool noodle” - usually used for swimming – that is cut to length and used to support the base of a rear-facing car seat to obtain the required angle designated by the car seat manufacturer. **(No more than 45°).**

Harness: Webbing straps that keep the child in the car seat and spread the crash forces with five-points of contact (one over each shoulder, one on each side of the pelvis, and one between the legs) with the webbing joined at the buckle.

Harness Slot: Narrow openings in the back of the car seat where the shoulder harness straps are routed through the shell of the car seat.

LATCH: The acronym stands for “Lower Anchors and Tethers for CHildren”. LATCH is an anchorage system that secures car seats without using the vehicle’s seat belt system. **Check the vehicle manual and the car seat instructions to determine the maximum weight permitted for the lower anchors.**

Level Indicator: Identifies the car seat manufacturer’s recommended angle for rear-facing and forward-facing child restraints.

Lock-Off: A built-in seat belt locking feature found on the shell of the car seat or base that works with certain types of seat belts to keep the lap belt at a fixed length when used to install the car seat in the vehicle. The lock-off performs the same function as a locking clip. Follow the car seat manufacturer’s instructions when using the device.

Locking Clip: An H-shaped metal piece that is used on certain types of seat belts used to secure the lap belt at a fixed length when installing a car seat. The locking clip is placed within one-inch of the latch plate. The locking clip performs the same function as a lock-off. Follow the car seat manufacturer’s instructions when using the device.

Lower Anchors: Horizontal rigid bars specified in FMVSS 225, installed in vehicles in or near the seat bight (intersection of the vehicle seat back and bottom cushion). Lower anchor connectors on the car seat are connected to the lower anchors.

Lower Anchor Connector: Flexible or rigid hardware assemblies on car seats that allow the car seat to be securely fastened on the lower anchors, in place of using the vehicle seat belt.

Non-Approved Product: Product that is made and marketed by a third party that is not approved for use with the car seat by the car seat or vehicle manufacturer; also referred to as after-market or non-regulated product.

Pinch Test: Preferred method to determine tightness of a harness relative to the child’s body; you should not be able to vertically pinch excess webbing at the shoulder once the harness is tightened.

Rear-Facing Only Car Seat - A car seat designed for use only by a young child in a semi-reclined rear-facing position. Typically comes with a detachable base.

Recalls: Voluntary or required actions taken to correct problems or deficiencies once products have been distributed or sold. Manufacturers must offer free repairs or replacement for products recalled for violations of safety standards.

Recline Adjustment: Part of the car seat that moves to change the recline angle to allow the car seat to be reclined for rear-facing use, semi-reclined or upright for forward-facing car seats; can be an adjustable foot on a detachable base.

Recline Angle: The angle at which a car seat is adjusted according to the manufacturer’s guidelines and the needs of the child; and important consideration for infants and children with breathing problems, low muscle tone, or other health conditions.

Registration Card: Federally required, postage paid return card that comes with every new car seat/child restraint; Care givers should complete and return the card to be notified of safety issues, including recalls. (Note: Car seats can also be registered online at the car seat manufacturer’s website)

Stability Leg/Load Leg: Support mechanism that extends from the car seat to the vehicle floor to prevent or reduce excessive movement forward and downward rotation during a crash.

Tether Anchor: Bracket that is an approved location in the vehicle to attach the car seat tether. The tether strap and hook attach directly to the anchor bracket.

Tether and Tether Strap: Adjustable piece of webbing (single or dual strap) with a hook connector attached to the top of car seats to limit the child’s forward motion in a crash; commonly used in a forward-facing installation but can be recommended in some rear-facing installations.

SAMPLE DISCHARGE POLICY

Newborn and Pediatric Discharges in Car Seats/Child Restraint Systems Meeting FMVSS 213

Discharge of Infants and Children in Car Seats and Seat Belts

PURPOSE

This policy is developed to comply with the Pennsylvania Occupant Protection Law (Title 75 of the PA C.S.A. Vehicles §4581, et seq.) and to promote the safe vehicle transportation of children from birth up to age eighteen (18), following the best practice recommendations of the American Academy of Pediatrics (AAP) and the National Highway Traffic Safety Administration (NHTSA).

SCOPE

The policy applies to newborns, infants, and children in Level 1: Normal Neonatal, Level 2: Neonatal Intermediate/Intensive Care, Level 3: Neonatal Intensive Care, and Pediatric units.

POLICY STATEMENTS

- Instruct parents/guardians that the American Academy of Pediatrics recommends that:
 - Infants and toddlers remain in a **rear-facing car seat until they reach the highest weight or height allowed by the manufacturer. In Pennsylvania, children are required to remain rear-facing to at least 2 years of age.**
 - Children who have outgrown their car seat's rear-facing weight or height should be secured in a forward-facing car seat with a harness for as long as possible, up to the highest weight or height allowed by the car seat manufacturer.
 - Children who have outgrown their forward-facing car seat should use a belt-positioning booster seat until the vehicle lap-and-shoulder seat belt fits properly, typically when they have reached 4 feet 9 inches in height and are between 8 and 12 years of age.
 - Children, who have outgrown their belt-positioning booster seat and are old enough and large enough to use the vehicle seat belt alone, should always use the lap-and-shoulder seat belts for optimal protection.
 - Children younger than 13 years of age should be secured in the back seat of the vehicle for optimal protection.
- Parents/guardians are given educational materials including Pennsylvania Occupant Protection law requirements regarding the transportation of infants and/or children.
- The car seat must meet FMVSS 213 and be appropriate for the infant's weight and height, as designated by the car seat manufacturer. Recommend that the parent places the infant in the car seat to assess proper fit and support. A car seat is not appropriate for the infant if it does not function properly; has missing parts or labels; has exceeded the car seat manufacturer's recommended life span; has been involved in a crash; and/or the inability to obtain the correct harness fit for the child and a secure installation in the vehicle. The family will be provided with information on locating an alternate car seat, and the location of a local community fitting station, if needed.

STAFF PREPARATION

- Provide education: Regularly schedule educational programs for medical staff and hospital personnel.
- Review printed information and/or video resources on the correct use of car seats and seat belts that is provided to parent/guardian. Questions that cannot be answered by staff can be referred to the PA Chapter of the American Academy of Pediatrics, Traffic Injury Prevention Project at 1-800-CAR BELT.

PROCEDURE

A. Educate the parents/guardians of children from birth to age 18, prior to discharge as follows:

- Parent/guardian will be informed, at the time of admission, of the Pennsylvania law that requires children to be transported in a federally approved car seat/child restraint system/seat belt. Children younger than two years of age shall be secured rear-facing up to the maximum weight or height limits designated by the car seat manufacturer.
 1. Provide this notification to parents prior to delivery of child, when possible.
 2. Offer the parent/guardian information on local car seat loan programs, fitting stations, or educational classes, as needed. Loan Program and Fitting Station locations can be found at <http://www.pakidstravelsafe.org/>.
 3. Provide parent/guardian educational material on car seats and seat belts including State laws. Information should include:
 - a. Pennsylvania Occupant Protection Law.
 - b. Educational flyers on correctly using car seats, booster seats, and seat belts.
 - c. Information on transporting children with special health care needs, if applicable.

4. Parents/guardians will be encouraged to do the following **prior to discharge**:
 - a. Read the car seat instructions and the vehicle owner’s manual.
 - b. Install the car seat in their vehicle(s) to become familiar with the correct installation and identify any installation incompatibility between the car seat and their vehicle.
 - c. Contact a local fitting station to learn how to correctly secure their child and install their car seat, if necessary.
5. Hospital personnel **will not place the infant or child in the car seat, nor will they place or secure the car seat into the vehicle.**
 - a. Parent/guardian is responsible for correctly placing and securing the car seat in the vehicle.
 - b. Parent/guardian is responsible for securing the child in the car seat/seat belt when leaving the hospital.
6. **Certified child passenger safety technicians** on staff may assist parents/guardians in learning how to correctly secure their child in the car seat/seat belt and how to correctly install the car seat into the vehicle.

B. Identify the Appropriate Child Restraint System

1. Determine the appropriate type of child restraint system (e.g., car bed, rear-facing only car seat, convertible car seat, combination car seat, booster seat, forward-facing medical seat, vest/harness, or seat belt), based on the child’s age, weight, height, physical development, and behavioral needs. Refer the parent/guardian to:
 - a. The Pennsylvania Occupant Protection Law and the best practice recommendations of the American Academy of Pediatrics (AAP) Policy Statements/ Technical Reports (References on pages 2 & 3).
 - b. Specific recommendations that were made by the manufacturer of their child restraint system.
2. Medical personnel should discuss car seat choices for **newborns/infants who will be secured rear-facing** with the parent/guardian and provide guidance to select a car seat with small harness dimensions. The webbing is threaded through slots that allow the harness to fit **at or below** the baby’s shoulders and the crotch strap to fit close to the infant’s body. (Lowest harness slot is less than or equal to 10 inches (≤ 10 inches) from the bottom of the car seat, and the distance from the crotch strap to the back of the car seat is less than or equal to 5.5 inches (≤ 5.5 inches)).
 - a. Ask the parents/guardians to bring the car seat to the floor for an examination by professional staff.
 - o Full-term: the car seat should be brought to the floor within 24 hours of discharge, when possible.
 - o Pre-term: the car seat should be brought to the floor within 1 to 7 days of discharge, when possible.
3. If the car seat is appropriate for the child, based on the child’s age, weight, height, developmental and behavioral needs:
 - a. **Encourage the parent/guardian to follow the car seat manufacturer’s instructions** to correctly secure the child in the car seat **and the vehicle owner’s manual** to correctly install the car seat in their vehicle.
 - b. Encourage the parent/guardian to install the car seat in their vehicle(s) prior to discharge to become familiar with the correct use of the car seat and to determine installation incompatibilities in their vehicle(s). Contact the Traffic Injury Prevention Project at 1-800-CAR-BELT for more information.
 - c. Trained personnel will demonstrate the proper way to position and secure the child in the car seat. The American Academy of Pediatrics recommends that **children should face the rear of the vehicle until the highest weight or height allowed by the manufacturer of their car seat. PA law requires children younger than two years of age to be secured in a rear-facing car seat up to the maximum weight or height limits designated by the car seat manufacturer.** Rear-facing provides support for the child’s head, neck, spine, and pelvis and distributes crash forces over the entire body. Children are safer and less likely to be seriously injured in a rear-facing car seat.
 - d. Discuss and demonstrate the use of rolled receiving blankets along the torso of the infant and/or between the legs and behind the crotch strap, if necessary and permitted by the car seat manufacturer.
4. Medical personnel should discuss forward-facing car seat choices for **children who are at least 2 years of age and have outgrown their rear-facing car seat.** Provide guidance on correctly securing children and choosing a car seat with a harness that allows the webbing to thread through slots **at or above** the child’s shoulder.
5. If the parent/guardian does not own, or cannot afford, an appropriate car seat, advise them to contact the Traffic Injury Prevention Project at 1-800-CAR BELT or go to www.pakidstravelsafe.org for current loan program locations. After receiving child passenger safety information, if the parent/guardian chooses not to secure the child in a car seat or selects a child restraint that is not appropriate for their child, and/or does not obtain a car seat for the child’s size and weight, have the parent/guardian complete a “Child Restraint System Release” form (Sample release form provided on page 7).

Sample: Car Seat/Child Restraint System Release Form

(Hospital Name)

Car Seat/Child Restraint System Release Form

I understand that the car seat/child restraint system I am using to take

(Name of child): _____

home is not recommended by (Hospital Name) for reasons which have been explained to me and which I fully understand. Although I have been advised by the staff of (Hospital Name) of the availability of other car seat/child restraint systems that are more appropriate for my child, and therefore likely to be safer, I still plan to use my own car seat/child restraint system. I acknowledge that I am doing this against the advice of the medical professionals and the staff of (Hospital Name) and release them from all liability associated with the use of the selected car seat/child restraint system.

Signature of Parent / Legal Guardian

Relationship to Child

Date

Printed Name of Parent / Legal Guardian

Relationship to Child

Date

.....

Signature of Parent / Legal Guardian

Relationship to Child

Date

Printed Name of Parent / Legal Guardian

Relationship to Child

Date

Witness

Date

CAR SEAT TOLERANCE SCREENING OF HIGH-RISK INFANTS

PURPOSE

This policy is developed to provide guidelines for the screening of high-risk infants secured in car seats to promote their safe transport in a motor vehicle. (Refer to Discharge of Infants and Children in Car Seats and Seat Belts for general car seat discharge recommendations on page 5 and 6.)

SCOPE

The policy applies to newborns and infants in Level 1: Normal Neonatal, Level 2: Neonatal Intermediate/Intensive Care, and Level 3: Neonatal Intensive Care units with medical conditions that place them at increased risk for apnea, bradycardia, and/or oxygen desaturation while properly positioned in a rear-facing semi-reclined car seat.

POLICY STATEMENTS

- High risk infants who meet one or more of the following criteria will undergo a special observation period in a rear-facing car seat within one to seven (1-7) days prior to discharge:
 - Preterm infants (less than 37 weeks gestational age at birth)
 - Low birth weight infants (less than 2500 grams at birth – approximately 5.5 pounds)
 - Infants with medical conditions that place them at risk for apnea, bradycardia, or oxygen desaturation) when placed in a semi-reclined car seat. Examples include but are not limited to:
 - Infants with Hypotonia (Ex. Down Syndrome or Congenital Neuromuscular Disorders)
 - Infants with Micrognathia (Pierre Robin Sequence)
 - Infants who have undergone congenital heart surgery.
- Parents/guardians of high-risk infants will receive information about car seats and the need to evaluate the infant properly positioned in the family-owned car seat prior to discharge. The parent/guardian will be instructed to bring their car seat to the hospital for the observation period. If the parent/guardian does not have a car seat, a hospital-issued child restraint system (e.g., car seat/car bed) will be used for testing and discharge, if available.
- The observation period will monitor for possible apnea, bradycardia, or oxygen desaturation. Parents may choose to forego the “Car Seat Tolerance Screen” monitoring. If this choice occurs, the decision should be documented in the patient’s chart. (Sample entitled “Car Seat Tolerance Screening /Education Information Form” provided on page 11).
 - Infants must be continuously observed while being monitored in the car seat/car bed.
- Infant’s car seat/car bed must be appropriate for the infant’s weight and height/length, following the car seat manufacturer’s instructions. The infant will be placed in the car seat to assess proper fit and support. This includes securing the infant in the car seat and adjusting to the appropriate semi-reclined angle, no more than 45° following the car seat manufacturer’s instructions. (Note: Infant is properly positioned and secured in a car seat by a trained nurse/staff member and/or assisted by a certified child passenger safety technician.)
- The observation period will usually begin 30 to 60 minutes after the last feeding and should last 90 to 120 minutes or the estimated travel time, whichever is longer. (Note: Length of Travel: The recommended time for most typically developing infants to sit in a car seat in a vehicle without being moved is 90 minutes. Babies with special needs, those born prematurely, those with respiratory and breathing problems and other medical conditions, may require even more frequent attention, determined by the treating physician. Stopping the car regularly, removing the baby from the car seat and taking care of the infant’s needs is important. Marilyn J. Bull, MD, FAAP, Morris Green Professor of Pediatrics, Developmental Pediatrics, Riley Hospital for Children at IU Health)
- The infant is considered to have passed the car seat screening if no episodes of apnea, bradycardia, or oxygen desaturation occur for the duration of the evaluation.
- Infants who do not pass their car seat screening will be re-screened to determine a medically safe plan for transportation prior to discharge. This may include further medical intervention and/or an alternate car seat or car bed screening.
- Parents/guardians of infants who do not pass the car seat screening will be instructed on safety precautions to follow until further screening indicates the infant is able to tolerate the semi-reclined position. Advise parent/guardian to:
 - Minimize the time a child is seated in a car seat.
 - Use car seat only for travel.
 - Limit use of other equipment that places the child in a semi-reclined position, such as swings, backpacks, slings, and infant carriers.

STAFF PREPARATION

- Provide education: Regularly schedule educational programs for medical staff and hospital personnel on the correct selection and use of a car seat.
- Provide training: Schedule training for medical staff on correctly administering the screening of high-risk infants in car seats. This includes assessing the car seat to determine whether it is appropriate for the child, securing the child in the car seat, stabilizing the car seat at the appropriate angle, and use of the equipment to determine episodes of apnea, bradycardia, or oxygen desaturation.
- Establish interpretation guidelines for the car seat tolerance screening observation period. Example guidelines are:
 - **Any apnea** (more than 20 second cessation of respiratory effort), **bradycardia** (more than 10 seconds at 80 beats or less per minute) or **oxygen desaturation** (more than 20 seconds with SpO₂ < 93%, < 88%, or other medically determined levels based on current medical status for more than 20 seconds as defined by physician order) **experienced by the child during the car seat tolerance screening is considered a FAILURE.**
 - In the event of apnea, bradycardia and/or oxygen desaturation, remove the infant from the car seat, and provide appropriate medical intervention, e.g., clinical stimulation, repositioning, oxygen, or other appropriate interventions. Intervention should be documented in the nurses' notes and on the "Car Seat Screening of High-Risk Infants" form (Sample form provided on page 12). Communication of significant events should be reported to the attending physician. Results from the screening will be included on the "Car Seat Tolerance Screening/Education Form" (Sample provided on Page 11).
- Establish clinical response guidelines. **If the infant FAILS, the screening period:**
 - Medical personnel may **consider re-screening in 24 to 48 hours. Medical screening and intervention** (e.g., oxypneumocardiogram, polysomnogram, oxygen, etc.) conducted before re-screening in a car seat.
 - Medical personnel may **consider re-screening in a supine, prone, or side lying position** in a weight and height/length appropriate car bed that meets Federal Motor Vehicle Safety Standard 213.
 - In a supine, prone, or side lying position, consideration should be given to additional medical screening and intervention (e.g., oxypneumocardiogram, polysomnogram, oxygen, etc.) and discharge should be discussed with the physician.
 - The parent/guardian should be counseled to avoid the use of other upright positioning equipment, including infant swings, infant feeding seats, and infant carriers.
- Other:
 - Infants with home monitoring equipment should use the equipment during travel and have portable, self-contained power available for twice the duration of the expected travel time.
 - Portable medical equipment (e.g., monitors, oxygen tanks) should be secured to prevent equipment from becoming a dangerous projectile in the event of a crash or sudden stop. **Some vehicle manufacturers provide an air bag warning that states pressure on the back of the front passenger and/or driver seat or items placed/wedged under the front passenger and/or driver seat may cause a false reading, causing the advanced air bag to deploy when it is not needed – or – to not deploy when it is needed. Always read the vehicle owner's manual to determine if placing the equipment under the front vehicle seat or pressed against the back of the front seat is permitted.**
 - **Counsel parents to remove a sleeping child from their car seat when they arrive at their destination and to place them on their back in a safe sleep environment, as soon as possible.**

PROCEDURE

- A. Physician responsibilities include:
1. Identify patients for monitoring 1 to 2 weeks prior to discharge.
 2. Inform parent/guardian about "Car Seat Tolerance Screening". Explain monitoring to families and request they bring in their infant's car seat or give authorization to order a car seat from the hospital, if available.
 3. Instruct parents to select a car seat that has:
 - a. A minimum weight and height/length requirement appropriate for the infant.
 - b. A small harness dimension with slots that allow the harness to fit at or below the baby's shoulders and a crotch strap that fits close to the infant's body.
 4. Write order for the "Car Seat Tolerance Screening" following established guidelines for the observation period one to seven days prior to discharge.
 5. Interpret results of monitoring, make recommendations, and sign the Car Seat Tolerance Screening Education Information Form (Sample provided on page 11).

- B. Position and secure the child in preparation for the “Car Seat Tolerance Screening”.
 1. Position the infant in the car seat with their buttocks and back flat against the back of the car seat.
 2. Position car seat harness: The harness straps must be in the harness slots at or below the infant’s shoulders and buckled at the crotch. Tighten the harness. (A snug harness should not allow any slack. It lies in a straight line without sagging. It does not press into the child’s flesh or push the child’s body into an unnatural position).
 3. Position the chest clip at armpit level.
 4. Use only the head support padding and harness comfort pads that come with the car seat or those approved by the car seat manufacturer for that car seat.
 5. Use, if needed and permitted by the car seat manufacturer, rolled receiving blankets placed along the side of the infant to provide lateral support for the body.
 6. Place, if needed and permitted by the car seat manufacturer, a receiving blanket (crotch roll) between the infant’s legs and behind the crotch strap once the harness is tightened to maintain positioning and prevent the infant from sliding.
- C. Conduct the Car Seat Tolerance Screening.
 1. Determine the length of time for the car seat screening, 90 to 120 minutes, or length of travel, whichever is longer.
 2. Determine the screening parameters and levels as defined by the physician and note on the documentation form prior to the screening.
 3. The infant must remain in the car seat for the duration of the screening unless medical intervention is required.
 4. Determine whether the child has passed or failed the Car Seat Tolerance Screening.
- D. Documentation.
 1. A parent/guardian refusing the Car Seat Tolerance Screening must be counseled regarding the medical risks involved. Details must be documented in the medical chart.
 2. Document the educational instruction and the PASS or FAIL results. (Sample “Car Seat Tolerance Screening/ Education Information Form” and “Sample Car Seat Screening of High-Risk Infants” forms provided on page 11 and 12.) Provide a copy to the parent/guardian and place a copy in the patient’s record.
 3. Document if the parent/guardian chooses to take the child home in a car seat that is not recommended by the child’s physician or hospital staff. Ask the parent/guardian to sign a “Car Seat/Child Restraint System Release Form”. (Sample provided on page 7.)
 4. Document if the infant fails the car seat tolerance screening period in their car seat.
 - a) Determine if:
 1. The infant will be re-screened in the child’s car seat.
 2. Additional medical screening is warranted and/or determine if the infant will be re-screened in a car bed.
 3. Special equipment such as apnea monitors, suction machines, ventilators, and/or oxygen tanks must be used.
 4. Instruct the parent/guardian to secure the equipment during travel. Provide guidance that some vehicle manufacturer place warnings in their manuals regarding items placed/wedged under the vehicle seat or pressure on the back of the front passenger vehicle seat and/or driver seat may cause a false reading causing the advanced air bag to deploy when it is not needed – or – to not deploy when it is needed. Recommend that the parent/guardian reads the vehicle manual or check with the vehicle manufacturer to determine if equipment is permitted under the front passenger and/or driver seat or against the back of the front seat.
 - b) Instruct the parent/guardian that travel must be minimized, and that the car seat should only be used for travel and not for sleeping outside of the vehicle.
 - c) Instruct the parent/legal guardian that a rear-facing car seat/car bed must not be placed in the front vehicle seat with an active passenger-side air bag. If an infant requires observation during travel, the parent/guardian should arrange for an adult to be seated in the back seat during travel.

Signed: Chairman of the Department (Discharge policy should be signed by the Department Chair)

Revised PA AAP/TIPP 1/2025

References:

AAP Clinical Report: Safe Transportation of Preterm and Low Birth Weight Infants at Hospital Discharge, *Pediatrics*: Vol. 123: No.5, May 2009, pages 1424-1429 [<https://doi.org/10.1542/peds.2009-0559>]. A statement of reaffirmation for this policy was published in August of 2013 and June of 2018. Committee on Injury, Violence, and Poison Prevention and the Committee on Fetus and Newborn. This policy is a revision of the policy posted on May 1, 1996: *Pediatrics*, 1996; 97: 758-760.

AAP Policy Statement: Child Passenger Safety, *Pediatrics*: Vol. 142: No.5, November 2018: e20182460. This policy is a revision of the policy posted in *Pediatrics*: Vol. 127: No.4, April 2011, pages 788-793. Council on Injury, Violence, and Poison Prevention. [<https://doi.org/10.1542/peds.2018-2460>]

AAP Technical Report: Child Passenger Safety, *Pediatrics*: Vol. 142: No.5, November 2018: e20182461. This policy is a revision of the policy posted in *Pediatrics*: Vol. 127: No.4, April 2011, pages e1050-e1066. Committee on Injury, Violence, and Poison Prevention. [<https://doi.org/10.1542/peds.2018-2461>]

AAP Policy Statement: Transporting Children with Special Health Care Needs, *Pediatrics*: Vol. 143: No.5, May 2019 [<https://doi.org/10.1542/peds.2019-0724>] Council on Injury, Violence, and Poison Prevention. This Policy is a revision of Policy 104 (4): 988.

Car Seat Tolerance Screening Education Information Form

Education of Parent/Legal Guardian:

Information provided on:

- PA Occupant Protection Law Correct selection and use of Child Restraint/Car Seat

Information provided through:

- Informational packet provided Parent refused to accept packet
 Video viewed by parent Parent declined to view video

Car Seat Tolerance Screening **Required:** Yes No

Parent/Legal Guardian notified of Car Seat Tolerance Screening scheduled: Yes No

Date _____ Time _____

Car Seat Tolerance Screening **refused:** Yes No

Will the family bring a personal car seat to the hospital for monitoring?

- Yes No Order car seat

Car Seat/Car Bed Manufacturer: _____

Car Seat Model # _____ Car seat Manufacture Date: _____

- | | | | |
|---|------------------------------|-----------------------------|--------------------------------------|
| Original Owner of the Car Seat: | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Do not know |
| Child within car seat height and weight requirements | <input type="checkbox"/> Yes | <input type="checkbox"/> No | |
| Car seat is Expired: | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Do not know |
| Car Seat was Involved in Crash: | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Do not know |
| Car Seat is Recalled: | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Do not know |
| Car Seat has all parts and functions properly: | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Do not know |
| Car Seat instructions are available: | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Do not know |

Car Seat Tolerance Screening **monitoring occurred:**

Date _____ Time _____

Type of Restraint Used for Monitoring:

- Rear-Facing Infant-only Car Seat Rear-facing Convertible Car Seat Car Bed

Position:

- Car Seat: Sitting at an appropriate angle, no more than 45°
 Car Bed: Supine Prone Side Lying

Duration of study: _____ (Minutes)

Results: (document each measurement)

- Pass Fail Apnea (no respirations > 20 seconds) _____
 Pass Fail Bradycardia (heart rate < 80) _____
 Pass Fail Oxygen desaturation (SpO₂ < 88) _____

Comments/Recommendations: _____

Signature of Nurse: _____ **Date:** _____

Signature of Physician: _____ **Date:** _____

SAMPLE CAR SEAT SCREENING OF HIGH-RISK INFANTS

High Risk Infant Criteria:

- Less than 37 weeks gestation at birth
- < 2500 g (approximately 5.5 lbs.) at birth
- Infants with medical conditions placing the infant at increased risk for apnea, bradycardia, or oxygen desaturation while properly positioned semi-reclined in a car safety seat, (Pierre Robin Sequence, and Downs Syndrome or Congenital Neuromuscular Disorder).

Screening Preparation: (Screening within 1-7 days prior to discharge)

- Parents contacted about car seat tolerance screening/car seat to be here by: Date/Initials: _____
- Car Seat provided by: Parent/Caregiver Hospital Date/Initials: _____

Infant	Birth: Gestational Age: _____ Current: Infant's Age: _____ Time of last Feeding: _____ Weight: _____ Height: _____ Medical Concerns: _____
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Car Seat	Car Seat Used for Screening: <input type="checkbox"/> Infant with Base <input type="checkbox"/> Infant without Base <input type="checkbox"/> Convertible Car Seat Angle of Car Seats: <input type="checkbox"/> Semi-reclined following car seat manufacturer's instructions <input type="checkbox"/> Yes <input type="checkbox"/> No Infant within the recommended weight and height for the car seat. <input type="checkbox"/> Yes <input type="checkbox"/> No Harness is in the slot that is at or below the infant's shoulder. <input type="checkbox"/> Yes <input type="checkbox"/> No Harness is snug. A snug harness should not allow any slack and lies in a relatively straight line without sagging. <input type="checkbox"/> Yes <input type="checkbox"/> No Harness retainer clip is positioned at armpit level. <input type="checkbox"/> Yes <input type="checkbox"/> No Positioning support provided with rolled receiving blankets Lateral/Side _____ Crotch _____ (If permitted) (If permitted) Car Bed Used for Screening: <input type="checkbox"/> Angel Ride <input type="checkbox"/> Dream Ride <input type="checkbox"/> Hope Position of infant per physician and according to the car seat manufacturer instructions: <input type="checkbox"/> Supine <input type="checkbox"/> Prone (physician order only) <input type="checkbox"/> Side-Lying (physician order only)
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Screening Parameters	Screening Date: _____ Time: _____ Duration of Screening: _____ Parameters: <input type="checkbox"/> Apnea: > 20 second cessation of respiratory effort; <input type="checkbox"/> Bradycardia: < 80 beats per minute for > 10 seconds; <input type="checkbox"/> Oxygen Desaturation: <input type="checkbox"/> < 93% for > 20 seconds (per Dr. _____) <input type="checkbox"/> < 88% for > 20 seconds (per Dr. _____) <input type="checkbox"/> < _____% for > 20 seconds (per Dr. _____) (Medically related parameter based on current medical status defined by physician order).
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	Screening # _____	Car Seat Baseline	30 minutes	60 minutes	90 minutes	120 minutes	150 minutes	180 minutes	Notes
	Patient Parameter	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	Time: _____	
	Heart Rate								
	Respiratory Rate								
	Pulse Oximetry								
	Color: P = Pink; M = Mottled; D = Dusky								

Screening	Results: <input type="checkbox"/> PASS <input type="checkbox"/> Fail Screening completed by: Name _____ Date _____ If Fail, check the reasons: Notes: _____ <input type="checkbox"/> Apnea > 20 seconds <input type="checkbox"/> Bradycardia (HR < 80 bpm > 10 seconds) <input type="checkbox"/> Oxygen Desaturation (O2sats < _____% for > 20 seconds or any obvious instability) _____ Plan for Re-screening if failed: _____
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Physician notified if failed: Date/Initials: _____ Physician: _____	
Infant discharged with monitor: <input type="checkbox"/> Yes <input type="checkbox"/> No	Infant discharged on O ₂ : <input type="checkbox"/> Yes <input type="checkbox"/> No
Instructed parent/legal guardian that equipment must be safely secured during use in the vehicle: <input type="checkbox"/> Yes <input type="checkbox"/> No	
Physician/Nurse Practitioner Signature	Parent / Guardian Signature
Date	Date