James Whitcomb Riley Hospital
For Children
HOSPITAL DISCHARGE PROTOCOL ESSENTIALS

PURPOSE

Promote safe transportation of high-risk infants.

INCLUSION CRITERIA

1. Discharge/transfer in a child safety seat and
2. High-risk infants:
    a. Less than 37 weeks gestational age at birth, or
    b. Other medical conditions which place the infant at high risk for apnea or oxygen desaturation.

INSTRUCTION

1. Medical personnel should discuss child safety seat choices with the family and recommend guidelines regarding distances from the crotch strap to seat back (5 ½ inches) and from lower harness strap to seat bottom (10 inches). Examples of appropriate child safety seats for infants should also be communicated (see AAP Family Shopping Guide and information sheet). Medical personnel should discuss and demonstrate additions of rolls along the torso of the infant and behind the crotch strap. In addition, a small roll under the child safety seat base may be needed to provide optimal positioning of the seat to minimize forward slumping of the infant.

2. When an infant is to be discharged within the next seven days, an observation period in the INFANT'S PERSONAL child safety seat should be performed to monitor for possible apnea, bradycardia or oxygen desaturation. This will require the family to bring in their infant's safety seat and placement of the child in the safety seat while continuous apnea, bradycardia and oxygen saturation monitoring are used. In the event that a personal car seat is not available, monitoring in an approved car safety seat is acceptable.

3. It would be optimal to perform the observation period 1 to 7 days prior to discharge/transfer.

4. The observation period should begin after a greater than 1 hour interval from the last feeding. **Duration of observation period:** 60 minutes or estimated travel time, whichever is the longer period of time.

INTERPRETATION GUIDELINES

1. No apnea (>20 second cessation of respiratory effort), bradycardia (<80 beats per minute) or oxygen desaturation (Sa02 < 88%) during the observation period is considered a PASS.

2. If the infant develops apnea, bradycardia or oxygen desaturation (as defined in 1 above) the observation is considered a FAILURE.

3. In the event of apnea, bradycardia, and/or oxygen desaturation, clinical stimulation, repositioning, oxygen and other appropriate interventions should be performed and documented on the CAR SEAT MONITORING DATA FORM (to be placed in the chart). Verbal

communication of significant events are to be reported to the attending neonatal faculty or fellow.

CLINICAL RESPONSE GUIDELINES

1. If the patient fails the observation period, the following response may be considered:
   Retesting in a completely supine or prone position in a car bed that meets or exceeds federal safety standards.

2. If the patient fails in a supine positioning or prone positioning, consideration should be given to other medical evaluation and intervention (i.e. Oxypneumocardiogram, polysomnogram, oxygen, methylxanthines, cisapride, etc.).

3. If the patient fails the observation period, the parents should be counseled to avoid the use of other upright positioning equipment including infant swings, infant seats, and infant carriers.

4. These are guidelines for child safety seat use; the recommendation of the physician may vary from these guidelines depending on individual circumstances and the physician's discretion.

DOCUMENTATION

Documentation of PASS or FAIL should be made in chart and reported to the physician.

CAR SEAT MONITORING-GUIDELINES FOR PHYSICIANS

Indications for car seat monitoring:

1. <37 weeks gestational age at birth
2. Infants at risk of apnea or oxygen desaturation

MD responsibilities:

1. Identify patient for monitoring prior to discharge (preferably 1-2 week prior)
2. Explain monitoring to families and request they bring in their baby's personal car seat or give permission to order car seat from hospital
3. Write order fro car seat monitoring
   *Nurses will contact families by letter, at bedside, or phone. Will need MD support so patient discharges are not delayed.
4. Interpret results of monitoring, make recommendations, and sign Car Seat Monitoring Data Form in bedside chart (Discharge Planning Section).
   *Marilyn Bull, M.D. and William Engle, M.D. are consultants if questions arise.
5. Parents may wish to forego car seat monitoring or go home in a car seat other than the one in which the baby was tested. If this occurs, this decision should be documented in the chart.

FOLLOW UP FOR INFANTS WHO REQUIRE FLAT POSITIONING

Physicians may wish to consider scheduling a follow up home oxypneumocardiagram to be performed within several months with the infant positioned in the family's upright car seat to determine if it is no longer necessary for the infant to be positioned flat.

FOR MORE INFORMATION, CONTACT:

1. Marilyn J. Bull, M.D., Medical Director, Automotive Safety for Children, Riley Hospital for Children, 702 Barnhill Drive, Room 1603, Indianapolis, IN 46202-5225, (317) 274-4955 OR (317) 274-2977 (regarding use of car safety seats, development of hospital systems to provide car safety seats)

2. William A. Engle, M.D., Associate Professor of Pediatrics, Section of Neonatal/Perinatal Medicine, Riley Research 208, 702 Barnhill Drive, Indianapolis, IN 46202-5225, (317) 274-4719 (regarding technical questions relating to monitoring of infants)