Car Seat Fitting, Challenges and Testing for Infants Admitted to the NICU

To ensure safe transportation of infants <37 weeks gestational age when discharged.

PURPOSE

To provide car seat fitting instruction to parents of selected infants, to promote safe positioning in appropriate seating devices upon discharge from the ANMC NICU.

INCLUSION CRITERIA: (any one or more of the following)

- 1. Preterm infant born at <37 weeks gestational age
- 2. Infants weighing <2500 grams at discharge
- 3. Other medical conditions which place the infant at high risk for apnea or oxygen desaturation

PROCEDURE

- 1. NICU or MBU staff trained by ANMC (must complete the Car Seat Challenge Test Training class) will perform car seat challenges and will discuss and demonstrate positioning of infants in car seats and other seating devices with the family.
- 2. The patient's personal car seat will be assessed for recalls, history of previous ownership, appropriate fit, and appropriateness of car seats in relation to child's size. Car seats will be checked against the recall list available from http://www.carseatsak.org or http://www.safercar.gov. If recalls are noted, it will be recommended the patient does not discharge with car seat. No after market padding products will be placed in car seat during testing.
- 3. When an infant is medically stable to be discharged from the NICU, a car seat challenge will be performed in
 - the infant's car seat or seating device, or
 - an approved car seat or seating device provided by the hospital
- 4. The observation period should begin no less than 30 minutes after the last feeding.
- 5. Infant will be placed on a cardiac and respiratory monitor along with pulse oximeter.
- 6. Infant will be placed in the seating device as they would be positioned at discharge.
 - Car seats at a 45° angle, on a firm level surface to ensure stability.
 - Rolls appropriately placed to provide head and neck support. May position a small blanket roll between the neonate and crotch strap to reduce slouching. Place blanket rolls, if needed, on both sides of the neonate's trunk to provide lateral support of the head and neck.
 - Buttocks flush against the back of the seat, shoulder straps at or below the neonate's shoulders and snug straps, with no more than two fingers able to

slide between the strap and the neonate. Position the chest clips at midpoint of the neonate's chest (at armpit level).

- 7. Obtain baseline vital signs and oxygen saturation level.
- 8. Observe the neonate for apnea, bradycardia, and desaturation. Note hypoxic color changes and evaluate the neonate's capacity for self-recovery from brief physiological events. Observe the neonate for 90 to 120 minutes or for the anticipated duration of travel after discharge.
- 9. Monitor the infant's vital signs and oxygen saturation level every 30 minutes. Complete documentation of Car Seat Challenge form in electronic record.
- 10. Document any significant changes in vital signs, to include:
 - Bradycardia (sustained heart rate <80 beats/min)
 - Respiratory effort changes from non-labored to labored
 - Apnea episodes lasting >20 seconds
 - Oxygen desaturations of <88% for >20 seconds

Car seat challenge will be discontinued and assessed as FAILED if the infant meets any of the above parameters. If the neonate does not complete the test successfully, the doctor may evaluate him for possible discharge transportation in an approved car bed. Alternatively, the doctor may lengthen the hospital stay to allow the neonate to achieve greater cardio-respiratory stability.

References:

Bhojani, S., Desai, P., & Skeoch, C. (2008). Car seat challenge-the current practice.

Infant, 4(6), 211-213. Retrieved from

http://www.infantgrapevine.co.uk/pdf/inf_024_chg.pdf

Bull, M. J., & Durbin, D. R. (2008). Rear-facing car safety seats: getting the message right. *Pediatrics*, 121, 619-620. http://dx.doi.org/10.1542/peds.2007-3637

Bull, M. J., & Engle, W. A. (2009). Safe transportation of preterm and low birth weight infants at hospital discharge. *Pediatrics*, 123, 1424-1429.

http://dx.doi.org/10.1542/peds.2009-0559

Committee on Injury, Violence and Poison Prevention. (2011). Policy statement child passenger safety. *Pediatrics*, 127(4), 788-793.

http://dx.doi.org/10.1542/peds.2011-0213

DeGrazia, M., Guo, C., Wilkinson, A. A., & Phein, L. (2010). Weight and age as predictors for passing the infant car seat challenge. *Pediatrics*, 526-531. http://dx.doi.org/10.1542/peds.2009-1715

Kinane, T. B., Murphy, J., Bass, J. L., & Corwin, M. J. (2006). Comparison of respiratory physiologic features when infants are placed in car safety seats or car beds.

Pediatrics, 118(2), 522-527. http://dx.doi.org/10.1542/peds.2005-2712

Written: 02/01

Revised: 09/05, 09/08, 8/11, 6/14

Reviewed: