

# Non-Nutritive Breastfeeding Protocol

*Sandra Fucile, MSc, OTR, Emily Wener, & Kimberly Dow*

**Objective:** To assess and compare the effect of a maternally administered non-nutritive sucking (NNS) on an emptied breast versus on a pacifier on exclusive breastfeeding establishment at hospital discharge.

**Study Design:** A block randomized study design was performed with 33 preterm infants born less than or equal to 34 weeks gestation. NNS is a simple intervention administered by mothers via an emptied breast or artificial teat (i.e., pacifier). The NNS on an empty breast and pacifier interventions were administered by mothers, once a day for 15 min. The interventions were provided 15-30 minutes prior to scheduled enteral tube feedings.

**Results:** A significantly greater number of infants in the NNS emptied breast group acquired exclusive breastfeeds at hospital discharge as compared with those in the NNS pacifier group (63% vs. 24%,  $p = 0.037$ ). There was no difference between groups in time to achieve independent oral feeds ( $14.4 \pm 8.0$  vs.  $14.4 \pm 6.4$  days,  $p = 0.683$ ) and length of hospital stay ( $48.7 \pm 33.7$  vs.  $53.1 \pm 30.6$  days,  $p = 0.595$ ).

**Conclusion:** These findings support the provision of NNS on an emptied breast as a safe and low-cost infant and mother targeted early intervention to increase exclusive breastfeeding rates and its well-recognized advantages in a high-risk population.

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## Instructions

1. Program is suitable for infants born less than or equal to 33-34 weeks.
2. Initiation and advancement of oral feeds is left at the discretion of the medical team. Routinely, oral feeds are initiated at 33-34 weeks corrected gestational age, average daily weight gain of 10-15 grams/day, and when infant begins to show signs of oral feeding readiness including sucking on pacifier or fingers, self-waking prior to feeds, and periods of alertness throughout the day.
3. Program is administered by mothers once a day for 15 minutes.
4. Commence the program when infant is tolerating 80 ml/kg/day of enteral feeds and tolerating nasal continuous positive airway pressure (NCPAP) of five cm H<sub>2</sub>O less and double check with neonatal team.

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5. The interventions are provided 15-30 minutes prior to scheduled enteral tube feedings.
6. NNS on emptied breast intervention consists of mothers pumping their milk until no further milk is obtained. Their infant is then put directly on the breast without a nipple shield.
7. Bedside nurse should be available to help.
8. Stop program if infant is crying inconsolably or experiencing episodes of apnea, bradycardia, oxygen desaturations, or vomiting.
9. Infant should be in quiet alert state.