Breast milk feedings are always the first choice for a NICU infant’s nutrition, but exclusive breastfeeding may not be achieved by NICU discharge. A pre-term or full-term infant with complex medical conditions may not be able to effectively transfer milk from the breast and may require caloric fortification to meet nutritional needs. The infant may consume more volume at the breast over time through maturity and improved skills. Nutritional care plans post-discharge depend on maternal milk supply, feeding goals and the infant’s nutritional status and feeding behaviors. Develop individualized plans to promote breast milk feedings, provide optimal nutritional support (while supporting the mother’s feeding goals), and protect mother’s milk supply. Highest risk infants require additional attention in planning. Infants born <32 weeks or <1500g, or with complex medical conditions such as chronic lung disease are automatically referred to the NICU follow-up clinic at discharge.

**ASSESSMENT**

Frequently and carefully assess (1) the infant’s ongoing nutritional needs, (2) infant growth, (3) milk transfer and (4) maternal milk supply during the transition to more frequent breastfeeding. Assess latching for adequacy and evaluate breastfeeding effectiveness. Weigh before and after feeding on an electronic scale with an accuracy at minimum of +/- 5g for objective measurement of milk transfer.

**MANAGEMENT/TREATMENT**

Follow the NICU discharge feeding plan until growth trajectory is established. Time at the breast may need to be limited initially to avoid fatigue. For lower-risk infants (without ongoing prematurity complications, >10th percentile for weight), gradually increase breastfeeding frequency as the infant improves in emptying the breast. Test weights can quantify milk intake at the breast. As breastfeeding frequency increases, supplementation and pumping can gradually decrease. Some infants (especially higher risk) may require continued supplementation with fortified breast milk or preterm formula, depending on family preference, feeding plan sustainability and maternal milk supply. See algorithm (reverse) for more detail.

Breastfeeding mothers of NICU graduates should discontinue pumping gradually (over 1–2 month period following discharge). Continue pumping until infant transitions to exclusive at-the-breast feeding and use of a nipple shield is no longer required.

**FAST FACTS**

- **direct breastfeeding (feeding at the breast)**
  - may increase breastfeeding duration in preterm infants
- **full maternal milk supply**
  - at discharge is a good predictor of successful breastfeeding after NICU discharge

**WHEN TO REFER**

Refer to Cincinnati Children’s Breastfeeding Medicine Clinic or NICU Follow-Up Clinic for:
- Infants with poor growth parameters during transition to direct breastfeeding
- Latch assessment
- Low maternal milk supply or decreased pumped milk volumes

**HPE RED FLAGS**

- Average growth <15g/day
- High-risk infant (<3rd or 5th percentile)
- Maternal history suggestive of poor milk emptying/stasis (e.g., mastitis)
- Maternal history suggestive of decreasing milk supply

**Tool developed by Cincinnati Children's physician-hospital organization (known as Tri-State Children's Health Services, Inc.) and staff in the James M. Anderson Center for Health Systems Excellence. Developed using expert consensus and informed by Best Evidence Statements, Care Practice Guidelines, and other evidence-based documents as available. For Evidence-Based Care Guidelines and references, see www.cincinnatichildrens.org/evidence.**
Breastfeeding Progression in the NICU Graduate

Inclusion Criteria
Infant recently discharged from neonatal intensive care

Patient Presents

Standard Workup
- History of Present Illness
- Family History
- Physical Exam

HPE RED FLAGS
- Average growth <15g/day
- High-risk infant (<3rd or 5th percentile)
- Maternal history suggestive of poor milk emptying/stasis (e.g., mastitis)
- Maternal history suggestive of decreasing milk supply

Born at <32 weeks or <1500 grams, or with NICU complications such as chronic lung disease?
Yes
- Feedings managed by NICU follow-up clinic

No
- Growth concerns?
  Yes
  - Increase number of direct-at-breast feeds
  - Decrease supplemental feeds of preterm formula or fortified breast milk
  No
  - Increase number of direct-at-breast feeds
  - Decrease supplemental feeds of preterm formula or fortified breast milk

Conduct breastfeeding assessment and perform test weights before and after feeding
- Consider altering number of feedings at the breast and increasing the number of feedings of preterm formula or fortified breast milk
  OR
- Increase caloric concentration of preterm formula or fortified breast milk supplements
  OR
- Increase volume of supplementation following direct at-the-breast feeding

Adequate milk transfer?
Yes
- Continue current number of direct-at-breast feeds
  - Increase calories of preterm formula or fortified breast milk
  - Increase volume of supplementation following direct-at-breast feedings

No
- Alter number of direct-at-breast feeds per day with prescribed number of feeds per day of preterm formula or fortified breast milk
  - Increase feedings of preterm formula or fortified breast milk

For urgent issues, or to speak with the specialist on call 24/7, call the Physician Priority Link at 1-888-636-7997.