

Newborn Critical Care Center (NCCC) Clinical Guidelines

Guidelines for Post Discharge Nutrition

BACKGROUND:

Appropriate weight gain is necessary to support optimal neurodevelopment and should be determined individually. Lower gestational age is associated with increased nutritional deficits that often are not corrected by discharge. Breast milk is preferred to formula when available and medically appropriate.

GROWTH GOALS FOLLOWING DISCHARGE:

Goal weight gain at time of discharge home is at least 16 g/kg/day for most preterm infants to support catch-up growth. However, goal weight gain should be individualized based on corrected gestational age in weeks and overall growth trajectory.

FEEDING RECOMMENDATIONS:

- Develop an individualized approach for each infant rather than utilizing general guidelines. Plan should be determined based on growth, estimates of lean mass, birth history, parental feeding plan, and personalized nutrient deficits.
- All preterm infants' nutrition at discharge should at minimum correspond with nutrition required for their corrected gestational age until they reach term.

FOLLOW-UP:

- Infants should have close follow-up of their weight gain after discharge from the NCCC.
- Follow-up with Pediatric Nutrition Clinic after discharge is available at their provider's discretion. An appointment can be scheduled by calling (984) 974-1401.
- All infants discharged with G-tube feeds (full or partially G-tube fed) should be scheduled for a Pediatric Nutrition appointment no later than 2-4 weeks after discharge. This appointment should be coordinated with Pediatric Surgery follow-up appointment for G-tube. Contact the infant's care coordinator in NCCC or call to schedule appointment (984) 974-1401.
- Consider referral to UNC Feeding Team (see [Feeding Referral Guidelines](#).) All infants with a G-tube or NG feeds should be referred for follow-up with feeding team or complex care team if not expected to PO feed.

DISCHARGE NUTRITION PLAN:

- Determine feeding supplement and strategy with caregiver, dietitian, and provider.
- If birth weight <1.25 kg, continue supplemental nutrition for at least 12 weeks corrected age.
- As a rule of thumb, nutritional supplement should be continued until weight-for-age, length-for-age, and head circumference-for-age z-scores are all greater than -2 on the WHO (0-2 year) growth curve, based on the child's chronologic age (not adjusted for prematurity).

STRATEGIES FOR SUPPLEMENTATION (birth weight < 1.25 kg and/or discharge weight < 2 kg):

Feeding Mother's Milk:

Direct breastfeeding:

- Feed 2-3 bottles per day of maternal breast milk fortified to 24 kcal/oz using post-discharge formula powder
- Feed 2-3 bottles per day of straight post-discharge formula at 22/24 kcal/oz

Bottle feeding mother's milk:

- Fortify all maternal breast milk with post-discharge formula powder to 24 kcal/oz
- Feed 2-3 bottles per day of straight post-discharge formula at 22/24 kcal/oz

Exclusively Formula Feeding:

- Post-discharge formula (22 kcal/oz) at 150 mL/kg/day is sufficient to meet preterm nutritional requirements at discharge to avoid nutritional deficits.
- Post discharge formula options:
 - Similac ExpertCare Neosure
 - Enfamil Enfacare
 - Other formulas may be fortified (recipes to be provided by nutritionist) if needed. Follow-up appointments with nutritionists are advised in such situations.

FORMULA PREPARATION:

- All newborns until 3 months old corrected age:
 - If using powder to mix the formula parent may use ordinary cold tap water that has been brought to a boil then cooled to no less than 158°F before mixing (do not let stand more than 30 minutes after boiling). After preparing, immediately cool to body temperature by running the prepared bottle under cool water or under ice bath.
 - Alternatively, may use bottled distilled or purified water to prepare formula.
- No need to boil water after 3 months corrected age if not immune compromised.

VITAMIN RECOMMENDATIONS:

- If ≥ 37 weeks gestational age AND feeding exclusively human milk or <1 L/day of infant formula provide:
 - D-Vi-Sol 1 mL daily
- If < 37 weeks gestational age or SGA recommend poly-vi-sol with iron
 - If <2 kg at discharge, 0.5 mL/day
 - If >2 kg at discharge and receiving mostly (>50%) infant formula, 0.5 mL/day
 - If >2 kg on mostly (>50%) breast milk, 1 mL/day

References:

1. World Review of Nutrition and Diabetics. Nutritional Care of Preterm Infants, Scientific Basis and Practical Guidelines. Koletzko B, Poindexter B, Uauy R. KARGER AG, Switzerland; Vol 110; 2021
2. Beyond the NICU: Comprehensive Care of the High-Risk Infant. Edited by William Malcolm. New York: McGraw-Hill Education. 2015.

Reviewed October 2021 – Allis NNP / Leblanc NNP / Taylor MD