

Newborn Critical Care Center (NCCC) Clinical Guidelines

Guidelines for Post Discharge Nutrition

BACKGROUND:

Appropriate weight gain is necessary to support optimal neuro developmental outcome and should be determined individually based on corrected gestational age. The more preterm an infant is, the higher the risk of nutritional deficits and that the deficits may not be corrected by discharge. Breast milk is preferred to formula when available.

GROWTH GOALS FOLLOWING DISCHARGE:

Growth goals following discharge are to provide nutritional needs based on gestational age in weeks, maintain weight trajectory and overcome deficit (whether from in utero and/or after birth)

*Table 1: Nutritional Needs (kg/d) at discharge by gestational age in weeks
(Applies to infants without deficit at discharge)*

(kg/day)	32 – 33 weeks	34 – 36 weeks	37 – 38 weeks	39 – 41 weeks
Weight gain, g	15	13	11	10
Energy, kcal	130	127	115	110
Protein, g	3.5	3.1	2.5	1.5
Calcium, mg	120-140	120-140	70-120	55-120
Phosphorus, mg	60-90	60-90	35-75	30-75

FEEDING RECOMMENDATIONS:

- Develop an individualized approach for each infant over utilizing general guidelines. Plan should be determined based on: growth, quality of growth, birth history, personalized nutrient deficits.
- Infants born < 1.25 kg and/or discharged at < 2 kg require continued nutritional intervention post-discharge.
- All preterm infants nutrition at discharge should at minimum correspond with nutrition required for their corrected gestational age until they reach term (Table 1).

FOLLOW-UP:

- Infants should have close follow-up of their weight gain after discharge from the NCCC.
- Consider referring infants with nutritional deficit at discharge to the Pediatric Nutrition Clinic. 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 NICU Graduate Feeding Team (see [Feeding Referral Guidelines](#).) All infants with a G-tube or NG feeds should be referred for follow-up with feeding team.

DISCHARGE NUTRITION PLAN:

- Determine feeding supplement and strategy with mother, dietitian and provider.
- If infant <1.25 kg at birth: continue supplemental nutrition for minimum of 12 weeks.
- As a rule of thumb, nutritional supplement should be continued until indexes of growth are >-2 standard deviation. Supplemental nutrition beyond the period of poor feeding and growth should be discontinued to avoid overfeeding.

STRATEGIES FOR SUPPLEMENTATION IF FEEDING MOTHER'S MILK AT DISCHARGE

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

NOTE: *Infants weaned off breast milk should transition to post-discharge formula.*

STRATEGIES FOR SUPPLEMENTATION IF FEEDING FORMULA AT DISCHARGE

- Post-discharge formula (22 kcal/oz) at 150 mL/kg/day is sufficient to meet preterm nutritional requirements at discharge to avoid nutritional deficits (Table 1).
- All newborns until 3 months old CGA:
 - 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.
- No need to boil water after 3 months CGA if not immune compromised.
- Post discharge formula options:
 - Similac ExpertCare Neosure
 - Enfamil Enfacare

VITAMIN RECOMMENDATIONS:

If ≥ 37 weeks gestational age (AGA / LGA) and less than 2 weeks in NCCC:

- D-Vi-Sol 1 mL daily

If < 37 weeks gestational age or SGA or more than 2 weeks in NCCC:

- Poly-Vi-Sol with iron 1 mL daily

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; 2014

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