

Exclusive Human Milk Pathway (Prolacta®) for Infants 22-23 Weeks GA
AND for ALL infants < 500g Birth Weight

NAME

BIRTH WEIGHT

Day of Pathway and Date	Caloric Density of Human Milk (Kcal/30 mL)	Total Enteral Intake (per kg/day)	Volume of Feeds (mL/kg/day)	Nutritional Goals (Protein from all sources) (Assuming CENTRAL access - for MD/NP order)	Comments <i>Colostrum should be used for Oral Immune Therapy (OIT) for the first week.</i>
Day 1 /	20	Kcal = 7 Protein = 0.1	10	T Pro 2-2.5 g/kg/d Lipid 0.5 -> 1 g/kg/d GIR 3.5 – 4.5	Consider contribution of arterial fluids + feeds when determining protein content for TPN
Day 2 /	20	Kcal = 7 Protein = 0.1	10	T Pro 2.5 g/kg/d Lipid 1 g/kg/d GIR 4.5 – 5.5	Check TG levels every 24 hours with each advancement in lipid
Day 3 /	20	Kcal = 13 Protein = 0.2	↑20	T Pro 2.5-3 g/kg/d Lipid 1.5 g/kg/d GIR 5 – 6	
Day 4 /	20	Kcal = 13 Protein = 0.2	20	T Pro 3-3.5 g/kg/d Lipid 2 g/kg/d GIR 6 – 7	Consider PICC placement; remove umbilical catheter after successful placement
Day 5 /	20	Kcal = 23 Protein = 0.35	↑30 ↑40 @ 2300	T Pro 3.5-4 g/kg/d Lipid 2-2.5 g/kg/d GIR 7 – 8	Begin decreasing Phos in anticipation of adding Prolacta 12hrs after this TPN starts
Day 6 /	↑24 (Prolacta +4)	Kcal = 44 Protein = 1	↑50 ↑60 @ 2300	T Pro 3.5-4 g/kg/d Lipid 2 g/kg/d GIR 6 – 7	Increase to 24 Kcal/oz using Prolacta +4 * Increase infusion time to 60 minutes
Day 7 /	24	Kcal = 60 Protein = 1.4	↑70 ↑80 @ 2300	T Pro 3.5-4 g/kg/d Lipid 1.5 g/kg/d GIR 5 – 6	Ensure umbilical catheters removed
Day 8 /	24	Kcal = 76 Protein = 1.8	↑90 ↑100 @ 2300	T Pro 4-4.5 g/kg/d Lipid 1 g/kg/d GIR 4 – 5	Begin decreasing electrolytes Days 8-10 in anticipation of transition off TPN
Day 9 /	↑26 (Prolacta +6)	Kcal = 99 Protein = 2.9	↑110 ↑120 @ 2300	T Pro 4-4.5 Lipid 0.5 g/kg/d GIR 2.5 - 3.5	Increase to 26 Kcal/oz using Prolacta +6 * Increase infusion time of feeds to 90-120 min
Day 10 /	26	Kcal = 116 Protein = 3.4	↑130 ↑140 @ 2300	TPN via PIV – max D12.5% T Pro 4 GIR 1.5 - 2.5	Do not renew lipid infusion Discontinue PICC, if appropriate
Day 11 /	26	Kcal = 130/139 Protein = 3.6/3.8	↑150 ↑160 @ 2300	Discontinue TPN	Monitor glucoses as indicated. Add Poly-Vi-Sol 0.5 mL twice daily
Day 12 /					Obtain Chem 10 Consider addition of Prolacta Cream if weight gain suboptimal for after 5-7 days on +6
Day 14 /					Add Iron 3 mg/kg/day divided twice daily
Day 28 /					Obtain Chem 10 and alkaline phosphatase

Individualize initiation, advancement rates and total fluids based on patient's weight, age and clinical status

INDIVIDUAL FEEDING VOLUME: Round this volume to the nearest 0.5 mL (anything ≤ 0.5 mL round to 0.5, anything > 0.5 rounds to 1)

NEWBORN CRITICAL CARE CENTER (NCCC) FEEDING GUIDELINES

PURPOSE

The purpose of this guideline is to improve feeding tolerance and to reduce parenteral nutrition days by providing a consistent approach to feeding. ***This guideline does not replace clinical judgment.***

BACKGROUND

- Prolonged fasting causes atrophy of the intestinal mucosa
- Human milk is well tolerated
- Intravenous access (especially central) increases infection risk and prolonged TPN increases cholestasis risk

INITIATION OF FEEDINGS

- Begin feedings with the appropriate feeding pathway per physician order
- Document donor milk assent as per the **“Pasteurized Human Donor Milk”** guideline.
- Infants may feed with umbilical lines in place.
- Human milk, especially mother’s own milk, is preferred (colostrum for OIT and early feedings).
- Gavage feedings are given by infusion pump over 30 minutes unless otherwise ordered.

PROGRESSION OF FEEDINGS

- The bedside nurse will calculate the daily feeding volume and calories according to the appropriate feeding pathway.
- Document fortification discussions with the family as per the **“Pasteurized Human Donor Milk”** guideline.
- Transition of the type of fortification should be conducted as per the **“Guidelines for Transition Off Human Milk Fortified with Prolacta® and Transition Off Human Milk Fortified with HMF.”**
- **Daily total fluids per physician order *should include all IV fluids and enteral feedings (including trophic feedings). TPN changes and total fluids listed in pathway are suggestions.***
- Oral medications should usually be avoided until full volume enteral feeds are tolerated.
- Check OG/NG tube placement per nursing protocol. Do not aspirate more gastric content than what is needed to confirm tube placement. **Do not check gastric residuals.**

WHEN TO NOTIFY MD/NP

- An abnormal/concerning abdominal exam including:
 - Abdominal distention (increase in abdominal circumference greater than 2 cm)
 - Visible bowel loops
 - Large or bilious emesis
 - Visible blood in stool
 - Unstable vital signs

DISCONTINUATION OF FEEDINGS

- A maximum of two consecutive feedings may be held by the intern or resident.
- Discontinue feedings only after evaluation by Attending MD, Neonatal Fellow, or Nurse Practitioner.

FEEDING INTERVAL EXCEPTIONS

- Consider continuous feedings (based on MD/NNP order) if infant exhibits persistent hypoglycemia, pathologic reflux, has GI motility/absorption issues (short gut, liver disease etc.) or does not appear to tolerate bolus feedings.

Exclusive Human Milk Pathway (Prolacta®) for Infants 24-25 Weeks GA

May also be used for infants with birthweight 500-750g

NAME BIRTH WEIGHT

Day of Pathway and Date	Caloric Density of Human Milk (Kcal/30 mL)	Total Enteral Intake (per kg/day)	Volume of Feeds (mL/kg/day)	Nutritional Goals (Protein from all sources) (Assuming CENTRAL access - for MD/NP order)	Comments <i>Colostrum should be used for Oral Immune Therapy (OIT) for the first week.</i>
Day 1 /	20	Kcal = 7 Protein = 0.1	10	T Pro 2-2.5 g/kg/d Lipid 0.5 -> 1 g/kg/d GIR 3.5 – 4.5	Consider contribution of arterial fluids + feeds when determining protein content for TPN
Day 2 /	20	Kcal = 13 Protein = 0.2	↑20	T Pro 2.5-3 g/kg/d Lipid 1 g/kg/d GIR 5 – 6	Check TG levels every 24 hours with each advancement in lipid
Day 3 /	20	Kcal = 13 Protein = 0.2	20	T Pro 3-3.5 g/kg/d Lipid 1.5 g/kg/d GIR 6 – 7	
Day 4 /	20	Kcal = 23 Protein = 0.35	↑30 ↑40 @ 2300	T Pro 3.5 g/kg/d Lipid 2 g/kg/d GIR 7 – 8	Begin decreasing Phos in anticipation of adding Prolacta 12hrs after this TPN starts
Day 5 /	↑24 (Prolacta +4)	Kcal = 44 Protein = 1	↑50 ↑60 @ 2300	T Pro 3.5-4 g/kg/d Lipid 2 g/kg/d GIR 6 – 7	Increase to 24 Kcal/oz using Prolacta +4 * Increase infusion time to 60 minutes
Day 6 /	24	Kcal = 60 Protein = 1.4	↑70 ↑80 @ 2300	T Pro 3.5-4 g/kg/d Lipid 1.5 g/kg/d GIR 5 – 6	Begin decreasing electrolytes Days 5-8 in anticipation of transition off TPN
Day 7 /	24	Kcal = 76 Protein = 1.8	↑90 ↑100 @ 2300	T Pro 4-4.5 g/kg/d Lipid 1 g/kg/d GIR 4 – 5	
Day 9 /	↑26 (Prolacta +6)	Kcal = 99 Protein = 2.9	↑110 ↑120 @ 2300	T Pro 4-4.5 Lipid 0.5 g/kg/d GIR 2.5 - 3.5	Increase to 26 Kcal/oz using Prolacta +6 * Increase infusion time of feeds to 90-120 min
Day 10 /	26	Kcal = 116 Protein = 3.4	↑130 ↑140 @ 2300	TPN via PIV – max D12.5% T Pro 4 GIR 1.5 - 2.5	Do not renew lipid infusion Discontinue PICC, if appropriate
Day 11 /	26	Kcal = 130/139 Protein = 3.6/3.8	↑150 ↑160 @ 2300	Discontinue TPN	Monitor glucoses as indicated. Add Poly-Vi-Sol 0.5 mL twice daily
Day 12 /					Obtain Chem 10 Consider addition of Prolacta Cream if weight gain suboptimal for after 5-7 days on +6
Day 14 /					Add Iron 3 mg/kg/day divided twice daily
Day 28 /					Obtain Chem 10 and alkaline phosphatase

Individualize initiation, advancement rates and total fluids based on patient's weight, age and clinical status

INDIVIDUAL FEEDING VOLUME: Round this volume to the nearest 0.5 mL (anything ≤ 0.5 mL round to 0.5, anything > 0.5 rounds to 1)

NEWBORN CRITICAL CARE CENTER (NCCC) FEEDING GUIDELINES

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- Gavage feedings are given by infusion pump over 30 minutes unless otherwise ordered.

PROGRESSION OF FEEDINGS

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- Transition of the type of fortification should be conducted as per the **“Guidelines for Transition Off Human Milk Fortified with Prolacta® and Transition Off Human Milk Fortified with HMF.”**
- **Daily total fluids per physician order *should include all IV fluids and enteral feedings (including trophic feedings). TPN changes and total fluids listed in pathway are suggestions.***
- Oral medications should usually be avoided until full volume enteral feeds are tolerated.
- Check OG/NG tube placement per nursing protocol. Do not aspirate more gastric content than what is needed to confirm tube placement. **Do not check gastric residuals.**

WHEN TO NOTIFY MD/NP

- An abnormal/concerning abdominal exam including:
 - Abdominal distention (increase in abdominal circumference greater than 2 cm)
 - Visible bowel loops
 - Large or bilious emesis
 - Visible blood in stool
 - Unstable vital signs

DISCONTINUATION OF FEEDINGS

- A maximum of two consecutive feedings may be held by the intern or resident.
- Discontinue feedings only after evaluation by Attending MD, Neonatal Fellow, or Nurse Practitioner.

FEEDING INTERVAL EXCEPTIONS

- Consider continuous feedings (based on MD/NNP order) if infant exhibits persistent hypoglycemia, pathologic reflux, has GI motility/absorption issues (short gut, liver disease etc.) or does not appear to tolerate bolus feedings.

Exclusive Human Milk Pathway (Prolacta®) for Infants 26-27 Weeks GA

May also be used for infants with birthweight 750-1000g

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Day of Pathway and Date	Caloric Density of Human Milk (Kcal/30 mL)	Total Enteral Intake (per kg/day)	Volume of Feeds (mL/kg/day)	Nutritional Goals (Protein from all sources) (Assuming CENTRAL access - for MD/NP order)	Comments <i>Colostrum should be used for Oral Immune Therapy (OIT) for the first week.</i>
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Day 3 /	20	Kcal = 23 Protein = 0.35	↑30 ↑40 @ 2300	T Pro 3 – 3 g/kg/d Lipid 3 g/kg/d GIR 7 – 8	Begin decreasing Phos in anticipation of adding Prolacta 12hrs after this TPN starts
Day 4 /	↑26 (Prolacta +6)	Kcal = 48 Protein = 1.3	↑50 ↑60 @ 2300	T Pro 3.5 g/kg/d Lipid 2 g/kg/d GIR 6 – 7	Increase to 26 Kcal/oz using Prolacta +6 * Increase infusion time to 60 minutes
Day 5 /	26	Kcal = 65 Protein = 1.8	↑70 ↑80 @ 2300	T Pro 4 g/kg/d Lipid 1 g/kg/d GIR 5 – 6	Begin decreasing electrolytes Days 4-6 in anticipation of transition off TPN
Day 6 /	26	Kcal = 82 Protein = 2.3	↑90 ↑100 @ 2300	T Pro 4.5 g/kg/d Lipid 0.5 g/kg/d GIR 4 – 5	* Increase infusion time of feeds to 90-120 min
Day 7 /	26	Kcal = 100 Protein = 2.8	↑110 ↑120 @ 2300	TPN via PIV – max D12.5% T Pro 4 GIR 2.5 – 3.5	Do not renew lipid infusion Discontinue central line, if appropriate
Day 8 /	26	Kcal = 117 Protein = 3.3	↑130 ↑140 @ 2300	TPN via PIV – max D12.5% T Pro 4 GIR 1.5 – 2	
Day 9 /	26	Kcal = 130/139 Protein = 3.6/3.8	↑150 ↑160 @ 2300	Discontinue TPN	Monitor glucoses as indicated. Add Poly-Vi-Sol 0.5 mL twice daily
Day 10 /					Obtain Chem 10
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