

Name of Hospital
Neonatal Parenteral Nutrition Prescription
PRETERM CONCENTRATED
48 HOUR BAG
 E of E Preterm Concentrated PN Px (July 2022 – version 12)
 Page 1 of 2

| | |
|---------------|--------------|
| Name | Hospital No. |
| Date of Birth | NHS Number |
| Address | |
| Consultant | |

**Instructions for Completing Parenteral Nutrition Prescription
 FOR ADMINISTRATION VIA CENTRAL LINE ONLY**

| Birth Gestation | Ward | Aqueous and lipid component will provide the following | | | | | | | | |
|---|--|---|-----------|-----------|-----------|-----------|------------|------------|------------|--|
| <ul style="list-style-type: none"> Enter one date only in each column for days 1 & 2. Total the 48 hour bag requirement in the third column. Days of PN means number of days the baby is on PN. Indicate the total PN volume, volume of aqueous PN, volume of lipid, volume of enteral feed, other infusion volumes and total fluid volume required. Circle STD if the electrolytes requirements are the same as the standard formula. If not, fill in the specific electrolytes requirements. Inclusion of trace elements is dependent on PN supplier. Check label for inclusion. Composition dependent on manufacturer Non-standard electrolytes should only be requested where there is a clear clinical need. Minimum nitrogen requirement on day 1 of PN is 0.22g (1.5gAA/kg/day) provided by 43ml/kg/day of aqueous preterm concentrated formula. Maximum nitrogen to be prescribed is 0.5g/kg/day (3.5gAA/kg/day) provided by 100ml/kg/day of aqueous preterm concentrated formula. If more IV fluid is required, 5% glucose or 10% glucose can be used. | PRETERM CONCENTRATED Aqueous Parenteral Nutrition Formula | | | | | | | | | |
| | Total volume | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | |
| | ml/kg | 45 | 50 | 60 | 70 | 80 | 85 | 95 | 100 | |
| | Amino acid (g/kg) | 1.57 | 1.75 | 2.1 | 2.45 | 2.8 | 2.97 | 3.32 | 3.5 | |
| | Nitrogen (g/kg) | 0.23 | 0.25 | 0.3 | 0.35 | 0.4 | 0.43 | 0.48 | 0.5 | |
| | Glucose (g/kg) | 5.9 | 6.5 | 7.8 | 9.1 | 10.4 | 11.1 | 12.4 | 13 | |
| | Sodium (mmol/kg) | 1.8 | 2.0 | 2.4 | 2.8 | 3.2 | 3.4 | 3.8 | 4.0 | |
| | Potassium (mmol/kg) | 1.1 | 1.2 | 1.4 | 1.7 | 1.9 | 2.0 | 2.3 | 2.4 | |
| | Calcium (mmol/kg) | 0.77 | 0.85 | 1.02 | 1.19 | 1.36 | 1.45 | 1.61 | 1.7 | |
| | Magnesium (mmol/kg) | 0.11 | 0.12 | 0.14 | 0.17 | 0.19 | 0.20 | 0.23 | 0.24 | |
| | Phosphate (mmol/kg) | 0.9 | 1.0 | 1.2 | 1.4 | 1.6 | 1.7 | 1.9 | 2.0 | |
| | Chloride (mmol/kg) | 1.8 | 2.0 | 2.3 | 2.7 | 3.1 | 3.3 | 3.7 | 3.9 | |
| | Acetate (mmol/kg) | 0.9 | 1.0 | 1.1 | 1.3 | 1.5 | 1.6 | 1.8 | 1.9 | |
| | Trace elements (ml/kg) | 0.45 | 0.5 | 0.6 | 0.7 | 0.8 | 0.85 | 0.95 | 1.0 | |
| | Lipid Parenteral Nutrition Formula | | | | | | | | | |
| | Lipid (g/kg) | 0.85 | 1.7 | 1.7 | 1.7 | 1.7 | 2.55 | 2.55 | 3.4 | |
| | Lipid volume (ml/kg) | 5 | 10 | 10 | 10 | 10 | 15 | 15 | 20 | |
| | Phosphate (mmol/kg) | 0.07 | 0.14 | 0.14 | 0.14 | 0.14 | 0.21 | 0.21 | 0.28 | |
| Aqueous and lipid component will provide the following | | | | | | | | | | |
| Total phosphate (mmol/kg) | 0.97 | 1.14 | 1.34 | 1.54 | 1.74 | 1.91 | 2.11 | 2.28 | | |

| Date | Day 1 | Day 2 | Total in 48 hour bag (day 1+2) | Day 1 | Day 2 | Total in 48 hour bag (day 1+2) |
|--|----------|----------|--------------------------------|----------|----------|--------------------------------|
| Days of Parenteral Nutrition | | | | | | |
| Working Weight (kg) | | | | | | |
| Volume of Aqueous PN (ml/kg) | | | | | | |
| Volume of Lipid PN (ml/kg) Intralipid 20%/SMOF* *delete as appropriate | | | | | | |
| Total volume of PN (ml/kg) | | | | | | |
| Volume of enteral feed (ml/kg) | | | | | | |
| Other infusion (ml/kg) | | | | | | |
| Total fluid volume (ml/kg) | | | | | | |
| Nitrogen (g/kg) from table above | STD only | STD only | | STD only | STD only | |
| Glucose (g/kg) from table above | STD only | STD only | | STD only | STD only | |
| Sodium (mmol/kg) | STD | STD | | STD | STD | |
| Potassium (mmol/kg) | STD | STD | | STD | STD | |
| Calcium (mmol/kg) | STD | STD | | STD | STD | |
| Magnesium (mmol/kg) | STD | STD | | STD | STD | |
| Total Phosphate (mmol/kg) | STD | STD | | STD | STD | |
| Chloride (mmol/kg) | STD | STD | | STD | STD | |
| Prescriber's Signature | | | | | | |
| Prescriber's Name & Bleep No | | | | | | |
| Screened by | | | | | | |

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PHARMACY DEPARTMENT SECTION

| | | | | | | | |
|--|--|--|--|--|--|--|--|
| <i>Date</i> | | | | | | | |
| <i>Total volume of Aqueous PN to be infused</i> | | | | | | | |
| <i>Total volume of Lipid to be infused</i> | | | | | | | |
| <i>Ordered by</i> | | | | | | | |
| <i>Order number</i> | | | | | | | |
| <i>Checked by</i> | | | | | | | |
| <i>Maximum infusion rate of aqueous PN (ml/hour)</i> | | | | | | | |
| <i>Maximum infusion rate of lipid (ml/hour)</i> | | | | | | | |

WARD ADMINISTRATION RECORD

| | | | | | | | |
|---|--|--|--|--|--|--|--|
| <i>Aqueous PN - date infusion started</i> | | | | | | | |
| <i>Aqueous PN - time infusion started</i> | | | | | | | |
| <i>Set up by</i> | | | | | | | |
| <i>Checked by</i> | | | | | | | |
| <i>Lipid - date infusion started</i> | | | | | | | |
| <i>Lipid - time infusion started</i> | | | | | | | |
| <i>Set up by</i> | | | | | | | |
| <i>Checked by</i> | | | | | | | |

BATCH NUMBER RECORDS

| | | | | | | | |
|-----------------------------------|--|--|--|--|--|--|--|
| <i>Batch number of aqueous PN</i> | | | | | | | |
| <i>Batch number of Lipid</i> | | | | | | | |
| <i>Batch number recorded by</i> | | | | | | | |

Additional Information:

| Date | Comment | Initial & sign |
|------|---------|----------------|
| | | |
| | | |
| | | |

Please note:

- Lipid syringes from ITH will be provided with the following formulation:
Intralipid/SMOFLipid 20% 37.5ml
Vitlipid N Infant 10ml
Solivito N (WFI 10ml) 2.5ml
20ml/kg would then provide:
Solivito 1ml/kg /Vitlipid N 4ml/kg/ Lipid 3.4g /kg
- Solivito will be added to aqueous PN if lipid is not prescribed. It will be added as 1ml/kg/day where possible.
- Trace elements will be added as 1ml/100ml to aqueous phase
- Maximum licensed dose of SMOF is 3g/kg/day.
- Aqueous PN solution of glucose concentration >12.5% or osmolarity >900mOsm/L must be infused via central line.
- Lipid syringes must be changed every 24 hours.
- Minimum overage for aqueous PN is 100ml and for lipid is 10ml (syringe).
- Chloride will be capped at 6mmol/kg/day unless otherwise specified. Aim for Chloride:Acetate molar ratio of 2:1. Seek clarification if acetate provided exceeds chloride. Chloride value will vary if any of the electrolytes is not ordered as standard. If a specific Chloride value is required, cross off "STD" and fill in the specific Chloride requirement.

**Recommended intake for stable growth
[NICE 2021/ESPGHAN 2018]**

| | |
|-----------------------|---|
| Energy kcal/kg/day | 75-120kcal/kg/day |
| Lipid g/kg/day | 3-4g |
| Nitrogen g/kg/day | 0.43 -0.58g/kg/day |
| Amino acid g/kg/day | 3.0-4.0g/kg/day |
| Carbohydrate g/kg/day | 9.0-16g/kg/day |
| Sodium mmol/kg/day | D1&2 0-2; D3 0-(3-5); D4+ 2-5 |
| Potassium mmol/kg/day | D1-3 0-3; D4+2-3 |
| Calcium mmol/kg/day | 0.8-1.0 day 1; 1.5-2.0 growing |
| Magnesium mmol/kg/day | 0.1-0.2 first days of life; 0.2-0.3 growing |
| Phosphate mmol/kg/day | 1.0 day 1; 2.0 growing |
| Chloride mmol/kg/day | D1-3 0-3; D4 2-5 |