

Name of Hospital  
Neonatal Parenteral Nutrition Prescription  
**PRETERM STANDARD**  
**48 HOUR BAG**  
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Name \_\_\_\_\_ Hospital No. \_\_\_\_\_  
Date of Birth \_\_\_\_\_ NHS Number \_\_\_\_\_  
Address \_\_\_\_\_  
Consultant \_\_\_\_\_

**Instructions for Completing Parenteral Nutrition Prescription**

**Infusion route – CENTRAL / PERIPHERAL\***  
**\* delete as appropriate**

Birth Gestation	Ward	Aqueous and lipid component will provide the following											
<ul style="list-style-type: none"> <li>Enter one date only in each column for day 1 &amp; 2. Total the 48 hour bag requirement in the third column.</li> <li>Days of PN means number of days the baby is on PN.</li> <li>Indicate the total PN volume, volume of aqueous PN (round up to the nearest aqueous PN volume on the table), volume of lipid, volume of enteral feed, other infusion volumes and total fluid volume required.</li> <li>Circle STD for electrolytes requirements are the same as the standard formula. If not, fill in the specific electrolytes requirements.</li> <li>Inclusion of trace elements is dependent on PN supplier. <b>Check label for inclusion.</b> Composition dependent on manufacturer</li> <li><b>Non-standard electrolytes should only be requested where there is a clear clinical need.</b></li> <li><b>Minimum nitrogen requirement on day 1 of PN is 0.22g (1.5gAA/kg/day) provided by 56ml/kg/day of aqueous preterm standard formula.</b></li> <li><b>Maximum nitrogen to be prescribed is 0.5g/kg/day (3.5gAA/kg/day) provided by 130ml/kg/day of preterm standard formula. If more IV fluid is required, 5% glucose or 10% glucose can be used.</b></li> </ul>	<b>Total volume (ml/kg)</b>	<b>50</b>	<b>60</b>	<b>70</b>	<b>80</b>	<b>90</b>	<b>100</b>	<b>110</b>	<b>120</b>	<b>130</b>	<b>140</b>	<b>150</b>	
	<b>PRETERM STANDARD Aqueous Parenteral Nutrition Formula</b>												
	<b>ml/kg</b>	<b>45</b>	<b>55</b>	<b>65</b>	<b>70</b>	<b>80</b>	<b>90</b>	<b>95</b>	<b>105</b>	<b>115</b>	<b>125</b>	<b>130</b>	
	<b>Amino acid (g/kg)</b>	1.2	1.48	1.75	1.88	2.15	2.4	2.56	2.8	3.1	3.37	3.5	
	<b>Nitrogen (g/kg)</b>	0.17	0.21	0.25	0.27	0.31	0.35	0.37	0.4	0.44	0.48	0.5	
	<b>Glucose (g/kg)</b>	4.5	5.5	6.5	7.0	8.0	9.0	9.5	10.5	11.5	12.5	13.0	
	<b>Sodium (mmol/kg)</b>	1.38	1.68	2.0	2.14	2.45	2.75	2.9	3.21	3.52	3.83	3.98	
	<b>Potassium (mmol/kg)</b>	0.9	1	1.2	1.3	1.5	1.7	1.8	2	2.2	2.4	2.5	
	<b>Calcium (mmol/kg)</b>	0.58	0.72	0.84	0.91	1.04	1.17	1.24	1.37	1.49	1.63	1.69	
	<b>Magnesium (mmol/kg)</b>	0.09	0.1	0.12	0.13	0.15	0.17	0.18	0.2	0.22	0.24	0.25	
	<b>Phosphate (mmol/kg)</b>	0.69	0.84	0.99	1.07	1.22	1.38	1.45	1.6	1.76	1.91	1.98	
	<b>Chloride (mmol/kg)</b>	1.4	1.7	2	2.2	2.5	2.8	2.9	3.2	3.5	3.8	4	
	<b>Acetate (mmol/kg)</b>	0.7	0.8	1	1.1	1.2	1.4	1.4	1.6	1.7	1.9	2	
	<b>Trace elements (ml/kg)</b>	0.35	0.42	0.5	0.54	0.62	0.69	0.73	0.81	0.89	0.96	1.0	
	<b>Lipid Parenteral Nutrition Formula</b>												
	<b>Lipid (g/kg)</b>	0.85	0.85	0.85	1.7	1.7	1.7	2.55	2.55	2.55	2.55	3.4	
	<b>Lipid volume (ml/kg)</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>10</b>	<b>10</b>	<b>10</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>20</b>	
	<b>Phosphate (mmol/kg)</b>	0.07	0.07	0.07	0.14	0.14	0.14	0.21	0.21	0.21	0.21	0.28	
<b>Aqueous and lipid component will provide the following</b>													
<b>Total phosphate (mmol/kg)</b>	0.76	0.91	1.06	1.21	1.37	1.52	1.66	1.81	1.97	2.12	2.26		

Date	Day 1	Day 2	Total in 48 hour bag (day1+2)	Day 1	Day 2	Total in 48 hour bag (day1+2)
Days of Parenteral Nutrition						
Working Weight (kg)						
Volume of Aqueous PN (ml/kg)						
Volume of Lipid PN (ml/kg) Intralipid20%/SMOF* <i>*delete as appropriate</i>						
Total PN Volume (ml/kg)						
Enteral Feed volume (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 (mmo/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 (WF1 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 0.77ml/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 2108]**

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