

Standard Neonatal Parenteral Nutrition – Instructions for Use

When parenteral nutrition (PN) is required ([see guideline for choosing which one](#)), it will normally be prescribed by a Consultant or ST3+ doctor. If standard PN is suitable use the following procedure.

There are **three types** of standard PN in use at St Peter's NICU: a **no sodium** formulation, a **low sodium containing** formulation and a **high sodium containing** formulation. The bags and prescription/administration forms are colour coded, green for no sodium, yellow for low sodium and yellow with red highlighting for high sodium formulations.

PN needs to be prescribed daily; the prescriber should select the correct form, **green (no sodium)** or **yellow (low sodium)** or **yellow/red (high sodium)** and fill in:

- Patient details as required on the chart
- Consultant, Ward, Birth weight, Working weight
- Date and time of prescribing
- Day no. of PN
- Route of administration
- Total fluid requirement for that day
- SMOF percentage (standard @12%, half @ 6% or zero)

The prescription form details the constitution of the PN and nutrients given for standard volumes of 60ml/kg/day, 90ml/kg/day, 120ml/kg/day and 150ml/kg/day, assuming SMOF is prescribed at the full 12%. The prescriber should tick the box at the top of the appropriate column for that day. Non standard amounts (up to 150ml/kg day) can also be prescribed using the right hand (blank) column.

The maximum volume for standard PN is 150ml/kg/day.

12% SMOF (lipid) is the maximum daily allowance and the normal starting point. Should SMOF need to be reduced, half (6%) or zero SMOF may be prescribed by circling the appropriate section on the prescription. This would have a small effect on the nutrients given and they can be re-calculated from the relevant PN composition charts.

The prescriber should sign the prescription; pharmacist to countersign when on the ward.

Once the prescription form has been completed and signed by the prescriber the vamin bag and SMOF syringe need to be logged out from the stock book, using stock from the batch with the earliest expiry date, ensuring that date has not already passed.

The daily administration chart needs to be filled in with the following details:

All details are needed – times, dates and batch numbers are essential for safety

- Patient ID
- Consultant, Ward, Birth weight, Working weight
- Route of administration
- Batch numbers for vamin and SMOF
- Starting date and time
- Date and time the vamin (48hrs) and SMOF (24hrs) need changing
- Date
- Day no. of PN

The first set of infusion rates are calculated as shown on the next page.

When there is a change in regime the giving rates need to be recalculated using the boxes provided. Should a continuation sheet be needed all the above sections need to be filled but continuation written after the date and day of PN.

Time	TIME:				
Fluid requirement (ml/kg/day), convert to ml/day	1. Total Fluid Requirement	ml/kg/day	=	ml/day	
Concurrent fluids (ml/hr), convert to ml/day	2. Concurrent infusions	ml/hour	=	ml/day	
Enteral feed (ml/kg/day), convert to ml/day	3. Enteral feed	ml/kg/day	=	ml/day	
PN volume in ml (per day) is calculated by subtracting concurrent infusion and feed volumes from the total fluid requirement for the day	= PN volume per day		=	ml/day	
SMOF prescribed according to the standard protocol is contained in 12% of the PN volume, calculate this amount (deleting the alternatives of 6% and 0% in brackets) and divide by 24 to give the hourly rate.	SMOF syringe @	12 % (6% or 0%)* of PN volume	=	ml/day	Run at ml/hr
If SMOF is prescribed at half the standard rate then calculate 6% of PN volume (deleting 12% and 0%) and divide by 24 to give the hourly rate.	Vamin bag @	PN – SMOF volume	=	ml/day	Run at ml/hr
If SMOF is not prescribed then delete 12% and 6%, leaving 0% and write in zero ml and zero ml/hr.	Signature 1:		Signature 2:		
The rest of the PN is vamin. Calculate this volume (PN volume – SMOF volume) Divide by 24 to give hourly rate for vamin					
Volumes should be calculated to one decimal place apart from the hourly rate for SMOF which can be calculated to two decimal places.					
Two signatures required					

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