



PARENTERAL NUTRITION PROTOCOL FOR MUHIMBILI NATIONAL HOSPITAL

GASTROSCHISIS STUDY

The Parenteral Nutrition currently available is Kabiven peripheral Emulsion for Infusion.

This has 3 separate chambers:

- 1) Glucose 11%. Volume: 885 mls.
- 2) Vamin 18 Novum is the amino acid preparation.
Volume: 300mls with 33.75 g protein (Nitrogen is 5.4g so x 6.25)
– **1 g protein per 10 mls**
—please note contains electrolytes too
Sodium 1 mmol per 10 mls
Potassium 0.8 mmol/ 10 mls
Magnesium 0.1 mmol/ 10mls
Calcium 0.07 mmol/ 10 mls
Phosphate 0.4 mmol/ 10 mls
- 3) Intralipid 20%. Volume: 255 mls.
1g fat per 5 mls

Day of life	Total maintenance fluid volume for 24 hours	Volume of Vamin 18 novum	Volume of Intralipid
1	60mls/kg	1g/kg protein =10 mls/kg	1g/kg fat = 5 mls/kg
2	80mls/kg	2g/kg protein =20 mls/kg	2g/kg fat =10 mls/kg
3	100mls/kg	3g/kg protein = 30mls/kg	3g/kg fat =15 mls/kg
4	120mls/kg	3g/kg protein = 30mls/kg	3g/kg fat =15 mls/kg
5 and onwards	150 mls/kg	3g/kg protein = 30mls/kg	3g/kg fat = 15 mls/kg

Maintenance fluids as per NICU protocol
Fluid volume adjusted for Prematurity as per NICU protocol

How to Calculate Parenteral Nutrition

1. Calculate the total maintenance fluid requirement for a 24 hour period.

For example, 2kg baby on day 5 of life = 150ml/kg/day = 300mls in 24 hours.

2. Calculate volume of Amino Acid - Vamin 18 according to weight as above.

For example 2kg baby on day 5: 2 (weight) x 30mls = 60mls.

3. Calculate volume of Intralipid according to weight as above.

For example 2kg baby day 5: 2 (weight) x 15mls = 30mls.

4. Take away the Vamin and Lipid volume from the total maintenance fluid requirement to obtain volume of Glucose

For example, for a 2kg baby on day 5: 300mls (total requirement) – 60 mls vamin - 30 mls lipid = 210mls Glucose

Electrolytes do not need to be added

5. Add the glucose and Vamin together and run over 24 hours

For example, for a 2kg baby on day 2: 210mls glucose plus 60mls vamin = 270 mls

$270/24 = 11.25\text{mls/hour}$.

6. Do not mix lipid with anything else. Infuse over 24 hours

Use a Y connector to run concurrently with vamin/glucose.

For example, for a 2kg baby on day 5: lipid is 30 mls/24 hours = 1.25 mls/hr

Use aseptic non touch technique throughout.

When re accessing PN chambers use surgical spirit liberally.

GASTROSCHISIS PATIENTS

Commence PN on day 1 of presentation or as soon as possible.

24 hours following closure of the gastroschisis defect, breastfeeding is to start as per the breastfeeding protocol.

When breastfeeding is established at 10 minutes 6 hourly, the PN can be reduced by half. When breastfeeding for 15 minutes 3 hourly, the PN can be stopped.