



PARTIAL PARENTERAL NUTRITION PROTOCOL FOR GASTROSCHISIS STUDY

Komfo Anokye Teaching Hospital

AMINO ACIDS

CELEMIN 10 plus (10%), 500ml bottle 10mls contains - 1g protein

(A suitable alternative is Astymin 3, 200ml bottle)

Day of life	Total maintenance fluid volume for 24 hours*	Volume of amino acids
1	60mls/kg	1g/kg protein (= 10mls/kg)
2	90mls/kg	2g/kg protein (= 20mls/kg)
3	120mls/kg	3g/kg protein (= 30mls/kg)
4 and above	150mls/kg	3g/kg protein (= 30mls/kg)

*adjust if preterm

HOW TO CALCULATE AND ADMINISTER CELEMIN

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

For example, 2kg baby on day 4 of life = 150ml/kg/day = 300mls in 24 hours.

2. Calculate volume of Celemin according to weight as above.

For example 2kg x 30mls = 60mls.

3. Subtract the Celemin volume from the total maintenance fluid requirement.

Example: for a 2kg baby, 300mls – 60mls = 240mls.

To make up 240mls of maintenance fluids withdraw 10mls from a 250ml bag of 10% dextrose/ 0.18% saline.

4. Add the Celemin to the dextrose/ saline.

Example : add 60mls of Celemin to 240mls dextrose/ saline = 300mls.

5. Infuse over 24 hours

Example 300mls/24hours = 12.5mls/hour.

Use Aseptic Non-Touch Technique (ANTT) throughout.

Keep the Celemin in the fridge.

LIPIDS

The lipid volume will not form part of the maintenance fluid volume – it is in addition

Celipid 10%, 500ml bottle contains 1100 kcal/litre = 1.1kcal/ml

For the purposes of this study we will round down to 1kcal/ml for calculations

Day of life	Fat given and calories from fat*	Volume of Celipid 10%
1	1g/kg (= 9kcal/kg)	9mls/kg
2	1.5g/kg (= 13.5kcal/kg)	13.5mls/kg
3	2g/kg (= 18kcal/kg)	18mls/kg
4 and above	2.5g/kg (= 22.5kcal/kg)	22.5mls/kg

*1g/kg is equivalent to 9kcal/kg

1. Do not mix Celipid with anything else
2. Withdraw required amount into syringe driver
3. Refrigerate bottle between infusions
4. Celipid must be given centrally
5. Infuse lipids over 24 hours
6. Use Aseptic Non-Touch Technique (ANTT)
7. Keep covered and protect from light to prevent oxidation
8. Do not leave bottle hanging

Example

2kg baby on day 4 will receive 2 x 22.5 mls Celipid = 45mls over 24 hours at 1.9 mls/hr

GASTROSCHISIS PATIENTS

Commence Celemin a on day 1 of presentation or as soon as possible.

After PICC line insertion can start Celipid

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 Celemin can be reduced by half and continue with Celipid

When breastfeeding for 15 minutes 3 hourly, the Celemin and Celipid can be stopped.