Standardised CHO additions to feeds for persistent hypoglycaemia in newborns on NNU

NHS West Midlands Neonatal Operational Delivery Network

The addition of extra carbohydrate to M/DEBM and infant formula to maintain blood sugars for neonates who have **persistent** low blood sugars after birth is standard care on the NNU. This must be undertaken in a controlled fashion. This document is to assist decision making in treatment doses of extra CHO added to feeds.

Extra CHO can be added to feeds using a glucose polymer such as Super Soluble Maxijul Powder, a hydrolysed corn starch which yields a glucose polymer of approximately 5 glucose units.

Table 1 shows CHO content of feeds with varying amounts of added Maxijul powder. *NB: Resulting total CHO content will be dependent on starting levels of CHO in feeds- which is different depending on the product.*

Table 2 shows CHO intake in mg/kg/min dependant on feed/ added CHO and volume received.
Recommended intakes for infants is between 10-12mg/kg/min

All infants should commence on 2hourly feeds when weaning from IV glucose. Do not advance to 3hourly feeds until blood sugar stabilisation on full 2hourly feeds.

If the infant cannot be stabilised on standardised additions then specialist dietetic advice should be sought and the infant must remain on some IV CHO to support blood sugars.

Glucose Polymer powders can be weighed if accurate scales available but for ease of use in unit milk kitchens scoops are the preferred method used to measure powder. Super Soluble Maxijul Powder should be measured using **small blue** Nutricia scoops. Each **level** small blue scoop of Maxijul Powder contains 1.5g Maxijul = 1.5g carbohydrate.

To fill the scoop:

1. Dip scoop into the powder.

2. Lift heaped scoop from the tin without compressing powder against the wall of the tin, level the scoop off with a flat implement such as the back of a knife. (in the same way infant formula powder should be measured)

ALL INFANTS STARTED ON A REGIMEN OF ADDITIONAL CHO MUST BE REFERED TO THE DIETITIAN FOR REVIEW.

Produced on behalf of WMN ODN by :
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Table 1: **CHO per 100ml of Milks With Added CHO**

	CHO (g) per 100ml				
FEED	No added Maxijul	1 blue scoop maxijul per 100ml **(1.5%)**	2 blue scoop maxijul per 100ml **(3%)**	3 blue scoop maxijul per 100ml **(4.5%)**	4 blue scoop maxijul per 100ml **(6%)**
MEBM	7	8.5	10	11.5	13
DEBM	6.6	8.1	9.6	11.1	12.6
MEBM & HMF	9.7	11.2	12.7	Under dietetic supervision	Under dietetic supervision
NP1	8.4	9.9	11.4	12.9	Under dietetic supervision
NP2	7.5	9	10.5	12	Under dietetic supervision
SMA Pro Gold Prem 1	8.1	9.6	11.1	12.6	Under dietetic supervision
Standard Infant Formula	7.3	8.8	10.3	11.8	Under dietetic supervision
Peptijunior	6.8	8.3	9.8	11.3	12.8
Infatrini /SMA HE/ Similac HE	10.3	11.8	13.3	Under dietetic supervision	Under dietetic supervision

Table 2: **CHO Intake (mg/kg/min) at a Range of Volume Intakes**

FEED (% of added CHO)	g CHO per 100ml	CHO intake mg/kg/min **(aim 10-12)**		
		@150ml/kg/d	@165ml/kg/d	@180ml/kg/d
MEBM (1.5%)	8.5	8.8	9.7	10.6
MEBM (3%)	10	10.4	11.5	12.5
MEBM (6%)	13	13.5	14.9	16.3
MEBM & HMF (1.5%)	11.2	11.6	12.8	14
MEBM & HMF (3%)	12.7	13.2	14.5	15.9
NP1(1.5%)	9.9	10.3	11.3	12.4
NP1 (3%)	11.4	11.8	13	14.3
NP2 (1.5%)	9	9.4	10.3	11.3
NP2 (3%)	10.5	11	12	13
NP2 (4.5%)	12	12.5	13.8	15
Standard infant formula (1.5%)	8.8	9.1	10	11
Standard infant formula (3%)	10.3	10.7	11.8	12.9
Standard infant formula (4.5%)	11.8	12.3	13.5	14.8
Infatrini (1.5%)	11.8	12.3	13.5	14.8
Infatrini (3%)	13.3	13.9	15.3	16.6

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