

## Breast Milk Fortifier for Inpatients in NHS Lothian

Breast milk fortifier (BMF) is a powdered product formulated to support the nutritional needs for optimal growth of preterm infants when added to expressed human milk. The European Society of Paediatric, Gastroenterology, Hepatology and Nutrition (ESPGHAN) position paper on enteral nutrition management specifically recommends the use of multi- component fortifier to enhance the nutrient content of preterm infants receiving human milk to promote growth. (ESPGHAN 2022). The following table illustrates the key points to be aware of when using SMA Gold Prem Breastmilk Fortifier (BMF) on the neonatal unit.

### Use of BMF for Inpatients:

Who should receive BMF?	<ul style="list-style-type: none"> <li>Infants &lt;34/40 gestational age or &lt; 1500g at birth are most likely to benefit from the addition of BMF to meet their nutritional needs although there may be other infants included with consultant discretion.</li> </ul>
When should babies start BMF?	<ul style="list-style-type: none"> <li>Infants should be considered for fortifier once 100ml/kg Maternal Expressed Breast Milk (MEBM) or Donor Expressed Breast Milk (DEBM) has been achieved.</li> </ul>
How should BMF be started?	<ul style="list-style-type: none"> <li>BMF should be added as ½ strength on day 1 of starting (e.g., 1 x 1g sachet /50ml EBM) and increased to full strength on day 2. (2 x 1g sachet/50ml EBM)</li> </ul>
What volume should fortified milk be increased to, in order to meet nutrition recommendations?	<ul style="list-style-type: none"> <li>BMF and MEBM can be increased to a max volume of 165ml/kg/day due to higher protein content. If weight gain is poor with no other obvious reasons for this (eg low sodium level) consideration can be given to increasing to 180ml/kg with consultant discretion.</li> <li>BMF and DEBM can be increased to a max volume of 180ml/kg/day which acknowledges the likely lower nutritional content of DEBM</li> </ul>
How should BMF be prescribed?	<ul style="list-style-type: none"> <li>The prescription for BMF is written in the 'as required' section of the drug chart</li> <li>It has been agreed that SMA Gold Prem Breast Milk Fortifier can be recorded on the prescription chart as SMA BMF</li> <li>Start at 1g sachet to 50ml of EBM increasing to 1 sachet to 25ml of EBM or 2 x 1g sachets per 50ml after 24 hours</li> <li>Oral/NGT</li> </ul>
What additional supplementation should be provided with BMF?	<p>While on SMA BMF added to EBM:</p> <ul style="list-style-type: none"> <li>Iron supplementation is NOT required</li> <li>Vitamin supplementation is still required.</li> <li>Other supplementation may be required on an individual basis according to serum biochemistry levels e.g., Sodium, Phosphorus</li> </ul>
When should BMF be stopped?	<ul style="list-style-type: none"> <li>If an infant on BMF is being discharged home exclusively breastfed, consideration should be given to continuing BMF in the form of 'Boosters'. Note that babies being discharged home on Boosters will require iron (from 6 weeks) – see separate guidance.</li> <li>If an infant is receiving some EBM but a large proportion of feeds are given as formula e.g. &gt; 50%, consider stopping BMF if growth is appropriate. Discuss with medical/dietetic team.</li> </ul>

## Breast Milk Fortifier for Inpatients in NHS Lothian

### Nutritional Content of SMA Breastmilk fortifier

	MEBM and SMA Gold Prem BMF			ESPGHAN EN Requirements 2022 Per kg
	150ml/kg	165ml/kg	180ml/kg for ref	
<b>Energy (Kcal)</b>	129	142	155	115 - 140 (Up to 160 max if needed)
<b>Protein (g)</b>	4.11	4.5	4.9	3.5 - 4.0 (Up to 4.5 if needed)
<b>Carbohydrate (g)</b>	12.75	14	15.3	11.0 - 15.0
<b>Fat (g)</b>	7.32	8.1	8.8	4.8 - 8.1
<b>Ca (mg)</b>	165	182	198	120 – 200
<b>Phos (mg)</b>	89	97	106	70 – 115
<b>Iron (mg)</b>	2.8	3.1	3.4	2 – 3

### Practicalities

Please see separate nursing guidance for making up and storing fortified expressed human milk safely.

### References

- European Society of Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) Committee on Nutrition (2022) Enteral Nutrition in Preterm Infants: ESPGHAN Position Paper 2022. Available at: <https://www.espghan.org/knowledge-center/publications/Nutrition/2022-enteral-nutrition> (Accessed 02.12.2022)