

Primary Care Specialist Infant Formulae Prescribing Guidance

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INTRODUCTION

Whilst these guidelines advise on appropriate prescribing of specialist infant formulae, breast milk remains the best milk for infants and breastfeeding should be promoted and encouraged where possible, in place of prescribing specialist infant formulae.

PURPOSE OF THE GUIDELINES

These guidelines aim to assist GPs and Health Visitors with information on the use of prescribed infant formula, through improving their awareness of paediatric nutrition product prescribing. The primary benefit to the patient is improved safety, as these guidelines provide advice on what age appropriate product and in what volume the product should be prescribed in order to meet their changing nutritional requirements for growth and development. The guidelines also hope to improve patient experience through a quicker diagnosis and onward referral to specialist services, where appropriate.

The benefits to the GPs and Health Visitors include satisfied patients who are meeting their nutritional requirements and a reduction in inappropriate spend on prescribed infant formulae.

The guidelines are targeted at infants 0-12 months. However, some of the prescribed items mentioned here can be used past this age and advice on this is included in the guidelines. The guidelines advise on:

- over the counter products available where appropriate
- initiating prescribing
- quantities to prescribe
- which products to prescribe for different clinical conditions
- triggers for reviewing and discontinuing prescriptions
- when onward referral for dietetic advice and/or secondary/specialist care should be considered

QUANTITIES OF FORMULAE TO PRESCRIBE

For powdered formula:

Age	Approximate number of tins per 28 days		
	400g tin	450g tin	800g tin
Less than 6 months	10 - 13	9 – 12	5 – 7
6-12 months	7-10	6 – 9	3 – 5
Greater than 12 months*	7	7	3 – 4

These amounts are based on:

- Infants under 6 months being exclusively formula fed and drinking 150ml/kg/day of a standard concentration formula.
- Infants 6-12 months requiring less formula as solid food intake increases.
- Children over 12 months drinking the 600mls of milk or milk substitute per day recommended by the Department of Health.

*Most children do not require formula milk beyond 12 months. Other cow's milk substitutes such as soya/oat milk can be introduced at this stage under supervision of a Paediatric Dietitian.

For liquid high energy formula:

Prescribe an equivalent volume of formula to the child's usual intake until an assessment has been performed and recommendations made by a paediatrician or paediatric dietitian.

N.B. Some children may require more e.g. those with faltering weight gain/growth.
Review recent correspondence from the paediatrician or paediatric dietitian for quantities.

DOS OF PRESCRIBING SPECIALIST INFANT FORMULAE

▪ **Promote and encourage breast feeding.**

For further breastfeeding help and support <http://www.nhs.uk/conditions/pregnancy-and-baby/pages/breastfeeding-help-support.aspx>

▪ **When initiating specialist infant formulae prescription:**

- Prescribe only 1 or 2 tins/bottles initially until compliance/tolerance is established to avoid waste.
- Remind parents to follow the advice given by the formula manufacturer regarding safe storage of the feed once mixed or opened.
- Refer to specialist paediatric dietitian

▪ **When reviewing specialist infant formulae prescription:**

- Check the type and amount of formula prescribed is appropriate for the diagnosis and age of the infant.

○ **Review the need for the prescription if you can answer 'yes' to any of the following questions:**

- ✓ Is the patient over 1 year of age? (formula milk is not usually necessary at this age)
- ✓ Has the formula been prescribed for more than 6 months?
- ✓ Is the patient prescribed more than the suggested quantities of formula according to their age? (see page 2 and/or refer to the most recent correspondence from the paediatric dietitian)
- ✓ Is the patient prescribed a formula for CMPA but able to eat any of the following foods – cows' milk, cheese, yogurt, ice-cream, custard, chocolate, cakes, cream, butter, margarine, ghee.

▪ **For referral to the paediatric dietitians:**

- GPs in **Central or West London CCG** can refer to the CLCH Paediatric Dietetic Service.
A referral form for the service can be accessed on SystmOne or www.clch.nhs.uk/services/paediatric-dietetics-nutrition-children-0-19
- GPs in **Barnet CCG** can refer patients on ONS or specialist infant formulae by emailing clcht.paediatricnutrition@nhs.net
- GPs in **Merton CCG** can refer to the CLCH Merton Paediatric Dietetic Service.
A referral form can be obtained by emailing clcht.mertonicnteam@nhs.net
- GPs in **Hammersmith & Fulham CCG** please refer to secondary care paediatric dietetic services;
- Refer where appropriate to secondary or specialist care - see advice for each condition

- **For advice** on guidance please email the CLCH Paediatric Dietetic Service clcht.paediatricnutrition@nhs.net. If prescribing advice is needed in primary care contact the Medicines Management Team.

COWS' MILK PROTEIN ALLERGY (CMPA)

SYMPTOMS AND DIAGNOSIS

- Refer to NICE guideline CG116 'Food Allergy in Children and Young People' Feb 2011 for full details of symptoms and diagnosis. <https://pathways.nice.org.uk/pathways/food-allergy-in-under-19s>
- For additional guidance for diagnosis and management in primary care refer to <https://www.allergyuk.org/health-professionals/mapguideline>
- Symptoms can include:
 - Skin symptoms (pruritis, erythema, urticaria, atopic eczema)
 - Acute angioedema of the lips and face, tongue and palate and around the eyes
 - GI symptoms (distress during feeds, diarrhoea, bloody stools, nausea and vomiting, abdominal distension and /or colicky pain, constipation, GORD)
 - Anaphylaxis
 - Faltering weight gain and sometimes head growth.
- All infants with suspected milk allergy should have regular accurate recording of weight, length and head circumference plotted on centile charts.
- Most infants with CMPA develop symptoms within 1 week of introduction of CMP-based formula and improve within hours/days of commencing avoidance.

ONWARD REFERRAL

- **Most infants with CMPA can be managed in primary care.**
- **Referral to a paediatric dietitian** should be made for all infants who will require a cows' milk free diet. Breastfeeding mothers following a milk free diet should be seen by the paediatric dietitian who will advise them regarding their diet and that of their infant to ensure nutritional adequacy. Please use the infants name on the referral, to ensure they are seen by the correct dietetic team.
- **Refer to acute care if any of the following apply:**
 - Faltering weight gain with or without poor head growth with one or more gastrointestinal symptoms
 - Acute systemic reactions or severe delayed reactions
 - Significant atopic eczema where multiple food allergies are suspected by the parent or carer
 - Possible multiple food allergies
 - Persisting parental suspicion of food allergy despite a lack of supporting history (especially where symptoms are difficult or perplexing)

TREATMENT

Changes to the maternal or infant diet should only be considered after appropriate clinical evaluation to establish that cows' milk allergy is the likely diagnosis.

- **Breast milk** is the ideal choice for most infants with CMPA.
- If symptoms persist in the exclusively breast fed infant, a maternal milk free diet is indicated for a minimum trial of 2 weeks.
- Breastfeeding mothers on a milk free diet may require supplementation with 1250mg calcium per day.
- If breastfeeding and top ups are needed choose:
 - Extensively hydrolysed formula (EHF) if baby IS tolerating mum eating dairy.
 - Amino acid formula (AAF) if baby is NOT tolerating mum eating dairy;
- If breastfeeding is not occurring, EHF are the first choice infant formulas for infants <12 months age with CMPA. Over the counter milk alternatives may be the first choice cows' milk substitute for infants >12 months age with CMPA reviewed by a Paediatric Dietitian.
- If breastfeeding is not occurring, AAF are the first choice infant formulas for infants <12 months age with anaphylaxis to cows' milk, Heiner syndrome, Eosinophilic Oesophagitis, or severe gastro-intestinal and/or skin presentations associated with faltering growth. Note that these diagnoses will generally require onward referral

for specialist assessment.

COWS' MILK PROTEIN ALLERGY (CMPA) continued

EXTENSIVELY HYDROLYSED FORMULAE FIRST LINE

- **Similac Alimentum® (Abbott)** birth-1 year

This formula is lactose free and currently the most cost effective eHF.

EXTENSIVELY HYDROLYSED FORMULAE SECOND LINE

Containing lactose (can be used without the presence of GI symptoms)

- **Althera® (SMA)** birth-1 year. Can be used up to 2 years if unable to tolerate over the counter products such as soy/oat milk.
- **Pepti 1® (Milupa Aptamil)** birth-6months
- **Pepti 2® (Milupa Aptamil)** 6 months-1 year. Can be used up to 2 years if unable to tolerate over the counter products such as soy/oat milk.

Please note that Pepti and Althera formulae taste better due to lactose content, so they may be better options when appropriate for infants over 6 months age, who have started weaning onto solids.

Lactose free

- **Nutramigen 1 with LGG® (Mead Johnson)** birth-6months
- **Nutramigen 2 with LGG® (Mead Johnson)** 6 months-1 year.
 - **Nutramigen 3 with LGG® (Mead Johnson)** From 1 year if unable to tolerate soya/oat milk etc.

Please note the preparation instructions of Nutramigen with LGG are different to the preparation instructions of other formula milks in order to preserve the LGG.

EXTENSIVELY HYDROLYSED FORMULAE WITH MEDIUM CHAIN TRIGLYCERIDES TO BE STARTED IN SECONDARY CARE

- **Pregestimil Lipil (Mead Johnson)** birth-1 year. Can be used up to 2years if unable to tolerate over the counter products and where CMPA is accompanied by malabsorption.

N.B. Cow & Gate Pepti Junior has been rebranded Aptamil Pepti Junior and is no longer licenced for CMPA

Colour key

Over the counter products to be purchased by patient
Prescribe as first line
Prescribe as second line
Should not routinely be commenced in primary care
Should not routinely be prescribed

COWS' MILK PROTEIN ALLERGY (CMPA) continued

AMINO ACID FORMULAE NORMALLY TO BE STARTED IN SECONDARY/TERTIARY CARE OR BY A COMMUNITY PAEDIATRIC DIETITIAN

- | | |
|--|---|
| <ul style="list-style-type: none"> ▪ Alfamino® (SMA) (most cost-effective) ▪ Nutramigen Puramino® (Mead Johnson) ▪ Neocate LCP® (Nutricia) ▪ Neocate Spoon® (Nutricia)
 ▪ Neocate Junior® (Nutricia)
unflavoured/strawberry/vanilla | birth until able to tolerate over the counter products
birth until able to tolerate over the counter products
birth until able to tolerate over the counter products
weaning food , for infants at risk of nutritional compromise if inability to tolerate other foods due to multiple food allergies over 1 year |
|--|---|

Please note:

- Neocate Junior is a high energy formula and **should NOT automatically replace Neocate LCP**. Patients on these products should be reviewed regularly by a Paediatric Dietitian.
- Neocate spoon® is only necessary where natural cow's milk protein free weaning foods are not tolerated i.e. in infants with multiple food allergies at risk of nutritional compromise. Patients on this product should be reviewed regularly by a Paediatric Dietitian.

Colour key

Over the counter products to be purchased by patient
Prescribe as first line
Prescribe as second line
Should not routinely be commenced in primary care
Should not routinely be prescribed

OVER THE COUNTER MILK ALTERNATIVE OPTIONS FOR CHILDREN OVER 1yr WITH CMPA

Milk alternative	Examples of brands	Suitable from
Soya milk	Alpro Junior 1+	1yr
Soya milk	Supermarkets' brand, Provamel, Vive Soy, So Good, Sojade	2yr
Oat milk	Oatly, Oat Dream, Alpro, Supermarkets' brand	2yr
Coconut milk	Koko, Alpro, So Delicious	2yr
Almond, hazelnut, cashew milks (if nut allergy has been excluded)	Alpro, Provamel	2yr

Please note:

- Advise to choose calcium added options (120mg calcium/100ml milk);
- Organic milk alternative versions are generally not calcium enriched;
- Paediatric Dietitians may advise on options different from the Alpro Junior 1+ for children over 1yr if appropriate, after assessment of their growth and diet.

COWS' MILK PROTEIN ALLERGY (CMPA) continued

NOTES

1. **Soya formula (SMA Wysoy[®])** should not routinely be used for patients with CMPA.

It should not be used at all for those under 6 months due to high phytoestrogen content.

It should only be advised in patients over 6 months who do not tolerate first line EHF since there is a risk that infants with CMPA may also be allergic to soya. Parents should be advised to purchase soya formula as it is a similar cost to cows' milk formula and available in supermarkets and pharmacies.

2. **Do not prescribe Lactose free formulae (SMA LF[®], Enfamil O-Lac[®]) for infants with CMPA**

3. **Do not prescribe partially hydrolysed formula for infants with CMPA**

4. **Mammalian milks**, such as goat and sheep milk are not suitable for those with CMPA.

5. **Rice milk** is not suitable for children under 4½ years due to its arsenic content.

6. **EHF and AAF have an unpleasant taste and smell**, which is better tolerated by younger patients. Unless there is anaphylaxis, advise parents to introduce the new formula gradually by mixing with the usual formula in increasing quantities until the transition is complete. Serving in a closed cup or bottle or with a straw (depending on age) may improve tolerance.

7. **Calcium supplementation** may be needed for infants depending on volume and type of formula taken. Breast feeding mothers on a milk free diet may also need a calcium supplement. The dietitian will advise.

8. **Outgrowing CMPA**; around 50% of CMPA will resolve by the age of 1yr, >75% by the age of 3yr, and >90% will achieve tolerance at 6yr of age. **Challenging with cows' milk** - refer to NICE guidelines on which children should be challenged with cow's milk in secondary care setting. **Prescriptions should be stopped** when the child has outgrown the allergy or over one year old and tolerating plant milk alternative.

9. **Children with multiple or severe allergies may require prescriptions beyond 1 year.** This should only be at the suggestion of the paediatric dietitian.

PRETERM INFANTS

INDICATIONS

- These infants will have had their preterm formula commenced on discharge from the neonatal unit.
- It is started for infants born before 35 weeks gestation, weighing less than 2kg at birth.
- **These formulae should not be used in primary care to promote weight gain in patients other than babies born prematurely.**

ONWARD REFERRAL

- These infants should already be under regular review by the paediatricians.
- If there are concerns regarding growth whilst the infant is on these formulae, refer to the paediatric dietitian.
- If there are concerns regarding growth at 6 months corrected age or at review one month after these formulae are stopped, refer to the paediatric dietitian.

REVIEW AND DISCONTINUATION OF TREATMENT

- Monitoring of growth (weight, length and head circumference) should be carried out by the Health Visitor while the baby is on these formulae.
- These products should be discontinued by 6 months corrected age.
- Not all infants need these formulae for the full 26 weeks from expected date of delivery (EDD).
- If there is excessive weight gain at any stage up to 6 months corrected age, stop the formula.

PRETERM INFANT FORMULAE TO BE STARTED IN SECONDARY CARE

- | | |
|--|---|
| ▪ SMA Gold Prem 2[®] powder (SMA) | Birth up to a maximum of 6 months corrected age |
| ▪ Nutriprem 2[®] powder (Cow and Gate) | Birth up to a maximum of 6 months corrected age |

6 months corrected age = EDD + 26 weeks

PRETERM INFANT FORMULA WHICH SHOULD NOT ROUTINELY BE PRESCRIBED

Unless there is a clinical need e.g. immunocompromised infant or social circumstances where safe preparation of powdered formula can not be guaranteed.

- **SMA Gold Prem 2[®] liquid (SMA)**
- **Nutriprem 2[®] liquid (Cow and Gate)**

Cost per 100kcal is £1.12- £1.16 for liquid compared with 23-26p for powders.

Colour key

Over the counter products to be purchased by patient

Prescribe as first line

Prescribe as second line

Should not routinely be commenced in primary care

Should not routinely be prescribed

FALTERING GROWTH

SYMPTOMS AND DIAGNOSIS

Diagnosis of faltering growth changed in 2018: NICE NG75 2018: <https://www.nice.org.uk/guidance/ng75>

- 2+ centiles difference between weight and height/length
 - Weight/length or BMI < 0.4th centile
 - A fall across 1 or more weight centile spaces, if weight centile <9th centile
 - A fall across 2 or more weight centile spaces, if weight centile 9th - 91st centiles
 - A fall across 3 or more weight centile spaces, if weight centile >91st centile
-
- It is not possible to detect faltering growth without using appropriate WHO growth charts.
 - The weight and length of an infant needs to be measured to properly interpret changes in weight.
 - It is essential to rule out possible disease related/medical causes for the faltering growth e.g. iron deficiency anaemia, constipation, GORD or a child protection issue. If identified appropriate action should be taken.

ONWARD REFERRAL

- **Infants with faltering growth should be referred to the Paediatrician without delay.**
- Refer any infant who is weaned to a paediatric dietitian for advice on a high energy, high protein diet
- If the problem appears related to food refusal/faddy eating, consider a referral to the paediatric dietitian.

TREATMENT

- For infants who have been weaned, food fortification advice should be given.
- Prescribe an equivalent volume of high energy formula to the child's usual intake of regular formula until an assessment has been performed and recommendations made by a paediatrician or paediatric dietitian.

REVIEW AND DISCONTINUATION OF TREATMENT

- All infants on high energy formula will need growth (weight and height/length) monitored to ensure catch up growth occurs.
- Once this is achieved the formula should be discontinued to minimise excessive weight gain.

HIGH ENERGY FORMULA FIRST LINE

- **Similac High Energy[®] 60/200ml bottle (Abbott Nutrition)** birth up to 18 months or 8kg

HIGH ENERGY FORMULAE SECOND LINE

- **SMA Pro High Energy[®] 200ml bottle (SMA)** birth up to 18 months or 8kg
- **Infatrini[®] 125/200ml bottle (Nutricia)** birth up to 18 months or 8kg

HIGH ENERGY FORMULA TO BE STARTED IN SECONDARY CARE

- **Infatrini Peptisorb[®] 200ml bottle (Nutricia)** birth up to 18 months or 8kg

NB This formula is suitable for infants with faltering growth *and* intolerance to whole protein feeds eg. short bowel syndrome, intractable malabsorption, inflammatory bowel disease, bowel fistulae.

FALTERING GROWTH Continued

Colour key

Over the counter products to be purchased by patient

Prescribe as first line

Prescribe as second line

Should not routinely be commenced in primary care

Should not routinely be prescribed

NOTES

1. Where all nutrition is provided via NG/NJ/PEG tubes, the paediatric dietitian will advise on appropriate monthly amounts of formula required which may exceed the guideline amounts for other infants. These formulae are not suitable as a sole source of nutrition for infants over 8kg or 18months of age.
2. Manufacturer's instructions regarding safe storage once opened and expiry of ready to drink formulae should be adhered to – this may differ between manufacturers.

GASTRO-OESOPHAGEAL REFLUX (GOR) or GASTRO-OESOPHAGEAL REFLUX DISEASE (GORD)

SYMPTOMS AND DIAGNOSIS

- GOR/GORD is where the passage of gastric contents into the oesophagus causes troublesome symptoms and /or complications.
- Symptoms may include regurgitation of a significant volume of feed, reluctance to feed, distress/crying at feed times, small volumes of feed being taken.
- Diagnosis is made from history which may include effortless vomiting (not projectile) after feeding, usually in the first 6 months of life, and usually resolves spontaneously by 12-15 months age.
- It should be noted that 50% of infants have some degree of reflux at some time.
- Overfeeding needs to be ruled out by establishing the volume and frequency of feeds. Average requirements of formula are 150ml/kg/day for babies up to 6 months, and should be spread over 6-7 feeds.
- Vomiting without significant infant distress is more likely to be due to simple reflux.
- **Vomiting associated with screaming, back-arching during feeds is more likely to be due to cows' milk protein allergy.**

ONWARD REFERRAL

- Infants with faltering weight gain as a result of GOR/GORD should be referred to a Paediatrician without delay.
- If symptoms do not improve one month after commencing treatment refer to a paediatrician for further investigations since CMPA can co-exist with GOR/GORD and treatment as for CMPA may be required.

TREATMENT

- **If infant is thriving and not distressed no treatment is necessary** - reassure parents/carer and monitor.
- Provide advice on avoidance of overfeeding, positioning during and after feeding, and activity after feeding. If bottle fed suggest over the counter products listed below.
- **If breast fed infant with frequent regurgitation and marked distress continuing after first line advice** – alginate therapy (Infant Gaviscon[®]) trial of 1-2 weeks – if successful continue with it, but try to stop it at intervals to see if this has resolved.
- **If bottle fed infant with frequent regurgitation and marked distress continuing after first line advice** – trial with thickening formula for 1-2 weeks – if symptoms do not improve stop the thickened formula and offer alginate (e.g. Infant Gaviscon[®]) therapy for a trial period of 1-2 weeks – if alginate successful continue with it, but try to stop it at intervals to see if this has resolved.
- **Thickened formulae should not be used in conjunction with separate thickeners or with medication such as ranitidine, or with proton pump inhibitors.**
- Infants whose symptoms have not responded to the initial management outlined and infants with a personal or family history of atopic conditions try maternal cow's milk exclusion (while breastfed), if already receiving cow's milk formula change formula milk to EHF for a trial of at least 2 weeks as possible CMPA.
- Consider a trial of 4 weeks period of a PPI or H₂RA for patients with over regurgitation combined with 1 or more of the following: unexplained feeding difficulties, distressed behaviour, faltering growth – if symptoms do not improve or recur after stopping the treatment consider referral to secondary care for possible endoscopy.

GASTRO-OESOPHAGEAL REFLUX (GOR)/ GASTRO-OESOPHAGEAL REFLUX DISEASE (GORD) Cont.

REVIEW AND DISCONTINUATION OF TREATMENT

- Review after one month.
- Infants with GORD will need regular review to check growth and symptoms
- Since GORD will usually resolve spontaneously between 12-15 months, cessation of treatment can be trialled from 12 months.

OVER THE COUNTER THICKENED FORMULAE

- | | |
|--|--------------------|
| ▪ SMA Stay Down[®] (SMA) | birth to 18 months |
| ▪ Enfamil AR[®] (Mead Johnson) | birth to 18 months |
| ▪ Cow & Gate[®] Anti-reflux (Cow & Gate) | birth to 1 year |
| ▪ Aptamil[®] Anti-reflux (Milupa) | birth to 1 year |

Colour key

Over the counter products to be purchased by patient
Prescribe as first line
Prescribe as second line
Should not routinely be commenced in primary care
Should not routinely be prescribed

NOTES

1. Over the counter thickening agents (e.g. Instant Carobel) contain carob gum. This produces a thickened formula and will require the use of a large hole (fast-flow) teat.
2. Thickened formulae will either thicken in the stomach or in the bottle so there may be the need to use a large hole (fast flow) teat.
3. Alert parents/carers to see tin for full instructions as the thickened formulae are made up differently depending on the brand.
4. Do not prescribe thickening formulae with separate thickeners or in conjunction with medication such as ranitidine, or proton pump inhibitors, since the formulae need stomach acids to thicken and reduce reflux.
5. Infant Gaviscon[®] contains sodium, and should not be given more than 6 times in 24 hours or where the infant has diarrhoea or a fever. N.B. Each half of the dual sachet of Infant Gaviscon[®] is identified as 'one dose'. To avoid errors, prescribe with directions in terms of 'dose'.

SECONDARY LACTOSE INTOLERANCE

SYMPTOMS AND DIAGNOSIS

- Usually occurs following an infectious gastrointestinal illness but maybe present alongside newly or undiagnosed coeliac disease or food allergy.
- Symptoms include abdominal bloating, pain, increased (explosive) wind, loose green stools.
- Lactose intolerance should be suspected in infants who have had any of the above symptoms that persist for more than 2 weeks.
- Resolution of symptoms within 48 hours of withdrawal of lactose from the diet confirms diagnosis.

ONWARD REFERRAL

- If symptoms do not resolve when standard formula and /or milk products are reintroduced to the diet, refer to secondary or specialist care.
- Refer to the paediatric dietitian if the child is weaned and a lactose free diet is required.

TREATMENT

- Promote continued breastfeeding – breastmilk can be continued in the setting of secondary lactose intolerance.
- For infants receiving formula milk, either transition to full breastfeeding or switch to a lactose free formula for 4-8 weeks to allow symptoms to resolve.
- In infants who have been weaned onto solid foods, these measures should be used in conjunction with a lactose free diet.
- Standard formula and/or milk products should then be slowly reintroduced to the diet, if used previously, following this exclusion period.
- In children over 1 year who previously tolerated cows' milk, do not prescribe lactose free formula. Suggest the use of lactose free full fat cows' milk which can be purchased from supermarkets.

REVIEW AND DISCONTINUATION OF TREATMENT

- Lactose free formula should not be used for longer than 8 weeks without review and trial of discontinuation of treatment.

SECONDARY LACTOSE INTOLERANCE Continued

OVER THE COUNTER LOW LACTOSE/LACTOSE FREE FORMULA FIRST LINE

- **SMA LF[®] (SMA)** Birth to 2 years*
- **Enfamil O-Lac with Lipil[®] (Mead Johnson)** Birth to 2 years*

*Please note: children over 1yr can take over the counter lactose free fresh cows' milk e.g. Arla Lactofree.

Colour key

Over the counter products to be purchased by patient

Prescribe as first line

Prescribe as second line

Should not routinely be commenced in primary care

Should not routinely be prescribed

NOTES

1. Primary lactose intolerance is rare and does not usually present until later childhood or adulthood.
2. **Soya formula (SMA Wysoy[®])** should **not** routinely be used for patients with secondary lactose intolerance. **It should not be prescribed at all for those less than 6 months old due to high phyto-oestrogen content.** It should only be advised in patients over 6 months who do not tolerate the first line formula suggested here. Parents should be advised to purchase this soya formula if used.

COMPARATIVE COSTS OF PRESCRIBED SPECIALIST INFANT FORMULAE

Product	Manufacturer	Presentation	Price	Cost per 100kcal
COWS' MILK PROTEIN ALLERGY SPECIALIST FORMULAE/PRODUCTS				
Similac Alimentum [®]	Abbott	400g	£9.10	£0.43
Althera [®]	SMA	450g	£11.09	£0.49
Pepti 1 [®]	Milupa Aptamil	400g/800g	£9.87/£19.73	£0.50/£0.50
Pepti 2 [®]	Milupa Aptamil	400g/800g	£9.41/£18.82	£0.50/£0.50
Nutramigen 1 with LGG [®]	Mead Johnson	400g	£11.21	£0.56
Nutramigen 2 with LGG [®]	Mead Johnson	400g	£11.21	£0.56
Nutramigen 3 with LGG [®]	Mead Johnson	400g	£11.21	£0.55
Pepti-Junior [®]	Aptamil	450g	£13.36	£0.57
Pregestimil Lipil [®]	Mead Johnson	400g	£12.43	£0.62
Alfamino	SMA	400g	£24.71	£1.23
Nutramigen Puramino [®]	Mead Johnson	400g	£27.63	£1.38
Neocate LCP [®]	Nutricia	400g	£29.57	£1.53
Neocate Syneo [®]	Nutricia	400g	£29.56	£1.59
Neocate Junior [®] unflavoured/vanilla/strawberry	Nutricia	400g	£28.70	£1.51
Neocate Spoon	Nutricia	15x 37g	£41.25	£1.57
PRETERM SPECIALIST FORMULAE				
SMA Gold Prem 2 [®]	SMA	400g	£4.92	£0.23
Nutriprem 2 [®]	Cow and Gate	800g	£10.37	£0.26
SMA Gold Prem 2 liquid [®]	SMA	200ml	£1.64	£1.12
Nutriprem 2 liquid [®]	Cow and Gate	200ml	£1.74	£1.16
HIGH ENERGY SPECIALIST FORMULAE				
SMA High Energy [®]	SMA	200ml	£1.96	£0.99
Similac High Energy [®]	SMA	200ml	£2.38	£1.19
Similac High Energy [®]	Abbott	60ml	£0.71	£1.18
Infatrini [®]	Nutricia	200ml	£2.40	£1.20
Infatrini [®]	Nutricia	125ml	£1.51	£1.20
Infatrini Peptisorb [®]	Nutricia	200ml	£3.67	£1.84
ANTI-REFLUX SPECIALIST FORMULAE				
SMA Stay Down [®]	SMA	Anti-reflux formulae CAN BE PURCHASED by parents over the counter.		
Enfamil AR [®]	Mead Johnson			
Cow and Gate Anti-reflux [®]	Cow and Gate			
Aptamil Anti-reflux [®]	Aptamil			
LACTOSE FREE SPECIALIST FORMULAE				
SMA LF [®]	SMA	Lactose free and soya formulae CAN BE PURCHASED by parents over the counter.		
Enfamil O-Lac with Lipil [®]	Mead Johnson			

*Prices may vary depending on supermarket purchased from

Colour key	Over the counter products to be purchased by patient
	Prescribe as first line
	Prescribe as second line
	Should not routinely be commenced in primary care
	Should not routinely be prescribed

REFERENCES

Cows' milk protein allergy:

1. Luyt D, Ball H, Makwana N, et al. BSACI guideline for the diagnosis and management of cow's milk allergy. *Clin Exp Allergy*. 2014;44(5):642–72
2. Venter C. et al. Diagnosis and management of non-IgE-mediated cow's milk allergy in infancy – a UK primary care practical guide (2013) *Clinical and Translational Allergy* 3:23
3. Venter C. et al. Better recognition, diagnosis and management of non-IgE-mediated cow's milk allergy in infancy: iMAP—an international interpretation of the MAP (Milk Allergy in Primary Care) guideline (2017) *Clinical and Translational Allergy* 7:26
4. Koletzko S. et al. Diagnostic approach and management of cow's milk protein allergy in infants and children: ESPGHAN GI committee practical guidelines (2012) *JPGN* 55: 221-229
5. NICE (2011) Food Allergy in Children and Young People. CG116 www.nice.org.uk.
6. Food Hypersensitivity. Diagnosing and managing food allergy and intolerance. (2009). Edited by Isabel Skypala and Carina Venter. Published by Wiley- Blackwell.
7. World Allergy Organisation DRACMA guidelines 2010 (Diagnosis and Rationale Against Cow's Milk Allergy) www.worldallergy.org/publications/WAO_DRACMA_guidelines.pdf
8. Host A. Frequency of cow's milk allergy in childhood (2002); *Ann Allergy Immunol*;89 (suppl): 33-37.
9. Dietary products used in infants for treatment and prevention of food allergy. Joint statement of the European Society for Paediatric Allergology and Clinical Immunology (ESPACI) Committee on Hypoallergenic Formulas and the European Society for Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) Committee on Nutrition (1990) *Arch Dis Child* 81:80-84.
10. Vandenplas Y, Koletzko S et al. (2007) Guidelines for the diagnosis and management of cow's milk protein allergy in infants. *Arch Dis Child* 92:902-908

Soya formula and rice milk:

1. Department of Health: CMO's Update 37 (2004). *Advice issued on soya based infant formula*.
2. Paediatric group Position Statement on Use of Soya Protein for Infants (2004) *British Dietetic Association*
3. Food Standard Agency guide on arsenic in rice & rice milk (2018) <https://www.food.gov.uk/safety-hygiene/arsenic-in-rice>

Gastro-oesophageal reflux Disease:

1. NICE (2015) Gastro-oesophageal reflux disease: recognition, diagnosis and management in children and young people; NG1 www.nice.org.uk
2. Pediatric Gastroesophageal Reflux Clinical Practice Guidelines: Joint Recommendations of the North American Society of Pediatric Gastroenterology, Hepatology and Nutrition (NASPGHAN) and the European Society of Pediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) (2009) *Journal of Ped Gastroenterology and Nutrition* 49: 498-547.

Secondary Lactose Intolerance:

1. Buller HA, Rings EH, Montgomery RK, Grand RJ (1991) Clinical aspects of lactose intolerance in children and adults. *Scand J Gastroenterol Suppl* 188:73-80

General:

1. Clinical Paediatric Dietetics 4th Edition (2014). Edited by Vanessa Shaw and Margaret Lawson. Published by Blackwell Publishing.
2. Department of Health (2018) *Birth to Five*. <http://www.publichealth.hscni.net/publications/birth-five>
3. Department of Health (1994) report on Health and Social Subjects No 45. Weaning and the weaning diet. The Stationary Office.
4. NICE (2017) Faltering growth: recognition and management of faltering growth in children. NG 75 www.nice.org.uk

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Dr Niamh McLaughlin – Millbank Medical Centre, London

Pharmaceutical Advisor Suzanne Lever – Medicines Management Team, Barnet CCG

Medicines Management Team, North West London CCG

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