Prescribing Advice for Specialist Infant Formula for Primary Care

Summary of Key Points

Specialised infant formula should only be prescribed following detailed medical, growth and feeding assessments by trained health professionals. (UNICEF Baby Friendly 2012)

Pre term infants

- Pre term formula should only be initiated in secondary care
- Pre term formula should only be prescribed in powder form in the community
- Pre term formula should be discontinued by 6 months corrected age

Faltering growth

- All infants where GP and health visitor advice has failed to produce an improvement in weight should be referred to secondary care (paediatrician and dietitian)
- All infants prescribed high calorie formula/supplements should be monitored by secondary care

Gastro-oesophageal reflux disease (GORD)

- A Clinical Knowledge Summary has been produced for the management of GORD that provides stepwise advice for treatment. GP support is essential and secondary care support is required in cases of faltering growth or if symptoms do not resolve in 1 month.
- For formula-fed infants with suspected GORD, a sequential 1–2 week trial of each of the following options (in this order) may be considered: reduction of the volume of feeds, more frequent feeds, thickened feeds (for example Instant Carobel®), and Gaviscon® Infant.
- If thickened feeds are required parents/carers should be advised to purchase these as they are a similar price to standard infant formula.

Secondary lactose intolerance

- Secondary lactose intolerance usually occurs following an infectious gastrointestinal illness and lactose intolerance should be suspected in infants who have had symptoms that persist for more than 2 weeks.
- Diagnosis is the resolution of symptoms, usually within 48 hours, once lactose is removed from the diet.
- Treatment should be through lactose free formula purchased by parents/carers for 2-8 weeks followed by reintroduction of lactose containing formula

Cow's Milk Protein Allergy (CMPA)

- Suspected CMPA should be managed following the algorithms in appendix A of this document. GP support is essential and secondary care support may be required in line with these algorithms.
- If infants are identified as being appropriate to manage in primary care first line formula are:
    - 0-6 months. Nutramigen 1 with LGG
    - 6-12 months Aptamil Pepti 2
- To help improve compliance parents/carers should be advised to introduce the new formula gradually by mixing with the usual formula in increasing quantities until the transition is complete.

In specialist formulas the carbohydrate source is usually glucose rather than lactose so parents/carers using these formulae must be advised to avoid prolonged contact of feeds with their baby's teeth and to clean their baby's teeth after the last feed at night.

Written by Anna Clayton, Amy Scott, Medicines Management Team NHS Guildford and Waverley CCG and Debbie Evans, The Royal Surrey County Hospital Dietetic Department

Prescribing Advice for Specialist Infant Formula for Primary Care

This advice covers modified infant formulas. It includes formulas designed specifically for infants who have medically diagnosed conditions and require alternatives to standard infant formula milks. A number of modified formulas are available to replace or complement breastfeeding during the first two years of a child's life as clinically indicated.

However, every infant in the UK should, where medically possible, be breastfed for the first six months of his or her life, and that breastfeeding should then continue alongside the introduction of complementary foods for the first year, or longer if the mother so chooses. Breast milk remains the optimal milk for infants.

(Acknowledgment to Helen Crawley, First Steps Nutrition Trust)

If a mother has had difficulty with infant feeding, breast-feeding or otherwise, she will need support and advice with feeding technique. Please check she has had access to a health visitor or midwife. All advice given around feeding should be annotated in the infant's Red Book.

Only specialist formulas that are clinically indicated and are not available to purchase for a similar price to standard infant formulas should be prescribed in primary care. Some families will qualify for Healthy Start Vouchers, which can be used towards infant formulas based on cow's milk.

Specialised infant formula should only be prescribed following detailed medical, growth and feeding assessments by trained health professionals. (UNICEF Baby Friendly 2012)

Purpose of these guidelines

These guidelines aim to assist GPs and Health Visitors with information on the use of infant formula that can be prescribed when a clinical need presents.

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

- Initiating prescribing
- Quantities to prescribe
- Which products to prescribe
- 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

When any infant powdered formula is prescribed the guide below should be used:

Age of child	Number of tins for 28 days	Number of tins per week
Under 6 months	13 x 400g tins or 6 x 900g tins	3 x 400g tins
6-12 months	7-13 x 400g tins or 3-6 x 900g tins	2 x 400g tins
Over 12 months	7 x 400g tins or 3 x 900g tins	2 x 400g tins

These amounts are based on:

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

Health visitors can provide advice to parents or carers about making up bottles and responsive bottle feeding.

Key (Traffic Light category)

Formula x: Available to be prescribed in primary care or purchased

Formula y : Should be initiated in secondary care

Additional information can be found in the PrescQipp Bulletin Appropriate Prescribing of Specialist Infant Formulae

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1. Pre-term infants

Support and help is available to enable women to breastfeed on Neonatal units. This is in line with the WHO guidelines which set out the most appropriate feeding options in order of the benefit to the health and wellbeing of an infant in a step-wise fashion:

1 Mother's breast milk
2 Mother's expressed breast milk
3 Donor breast milk
4 Breast milk substitutes

Some infants will require breast milk substitutes and these infants will have their pre-term formula commenced on discharge from the neonatal unit. Formula is started for babies born before 34 weeks gestation, weighing less than 2 kg at birth. These formulae should not be used in primary care to promote weight gain in patients other than babies born prematurely.

These products should be **discontinued at 6 months corrected age**. Not all babies need these formulae for the full 26 weeks from expected date of delivery. If there is excessive weight gain at any stage up to 6 months corrected age stop the formula.

These infants should already be under regular review by the paediatricians. If there are concerns regarding growth at 6 months corrected age or at review one month after these formulae have stopped, refer back to the paediatric service if discharge has already occurred.

Treatment: Pre-term infant formulae should be initiated and monitored in secondary care:

- Nutriprem 2®powder (Cow and Gate) Use up to 6 month corrected age

Note: Nutriprem2®**liquid** should **not** be routinely prescribed unless there is clinical need e.g. immuno-compromised infant as it is significantly more expensive than powder.

- SMA Gold Prem 2® powder (SMA) Use up to 6 month corrected age

2. Faltering Growth

Diagnosis is made when the growth of an infant falls below the 0.4th centile or crosses 2 centiles downwards on a growth chart. It is not possible to detect faltering growth without using appropriate growth charts which require height as well as weight of the child. It is important to rule out possible disease related / medical causes for the faltering growth and treat accordingly.

For breast fed infants an assessment of breast feeding should be carried out by a health visitor or midwife and appropriate health and support offered. Before commencing a high energy formula ensure parents/carers are offered food first advice on suitable high calorie foods if the infant has begun eating. Consider behavioural involvement for children that have begun eating.

All infants on a high energy formula will need growth (weight and length/height) monitoring to ensure catch up growth and appropriate discontinuation of formula to minimise excessive weight gain.

Treatment should be initiated and monitored by secondary care. Treatment should continue to be given until 18 months or 8kg, although the appropriateness of the supplements need to be assessed by monitoring growth.

First line: Infatrini® (Nutricia) - care should be taken to ensure correct presentation is prescribed (100ml or 200ml bottles or 500ml bags for enteral feed):

Second line alternatives:
SMA High Energy ® (SMA)
Similac High Energy® (Abbott)

3. Gastro-oesophageal reflux disease (GORD)

Regurgitation of feeds is a common and normal occurrence in infants due to gastro-oesophageal reflux (GOR). This does not usually need any investigation or treatment, but in a small proportion of infants GOR may be associated with signs of distress or may lead to recognised complications that need clinical management. This is known as gastro-oesophageal reflux disease (GORD).

Suspected GORD should be investigated in line with NICE Guideline NG1, Gastro-oesophageal reflux disease; recognition, diagnosis and management in children and young people. A Clinical Knowledge Summary is available for this topic.

Infants with faltering growth as a result of GORD should be referred to secondary care. For other infants try the following and if symptoms do not improve after one month refer to secondary care.

Treatment:

Do not use positional management to treat GOR in sleeping infants. In line with NHS advice, infants should be placed on their back when sleeping.

Breast Fed Infants.

In breast-fed infants with frequent regurgitation associated with marked distress, ensure that a person with appropriate expertise and training carries out a breastfeeding assessment.

In breast-fed infants with frequent regurgitation associated with marked distress that continues despite a breastfeeding assessment and advice, consider alginate therapy (e.g. Infant Gaviscon®) offered on a spoon before feeds) for a trial period of 1–2 weeks. If the alginate therapy is successful continue with it, but try stopping it at intervals to see if the infant has recovered.

Useful advice can be found here

Formula Fed Infants

In formula-fed infants with frequent regurgitation associated with marked distress, use the following stepped-care approach:

- review the feeding history (health visitor observation of a feed may be appropriate), **then**
- reduce the feed volumes only if excessive for the infant's weight, **then**
- offer a trial of smaller, more frequent feeds (while maintaining an appropriate total daily amount of milk) unless the feeds are already small and frequent, **then**
- offer a trial of thickened formula (for example, containing rice starch, corn-starch, locust bean gum or carob bean gum).

Thickened formula first line choices: - both formulas should be purchased not prescribed

SMA stay down® (SMA nutrition)	birth to 18 months
Enfamil AR® (Mead Johnson)	birth to 18 months

The manufacturer's reconstitution guidelines for these formulae advise that the products are reconstituted with cool or hand hot water to prevent the product becoming lumpy, which can happen with if the products are reconstituted with water boiled and cooled to 70°C. Reconstituting formula with cold or hand hot water increases the risk of bacteria being present in the milk. The risks of reconstituting formula in this way should be risk assessed by a medical practitioner on an individual patient basis.

In formula-fed infants, if the stepped-care approach is unsuccessful, stop the thickened formula and offer alginate therapy (e.g. Infant Gaviscon®) for a trial period of 1–2 weeks. If the alginate therapy is successful continue with it, but try stopping it at intervals to see if the infant has recovered. (cont…)

Note thickening formula should not be used in conjunction with compound alginate preparations as this could lead to over-thickening of the stomach contents (ref Infant Gaviscon® infant SPC http://www.medicines.org.uk/emc/medicine/21981/SPC/Gaviscon+Infant/)

Do not offer acid-suppressing drugs, such as proton pump inhibitors (omeprazole) or H_2 receptor antagonists (rantitidine), to treat overt regurgitation in infants and children occurring as an isolated symptom.
Consider a 4-week trial of a PPI or H_2RA for those who are unable to tell you about their symptoms (for example, infants and young children, and those with a neurodisability associated with expressive communication difficulties) who have overt regurgitation with 1 or more of the following:

- unexplained feeding difficulties (for example, refusing feeds, gagging or choking)
- distressed behaviour
- faltering growth.

Do not offer metoclopramide, domperidone or erythromycin to treat GOR or GORD without seeking specialist advice and taking into account their potential to cause adverse events

Gastro-oesophageal reflux becomes less frequent with time (it resolves in 90% of affected infants before 1 year of age) If alginate therapy is a successful treatment of GORD this should be stopped at intervals to see if the infant has recovered. When vomiting resolves, discontinuation of specialist formula and return to standard formula should be encouraged.

4. Secondary lactose intolerance

(Note congenital lactose intolerance is exceptionally rare and is evident in its severe form from birth, primary lactose intolerance is less common and does not usually present until later childhood)
Secondary lactose intolerance usually occurs following an infectious gastrointestinal illness. Symptoms include abdominal bloating, wind, increased (explosive) and loose green stools. Lactose intolerance should be suspected in infants who have had symptoms that persist for more than 2 weeks. Diagnosis is the resolution of symptoms, usually within 48 hours, once lactose is removed from the diet. All infants with suspected lactose intolerance should be referred to the GP for a diagnosis, they may refer to secondary care (paediatrician and dietitian) for further advice and support. All advice must be annotated in the infant's Red Book

Secondary lactose intolerance should be treated with lactose free formula for 2-8 weeks to allow symptoms to resolve, standard formula / milk products reintroduced slowly into the diet. Lactose free formulas should be bought over-the-counter as they are similar cost to cow's milk formula. If symptoms do not resolve on return to standard infant formula then refer to a dietitian. For treating lactose intolerance in infants who have been weaned these formula should be used in conjunction with a milk free diet. If an infant presents with suspected lactose intolerance at one year or older and is drinking cows' milk, then a lactose free full fat cows' milk can be used for the 2-8 week treatment period, this is available from supermarkets (e.g. Lactofree® brand). Support should be maintained from the healthcare professional recommending a trial of lactose free products to ensure that lactose containing products are reintroduced after a maximum of 8 weeks to prevent unnecessary food avoidance.

Treatment low lactose / lactose free first line formula**:**

SMA LF® (SMA Nutrition) birth to 1 year **N.B.** should not be prescribed for longer than 8 weeks without review and trial discontinuation of treatment.
Enfamil O-Lac® (Mead Johnson) birth to 1 year but note should not be prescribed for longer than 8 weeks without review and trial discontinuation of treatment
Notes: Lactose free infant formulas can be purchased at a similar cost to standard infant formula and this should be encouraged. An initial prescription could be considered to be appropriate to

allow parents time to source further supplies from the retailer of their choice (most pharmacies and many supermarkets can obtain stock in a few days).

In lactose-free formula the carbohydrate source is glucose rather than lactose, so these formula have a greater potential to cause dental caries. Parents and carers using these formulae must be advised to avoid prolonged contact of milk feeds with their baby's teeth and ensure that they clean their baby's teeth after the last feed at night.

- SMA LF® is a low lactose, whole protein cows' milk formula
- Enfamil O-Lac® is a lactose, sucrose and fructose free cows' milk formula

Soya formula (SMA Wysoy®) should not be routinely used for patients with secondary lactose intolerance. It should not be prescribed at all for infants less than 6 months of age 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 in this guidance. Parents should be advised to purchase the formula. (N.B. Infasoy formula has been discontinued by the manufacturer.)

Notes: In soya formula the protein source is soya beans, and the carbohydrate source is usually glucose and dried glucose syrup. When the carbohydrate source is glucose rather than lactose, formula have a greater potential to cause dental caries. . Parents and carers using these formulae must be advised to avoid prolonged contact of feeds with their baby's teeth and ensure that they clean their baby's teeth after the last feed at night.

5. Cows' milk protein allergy (CMPA)

Diagnosis of CMPA:

CMPA can result in a wide range of gastrointestinal, skin and respiratory symptoms. A range of serious conditions can result in similar gastrointestinal symptoms. These include gastro-intestinal infections, urine infection, malabsorptive states, cystic fibrosis, metabolic disorders, neurological disorders, inflammatory bowel disease, intussusception, and mal-rotation with persisting or intermittent volvulus. Thus making the correct diagnosis of CMPA may be the most important challenge in management and certain conditions may need to be excluded as early as possible.

Most infants with CMPA can be managed in primary care until weaned. All infants with suspected CMPA should be supported by their GP, further support should be sought from secondary care in line with Appendix A. **Appendix A** details the Milk Allergy in Primary Care (MAP) Guideline: Primary Care Management of Mild to Moderate Non-IgE Cow's Milk Allergy described by Venter et al , which should be used in conjunction with an allergy focussed history as outlined in NICE guidelines Food Allergy in Children and Young People, Feb 2011 http://www.nice.org.uk/guidance/CG116. This should include any family history of allergy; and if atopic eczema, GORD or chronic gastrointestinal symptoms including constipation have not responded adequately to treatment. The MAP guideline gives advice for both breastfed and formula fed infants whilst detailing when an onward referral might be appropriate. After diagnosis has been confirmed the infant should be referred to a dietitian for support with a cow's milk free weaning diet and appropriate reintroduction.

Allergy tests

Non IgE- mediated CMPA: In CMPA presenting with gastro-intestinal symptoms, "allergy tests" based on detection of IgE's may or may not be positive. Thus the diagnosis frequently rests on the clinical picture and response to avoidance measures. The extent of the diagnostic work up to exclude other possible conditions before the diagnosis of CMPA is established will vary according to

the nature of the presenting symptoms and the clarity of the link with the exposure to cow's milk protein.

IgE-mediated CMPA: The diagnosis is usually not difficult to establish. There is a short interval between exposure and developing the reactions and the symptoms are of more acute nature. The use of skin prick tests (SPT) or serum specific IgE tests tend to be more helpful in this type of presentation but should only be performed by those competent to interpret the tests.

Treatment of CMPA

Breast milk is the ideal choice for most infants with CMPA. Mum will need to exclude all cows' milk and soya from her diet and take a supplement containing 1000mg Calcium 10mcg Vitamin D daily. The infant should be weaned onto a cow's milk free diet. Please see the MAP guidelines for advice for breastfeeding Mum's and see **Appendix B:** Cows' Milk Protein Free Diet for Breast Feeding Mothers

Extensively Hydrolysed Formula's (EHF) should be used for those with mild to moderate IgE and non IgE mediated CMPA (See MAP guidelines **Appendix A**)

Age	First choice product	Alternative products	Rationale
Birth to 6 months	Nutramigen 1 with LGG®	Similac Alimentum® Althéra® Aptamil Pepti 1® (contains lactose)	Nutramigen 1 with LGG has the highest level of protein hydrolysis and calcium content most accurately matches requirements of infants under 6 months
6 months to 1 year of age	Aptamil Pepti 2®	Nutramigen 2 with LGG® Similac Alimentum® Althéra®	Aptamil Pepti 2 is more palatable for older infants while meeting calcium requirements
		Wysoy®	Wysoy should only be used from 6 months of age if extensively hydrolysed formulas are not tolerated

EHF and AAF have an unpleasant taste and smell, which is better tolerated by younger infants. Unless there is anaphylaxis, parents should be advised 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.

Amino Acid Formulas are only required for 10 - 30% of infants with CMPA. These formula should be initiated in secondary care and should only be used when the infant is experiencing **severe IgE CMPA (anaphylaxis),** for **breast feeding babies** who are reacting to the cow's milk protein through Mum's breast milk and require top up formula feeds and **severe non-IgE mediated symptoms** such as severe persistent diarrhoea, vomiting, abdominal pain, food refusal or food aversion, significant blood and/or mucus in stools, irregular or uncomfortable stools +/-faltering growth.

Age	First choice product	Alternative products	Rationale
Birth to 1 year	Nutramigen PURAMINO	Neocate LCP® Alfamino® (N.B. Birth to 6 months of age)	Nutramigen PURAMINO should provide a sufficiently hypoallergenic formula with a good calcium profile for all but the most allergic infants. Neocate LCP can be trialled for infants who continue to show symptoms.

Infants above 1 year of age relying on formula as sole source of nutrition and infants above 1 year of age, unable to take any dairy free alternative milks due to multiple allergies, should be under the care of a secondary care physician and/or dietitian. Specialist products such as Neocate Active® or Neocate Advance® may be recommended

Notes: In specialist formulas the carbohydrate source is usually glucose, maltodextrin or dried glucose syrup. When the carbohydrate source is glucose rather than lactose, formula have a greater potential to cause dental caries. Parents and carers using these formulae must be advised to avoid prolonged contact of feeds with their baby's teeth and ensure that they clean their baby's teeth after the last feed at night.

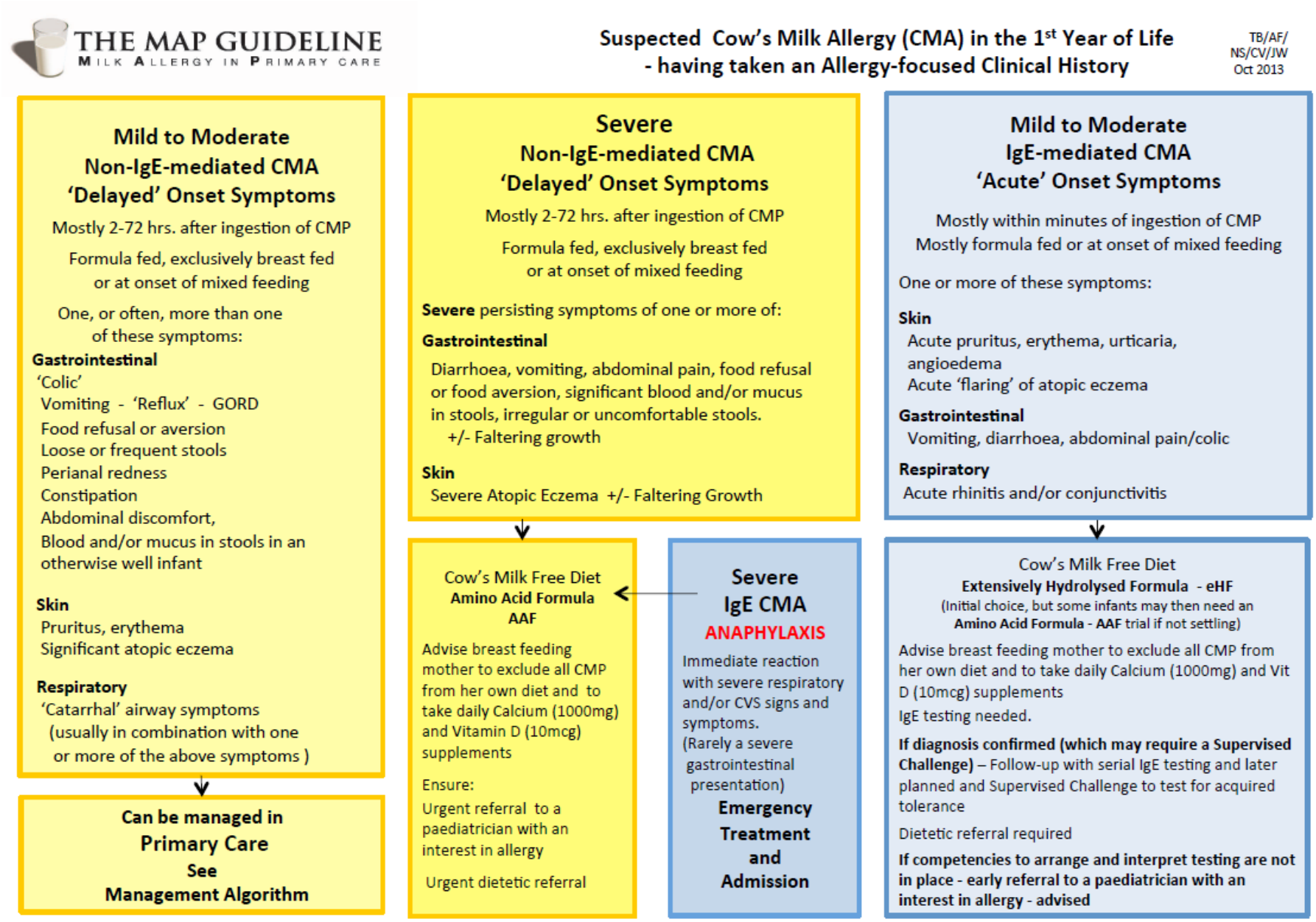
Key CMPA Points for Prescribers:

- **Prescribe only 2 tins of formula initially** until product tolerance is established to avoid waste
- **Do not prescribe or suggest the following formulas or alternative milks:**
    - **Lactose free formulae** (SMA LF®, Enfamil O-Lac® and partially hydrolysed formula such as SMA H.A): These are **not** suitable for those with CMPA
    - **Other mammalian milks** such as goat or sheep's milk should not be used due to high cross reactivity
    - **Soya formula** (SMA Wysoy®) should not be routinely used for patients with CMPA. It should not be prescribed at all for infants less than 6 months due to high phyto-oestrogen content. It should only be advised in patients aged 6-12 months who do not tolerate the first or second line formula suggested in this guidance. Parents should be advised to purchase soya formula. Soya milk designed for children over 1 year (enriched with >120mg calcium/100mls and vitamins can be purchased in place of soya formula once they are over 1 year of age. If soya milk is used parents should be made aware that concurrent allergies to soya and CMP are common
    - **Rice milk** is not suitable for children under 5 years due to its arsenic content
    - **Oat milk, almond milk, hemp milk and other milk alternatives** (except Alpro® Soya Junior 1+) should not be recommended before the infant is over two years of age unless specified by a dietitian.
- **Outgrowing CMPA**: 60-75% of children outgrow CMPA by 2 years of age, rising to 85-90% of children at 3 years of age
- **All prescriptions should be reviewed if you can answer 'yes' to any of the following questions** (therefore advice is not to add to the repeat prescription screen):
    - **Is the infant prescribed a formula for CMPA but able to eat milk containing foods** such as; cheese, yoghurt, ice-cream, custard, chocolate, cakes, butter, ghee? If so use the 'Milk Ladder' to determine the level of tolerance. If they are able to tolerate all of the foods on the 'Milk Ladder' the hypoallergenic formula can be stopped. If they only tolerate some, provide the parents with the 'Milk ladder' and advise them to work their way up the ladder following the instructions. Once they have reached the top the hypoallergenic formula can be stopped.
    - Is the infant **prescribed more than the suggested quantities** of formula according to their age?
    - **Has the formula been prescribed for more than 6 months** and the infant is aged 9-12 months? If yes please refer to the MAP guidelines **(Appendix A)** for infants who are appropriate for a challenge at home using the Milk Ladder challenge **(Appendix C).** Those infants with a IgE mediated and severe allergy need further allergy testing and a supervised baked milk challenge by a member of the secondary care allergy team.

- **Is the child over 1 year of age**? For infants over 1 year of age, thriving on a well-balanced, varied diet and not allergic to soya, it is suggested that they can progress to a calcium soya milk e.g. Alpro® Soya Junior 1+, and the milk substitute formula may be stopped. Where the infant has a soya allergy, faltering growth, or where there have been concerns about growth, the prescribed milk substitute formula should be continued until they are 2 years of age and be regularly monitored by a paediatric dietitian.
- **Is the child over 2 years of age?** For infant over two years of age the prescribed formula can be stopped so long as they are able take oat milk, almond milk, coconut milk, hemp milk or any other milk alternatives that are calcium enriched (>120mg calcium/100mls).

Note: When a child over 1 years of age is not able to meet their nutritional requirements with a CMPA, a nutritionally complete formula may be initiated by secondary care. The use of these should be monitored by secondary care every 6 months.

Appendix A – MAP guidelines for primary care

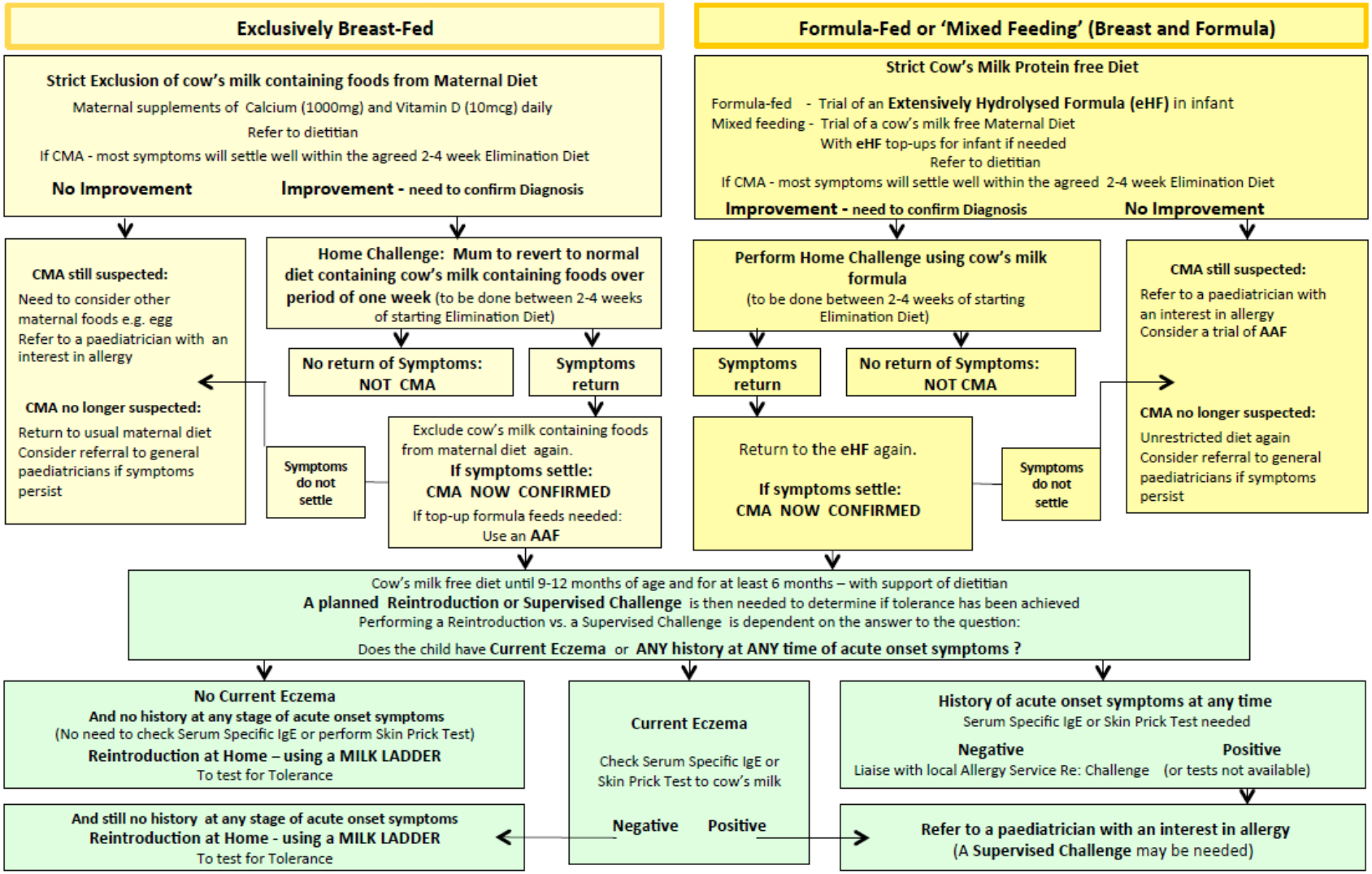


THE MAP GUIDELINE
MILK ALLERGY IN PRIMARY CARE

Primary Care Management of Mild to Moderate Non-IgE CMA

(No initial IgE Skin Prick Tests or Serum Specific IgE Assays necessary)

TB/AF/
NS/CV/JW
Oct 2013



Appendix B – Cows' Milk Protein Free Diet for Breast Feeding Mothers

Patient information leaflet

Royal Surrey County Hospital NHS
NHS Foundation Trust

Cows' Milk Protein Free Diet for Breast Feeding Mothers

Nutrition & Dietitics

Patients 1st
The Patient's First Choice

Some infants cannot tolerate cows' milk protein due to cows' milk protein allergy. Consuming these products via breast milk can result in a variety of symptoms including eczema, wheeze, rash, constipation, diarrhoea, vomiting and gastro-oesophageal reflux. In order to control these symptoms, it has been advised that you avoid all foods containing cow's milk whilst you are breast feeding your baby. This leaflet will give you information to help you manage your diet.

Some doctors also recommend that breast feeding mothers avoid soya protein. Please check with your doctor or dietitian.

What foods contain cows' milk protein?

Many foods made from cows' milk are obvious such as:

- Cream
- Butter and ghee
- Crème fraiche
- Fromage frais
- Cheese
- Yoghurt
- Ice-cream

All of these foods contain cows' milk protein and need to be avoided.

If milk is an ingredient in a packaged food, it has to be labelled as containing milk under current EU legislation. It is important to read the list of ingredients – the 'allergy advice' is not always accurate. **When you buy tinned, packet or any other processed foods, the ingredients list should always be checked.**

The list below shows ingredients which are derived from cow's milk protein and therefore should be avoided.

- Milk solids
- Non-fat milk powder
- Milk powder
- Artificial cream
- Cheese powder
- Buttermilk
- Butterfat
- Shortening
- Hydrolysed casein
- Hydrolysed whey
- Hydrolysed whey sugar
- Whey syrup sweetener
- Whey powder
- Casein (curds), caseinates
- Lactose

Lactic Acid is not made from milk and so **is** allowed.

Medicine and tablets may contain lactose as filler. Check medications with your pharmacist. This is not important unless lactose intolerance is also a problem.

The following table provides guidance on foods which do not contain cows' milk and are therefore allowed and those which need to be avoided or which need to be checked:

Foods allowed	Foods to avoid / foods to check the label
Milk and Milk Products • soya/rice/oat/nut/hemp/coconut milk • yoghurts/desserts made from the above milks • dairy free spread e.g. Pure® or Vitalite dairy free® • soya or oat cream	• full-fat, semi-skimmed, skimmed, sterilised, UHT, dried, condensed or evaporated milks • cheese, cheese spread, cottage cheese • yoghurt, fromage frais, crème fraiche, dairy ice cream • goats'/ sheeps' milk, goats' cheese, buffalo mozzarella • coffee creamers, Coffee-Mate®
Fats and Oils • Dairy free spread (see above) • vegetable oil • lard	• butter, butter milk, butter fat • margarines and low fat spreads • ghee
Meat and Alternatives • all fresh & frozen items including beef, pork, lamb, chicken, turkey • lentils, beans, pulses • Quorn®, Tofu, soya beans	• sausages, sausage rolls, beef burgers, pies, ready meals, goujons, luncheon meat, hot dogs, tinned meat, processed meat, meat in sauce • meat in breadcrumbs e.g. chicken nuggets, Kiev's • pre-packed meats e.g. ham, chicken roll
Fish • all fresh, frozen or tinned fish in oil or brine	• fish in batter or breadcrumbs e.g. fish fingers, goujons, fish cakes, fish in cream/milk based sauce
Eggs • boiled, poached, fried scrambled or omelette made using milk substitute/milk free spread	• scotch eggs • quiches • scrambled egg made with cows' milk
Vegetables • all frozen, fresh and dried • mashed potatoes using milk free margarine/milk substitute	• vegetables in breadcrumbs, batter or canned in sauce • vegetables in cream sauce • potato waffles, potato shapes, potato croquette, instant mashed potato • baked beans • potato crisps
Fruit and Nuts • all fresh, frozen, dried or tinned fruit in juice or syrup • plain, roasted or salted nuts	• fruit pies or crumbles • chocolate or yoghurt coated fruit
Breakfast Cereals • Weetabix®, cornflakes, Rice Krispies®, Cheerios®, • Most breakfast cereals	• muesli • chocolate covered breakfast cereal

Flours, Grains and Pasta • wheat, rye, rice, barley, oats, sago, semolina, cornflour, tapioca, plain popcorn	• macaroni cheese, lasagne, filled pasta • tinned spaghetti and pasta shapes in sauce • savoury rice, • toffee popcorn
Bread • wholemeal, granary, white bread • ciabatta, pittas, crumpets, poppadum	• milk bread • naan bread • butter croissants, brioche • Bread made in bread makers
Biscuits and Cakes • home-made biscuits and cakes • Ryvita®, oat cakes, rice cakes	• manufactured or homemade cakes, biscuits and flapjacks • doughnuts, pancakes, chocolate coated biscuits, • shortbread, cereal bars • cheese crackers, cheesy snacks, cream crackers
Puddings and Desserts • custard, blancmange and rice pudding made with milk substitute • jelly, sorbet and plain juice ice lollies	• milk puddings • cheesecake, soufflés, crème brulee, instant custard mixes, • rice pudding, mousse, Instant Whip®, pies, crumbles and sponges, trifle
Sugar, Preserves & Confectionery • sugar, jam, honey, marmalade, treacle • mincemeat • mints, plain fruit lollies, marshmallows, wine gums, fruit pastilles	• lemon curd, chocolate spread • fudge, toffee, caramel, nougat, soft centred sweets • dark/milk/white chocolate • butter icing
Sauces, Soups & Spreads • soups made without milk/cream/butter • homemade gravy, Bisto® • Marmite®, Oxo®, Bovri® • mayonnaise, salsa, ketchup, mustard • peanut butter, tomato based sauces	• tinned and packet soups, cream of soups • some gravy powders instant sauces, cream or cheese based sauce, • seafood sauce • meat/fish paste • yoghurt dips, guacamole, horseradish sauce • salad cream, salad dressing
Drinks • water, mineral water, fruit juice, squash, fizzy • drinks • tea, coffee, cocoa made with milk substitute, fruit/herbal teas	• ready-made milkshakes • Bournvita®, Ovaltine®, Horlicks®, drinking chocolate • milkshake syrup/powder

How do I make sure I am getting enough calcium?

Milk is an important source of nutrients, especially calcium, for breast feeding mothers. **Whilst you are breastfeeding, your calcium requirement is approximately 1200mg each day.** When

eliminating cow's milk from the diet you need to make sure you are meeting your calcium requirements through other foods and supplementation.

Supplementation
You are unlikely to meet your requirements for calcium through your diet. So you will need to take a calcium supplement. Below are some examples:

Osteocare Liquid®: 2 tsps twice daily = 600mg calcium

Pregnacare® Breastfeeding 2 tablets a day = 700mg calcium

These supplements also contain vitamin D which is needed by the body to use the calcium you take in. Vitamin D is also found in oily fish such as mackerel, tuna, salmon, trout and sardines. Your body also manufactures vitamin D from the sunshine on the skin during the spring and summer months in the UK.

Use the information below to choose food and drink rich in calcium to ensure you are meeting your calcium requirements.

Which foods are rich in calcium?

Food	Average portion size	Calcium (mg)
Milk and dairy alternatives		
Non-dairy milks e.g. soya, rice, oat, coconut, nut milk fortified with calcium	200ml / 1 glass	240
Soya cheese	30g / 1slice	135
Soya yoghurt	125g	150
Meat fish and alternatives		
Tinned sardines with bones	100g	500
Pilchards	60g	150
Tinned salmon no bones	100g	90
Prawns	60g	90
Baked beans	150g/3 tbsp	70
Kidney beans	80g / 2 tbsp	50
Egg	1	32
Sesame	1 tbsp	80
Mixed nuts	60g	40
Plain peanuts	50g	30
Brazil nuts	10g/ 3 nuts	17
Tofu	60g	300
Chick peas	70g / 2 tbsp	32
Hummus	150g	60
Bread, cereals		
White bread	2 slices	130
Wholemeal bread	2 slices	80
Hovis Best of Both®	2 slices	380
Warburton's sliced white bread	2 slices	160

Organic milk substitutes are not fortified with calcium and therefore not recommended.

A list of cow's milk free foods may be available from your supermarket. Contact customer services for an up-to-date free from list, or look on your supermarket's web-site and ensure you keep your list up-to-date.

Reference sources:

- Dietary Reference Values for Food and Nutrients for the United Kingdom. Department of Health and Social Subjects no 41. HMSO1991
- Diagnostic Approach and Management of Cows' Milk Protein in Infants and Children: ESPGHAN GI Committee Practical Guidelines. S. Koletzo et al. JPGN. Volume 55, Number 2, August 2012

Useful Websites

First Steps Nutrition: www.firststepsnutrition.org
Allergy UK: www.allergyuk.org
Food Standards Agency: www.food.gov.uk
UNICEF Baby Friendly: www.unicef.org.uk/BabyFriendly
Breast feeding network: www.breastfeedingnetwork.org.uk

Department Disclaimer

This leaflet is produced by the dietetic department at The Royal Surrey County Hospital, NHS Foundation Trust. It is not a substitute for dietary advice given to a specific individual by a dietitian. If you need to see a dietitian, ask your GP or consultant for a referral.

Please note that the information in this leaflet was correct at time of writing. The ingredients of manufactured products can change.

If you have any questions about the information in this leaflet please contact the dietetic department at the address below:

Royal Surrey County Hospital NHS Foundation Trust
Department of Nutrition and Dietetics
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Guildford,
Surrey
GU2 7XX

Telephone: 01483 464119
Fax: 01483 464868
Email: rsch.dietitians@nhs.net

Author: Debbie Evans. Based on an information leaflet written by Paediatric Dietitians at St Peter's Hospital, Chertsey

Contact details

Royal Surrey County Hospital (RSCH) NHS Foundation Trust fully subscribes to the National Patient Safety Agency (NPSA) *Being Open* best practice framework, November 2010.

PALS and Advocacy contact details

Contact details of independent advocacy services can be provided by our Patient Advice and Liaison Service (PALS) who are located in far left corner as you enter the main reception area. PALS are also your first point of contact for health related issues, questions or concerns surrounding RSCH patient services.

Telephone: 01483 402757

Email: rsc-tr.pals@nhs.net

Opening hours: 9.00am–4.00pm, Monday to Friday

If you would like information documents in large print, on tape or in another language or form please contact PALS.

Review date: October 2017
Author: Debbie Evans
PIN141024–131

The Information Standard
Certified Member

Appendix C – Milk Ladder

Please Note: The milk ladder should be used for children with non IgE mediated CMPA. Children with IgE mediated allergy should be referred to their local secondary care centre for a baked milk challenge.

THE MAP GUIDELINE
MILK ALLERGY IN PRIMARY CARE

Practical Pointers on using THE MAP MILK LADDER® for Parents

The following 'Pointers' should make it easier for you to understand how best to use this Ladder. We advise that you are supported by a Health Care Professional (HCP) until the Ladder has been successfully climbed. This may be your doctor, nurse or ideally your dietitian.

- Before starting the Ladder and progressing to each further Step, please ensure that your child is well at the time and also that any gastrointestinal symptoms or eczema are settled.
- Most children will start on Step 1. Some may already eat one or more of the foods on the Ladder. If that is the case, you need to be advised which Step of the Ladder you should start on.
- The Ladder has 12 Steps, but your HCP may adjust the number of Steps to suit your child best.
- The time spent on each Step will vary from one child to another (e.g. one day or 1 week) and this should also be discussed and agreed with you.
- The amounts in the Ladder are given as a guide - occasionally smaller or larger amounts may be recommended.
- The Ladder includes commercially available and home-made options.
  Recipe ideas are available at:
  http://www.ctajournal.com/content/3/1/23
  Scroll down and click on 'Additional file 3. Recipes to go with milk ladder'
  Each of the recipes has an egg and wheat free option (they are all soya free) to make the Ladder suitable for those children who may have other co-existing allergies.
- If the food on any Step of the Ladder is tolerated, your child should continue to consume this (as well as all the foods in the previous Steps) and then try the food suggested on the next agreed Step.
- If your child does not tolerate the food in a particular Step, simply go back to the previous one. You should then be advised when that next Step can be tried again.

In a few of the more severe cases of CMA a more cautious start to the Milk Ladder may be recommended, beginning with smaller amounts in Step 1, e.g. a ¼ or ½ of a malted milk biscuit.

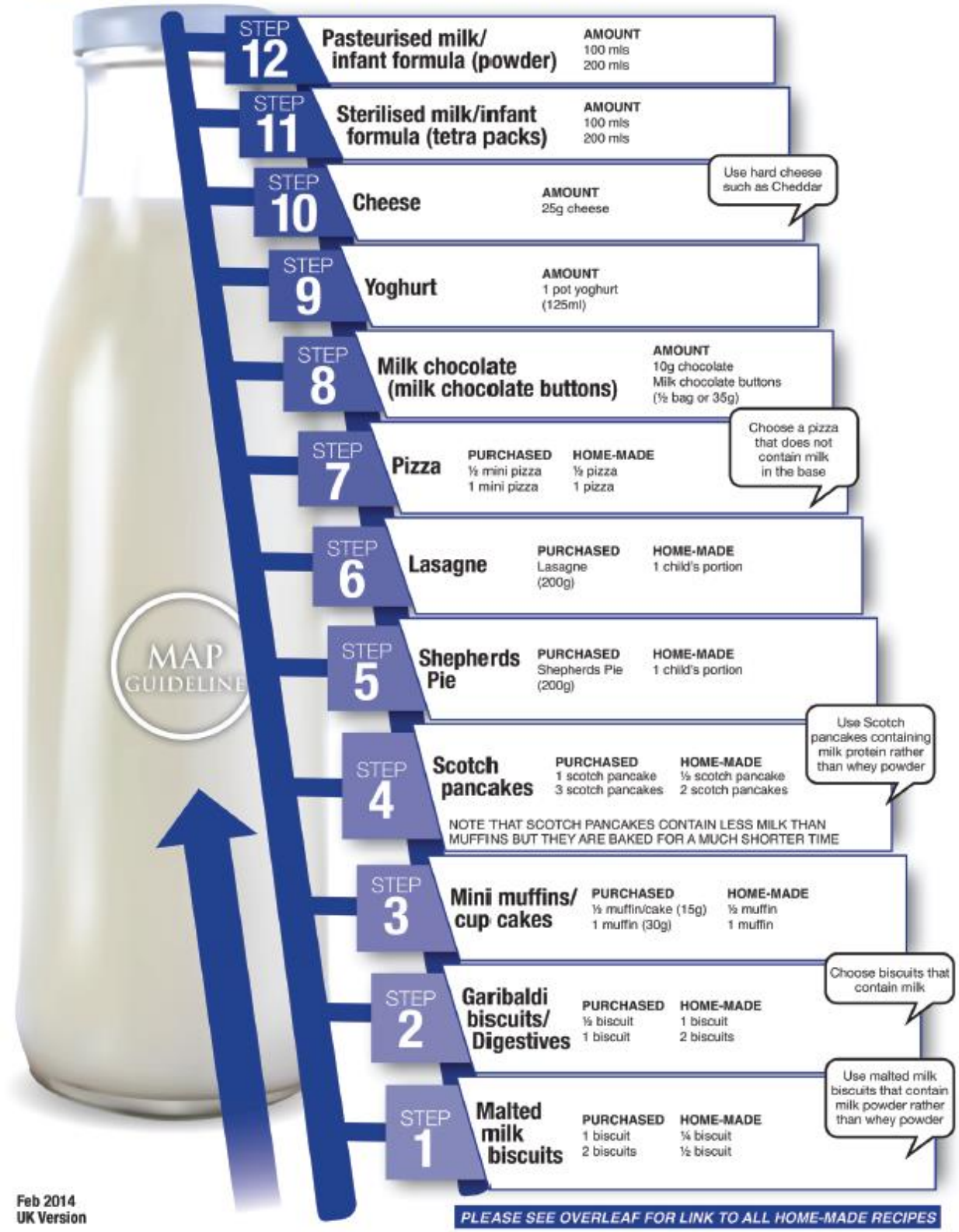
Carina Venter, Trevor Brown, Neil Shah, Joanne Walsh, Adam T. Fox
Clin Transl Allergy. DOI 10. 1186/2045-7022-3-23 (additional file 1 and 3)

Feb 2014

THE MAP MILK LADDER©

THE MAP GUIDELINE
MILK ALLERGY IN PRIMARY CARE

For Children with Mild to Moderate Non-IgE Cow's Milk Allergy
Under the Supervision of a Health Care Professional, ideally a Dietitian



Feb 2014
UK Version

PLEASE SEE OVERLEAF FOR LINK TO ALL HOME-MADE RECIPES

Appendix D Summary of Specialist Infant Formulae with cost information and reference to the Healthy Start Voucher Scheme

Prices from MIMS Sept 2015

Infant formula	Indication and description	Restricted to secondary care initiation	To be purchased as similar cost to standard formula	Pack sizes	Price (£)	Cost per 100g/ 100ml	Cost per 100kcal	Price per 28 day supply (for child aged 6 months and under) (£)
Nutriprem 2® powder (Cow and Gate)	Catch up growth in pre term infants (<35 weeks gestation) and catch up growth in small for gestational age infants up to 6 months corrected age (N.B. Nutriprem 2 liquid should not be prescribed in primary care)	✓	✘	900g	£11.52	£1.28	£0.26	£69.12
SMA Gold Prem 2® powder (SMA)	Catch up growth in pre term infants (<35 weeks gestation) and catch up growth in small for gestational age infants up to 6 months corrected age	✓	✘	400g	£5.30	£1.32	£0.26	£68.90
SMA High Energy® (SMA)	Disease related malnutrition and malabsorption and growth failure in infants from birth to 18 months	✓	✘	250ml carton	£2.42	£0.96	£1.06	Quantity patient specific. 3 month old may need up to 800ml/day, 6 month old up to 1000ml/day, 12 months up to 1300ml/day
Infatrini® (Nutricia)	Ready to feed liquid indicated in disease related malnutrition, failure to thrive and malabsorption from birth to 8kg. *500ml for tube feeding only	✓	✘	125ml 200ml 500ml*	£1.40 £2.23 £6.05	£1.12 £1.12 £1.21	£1.12 £1.12 £1.21	Quantity patient specific. 3 month old may need up to 800ml/day, 6 month old up to 1000ml/day, 12 months up to 1300ml/day

Infant formula	Indication and description	Restricted to secondary care initiation	To be purchased as similar cost to standard formula	Pack sizes	Price (£)	Cost per 100g/ 100ml	Cost per 100kcal	Price per 28 day supply (for child aged 6 months and under) (£)
Similac High Energy® (Abbott)	Ready to feed liquid indicated for increase energy requirements, faltering growth and/or need for fluid restriction from birth to 8kg.	✓	✘	48 x 60ml 200ml	£31.68 £2.13	£1.10 £1.07	£1.10 £1.07	Quantity patient specific. 3 month old may need up to 800ml/day, 6 month old up to 1000ml/day, 12 months up to 1300ml/day
SMA stay down® (SMA nutrition)	Significant gastro-oesophageal reflux Should be purchased by parents/carers rather than prescribed	✘	✓	900g	£7.69	£0.85	£0.16	£46.14
Enfamil AR® (Mead Johnson)	Significant gastro-oesophageal reflux Should be purchased by parents/carers rather than prescribed	✘	✓	400g	£3.69	£0.92	£0.18	£47.97
SMA LF® (SMA Nutrition)	Proven lactose intolerance. Should be purchased by parents/carers rather than prescribed	✘	✓	430g	£5.34	£1.24	£0.24	£64.08 (12 tins)
Enfamil O-Lac® (Mead Johnson)	Proven lactose intolerance. Should be purchased by parents/carers rather than prescribed	✘	✓	400g	£4.93	£1.23	£0.23	£64.09
SMA Wysoy®	Soy based formula indicated only if EHF are not tolerated in proven CMPA <u>Not suitable for infants under 6 months</u> Should be purchased by parents/carers rather than prescribed	✘	✓	430g* 860g	£5.20 £9.91	£1.21 £1.15	£0.23 £0.22	£62.40 (12 tins) £59.46
	*430g tin size discontinued from Autumn 2015. Stock has 2 year shelf life so may be available until 2017							

Infant formula	Indication and description	Restricted to secondary care initiation	To be purchased as similar cost to standard formula	Pack sizes	Price (£)	Cost per 100g/ 100ml	Cost per 100kcal	Price per 28 day supply (for child aged 6 months and under) (£)
Nutramigen 1 with LGG® (Mead Johnson) (Previously Nutramigen Lipil 1®)	Extensively hydrolysed casein dominant formula for dissacharide or whole cow's milk protein intolerance from birth to 6 months of age	✘	✘	400g	£10.87	£2.72	£0.54	£141.31
Nutramigen 2 with LGG® (Mead Johnson) (Previously Nutramigen Lipil 2®)	Extensively hydrolysed casein dominant formula for dissacharide or whole cow's milk protein intolerance from 6 months of age onwards	✘	✘	400g	£10.87	£2.72	£0.58	Suitable for infants older than 6 months only
Similac Alimentum®	Extensively hydrolysed casein dominant formula for cows' milk protein allergy	✘	✘	400g	£9.10	£2.25	£0.43	£118.30
Pepti 1® (Aptamil)	Extensively hydrolysed whey dominant formula for established cows' milk protein allergy or intolerance from birth to 6 months of age	✘	✘	400g 800g	£9.74 £19.18	£2.44 £2.39	£0.50 £0.49	£126.62 £134.26 (7 tins)
Pepti 2® (Aptamil)	Extensively hydrolysed whey dominant formula for established cows' milk protein allergy or intolerance from 6 months of age onwards	✘	✘	400g 800g	£9.29 £18.58	£2.32 £2.32	£0.49 £0.49	Suitable for infants older than 6 months only
Althera®	Extensively hydrolysed whey dominant formula for cows' milk protein allergy or intolerance from birth to 3 years of age	✘	✘	450g	£10.68	£2.37	£0.47	£128.16 (12 tins)

Infant formula	Indication and description	Restricted to secondary care initiation	To be purchased as similar cost to standard formula	Pack sizes	Price (£)	Cost per 100g	Cost per 100kcal	Price per 28 day supply (for child aged 6 months and under) (£)
Neocate LCP® (SHS)	Amino Acid indicated for the management of severe cows' milk protein and multiple allergies	✘	✘	400g	£28.30	£7.08	£1.46	£367.90
Nutramigen PURAMINO® (Mead Johnson) (Formerly Nutramingen AA®)	Amino acid based formula indicated for the management of severe protein intolerance and multiple food intolerance	✘	✘	400g	£26.80	£6.70	£1.34	£348.40
Alfamino®	Amino acid based formula indicated for the management of severe Cows' milk allergy and/or multiple food allergies	✘	✘	400g	£23.00	£5.75	£1.15	£299.00
Neocate Advance®	Amino acid based formula for proven whole protein intolerance, short bowel syndrome or other disorders where an elemental diet is required. Suitable over 1 year of age	✓	✘	15x50g (banana & Vanilla) 10x100g (Unflavoured)	£58.60 £46.35	£6.18 £5.86	£1.55 £1.47	Suitable for children aged 1-10 years of age
Neocate Active®	Amino acid based formula for proven whole protein intolerance, short bowel syndrome or other disorders where an elemental diet is required. Suitable over 1 year of age	✓	✘	15x 63g	£66.60	£7.05	£1.76	Suitable for children aged 1-10 years of age

Healthy Start Vouchers

For eligibility and application for vouchers access the Healthy Start website at http://www.healthystart.nhs.uk/for-health-professionals/faqs/

The vouchers can be used for:

- **Infant formula milk**
  This must be infant formula milk that is based on cow's milk and says on the packaging that it can be used from birth.

  Vouchers cannot be spent on infant formulas that are not based on cow's milk – such as soya formulas or follow-on formula milks that say on the packaging that they are for babies aged six months or older.

- **Milk**
  This must be plain cow's milk and can be whole, semi-skimmed or skimmed. It must also be pasteurised, sterilised, long-life or ultra-heat treated (UHT).

  Vouchers cannot be spent on flavoured milk, coloured milk, evaporated milk, condensed milk, goat's milk, soya milk, powdered milk (unless it's infant formula) or milk with anything added to it such as milkshakes or vitamin-enriched milk.

- **Plain fresh or frozen fruit and vegetables**
  This means any kind of plain fresh or frozen fruit or vegetables, whole or chopped, packaged or loose.

Vouchers cannot be spent on any fruit or vegetables which have added ingredients such as fat (oil), salt, sugar or flavourings – including oven chips and battered onion rings. You also can't spend them on dried, canned, juiced or pre-cooked fruit and vegetables or on smoothies.

Supporting Documents

NICE. Gastro-oesophageal reflux disease: recognition, diagnosis and management in children and young people 2015 Available at: http://www.nice.org.uk/guidance/ng1

D Luyt et al, BSACI guideline for the diagnosis and management of Cows Milk Allergy 2014, Clinical & Experimental Allergy 44, 642-672Available at: http://onlinelibrary.wiley.com/doi/10.1111/cea.12302/pdf

NICE. Diagnosis and assessment of food allergy in children and young people in primary care and community settings [Online]. 2011. Available at: www.nice.org.uk/CG116

Venter C, Brown T, Shah N, Walsh J, Fox AT. Diagnosis and management of non-IgE-mediated cow's milk allergy in infancy – a UK primary care practical Clin Transl Allergy 2013;3(1):23. Available at: http://www.ctajournal.com/content/3/1/23

Diagnostic Approach and Management of Cows Milk Protein Allergy in Infants and Children. ESPGHAN GI Committee Practical Guidelines S Koletzko et all JPGN 2012 (55) 221-229 http://www.espghan.org/fileadmin/user_upload/guidelines_pdf/Diagnostic_Approach_and_Management_of_Cow_s_Milk.28.pdf

https://www.breastfeedingnetwork.org.uk/wp-content/dibm/reflux.pdf

Prescqipp Bulletin 67, July 2014, Appropriate prescribing of Specialist Infant Formulae https://www.prescqipp.info/infant-feeds/finish/217-infant-feeds/1406-bulletin-67-infant-feeds

First Steps Nutrition Trust, November 2015 Specialist infant milks in the UK, Infants 0-6 months, Information for healthcare professionals http://www.firststepsnutrition.org/pdfs/Specialised_infant_milks_Infants_0-6_months_final.pdf

Surrey Infant and Child feeding guidelines: http://www.healthysurrey.org.uk/healthysurrey/assets/documents/surrey-infant-and-child-feedin