GUIDANCE ON THE MOST APPROPRIATE AND COST EFFECTIVE PRESCRIBING OF INFANT FORMULA IN PRIMARY CARE

Contents

List of abbreviations

AAF	Amino acid formula
CMPA	Cow's milk protein allergy
EDD	Expected date of delivery
eHF	Extensively hydrolysed formula
GOR	Gastro-oesophageal reflux
GORD	Gastro-oesophageal reflux disease
MCT	Medium chain triglycerides
NG	Nasogastric
NJ	Nasojejunal
PEG	Percutaneous endoscopic gastrostomy
PKU	Phenylketonuria
OTC	Over the counter

All abbreviations included in this document are listed here unless the abbreviation is well known (e.g. NHS or NICE), or it has been used only once.

Colour key used throughout this document

Appropriate to initiate and prescribe in primary care
Initiated in secondary care but can be prescribed in primary care

Rationale

This document is intended for use in primary care as guidance on the most appropriate use of infant formulae to help optimise the use of limited NHS resources and contribute to best practice. This is not a substitute for clinical judgement or any advice given by a clinician. The information provided here such as costs and presentations are correct at the time of publishing and will undergo periodic reviews to ensure that it remains up to date.

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Introduction

Breastmilk remains the optimal milk for infants during the first 6 months of life and should be encouraged when it is both clinically safe to do so and the mother is in agreement.

In situations whereby breastfeeding or expressing breastmilk is not an option, a wide range of infant formulas are available for purchasing over the counter (OTC) and sometimes, on prescription.

Indications for prescription infant formula

Prescription infant formula is recommended only where there is a medical need and the formula required is not widely available from retailers. This document covers the following medical conditions whereby prescription infant formula may be required:

- Cow's milk protein allergy (CMPA)
- Faltering growth
- Premature infants

CMPA

Symptoms and diagnosis

Please refer to the following documents for information regarding the symptoms, assessment and diagnosis of CMPA:

- ''Food allergy in children and young people' (NICE, 2011) https://www.nice.org.uk/guidance/cg116/evidence/full-guideline-136470061
- Appendix 1: Initial Assessment and Diagnosis of Suspected Cow's Milk Protein Allergy (CMPA) in Infants (Appendix 1).
- 'An update to the Milk Allergy in Primary Care (MAP) guideline' (2019) for symptoms and confirming diagnosis (Appendix 3).

Treatment

Exclusively breast-fed infants

Please consider the following:

- A two-to-four week, maternal milk-free diet trial. Guidance on following a milk-free diet is available from: https://www.bda.uk.com/resource/milk-allergy.html
- Breastfeeding mothers following a milk-free diet should be supplemented daily with 1000mg of calcium and 10mcg of Vitamin D.
- If breastfeeding mothers either do not wish to/are unable to follow a milk-free diet, or are following a milk-free diet and top-up feeds are needed, an extensively hydroloysed formula (eHF) can be prescribed (see Appendix 2).
- If CMPA is the underlying cause, symptoms should resolve within the 2-4 week milk-free diet trial. A cow's milk challenge is recommended after this period. Some patients will need to reintroduce milk in a secondary care setting (see Appendix 1 and Appendix 3 for details)
- Referral to a paediatric dietitian (prior to weaning) should be considered for all infants with a diagnosis of CMPA

Bottle-fed infants

- If breastfeeding is not an option, an eHF should be the first choice unless there is evidence of anaphylaxis.
- An eHF should be trialled for a period of 2-4 weeks as there is aften a delayed response to ingested cow's milk protein.
- For patients with a proven or a previous anaphylactic reaction to cow's milk, an amino acid formula (AAF) may be prescribed with urgent referral to secondary care. In all other cases an AAF should only be initiated by secondary care.

Which infant formula to prescribe for CMPA

The following products are recommended on prescription until the infant is able to tolerate OTC products and it is safe to do so. For more guidance, please see prescribing algorithm for infant formulas (Appendix 2).

Extensively hydrolysed formulae (eHF) - Appropriate to initiate and prescribe in primary care		**Cost (£) per 100ml**	**Kosher (K) Halal (H) Vegetarian/ Vegan (V)**
Alimentum (Abbott Nutrition®) ***TEMPORARILY UNAVAILABLE***	**Birth to 2 years** or when able to tolerate OTC products	0.31	**Nil**
Aptamil® Pepti 1 (Nutricia)	**Birth to 6 months** / whey based	0.33	**Nil**
Aptamil® Pepti 2 (Nutricia)	**6 months to 2 years** or able to tolerate OTC products / whey based	0.33	**Nil**
SMA® Althera® (Nestle)	**Birth to 3 years** or until able to tolerate OTC products / whey based	0.36	**K, H, V**
Nutramigen 1 with LGG® (Mead Johnson)	**Birth to 6 months** / contains probiotics Lactose free / casein based	0.39	**Nil**
Nutramigen 2 with LGG® (Mead Johnson) **** Preparation instructions differ to other milk formulas. Contains probiotics. Not suitable for premature or immunocompromised infants***	**6 months to 2 years** or able to tolerate OTC products / contains probiotics / lactose free / casein based	0.39	**Nil**
eHF with medium chain triglycerides (MCT) – indicated when CMPA is accompanied by malabsorption **Initiate in secondary care ONLY**			
Aptamil® Pepti-Junior (Nutricia)	**Birth to 12 months**/ Whey based	0.41	**Nil**
Amino acid formulas (AAF) **Normally initiated in secondary care**. However, if severe/anaphylactic reaction to cow's milk, an AAF can be started in primary care with urgent referral to secondary or specialist care			
EleCare (Abbott Nutrition) ***TEMPORARILY UNAVAILABLE***	**Birth to 2 years** or until able to tolerate OTC products	0.74	**K, H, V**
SMA® Alfamino® (Nestle)	**Birth to 2 years** or until able to tolerate OTC products	0.76	**K, H, V**
Nutramigen® Puramino (Mead Johnson) (formerly Nutramigen® AA)	**Birth until at least 1 year** or when able to tolerate OTC products	0.77	**K, H**
Neocate® LCP (Nutricia)	**Birth until at least 1 year** or when able to tolerate OTC products	0.77	**K, H, V**
Neocate® Junior (Nutricia) (formerly Neocate® Active and Neocate® Advance)	**Over 1 year.** Neocate® Junior to be prescribed under **monitoring of dietitians only**	1.81	**K, H, V**

Quantity of infant formula to prescribe

Infant formula prescribing guide	
Age of child	**Number of tins per 28 days**
Under 6 months	13 x 400g tins or 6 x 800g tins
6–12 months	7–13 x 400g tins or 3 – 6 x 800g tins
Over 12 months	7 x 400g tins or 3 x 800g tins

These quantities are based on:

- Infants < 6 months, exclusively formula fed and drinking 150ml/kg/day of a normal concentration formula
- Infants 6-12 months requiring 150-120ml/kg/day of a normal strength formula during weaning
- Infants > 12 months drinking the 600mls of milk or milk substitute per day

Prescribers are advised to prescribe 2-3 tins initially until compliance/tolerance is established. All prescriptions should be endorsed 'ACBS' and a review date added to the medication record.

Reviewing Prescriptions

Please review prescription if you can answer 'yes' to any of the following questions:

- Is the patient over 2 years of age?
- Has the formula been prescribed for more than 1 year?
- Does the volume prescribed appear excessive for their age?
- Is the patient prescribed a formula for CMPA but able to eat foods containing cow's milk such as: cheese; yoghurt; ice-cream, custard, chocolate, cakes, cream, butter, milk-containing margarine and/or ghee.

Referring to secondary specialist care

NICE (CG116) (2011) recommend that infants are referred to secondary or specialist care if any of the following applies:

- One or more acute systemic reactions or severe delayed reactions
- Significant atopic eczema where multiple or cross-reactive food allergies are suspected by the parent or carer
- Possible multiple food allergies
- Persisting parental suspicion of food allergy (especially where symptoms are difficult or perplexing) despite a lack of supporting history
- Negative tests but there is strong clinical suspicion of IgE-mediated food allergy
- Faltering growth with one or more gastrointestinal (GI) symptoms

Additional notes

- 'Low lactose' or 'lactose free' formulas are not indicated for infants with CMPA
- Powdered formulas should be prescribed in most cases
- Ready to drink, liquid formulas are a convenience product. Parents should be advised to purchase these OTC unless there is a clinical contraindication to using powder (e.g. immunocompromised, tube fed or no access to safe drinking water)
- By 2 years of age, most children prescribed specialist formula should be weaned on to an OTC alternative (your dietitian can provide support with this)
- Children with multiple/severe allergies may require prescriptions beyond 2 years of age (these should always be based on recommendations from a paediatric dietitian in regular consultation with the GP practice)
- Some children may require more infant formula than is recommended for their age. Please review any recommendations from a paediatrician or paediatric dietitian
- Where all nutrition is provided via NG/NJ/PEG tubes, the paediatric dietitian will advise on the type and quantity of formula required
- Expiry dates and instructions for the safe storage of formula differ amongst manufacturers. Please refer to their respective product labels for details
- eHF and AAF formulas are typically less palatable than standard formula and thus may be rejected at first. Titrating these products with the infant's standard formula can improve tolerance - but this is not to be tried in those with a history of anaphylaxis or severe symptoms. Please note, this approach would lengthen the time for symptoms to resolve.
- Changes in stool colour (eg dark green) can occur and are normal.

Lactose intolerance

Lactose intolerance is common and is a result of the body's inability to completely digest lactose (the main sugar found in milk). Lactose intolerance must not be confused with CMPA which is an allergic response to the protein found in cow's milk. In children, lactose intolerance often develops as a result of post-illness damage to the lining of the small intestine that reduces the ability to produce lactase. Although it can present at any age, it is most common in infants and young children. Symptoms are often temporary, resolving within 4 weeks, but can persist if triggered by a chronic condition. This is referred to as secondary lactose intolerance.

Management of lactose intolerance

Exclusively breast-fed infants

For breastfed infants, a maternal lactose free diet is not recommended as lactose occurs naturally in breastmilk irrespective of whether lactose is consumed in the maternal diet or not.

Bottle-fed infants

Lactose free and low lactose formulas are available from most pharmacies and food retailers at a similar cost to standard infant formula. For this reason, it is recommended that these formulas are **not to be prescribed**.

Please temporarily switch to a lactose free formula for 4-8 weeks. If symptoms stop within 48 hours after commencing a lactose free formula, this confirms the diagnosis. If symptoms do not resolve, please refer to a paediatrician and/or dietitian.

It is recommended that lactose free formulas should not be used for longer than 8 weeks without review.

Recommended OTC formulas for lactose intolerance

Low lactose / lactose free formulas available OTC		
Aptamil® Lactose Free	Lactose free	From birth
SMA® LF	Lactose free	From birth
Cow & Gate® Comfort	Low lactose	From birth
Aptamil® Comfort	Low lactose	From birth
SMA® Wysoy	Low lactose	From 6 months **and** not tolerating other suggestions above

For those qualifying for the 'Healthy Start' scheme, vouchers can be used to purchase lactose-free and low lactose formulas. For more information about the scheme, please visit https://www.healthystart.nhs.uk/.

Premature infants

Breast-fed infants

Formula is not always necessary for premature infants. Where required, this will be identified and commenced at the neonatal unit. If breastfeeding is reduced or stops post- discharge, the neonatal unit should advise on whether a pre-term formula is required or a standard infant formula can be used instead.

Bottle-fed infants

If a pre-term formula is commenced and there is excessive weight gain at any stage up to 6 months corrected age, the dietitian should be consulted in view of reducing/stopping the pre-term formula. Monitoring of growth should be carried out by the health visitors/dietitians whilst the baby is on a pre-term formula and the formula should be discontinued by 6 months corrected age at the latest.

Powdered pre-term formulae (6 months corrected age = EDD + 26 weeks)		**Cost (£) per 100ml**	**Halal (H) Kosher (K) Vegetarian/ Vegan (V)**
SMA® Gold Prem 2 powder (SMA)	Discharge up to a maximum of 6 months corrected age	0.22	**Nil**
Nutriprem® 2 powder (Cow & Gate)		0.22	**K, H**
Liquid pre-term formulae (If powder is contraindicated, e.g. immunocompromised infant or tube fed).			
SMA® Gold Prem 2 liquid (SMA)	Discharge up to a maximum of 6 months corrected age	1.01	**Nil**
Nutriprem® 2 liquid (Cow & Gate)		1.01	**K, H**

Faltering growth

When faltering growth **does not** appear related to food refusal or fussy eating, prescribe a high energy formula **with an immediate referral to a dietitian.**

High energy formulae available on prescription		Cost (£) per 100ml	Halal (H) Kosher (K) Vegetarian/ Vegan (V)
SMA® High Energy (SMA)	Birth up to 18 months or 8kg	1.21	**Nil**
Infatrini® (Nutricia)		1.31	**K, H**
Similac® High Energy (Abbott Nutrition)		1.52	**K, H, V**
High energy formula to be initiated in secondary care only Suitable for faltering growth and intolerance to whole protein feeds, e.g. short bowel syndrome, intractable malabsorption, inflammatory bowel disease, bowel fistulae			
Infatrini® Peptisorb (Nutricia)	Birth up to 18 months or 8kg	2.24	**K**

All infants on high energy formula will need growth (weight and height/length) monitored by the dietitian. Once normal growth is achieved the formula should be discontinued to minimise excessive weight gain.

Please refer to NICE (NG75) (2017) for more information regarding the recognition and management of faltering growth in children. Available at: https://www.nice.org.uk/guidance/ng75

Gastro-oesophageal reflux disease (GORD)

Gastro-oesophageal reflux (GOR) is a common physiological process that happens after eating in healthy people of all ages. However, gastro-oesophageal reflux disease (GORD) refers to when GOR symptoms are so severe that medical treatment is required (NICE, 2022). When deciding whether to investigate, treat, refer, or for 'red flag' symptoms, please see NICE: Differential diagnosis/'red flag' features | Diagnosis | GORD in children | CKS | NICE

A number of anti-reflux/thickened formulas for the management of GORD are available to purchase OTC at very similar prices to standard infant formula. For this reason, **these products are not recommended on prescription.**

OTC Anti-Reflux/Thickened Formula		
SMA® Anti Reflux	**From birth**	800g
Enfamil® AR	From birth (available to order from pharmacies)	400g
Aptamil® Anti-Reflux	From birth	800g
Cow & Gate® Anti-Reflux	From birth	800g
Thickeners (to add to standard infant formula) *		
Instant Carobel® (Cow & Gate)	From birth (available to order from pharmacies)	135g

* Do not prescribe antacids or thickeners if taking anti-reflux formula

How to refer to your local paediatric dietitians

All GP dietetic referrals to either the community or hospital dietitians can be made using the 'choose and book' system. Community referrals can also be sent via an NHS.net email address to swy-tr.barnsleydietetics@nhs.net (see Appendix 5).

Any patients with inborn errors of metabolism need to be referred to the hospital dietitians via the 'choose and book' system.

Summary - 'Dos' and 'Dont's' of prescribing infant formula

Dos:

☑ Promote and encourage breastfeeding where it is clinically safe to do so and the mother is in agreement

☑ Check that both the type and volume of infant formula prescribed is appropriate for the medical need(s) and age of the infant

☑ Review any prescription where either the child is over 2 years of age, the formula has been prescribed for more than 1 year or greater amounts of formula is being prescribed than recommended

☑ Review the prescription if the patient is prescribed a formula for CMPA but is able to eat any foods containing cow's milk, e.g. cheese, yoghurt, ice-cream, custard, chocolate, cakes, cream, butter, milk-containing margarine, ghee

☑ Only prescribe 2 – 3 tins of formula initially until compliance / tolerance is established. After this initial prescription, refer to the table on page 6 regarding recommended quantities to be prescribed per 28 days.

☑ Remind patients to follow the advice given by the formulas' manufacturer regarding preparation instructions and safe storage of the feed once mixed or opened

☑ Where appropriate, please refer to dietitians

☑ Seek prescribing advice from the Medicines Management dietitian if unsure

☑ Explain to the patient that infant formula is not routinely stocked in community pharmacy. Stock will need to be ordered in and this will usually be for the next working day.

Don'ts:

☒ Do not prescribe pre-term formula to promote weight gain in patients other than infants born prematurely

☒ Do not add infant formula to the repeat prescribing template in primary care unless a clear review process is established to ensure the correct product and quantity is prescribed

☒ Do not suggest lactose free or low lactose formulas for infants with CMPA

☒ Do not recommend soya formula for those under the age of 6 months due to high phyto-oestrogen content

☒ Do not prescribe formula for GORD or lactose intolerance since suitable over the counter formula can be purchased at a similar price to standard infant formula

☒ Do not prescribe thickeners or antacids if taking an anti-reflux (thickened) formula

☒ Do not suggest mammalian milks (eg Sheep or Goat) or formula made from them for those with CMPA, secondary lactose intolerance or other conditions covered in this guidance

☒ Do not recommend rice milk for those under 5 years of age due to its high arsenic content

References & Relevant Guidelines

NICE (2022) Gastro-oesophageal reflux disease in children and young people: diagnosis and management.
Available at: GORD in children | Health topics A to Z | CKS | NICE [Accessed 1st May 2023].

NICE (2011) Food allergy in children and young people. Diagnosis and assessment of food allergy in children and young people in primary care and community settings.
Available at:https://www.nice.org.uk/guidance/cg116/evidence/full-guideline-136470061 [Accessed 1st May 2023].

NICE (2017) Faltering growth: recognition and management of faltering growth in children.
Available from: https://www.nice.org.uk/guidance/ng75 [Accessed 1st May 2023].

Fox, A., Brown, T., Walsh, J. *et al.* An update to the Milk Allergy in Primary Care guideline. *Clinical and Translational Allergy* **9,** 40 (2019).
Available from: https://doi.org/10.1186/s13601-019-0281-8[Accessed 1st May 2023].

Appendix 1: Initial Assessment and Diagnosis of Suspected Cow's Milk Protein Allergy (CMPA) in Infants

Most infants with CMPA will present with a 'non-IgE' milk allergy, with symptoms delayed (2-72 hours after feeding). A small group will present with an IgE-mediated allergy with symptoms appearing within minutes to 2 hours. A symptoms history can determine which type of allergy is present. CMPA is an immune reaction to cow's milk protein and must not be confused with lactose intolerance - the inability to digest lactose (the main sugar found in milk). Lactose or low lactose formulas are not appropriate for the management of CMPA. Please refer to the full guidance for more details

Take a symptom history and allocate to one of the following three groups:

Severely Acute Symptoms
(Either IgE or non-IgE)
≥1 of the following acute symptoms:
ANAPHYLAXIS
Acute pruritus, erythema, urticaria, angioedema
Acute flaring of atopic eczema
Persisting severe GI symptoms, e.g. vomiting, diarrhoea, abdominal pain
Acute rhinitis/conjunctivitis

Start Elecare or SMA®Alfamino® with urgent referral to:

- Paediatrician
- Dietitian

Mild to Moderate Symptoms
(Possible IgE mediated)
≥1 of the following symptoms within minutes of feeding +/- faltering growth:
Acute pruritus, erythema, urticaria, angioedema
Severe atopic eczema
Vomiting, diarrhoea, abdominal pain
Blood or mucus in stools
Constipation
Acute wheeze rhinitis or conjunctivitis

Mild to Moderate Symptoms
(Non-IgE mediated)
≥1 of the following symptoms within minutes of feeding +/- faltering growth:
Colic, vomiting, reflux/GORD
Loose/frequent stools, food refusal
Constipation, blood or mucus in stools in otherwise well infant
Pruritus, erythema, significant atopic eczema, catarrhal airway symptoms

Start Cow's Milk Elimination Trial
For an exclusively breastfed infant: A maternal milk-free diet for a minimum trial of 2 weeks and up to 4 weeks with daily maternal supplementation if Ca (1000mg) + Vit D (10mcg). For formula or mixed feeding infant: Trial an eHF formula, e.g. Alimentum or Aptamil® Pepti 1 (milk free maternal diet if mixed feeding) for 2-4 weeks maximum

Symptoms continue

Refer to:
Dietitian and Paediatrician

Symptoms settle: Need to confirm diagnosis

Perform home challenge:
Return to cow's milk formula (or mum back to normal diet if exclusively breastfeeding)
Symptoms don't return: No CMPA
Symptoms return: Return to eHF. If symptoms settle, CMPA confirmed. Refer to dietitians

Contact for queries: Justin Ward, Prescribing Support Dietitian: justin.ward@nhs.net

Appendix 2: Prescribing Algorithm for Infant Formulas

	Appropriate to initiate and prescribe in primary care		Initiated in secondary care (unless otherwise stated) but can be prescribed in primary care

Confirmed Cow's Milk Protein Allergy

Extensively hydrolysed formulas (eHF)

From birth to 1 year

Alimentum (£0.31/100ml)
SMA® Althéra® (£0.36/100ml)

From birth to 6 months

Aptamil® Pepti 1 (£0.33/100ml)
Nutramigen 1 with LGG® (£0.39/100ml)

From 6 months to 1 year

Aptamil® Pepti 2 (£0.33/100ml)
Nutramigen 2 with LGG® (£0.39/100ml)

Amino acid formulas (AAF)

If severe/anaphylactic reaction to cow's milk, an AAF can be started in primary care with urgent referral to secondary or specialist care

From birth to 1 year

Elecare (£0.74/100ml)
SMA® Alfamino® (£0.76/100ml)
Nutramigen Puramino (£0.78/100ml)
Neocate® LCP (£0.78/100ml)

Over 1 year, started by Dietitian only

Neocate® Junior (£1.81/100ml)

Pre-term formulas Started by Neonatal Unit ONLY

Discharge up to a maximum of 6 months corrected age

SMA® Gold Prem® 2 powder (£0.22/100ml)
Nutriprem® 2 powder (£0.22/100ml)

Only prescribed for specific clinical need e.g. immunocompromised infant, tube fed:

SMA® Gold Prem® 2 liquid (£1.01/100ml)
Nutriprem® 2 liquid (£1.01/100ml)

High energy formulas for faltering growth

Can be initiated in primary care if faltering growth is unrelated to food refusal or fussy eating. **Repeat prescribing under dietician's monitoring ONLY**

SMA High Energy® 200ml bottle (£1.21/100ml)
Infatrini® 200ml bottle (£1.31/100ml)
Similac® High Energy 200ml bottle (£1.52/100ml)

Infatrini® Peptisorb 200ml bottle (£2.24100ml)

Quantities of infant formula to prescribe	
Under 6 months	13 x 400g tins or 6 x 800g tins
6-12 months	7–13 x 400g tins or 3 – 6 x 800g tins
Over 12 months	7 x 400g tins or 3 x 800g tins
Prescribe 2-3 tins initially until compliance/tolerance is established	

DO NOT PRESCRIBE: Standard infant formulas, lactose free formulas, soya milk, anti-reflux/ pre-thickened formulas, comfort milks, hungry milks.

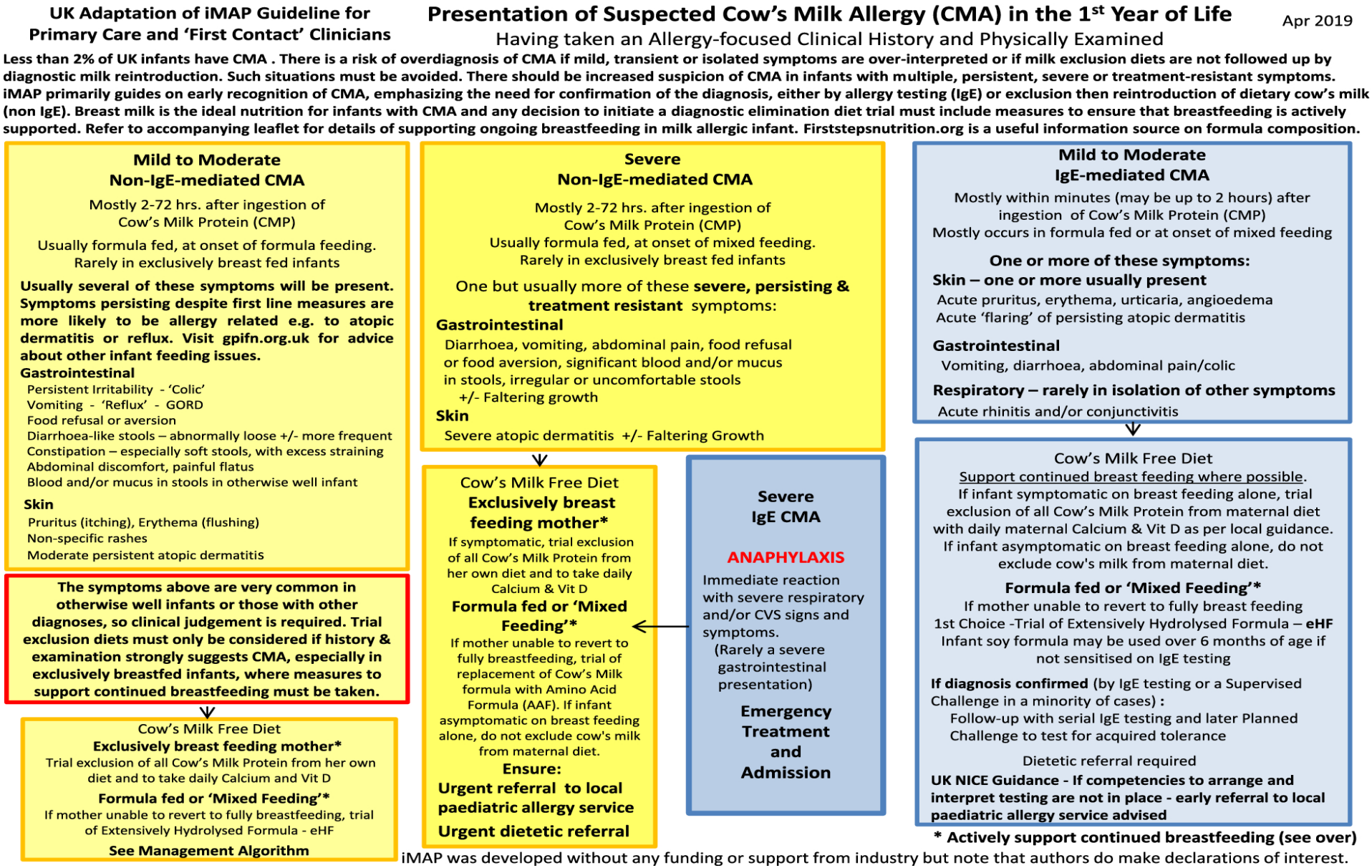
For breastfed infants with lactose intolerance, lactose free formulas are not recommended as lactose is present in breastmilk.

For formula fed infants with lactose intolerance, please recommend parents purchase one the following formulas and consider referral to dietitians: Aptamil® Lactose Free, Aptamil® Comfort, Cow & Gate® Comfort, SMA® LF

From 6 months AND not tolerating other suggestions: SMA Wysoy® (Soya milks / formulas are not recommended for infants under 6 months old).

Important: All prescription formulas started by dietitians must be supervised by the dietitians with regular updates to the GP practices. Where GPs start any specialist formula, it is recommended that a referral to dietitians is made to ensure that patients have access to expert advice on weaning and milk reintroduction. Prescription hypoallergenic formulas are supported for infants with CMPA up to the age of 1 year - only to continue after 1 year of age under exceptional circumstances and with supervision from a dietitian.

Appendix 3: An update to the Milk Allergy in Primary Care (MAP) guideline



UK Adaptation of iMAP Guideline for Primary Care and 'First Contact' Clinicians

Management of Mild to Moderate Non-IgE Cow's Milk Allergy (CMA)

May 2019

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

Exclusively Breastfeeding [UK Recommendation 1st 6 months]

Strict elimination of cow's milk containing foods from maternal diet

Maternal daily supplements of Calcium and Vit D according to local recommendations
Refer to dietitian - a maternal substitute milk should be advised
An agreed Elimination Trial of up to 4 weeks - with a minimum of 2 weeks.
If severe atopic dermatitis or more severe gut symptoms – consider soy/egg avoidance as well, only with specialist advice
Mothers should be actively supported to continue to breastfeed through this period*.

No Clear Improvement

But - CMA still suspected:

Refer to local paediatric allergy service

Consider excluding other maternal foods eg soy, egg only with specialist advice

CMA no longer suspected:

Return to usual maternal diet
Consider referral to local general paediatric service if symptoms persist. Visit gpifn.org.uk for advice about other infant feeding issues.

Clear Improvement - need to confirm Diagnosis

Home Reintroduction: [NICE Quality Standard]
Mother to revert to normal diet containing cow's milk foods over period of 1 week - to be done usually between 2-4 weeks of starting Elimination Trial

No return of symptoms
NOT CMA - normal feeding

Return of symptoms

Exclude cow's milk containing foods from maternal diet again
If symptoms clearly improve:
CMA NOW CONFIRMED
If top-up formula feeds should later be needed - eHF may well be tolerated. If not - replace with AAF

Symptoms do not settle

Formula Feeding or 'Mixed Feeding' [Breast and Formula]

Strict cow's milk protein free diet

If symptoms only with introduction of cow's milk-based feeds – encourage & support return to breastfeeding*. Mother can continue to consume cow's milk containing foods in her diet. If symptoms settle on return to full breast feeding, reconsider diagnosis if symptoms return on future milk exposure. If symptoms suspected from breastfeeding alone, see Box left. If **any** formula feeds are required, advise an eHF. Agree an Elimination Trial of up to 4 weeks (minimum of 2 weeks) and assess improvement. **Reintroduction of cow's milk is required to confirm diagnosis.** If weaned - may need advice & support from dietitian. Only follow algorithm further in infants receiving eHF/on diagnostic elimination diet trial.

Clear Improvement - need to confirm diagnosis

Home Reintroduction: [NICE Quality Standard]
Using cow's milk formula
To be done usually between 2-4 weeks of starting Elimination Trial. Refer to iMAP reintroduction leaflet.

Return of symptoms

Support breastfeeding or if not possible, return to **eHF** again
If symptoms clearly improve:
CMA NOW CONFIRMED
Ensure support of dietitian

No return of symptoms
NOT CMA - normal feeding

Symptoms do not settle

No Clear Improvement

But - CMA still suspected:

Consider initiating a trial of an Amino Acid Formula (AAF)

Refer to local paediatric allergy service

CMA no longer suspected:

Unrestricted diet again
Consider referral to local general paediatric service if symptoms persist

As likelihood of sufficient cow's milk protein passage into breast milk to trigger reactions is low, in breast fed cases, complete milk exclusion may not be required.

Cow's milk free diet until 9-12 months of age and for at least 6 months – with support of dietitian
A planned Reintroduction or Supervised Challenge is then needed to determine if tolerance has been acquired
Performing a Reintroduction versus a Supervised Challenge is dependent on the answer to the question:
Does the child have **Current Atopic Dermatitis** or **ANY history at ANY time of immediate onset symptoms ?**

No Current Atopic Dermatitis
And no history at any time of immediate onset symptoms
(No need to check Serum Specific IgE or perform Skin Prick Test)
Reintroduction at Home – using a MILK LADDER
To test for Acquired Tolerance

Current Atopic Dermatitis

Check Serum Specific IgE or Skin Prick Test to cow's milk

Negative **Positive**

History of immediate onset symptoms at any time
Serum Specific IgE or Skin Prick Test needed

Negative
Liaise with local Allergy Service Re: Challenge

Positive or Tests not available

And still no history at any stage of immediate onset symptoms
Reintroduction at Home - using a MILK LADDER
To test for Acquired Tolerance

Refer to local paediatric allergy service
(A **Supervised Challenge** may be needed)

*Breast milk is the ideal nutrition for infants & hence continued breastfeeding should be actively encouraged as far as is possible. WHO recommends breastfeeding until 2 years and beyond. Mothers should be offered support of local NHS breastfeeding support services & signposted to further support. Please refer to iMAP patient information leaflet on supporting breast feeding.

Appendix 4: The iMAP Milk Ladder

THE iMAP MILK LADDER

To be used only in children with Mild to Moderate Non-IgE Cow's Milk Allergy
Under the supervision of a healthcare professional
PLEASE SEE THE ACCOMPANYING RECIPE INFORMATION

STEP 6 — Pasteurised milk/suitable infant formula
Amount – start with 100ml (3.5 fl oz) of pasteurised milk/infant formula and mix this with current milk replacement. Build up to 200 ml (7 fl oz). If this is tolerated switch all current milk replacements (bottle and in breakfast cereals) to pasteurised milk or suitable infant formula. Discuss what is an appropriate amount of milk/milk products with your healthcare professional. UHT and sterilised milk will be tolerated as well.

Once your child tolerates yoghurt, butter, spread, chocolate buttons, fromage frais, petit filous (be careful of the sugar content), you can introduce softer cheese like cream cheese and camembert/brie – remember to use pasteurised soft cheese for children

STEP 5 — Yoghurt
Amount - 125mls (4.5 fl oz)

STEP 4 — Cheese
Amount 15g (½ fl oz) (hard cheese e.g. cheddar or parmesan) Once your child tolerates cheese, you can introduce 15g baked cheese on a pizza or baked on other food as well.

STEP 3 — Pancake
Amount - ½ and build up to 1 (see Recipe)

STEP 2 — Muffin
Amount - ½ and build up to 1 (see Recipe)

STEP 1 — Cookie/Biscuit
Amount - 1 and build up to 3 (see Recipe)

AT EACH OF THE FOLLOWING STEPS
Cookie, muffin, pancake, cheese and yoghurt
It may be advisable in some cases to start with a ¼ or a ½ of that particular food and then over a few days to gradually build up to a whole portion - Please ask your healthcare professional for guidance on this

THE LOWER STEPS ARE DESIGNED TO BE USED WITH HOME MADE RECIPES. THIS IS TO ENSURE THAT EACH STEP HAS THE APPROPRIATE MILK INTAKE. THE RECIPES WILL BE PROVIDED BY YOUR HEALTHCARE PROFESSIONAL
Should you wish to consider locally available store-bought alternatives - seek the advice of your healthcare professional Re: availability

October 2016

Practical Pointers for Parents/Carers on using at home the iMAP Milk Ladder

iMAP GUIDELINE

ONLY FOR CHILDREN WHO ARE BEING MANAGED AS MILD-TO-MODERATE NON-IgE COW'S MILK ALLERGY

The practical concept of this Ladder is the recognised fact that the more 'baked' cow's milk protein is, usually the less allergenic it is. Therefore you will see that Step 1 begins with a form of very well baked milk protein and then the further Steps give examples of gradually less well baked milk protein products.

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 Healthcare Professional (HCP) until the Ladder has been successfully climbed. This may be your doctor, nurse but 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 tummy symptoms, bowel symptoms or eczema are settled.
- Most children will start on Step 1. However some may be already eating one or more foods on the Ladder. If that is the case, you need to be advised which Step you should start on.
- The Ladder has 6 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 depending on their individual expression of milk allergy. 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.
- Each of the early Steps of the Ladder importantly is accompanied by the appropriate recipe (see recipes).
- Each of the recipes has an egg and wheat free option (they are all soya free) to make the Ladder suitable for children who may have other co-existing food 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 on the next agreed Step.
- If your child does not tolerate the food in a particular Step, simply go back to the previous Step. You should then be advised when that further Step can be tried again.

Appendix 5

Community Nutrition and Dietetic Service Referral Form

Patient's Name: Mr/Mrs/Miss etc:
NHS number:
Date of birth: Patient's telephone number
Address
Postcode:
Social information:

GP name: Telephone number:
Practice address:

Reason for referral to the dietitian:

Is this patient able to attend an outpatient appointment? *Please circle* **Yes No**

Diagnosis/relevant clinical details:

Current medications:

Medical history: *Please tick yes or no and give relevant details below:*

Clinical conditions	**Yes**	**No**	**Details**
Diabetes: Type 1 or Type 2 (please specify)			
Gastrointestinal disorder			
Food allergies and intolerances			
Renal impairment			
Liver disease			
Dementia			
Swallowing problems			
Dyslipidaemia e.g. high cholesterol level			
Other:……			

Weights: kg (date:) kg (date:) kg (date:)
Height m (actual or estimated) Current BMI: kg/m2

Other relevant information e.g. recent weight changes, biochemistry, diagnostic test results etc

Referral completed by:	Signed:
Designation:	Date & time:
Address:	Telephone number:

Please email form to: barnsley.dietetics@swyt.nhs.uk
or post to: Community Nutrition and Dietetic Service, The Cudworth Centre, Carlton Street, Barnsley, S72 8ST Tel: 01226 438817