

Guidance for the management of Cow's Milk Allergy (CMA) and lactose intolerance in Primary Care (2020)

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<http://www.northoftyneapc.nhs.uk/documents/guidelines-and-statements>

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Membership of the guideline development group	James Callaghan, Head of Nutrition & Dietetics Newcastle upon Tyne Hospitals NHS Foundation Trust Sarah Mole, Specialist Paediatric Dietitian, Northumbria Healthcare NHS Foundation Trust Dr Sachin Mannikar, Consultant Paediatrician, Gateshead Health NHS Foundation Trust Dr L Michaelis, Consultant Paediatrician Newcastle upon Tyne Hospitals NHS Foundation Trust Dr Mairi Woodford, Consultant Paediatrician, Northumbria Healthcare NHS Foundation Trust Dr P Netts, GP, Newcastle upon Tyne Hospitals NHS Foundation Trust

Introduction

These guidelines were developed to help assist GPs and Health Visitors on the use of prescribable infant formula, in line with ACBS indications, for the treatment of cow's milk protein allergy (CMA) and lactose intolerance. These guidelines advise on:

- Initiating prescribing
- Quantities to prescribe
- Which products to prescribe
- When onward referral to dietetic or specialist care should be considered

Contact details:

Newcastle upon Tyne NHS Foundation Trust
Paediatric Dietitians

0191 282 4812

Northumbria Healthcare NHS Foundation Trust
North Tyneside and Northumberland Paediatric Dietitians

0191 293 4280

Gateshead Health NHS Foundation Trust
Paediatric Dietitians

0191 445 2074

North Cumbria Integrated Care NHS Foundation Trust
Dietetic Department

Carlisle: 01228 814 794
Whitehaven: 01946 523 400

Guidance for the management of Cow's Milk Allergy (CMA) and lactose intolerance 2020 (Review 2023)

	Mild-moderate non-IgE CMA	Severe non-IgE CMA	IgE CMA	Lactose Intolerance
Signs and Symptoms	<p><i>(Usually several of the following symptoms)</i></p> <p>Gastrointestinal: Frequent vomiting or reflux, persistent irritability or colic, diarrhoea, constipation (especially soft stool with excessive straining), abdominal discomfort, painful flatus, blood and / or mucus in stool in otherwise well infant, food refusal or aversion.</p> <p>Dermatological: Moderate persistent atopic dermatitis, erythema or pruritus.</p> <p><i>(Symptoms can take 2-72 hours to appear after ingestion).</i></p>	<p><i>Severe persisting symptoms of one or more of the following:</i></p> <p>Gastrointestinal: Diarrhoea, vomiting, irritability, food refusal, significant blood or mucus in stool.</p> <p>Faltering growth</p> <p>Dermatological: Severe atopic dermatitis.</p> <p><i>(Symptoms can take 2-72 hours to appear after ingestion).</i></p>	<p><i>(One or more of the following symptoms)</i></p> <p>Gastrointestinal: Acute vomiting or diarrhoea, abdominal pain/colic.</p> <p>Dermatological: Acute worsening of eczema, urticaria, pruritus, swelling (angio-oedema).</p> <p>Respiratory: rarely in isolation of other symptoms. Includes acute rhinitis +/- conjunctivitis.</p> <p>Anaphylaxis</p> <p><i>(Symptoms usually within minutes but maybe up to 2 hours after ingestion).</i></p>	<p>Diarrhoea, colic.</p> <p>Symptoms are usually transient and secondary to GI insult.</p> <p>Can be hereditary.</p> <p>Clinical history (see attached guideline).</p> <p>Normal growth.</p>
Actions	<p>Cow's milk exclusion for 2-4 weeks followed by a planned reintroduction challenge (see attached titration guide). This is to check whether symptoms recur and confirm diagnosis.</p> <p>If diagnosis confirmed, refer to Dietitian for ongoing dietary advice</p>	<p>Commence cow's milk exclusion.</p> <p>Urgent Dietetic referral.</p> <p>Urgent referral to Paediatrician if infant has 2 or more of the above symptoms.</p>	<p>Commence cow's milk exclusion.</p> <p>Refer to a paediatrician with a special interest in allergy testing and management, refer to dietitian.</p> <p>NICE food allergy guideline states children with IgE allergy must not be challenged in the community.</p>	<p>Lactose exclusion (2-4 weeks) followed by a planned reintroduction challenge (see attached titration guide).</p>
Treatment – Initial Prescription	<p>Formula fed babies – Prescribe an extensively hydrolysed formula (eHF) for 4 weeks (minimum 2 weeks).</p> <ul style="list-style-type: none"> If the infant persistently refuses new formula, (see attached titration guide). If diagnosis confirmed, continue to prescribe eHF. Infants should have a planned reintroduction of cow's milk in a controlled manner after a 6 month exclusion (usually around 9- 12 months of age). <p>If symptoms do not improve after 4 weeks and CMA still suspected, prescribe an Amino Acid (AA) formula and refer to a Paediatrician.</p>	<p>Formula fed babies –</p> <p>Prescribe an Amino Acid (AA) formula.</p>	<p>Formula fed babies –</p> <p>Mild to Moderate IgE symptoms (skin, gastrointestinal, respiratory) Prescribe an extensively hydrolysed formula (eHF).</p> <p>Severe IgE symptoms (Anaphylaxis) prescribe an Amino Acid (AA) formula.</p>	<p>Formula fed babies –a range of lactose free formulae are available. These should not routinely be prescribed. Parents / carers can purchase.</p> <p>Note: Healthy start vouchers can be used to purchase lactose free formulae.</p>
Ongoing Prescription	<p>0-6 months 5-6 x 400g tins every two weeks. 6-12 months 5 x 400g tins every two weeks. Prescribe on a two weekly basis and review every 3 months. Prescription formula may be required beyond the age of 12 months, on dietetic / paediatrician advice. A cow's milk alternative e.g. calcium enriched oat, coconut or soya needs to be established before the prescribed formula is stopped.</p>			

Guideline notes:

- Symptoms of CMA occur often, but not always, within the first weeks after the introduction of cow's milk.
- Symptoms range from mild - moderate – severe.
- For Non-IgE CMA, a challenge is recommended in infants who become symptom free on a cow's milk free diet. This will help reduce the number of false diagnosis of CMA.
- Soya formula may only be considered in infants over 6 months of age.
- 35% of patients who present with CMA will also present with an adverse reaction to soya.
- Prescription formula should not routinely be required beyond the age of 12 months, except on dietetic/ paediatrician advice. A cow's milk alternative (e.g. calcium enriched oat, coconut or soya) needs to be established before the prescription of specialist formula is stopped.

History Taking

- Taking an allergy-focused history forms the cornerstone of the diagnosis of food allergies and the UK NICE clinical guideline (CG) 116 "Diagnosis and assessment of food allergy in children and young people" recommends that questions should be asked regarding:
 - Family history of atopic disease in parents or siblings.
 - The infant's history of early atopic disease.
 - The infant's feeding history.
 - Presenting symptoms and signs that may be indicating possible CMA:
 - Age of the infant/child when symptoms first started
 - Speed of onset following food contact and duration of symptoms
 - Severity of reaction
 - Frequency of occurrence
 - Details of previous management, including any medication and the perceived response to any management.
 - Was there any attempt to change the infant / child's diet and what was the outcome?
- The next important step is to differentiate between possible non-IgE and IgE-mediated allergies and decide appropriate management.

Prescribable milks	Manufacturer	Age for use	Lactose	Additional features
Extensively hydrolysed (eHF) **PRICES CORRECT AS OF March 2023**				
Similac Alimentum £10.01	Abbott	0–12 months	No	
Nutramigen 1 with LGG £11.94 Nutramigen 2 with LGG £11.94 Nutramigen 3 with LGG £11.94	Mead Johnson	0–6 months 6–12months 12 months +	No	Probiotic – need to highlight how to prepare feed in line with manufacturers guidance.
SMA Althera £9.86	Nestle	0-12 months	Yes	SMA Althera - vegetarian & Halal certified EHF, and Kosher suitable (awaiting certification) – NO porcine derived pancreatic enzymes used in manufacturing to hydrolyse protein
Aptamil Pepti 1 £9.87 Aptamil Pepti 2 £9.41 Aptamil Pepti Syneo £10.65	Nutricia	0–6 months 6–12months 0-12 months	Yes Yes Yes	Synbiotic – NB: need to highlight how to prepare feed in line with manufacturers guidance
Amino Acid (AA) **PRICES CORRECT AS OF March 2023**				
Elecare £22.98	Abbott	0-12 months	No	HMO – human milk oligosaccharide
Nutramigen Puramino £22.98	Mead Johnson	0-12 months	No	
SMA Alfamino £22.98	Nestle	0-12 months	No	
Neocate LCP £22.98	Nutricia	0-12 months	No	
Neocate Syneo £24.82	Nutricia	0-12 months	No	Synbiotic – NB: need to highlight how to prepare feed in line with manufacturers guidance.

Links & References

IMAP Guidelines can be found using the following link <https://gpifn.org.uk/imap/>

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Venter et al. Diagnosis and management of non-IgE mediated cow's milk allergy in infancy - a UK primary care practical guide. Clinical and Translational Allergy 2013 3:23.
Riza R Taylor, Erikas Sladkevicius et al. Cost effectiveness of using an extensively hydrolysed formula for cow milk allergy in the UK. Paediatric Allergy and Immunology 2011;23 : 240-249
NICE. CG116 Food allergy in children and young people: full guideline. London: NICE, 2011. Available at: <http://www.nice.org.uk>
Roberto Berni Canani, Rita Nocerino et al. Formula selection for the management of children with cows milk allergy influences the rate of acquisition of tolerance. A prospective multicentre study. The Journal of Paediatrics:
CMO update 37 Advice issued on soya-based infant formulas

Titration Guide

When changing to a specialist cow's milk protein free formula, such as an Extensively Hydrolysed Formula or Amino Acid Formula, taste may be an issue. Gradual titration may help with acceptance.

Example: For a 180ml (6 fluid ounce) bottle, the following titration guide can be used.

Feed 1	Usual formula 150ml (5 fl oz)	Prescription Formula 30ml (1 fl oz)
Feed 2	Usual formula 120ml (4 fl oz)	Prescription Formula 60ml (2 fl oz)
Feed 3	Usual formula 90ml (3 fl oz)	Prescription Formula 90ml (3 fl oz)
Feed 4	Usual formula 60ml (2 fl oz)	Prescription Formula 120ml (4 fl oz)
Feed 5	Usual formula 30ml (1 fl oz)	Prescription Formula 150ml (5 fl oz)
Feed 6		Prescription Formula 180ml (6 fl oz)

The Early Home Reintroduction to Confirm the Diagnosis of Cow's Milk Allergy

iMAP
GUIDELINE

Practical Pointers for Parents/ Carers on how to carry out the:

iMAP Home Reintroduction to Confirm or Exclude the Diagnosis of Mild-to-Moderate Non-IgE Cow's Milk Allergy

After an agreed period of cow's milk protein exclusion has resulted in a clear improvement in symptoms

A carefully planned home reintroduction of cow's milk protein is still needed to either confirm or exclude the diagnosis of cow's milk allergy because any clear improvement in your baby's symptoms could be due to other factors.

1. DO NOT start the Reintroduction if your child is unwell:
e.g. Any respiratory or breathing problems (this includes a common cold)
Any tummy or bowel symptoms
Any 'teething' symptoms which are thought to be unsettling your child
If your child has atopic dermatitis/eczema - any current flare-up of the skin
2. DO NOT start the Reintroduction if your child is receiving any medication that may upset the bowels, such as a course of antibiotics
3. DO NOT stop any medication that your baby may be on, e.g. reflux medicine
4. DO NOT introduce any other new foods during the Reintroduction.
5. Keep a record of what your child eats and drinks during the reintroduction and record any possible symptoms such as, vomiting, bowel changes, rashes or changes in their eczema

The Home Reintroduction

How you carry out the Reintroduction depends on whether you are giving any formula milk or are fully breast feeding.

Formula Fed Child

(those taking only formula feeds or taking formula as well as breast feeds)

Each day gradually increase the amount of cow's milk formula only in the FIRST bottle of the day (as set out in the example below). For the rest of the day, all the remaining bottles will continue to be made up only with the special low allergy (hypoallergenic) formula. If you are also breast feeding and on a milk free diet yourself, start eating products containing milk again, e.g milk, cheese and yoghurt.

If the symptoms return, **STOP** the Reintroduction. Give only the prescribed formula again and inform your doctor or dietitian. Your child's symptoms should settle again within a few days and the diagnosis of cow's milk allergy is now confirmed.

If no symptoms occur after day 7, when you have replaced the 1st bottle of the day completely with cow's milk formula, give your child cow's milk formula in all bottles

If no symptoms occur within 2 weeks of your child having more than 200mls. (almost 7 fl. oz.) of cow's milk formula per day, your child does not have cow's milk allergy.

A Practical Example of a Reintroduction in a Formula Fed Child

The Days	Volume of Boiled Water mls. (fl. oz.)	Hypoallergenic Formula mls. (fl. oz.)	Cow's Milk Formula mls. (fl. oz.)
Day 1	210 mls. (7 fl.oz.)	180 mls. (6 fl.oz.) in 1st bottle only	30 mls. (1 fl.oz.) in 1st bottle only
Day 2	210 mls. (7 fl.oz.)	150 mls. (5 fl.oz.) in 1st bottle	60 mls. (2 fl.oz.) in 1st bottle
Day 3	210 mls. (7 fl.oz.)	120 mls. (4 fl.oz.) in 1st bottle	90 mls. (3 fl.oz.) in 1st bottle
Day 4	210 mls. (7 fl.oz.)	90 mls. (3 fl.oz.) in 1st bottle.	120 mls. (4 fl.oz.) in 1st bottle
Day 5	210 mls. (7 fl.oz.)	60 mls. (2 fl.oz.) in 1st bottle	150 mls. (5 fl.oz.) in 1st bottle
Day 6	210 mls. (7 fl.oz.)	30 mls. (1 fl.oz.) in 1st bottle	180 mls. (6 fl.oz.) in 1st bottle
Day 7	210 mls. (7 fl.oz.)	0	210 mls. (7 fl.oz.) in 1st bottle

If no symptoms occur after Day 7, when you have replaced the 1st bottle of the day completely with cow's milk formula, give your child cow's milk formula in all bottles.

Fully Breast Fed Child

Simply reintroduce cow's milk and cow's milk containing foods into your own diet in amounts previously consumed over a 1 week period. You do not need to do this gradually.

If the symptoms return, **STOP** the Reintroduction, return to your full milk exclusion diet and inform your doctor or dietitian. Your child's symptoms should settle again within a few days and the diagnosis of cow's milk allergy is now confirmed.

If no symptoms occur, you can continue to drink cow's milk and eat cow's milk containing products, e.g. cheese and yoghurt. Your child does not have cow's milk allergy.

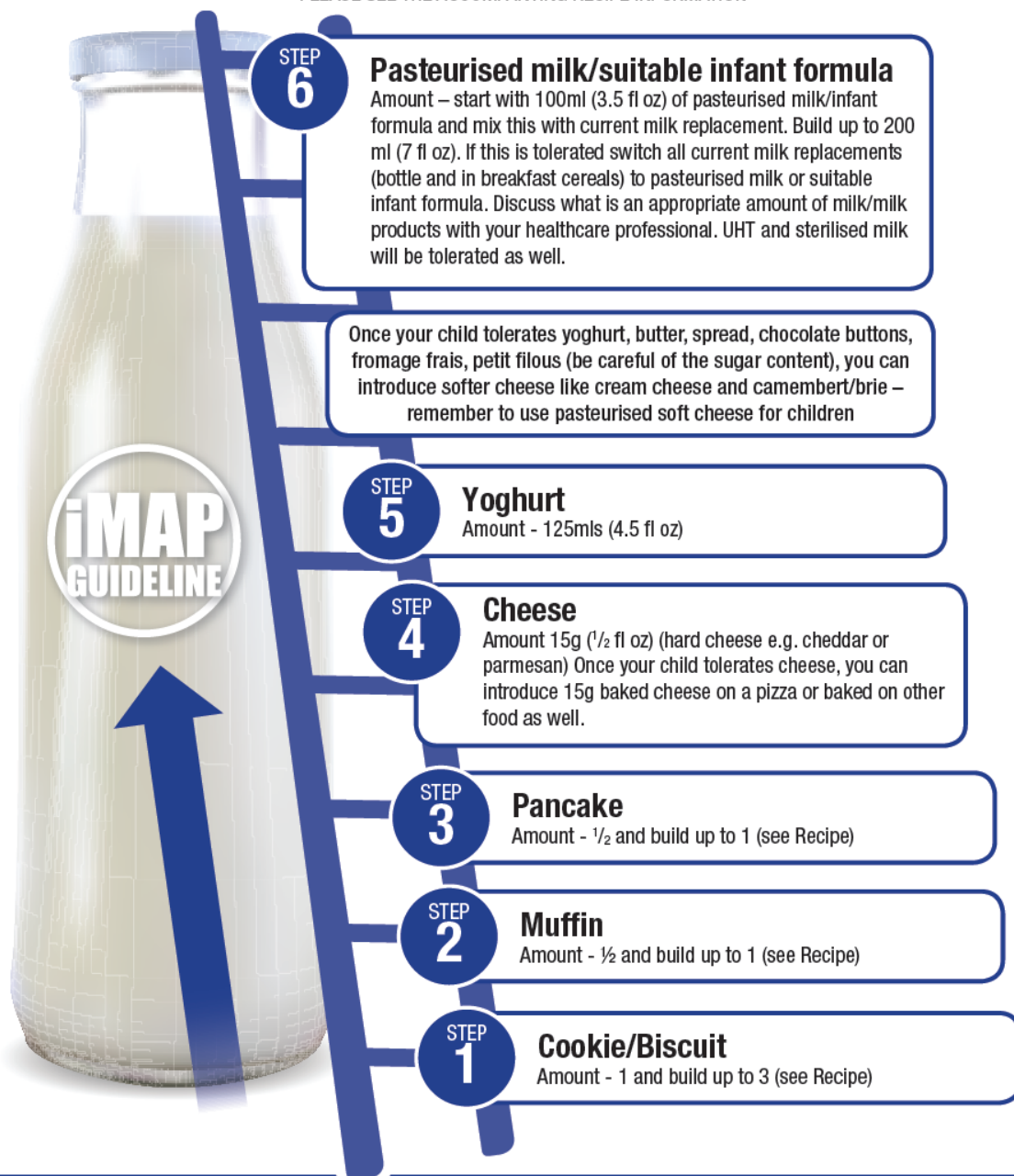
In a few children possible symptoms of cow's milk allergy may appear later when larger amounts of cow's milk protein come to be introduced into the child's diet, either when formula milk is introduced or on weaning when milk containing products or plain milk is introduced. Should this happen contact your doctor or dietitian.

Adapted from: Clinical and Translational Allergy 2013, 3:23

The iMAP ladder is included below for information, however clear guidance with supporting information/recipes will be provided at dietetic consultation.

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



AT EACH OF THE FOLLOWING STEPS

Cookie, muffin, pancake, cheese and yoghurt

It may be advisable in some cases to start with a 1/4 or a 1/2 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

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.