NHS
North East and North Cumbria

Guidelines for the recognition and management of non-IgE cow's milk allergy (CMA) in infants

Authors	NENC Medicines Optimisation Team Adapted and updated from: South Tyneside and Sunderland - Guideline for the Prescription of Infant Formula for Children with Suspected Cow's Milk Protein (CMA) Allergy or Lactose Intolerance – Approved September 2018 North of Tyne APC - Guidance for the management of Cow's Milk Allergy (CMA) and lactose intolerance in Primary Care – Approved March 2023 County Durham & Tees Valley APC and North Yorkshire & York APC - Guidelines for recognition and management of non- IgE cow's milk allergy in children – Approved February 2023
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Quick Reference Guide – Patient Pathway

Infant presents with symptoms suggestive of milk allergy.

Allergy focused history taken, alternative diagnoses considered.

Suspected non IgE CMA

Suspected IgE CMA (acute reaction)

Mild to Moderate Symptoms

- Begin trial milk exclusion for 2-4 weeks.
- Prescribe EHF (Extensively hydrolysed Formulas) for formula fed/mixed feeding – Appendix 1
- If exclusively breast-fed encourage feeding and parent exclusion
- Provide patient information.

Severe Symptoms

- Begin milk exclusion.
- Prescribe EHF orAAF if symptoms aren't controlled.
- Provide patient information.

- Advise milk exclusion.
- Prescribe EHF formula.
- Provide patient information.

Refer to local Paediatric allergy clinic.

Trial of milk exclusion up to 4 weeks
Minimum 2 weeks

Refer to local Paediatrics /Dietitian

Review (and re-challenge)

EHF not accepted.

Consider Alternative EHF for further trial.

Some improvement

Consider:
Extending trial for further 2 weeks
Alternative EHF or trial of HRF if already tried 2 EHF.

Improvement

No Improvement

If strong suspicion of non-IgE CMA trial of AAF.
Consider other exclusions eg. soya
Consider alternative diagnosis or on-going concerns regarding faltering growth.
-seek Advice from secondary care

Re-challenge with cow's milk using iMAP guidelines after 4 weeks period (can be omitted when symptoms are severe)

No return of Symptoms

NOT CMA
Keep milk in diet, consider alternative diagnosis.

Return of Symptoms

- CONFIRM diagnosis of non- IgE CMA
- Continue exclusion diet and signpost to resources.
- Refer to local dietetic services for further support and reintroduction guidance.

Continue strict milk free diet for 6 months after diagnosis or until 9-12 months of age (NICE 2011). Do not prescribe milk free formula for infants over 12 months of age, unless recommended by a dietitian or paediatrician. A calcium enriched plant-based milk can be purchased.

Advise on reintroduction of milk proteins using milk ladder under guidance of dietitian.

Quick Reference Guide – Diagnosis & Treatment table

	Mild-moderate non-IgE CMA	Severe non-IgE CMA	IgE CMA
	2-72 hours after ingestion of cow's milk protein (CMP) Usually formula fed infants/at onset of formula feeding Rarely in exclusively breast-fed infants	2-72 hours after ingestion of cow's milk protein (CMP) Usually formula fed/at onset of mixed feeding Rarely in exclusively breast-fed infants	Within minutes (maybe up to 2 hours) after ingestion of cow's milk protein (CMP)
Signs and Symptoms	*(Usually several of the following symptoms)* **Gastrointestinal:** • Frequent vomiting or reflux • Persistent irritability or colic • Diarrhoea • Constipation (especially soft stool with excess straining) • Abdominal discomfort • Blood and/or mucus in stool • Food refusal or aversion **Skin:** • Pruritus (itching) • Erythema(flushing) • Nonspecific rashes (non-urticarial) • Moderate persistent atopic dermatitis	*(Severe persisting symptoms of one or more of the following)* **Gastrointestinal**: • Diarrhoea • Vomiting • Abdominal pain • Food refusal or aversion • Significant blood or mucus in stools • Irregular or uncomfortable stools +/-faltering growth **Skin:** • Severe atopic dermatitis +/faltering growth	*(One or more of the following symptoms)* **Gastrointestinal** • Acute vomiting or diarrhoea, abdominal pain/colic. **Skin:** • Acute worsening of eczema • Urticaria • Pruritis • Swelling **Respiratory (rarely in isolation)**: • acute rhinitis +/- conjunctivitis **Anaphylaxis** • Severe IgE mediated cow's milk allergy
Actions	• Trial elimination: Cow's milk exclusion for 2-4 weeks followed by planned reintroduction challenge to confirm diagnosis. • Refer to dietetics once diagnosis is confirmed.	• Commence cow's milk exclusion. • Urgent dietetic referral • Urgent referral to paediatrics if infant has 2 or more of the above symptoms.	• Commence cow's milk exclusion. • Refer to a paediatric allergy clinic for testing (Skin Prick Testing/ Specific Ige) and management. • NICE food allergy guideline states infants with IgE allergy must not be challenged in the community.
Treatment	Formula fed babies: • If diagnosis confirmed, continue to prescribe EHF. o If the infant persistently refuses formula prescribe an alternative EHF • If symptoms do not improve after receiving 2 different EHFs and CMA is still suspected, prescribe an Amino Acid Formula (AAF), and refer to paediatrician	Formula fed babies: • Prescribe an extensively hydrolysed formula (EHF) • If symptoms aren't controlled, consider prescribing Amino Acid Formula (AAF)	Formula fed babies: • Prescribe an extensively hydrolysed formula (EHF) • If symptoms aren't controlled, consider prescribing Amino Acid Formula (AAF)
	Breast fed infants. • Emphasise the importance of breast feeding until at least 6 months. • If infant is solely breast fed advise breast-feeding parent to follow a cow's milk free diet • Calcium requirements during breastfeeding 1250mg/day – advise to buy calcium supplements. • All breastfeeding parents should also take a 10-microgram vitamin D supplement daily – these are included in Healthy Start Vitamins		

Introduction

This guideline has been developed to aid primary and secondary care health professionals (doctors, dietitians, health visitors and other supporting professionals) in the diagnosis and management of infants and young infants with non-IgE cows' milk allergy (non-IgE CMA) at the point at which they present. Most cases of non-IgE CMA can be treated in primary care with appropriate dietetic support.

This guideline is consistent with the international Milk Allergy in Primary Care (iMAP) guidelines [1] and NICE pathway[2] and provides recommendation on the presentation, diagnosis and management of Non-IgE CMA in primary care.

Aims and objectives:

- To provide a consistent approach to the management of non-IgE CMA – this pathway does not deal with IgE-mediated cow's milk allergy.
- To provide evidence-based support for diagnosis and management using the NICE Clinical pathway on non-IgE CMA and iMAP Guidelines (management of milk allergy in primary care).
- To provide a clear and concise description of infant formulae that are suitable for the treatment of infants with non-IgE mediated milk allergy (in those not breastfeeding).
- To provide/signpost primary and secondary healthcare providers with resources to support parents/carers at the time of diagnosis of non-IgE CMA.

Background

Cow's milk allergy (CMA) is the reproducible, immune mediated allergic response to one or more proteins in cow's milk. Almost all cases present before one year of age, with a prevalence of between 1.87.5% of infants during the first year of life. A UK prospective birth cohort study of food allergy found that 2.3% of 1–3-year-olds had a confirmed diagnosis of cow's milk allergy[2].

Symptoms commonly present in infancy and most affected infants present with symptoms by 6 months of age. Onset is rare after 12 months.

CMA can be classified into either immediate onset or delayed onset according to the timing of symptoms and organ involvement (See Quick Reference Guide for details).

Most infants will have symptoms that fall into mild to moderate non-IgE CMA and most then remain within primary care for the diagnosis and management.

Clinical practise suggests that most outgrow non-IgE milk allergy by 18 months - 2 years of age.

Most infants with non-IgE milk allergy symptoms, may not have a milk allergy; therefore, a diagnostic dietary elimination trial should be carried out where non-IgE CMA is suspected.

When to suspect non-IgE CMA

Non-IgE milk allergy can be difficult to identify and can present with a variety of non-specific symptoms e.g. pruritus (itching), erythema(flushing), nonspecific rashes (non-urticarial), vomiting, discomfort feeding, reflux, fresh blood flecks/streaks in stools, diarrhoea, constipation, and/or growth faltering (for full list see Quick Reference Guide).

Most of these symptoms are present in an infant at some stage in the initial few months and could be a normal variation, or related to infantile colic, reflux, constipation etc and may not suggest milk allergy. For these reasons, **confirming diagnosis via challenge is essential.**

These are different to IgE mediated symptoms which occur immediately or soon after consuming cow's milk (within 2 hours) and include:

- Urticarial rash (key symptom of IgE)
- Lip/face/tongue swelling.
- Vomiting
- Wheeze
- Abdominal pain
- Diarrhoea

Occasionally some babies may develop profuse vomiting, loose stools or low blood pressure with milk proteins, this is suggestive of FPIES (Food protein induced enterocolitis syndrome). If there is a history of these, a referral to paediatric allergy clinic should be made.

This guideline focusses on non-IgE cow's milk allergy.

It is important to consider other causes of blood in the stools, including intussusception, Meckel's diverticulum, pyloric stenosis, infection, and gastroenteritis. If the baby or child appears acutely unwell, with abdominal distension and/or passing copious amounts of red stools, please consider urgent referral to hospital via local pathways (use switchboard to contact the on-call Paediatrician).

If there is severe faltering growth or severe non-responsive eczema, diagnostic uncertainty, or failure to respond to milk free options, consider referral.

Allergy focussed clinical history.

- The infant's feeding history (breastfeeding, formula feeding or mixed feeding)– check the source of the cow's milk.
- Details of previous management, including any medication and the perceived response to any management.
- Was there any attempt to change the infant's diet and what was the outcome?
- Other details
    - Age of the infant/infant when symptoms first started.
    - Speed of onset following food contact and duration of symptoms
    - Severity of symptoms
    - Frequency of occurrence
- Weigh and measure the infant to assess growth, previous growth trends.
- Atopic history in infant, parent and siblings including other food allergies, eczema, asthma or hayfever.

Confirming diagnosis of non-IgE CMA

To manage the infant's condition appropriately, it is important to confirm the diagnosis of non-IgE CMA. This is done via a trial elimination of cow's milk and a controlled re-introduction to assess whether symptoms reoccur. [1]

Parents/caregivers should be counselled on the need for this challenge prior to prescribing CMA formula. Parents/caregivers may be resistant to re-challenge; it is important to explain that this will not only ensure their infant receives correct treatment but will also help to manage the move to complementary feeding as the infant ages.

The following resources may be sent to patients to assist in this process: Home milk challenge to confirm cow's milk protein allergy :: North East and North Cumbria Healthier Together (nenchealthiertogether.nhs.uk)

Trial Elimination:

- In breast fed infants, this should be exclusion from the feeding parent's diet (if symptoms occur when infant is breastfeeding only)
- In formula fed infants prescribe an EHF (see Appendix 1 for suggested products)
- The exclusion should last for at least 2 weeks and up to 4 weeks.
- If symptoms do not improve from exclusion, it is unlikely non-IgE CMA, consider alternative diagnosis or refer to paediatrics.
- If symptoms improve on exclusion, then non-IgE CMA is likely, but re-challenge is essential to confirm diagnosis.

Re-challenge to confirm diagnosis of non-IgE mediated cow's milk allergy:

- If the infant is breastfed, introduce cow's milk back into the feeding parent's diet.
- If infant is formula fed, follow iMAP guide on re-challenging.
- If symptoms do not return then the diagnosis is not non-IgE CMA, or the allergy has been outgrown.
- If symptoms return with challenge, then non-IgE CMA diagnosis is confirmed, and return infant to CMA free formula.

Unless severe, diagnosis of non-IgE CMA is CONFIRMED once a re-challenge has taken place.

When to refer

- All infants should be referred to local dietetic service once a re-challenge has occurred and non-IgE CMA has been confirmed, at the point that CMA formula is added to the patient's repeat medication.
- For patients under the care of North Tees and Hartlepool NHS Foundation Trust, please refer into dietetics when the initial trial elimination is commenced.
- Refer to local paediatric allergy service when:
    - Diagnosis of IgE-mediated CMA is suspected.
    - The infant has an acute systemic reaction such as wheezing, difficulty breathing or loss of consciousness.

Where there is faltering growth even after intervention with appropriate formula, especially in combination with gastro-intestinal symptoms, consider a referral to paediatrics.

Ongoing management of confirmed non-IgE CMA

There should be a strict avoidance of cow's milk protein for at least 6 months[1] after diagnosis. Do not routinely prescribe milk free formula for infants over 12 months of age, unless recommended by a dietitian or

paediatrician (for example where there is faltering growth). A calcium enriched plant-based milk (e.g. calcium enriched oat, coconut, or soya) can be purchased and prescribing can be stopped.

A calcium enriched plant-based milk should be introduced from 6 months old as part of complementary feeding in foods, and established before the prescription of specialist formula is stopped, however this should not be used as a drink until 12 months of age[1].

First line treatment is with an **Extensively Hydrolysed Formula (EHF)**. These are whey or casein based, the proteins have been extensively hydrolysed so that they are not recognised by the immune system and therefore will not trigger an allergic reaction in most infants. Also available are **Hydrolysed Rice Formula (HRF)**, these are rice based, so do not contain cow's milk proteins.

Amino Acid Formula (AAF) is second line and is considered non-allergenic. Only 10% of infants with non-IgE CMA should require management with AAF[3,4]. AAF should be reserved for infants with severe allergy or those whose condition is not resolved with EHFs.

Breast Fed Infants

The following resources may be useful to send to breastfeeding parents on how to manage non-IgE cow's milk allergy in their infant: Milk free diet for breastfeeding mums :: North East and North Cumbria Healthier Together (nenc-healthiertogether.nhs.uk)

CMA in breast fed infants occurs when the infant reacts to cow's milk protein found in the parent's diet, or when cow's milk products are added to the diet as part of complementary feeding. Advise that the parent should continue breastfeeding, but to follow a milk free diet if their infant is exclusively breastfed. If the infant is only experiencing symptoms during complementary feeding/introduction of cow's milk containing foods, then the parent should be advised to begin milk free weaning.

Review of non-IgE CMA Prescribing in Primary Care

Review the need for CMA formula prescriptions if you can answer 'yes' to any of the following questions:

- Is the patient over 12 months of age?
- Has the formula been prescribed for more than 6 months since diagnosis?
- Is the patient prescribed more than the suggested quantities of formula according to their age – see Appendix 1
- Is the patient prescribed a formula for non-IgE CMA but able to eat any of the following cow's milk containing foods – cow’s milk, cheese, yogurt, ice-cream, custard, chocolate etc.?

Infants with multiple or severe allergies may require prescriptions beyond 12 months of age. This should always be at the recommendation of the dietetic or medical team.

Videos found on the Healthier Together page can be useful in patient review: Is it cow's milk allergy? :: North East and North Cumbria Healthier Together (nenc-healthiertogether.nhs.uk)

Appendix 1 - Hypoallergenic milk formulas

Please note, they are ordered alphabetically as there is no first line formula recommended by NENC ICB

Extensively Hydrolysed Formulas (EHF)					
Product Name	**Age Range**	**Formulation (based on manufacturers product information)**			
		Protein	**Lactose Free**	**Dietary Needs**	**Probiotics**
Althera® (400g) (Nestle) (being phased out and replaced by new recipe Althera Advance)	Birth to 3 years	Whey based		Halal Kosher Vegetarian	
Althera Advance® (400g) (Nestle)	As above	As above		As above	Prebiotic (HMO)
Aptamil Pepti 1® (400/800g) **Aptamil Pepti 2**® (400/800g) **Aptamil Syneo**® (400/800g) (Danone Nutricia)	Birth to 6 months 6 months – 2 years Birth to 12 months	Whey based			✓
Nutramigen 1 with LGG® (400g) **Nutramigen 2** with LGG® (400g) **Nutramigen 3** with LGG® (400g) (Mead Johnson)	Birth to 6 months 6 months to 2 years From 1 year onwards	Casein based	✓		✓
Similac Arize® (400g) (Abbott)	From birth onwards	Hydrolysed rice	✓	Plant based Vegetarian Halal Kosher	Prebiotic (2 Fucosyl lactose)

- If first option EHF formula is not tolerated/accepted, **STOP** and then trial an alternative EHF
- For infants with **severe diarrhoea** trial **lactose-free EHF first line**
- Formula containing **pre/probiotic** should be prepared with boiled water cooled down to room temperature (not 70°C). These formulas are not suitable for premature or immunocompromised infants.
- Consider Similac Arize® or AAF if trial of two different EHF products have not been tolerated.

Amino Acid Formula (AAF) for severe CMA DO NOT INITIATE IN PRIMARY CARE UNLESS SEVERE CMA unresponsive or partially responsive to EHF					
Amino Acid Formula	**Age Range**	**Notes**	**Formulation** (based on manufacturers product information)		
			Lactose Free	**Dietary Needs**	**Probiotics**
Alfamino® (400g) (Nestle) (being phased out and replaced by new recipe Alfamino Advance)	Birth to 3 years	Contains 24.4% MCT	✓	Halal Kosher Vegetarian	
Alfamino Advance® (400g) (Nestle)	As above	As above With prebiotics (HMO)	✓	As above	
Neocate LCP® (400g) (Nutricia)	Birth to 12 months	MCT 19%, Has added Nucleotides & DHA/ARA, (Docosahexanoic acid (DHA). Arachidonic Acid (ARA)	✓	Halal Kosher Vegetarian	
Neocate Syneo® (400g) (Nutricia)	From birth	MCT 33%. Amino acid formula with pre- and probiotics (HMO, DHA/ARA and Bifidobacterium Breve)		Halal Kosher Vegetarian	✓
Nutramigen Puramino® (400g) (Mead Johnson)	Birth to 2 years	Contains 33% MCT	✓	Halal Kosher Vegetarian	

Quantities of formulae to prescribe:

Initial prescriptions should be sufficient for 2 weeks of an acceptable formulation to reduce waste. Review in 2 weeks, if infant tolerates milk formula issue second prescription to last 1 month, then review at 4 weeks to discuss improvement and re-challenge if appropriate.

- Some infants may require more formula e.g. faltering growth.

Patients who request quantities above those suggested, or where there is concern of over-ordering should be referred to dietetics for further support.

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

Age of infant	**Quantity to prescribe for 28 days**
Under 6 months	10 -12 x 400g tin
6-12 months	6 -12 x 400g tin
Over 12 months	Varies depending on clinical need

Milk Alternatives

- Calcium enriched plant-based milk should be used with cooking from 6 months onwards and as a milk alternative drink from 1 year of age.
- Store bought rice milk alternative is not suitable for infant and children under five years.
- Lactose free formula is not suitable for those with non-IgE CMA.
- Other mammalian milk proteins (including unmodified cow, sheep, buffalo, donkey, camel, horse, or goats' milk/formulae) are not recommended for infants with non-IgE CMA. Most are not adequately nutritious to provide the sole food source for infants and there is a risk of allergenic cross-reactivity with cows' milk protein.

Appendix 2 - Gastro Oesophageal Reflux Disease (GORD)

Cow's milk protein free formula can often be thin and may cause symptoms of GORD, it may also be a differential diagnosis for CMA.

Gastro-oesophageal reflux disease (GORD)

Gastro- oesophageal reflux (GOR) is the passage of gastric contents into the oesophagus. It is a normal physiological process that usually happens after eating in healthy infants, children, young people and adults. **Gastro- oesophageal reflux disease (GORD) occurs when the effects of GOR leads to symptoms severe enough to require medical treatment.**

Symptoms include:

- Vomiting (usually in the first 6 months of life)
- Regurgitation of significant volumes of feed
- Reluctance to feed
- Crying at feed times/distress
- Small volumes of feed being taken
- Irritability
- Back arching/ choking
- Chronic cough
- Faltering Growth

Treatment of GORD

It is normal and usually becomes less frequent with time and resolves in 90% of affected infants before one year of age. It does not usually need further investigation or treatment.

Refer to NICE guideline: Gastro-oesophageal reflux disease in children and young people: diagnosis and management

Rule out overfeeding by establishing the volume and frequency of feeds. Average requirement of formula is 150 mls/kg/day for babies up to 6 months and should be spread over 6-7 feeds.

Suggest a 1-2 week trial of smaller, more frequent feeds *then,*

Suggest a 1-2 week trial of thickened formula (such as by adding Carobel which can be purchased OTC)

If the above is unsuccessful, stop the pre-thickened formula and offer a 1-2 week trial of alginate therapy (Gaviscon Infant) added to usual infant formula

Review after two weeks. If symptoms are not improved despite above efforts, consider pharmacological treatment (H2 Antagonists (Ranitidine currently not available), Proton Pump inhibitors (prescribed as dissolvable tablets), sharing risks and benefits of medications with parents.

Appendix 3 – Lactose Intolerance

<table>
<tr><th colspan="3">Lactose intolerance</th></tr>
<tr><td>Symptoms include:</td><td>Abdominal bloating
Increased wind
Loose green stools</td><td>Usually occurs following an infectious GI illness but can occur alongside new or undiagnosed coeliac disease</td></tr>
<tr><td>Low lactose/lactose free formula</td><td colspan="2">Do not prescribe. These are available to buy over the counter from supermarkets & should be purchased

In infants over one year suggest use of lactose-free full fat cow’s milk, yoghurt and other dairy products which can be purchased from supermarkets (Lactose free brand)</td></tr>
<tr><td colspan="3">Review after 2 weeks to see if symptoms have improved – consider alternative diagnosis if no improvement in symptoms.

Continue low lactose/lactose free formula for a few weeks to allow resolution of symptoms then advise parent to slowly start to re-introduce standard formula/milk into diet.

Refer to secondary or specialist care if symptoms have not resolved on commencement of standard formula/milk.</td></tr>
<tr><td colspan="3">NOT APPROPRIATE IF INFANT HAS SUSPECTED COW’S MILK ALLERGY</td></tr>
</table>

Appendix 4 – iMAP re-challenge guide

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 mik 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 mik formula in all bottles.			

Fully Breast Fed Child

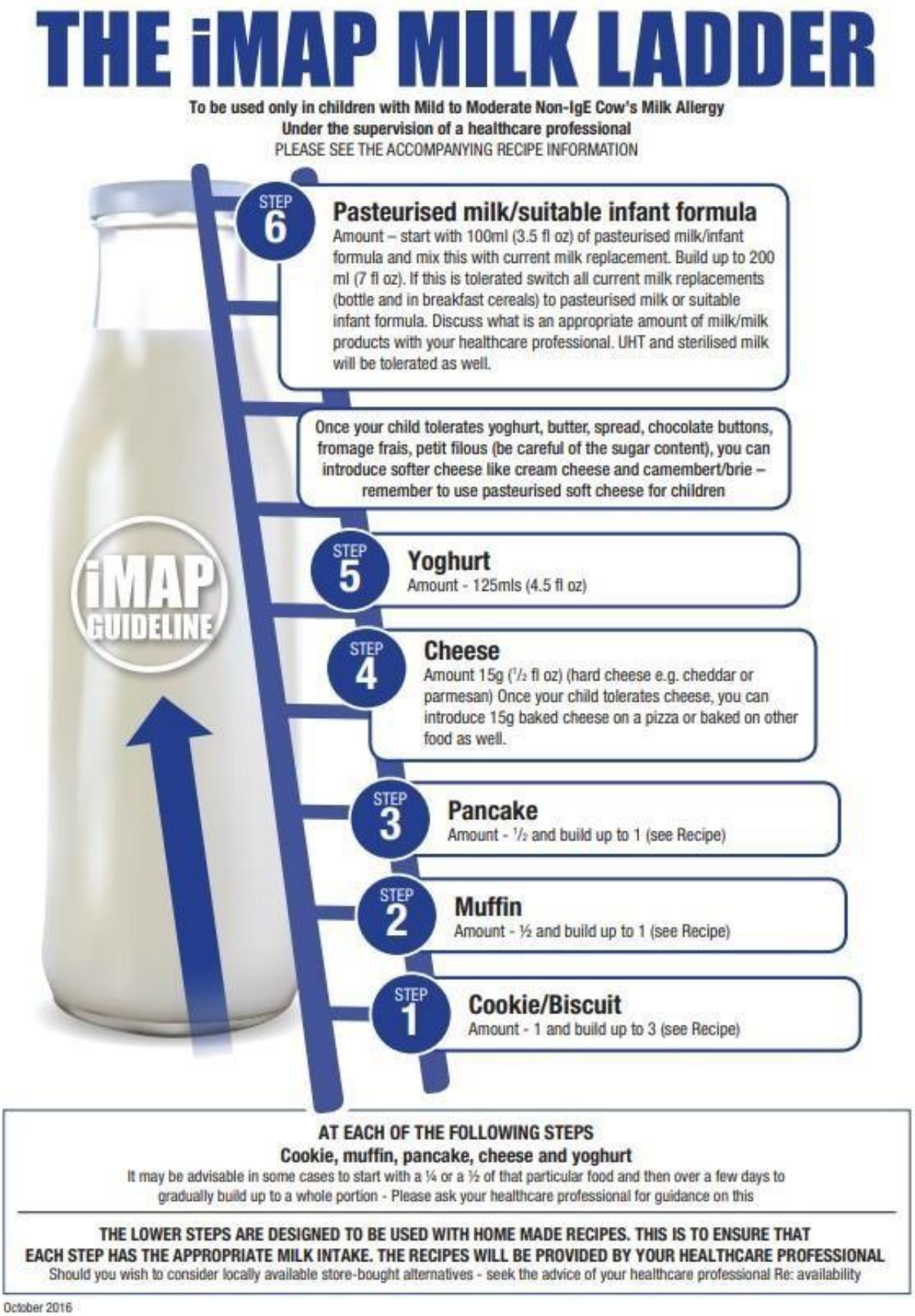
Simply reintroduce cow's milk and cow's milk containing foods into your own diet in amounts previously consumed over a 1 week period. You do not need to do this gradually.

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.

Appendix 5 – iMAP Milk Ladder



Appendix 6 - Resources

Resources for Parents

- iMAP Milk Ladder
- iMAP milk ladder recipes
- iMAP fact sheet for infants with symptoms of a possible mild to moderate non-IgE mediated allergy whilst being exclusively or partly breastfed
- Allergy UK leaflet: Could it be Cow's Milk Allergy?
- Is it cow's milk allergy?:: North East and North Cumbria Healthier Together (nenchealthiertogether.nhs.uk)
- Webinars on Food Allergy in Infants - patientwebinars.co.uk

Resources for Professionals

- Presentation of Suspected Cow's Milk Allergy (CMA) in the 1st Year of Life algorithm
- iMAP Treatment algorithm: Management of Mild to Moderate Non-IgE Cow's Milk Allergy (CMA)

Useful online resources:

- British Society for Allergy and Clinical Immunology (BSACI) website. Available at Home - BSACI
- Allergy UK factsheets. Available at: https://www.allergyuk.org/information-andadvice/conditionsand-symptoms.
- National Health Service: What should I do if I think my baby is allergic or intolerant to cows' milk? Available at: https://www.nhs.uk/common-health-questions/infantss-health/what-should-i-do-ifithink-my-baby-is-allergic-or-intolerant-to-cows-milk/.
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