# GUIDANCE ON THE DIAGNOSIS AND MANAGEMENT OF COW'S MILK ALLERGY IN INFANTS AND CHILDREN

This guideline is an update to the Sep 2018 guidelines following review of existing guidelines and implementation, and now contains all information in one document. Supplementary to this is a quick prescribing reference guide and the Nottingham and Nottinghamshire ICB Food Allergy Care Pathway.

The guideline is designed as a toolbox<sup>1</sup> to primarily support GP's and Childrens Health Teams in the differential diagnosis and initial management of cow's milk allergy, although it is relevant to all health professionals involved with patients suffering with potential food allergy.

This guideline provides information about:

- symptoms of food hypersensitivity
- how to confirm a diagnosis of cow's milk allergy
- whether use of specialised infant formula is required
- when, how and what to prescribe
- if and when the child needs to be referred to specialist community dietetic or secondary care

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Food allergy care pathway:

**Nottingham & Nottinghamshire ICB Food Allergy Care Pathway** 

Quick reference guide:

**Cows Milk Allergy Quick Reference Guide** 

# Cow's Milk Allergy (CMA)

# Recognising symptoms of food allergy

Allergy to cow's milk protein should be suspected in infants who present with one symptom (IgE mediated reaction) or a number of symptoms (non-IgE mediated reactions) listed in the following table (Table 1), in association with the introduction of cow's milk into their diet.

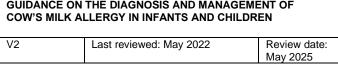
NICE guidelines<sup>2</sup> and subsequent NICE Food Allergy Quality Standards<sup>3</sup> recommend that if food allergy from any cause is suspected, then an allergy focused clinical history should be taken, including family history of atopy [risk of atopy/ food allergy increases if a parent or sibling has atopic disease (20% and 32% respectively), and is higher still if both parents are atopic (43% -72% if same form of atopy)<sup>4</sup> (see Appendix 1). A physical examination should also be conducted by a GP or other competent medical personnel. An allergy focused clinical history template is available on SystmOne, currently accessed by childrens health team staff and community dietitians and is now also available to GP practices.

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# Table 1 Symptoms of food allergy<sup>2</sup>

IgE- mediated (within 2 hours of ingestion)	Non-IgE-mediated (2-48 hours post ingestion)
The Skin	
Pruritus	Pruritus
Erythema	Erythema
Acute urticaria (localised/ generalised)	Unexplained skin rashes
Acute angioedema (commonly lips, face & eyes)	Early onset and moderate to severe atopic eczema
Acute flaring of atopic eczema	
The Gastrointestinal system (GI)	
Angioedema of lips, tongue & palate	Gastro-oesophageal reflux disease
Oral pruritus	Vomiting
Nausea	Loose or frequent stools
Vomiting	Blood and/or mucus in stools
Colicky abdominal pain	Abdominal distension and pain
Diarrhoea	Infantile colic
	Food refusal or aversion
	Soft stool constipation/ straining
	Perianal redness or nappy rash
	Pallor and tiredness
	Faltering growth plus one or more gastrointestinal
	symptoms (with/ without significant atopic eczema)
The Respiratory System (usually in combination	with one or more of the above symptoms and
signs)	
Upper respiratory tract symptoms – nasal	Upper and lower 'Catarrhal' airway symptoms
itching, sneezing, rhinorrhoea or congestion	
(with/ without conjunctivitis)	
Lower respiratory tract symptoms (cough, chest	tightness, wheezing or shortness of breath)
Other	
Signs or symptoms of anaphylaxis or other	
systemic allergic reactions	
The Respiratory System (usually in combination with one or more of the above symptoms signs)  Upper respiratory tract symptoms — nasal itching, sneezing, rhinorrhoea or congestion (with/ without conjunctivitis)  Lower respiratory tract symptoms (cough, chest tightness, wheezing or shortness of breath)  Other  Signs or symptoms of anaphylaxis or other	



# Diagnosis

# Diagnosis of non-IgE mediated cow's milk allergy

Diagnosis of delayed, non-IgE mediated CMA can be made if symptoms resolve after 2-6 weeks on a cow's milk elimination diet<sup>2-3</sup>. In children suffering from moderate to severe eczema, the exclusion trial period is suggested to be between 6-8 weeks<sup>5</sup>. However, unless highly confident of the response to the elimination diet (parents often describe them as being a different child) or in infants who have had an extensive period of distressing symptoms prior to final resolution, a firm diagnosis can only be made if re-occurrence of symptoms has been demonstrated following cow's milk re-introduction<sup>2-3</sup> (see Appendix 2). This re-introduction should not be done in children who are thought to have immediate, IgE mediated allergy. In those with more severe, distressing symptoms, resolution of symptoms can be accepted as diagnostic, with first reexposure occurring during the later stages of food introduction and integration into family meals (usually around 9-12 months of age).

#### **Bottle-fed infants**

If the mother is NOT breastfeeding exclusively, a hypoallergenic formula should be prescribed. There are two types of hypoallergenic formula and the initial formula of choice will depend upon the severity of presenting symptoms as outlined in Table 2.

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Table 2 Hypoallergenic formulas to treat CMA in Nottinghamshire

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Severity of CMA	Presenting symptoms	Type of formula	Recommended product (all available in 400g tin units)
Mild/ Moderate	For immediate, IgE mediated symptoms e.g. urticaria, lip/ periorbital angioedema and the majority of gastrointestinal and atopic symptoms of cow's milk allergy	Extensively Hydrolysed Infant Formula (EHF):  Casein based + probiotic (1st line)  Whey based with lactose*	1 <sup>st</sup> Line: <b>Nutramigen 1 with LGG</b> (0-6mths), * <b>Nutramigen 2 with LGG</b> (> 6 months age) <b>SMA Althera</b> if vegetarian/ halal or more palatable whey option required
Severe	Faltering growth, multi-system (gut, skin, respiratory)/ multiple food allergies, anaphylaxis, eosinophilic oesophagitis. Lack of symptom resolution after <b>4 weeks</b> on chosen EHF <sup>6</sup>	Amino Acid Infant Formula (AAF)  1st line – Lowest acquisition cost i.e. cheapest clinically effective option or junior milk if > 1yr  #2nd line – specialist recommendation only	1 <sup>st</sup> line: <b>SMA Alfamino</b> (<12mths age, <b>Neocate Junior</b> [> 12 months age); Flavours; unflavoured, vanilla)]  2 <sup>nd</sup> Line: <b>Neocate Syneo</b> (synbiotics) often beneficial in those with primary reflux and constipation

<sup>\$</sup>It is not essential to change to Nutramigen 2 and the child can remain on Nutramigen 1 with no significant nutritional consequences

EHF products differ in their hypoallergenicity and infant responses also vary. Recommended second line EHF is the alternate first line product (whey vs casein). Details of all second line EHF can be found in the <u>formulary</u>. It is appropriate to try 2 different EHF products for at least 2 weeks each before prescribing an AAF. EHF should be trialled for a total of 4 weeks before considering an AAF. AAF should NOT be prescribed for infants who refuse to drink EHF (see <u>Appendix 3</u>).

\*If an infant still has symptoms after 4 weeks on **first line AAF**, they should be referred to a community dietitian for assessment and/ or advice and consideration of a second line AAF; reserved for specialist recommendation only.

<sup>\*</sup>Whey-based EHF options tend to be used for infants who for palatability reasons refuse a casein-based EHF (> 4-6 months age).

#### Prescribing

It is suggested in the first instance that approximately 1 week's supply is prescribed i.e. 2 x 400g tins, to ensure the product is tolerated. Review symptoms

**Monthly prescriptions** of hypoallergenic formula are expected to comprise of approximately **10-12 x 400g tins.** This should reduce as solid intake increases (see key prescribing points).

#### Introduction of Hypoallergenic formula (HAF)

Due to the unpalatable taste of HAF, it is recommended in non-IgE mediated, delayed allergic reactions to grade (wean) the child onto it. Older children (over 6 months) are more likely to accept the more palatable, lactose containing whey based EHF. *Provide patient handout for grading onto HAF (Appendix 3) if the child is over 8 weeks of age.* 

Once the <u>4 week exclusion trial is completed</u>, the child's symptoms should be reviewed. If they continue to suffer from symptoms after 4 weeks on EHF, they should trial the first line AAF (Table 2). If they still have symptoms they should be discussed with a community dietitian, an alternative AAF may be recommended and referral to a paediatrician may be necessary.

#### For children taking solids

If the child is already taking solids, they will need to adopt a strict cow's milk free diet. **Provide**patient handout of cow's milk free dietary information (Appendix 4) and signpost to/provide

the more detailed Allergy UK cow's milk free factsheet

#### Re-challenge to confirm diagnosis in bottle fed babies

If symptoms have improved after a 4 week exclusion trial using EHF (or sooner if rapid symptom resolution observed), to confirm the diagnosis in non-IgE mediated allergy, children should be reintroduced to normal formula. *Provide Appendix 2; Home Reintroduction to Confirm or Exclude the Diagnosis of Non-IgE Cow's Milk Allergy after a 4 week cow's milk exclusion trial,* to ensure this is done safely.

Refer to community paediatric dietitian (see page 11)

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If the child's symptoms return on re-challenge, they should resume the EHF and/ or strict milk free diet as soon as this occurs, and a referral made to a community paediatric dietitian for further practical advice on following the cow's milk free diet<sup>3</sup>. It may be appropriate for children who have had a complicated path to diagnosis and ultimately require an AAF, to delay the rechallenge process until 1 year of age, assuming symptoms have satisfactorily resolved, to avoid potential further complications.

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#### **Breast fed babies**

In a small number of **exclusively breastfed infants**, CMA can develop, as cow's milk proteins from the mother's diet can pass into breast milk. These infants tend to be some of the most allergic and are more likely to suffer from multiple food allergies. For these infants, **mothers should be encouraged to continue to breast feed while following a strict cow's milk protein free diet for a 4-week trial period**. For infants with severe eczema, a cow's milk and egg free diet is recommended. It is usually advised against using key sources of soya (soya milk, yogurt, cheese) as an alternative during the trial period, as there is a high risk of concomitant soya allergy in those suffering with gastrointestinal predominant symptoms<sup>7</sup>.

In infants who are <u>mixed fed</u>, mother should continue to breast feed but should <u>not</u> exclude cow's milk or other allergens from her diet.

In line with national advice<sup>8</sup>, all breastfeeding mothers should be in receipt of 10mcg vitamin D daily which can be easily purchased from supermarkets and pharmacies. Given that cow's milk is the main source of calcium and breastfeeding mothers have high requirements for calcium, breastfeeding mothers will require calcium supplements to meet the recommended intake. Attention should also be paid to iodine intake; deficiency of which can cause irreversible effects to growth and development during infancy<sup>9</sup>. Cow's milk and products are the main source of iodine. Other good sources include fish and eggs. Provide patient handout of cow's milk free dietary information (Appendix 4) and signpost to Allergy UK cow's milk free factsheet. Fact sheets vitamin D, calcium and iodine are available from the BDA: https://www.bda.uk.com/foodfacts/home

#### Micronutrient supplements for breastfeeding mothers

Breast feeding mothers require 1250mg calcium, 10mcg vitamin D and 250mcg iodine daily.

If breast feeding mothers are entitled to Healthy Start vitamins (providing 10mcg vitamin D), they only require a calcium supplement; **Calcichew x 2 daily**, providing 1000mg calcium. The tablets should be chewed or sucked.

(SPC Calcichew: <a href="https://www.medicines.org.uk/emc/product/12847/smpc">https://www.medicines.org.uk/emc/product/12847/smpc</a>)

Otherwise, they will need a combined calcium and vitamin D supplement; Adcal-D3 caplets

(750mg Ca/ 200 IU vit D) x 2 daily will provide 1500mg calcium and 10mcg vitamin D

(SPC Adcal D3: <a href="https://www.medicines.org.uk/emc/product/4723/smpc">https://www.medicines.org.uk/emc/product/4723/smpc</a>)

Suitable affordable preparations providing the above are available to purchase from supermarkets and pharmacies. Iodine specific supplements are not readily available and advice should be given on iodine rich foods (BDA fact sheet).

**Breastfeeding support micronutrient supplements** usually contain 140-150mcg iodine (WHO recommended supplementary amount) in addition to 600-700mg calcium and 10mcg vitamin D and should be encouraged where possible.

If mothers are unable to follow a cow's milk-free diet despite support from their GP, health visitor and dietitian, then careful consideration should be given as to whether breast-feeding should continue and, if not, the infant will require hypoallergenic formula. If there is no faltering growth or multisystem/ multiple food allergy involvement, an extensively hydrolysed formula (EHF) may be tolerated<sup>6</sup>. If this is not the case, or there has been no symptom improvement after <u>2 weeks</u>, an amino acid formula (AAF) should be prescribed (see table 2).

NB/ the trial exclusion period on an EHF is shorter in babies who react to cow's milk proteins in breast milk, as there is an increased likelihood of them needing an AAF.

Early discussions around the need for an emergency supply of hypoallergenic formula should be considered in case of sudden breastfeeding failure due to illness etc., as refusal of bottles and hypoallergenic formula are more likely after 3-4 months of age. If they still have symptoms after

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4 weeks on first line AAF, they should be discussed with a community dietitian, and referral to a paediatrician is likely. Alternative AAF are reserved for specialist recommendation only.

#### Re-challenge to confirm diagnosis in breast fed babies and referral

If symptoms have improved on the 4-week exclusion trial, to confirm diagnosis in non-IgE mediated allergy, cow's milk should be reintroduced to breast fed children by mother fully returning to a normal cow's milk containing diet for a week (see <u>Appendix 2</u>). If symptoms recur, the cow's milk free diet should be resumed, and referral made to a community paediatric dietitian (see page 11).

#### **Key prescribing points:**

- Initial prescription for 1 week's supply i.e. 2 x 400g tins, to ensure the product is tolerated.
- Parents should be made aware from the beginning of how long the exclusion diet is likely to be needed for and that a re-challenge is necessary to confirm the diagnosis.
- Monthly prescriptions of hypoallergenic formula are expected to comprise of approx.:
   <6mths: 10-12 x 400g or 5-6 x 800g tins</li>
   6-12mths: 7-12 x 400g or 3-6 x 800g tins
   >12mths 5-6 x 400g or 3 x 800g tins
- Once established on a HAF, prescriptions for the formula must be reviewed every 8-12 weeks to ensure continued improvement of symptoms.
- Soya based formula should not be prescribed unless advised by a specialist.
- Repeat prescription of hypoallergenic formula should cease once a child is able to tolerate cow's milk products in the diet and a formal cow's milk re-introduction ladder should be completed to ensure they can transition onto normal cow's milk formula.
- Prescription of specialist formula beyond 1 year of age will be determined by the
  dietitian, based on their tolerance to soya milk and adequacy of dietary intake. The aim
  will be to wean off hypoallergenic formula after 1 year of age wherever possible.
  Dietitians will continue their follow up whilst they still require a prescribed formula to
  ensure this remains essential for their health and well-being.
- A '12 month review' date should be stated at the time of initial repeat prescription and the dietitian alerted to the need for dietetic review at this point.

Breastfeeding is considered the best form of nutrition for a good start in life for every child



# Referral to the community paediatric dietetic service

Referral to a paediatric dietitian is essential once a diagnosis of cow's milk allergy has been confirmed to:

- ensure nutritional adequacy and maximise growth potential

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- optimise quality of life and provide practical advice and support, particularly during complementary feeding and integration into family meals
- discuss early introduction of key allergens such as egg and peanut as part of food allergy prevention measures and ensure against unnecessary long-term exclusion of foods
- review appropriateness of prescribed products and use of alternative milk substitutes
- advise on re-introduction of cow's milk
- assess and identify emerging co-morbidities in referred patients, including atopic conditions and other food allergies

Due to differing commissioning arrangements, the referral arrangements to dietetic services and secondary care vary across the Nottinghamshire localities. Please refer to the relevant specific guideline for the referral pathway within your area.

#### Nottingham City

For those with access to SystmOne use F12 then complete the Nutrition and Dietetic service template.

For those unable to access SystmOne, referral to the community dietetic services should be made through; Health and Care Point (Online) <a href="https://www.nottinghamcitycare.nhs.uk/ourservices/nottingham-community-childrens-nutrition-and-dietetic-service">https://www.nottinghamcitycare.nhs.uk/ourservices/nottingham-community-childrens-nutrition-and-dietetic-service</a> OR Email the referral form to: <a href="mailto:NCP.CommunityDietetics@nhs.net">NCP.CommunityDietetics@nhs.net</a>

#### Nottingham County

For those with access to SystmOne use F12 then Community Nutrition and Dietetic Service-Paed referral form.

For those unable to access SystmOne, referral to the community dietetic services should be made through <a href="mailto:communitydietitians@nottshc.nhs.uk">communitydietitians@nottshc.nhs.uk</a>



## Lactose intolerance (rare in children under 3 years of age)

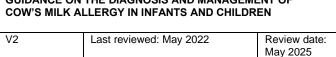
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Cow's milk allergy should not be confused with lactose intolerance, which is a non-immunological reaction caused by an enzyme deficiency e.g. transient lactase deficiency.

Lactose intolerance is <u>rare</u> in children under 3 years of age, unless onset of symptoms coincides with an episode of gastro-enteritis. Typical symptoms of lactose intolerance include loose, watery stools, abdominal bloating and pain, increased flatus and nappy rash. If other symptoms are present such as rashes, eczema, vomiting, constipation or the child is not growing well, they are more likely to have cow's milk allergy, even if some of the symptoms resolve following lactose exclusion. Lactose free formula is no longer prescribed. Refer to the <u>APC guidance on lactose</u> intolerance.

## Diagnosis of IgE mediated cow's milk allergy

Children with suspected immediate IgE mediated reactions should be advised to adopt a strict cow's milk exclusion diet, which should be accompanied by resolution of symptoms [*Provide patient handout of cow's milk free dietary information (Appendix 4) and signpost to Allergy UK cow's milk free factsheet*]. Unlike non-IgE mediated allergy, these children should <u>not</u> be rechallenged with cow's milk to confirm the diagnosis of suspected IgE mediated allergy in the community.



# Referral to specialist services

In accordance with NICE guidance <sup>2-3</sup> relating to all forms of food allergy in children, referral to secondary care (via the paediatric medicine and community electronic referral system) should occur for on-going diagnostic assessment and management in infants who have:

- had a systemic allergic reaction (acute or delayed)
- clinical/ parental suspicion of multiple IgE mediated reactions/ cross-reactions
- strong clinical suspicion of IgE mediated food allergy but allergy test results are negative
- IgE reactions to foods with a high risk of anaphylaxis e.g. tree nuts, peanuts, shellfish, kiwi, sesame
- confirmed IgE mediated food allergy alongside concurrent asthma
- faltering growth or severe acute gastrointestinal reactions despite a cow's milk exclusion trial

If the infant does not have any of the above allergic manifestations associated with severe IgE mediated or complex food allergy, it is hoped that GPs will feel confident to diagnose and manage CMA with local expert community paediatric dietetic support, without referral to secondary care. For children outside Nottingham CityCare community services, a referral to secondary care is required for all children suspected of IgE mediated reactions.

Referral to a paediatrician is indicated if the infant fails to respond to dietary exclusion alone (see commissioned food allergy care pathway).

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9. Andersson M et al, 2008. Prevention and control of iodine deficiency in pregnant and lactating women and in children less than 2-years-old: conclusions and recommendations of the WHO Technical Consultation. *Public Health Nutrition*; **10** (**12A**): 1606–1611

The revised document was reviewed by medical, dietetic and nursing representatives from Nottingham University Hospitals, Sherwood Forest Hospitals, Nottinghamshire Healthcare NHS Foundation Trust, Nottingham CityCare Partnership and Medicines Management teams

**Nottinghamshire Area Prescribing Committee** 

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# **Appendix 1** - Allergy focused clinical history assessment sheet

<u>name:</u>		DOP	NH3 IIO.
	unts of food, refer if ap	propriate to A8	es/ wheeze, lethargy or other systemic &E or refer directly to secondary care. In n.
Child's History			
Any atopic disease (eczema, asthma, h	ay fever)?		
Any parental concerns around food all	ergy or intolerance?		
Family History			
Any atopic disease in parents or sibling	-		
Were there any feeding issues with the	e parents as babies?		
Feeding History (from birth)			
Initial feeding method, changes in fe	eding and reasons w	ny e.g. stopped	d breastfeeding, started mixed feeding,
changes in formula brand or type			
Current feed volumes and frequency p	er day		
Age of weaning, types of solids introdu	ıced so far	•••••	
Any poor feeding/ food refusal/ aversi	on		
Bowels			
Consistency (slimy, frothy, hard, soft, v	watery), colour, offens	ive smell	
Frequency			
Changes in bowel habits/ at what age/	does it coincide with	anything e.g. in	troduction of formula or solids, or
following/ during a feed			
Presence of mucus or blood			
Presence of nappy rash, stool testing (	pH < 5.5, reducing sub	stances present	:)?
<u>Discomfort</u>			
Severity and type e.g. screaming, draw		-	_
Time of day, how long for, is the baby			
What settles baby e.g. position (supine	ع/ prone), alternative و	environments?.	

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<u>Sickness</u>
When does the sickness occur?
If associated with feeds, how soon after feed and after how much feed, how many times a day, how much vomi
and is it projectile?
Does anything reduce the vomiting (e.g. position - laying on front, staying upright)?
Any retching, coughing or gurgling in throat during feeding?
<u>Breathing</u>
Are they chesty, is there a cough, wheeze or nasal secretions/ blockages?
<u>Skin</u>
Rashes e.g. redness (erythema), urticaria, swelling (angio-oedema) and timing of onset of rashes following
food/drink?
Dry skin/ eczema. Severity of eczema – do they need steroid creams/ wet wraps and if so, how often? Does the
bleed?
Weight/ growth and signs of malnutrition
Are they gaining weight and growing well? Yes No
Are they active or unduly tired?
Do they look pale or frequently suffer from illnesses?
<u>Treatments</u>
What medications or other therapies have they tried so far and what has/ hasn't worked?
·
What medications are they currently on?
Have they been referred to anyone?
Name & base of Health Professional: Tel no:
Signature: Date:

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# Appendix 2 – Home Reintroduction to Confirm or Exclude the Diagnosis of Non-IgE Cow's Milk Allergy after a 4 week cow's milk exclusion trial (adapted from the iMAP home reintroduction factsheet)

- **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, bowel or teething symptoms

    If your child has atopic dermatitis/eczema any current flare-up of the skin
- 2. DO NOT start the reintroduction if your child is on any medication that may upset the bowels
- 3. DO NOT stop any medication that your child may be on e.g. reflux medicine, laxatives
- **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 dermatitis/eczema

#### The Home Reintroduction

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 in the FIRST bottle of the day only (as set out in the example below). For the rest of the day, all the remaining bottles will continue to be made up with the special low allergy (hypoallergenic) formula only. 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 1<sup>st</sup> 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 200ml (almost 7 floz) of cow's milk formula per day, your child does not have cow's milk allergy.

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#### Practical Example of a Reintroduction in a Formula Fed Child

Days	Volume of boiled water (ml/ floz)	Hypoallergenic Formula (number of scoops) IN FIRST BOTTLE ONLY	Cow's Milk Infant Formula (number of scoops) IN FIRST BOTTLE ONLY
Day 1	210ml (7floz)	6	1
Day 2	210ml (7floz)	5	2
Day 3	210ml (7floz)	4	3
Day 4	210ml (7floz)	3	4
Day 5	210ml (7floz)	2	5
Day 6	210ml (7floz)	1	6
Day 7	210ml (7floz)	0	7

If no symptoms occur after Day 7, when you have replaced the first 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 go back to eating and drinking all cow's milk and cow's milk containing foods that you were having before the exclusion trial. 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 yogurt. 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 are taken by the child; such as when formula or when milk containing products or plain milk are introduced. Should this happen, contact your doctor, health visitor or dietitian.





V2 Last reviewed: May 2022

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# Appendix 3 – Grading procedure for hypoallergenic formula

Days	Volume of pre- boiled water*	Number of scoops cow's milk formula	Number of scoops hypoallergenic formula
1	210ml (7floz)	6	1
2	210ml (7floz)	5	2
3	210ml (7floz)	4	3
4	210ml (7floz)	3	4
5	210ml (7floz)	2	5
6	210ml (7floz)	1	6
7	210ml (7floz)	0	7

In children over 6 months of age, you may need to introduce the hypoallergenic formula in 1-3tsp increments (5-15ml)/ bottle/ day if refused. Alternatively, you could consider adding a few drops of alcohol-free vanilla essence to flavour it.

\* If using a hypoallergenic formula which contains live bacteria (probiotic) i.e. Nutramigen with LGG or Neocate Syneo, you will need to make sure that the water is at room temperature before you add the powdered formula, otherwise you will kill the bacteria and not gain the benefits. Only do this once the child has fully changed onto the hypoallergenic formula.



## Appendix 4 – Providing a cow's milk free diet

European Union (EU) food labelling laws require that labels must clearly state whether milk and other common allergens, are ingredients in a food product.

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These laws apply to all packaged and manufactured foods and drinks sold throughout the UK. They also apply to foods sold loose (e.g. from a bakery, delicatessen, butcher or café) and foods packed or pre-packed for direct sale (e.g. café, sandwich bar, food outlet, market stall, some catering products). If you travel outside the UK, be aware that labelling laws are different so check ingredients carefully.

For packaged products and those prepacked for direct sale, allergens must be listed in one place on the product label (i.e. in the ingredients list) and highlighted (e.g. in bold or <u>underlined</u>). For foods sold without packaging such as in a bakery, café or pub, allergen information has to be provided either in writing or verbally. If provided verbally, the business must be able to provide further written information if requested (in the UK only). More information on food allergy labelling is available from NHS Choices: <u>Food allergy - Living with - NHS (www.nhs.uk)</u>

There are many ways in which cow's milk can be labelled, so carefully check the ingredients list on food items and avoid foods which contain:

Cow's milk (fresh, UHT)	Butter milk, butter oil	Casein (curds), caseinates

Evaporated milk Condensed m	ilk Calcium caseinate
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Milk protein	Milk solids, non fat milk solids	wney protein
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Lactose may be contaminated with milk proteins in food, so best to avoid but it is usually tolerated in medications. Milk free foods may be referred to as being 'dairy free'.

By law you must be able to clearly identify that a product contains milk/ a milk derivative. For example, if casein is listed, it should tell you in brackets afterwards that this is 'from milk'. Allergens will be highlighted in the ingredients list in **bold** or underlined.

Example of food label containing cow's milk

Olive spread (margarine):

Ingredients: Vegetable oils [including olive oil (22%)], water, whey powder (milk), salt (1.3%), stabiliser (sodium alginate), emulsifier (mono and diglycerides of fatty acids), lactic acid, natural flavouring, vitamins A and D, colour (carotenes)

**Allergy Advice:** for allergens, see ingredients in bold.

This margarine is therefore not suitable for a cows' milk free diet.

**Use of soya alternatives:** During the 4-week exclusion trial we recommend that you don't use soya milk, yogurts/ desserts, cream and cheese alternatives as there is a chance that your child may react to soya as well, thereby confusing the diagnosis. This also applies to breastfeeding mothers undertaking a cow's milk exclusion trial. We usually recommend trying soya products around 8-10 months of age, once a wide range of other foods have been introduced first.

'May contain...'/'Made in a factory...' labelling: Some labels say 'may contain cow's milk' or 'not suitable for cow's milk allergy' as the manufacturer may not be able to ensure that the product does not accidentally contain small amounts. These should generally be ok but if unsure, avoid.

You can obtain more detailed information on a cow's milk free diet from Allergy UK: https://www.allergyuk.org/resources/cows-milk-free-diet-information-for-babies-and-children/

**Infant feeding and allergy prevention for your baby.** Download guidance on introduction of solids and early introduction of allergens for prevention of further food allergies

https://www.allergyuk.org/resources/weaning-support-pack/

http://www.bsaci.org/pdf/Infant-feeding-and-allergy-prevention-PARENTS-FINAL-booklet.pdf