Cow's Milk Protein Allergy (CMPA)

Frequently Asked Questions

Understanding CMPA

What is cow's milk protein allergy (CMPA) ?

Cow's milk protein allergy is an abnormal immune response to proteins found in cow's milk. It is the most common food allergy in infants and young children, especially during the first year of life. CMPA can be either IgE-mediated (immediate reaction) or non-IgE-mediated (delayed reaction).

Are there different types of CMPA?

Yes, there are two main types of cow's milk protein allergy (CMPA), based on the immune system's response:

- IgE-mediated food allergy is caused by the immunoglobulin E antibody (called IgE). Symptoms are 'immediate' (quick to appear) and can occur within minutes of consuming cow's milk or up to two hours afterwards
- Non-IgE mediated food allergy is the most common type of cow's milk allergy and symptoms are 'delayed' (slow to appear) and are caused by a different part of the immune system reacting in a different way. The symptoms typically develop from two hours after consumption but can take up to 72 hours.

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What are the symptoms of CMPA?

Non-IgE mediated CMPA Typically 2-72 hours after ingestion of cows milk protein.	IgE CMPA Mostly within minutes (potentially up to 2 hrs) after ingestion of cows milk protein.
Gastrointestinal: • Colic or unsettled behaviour • Food refusal/ aversion • Diarrhoea or constipation • Blood and /or mucus in stools • Vomiting/ reflux • Poor weight gain	**Gastrointestinal:** • Acute vomiting or diarrhoea, abdominal pain/ colic
	Respiratory: • Acute Rhinitis and/ or conjunctivitis
Skin: • Eczema flare-ups • Nonspecific rashes • Itchy skin • Flushing skin • Dermatitis	**Skin:** • Acute itchy skin • **E**rythema urticaria angioedema (Hives, welts, raised reddish skin) • Worsening of eczema • Persisting atopic dermatitis

What is the difference between lactose intolerance and CMPA?

It's important to understand that lactose intolerance and cow's milk allergy are not the same thing, and they are managed in very different ways.

- Lactose intolerance happens when the body has trouble digesting lactose, a natural sugar found in milk. This is a digestive issue, not an allergy. Common symptoms include bloating, wind, tummy pain, and diarrhoea.

- CMPA is when the body's immune system reacts to the proteins in cow's milk as if they are harmful, causing a range of symptoms as above.

If you're unsure which one your child may have, it's best to speak to your GP or health visitor, who can help guide you through the next steps.

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Diagnosis & Medical Advice

What do I do if I suspect my child has CMPA?

- Speak to your GP or health visitor. They will assess symptoms, feeding history, and growth. If CMPA is suspected, they may refer to a dietitian and/or advise a 2–4-week elimination trial of cow's milk protein from the diet.

- Always seek advice from a healthcare professional before removing cow's milk from your baby's diet, as doing so without guidance can delay diagnosis and risk nutritional deficiencies.

How is CMPA diagnosed?

If non-IgE CMPA is suspected, allergy tests such as skin prick or IgE blood tests are not useful. Diagnosis is made clinically with the support of a dietitian and involves:

- Taking a detailed history of symptoms and feeding
- Following a 2–4 week trial elimination of cow's milk protein under professional supervision
- Reintroducing milk (a milk challenge) to confirm if symptoms return

If IgE-mediated CMPA is suspected, diagnosis may involve allergy testing (skin prick or specific IgE blood tests) & referral to a specialist allergy clinic for further assessment.

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Why do I need to see a dietitian?

They can:

- Support you through the milk-free diet, whether your child is breastfed, formula-fed, or starting solid foods
- Help with label reading and choosing safe, dairy-free foods
- Give advice about specialist formulas and how to use them
- Guide you through the Milk Ladder when it's time to try reintroducing cow's milk
- Answer any questions or concerns about your child's feeding and development

Your GP, health visitor, or allergy team can refer you to a paediatric dietitian.

What is the treatment for CMPA?

The main treatment / management is complete avoidance of cow's milk protein.

For formula-fed infants, hypoallergenic formulas may be prescribed:

- Extensively hydrolysed formula (eHF): First-line for most infants
- Amino acid formula (AAF): Used for severe reactions or if eHF fails

Breastfed babies may continue breastfeeding, if symptoms occur, mum may need to follow a dairy free diet.

For baby's who are weaning, it's important to follow dairy free weaning advice. A dietitian can help with this and help ensure your child gets the right nutrients.

When symptoms have improved and your healthcare team advises, you may start reintroducing milk gradually using the Milk Ladder, this usually starts at around 9-12months of age.

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Reintroduction & Progression

What is the home milk challenge?

The Home Milk Challenge is a safe way to confirm whether your child has non-IgE (delayed) cow's milk allergy.

After 2-4 weeks on a milk-free diet, a small amount of cow's milk is reintroduced at home. During this time, if symptoms return, it helps towards confirming the allergy. If not, cow's milk is unlikely to be the cause.

For breastfed babies, this means mum reintroduces dairy into her own diet.

For formula-fed babies, small amounts of standard formula or cow's milk (if age-appropriate) are given.

Why should I do the home milk challenge?

- It confirms diagnosis, so your child doesn't unnecessarily stay on a restricted diet.
- It helps avoid unneeded prescriptions of specialist formula
- It supports your child's feeding, growth and development

Your GP, dietitian, or allergy team will guide you and give you a step-by-step leaflet to follow. If symptoms return during the challenge, stop straight away and seek advice.

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What is the milk ladder?

The Milk Ladder is a structured approach to reintroducing cow's milk in baked and processed forms first, progressing gradually to fresh milk. It is used in children with non-IgE CMPA under healthcare supervision. IgE-mediated allergy reintroduction should only be done with specialist input.

At Harrogate District NHS Foundation Trust, we use an adapted version of the iMAP Milk Ladder, tailored to local practice and dietetic input. This version helps ensure a safe and practical approach to reintroduction

- The ladder should only be started under healthcare or dietetic guidance, usually around 9–12 months of age or after at least 6 months of symptom resolution.

Your dietitian will help guide you through each step of the Milk Ladder and advise when to progress or pause, depending on your child's response.

What if my child is ill during the ladder?

If your child has a cold, cough, or tummy bug, it's best to pause the milk ladder at their current step.

Wait until they've fully recovered before moving on, to avoid confusing illness symptoms with a reaction and to prevent undoing any progress made.

You can continue offering foods from earlier steps that were already well tolerated.

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Feeding & Formula

Can I still breastfeed if my child has CMPA?

Yes! At Harrogate District NHS Foundation Trust we fully support and encourage breastfeeding.

- If your baby had no symptoms while you were exclusively breastfeeding and consuming dairy, you can likely continue without changes.
- If allergy symptoms are present, you may be advised to follow a dairy-free diet, as small amounts of cow's milk protein can pass into breast milk.

Any dietary changes should be made under the guidance of a dietitian to ensure your diet remains nutritionally balanced, particularly for calcium and vitamin D.

What is a specialist formula? How does it work?

Specialist formulas are prescription-only and are designed for babies who cannot tolerate cow's milk protein:

- **Extensively hydrolysed formulas (eHF):** still contain cow's milk protein, but the proteins have been broken down into smaller pieces, so the immune system is less likely to identify them as harmful. Most infants with cow's milk allergy will be able to tolerate these.
- **Amino acid formulas (AAF):** For those who still have symptoms on an extensively hydrolysed formula, an amino acid formula is required. This formula is not based on cow's milk and the protein is completely broken down.

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My child is still getting symptoms, how long does the formula take to work?

Improvement is not immediate. It can take 2 to 4 weeks for symptoms to settle after starting the prescribed formula or a cow's milk free diet. If symptoms are more severe, it may take longer.

Other treatments (like creams for eczema) may also be needed alongside dietary changes.

Is it normal my child's stools have changed since starting the formula ?

Yes, stool changes can be common on hypoallergenic formulas. They may be greener, softer, smellier, or less frequent.

This is usually nothing to worry about, but if your child is passing hard stools or you're concerned, speak to your GP, health visitor, or dietitian.

Exclusively breastfed babies over 6 weeks may go several days without pooing – this can be normal if they're otherwise well.

Is goat or other animal milk a suitable alternative?

Goat, sheep, or other animal milks are often not suitable, as their proteins are very similar to cow's milk and can cause the same reaction/ symptoms.

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Are plant-based milks like almond, oat, or soya suitable?

Plant-based drinks are not suitable as a main drink under 1 year of age, but some may be used in cooking from 6 months or as a main drink after 1 year, if your healthcare team advises stopping prescribed formula.

Look for products fortified with **calcium and iodine**, such as:

- Alpro Soya Growing Up Drink 1–3+
- Alpro Oat Growing Up Drink 1–3+
- Oatly Barista / Foamable
- KoKo Super

Avoid rice milk under 5 years due to arsenic levels.
Organic versions are not fortified.
Avoid ingredients your child is allergic to (e.g. soya if allergic).

Can I give my child a lactose-free formula?

Lactose-free formulas still contain cow's milk protein, therefor they are not suitable for children with CMPA.

My child is not tolerating the taste of the prescribed formula

These formulas taste different, and it can take time for your child to adjust. Try offering small, frequent feeds and stay consistent.

If you're concerned your child isn't drinking enough or is losing weight, keep track of intake and speak to your GP, health visitor, or dietitian.

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I’m having trouble obtaining enough prescription formula every month

Prescription amounts are based on your child’s age and feeding needs, following national guidance. You’ll usually receive a trial amount first, then monthly prescriptions based on the table below:

Age	Monthly Amount of Formula
<6 months	10-13 x400 g or 5-6 x 400 g every 2 weeks
6 - 12 months	7-13x 400 g
12+ months	Approx. 7 x400g- Prescribe based on needs

If your child is part breastfed, they’ll need less formula. If your child has complex needs or multiple allergies, your healthcare team may advise a higher amount.

If you’re running out early or unsure how much you should receive, contact your GP, dietitian, or health visitor.

I’m having trouble obtaining enough prescription formula every month

After 1 year, if cow’s milk still isn’t tolerated, your healthcare team may recommend a fortified plant-based milk as a main drink.

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Support & Resources

Available support for families

Support includes dietitian consultations, specialist allergy clinics, local support groups, and national charities like Allergy UK.

Useful links

Food Allergy and Food Intolerance Testing

Allergy UK - Cows milk allergy

BDA - Milk allergy

iMAP Allergy Guideline - Initial factsheet for parents

The iMAP Milk Ladder

iMAP Home Reintroduction

iMap Milk Ladder Recipes

Contact us

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