

Cow's milk allergy: the facts

Cow's milk allergy is common in babies and often outgrown in childhood. Here you can read about the types of cow's milk allergy, the symptoms it can cause, getting a diagnosis and how to manage the allergy.

What is cow's milk allergy?

Cow's milk allergy is a type of food allergy. It happens when the body's immune system wrongly identifies proteins in cow's milk as a threat.

In the UK, cow's milk allergy affects two to three out of 100 babies. It usually starts in babies under 12 months of age and most outgrow their allergy during childhood.

Cow's milk allergy is uncommon in adults. Older children and adults who are allergic to cow's milk tend to have a more serious allergy.

What are the types of cow's milk allergy?

There are two main types of cow's milk allergy: immediate and delayed. With both types, there is often, but not always, a close family history of allergy – where a parent or sibling has a food allergy or a related condition such as eczema, hay fever or asthma.

Immediate cow's milk allergy

Immediate cow's milk allergy is also called 'IgE mediated' cow's milk allergy as it involves IgE antibodies, which are part of the immune system. Reactions usually come on very fast, between minutes and up to two hours after drinking cow's milk or eating foods that contain dairy.

Symptoms can vary, but in some people this type of allergy can cause anaphylaxis, a serious, life-threatening reaction.

Delayed cow's milk allergy

Delayed cow's milk allergy is also called 'non-IgE mediated' as it involves a different part of the immune system and does not involve IgE antibodies. Symptoms can vary but mainly affect the digestive system and skin. Symptoms usually start between four and 48 hours after drinking cow's milk or eating foods containing dairy.

There are other types of delayed allergic conditions that can be triggered by milk such as Food Protein-Induced Enterocolitis Syndrome (FPIES) and Eosinophilic Esophagitis (EoE). There are also non-allergic conditions that do not involve the immune system, such as lactose intolerance. These conditions are not covered here.

What are the symptoms of immediate cow's milk allergy?

Mild to moderate symptoms may include:

- a red raised rash (known as hives or urticaria) anywhere on the body
- a tingling or itchy feeling in the mouth
- swelling of lips, face or eyes
- stomach pain or vomiting.

More serious symptoms of immediate cow's milk allergy

More serious symptoms are often referred to as the ABC symptoms and can include:

- AIRWAY - swelling in the throat, tongue or upper airways (tightening of the throat, hoarse voice, difficulty swallowing)
- BREATHING - sudden onset wheezing, breathing difficulty, noisy breathing
- CIRCULATION - dizziness, feeling faint, sudden sleepiness, tiredness, confusion, pale clammy skin, loss of consciousness

The term for this more serious reaction is “anaphylaxis” (anna-fill-axis).

Most healthcare professionals consider an allergic reaction to be anaphylaxis when it involves difficulty breathing or affects the heart rhythm or blood pressure. Any one or more of the ABC symptoms above may be present.

In extreme cases there could be a dramatic fall in blood pressure. The person may become weak and floppy and may have a sense of something terrible happening. This may lead to collapse and unconsciousness and on rare occasions can be fatal.

[Read more about anaphylaxis.](#)

What are the symptoms of delayed cow's milk allergy?

Symptoms can include:

- stomach pains
- diarrhoea, which might contain blood
- constipation
- being sick
- itchy skin
- rash
- eczema.

Diagnosing immediate cow's milk allergy

If you think you or your child may be allergic to cow's milk, see your GP who can refer you to a specialist allergy clinic if needed. They can find a clinic in your area from the [British Society for Allergy and Clinical Immunology \(BSACI\)](#).

It's important to get a referral even if your symptoms were mild because it can be hard to tell if future allergic reactions could be more serious.

Once you get a referral, the consultant will discuss your medical history and symptoms with you. They might suggest skin prick tests, blood tests, and food challenge tests to help diagnose the allergy and work out how serious it may be.

[Read more about allergy testing.](#)

What can mean you're at higher risk?

Some clues that you might be at higher risk of more serious reactions are:

- you have already had a serious reaction, with any of the 'ABC' symptoms
- you have asthma, especially if it is not well controlled
- you have reacted to a tiny amount of milk or dairy.

If you have asthma, and it is not well controlled, this could make an allergic reaction worse. Make sure you discuss this with your GP or allergy specialist and take any prescribed medicines.

Diagnosing delayed cow's milk allergy

Delayed cow's milk allergy can be more difficult to diagnose as there are no tests for delayed allergies. Plus, symptoms can be similar to common conditions in babies, such as colic.

Delayed cow's milk allergy can be confirmed by:

- cutting out cow's milk protein from the diet for two to four weeks. This needs to be discussed with a health professional first. In bottle-fed babies, it will mean changing to a milk-free formula. In breastfed babies, it sometimes means the breastfeeding parent needs to follow a milk-free diet.
- After two to four weeks, foods containing cow's milk are reintroduced in a planned way, while monitoring symptoms.

If someone has delayed cow's milk allergy, their symptoms will improve when they cut cow's milk out of their diet and come back when they add it back in again.

Treating symptoms

If you or your child have mild allergic symptoms, you may be prescribed antihistamine medicine that you take by mouth. If you are at higher risk of anaphylaxis, you may be prescribed adrenaline to use in an emergency.

Adrenaline comes in pre-loaded adrenaline auto-injectors (AAIs) that are designed to be easy to use. Make sure you know how and when to use them. Ask your healthcare professional to show you how to use your specific brand of AAI. You can also find help on the manufacturer's website and get a free trainer device to practise with.

The adrenaline auto-injectors prescribed in the UK are:

- [Emerade](#)
- [EpiPen](#)
- [Jext](#)

You must carry two AAIs with you at all times, as you may need to use a second one if your symptoms don't improve after five minutes or get worse.

[Read more about what to do in an emergency.](#)

Seeing a dietitian

Cow's milk contains protein, energy, fat, vitamins and minerals (such as calcium and iodine). If you or your child have a cow's milk allergy, your GP or allergy clinic can refer you to a dietitian. They can talk to you about which foods to avoid and suggest dairy-free alternatives so you can eat a balanced diet. They can also advise you on whether you need to take any supplements.

Avoiding cow's milk

Once you have been diagnosed with a cow's milk allergy, you will need to avoid it and foods that contain cow's milk or cow's milk protein.

Read the ingredient lists on food packets carefully every time you shop. Cow's milk is included in the list of top 14 major food allergens in the UK. This means it must be highlighted on ingredients labels, in bold for example.

Read the ingredient list every time you buy a product as manufacturers change their recipes often.

When eating out

Restaurants, cafes, hotels, takeaways and other catering businesses are required by law to provide information on major allergens including cow's milk. Ask staff directly if the food you'd like to buy contains cow's milk and if there is a risk of cross contamination. Let them know that even small quantities can cause a reaction and don't be afraid to ask staff to check with the chef.

The following foods and ingredients can contain cow's milk protein:

- butter, buttermilk, butter oil, ghee and margarine
- casein (curds), caseinates, hydrolysed casein, calcium caseinate, sodium caseinate
- cheese, cheese powder and cottage cheese
- cow's milk, including fresh, condensed, dried, evaporated and powdered milk, such as infant formulas
- cream, sour cream, crème fraiche and ice cream
- lactalbumin and lactoglobulin
- whey, hydrolysed whey, whey powder, whey syrup sweetener
- yogurt and fromage frais.

Cow's milk may also be found in some cosmetics and personal care products – it's important to read labels carefully.

Reintroducing cow's milk

Your allergy specialist or dietitian will talk to you about whether it's possible to start reintroducing milk into your child's diet as they get older.

If they have a delayed milk allergy this will be done gradually, usually at home, following something called a 'milk ladder', where you start with small amounts of baked milk. Baked milk is less likely to cause allergic reactions than fresh milk or milk that's been lightly heated, so you will probably be advised to start with very small amounts of baked milk in foods such as cakes or biscuits.

With immediate cow's milk allergy, your child will probably need further skin prick or blood tests before adding milk back into the diet. When you do reintroduce milk, this will be supervised in an allergy clinic.

Reactions through touch and breathing in

Serious allergic reactions usually only happen after eating or drinking something containing milk protein, but reactions can happen after touching or breathing it in.

- A splash of milk on the skin can cause a skin reaction such as a rash.
- If milk gets into a cut in the skin, onto the lips or in the eyes, the reaction could be more serious.
- Cow's milk protein can become airborne when milk is heated. This could cause a reaction if you breathe it in and you are very sensitive to milk protein. For example, in coffee shops 'frothing milk' has been known to cause itchiness in the eyes and nose.

Talk to your GP or allergy specialist about these 'contact reactions' and how to manage the risk of a serious allergic reaction.

How do I feed my baby if they have a cow's milk allergy?

- **Breastfeeding**

Cow's milk allergy usually happens when formula milk is introduced to a baby's diet or when weaning on to solid foods. It happens less often in babies who are solely breastfed than formula-fed or mixed-fed babies.

If you are breastfeeding your baby and they have a cow's milk allergy, continue to breastfeed, and speak to your GP or dietitian for advice. If your baby has no allergy symptoms when breastfeeding only, there is no need for you to cut cow's milk out of your diet. If your baby does have symptoms while breastfeeding, you may be advised to cut cow's milk out of your diet, and you should be prescribed a calcium and vitamin D supplement.

- **Hypoallergenic formulas**

If your baby is not breastfeeding, your doctor can prescribe a type of hypoallergenic infant formula called 'extensively hydrolysed formula'. These are suitable for babies with cow's milk allergy as they contain fully broken-down proteins. For babies with serious allergies, an 'amino-acid formula' may be prescribed. These don't contain any cow's milk proteins.

- **The 'Comfort' range of formulas**

The 'Comfort' range of formulas are not suitable as the milk proteins are only partially broken down, so could still cause a reaction.

- **Lactose-free milk**

Lactose is a sugar naturally found in cow's milk. Lactose-free milk is not suitable as it still contains the milk proteins which cause allergic reactions.

- **Soya-based formulas**

These are not suitable for babies less than six months old. After six months, soya-based formula may be considered for some children but speak to your GP or dietitian.

- **Rice milk and other milk substitutes**

Rice milk is not recommended before the age of four and a half years. Ready-made oat, coconut, almond, pea, and other 'milk' substitutes may be used after two years of age but speak to your GP or dietitian.

- **Milk from other mammals**
Milk from animals such as goat and sheep all have similar proteins so are not recommended.

Do babies outgrow milk allergy?

Most babies outgrow their milk allergy during childhood, but some will stay allergic into adult life. It is possible but unusual for cow's milk allergy to start in adulthood.

Delayed cow's milk allergy is usually outgrown more quickly than immediate cow's milk allergy, often in the first few years of life.

Hopes for the future

Researchers are working to develop immunotherapy treatments (also known as desensitisation) for cow's milk allergy.

[Read about allergen immunotherapy.](#)

Key messages

- If you or your child have allergy symptoms after drinking cow's milk or eating foods containing dairy, visit your GP.
- Cow's milk allergy is usually outgrown during childhood.
- Your GP or allergy specialist, with support from a dietitian, can advise you on which foods to avoid and how to eat a balanced diet.
- If you are at higher risk of anaphylaxis, you may be prescribed adrenaline auto-injectors. Carry two with you at all times.

Feedback

Please help us to improve our information resources by sending us your feedback at: -

<https://www.anaphylaxis.org.uk/information-resources-feedback/>

Sources

All the information we produce is evidence based or follows expert opinion and is checked by our clinical and research reviewers. If you wish to know the sources we used in producing any of our information products, please contact info@anaphylaxis.org.uk and we will gladly supply details.

Reviewer

This factsheet was peer-reviewed by Rachel de Boer, Specialist Paediatric Allergy Dietitian.

Disclosures

We are not aware of any conflicts of interest in relation to the review of this factsheet.

Disclaimer

The information provided in this factsheet is given in good faith. Every effort has been taken to ensure accuracy. All patients are different, and specific cases need specific advice. There is no substitute for good medical advice provided by a medical professional.

About Anaphylaxis UK

Anaphylaxis UK is the only UK-wide charity solely focused on supporting people at risk of serious, life-threatening allergic reactions. We provide information and support to people living with allergies through our free national helpline. We also campaign and fundraise to achieve our ultimate aim, to create a safer environment for all people at risk of serious allergies. Visit our website www.anaphylaxis.org.uk and follow us to keep up-to-date with our latest news. We're on Facebook @anaphylaxixUK, LinkedIn, Instagram @anaphylaxisUK, Twitter @AnaphylaxisUK and YouTube.

