

Your quick guide to: Does my child have a Cow's Milk Allergy?

This factsheet has been written to help you understand and gain some advice on suspected cow's milk allergy in babies and children. Cow's milk allergy is one of the most common food allergies to affect babies and young children in the United Kingdom. While it mostly affects formula fed babies, breast fed babies can also be affected. Allergic symptoms can happen immediately after feeding or they can be delayed, as explained below.

What is a Cow's Milk Allergy?

It is an abnormal response by the body's immune (defence) system in which proteins in a food (in this case cow's milk) are recognised as potentially harmful. In individuals whose immune system has made this mistake, the immune system becomes 'sensitised'. This means that the next time that cow's milk is consumed, the immune system remembers this protein may be harmful and may react to it by producing allergic symptoms.

Are there different types of Cow's Milk Allergy?

There are two types of cow's milk allergy depending on how the immune system reacts. Symptoms that are 'immediate' (quick to appear) are caused by the immunoglobulin E antibody (called IgE). Typically these allergic symptoms happen within minutes of consuming cow's milk or up to two hours afterwards. This type of reaction is described as IgE mediated food allergy.

The other type of milk allergy happens when symptoms are 'delayed' (slow to appear) and are caused by a different part of the immune system reacting in a different way. This type of reaction is described as Non-IgE mediated food allergy and is the most common type. The symptoms typically develop from two hours after consumption but can take up to 72 hours. If cow's milk continues to be consumed in the diet, the immune system will continue to produce such symptoms

over days or even weeks.

How quickly or slowly symptoms appear will help to identify the type of reaction. With delayed symptoms the diagnosis is more difficult to make. It is rare but possible to have a combination of both immediate (IgE) and delayed (Non-IgE) symptoms.

Are there other types of reactions to cow's milk?

Cow's milk is made up of three main ingredients - protein, sugar and fat. In cow's milk allergy, it is the proteins called casein and whey that usually cause the problem. However, the sugar (lactose) in milk can also cause symptoms in some. This is referred to as Lactose Intolerance. It is important to understand the difference between lactose intolerance and cow's milk allergy and to be aware that the management of lactose intolerance is very different from that of cow's milk allergy. There are two types of lactose intolerance.

Primary Lactose Intolerance is the more common form and happens where there are reduced levels of the enzyme lactase in the digestive system. This enzyme is needed to break down lactose sugar found in milk, which the body can then absorb and use. As young children grow up and drink less milk, the amount of this enzyme gradually and naturally decreases. For some children, especially those from Asian or African ethnic backgrounds, this may mean that over time not all the lactose in the diet is broken down. Very gradually tummy symptoms begin to develop when lactose in milk is consumed. These symptoms may include bloating, tummy pains, wind and very loose poos (diarrhoea) - all of which can also be seen in milk allergy. However, this does not usually happen until later in childhood and is very unlikely to occur in young babies, which is the group most likely to show symptoms of cow's milk allergy.

Secondary Lactose Intolerance occurs

Key facts:

Allergic symptoms can happen **immediately** after feeding or they can be **delayed**

Remember that many of the symptoms of delayed allergies, such as **eczema, colic, reflux** and **diarrhoea** are common in infants and milk allergy is only one of a number of possible causes

Symptoms often start in the **early weeks** and months of life

Do not delay in seeking advice from your GP or Health Visitor

Allergy UK Helpline

Mon-Fri, 9am-5pm:

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in some babies and older children who have been unwell with a gastroenteritis infection or who have been diagnosed with other digestive system related conditions such as coeliac disease. These conditions may cause temporary damage to the digestive system and reduce lactase enzyme levels, resulting in lactose intolerance symptoms. This is usually temporary and can be expected to resolve after a short period of time, once the main cause has settled.

Key Message: The symptoms of both types of lactose intolerance can also be seen in milk allergy. This can lead to confusion with the mistaken conclusion that symptoms are due to lactose intolerance when the real reason is cow's milk allergy.

What should I do if I suspect that my child has symptoms of Cow's Milk Allergy?

The key message: Do not delay in seeking advice from your GP or Health Visitor. They will be able to assess whether the symptoms may be due to milk allergy or there is another cause. They will listen to your concerns and take an allergy focused history (a series of questions to help decide if allergy is a possible cause of the symptoms). It may be necessary for the doctor to carry out a physical examination. To get the best from your appointment, it may be useful to write down the answers to the questions below before attending, and take them with you for discussion.

- What signs and symptoms have you noticed and are concerned about?
- When did the symptoms first start?
- How long do they last?
- Have you started weaning yet? Any other food eaten, amount and form (for example as a drink, added as an ingredient in a food, cooked, baked).
- How has your baby been fed: breast milk, formula or mixed fed (breast and formula feeds)?
- Do you know or suspect a food is triggering the symptoms?
- How quickly or slowly did the symptoms appear?
- Do

such symptoms appear each time the suspected food is given?

- How much of the suspected food does your child need to eat for symptoms to appear?
- Are there any existing allergic conditions (asthma, eczema, hay fever, food allergy) or family history of such allergy? (This can increase the likelihood of your baby having a food allergy).
- Have you tried any medication or dietary changes? In addition if you think your child may be showing delayed symptoms, consider keeping a food and symptom diary of all the food eaten and symptoms seen. Listing medications and taking photos or videos of rashes, swelling etc. may also be helpful.

What tests are needed to diagnose each type of Cow's Milk Allergy?

Testing will only be discussed after a detailed allergy focused history has been taken. It will depend on the suspected type of cow's milk allergy.

What symptoms of Cow's Milk Allergy should I look out for?

Symptoms often start in the early weeks and months of life. There are many possible symptoms which may suggest your baby has a cow's milk allergy. Allergic symptoms can affect one or more of the body's systems, including the skin, digestive and, less commonly, breathing or blood circulation. Allergic symptoms may be called mild, moderate or severe. It is important to note that many of these symptoms are commonly seen in this young age group and will often be due to other simple causes.

Key Message: This highlights the importance of seeking advice from a Healthcare Professional (usually your GP or Health Visitor) if you suspect your baby has cow's milk allergy, to ensure a correct diagnosis is made.

The immediate symptoms (see table below) occur quickly after consuming

cow's milk. They are most likely to be seen when weaning starts from breast feeding or when a change is made from breast feeding to formula feeding. The symptoms will usually be mild-to-moderate and often only affect your baby's skin. It is very rare to see severe symptoms which can affect your baby's breathing or how alert they appear. However if you recognise such worrying severe symptoms, you should call an ambulance immediately as they could be potentially life threatening. This form of allergic reaction is called Anaphylaxis. Tell the emergency call handler that you suspect that it is an anaphylactic (pronounced ana-fi-lac-tic) reaction.

The delayed symptoms appear much more slowly and are also more likely to be mild-to-moderate. They are more difficult to relate to being caused by cow's milk as they happen several hours after cow's milk is consumed.

Key Message: Remember that many of the symptoms of delayed allergies, such as eczema, colic, reflux and diarrhoea are common in infants and milk allergy is only one of a number of possible causes.

In most cases of cow's milk allergy, your baby will show several symptoms in a pattern that will suggest either the delayed or immediate type of food allergy.

The following table below highlights symptoms which may suggest cow's milk allergy and groups them into IgE mediated (immediate) onset and Non-IgE mediated (delayed) onset columns for clarity. Some of the symptoms can appear in both immediate and delayed allergic reactions. However, how quickly symptoms are seen usually gives the indication for the type of reaction.

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Immediate symptoms (IgE mediated)	Delayed Symptoms (Non IgE mediated)
Skin: During feeding or soon afterwards	Skin:
<ul style="list-style-type: none"> Itchy Skin Reddening (flushing) Sudden flare of existing eczema Raised red bumps (called wheals or hives) to the face or body Medical term: Urticaria Swelling usually affecting the eyes, lips, and face Medical term: Angioedema 	<ul style="list-style-type: none"> Itchy Skin Reddening (flushing) Non-specific rashes coming and going Significant eczema (i.e. persisting, inflamed, itchy, red, dry patches of skin - not improving with treatment)
Digestive System: During feeding or soon afterwards	Digestive System:
<ul style="list-style-type: none"> Vomiting Diarrhoea (loose/runny poo) <p>Note: Should immediate onset vomiting and/or diarrhoea occur one or more of the above skin symptoms will usually also be seen.</p>	<ul style="list-style-type: none"> Colic – frequent, unexplained crying at any time, may bring legs up under tummy and be unsettled Wind - seen as the uncomfortable passing of excessive amounts of wind Reflux - bringing up mouthfuls of feeds - then swallowing or spitting out Vomiting - larger amount of feeds Mucus and/ or blood seen mixed with the stool (poo) Straining to pass soft, loose, or hard poo Weight loss or not putting on weight
Breathing: During feeding or very soon afterwards	Breathing:
<ul style="list-style-type: none"> Nose that is sneezy, itchy, runny and/or itchy, swollen, red eyes (without having a temperature) Difficulty in breathing that comes on suddenly Wheeze (whistling noise) heard because of narrowing of the breathing tubes Difficulty swallowing (due to swelling in throat) Hoarse cry (due to swelling in throat) Cough - that comes on suddenly and is persistent 	<p>Although babies may often appear 'snuffly' and have symptoms such as a blocked nose it is unlikely that this will be related to Non-IgE mediated food allergy</p>
Blood Circulation	Behaviour /Appearance:
<ul style="list-style-type: none"> Floppy, pale, limp or unresponsive (unable to easily wake) 	<ul style="list-style-type: none"> Refusal or reluctance to feed

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Suspected Immediate (IgE mediated) allergic reaction

If immediate (IgE mediated) cow's milk allergy is suspected your GP is likely to arrange a referral to a children's specialist allergy service for allergy testing and further management. The two tests which help diagnose IgE reactions are a skin prick test and a specific IgE antibody blood test (previously referred to as a RAST test). Usually the information from the allergy-focused history and the tests will be enough to confirm the diagnosis. However, if information and/or results of the tests are not clear, then an oral milk challenge (a supervised and gradual feed under the guidance of a doctor or nurse in a hospital or allergy clinic setting) may be needed to confirm or exclude whether there is an IgE mediated cow's milk allergy.

The referral process and waiting times to see a specialist will depend on where you live, and the allergy service and resources in your area. Allergy UK's Helpline on 01322 619 898 can help signpost you to an approved NHS or Private allergy clinic. If you choose not to be seen through the NHS you have the choice to pay to see a private allergy doctor.

Whilst waiting for an NHS or private appointment, your GP or Healthcare Professional should advise you on the dietary changes that you will need to start immediately.

Suspected Delayed (Non-IgE mediated) allergic reaction

If delayed (Non-IgE mediated) cow's milk allergy is suspected, skin prick testing and/or blood tests are not helpful. The diagnosis for delayed allergy needs to be confirmed or excluded by starting a trial elimination of all cow's milk protein; either from your baby's diet in the case of a formula fed baby or from your own diet if you are exclusively breast feeding. Those babies who are formula fed need to

be prescribed a special low allergy formula (called a hypoallergenic formula).

If it appears that your baby has reacted to cow's milk protein coming through in your breast milk, you will need to eliminate all cow's milk and all products containing cow's milk from your own diet. This trial elimination diet will need to be guided by your GP or healthcare professional. If you are still exclusively breast feeding, your doctor may well wish to refer you to a dietitian to ensure that both your on-going nutritional needs and those of your baby are being met.

In the more common case of the suspected allergy symptoms being considered mild-to-moderate, the length of the trial will usually be for two to four weeks (minimum 2 weeks). At the end of this agreed trial, your GP will advise you on how to gradually reintroduce cow's milk back into your child's diet at home. This process will show whether any clear improvement seen in the symptoms during the trial elimination was actually due to milk allergy. If allergy is the cause, the symptoms can be expected to return within the first few days of reintroducing cow's milk. If this happens, it will be necessary to return to the cow's milk free diet and the symptoms will usually settle again and the diagnosis of cow's milk allergy is now confirmed. It is very important that the diagnosis is confirmed by this elimination and reintroduction trial as per the NICE Quality Standard for food allergy (QS118). If these guidelines are not followed, delayed onset cow's milk allergy is likely to be over diagnosed and lead to the inappropriate management of symptoms, as well as an unnecessarily restrictive diet.

In the less common case where the suspected allergy symptoms are considered severe, your doctor will still need to advise starting this elimination diet. However if a clear improvement should be seen in the symptoms your doctor should not be advising any

reintroduction of cow's milk protein at home to confirm the diagnosis. The diet should be continued and the need for early referral to a children's specialist allergy service for ongoing assessment and care should be discussed and made as soon as possible. Where there has been no clear improvement in symptoms during any elimination trial, milk allergy is unlikely to be the cause of your baby's symptoms. Your GP will usually advise returning to a normal diet and should continue to consider other possible causes for the symptoms.

Alternative Tests for Food Allergy

The National Institute for Health and Care Excellence (NICE) recommends that testing should not be sought from unreliable sources such as online or alternative practitioners. Such testing may include kinesiology, hair analysis, Vega testing and other blood tests. These should be avoided as there is no scientific evidence to support their use in diagnosing any food allergy and such testing may result in the unnecessary removal of important food groups from your baby's or child's diet.

Diagnosis and on-going support

Your GP is responsible for the diagnosis process and for providing ongoing care, with support from a dietitian for any confirmed mild-to-moderate type of delayed onset Non-IgE mediated cow's milk. They will usually advise referral of any suspected severe Non-IgE mediated and all suspected immediate onset IgE mediated milk allergy to a children's specialist allergy service. However,

whilst waiting for your appointment, you will need to either have an appropriate hypoallergenic formula prescribed for your baby with advice on how to avoid all cow's milk and if weaning has started foods which contain cow's milk.

If you are exclusively breast feeding you should be encouraged to continue to do

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so but also be advised to exclude all cow's milk and cow's milk products from your own diet. Fortunately, most children will grow out of their cow's milk allergy in early childhood. Until that happens, your GP or allergy specialist will work with you, usually with the supporting help of a dietitian, to ensure that your child remains healthy whilst excluding all forms of cow's milk from their diet.

At the right time they will then discuss with you how you can begin to carefully introduce cow's milk protein back into their diet, usually starting with certain milk products and then gradually building up to fresh cow's milk. Please refer to Allergy UK's information factsheet titled Cow's Milk Free Diet Information for Babies and Children.

Additional Help and Resources

Further resources and information can be found on the following websites;

- www.isitcowsmilkallergy.co.uk
- www.cowsmilkallergy.co.uk

ree NICE: The National Institute for Health and Care Excellence (NICE) published a guideline on 'Food allergy in children and young people' in 2011 for all GPs and Health Visitors in the NHS. Along with this, it provided a supporting document for parents and carers. This advises on what to expect at a consultation with your Healthcare Professional and this can be freely downloaded at: www.nice.org.uk/guidance/CG116

GPs and other community based Healthcare practitioners, such as Health Visitors and community nurses, can access the iMAP (Milk Allergy in Primary Care) guidelines.

These are written by leading specialists and may help as a guide through the process of identifying, diagnosing and treating cow's milk allergy.

Clinical contributions:

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Additional Resources / References

- Cow's Milk Allergy
<https://www.allergyuk.org/about-allergy/allergy-in-childhood/cows-milk-allergy/>
- Cow's Milk Free Diet Information for Babies and Children
<https://www.allergyuk.org/resources/cows-milk-free-diet-information-for-babies-and-children/>

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