

This factsheet has been written to help you understand more about cow's milk allergy in adults. Information on cow's milk allergy in babies and younger children can be found in the following factsheet: <u>Does my</u> <u>child have a cow's milk allergy?</u> (a detailed guide on suspected cow's milk in babies and children).

How common is cow's milk allergy?

Cow's milk allergy is one of the most common food allergies to affect babies and young children. Most children will have outgrown their allergy to milk by the time they reach school age (around 5 years of age). In a small number of people who do not outgrow their allergy to cow's milk it will persist into adulthood. Where this happens, people are more likely to experience more severe allergic reactions. The sudden development of an allergy to cow's milk as an adult can happen but is very rare and as a result there has been little research carried out about it and why it might occur.

What is the difference between cow's milk allergy and intolerance?

There is a lot of confusion around what is an allergy or intolerance. Cow's milk allergy is an abnormal response by the body's immune (defence) system in which proteins in a food (in this case casein and whey proteins in cow's milk) are recognised as potentially harmful. There are two main types:

Immediate allergy (IgE mediated) is quick to appear and caused by the

immunoglobulin E antibody. 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. This is the most common type in adults. In some adults with mild IgE-mediated milk allergy, a period of prolonged and strict avoidance may result in the allergy becoming more severe. Delayed allergy (non IgE mediated) is slow to appear and 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 but it is less common in adults. 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.

Intolerance reactions do not involve IgE antibodies or the immune system. The most common mechanism for a milk intolerance is due to the milk sugar lactose. Reactions are usually delayed, occurring several hours and sometimes up to several days after eating the offending food. The symptoms caused by these reactions are usually gut symptoms, such as bloating, diarrhoea, constipation and IBS. For more on lactose intolerance, this is explained later in the factsheet.

How do you know if it is a delayed milk allergy or intolerance?

The answer is that this can be difficult to work out without a healthcare professional to look at a history of all your symptoms. In simple terms, if you have developed symptoms as you have got older and your symptoms are more delayed then an intolerance is more likely.

It is not uncommon for some people to think they have a cow's milk allergy when cow's milk in the diet causes unwanted symptoms often affecting the gut for example bloating and wind. Some people report having increased mucus and/or a cough after having milk in their diet this is not a symptom of cow's milk allergy and is related to the texture of the milk rather that the milk causing an increase in mucus being made.

Many people can develop symptoms of irritable bowel syndrome (IBS) and lactose may be one of many foods that helps to alleviate symptoms. See BDA resource

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Key facts:

Immediate allergy (IgE mediated) is **the most common type** of milk allergy in adults

Allergy testing for

immediate reactions to cow's milk can be done by

a **blood test** and/or a **skin prick test**.

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for more information: <u>Irritable Bowel</u> Syndrome Food factsheet (bda.uk.com)

How to get a diagnosis

If you suspect a cow's milk allergy it is important to discuss your concerns with a health professional, this will normally be your GP who should offer further advice on whether allergy testing is needed or whether there may be an alternate cause for the symptoms you have experienced.

Allergy testing for immediate reactions to cow's milk can be done by a blood test and/or a skin prick test, the availability of access to these tests will vary from and may require referral to an allergy specialist for the testing and further management. It is important for immediate allergy you have allergy relief medication in case of a reaction for example antihistamines in the case of mild to moderate reactions. If you are at risk of anaphylaxis, you should carry two adrenaline autoinjectors, be trained in how to use them and administer one of the autoinjectors if symptoms suggestive of a serious allergic reaction occurs. A second should be administered 5 minutes later if there is no improvement whilst waiting for emergency services to arrive, after calling 999 (see Anaphylaxis factsheet).

If symptoms are mild (IgE mediated) or delayed (non-IgE mediated) then it may be necessary to trial eliminating cow's milk from the diet for 2-4 weeks before re-introducing. Importantly, a period of prolonged avoidance may result in IgE mediated milk allergy becoming more severe. This should always be done under the supervision of Healthcare professional and not self-initiated.

What are the signs and symptoms of an IgE (immediate) mediated allergic reaction to cow's milk?

Signs and symptoms usually occur within minutes of contact with cow's milk, but

can also occur up to one hour later. Most allergic reactions are mild but they can also be moderate or severe. Anaphylaxis (pronounced ana-fil-laxis) is the most severe form of allergic reaction which can be life threatening.

Mild to moderate symptoms include:

- Itchy mouth, tongue and throat
- Swelling of lips, around the eyes or face
- Red raised itchy rash (often called nettle rash, hives or urticaria)
- Vomiting, nausea, abdominal pain and diarrhoea
- Runny nose and sneezing

Severe symptoms of anaphylaxis include:

Any one or more of the following symptoms are a sign of a severe allergic reaction (anaphylaxis) and should be treated as a medical emergency. If available, adrenaline should be given without delay and an ambulance called with the call operator informed that it is anaphylaxis.

- Swelling of the tongue and/or throat
- Difficulty in swallowing or speaking or change in voice (hoarse voice)
- Wheeze (whistling noise) or persistent cough
- Difficult or noisy breathing
- Dizziness, collapse, loss of consciousness (due to a drop in blood pressure)

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. IgG blood tests are of no proven diagnostic value, including for milk intolerance. All of these tests should be avoided as there is no scientific evidence

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to support their use in diagnosing any food allergy or intolerance and such testing may result in the unnecessary removal of important food groups from your diet.

Cow's milk free diet

A cow's milk free diet means avoiding the proteins in cow's milk. It is commonly perceived that lactose free products are suitable for people with a cow's milk allergy but this is not true as they still contain the proteins (e.g. casein and whey) that people with a cow's milk allergy react to. Other mammalian milks for example goat, sheep and buffalo milk should not be used as an alternative as these milks also contain similar proteins to those found in cow's milk and are likely to trigger reactions in those with an allergy to cow's milk. There are a wide range of plant based alternative milk products like soya, coconut, oat, almond, hazelnut, rice, hemp and pea milk readily available in supermarkets which can be found in free from sections. Please do ensure the brand you buy is fortified with calcium, you can check the ingredients list to be sure.

Replacing key vitamins and minerals:

Calcium

This mineral is the building block of our bones and teeth and is therefore very important to replace. Many plant-based alternative milks are fortified with calcium, however it is important to check the label as some are not, especially organic ones. The alternative milk products such as yoghurts and cheese are also often not fortified and therefore it is important to read food labels. As a handy guide most of the adult population require approximately 3 portions of a fortified alternative to meet their calcium requirements; examples include a 200ml cup of milk, a small pot of yoghurt or a 30g small match box piece of cheese. Some adult groups require more for example breast feeding women.

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For more information on calcium, to find out how much you need and natural food sources, see the <u>BDA calcium factsheet.</u> If you are concerned that you may not be getting enough calcium in the diet, then discuss this with a healthcare professional as you may need a calcium supplement.

Vitamin D

Vitamin D is a very important vitamin which allows us to absorb the calcium we eat. Our main source of vitamin D is through sunlight; in the UK there are only enough UVB rays between April and September. Safety measure to protect against the sun like covering up and high factor sun creams also affect our vitamin D levels.

Foods rich in vitamin D include: oily fish, eggs fortified breakfast cereals, and spreads but you cannot get enough from diet alone. The government recommendations are for everyone over the age of one year to take a 10mcg supplement all year round, this includes women who are pregnant and breastfeeding mothers.

lodine

Iodine is needed for thyroid function as well as many other processes in the body. Milk and dairy products are the main sources of iodine in the UK due to iodine supplemented cattle-feed and only some milk substitutes are fortified with it. Try to include white fish and eggs regularly in the diet as these are rich sources. See the <u>BDA</u> iodine factsheet for more information.

Reading a food label

In the UK and European Union (EU) ingredients lists on food labels have to clearly emphasised (for example in bold or highlighted) whether they contain any of the 14 most common allergens, these include milk. Outside of the EU food labelling laws will be different so it is important to check ingredients carefully, especially where food has been imported from outside of the EU or when eating out whilst on holiday.

Example of a food label highlighting that it contains cow's milk:

Olive spread:

INGREDIENTS: Water, Vegetable Oils (37%) [Rapeseed Oil, Palm Oil], Olive Oil (22%), Whey Powder (from Milk), Salt (1.1%), Emulsifier (Mono- and Diglycerides of Fatty Acids), Stabiliser (Sodium Alginate), Preservative (Potassium Sorbate), Colour (Carotenes), Flavouring, Vitamin A, Vitamin D.

Allergy Advice! For allergens, see ingredients in **bold**.

Common milk containing products and ingredients listed on food items.

- Cow's milk (fresh, UHT)
- Evaporated milk
- Condensed milk
- Buttermilk
- Butter or butter oil
- Ghee
- Cheese
- Yogurt
- Fromage Frais
- Margarine
- Ice cream
- Cream/ artificial cream
- Casein (curds), caseinates
- Calcium or sodium caseinate
- Hydrolysed casein
- Whey, whey solids, whey powder, whey protein, whey syrup sweetener, hydrolysed whey protein
- Milk powder, skimmed milk powder, milk sugar, milk protein, non-fat milk solids, modified milk

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- Lactoglobulin
- Lactoalbumin

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Eating out

Cross contamination of milk when eating out can be a concern for adults with a severe immediate milk allergy. Particular care should be taken in pizza restaurants, ice cream vendors and coffee shops. All restaurants by law should provide an allergy labelled menu but cross contamination should also be highlighted at the time of ordering.

May contain & Made in a factory labelling statements:

Currently there is no law to say when these statements should be used on a food product. There is large variation between products, but generally, snacks and dry foods such as cereals, cereal bars, biscuits, and nuts are at more risk of crosscontamination with allergens at source and during manufacturing than other foods. Products that are labelled as vegan should not be assumed to be safe and may contain a may contain warning for milk (especially chocolate and ice cream products).

It is very hard to decide what the risk of an allergic reaction would be for every product, but you are more likely to tolerate low levels of contamination if you have delayed reactions to milk unless you are extremely sensitive.

Medication containing lactose

Some medications contain lactose and causes concern for people with milk allergy. If this is medical grade lactose the milk content will be very minimal and may be tolerated by many individuals. Please do check ingredients and discuss your concerns with a doctor or pharmacist.

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 such as casein and whey that cause the problem. However, some people are intolerant to the

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sugar (lactose) in milk. 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 varies from that of cow's milk allergy.

What is lactose intolerance?

Lactose intolerance occurs when the body has difficulty digesting lactose due to reduced levels of the enzyme lactase. Lactase is needed to break down lactose sugar found in milk. When lactose is undigested it draws water into the gut and is fermented by bacteria causing the following symptoms:

- Abdominal pain
- Constipation
- Diarrhoea or loose stools
- Wind and bloating
- Nausea

For both cow's milk allergy or lactose intolerance if you feel your diet is overly restricted then a referral to a dietitian to help you look at suitable options and alternatives may be helpful.

Clinical contributions:

Allergy UK Clinical Team

Laura Phillips, Clinical Dietetic Advisor

Allergy UK Clinical Team Professor Stephen Till, Professor of Allergy at Guy's and St Thomas' Hospitals and King's College London

Additional Resources / References

Lactose Intolerance

https://www.allergyuk.org/resources/lactose-intolerance/

Travelling with a Food Allergy

https://www.allergyuk.org/resources/food-allergies-and-travel/

This Factsheet was prepared by Allergy UK's Clinical Team.

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