Cow's Milk Allergy



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Cow's milk and soya allergy

The estimated prevalence of cow's milk allergy (CMA) varies between 0.25% and 4.9%, being higher in children than adults. It occurs when the body's immune system reacts to proteins found in milk. Allergic reactions can be immediate (within minutes to two hours of taking milk or milk products) or delayed (between two to 48 hours or longer). Symptoms can vary from mild to severe and include:

- Diarrhea or constipation (often with a sore, red bottom).
- Reflux or vomiting.
- Colicky stomach pain with constant screaming and back arching.
- Abdominal bloating or distension.
- Blood or mucus in stools.
- Itchy skin rashes (redness or hives).
- Swelling of the face, eyes or lips.
- Eczema flares (also called atopic dermatitis).
- Difficulty feeding or food refusal.
- Poor appetite and slow growth (also called faltering).
- Runny or blocked nose.
- Wheeziness or coughing.
- Swallowing or breathing difficulties (rare).

Diagnosis

It is important that food allergies are diagnosed by a healthcare professional with the right training. They will ask questions about the symptoms and may perform tests. The type of tests will depend on the type of reactions that are experienced.

For immediate reactions

Skin prick tests or blood tests that measure 'specific IgE antibodies' may be used to help with the diagnosis. These results can be difficult to interpret without an allergy specialist. Sometimes, a food challenge (where increasing amounts of the suspected food are given and symptoms monitored), may be needed before a diagnosis can be made. This will only be carried out in a safe hospital setting.

For delayed reactions

At present, the most reliable method for diagnosing delayed reactions is a food exclusion and reintroduction diet. This involves the removal of the suspected food(s) from the diet for a set period of time. The food is slowly re-introduced to see if it causes a reaction. This can be difficult and a registered dietitian can help to ensure it's done safely and key nutrients aren't being left out of the diet.

Some companies offer food allergy or intolerance tests that measure 'IgG antibodies', but these are not a reliable way of diagnosing a cow's milk allergy or intolerance. Other tests such as hair analysis, kinesiology testing and vega testing have also been found to be unreliable.

Management

Cow's milk allergy should in most cases be treated with a strict cow's milk free diet. Your dietitian will help you to avoid milk while making sure that your child gets all the nutrition they need to grow and develop well. As most children will outgrow their allergy, it is important that they are regularly reviewed. This will help prevent unnecessary avoidance of foods. You should discuss with your dietitian or doctor when and how to re-introduce cow's milk safely. In some cases, they may recommend that your child has a food challenge in hospital.

Lactose intolerance

Lactose intolerance is often confused with cow's milk allergy but it is NOT an allergy. It occurs when the body can't digest lactose, a type of sugar in milk. It is generally a temporary condition that can happen after a bout of gastroenteritis (stomach bug). It can also occur alongside coeliac disease or other conditions that cause gut inflammation. Some people have a genetic form of lactose intolerance that is not temporary. This is rare in children under one and generally develops later in childhood or adulthood.

Typical symptoms include loose, watery stools and abdominal bloating or pain after eating foods containing lactose. If your child has other symptoms such as rashes, vomiting, constipation, or is not growing well, they are more likely to have cow's milk allergy than lactose intolerance. Unlike the treatment of cow's milk allergy where ALL cow's milk products should be avoided, lactose intolerance is treated by following a low lactose diet. Most children with lactose intolerance can manage to eat some low-lactose foods (e.g. hard cheese, butter and yoghurt) and even small amounts of cow's milk without causing any symptoms.

This diet is free of both cow's milk protein (casein and whey) and lactose (milk sugar). Goat's and sheep's milk should also be avoided as they contain similar allergenic proteins to cow's milk.

The following sections will help you to provide a strict cow's milk free diet for your baby or child.

Further help for those able to tolerate small amounts of milk or who appear to be growing out of their allergy can be provided by your dietitian.

Milk substitutes for babies and children

Breastfeeding provides the best source of nutrition for babies. It is suitable for most babies with cow's milk allergy. Occasionally, breast fed babies can react to milk proteins in breast milk from their mother's diet. If your baby reacts to breast milk, you may be advised to avoid or limit intake milk and dairy products whilst breastfeeding. Please note, this action should be discussed with your doctor. This is usually a trial for up to eight weeks to see if your baby's symptoms improve. If they do not, and you were following the diet strictly, you may need to exclude other know allergens like soya or egg. If there is no improvement after the exclusion you can return to a normal diet.

If your baby is having infant milk formula with or without any breast milk, it will need to be changed to a hypoallergenic infant formula. Your dietitian will give advice on the best one for your baby. These formulas are available on prescription through the hospitals, HMC and Sidra.

- Extensively hydrolysed formulas (where the cow's milk protein is broken down into small pieces.
- Amino acid formulas (this formula is not based on cow's milk and protein is completely broken down).

It is important to know that hypoallergenic formulas have a different taste and smell to ordinary infant formula. Most babies under six months of age will readily accept the change. For older babies and children who have a delayed-type allergic reactions, it may help to gradually introduce it over a few days, mixing it with their usual milk. This will help them get used to the

taste. You may notice that the hypoallergenic formula makes your baby's stolls go dark green and less frequent. This is quite normal and no cause for concern.

How long should I use the recommended hypoallergenic formula for?
The formula recommended for your child may need to be changed depending on your child's age, dietary intake, growth and severity of reactions to cow's milk. Your child will need regular assessments by a dietitian to make sure they are on the most suitable formula or alternative milk substitute. If your child appears to be growing out of their milk allergy, your dietitian will give advice on when and how to stop the formula.

What about soya formula?
Ideally, soya infant formula should not be given to babies under six months of age. In babies over six months of age, your dietitian will give advice on whether soya formula is a suitable option.

What about other types of cow's milk substitute?
Plant-based cow's milk substitutes such as oat, soya, pea, coconut, hemp and quinoa liquid milks can be used in cooking for most babies over six months of age. Try to choose one that has about 120mg calcium per 100ml. They should not be given as a main drink until your child is about two years of age. Check with your dietitian that soya milk and soya milk products are suitable for your child as some children with cow's milk allergy may also be allergic to soya.

Goat's milk and sheep's milk are not suitable because they are very similar to cow's milk. Babies are likely to be allergic to them too. Rice milk should not be given to children under four and half years of age, due to concerns about the presence of naturally occurring arsenic.

How much milk substitute should I give?

Most babies under one need to take 600ml (20oz/one pint) of their hypoallergenic formula each day to meet their nutritional requirements. If your baby consumes less than 600ml you will need to inform your dietitian, who can check to see if they need any supplements.

Children over one year, will generally need about 120ml (4oz) of a milk substitute three times each day. However, they may need more or less than this depending on the vitamin and mineral content of their diet. This should be assessed by your dietitian on a regular basis.

If your child isn't drinking enough milk substitute, try using it on breakfast cereals and in cooking e.g. to make savory white sauces for fish and pasta or puddings such as custard or rice pudding.

Vitamin and mineral supplements

Breastfeeding mothers following a cow's milk free diet should continue to take a vitamin D supplement (600 IU/day). A calcium supplement may also be needed, unless you are drinking more than 500ml of a calcium rich cow's milk substitute a day (discuss this with your dietitian).

Calcium is often a nutrient of concern for children on a milk free diet – particularly if they are not having enough cow's milk substitute or non-dairy foods that are rich in calcium. If you have concerns, discuss these with your dietitian who can advise you further.

If your child is avoiding other foods in addition to milk and dairy products, your dietitian may suggest additional vitamin or mineral supplements.

Weaning

Weaning a baby who has a cow's milk allergy should be the same as weaning a non-allergic baby, except that you must not give any foods that contain cow's milk or dairy products (e.g. yoghurt, laban, cheeses, cream or butter). You should aim to start giving them solid foods at around six months but not before four months (17 weeks). If your baby was premature, check with your dietitian about the best time to wean. As your baby grows, you should keep offering different textures and flavors to help your baby learn to like a wide variety of foods. Please see the examples below for some suitable meal and snack ideas.

Begin weaning with low allergenic foods such as pureed rice, potatoes, root and green vegetables and fruit. Use a little of your baby's usual milk (breast or hypoallergenic formula) to mix the food to the desired consistency. There are still uncertainties about the best time to introduce other common allergenic foods (e.g. egg, soya, wheat, peanuts and other nuts, sesame seeds, mustard seed, celery, fish and shellfish) into the diet of a baby with a cow's milk allergy. These foods do not usually need to be avoided once your baby is over six months old. If you are advised to start giving your child allergenic foods, introduce one new food at a time. This will help you to identify any foods that your baby reacts to. It is important that this weaning stage is done under the guidance of a dietitian.

Honey and soft egg yolk should not be given to children under the age of year.

Meal and snack ideas suitable for weaning your baby

Stage One - (First Foods should be pureed or mashed):

- Soft fruits and cooked vegetables (e.g. cooked apple or pear, avocado, banana, carrot, butternut, pumpkin, sweet potato).
- Milk free baby cereals made with your child's milk substitute (e.g. baby rice, baby porridge. Please note some of these products may contain milk so carefully check the ingredients list on the label).
- Pureed or mashed up meat, chicken or lentils.
- Milk free breakfast cereal or porridge with milk substitute and fruit puree or mashed banana.

- Toast* fingers with milk free margarine.
- Snacks & finger foods.
- Small pieces of soft, ripe fruit (e.g. strawberries, banana, peach, mango, melon).
- Dried apricots or raisins(ground).
- Raw vegetable sticks (e.g. cucumber sticks, peppers).
- Lightly cooked vegetable pieces (e.g. broccoli and cauliflower florets, carrot, parsnip and courgette /zucchini sticks, green beans).
- Bread sticks* or rice cakes* with hummus, mashed avocado, or dairy free cheese spread.
- Sandwiches with turkey /chicken/tuna/egg mayonnaise*/dairy free cheese, cucumber slices and milk free margarine.
- Toast* with baked beans* and well-cooked scrambled egg (made with milk substitute) and milk free margarine.

Main meals

- Minced or finely chopped meat or flaked fish served with:
  * pasta in a roasted vegetable and tomato-based sauce or a milk free white sauce with finely grated dairy free cheese could be added to the sauce. Alternatively, a soya cheese spread which could be added to cooked pasta to make a sauce.
  * mashed potatoes/chopped roast potatoes, mashed/chopped vegetables.
- Fish, mashed potato (e.g. milk substitute and dairy free margarine) and vegetables.
- mashed, cooked lentils/dhal, chickpeas or other pulses with well-cooked boiled rice.

Puddings/ desserts:

- soft ripe or dried fruit (e.g. puree).
- dairy free yogurts, desserts/ice cream/custard with fruit.
- rice pudding, semolina or custard made with milk substitute.
- milk jelly or egg custard made with milk substitute (not suitable if your child has an egg allergy).
- fruit crumble made with milk free margarine.

* may contain milk, always check the label for 'may contain milk'.

Tip: Try making-up batches of milk free meals/puddings and freezing them in ice-cube trays to allow you to serve small portions with less waste.

Stages

Stage Two:
Introducing food that is is mashed with soft lumps and soft finger foods.
Stage Three:
Introducing food that is minced or chopped family foods and hard finger foods.

Note: If your child has other food allergies, check with your dietitian that it is safe to eat all the foods recommended below.

Checking food labels

In many countries it is law that the food labels must clearly state whether cow's milk (as well as other common allergens) is an ingredient in a food product. As there are many products imported from these countries, these may be highlighted, but this many not always be the case so check ingredients carefully.

Foods that are sold loose (e.g. from a bakery, delicatessen butcher or café) or foods packed for direct sale (e.g. sandwich bars, market stall, some catering products), do not have ingredients list, therefore always ask the shop assistant/chef .

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)
- Evaporated milk
- Yogurt, fromage frais
- Margarine
- Ice cream
- Milk powder
- Milk protein
- Milk solids
- Whey protein
- Calcium caseinate
- Hydrolysed whey protein
- Lactoglobulin
- Lactoalbumin
- Butter milk, butter oil
- Modified milk
- Sodium caseinate
- Hydrolysed casein
- Casein (curds), caseinates
- Whey, whey solids
- Milk sugar
- Skimmed milk powder
- Cream/ artificial cream
- Butter, Ghee
- Cheese
- Condensed milk

* Lactose – in most cases only needs to be avoided if your child has lactose intolerance or is highly allergic to cow's milk protein.

Tip: Always check the label. Manufacturers change their ingredients from time to time e.g. 'new improved recipe'. It is always safer to recheck the ingredients list.

Allergy statements/boxes

Many food labels also have an allergy advice statement or allergy box saying they contain a certain food, (e.g. nuts, milk, eggs) but this is voluntary. If there is no allergy statement on the label, do not assume the product is safe to eat. Always check the ingredients list. If the allergy statement does not match what the ingredients label is telling you, do not eat the food until you have checked with the manufacturer.

Example of a food label

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

Allergy Advice: Contains milk

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

May contain...' or 'Made in a factory...' labelling statements

At present there is no law to say when these statements should be used on a food product. It is very hard to decide what the risk of an allergic reaction would be with every product. As this type of labelling is used on lots of foods, it is important to discuss this with your dietitian and get advice on the safest approach to these foods for your child.

Cross contamination

Cross contamination can occur whilst preparing foods. If you need to avoid traces of cow's milk, ensure that all work surfaces and chopping boards are well cleaned. Use separate containers for jams, butter etc. and use clean utensils for serving them. High risk situations where cross contamination can occur include: barbeques, buffets, deli-counters and self-service salad bars. Pre-packed sandwiches are also a risk for cross contamination and are best avoided.

The following pages give examples of cow's milk free foods and foods which may contain cow's milk. Please note this is not an exhaustive list - always check labels.

Suitable foods	Foods that may contain milk	Foods to avoid
Milk and Dairy Products Milk formula substitute: • Oat milk, soya milk, coconut milk, quinoa milk, hemp milk, nut milk e.g. Almond milk , rice milk if over four and a half years of age. • Soya cream, oat cream. • Soya cheese (hard, soft, melting, parmesan type). • Soya yoghurts and desserts. • Soya, coconut, rice, nut ice cream.		• Cow's milk, lactose free milk, goats milk, sheep's milk including skimmed, semi-skimmed, full fat. • Rice milk in children under four and a half years of age. Dried milk, evaporated milk, condensed milk, flavored milk, coffee compliment, other whitener, cream, artificial cream. • Cheese, yoghurt/ yoghurt drinks, ice cream, buttermilk, quark. • Milks/yogurts/ cheeses, that still contain milk protein.
Fats and Oils • Pure fats, oils, suet dripping, Dairy free margarines, or • vegan spreads.	• Soya margarine	• Butter, shortening, margarine, low fat spread, ghee.

Suitable foods	Foods that may contain milk	Foods to avoid
Cereals • Flour, corn flour, oatmeal, barley, oats, rice. • Dried pasta, couscous. • Homemade pizza using suitable ingredients. • Some biscuits/ crackers.	• Bread – whole meal, brown and white (most are milk free), chapatti, naan bread. • Crackers, crisp breads, • Cakes, biscuits. • Filo pastry, puff pastry. • Fresh pasta, tinned pasta in sauces, pot noodles. • Breakfast cereals – many are milk free e.g. Shreddies™, Weetabix™, Cheerios™, Cornflakes™, Rice Krispies™. • Savoury rice.	• Milk breads, fatayer, fruit loaves, soda bread, brioche, croissants, pastry. • Filled pasta e.g. lasagna. • Pizza. • Muesli, breakfast cereals containing chocolate.
Meat, Fish and Alternatives • All meats, fresh and frozen, poultry. • All fish fresh and frozen, shellfish. • Eggs. • Pulses: lentils, beans, hummus.(dairy free) • Soya mince. • Tofu.	• Sausages, beef burgers, pate, meat paste. • Breaded meat products e.g. chicken nuggets. • Fish in sauces, in breadcrumbs, fish fingers, tinned fish, fish pastes and pates. • Ready made meals.	• Quiche, sausage rolls, meat pies. • Scotch eggs, scrambled egg, quiche, omelet. • Fish in batter.

	• Baked beans and food from fast food restaurants and takeaways. • Dry roasted or flavored nuts, peanut butter.	
Vegetables • All types of fresh, frozen, tinned and dried.	• Instant potato, potato croquettes, oven chips, potato crisps and other savory snacks. • Vegetables in sauce. Baked beans. • Coleslaw.	• Vegetable pies, vegetables cooked with butter, white sauce or cheese.
Fruit • All types of fresh, frozen, tinned and dried. • Fruit juice.	• Fruit puddings, fruit pie fillings.	• Fruit yoghurts, fools and mousses, chocolate coated fruit, fruit pies, fruit in batter.
Puddings/ desserts • Rice, sago, tapioca and semolina made with milk substitute. • Soya desserts. • Jelly. • Homemade milk free puddings e.g. sponge, crumble. • Birds Original Custard Powder™ (in the tin).	• Custard powder.	• Milk based instant desserts e.g. Angel Delight™, blancmange powders, instant whips. • Egg custard, milky puddings, custards, chocolate puddings, chocolate sauces. • Sponge cakes, crumbles, cheese cakes. • Profiteroles.

Suitable foods	Foods that may contain milk	Foods to avoid
Confectionery • Soft jellies and gums. • Juice based ice lollies. • Dairy free soya/ rice/carob based chocolates (but beware of milk traces – check labels).	• Plain dark chocolate (most are milk free, but may contain traces).	• Toffee, fudge and butterscotch. • Ice Cream or milk lollies. • Milk and white chocolate.
Drinks • Fruit juice, squash cordials • Fizzy drinks (not suitable for young children). • Tea, coffee (not suitable for young children).	• Vending machine drinks.	• Milkshake powders/ syrups. • Instant white tea, cappuccino, malt drinks e.g. Horlicks™, Ovaltine™, instant hot chocolate, drinking chocolate. • Milkshakes.
Miscellaneous • Jam, honey, marmalade, syrup, treacle. • Beef and yeast extracts e.g. Bovril™, Marmite™, vegemite™ • Salt, pepper, herbs and spices, tomato puree.	• Salad cream and mayonnaise. • Gravy powders, stock cubes. • Tomato ketchup. • Guacamole. • Tinned soups.	• Lemon curd, lemon cheese. • Chocolate spread. • Sauces made with milk, sea food sauce, horseradish sauce. • Some artificial sweetener powders. • “Cream of” soups.

• Sauces made with milk substitute. • Food colorings, oil based salad dressings. • Sugar.		

Eating out

Depending on your child's reactions, particularly if they are quite severe, you may find some of these tips useful.

- Check out the restaurant's website – many now contain nutritional and allergy information.
- Ring the restaurant in advance to ask if they can cater for your child's food allergy. Try to call at off-peak times when the staff will have more time to deal with your query.
- Get to know your favorite restaurant and chef.
- Speak to your waiter/waitress or the chef on arrival to check they are all aware of your child's food allergy. You may find it helpful to use a 'chef card'. Hand the card to your waiter/waitress for them to pass to the chef.

Ask them to confirm that the food you have asked for has not had any contact with cow's milk or products that contain cow's milk.

Avoiding the busiest meal times may help to give staff more time to check ingredients properly.

- If in doubt, choose to go elsewhere.
- Keep to "simple" foods on the menu. Sauces and gravies contain many ingredients which cannot always be remembered by staff.
- Remember cow's milk may not be mentioned in the description of a dish – check for hidden sources (e.g. butter, bread, pastry, batter, chocolate).
- If you do not understand the menu item, it is better not to order it.
- In self-service areas be aware of the risk of cross-contamination.
- Make sure those you are dining with know about your child's allergies and know what to do if a reaction happens.

- Carry any rescue medication with you, as recommended by your doctor and make sure it is not out of date.
- If eating with friends or at parties remember to discuss your child's milk free diet with the host in advance. Discuss foods which are allowed and those which must be avoided.
- At children's parties it may be helpful to take cow's milk free foods yourself. If you will not be staying with your child, remember to explain how serious his/her allergic reaction is and how to deal with it.
- Avoid pre-packed sandwiches as they frequently contain cow's milk protein within the bread, spread or filling. It is best to make your own sandwiches to take out with you. Use a milk-free margarine and filling, e.g. tuna or egg mayonnaise, or soya cheese. If this is not possible, try to buy freshly prepared sandwiches from a bakery or delicatessen and request a milk-free bread with no margarine and a suitable filling.
- When buying fast-food, avoid pizzas and foods cooked in batter, such as fish, chicken nuggets and patties. Instead buy grilled chicken strips or plain burgers. Most large fast-food chains have milk free burger buns but always check before you order.
- Ask for any salads (including those added to burgers) to be served without dressings, unless you are sure they are milk-free.
- Most desserts sold in fast-food chains are based on milk or ice-cream but many now offer fresh fruit as a healthy alternative.

Travel tips

Depending on your child's reactions, particularly if they are quite severe, you may find some of these tips useful.

- If you are travelling abroad, check in advance how to describe your child's allergies in the local language. There are several websites that provide useful phrases and eating out translation cards in a variety of languages: www.allergyfreepassport.com, www.yellowcross.co.uk and www.food-info.net/allergy.htm.
- If you are flying, speak to your airline well in advance to check if they can meet your child's dietary needs. Make yourself known to the flight crew to ensure the correct meal is received - and ask for an ingredient list of the meals provided.
- Consider taking suitable snacks for the journey in case your flight is

delayed or your meal is not available on the day of travel. Try to obtain a letter from your doctor or dietitian explaining why you need to take special food items. Any special food items not needed for the flight should be put in your suitcase. Do not take fruit, vegetables or meat as these are not allowed abroad.

- Check with the airline if they have any restrictions on the amount of liquid you can take on board.
- Some airlines require a letter from the Doctor/Dietitian allowing you to take more than a 100 ml of liquid, antihistamine, hypoallergenic formula etc.
- If you are taking an adrenaline autoinjector, obtain a letter from your doctor that confirms your child's allergy.
- Carry your child's rescue medication e.g. antihistamines, adrenaline autoinjector and action plan with you and make sure they are not out of date.
- Make sure the friends you're travelling with know about your child's allergies and what to do if a reaction occurs.
- If you are staying in a hotel, try to get a room with a kitchen in case there are no safe places to eat out.
- Make sure you have the telephone number of the local hospital or emergency services and keep your medical insurance number handy in case you need it.
- Ensure you (or your child) always carry some sort of allergy ID. Medical ID bracelets, ID cards and travel containers to protect medicines from excessive heat or cold.



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