

# Your quick guide to: Cow's Milk Free Diet Information For Babies and Children

Cow's milk allergy occurs when the body's immune (defence) system mistakenly recognises the proteins found in cow's milk as harmful and goes into defence mode by producing an allergic response which is seen as allergic symptoms in your baby or child. The reactions can be immediate (within minutes of consuming milk and up to 2 hours afterwards) or delayed (after 2 hours and up to several days after having milk). Cow's milk allergy is not the same as lactose intolerance, which results from not having enough of the enzyme lactase to digest the milk sugar called lactose. This is uncommon in babies and children under three years of age.

Cow's milk and dairy foods form a major part of the diet of babies and young children and are a rich source of energy, protein, calcium, iodine, vitamin A and riboflavin. These are essential for growth and development and bone and dental health. So it is important that you speak to your GP, health visitor or other health professional if you think that your baby or child may be allergic to cow's milk.

It is important that an accurate diagnosis is made as soon as possible after symptoms suggestive of allergy are seen, so that your baby or child's cow's milk allergy can be managed appropriately. However, there are many symptoms which are seen in different types of cow's milk allergy which can make accurate diagnosis difficult. The diagnosis of the type of cow's milk allergy your infant or child has will determine how it will be managed. This will vary according to whether the allergy is immediate or delayed, how old your baby or child is, and whether they are breast, bottle or mix fed.

## Cow's milk free diet

A cow's milk free diet means avoiding the proteins in cow's milk, which are called whey and casein, and also avoiding milks from many other four legged mammals as their milk proteins are so similar. Therefore, goat and sheep milks are not

suitable alternatives for children suffering from cow's milk allergy.

## Choice of alternative Cow's milk substitutes

**Breastfeeding:** Breast feeding provides the best source of nutrition for your baby. Breast fed babies can react to milk proteins that are transferred in breast milk from the mother's diet. If it is suspected that a baby is reacting to cow's milk protein via breast milk, a mother may be advised to avoid cow's milk and dairy products in their diet while breastfeeding. This involves a trial of up to six weeks to see if the baby's symptoms improve. If they do not and the breast-feeding mother had been following a strict cow's milk free diet, she can then return to her normal diet.

**Hypoallergenic formula:** In babies who are solely infant formula fed or are given infant formula in addition to breast milk, the formula will need to be changed to a hypoallergenic (low allergy) infant formula. Extensively hydrolysed infant formulas 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. 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.' The GP, health visitor or dietitian may make recommendations about these formulas which are available on prescription from the GP. This will take into account the baby/child's age, how severe allergic reactions are, other allergic conditions or a family history of allergy and dietary needs. For more information on suitable milk substitutes for your baby, see the BDA fact sheet: <https://www.bda.uk.com/resource/milk-allergy.html>

## Key facts:

Breast or formula feeding your baby can be **supported after a diagnosis** of milk allergy

**Soya** infant formula **is not recommended** to be given **to babies under six months** of age, due to the phytoestrogen content.

The proteins in cow's milk, are called **whey and casein**

It is important that an **accurate diagnosis** is made as soon as possible

## Allergy UK Helpline

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## Moving onto a hypoallergenic formula:

It can be difficult to get a baby to accept a different formula and hypoallergenic formulas have a different taste and smell to ordinary infant formula. Most babies under three to four months of age will readily accept the change. For older babies and children who have delayed allergic reactions, it may help to gradually introduce it over a number of days, mixing it with their usual milk until they get used to it or, failing that, adding a drop of vanilla essence/extract (ensuring that this is alcohol free) to the bottle. You may notice during this change that your baby's poo changes colour (dark green) and they may also poo less often. Small 'possets' or 'spit-up' may be common with a new feed and initially your infant may take reduced volumes. This is all quite normal and is not a cause for concern.

Once a cow's milk allergy diagnosis has been made, your baby or child will need regular assessment by a dietitian to make sure that they are still on the most suitable formula or alternative milk substitute. If your baby or child appears to be growing out of their milk allergy, and after starting a supervised gradual re-introduction of cow's milk, they can tolerate some foods containing cow's milk, a dietitian can advise on when and how to stop the formula.

## Can I use soya formula instead of a hypoallergenic formula?

Soya infant formula is not recommended to be given to babies under six months of age, due to the phytoestrogen content. For infants 6-12 months soya formula is not a first choice in milk allergy but can be considered in babies who are not tolerating hypoallergenic formula and do not have a soya allergy. Some infants may cross react to soya (seen more in delayed allergy than immediate). Discuss further with your health care professional if you need more guidance for your baby.

## Can I use lactose free formula?

Lactose free formula contains all the cow's milk proteins found in normal infant formula and is therefore not suitable for babies with immediate or delayed cow's milk allergy. For further information on a lactose free diet please see our factsheet on Lactose Intolerance.

## Milk substitutes for older children and for use in cooking:

- The hypoallergenic formula should be given as the main drink until your child is 18 months to two years of age, depending upon their intake of food, or as guided by a dietitian.
- Alternative milks can be used in cooking and on cereal in babies from six months of age such as those based on plants such as oat, coconut, hemp, quinoa and pea, providing your baby/child has not previously reacted to these foods.
- Soya milk may be an option, but please discuss this with your dietitian first. There is a junior soya milk that may be suitable as a main drink from one year of age.
- Nut based milks such as almond and hazelnut should only be used as a substitute where nut allergy does not exist and after advice from your dietitian. These can be very low in energy and protein so would not be the first choice of alternative milk in young children.
- Rice milk should be restricted due to its naturally occurring arsenic content and is not suitable as a main milk drink for children under four and a half years of age.
- How much milk substitute should I give?

## Under One year of age

Most babies need to take 600ml (20floz/1 pint) of hypoallergenic formula each day to meet their nutritional requirements, including a recommended calcium intake

of 525mg daily. If breastfeeding, assume that one good breast feed is equivalent to a bottle of formula. If your baby consumes less than this, you should inform your dietitian.

## One to three years of age

Calcium requirements are lower in this age group (350mg calcium) and generally 300ml (10floz/ ½ pint) of milk substitute is enough. However, your child may need more than this if they are not getting enough vitamins and minerals from the foods that they eat. Your dietitian will be able to assess this for you.

## Four to ten years of age

Calcium requirements gradually increase back to around 500mg daily, which requires an intake of the equivalent of 600ml (20floz/1 pint) fortified milk substitutes or calcium enriched yoghurts. If this is unable to be met then alternative calcium foods needs to be considered or a supplement. See information below.

## Vitamin and mineral supplements

### Calcium

Whilst many of the alternative milks are fortified with calcium, the alternative milk products such as yoghurts and cheese are often not. For more information on calcium, see the BDA calcium fact sheet: <https://www.bda.uk.com/resource/calcium.html>

If you are concerned that your child is not getting enough calcium in their diet, they may need a calcium supplement. Discuss this with your dietitian or GP.

### Vitamin D

Revised recommendations state that:

- All infants should receive a daily vitamin D supplement of 8.5-10 mcg from birth until one year old, unless they are consuming more than

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- All breast-fed babies should be in receipt of a vitamin D containing supplement.

Breastfeeding mums following a cow's milk free diet should continue to take their vitamin D supplement (10mcg/day). A calcium supplement may also be needed unless mum is drinking around 1 litre (1000ml) of a calcium rich milk substitute daily. Your Dietitian can help with this.

If you receive income support, you can obtain Healthy Start vitamin drops from your local baby clinic or health visitor. Otherwise, you can buy children's vitamins containing vitamin D from a pharmacy (ask your pharmacist for advice if you are unsure which supplement to buy), or your GP may prescribe a vitamin supplement. Try to find a supplement that provides around 8.5-10mcg vitamin D and no more than 400mcg vitamin A. Children over six months of age should produce some vitamin D from exposure to sunlight between the months of April to October, avoiding strong sunlight between the hours of 11am - 3pm.

## Iodine

Milk and dairy products are the main sources of iodine, and very few milk substitutes are fortified with this. Try to include fish and eggs regularly in the diet as these are rich sources. See the BDA iodine fact sheet for more information: <https://www.bda.uk.com/foodfacts/iodine.pdf>

## 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. You will need to read the labels to make sure they do not contain milk.

You should aim to start giving 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. Start weaning with low allergenic foods, as described in our fact sheet on weaning your baby onto solids <https://www.allergyuk.org/resources/weaning-and-introducing-your-baby-onto-solids-factsheet/>. As your baby grows, you should keep offering different textures and flavours to help your baby to learn to like a wide variety of foods.

## Checking food labels

You need to carefully check the ingredients list on food items and avoid foods which contain any of the following:

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

Any of 14 food allergens including milk should be easily identifiable on the food

label, either listed in bold or italics, highlighted or underlined.

For more information, see the NHS Choices web site and the leaflet from the FSA:

NHS website: <https://www.nhs.uk/conditions/food-allergy/living-with/>

FSA Leaflet: <https://www.food.gov.uk/safety-hygiene/food-allergy-and-intolerance>

## Example of a food label:

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**.

## 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.

It is very hard to decide what the risk of an allergic reaction would be for every product, but your child is more likely to tolerate low levels of contamination if they have delayed, non-IgE mediated allergy, unless they are extremely sensitive. As this type of labelling is used on many foods, it is important to discuss this with your Dietitian and get advice on the safest approach to these foods for your child.

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## Allergy Alerts

Sometimes foods have to be withdrawn or recalled. There may be a risk to consumers because the allergy labelling is missing, wrong or there is any other food allergy risk. You can get these alerts from the Food Standards Agency website. It is also possible to subscribe to a free email or SMS text message alert system to receive messages when Allergy Alerts are issued. To subscribe go to: <https://www.food.gov.uk/news-alerts/subscribe>. Allergy UK also list allergy alerts and you can subscribe to their free email alert system <https://www.allergyuk.org/our-services/allergy-alerts/>

## 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 using hot, soapy water. Use separate containers for jams, butter etc. and use clean utensils for serving them.

## Foods containing cow's milk check list

On the following few pages are tables which give examples of cow's milk free foods, foods which may contain cow's milk and foods to avoid. Please note that this is not an exhaustive list and you must always check labels as ingredients may change without warning.

Suitable foods	Foods that may contain milk	Foods to avoid
Milk and Dairy Products: <ul style="list-style-type: none"> <li>Hypoallergenic infant formula</li> <li>Oat milk, soya milk, pea milk, coconut milk, quinoa milk, hemp milk, nut milks</li> <li>Rice milk if over 4½ yrs age</li> </ul>		<ul style="list-style-type: none"> <li>All stages of standard infant formulas and comfort milks, low lactose formula, anti-reflux formula, goats infant formula 'Nanny™'</li> <li>All types of cow's milk, lactose free milk e.g. Lactofree™, goats and sheep's milk including skimmed, semi-skimmed and full fat</li> </ul>
<ul style="list-style-type: none"> <li>Soya cream, oat cream, coconut cream</li> <li>Soya cheese, coconut oil based cheese (hard, soft, melting, parmesan type)</li> <li>Soya yogurts</li> <li>Soya, rice, coconut &amp; pea based desserts</li> <li>Soya, coconut, rice or nut ice cream</li> </ul>		<ul style="list-style-type: none"> <li>Rice milk under 4½ years of age</li> <li>Dried milk, evaporated milk, condensed milk, buttermilk, flavoured milk, coffee complement, other whiteners, cream, artificial cream.</li> <li>All types of cheese, quark, paneer, yogurt/ yogurt drinks, lactose free cheeses and yogurts e.g. Lactofree™, ice cream</li> </ul>
Fats and Oils <ul style="list-style-type: none"> <li>Pure fats and oils, lard, suet dripping,</li> <li>Dairy free margarines e.g. Pure™, Vitalite™, Tomor™, Supermarket own brand of dairy free margarine</li> <li>Kosher and vegan spreads</li> </ul>	<ul style="list-style-type: none"> <li>Soya margarine</li> </ul>	<ul style="list-style-type: none"> <li>Butter, shortening, margarine, low fat spread, low cholesterol margarine, ghee</li> </ul>
Cereals <ul style="list-style-type: none"> <li>Flour, cornflour, oatmeal and barley, oats, rice</li> <li>Dried pasta, cous-cous</li> <li>Homemade pizza using suitable ingredients</li> <li>Some biscuits/crackers</li> <li>Breakfast cereals - many are milk free e.g. Shreddies™, Weetabix™, Cheerios™, Cornflakes™, Rice Krispies™</li> </ul>	<ul style="list-style-type: none"> <li>Bread – wholemeal, brown and white (most are milk free)</li> <li>Chapatti and naan breads</li> <li>Crackers and crispbreads</li> <li>Cakes and biscuits</li> <li>Filo pastry, puff pastry</li> <li>Fresh pasta, tinned pasta in sauces, pot noodles</li> <li>Savoury rice</li> </ul>	<ul style="list-style-type: none"> <li>Milk breads, some reduced starch breads, fruit loaves, soda bread, brioche, croissants, short-crust pastry.</li> <li>Cheese topped rolls and scones, cheese straws, cheese flavoured biscuits</li> <li>Filled pasta e.g. lasagne</li> <li>Pizza</li> <li>Muesli, breakfast cereals containing chocolate</li> </ul>



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Suitable foods	Foods that may contain milk	Foods to avoid
Meat, Fish and Alternatives <ul style="list-style-type: none"> <li>All meats fresh and frozen, poultry, offal, bacon and ham</li> <li>All fish fresh and frozen, shellfish</li> <li>Eggs</li> <li>Pulses: lentils, beans, hummus</li> <li>Soya mince</li> <li>Tofu</li> </ul>	<ul style="list-style-type: none"> <li>Meat products including sausages, beef burgers, pate, meat paste</li> <li>Breaded meat products e.g., chicken nuggets</li> <li>Fish in sauces, in breadcrumbs, fish fingers, tinned fish pastes and pates</li> <li>Ready-made meals</li> <li>Baked beans and food from fast food restaurants and takeaways</li> <li>Dry roasted or flavoured nuts, peanut butter</li> <li>Quorn based products</li> </ul>	<ul style="list-style-type: none"> <li>Quiche, sausage rolls, meat pies</li> <li>Cheesy savoury pastries e.g. cheese and onion pasty, rolls</li> <li>Scotch eggs, scrambled egg, quiche, omelette</li> <li>Fish in batter</li> </ul>
Vegetables <ul style="list-style-type: none"> <li>All types of fresh, frozen, tinned and dried</li> </ul>	<ul style="list-style-type: none"> <li>Instant potato, potato croquettes, oven chips, potato crisps and other savoury snacks</li> <li>Vegetables in sauces, coleslaw</li> <li>Baked beans</li> </ul>	<ul style="list-style-type: none"> <li>Vegetable pies</li> <li>Vegetables cooked with butter, white sauce or cheese</li> </ul>
Fruit <ul style="list-style-type: none"> <li>All types of fresh, frozen, tinned and dried</li> <li>Fruit juice</li> </ul>	<ul style="list-style-type: none"> <li>Fruit puddings, fruit pie fillings</li> </ul>	<ul style="list-style-type: none"> <li>Chocolate and yogurt coated fruit</li> <li>Fruit pies, fruit in batter</li> </ul>
Puddings <ul style="list-style-type: none"> <li>Rice, sago, tapioca and semolina made with milk substitute</li> <li>Soya, coconut &amp; rice desserts</li> <li>Homemade milk free puddings, e.g. sponge, crumble</li> <li>Birds Original Custard Powder™ (in the tin), Jelly</li> </ul>	<ul style="list-style-type: none"> <li>Custard powder</li> <li>Cocoa powder</li> <li>Iced buns</li> <li>Doughnuts</li> </ul>	<ul style="list-style-type: none"> <li>Milk based instant desserts, e.g. Angel Delight™, blancmange powders, instant whips</li> <li>Egg custard, milky puddings and custards, chocolate puddings, chocolate sauces</li> <li>Sponge cakes, crumbles and cheese cakes</li> <li>Profiteroles and other cream-filled cakes</li> </ul>
Confectionery <ul style="list-style-type: none"> <li>Soft jellies and gums</li> <li>Dairy free soya/ rice/ carob based chocolates (but beware of milk traces – check labels)</li> </ul>	<ul style="list-style-type: none"> <li>Plain chocolate (most are milk free, but some may contain traces)</li> <li>Juice based ice lollies</li> </ul>	<ul style="list-style-type: none"> <li>Toffee, fudge and butterscotch</li> <li>Ice Cream or milk lollies</li> <li>Milk and white chocolate</li> </ul>
Drinks <ul style="list-style-type: none"> <li>Fruit juice, squash cordials</li> <li>Fizzy drinks (not suitable for young children)</li> <li>Tea, coffee, cocoa (not suitable for young children)</li> </ul>	<ul style="list-style-type: none"> <li>Vending machine drinks</li> <li>Milkshake powders/ syrups</li> </ul>	<ul style="list-style-type: none"> <li>Instant white tea, Cappuccino, Horlicks™, Ovaltine™, instant hot chocolate, drinking chocolate</li> <li>Milkshakes</li> </ul>
Miscellaneous <ul style="list-style-type: none"> <li>Jam, honey, marmalade, syrup, and treacle, sugar</li> <li>Beef and yeast extracts e.g. Bovril™, Marmite™</li> <li>Salt, pepper, herbs and spices, tomato puree</li> <li>Sauces made with milk substitute</li> <li>Food colourings, oil based salad dressings</li> </ul>	<ul style="list-style-type: none"> <li>Salad cream and mayonnaise</li> <li>Gravy powders, stock cubes</li> <li>Tomato ketchup</li> <li>Guacamole</li> <li>Tinned soups</li> </ul>	<ul style="list-style-type: none"> <li>Lemon curd, lemon cheese</li> <li>Chocolate spread</li> <li>Sauces made with milk</li> <li>Seafood sauce, Horseradish sauce</li> <li>Some artificial sweetener powders</li> <li>“Cream of” soups</li> </ul>

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500ml of formula milk a day, as infant formula is fortified with vitamin D.

- Everyone over one year of age gets 10mcg vitamin D, including pregnant and breastfeeding mothers.
- Formula fed babies are likely to obtain an acceptable intake if consuming 600ml infant formula daily. If consuming less than this, a vitamin D containing supplement should be given.

## Important

This information is designed to help you get started on providing a cow's milk free diet for your baby or child. It is essential that you ask your GP or health visitor for a referral to a dietitian, once a diagnosis of food allergy has been made, for the following important reasons:

1. To ensure that your baby or child is getting the right amount of nutrients to avoid any nutritional deficiencies
2. To ensure that they remain on the right milk substitute for their age
3. To support you during the weaning process to avoid the eating

behavioural issues/ food refusal, which are more common in children with food allergies

4. To help you adapt family meals so your child can join in and share what everyone else is eating
5. To optimise nutrition to promote good growth, development and weight gain
6. So that your dietitian can provide you with further information and recipes tailored to your baby or child's needs
7. For advice on future, staged re-introduction to try and avoid unnecessary long-term avoidance of foods.

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## Clinical contributions:

### Allergy UK Clinical Team

Holly Shaw, Nurse Advisor

Laura Phillips, Clinical Dietetic Advisor

### Allergy UK Clinical Team

Dr Lisa Waddell, Specialist Community Paediatric Allergy Dietitian;

## Additional Resources / References

Does My Child have a Cow's Milk Allergy?

<https://www.allergyuk.org/resources/does-my-child-have-a-cows-milk-allergy/>

Cow's Milk Allergy

<https://www.allergyuk.org/about-allergy/allergy-in-childhood/cows-milk-allergy/>

Allergy UK Dietitian Service

<https://www.allergyuk.org/our-services/dietitian-service/>

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