

Cows' Milk Allergy

Practical tips for milk-free weaning



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Introduction

Up to one in six infants and pre-schoolers experience some sort of reaction to milk.¹ This manifests in the first months of life in a number of ways, such as colic, constipation, vomiting, gastro-oesophageal reflux, eczema, and life-threatening anaphylaxis.¹ Both treatment and diagnosis in bottle-fed infants is swapping standard infant formula for an amino acid formula or extensively hydrolysed formula. In breastfed infants, Mums avoiding sources of dairy in their own diet is often sufficient.² Improvement of symptoms, once the source of milk proteins is removed, is generally taken as a positive diagnosis of milk allergy or intolerance. In older children and adults, reintroduction of a food and the returning of symptoms is usual to confirm allergy or intolerance, however, in infants this is often put off for up to a year.³ Advice from a paediatric dietitian helps parents achieve a varied and nutritionally adequate milk-free diet once weaning age is reached. In this article, I'll address some common questions posed by parents facing milk-free weaning.



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What to avoid – more than just the obvious

Thirteen billion or so litres of cows' milk is produced in the UK every year,⁴ and it is a popular component of most of our diets – in the form of pasteurised drinking milk, cheese, butter, yoghurts and cream. Milk and its derivatives are also incorporated into many other foods, plus some medications, nutritional supplements and even toothpastes and cosmetics – **Figure 1** lists common food sources. On a milk-free diet, other mammalian milk such as goat, sheep and buffalo, and their milk products are also excluded, as their proteins are similar enough to have allergic potential.²

For those with an obviously life-threatening reaction to milk, all traces of milk in foods needs to be strictly avoided. Even tiny amounts of contamination can set off a reaction in very sensitive children⁵ – for example, some need to have their plates, cutlery, and cooking pans strictly separated from the rest of the family, as traces of protein from a previous meal can trigger a reaction. Other sources of contamination might be jams and spreads contaminated from a buttery knife being dipped in, crumbs from milk-containing bread in a toaster, or traces of food on a kitchen work surface. It's also important to note that manufacturers often change their recipes, so labels on packets need to

be checked every time. For some children with milder reactions to milk, avoidance of only the obvious sources of milk in foods can be sufficient – but if in doubt, strict avoidance until at least twelve months of age is wise.

For those parents with the time, skills and resources, cooking from scratch with naturally milk-free ingredients is the best way to ensure all food is milk-free. Otherwise, when buying packaged foods, it is essential to get into the habit of checking food labels for ingredients derived from milk. In the UK, packaged food must state on the label if it contains milk and list any milk-derived ingredient by law – for a list of milk-derivatives that may appear on labels see **Figure 2**. For foods that don't have to be labelled, e.g. those freshly prepared in restaurants, delicatessens and bakeries, it is best to avoid foods which staff can't guarantee are milk-free.

Milk-free alternatives

Many foods are naturally milk-free, such as meat, fish, eggs, rice, vegetables, fruit, pasta. Varieties of bread, biscuits and cereals that don't contain milk are widely available. For foods normally based on dairy, alternatives are also available – though often they cost more and are less widely available. **Table One** lists some brands of milk-free alternatives.

When and how to start weaning

Government recommendations are to start offering solids around six months old.⁶ The British Dietetic Association paediatric group position is that the previous advice of beginning weaning no earlier than 17 weeks, and no later than six months, is a better reflection of the evidence.⁷ Earlier weaning is inadvisable due to gut immaturity, lack of need, and possible increased risk of allergies. Later weaning is equally inadvisable as it risks missing the optimum window for getting a baby interested in foods, and increases the risk of growth faltering and vitamin and mineral deficiencies – particularly of iron due to increased needs and diminishing stores from around this age. On an individual basis, signs a baby is ready to start solids include sitting up with minimal support and reaching out for objects and putting them in their mouth. These signs appear for most babies within this 17 to 26 week window.

Bland and sloppy pureed fruit and vegetables, or baby rice made up with the infant's milk substitute are standard first weaning foods and are milk-free. Over a few weeks this builds up from one to two teaspoons once a day, to a few teaspoons at three meals a day given before a bottle or breastfeed. By around seven months, the aim is to be giving meat, fish, eggs or lentils in at least one meal a day, to provide much-needed iron, along with a starchy food such as mashed potato or baby rice at each meal, plus some pureed or mashed fruit or vegetables. As the weaning process progresses, the portion size increases in line with the child's appetite, and higher textures should be

Figure 1: Foods that Commonly Contain Milk and Need to be Avoided on a Milk-free Diet

- All kinds of cows', goats' and sheep milk, yoghurts, butters, cheeses, milk puddings
- Some cereals, biscuits, rusks, crisps, breads and baked goods
- Foods in white or cheese sauces
- Many margarines and low fat spreads
- Many deserts and sweets – ice creams, chocolate, mousses
- Many processed foods, e.g. fish fingers, sliced meats, sausages, etc.

Figure 2: Ingredients to Avoid on a Milk-free Diet

- | | |
|---------------------|-----------------------|
| • Artificial cream | • Fromage frais |
| • Butter | • Milk |
| • Butterfat | • Milk solids |
| • Buttermilk | • Milk protein |
| • Casein | • Modified milk |
| • Caseinates | • Non fat milk solids |
| • Cheese | • Skimmed milk powder |
| • Cream | • Shortening |
| • Crème fraîche | • Sodium caseinate |
| • Ghee | • Yoghurt |
| • Hydrolysed whey | • Whey |
| • Hydrolysed casein | • Whey solids |
| • Margarine | • Quark. |
| • Milk sugar | |
| • Lactose | |

gradually introduced – moving from puree to mashed to chopped soft foods. From about nine months aim for three small meals a day with small snacks between if needed. Soft fingers or sticks of foods can be introduced as early as six months for a baby to start to learn to self-feed. From around nine months finger foods should be a regular inclusion in their diet.

Yoghurts, cheese and butter are calorific inclusions in most babies' diets. The avoidance of these, without consideration of high-calorie alternatives, can put a milk-free baby at risk of growth faltering. The milk-free alternatives as listed in **Table One** are useful additions to the diet, but are generally lower in fat and, therefore, lower in calories than their dairy counterparts. A useful way of adding extra calories and nutrition into the diet has been to use the child's milk-free formula in cooking and making deserts. Nutricia's Neocate Spoon is a novel weaning product based on amino acids which parents can use as a weaning food or mixed with other weaning foods to boost nutritional content. Additional high-calorie weaning advice may be necessary if growth faltering occurs – something as simple as adding a little vegetable oil into each meal can help. If growth faltering continues, or if an infant is not taking much formula, it can be concentrated in the usual way to provide extra nutrition in the same volume.⁵

What about other allergenic foods – should I delay giving them?

Many parents are nervous about introducing other commonly allergenic foods if a child has had a reaction to milk. Historically it was thought that delayed introduction of various potentially allergenic foods, such as milk, wheat, soya, corn, citrus fruit, eggs and nuts, would reduce the risk of allergy.⁸ However, current recommendations are against delaying introduction of any foods past the recommended weaning age.⁹ In fact, delayed introduction can be harmful – introduction of gluten after nine months is linked to an increased risk of wheat allergy, coeliac disease and Type 1 diabetes;¹⁰ and the introduction of fish and peanuts in infancy is thought to aid tolerance to these potentially allergenic foods, and reduces the risk of allergy to them.¹¹

In children who have experienced a severe reaction to a food in the past, a sensible precaution when introducing a new, potentially allergenic

food is to first touch the new food to the skin, if no reaction is experienced then touch a little to the lips, and if there is still no reaction go on to give a small amount orally.⁵

What about soya – should that be avoided?

Soya infant formulas are not generally recommended under the age of six months for two reasons – firstly, due to concerns regarding high isoflavone exposure at a vulnerable age and, secondly, due to the high prevalence of concomitant soya allergy in infants with cows' milk allergy (up to 14% in infants with IgE mediated allergy, and up to 50% in non IgE mediated cows' milk allergy).¹² However, over the age of six months this concern diminishes. The inclusion of soya in a baby's weaning diet vastly increases the variety of calcium rich foods available to them. For infants who don't take to the strong tastes of the amino acid or extensively hydrolysed formulas, soya formula can often be accepted well, as it tastes much more similar to standard infant formula.⁵

Other support for families

Professionals can be guilty of underestimating the stress to a family of living with a child with an allergy. As well as the extra cost and time needed to source and prepare different meals, parents may experience intense fear of repeat reactions or guilt as to somehow being responsible for their child's condition. As with any medical condition there is a glut of information out there on the internet, and it can be helpful to guide parents to reliable and sensible sources of support and information. Internet shopping is a way to access the full range of milk-free products available, at the best prices. Two user-friendly websites that specialise in supplying allergy products are: www.dietaryneedsdirect.co.uk and: www.goodnessdirect.co.uk. NHS Choices (www.nhs.uk) and the websites of charities Allergy UK (www.allergyuk.org) and Anaphylaxis Campaign (www.anaphylaxis.org.uk) are informative and supportive.

Summary

Paediatric dietitians are well placed to advise families of children with allergies not only on foods to avoid but also on practical tips to support them in enjoying a varied, nutritious and satisfying diet.

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Table One: Milk-free Alternative Foods

Milk-based foods	Brands that offer soya or other milk-free alternatives
Yoghurts and milk-based desserts	Alpro, Provamel, CO-YO, supermarket own brands
Cheese	Bute Island Farm cheeses, Tofutti
Butter or spreads	Pure, Suma, supermarket own brands
Cream	Alpro, Oatly
Ice cream	Swedish Glace, Booja booja
Chocolate	Moo Free, Plamil, supermarket own brands