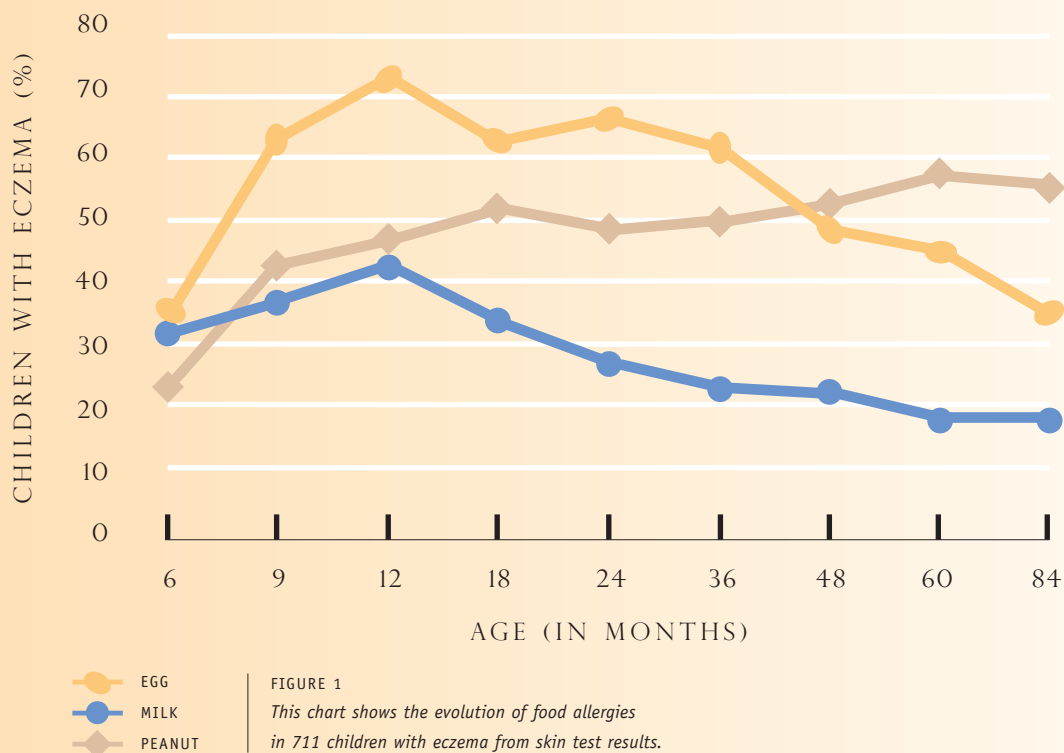


# milk allergy

ADVERSE REACTIONS TO COW'S MILK ARE COMMON IN YOUNG INFANTS AND TODDLERS. MILK GETS THE BLAME FOR HEALTH PROBLEMS MORE THAN ANY OTHER FOOD AND CERTAINLY MORE OFTEN THAN IT DESERVES.

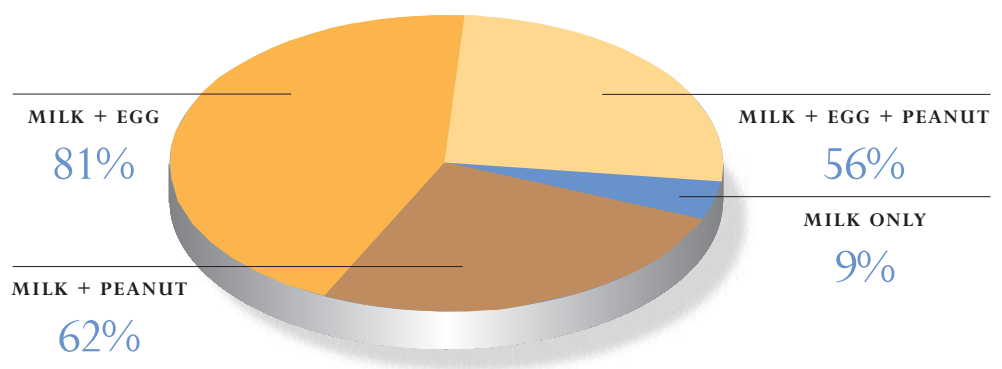


A wide range of symptoms can be caused by milk including anaphylactic reactions, eczema, colic, reflux, vomiting, frequent loose stools, failure to thrive, colitis and excessive mucus secretion in the airways. Gastrointestinal irritation can be severe in babies and cause damage to the lining of the bowel wall causing anaemia and poor growth. Unfortunately in the past the *allergy* label has been applied to any clinical reaction but this term is best reserved for those reactions where there is evidence of

an immunological reaction due to IgE antibodies. Symptoms of milk allergies usually appear from about a month or 6 weeks of age. Reactions that start in the first week of life, irritable behaviour, restless sleep, nappy rashes and reflux or loose stools are a sign that the child has milk intolerance rather than a milk allergy.

An important point about any adverse reactions to milk to note that it is unusual for milk to be the only food that is the problem. Milk allergy is commonly associated with allergies to eggs and/or peanuts (Table 2) and milk intolerance is commonly associated with intolerance reactions to soy and other protein foods and/or fruits and vegetables.

TABLE 2 Results of skin tests in 298 children with a reaction to cow's milk. The results highlight the observation that milk allergy is often seen in conjunction with sensitization to egg and/or peanuts.



Moderate to severe milk allergy and milk intolerance reactions can be evident during breast-feeding. Milk allergy is found in conjunction with infantile eczema in 90% of cases. The signs may have been overlooked or may not be evident prior to weaning and this can vary according to the amount of milk in the mother's diet. Milk is implicated in a fifth of all food allergies and a quarter of severe food allergy reactions and although there have been fatal reactions these are unusual constituting less than 5% of all fatal food allergy reactions.

*Delayed introduction of milk does not prevent a milk allergy or a milk intolerance reaction.*

Evidence of antibodies to milk can be found before birth. There is no evidence from mothers of children with milk allergy that feeding a baby infant formula in the neonatal period has caused the milk allergy. Many of the mothers report that they have had a lot of dairy products later in the pregnancy and during breast-feeding. The type of foods in the maternal diet have been milk shakes, more than a slice of cheese every couple of days, lots of ice cream and lots of chocolate.

Prolonged breast-feeding can give the infant time to mature out of the allergy or intolerance reaction. Hence breast-feeding has gained a reputation for preventing allergies.

	Less than 1 year	1–2 years of age	2–5 years of age	Over 5 years
Peanut	40%	52%	70%	56%
Diary	28%	17%	15%	22%
Egg	23%	17%	-	-

TABLE 3 Foods implicated in 186 episodes of the first severe food allergy reactions according to age of the child. By the age of two years the child was known to have the food allergy in most instances.

Children with a milk allergy tend to grow out of their allergy by school age and go on to like milk. Children with milk intolerance may apparently tolerate milk but refuse to drink it in any quantity as they get older.

## MILK ALLERGY

# prevention

### *Breastfeeding*

To prevent milk allergy developing in an infant the mother should avoid all types of dairy in her diet from several weeks prior to birth and all the time that she is breastfeeding.

This is quite challenging, as dairy produce is such a significant part of our nutrition. Milk chocolate is a favourite treat for all age groups and it is an important part of Easter celebrations.

*Eating chocolate is also a significant source of peanuts, so for effective peanut and nut avoidance, chocolate should be avoided.*

In addition processed milk powder is used as a flavour component for many baked goods, snack foods, sweets and drinks. It is also used in pet food. Remember there is no point trying to avoid a milk allergy if the infant ends up with a lifelong peanut or cashew allergy.

### *Bottle-feeding or complementary feeding*

There are a number of protein hydrolysate formulas that can be used. Although there are still small amounts of cow's milk protein in this type of feed it is usually not enough to cause an allergy to develop. Examples of this type of formula are NUTRAMIGEN, PEPTI-JUNIOR, ALFARÉ and the new NAN 1 HA.

The bottle-feeding will only be successful if the mother has also practised complete avoidance of dairy foods while breastfeeding.



AN INFANT WITH

# milk allergy



## Breastfeeding

When an infant is found to have a milk allergy, complete avoidance of milk by the breastfeeding mother and complete avoidance in the household is recommended. Until the risk of a severe reaction wanes a milk-free household is easier to manage once the infant is on the move. Although there are lots of foods on the precaution list, the majority of severe reactions have occurred from the child being given regular infant formula or milk from the refrigerator by mistake.

A mother who is breastfeeding a baby with a milk allergy need advice on bottle feeds as she may not always be able to strict with her diet. Proteins from the maternal diet are found in breast milk within a few hours and may be found for the next 24 hours or so.

The breastfeeding mother also needs nutritional advice to replace all the dietary components if milk is removed. Calcium supplements are easy but the protein, Vitamin A and other minerals also need to be replaced.

## Bottle-feeding or complementary feeding

If there are a number of allergies to common foods identified causing severe eczema, the mother may choose to try to modify her own diet quite severely. This is quite a draining exercise and usually both mother and infant are worn down by the exercise. Even if the mother chooses to continue to breastfeed, the baby should get used to bottle feeds. In a very safe weaning formula such as Neocate is found to be the best tolerated if younger than 6 months.

After 6 months if the skin test to soy is negative a trial of soy is recommended.

Calcium-fortified rice drink has been successfully used on breakfast cereals where the infant is still breastfed after the age of 6 months if soy is not tolerated.

# dairy foods

## THE MAIN HAZARDS

### *Parents or carers offering the allergic child a drink of milk*

This is by far and away the most common reason for a severe milk allergy reaction. The label on infant formula does not have a clear message that baby formula is made from cow's milk. In hospitals, homes and care centres the wrong drink has been given.

—On a number of occasions siblings have dropped scraps of cheese, fed the affected child cheese or the affected child has come across abandoned leftovers.

### *Milk powder on savoury chips*

Most savoury flavours have a milk base. The powder is water-soluble and quite a concentrated form of milk so the reaction can be quite severe.

—Where milk has not been removed from the house several children have been affected by milk accidentally being spilt. The area affected when a glass of milk is knocked over is quite impressive as anyone who has cleaned up a spill knows.

—Baby foods are often fortified with milk powder. The labels can be hard to read as the packages are small. In recent years labels have become clearer and milk or soy is added less often.

—On occasions really highly allergic children have reactions to traces of milk in non-dairy foods.



### food labels *words that indicate the presence of milk*

Milk	Goat's milk	Potassium caseinate
Butter	Sheep's milk	Sodium caseinate
Cheese	Skimmed milk	Rennet casein
Sour cream	Low fat milk	Sour milk
Buttermilk	Dairy solids	Curds
Milk solids	Non-fat dairy solids	Custard
Milk powder	Yoghurt	Artificial butter flavour
Milk protein	Whey (all forms)	Ghee, Butter oil or
Malted milk	Casein	Butter fat
Condensed milk	Ammonium caseinate	
Evaporated milk	Calcium caseinate	
Milk derivative	Magnesium caseinate	

FOOD

# precautions

*if in doubt don't eat the food*

<p><b>Milk as a major ingredient</b></p>	Milk—plain or flavoured	Milk powder
	Butter & cream	Cheese
	Ice cream	Custard
	Sweetened Condensed Milk	Yogurt
	Evaporated milk	Infant formula
	Low lactose infant formulas	Protein hydrolysate formulas
	Whey powder	Wheylite
	Chocolate	Malted milk drinks
	Chocolate drink powders ( <i>Quik, Milo, Ovaltine, Horlicks</i> )	
	<i>Sustagen</i> & other high protein drink powders	
	<i>Coffee Mate</i> & other beverage whiteners	
	Coffee mixes	
	Weight loss drinks that are fat-free such as	
<p><b>Milk as a usual ingredient that may be overlooked</b></p>	Margarine	Creamed soups
	Flavoured crisps	Savoury snacks
	White sauce	Caramels and butterscotch
	Baked goods such as muffins, cakes, bread and pastry	
<p><b>Milk as a possible ingredient that may be overlooked</b></p>	Confectionery	Gravy
	Baby foods	Soy cheese
	Luncheon sausage meat such as Devon and salami	
	Pet food (children have a habit of finding dog food acceptable)	
<p><b>Products at risk of being contaminated with milk (<i>not as an ingredient</i>)</b></p>	Dark chocolate	Soy chocolate
	Biscuits	Flavourings
	Soy yogurt (a milk-based starter culture may be used)	
	Carob soy buttons and Easter eggs	
	Latex (the powder may be mixed with milk powder)	

Dark chocolate, soy chocolate and carob soy is often contaminated with small amounts of milk. *These products are not intended for consumption by those with real milk allergies.* Even kosher chocolate that is milk-free may contain traces.



# MILK-FREE diets

During the past decade milk has become a calcium tablet in a cup but dairy foods supply more than calcium for our bodies. Diets without dairy foods may be low in Vitamin A, energy and protein. This is of much greater concern in growing children than in adults who have free access to foods and tend to eat a wider variety.

Healthy bones need calcium, Vitamin D and exercise to keep in shape. However bone density is heavily influenced by genetic factors.

A diet without dairy foods contains about 300 mg of calcium that is about half to one-third the daily requirement in this country. A few weeks on a low calcium diet is not harmful.

If there is less calcium in the diet the body responds by absorbing more efficiently. This is not possible without Vitamin D manufactured in the skin or taken as a dietary supplement. The stronger the sun the less exposure is necessary. Dark skin needs a bit more exposure to get the same amount of Vitamin D. About 15 minutes of early morning or late afternoon sun on face, arms and hands three times a week is necessary for fair skin. Although there is plenty of sunshine and lots of people get too much, many children and adults are now protected all the time with sunscreen and this may affect Vitamin D metabolism. Those working or sitting in front of a computer terminal for long hours indoors may not get enough sun. Having more calcium in the diet does not overcome the effect of not enough Vitamin D.

During breast feeding increased calcium is recommended. This has little effect on the loss of bone density that occurs because of hormonal actions during this time. Maternal bones do not recover until the infant is weaned.

More calcium is lost in the urine if the kidneys excrete more urine in response to excess alcohol, coffee, tea, caffeine-containing soft drink or too much salt or a high protein diet.

## *Replacing 500ml milk*

### OPTION 1

- 1 calcium tablet
- 2 serves of meat, chicken or fish (120 grams) *or* cup beans or lentils
- 1 tablespoon of milk-free margarine

### OPTION 2

- 500 ml calcium fortified soy

### OPTION 3

- 500 ml calcium fortified rice drink
- 1 tablespoon of milk-free margarine
- 1 serve of meat, chicken, fish, beans or lentils



## Recommended daily intake for calcium

Breastfed infant	0–6 months	300mg
Formula fed infant	0–6 months	500 mg
	7–12 months	550 mg
Children	1–3 years	700 mg
	4–7 years	800 mg
	8–11 years	900 mg
Teenage girls	12–15 years	1000 mg
Teenage boys	12–18 years	1000–1200 mg
Teenage girls	16–18 years	800 mg
Men & Women		800 mg
Pregnancy		1100 mg
Breast feeding		1300 mg
After menopause		1000 mg

### Substitutes for 1 cup of milk in cooking

- 1 cup soy
- 1 cup of milk-free infant formula
- 1 cup of rice drink + 1 tablespoon of *Nuttelex* margarine or oil
- 1 cup fruit puree (baby apple or baby pear) for muffins
- 1 cup of water or homemade stock





## Calcium content of foods

Food	Calcium content
Milk, 1 cup, 250 ml	200–300 mg
Low fat milk, 200 ml	200–300 mg
Cheese 30 g	200–300 mg
Yoghurt 200 g <i>natural or fruit</i>	200–300 mg
Soy drink, fortified	200–300 mg
Rice drink, fortified 250 ml	200–300 mg
Salmon* with bones, 100 g	100–200 mg
Oysters* (6)	100–200 mg
Fish* fillet, 150 g	100–200 mg
Soya beans, cooked, 1 cup	100–200 mg
Soy bean curd ( <i>tofu</i> ) 100 g	100–200 mg
Broccoli 100g	100–200 mg
Tahini* ( <i>ground sesame seeds</i> ), 1 tablespoon	100–200 mg
Almonds* 50 g	100–200 mg
Soy drink, unfortified	50–100 mg
Cabbage	50–100 mg
Cottage cheese	50–100 mg
Egg* (1)	50–100 mg
Baked beans, 50 g, ¼ cup	Less than 50 mg
Piece of fruit	Less than 50 mg
Tuna*	Less than 50 mg
Vegetables, 100g	Less than 50 mg
Bread, 1 slice	Less than 50 mg

\* Seafood, nuts, eggs and sesame paste are all more allergenic than cow's milk.

They are not good choices to replace cow's milk in the maternal diet while breastfeeding as the child may end up with a more serious lifelong allergy.

# chocolate

WE OFTEN SEE INDIVIDUALS WHO REACT TO CHOCOLATE. THEY USUALLY SAY IT WAS A MILK CHOCOLATE PRODUCT AND THE LESS EXPENSIVE EASTER EGGS HAVE BEEN IMPLICATED. IN A RECENT ARTICLE ON CAUSES OF ANAPHYLAXIS CHOCOLATE WAS LISTED IN SECOND PLACE AFTER PEANUTS.



Chocolate is an expensive product and never wasted so contamination by peanut and nut products is common.

As a general rule for someone with a peanut or nut allergy, any temptation to eat chocolate should be done in company and certainly not a long way from medical help.

Carob is not really a chocolate substitute. It is better to identify it as carob and to eat it as carob rather than trying to pretend that it *chocolate*.

*When substituting dry ingredients in recipes it is better to substitute by weight rather than volume.*

The fat used in chocolate making determines the quality of the final product. Cocoa butter—the fat from the cocoa beans works best. Palm oil works quite well. Cophera (coconut fat) can work but the effect depends on the recipe. Frymasta (a solid vegetable oil used for deep frying) doesn't work that well.

It is possible to buy cocoa butter and palm oil but only in commercial quantities.

## Chocolate

- 30g cocoa powder or carob
- 240g icing sugar
- 110g melted Palm oil or cocoa butter (or cophera if you can't get either of these)
- 110g milk powder (if no milk allergy), infant formula or soy powder for a milk allergy

### ANOTHER VARIATION IS:

- 125g solid vegetable fat melted over low heat

Sift together and add:

- 120g icing sugar
- 5 tablespoons cocoa
- 30g milk powder (if no milk allergy), infant formula or soy powder (if allergic to milk)
- 1 teaspoon vanilla essence

Pour into a lamington tin and set.

### Other suggestions for Easter include:

Easter eggs made from chocolate crackle mix (rice bubbles, carob or cocoa, Cophera, coconut and icing sugar) can also be shaped with dessertspoons.

For the really allergic children Easter eggs can be shaped from marshmallow (made with sugar, water & gelatine) and covered in crushed toffee.

**N.B. OCCASIONALLY REALLY ALLERGIC CHILDREN ARE ALLERGIC TO GELATINE.**