

## Cow's Milk (Dairy) Allergy

Cow's milk and other dairy foods are a common cause of food allergy in babies. In Australia and New Zealand around 2% (1 in 50) of babies are allergic to cow's milk. Most children outgrow cow's milk allergy by the age of three to five years. However, in some people cow's milk allergy may not be outgrown.

Severe allergic reactions (anaphylaxis) to cow's milk can be life threatening, and should always be treated as medical emergencies that require immediate treatment with adrenaline (epinephrine). Deaths from cow's milk anaphylaxis have occurred in allergic babies and children.

### Rapid onset allergic reactions to cow's milk and other dairy foods (IgE-mediated cow's milk allergy)

Rapid onset allergic reactions usually occur within 15 minutes and sometimes up to two hours after consuming cow's milk or other dairy foods. Symptoms include one or more of the following:

- **Mild or moderate allergic reactions** such as hives (urticaria), swelling of the lips, face or eyes, stomach (abdominal) pain, vomiting and diarrhoea.
- **Severe allergic reactions (anaphylaxis)** include noisy breathing or wheeze, tongue swelling, throat swelling or tightness, hoarse voice, loss of consciousness and floppiness in babies or young children.

Anaphylaxis should always be treated as a medical emergency, requiring immediate treatment with adrenaline (epinephrine) and calling for an ambulance.

Diagnosis of allergic reactions is usually obvious if symptoms occur soon after consuming cow's milk or other dairy foods. This can be confirmed by your doctor after taking a medical history and using allergy tests.

Allergy tests (skin tests or blood tests), that measure allergen specific antibodies called Immunoglobulin E (IgE), to cow's milk are usually positive for rapid onset reactions. There is no place in the diagnosis of cow's milk allergy by unproven tests such as IgG, vega, kinesiology, alcat or allergy elimination tests.

### Delayed reactions to cow's milk and other dairy foods (Non-IgE-mediated cow's milk allergy)

**Delayed reactions** usually occur two or more hours after consuming cow's milk or other dairy foods. Symptoms may include an increase in eczema or delayed vomiting, and/or diarrhoea. Allergy tests to cow's milk are usually negative for these reactions.

Diagnosis should be made in consultation with a specialist paediatrician and/or clinical immunology/allergy specialist. This usually involves excluding cow's milk and other dairy foods from the diet for a trial period of one to four weeks to check for a clear improvement. A planned reintroduction of cow's milk and other dairy foods should occur to confirm diagnosis before longer term exclusion is advised.

### Not all reactions to cow's milk are due to allergy to cow's milk protein

**Lactose intolerance:** This is caused by the lack of the enzyme lactase, which helps to digest the milk sugar called lactose. Symptoms include diarrhoea, vomiting, stomach (abdominal) pain and gas (wind or bloating).

This condition is uncomfortable but not dangerous and does not cause rashes or anaphylaxis. Allergy tests to cow's milk are negative in people with lactose intolerance. Diagnosis is by temporary elimination of lactose and reintroduction.

**Milk, mucus and cough:** Some people complain that when they drink cow's milk or eat other dairy foods, that their throat feels coated and mucus is thicker and harder to swallow. Research has shown that these sensations occur with similar liquids of the same thickness and are not due to increased production of mucus.

**Management of cow's milk allergy involves excluding dairy foods from the diet**

Management of cow's milk allergy involves excluding cow's milk and other dairy foods from the diet, unless otherwise recommended by your doctor. Most people who are allergic to cow's milk will be allergic to other animal milks (goat, sheep or horse/mare), and foods that are made from these milks. To exclude cow's milk and other dairy foods it is important to read all ingredient labels, and exclude any food which contains these milks, unless otherwise advised by your doctor.

Cooked or baked cow's milk in muffins, cakes or biscuits are tolerated by some people with cow's milk allergy. However, unless you are already certain that cooked or baked cow's milk is tolerated you should discuss this with your clinical immunology/allergy specialist before introducing these foods at home.

All people with food allergy should have an ASCIA Action Plan to help manage an allergic reaction. Some people with cow's milk allergy may be prescribed an adrenaline (epinephrine) autoinjector by their doctor.

**Dietary restrictions for cow's milk allergy should be supervised**

Exclusion and reintroduction of cow's milk and other dairy foods should only be undertaken with advice from a medical specialist (and in many cases, a dietitian), particularly in cases of anaphylaxis. If long-term exclusion is required, an alternative source of calcium and protein is needed, to ensure adequate nutrition and growth.

Excluding foods from the diet during breastfeeding is rarely required, and if recommended, the maternal nutritional intake should be supervised, assessed and reviewed by a dietitian. Assessment and review by a dietitian is also recommended for babies and children who need to exclude cow's milk and other dairy foods.

**Alternative milks for babies (up to one year of age)**

**Soy protein formula**

- Tolerated by most babies with cow's milk allergy.
- Unsuitable for babies allergic to soy.
- Usually only recommended in babies over six months old.

**Cow's milk based extensively hydrolysed formula (EHF)**

- EHF has been treated with enzymes to break down most of the cow's milk proteins and it is usually the formula of first choice in cow's milk allergic babies.
- EHF is **not suitable** for babies who have had anaphylaxis to cow's milk.
- Some EHF brands are available without prescription.
- An amino acid based formula (AAF) is usually prescribed if a baby reacts to EHF.
- Partially hydrolysed formula (commonly labelled HA), is not a suitable formula for babies with cow's milk allergy as enough allergenic protein is usually present to trigger an allergic reaction.

**Rice protein based formula**

- May be used as an alternative formula to EHF or soy protein formula, and continued or changed based on specialist advice.
- Available without prescription.
- Should not be used in babies with food protein induced enterocolitis syndrome (FPIES) to rice.

**Amino acid based formula (AAF)**

- AAF is necessary in around one in ten babies with cow's milk allergy.
- AAF is usually prescribed when an EHF or soy protein formula is not tolerated.
- AAF is tolerated by most babies with cow's milk and soy allergies.

**Alternative milks in children over one year of age**

- Soy milk, calcium enriched rice, oat or nut milks may be recommended by your doctor and/or dietitian, depending on your child's condition.
- It is important to check if they contain adequate levels of protein and fat for young children for growth.
- Alternative milks enriched with calcium must contain around 120mg/100mL to be a suitable cow's milk replacement.
- Children with multiple food allergies may need to continue on specialised formula to meet their nutritional requirements.
- Babies should be reviewed by a dietitian at around 12 months of age so the need for formula can be considered.

**Some types of formula or milk are unsuitable for people with cow's milk allergy**

Cow's milk derived formula/milk, lactose free formula/milk, goat's milk formula/milk, sheep's milk formula/milk, camel's milk, HA formula and A2 formula/milk are NOT suitable for people with cow's milk allergy, and may cause severe allergic reactions (anaphylaxis).

**Cow's milk allergy usually resolves**

Around 80% of children will outgrow their cow's milk allergy by the age of three to five years. Your doctor should advise if further allergy testing and food allergen challenges are needed. These are usually performed in hospital clinics and supervised by a clinical immunology/allergy specialist.

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