

Egg allergy

Early childhood services

Eggs are the second most common cause of food allergy in children.

For children who are allergic to eggs, strict avoidance of egg and egg products is required. While some children are only allergic to egg white, avoidance of all egg products is recommended as it is difficult to avoid egg white contamination when separating eggs.

Cooking can reduce eggs allergenic properties, however many children still will not tolerate this.

01

Allergy action plan

Allergy action plans are recommended to advise staff what to do if a known allergen has been ingested. An action plan should be developed with the child's family and treating team (doctor, allergist, paediatrician) and be approved and signed by a recognised health professional involved in their care.

On enrolment, centres should request written documentation of confirmed allergies from the child's treating team. Parents should document exactly what their child can and cannot tolerate to avoid confusion and this should be written on the allergy action plan. If in doubt, avoid giving children with an egg allergy even a small amount of egg.

Children often grow out of egg allergies by 10-12 years of age. As a precaution, ask parents to document any changes in their child's reactions to egg over time (with approval from the treating team).

Specialised anaphylaxis action plans are essential for children with anaphylactic reactions.

For information about developing an allergy action plan refer to [Allergy policy and allergy action plans](#) or the Australasian Society of Clinical Immunology and Allergy (ASCIA)* website <http://www.allergy.org.au/>.

02

Avoiding egg in food

Strict avoidance of eggs and egg products is essential for children who suffer from egg allergy.

The table below outlines foods which are likely to contain eggs or egg products, and foods which are likely to be egg free.



| Food category | Egg free | Likely to contain egg |
|---------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Meat, poultry, fish, eggs, legumes and nuts and alternatives | Fresh or frozen meat, chicken and fish (uncrumbed) Canned fish in oil, brine or water Beans/legumes (canned or dried) Tofu Nuts, nut paste, peanut butter | All eggs (poached, boiled, fried, scrambled, omelettes) Quiche, egg based pie (e.g. egg and bacon), egg slice, frittata Crumbed/battered products (check label) Patties, burgers, sausages (check label) Meatloaf, meatballs Processed/sandwich meat (check label) 'Aussie' pizza, pizza/burgers 'with the lot' |
| Fruit and vegetables | Fresh, dried, canned fruit and vegetables Fruit and vegetable juices | Salad with egg/some dressings (check label) |
| Grain (cereal) products | Most bread Breakfast cereals Baby cereal and rusks Wheat/oats/rice/other grains Most dried pasta | Bakery items, some bread, rolls, buns, pretzels Fresh pasta and some noodles (check label) Fried rice and noodles |
| Milk, yoghurt, cheese and alternatives, and dairy desserts | All milk and infant formulas All cheese Yoghurt, Fruche, yoghurt drink | Some custard (check label) Pudding, mousse, ice cream, soft serve, gelato, sorbet |
| Fats and oils | Cooking oil, margarine, butter | Lemon butter |
| Drinks | Most plain/flavoured milk and soy drinks | Egg flips or egg nog |
| Cakes and biscuits | Homemade cakes, biscuits, muffins, slices and pancakes using egg replacer Dry biscuits Rice snacks and crackers | Meringues, pavlova, soufflés, flans and tarts Cakes, cake mixes, muffins, slices (check label) Buns, doughnuts, pastries, biscuits (check label) Cream puffs, chocolate éclairs Waffles, pancakes, pikelets, French toast |
| Soups | Most commercial and homemade soups are egg free | Chicken and sweet corn soup Soup with added pasta or noodles containing egg |
| Salad dressings and sauces | Vinegar-based dressing e.g. French, Italian, balsamic Homemade/commercial gravy | Creamy dressing e.g. coleslaw, Caesar Mayonnaise, hollandaise, béarnaise, tartare, other sauces |
| Confectionery | | Marzipan, some lollies (check label) Marshmallow, nougat |
| Other | Most dips and salsas | Some dips (check label) Health food/fruit bars (check label) |
| Jams and spreads | Vegemite, honey, jams, marmalade, peanut butter | Lemon butter |

03

Do all forms of egg need to be avoided?

Heating and cooking an egg can change the form of the proteins in the egg. In some cases, raw or lightly cooked egg may result in an allergic reaction, whereas well cooked egg incorporated in foods such as cakes and biscuits may be tolerated. This should be clarified with parents.

The table below outlines the types of foods that are considered to include raw, slightly cooked or well-cooked egg.

| Well cooked egg | Slightly cooked or containing high levels of egg white | Raw |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> • Cakes • Biscuits • Dried egg pasta • Oven baked meat dishes (meatloaf, meatballs, sausage rolls) • Well cooked fresh egg pasta • Egg glaze on pastry | <ul style="list-style-type: none"> • Meringues • Pavlova • Lemon curd • Quiche and Frittata • Scrambled egg • Boiled egg • Fried egg • Omelette • Poached egg • Egg in batter • Egg in breadcrumbs - fish, schnitzels • Hamburgers or rissoles • Asian dishes with omelette or egg white added • Hollandaise sauce • Egg custard • Pancakes • Mud cake | <ul style="list-style-type: none"> • Fresh mousse • Fresh mayonnaise • Fresh ice cream • Fresh sorbet • Horseradish sauce • Tartar sauce • Raw egg in cake mix • Egg flips or egg nog |

04

Avoiding egg in packaged foods

In Australia, all packaged foods must include a food label with an ingredients list. By law, food labels are required to state all food allergens that may be included in a food or drink product, no matter how small the amount of allergen is.

The below list outlines common ingredients that may indicate the presence of eggs. Products that include these ingredients should be avoided when catering for children with egg allergies.

Ingredients that may contain eggs:

- | | |
|------------------|---------------------|
| • Egg | • Albumin |
| • Egg white/yolk | • Apovitellin |
| • Egg powder | • Vitellin |
| • Egg protein | • Simplese |
| • Dried egg | • Lysozyme |
| • Egg solids | • Flavoproteins |
| • Ovomucin | • Globulin |
| • Ovalbumin | • Avidin |
| • Ovomuroid | • Livetin |
| • Ovmuxoid | • Silici albuminate |
| • Ovglycoprotein | • Meringue mix |
| • Ovovitellin | |



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Ingredient lists should be checked carefully to determine whether egg allergens are present. If egg allergens are present this should be listed clearly on the food label, for example an ingredient list should read 'albumin (egg)' or 'egg albumin' instead of simply 'albumin'.

ALWAYS check the ingredients list every time you buy a food product as the ingredients of the product may change.

Note: Egg may be used as a glaze and this may not be listed as an ingredient. Avoid shiny baked goods such as bread rolls, buns and pretzels.



05

'May contain traces of egg'

This statement is used by manufacturers to indicate that products may be contaminated with egg during processing and packaging. At present 'may contain traces of egg' is a voluntary statement and there are no clear guidelines to direct food companies how and when it should be used.

The wording of this statement makes it very difficult to determine risk level and a product that does not include the statement may be no safer than a product that does. The risk of significant allergic reaction through contamination is extremely low. Many families choose to ignore 'may contain traces of egg' statements as the only safe alternative is to exclude all commercial food products from the diet.

As a precaution, ask families to document their stance on 'may contain traces of egg' statements in writing on their child's allergy action plans so that centres can be clear about families' expectations.



06

Cooking without egg

It is possible to make baked products such as cakes, muffins, biscuits and pancakes by adapting recipes. Eggs are used to bind or aerate a recipe so the option you choose will depend on the recipe.

| Replacing eggs in cooking | |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 egg can be replaced with: | <ul style="list-style-type: none"> • 1 teaspoon baking powder + 1 tablespoon water + 1 tablespoon vinegar • 1½ tablespoons water + 1½ tablespoons oil + 1 teaspoon baking powder • ⅓ cup water + 2 teaspoons gelatin (dissolve gelatin in warm water) • ¼ cup mashed potato or pumpkin • ½ cup mashed banana or puree apple |

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A commercial egg replacer product is available called Orgran no egg Egg Replacer. It is a powder made from potato starch, tapioca flour and vegetable gums. It can be purchased from online allergy stores, health food stores and some supermarkets. When combined with water it can be used in place of egg in cakes, muffins and pancakes.

Egg substitutes are not suitable to use when cooking for children with egg allergy because they contain egg protein. These products are developed from egg whites and are designed for use by people on low cholesterol diets.

07

Food preparation

Highly allergic children may have mild allergic reactions at times when egg is not specifically eaten. This could be from:

- foods contaminated with egg from cooking surfaces and utensils
- being in the kitchen when egg is being cooked
- being touched by someone who has been handling eggs.

If children are susceptible to these types of reactions, this should be documented in the allergy action plan.

Extra caution will need to be taken to ensure that these children are not exposed to egg allergens.



*The ASCIA website includes personal action plans for allergic reactions and for anaphylaxis. These are medical documents that can only be completed and signed by the patient's treating medical doctor and cannot be altered without their permission.

Adapted with permission from: Egg Allergy fact sheet, Department of Allergy and Immunology, Royal Children's Hospital Melbourne, October 2010.

Other references: Egg allergy fact sheet, Women's and Children's Health Network, Women's and Children's Hospital SA, September 2010.