

Allergy and Immunology

EGG ALLERGY

Hen's egg is one of the most common causes of food allergic reactions in children. At this time treatment for egg allergy by desensitization is an experimental procedure. If your child is allergic to egg, strict avoidance of hens egg and egg products is the surest way to prevent symptoms.

The majority of children reacting to egg react to the egg white. Some patients will react to uncooked egg but will tolerate cooked egg. Although egg yolk is considered less allergenic than egg white, sensitization to the egg yolk may sometimes occur. In addition egg yolk can be contaminated by egg white proteins and should be avoided. Other forms of egg (e.g. duck) should be avoided, as sometimes there is cross reactivity.

What Foods Contain Egg?

Foods that will contain egg	Foods likely to contain egg that should be checked carefully
<ul style="list-style-type: none"> • Omelettes • Quiche • Egg and Bacon Pie • Frittata • Pavlova • Meringue • Flans and tarts • Choux Pastry (cream puffs, chocolate éclairs) • French toast 	<ul style="list-style-type: none"> • Spinach Pie • Crumbed and battered products • Patties, burgers, meatloaf, sausages • Processed or sandwich meats • Bakery items such as pastries, cakes, doughnuts, biscuits and slices • Cakes and cake mixes • Pasta, spaghetti and Noodles • Custard • Ice-cream or sorbet • Mousse • Salad dressings (Coleslaw, Caesar, Béarnaise, Tartare, Hollandaise, Mayonnaise) • Asian dishes, eg, Pad Thai, fried rice, noodles • Marshmallow • Nougat • Lemon Butter • Soups • Dips • Pizza

Will my child grow out of their allergy?

For the majority of children, their egg allergy will resolve by 10-12 yrs of age and often earlier. The doctors will determine if your child has grown out of their egg allergy by a combination of skin testing and food challenge with egg. Skin tests may be repeated periodically to monitor your child's allergies. A positive skin test to egg does not always mean your child will have symptoms when they eat egg, therefore a cautious challenge may be the only way to determine if your child has grown out of their egg allergy. Challenges may need to be done in a hospital by experienced medical staff. Do not do challenges at home unless discussed with your doctor.

Do all forms of egg need to be avoided?

Heating and cooking egg can change the form of the proteins. In some cases raw or lightly cooked egg may result in an allergic reaction whereas well cooked egg incorporated in foods such as cakes or biscuits may be tolerated. Your doctor will advise what forms of egg need to be avoided.

Well cooked egg	Slightly cooked or high egg white containing	Raw
<ul style="list-style-type: none"> • Cakes • Biscuits • Dried egg pasta • Oven baked meat dishes (meatloaf, meatballs, sausage rolls) • 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 eggnog

Baking without egg

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

1 egg =	1 teaspoon baking powder + 1 tablespoon water + 1 tablespoon vinegar 1 ½ tablespoons water, 1½ tablespoons oil, 1 teaspoon baking powder ⅓ cup water and 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® Egg Replacer**. It is a powder made from potato starch, tapioca flour and vegetable gums. It can be purchased from 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 as they contain egg protein. They are products designed for low cholesterol diets and are based on egg whites.

LABEL READING

Ingredients List

All packaged foods must have an ingredients list. You must check this ingredients list for any ingredients that may contain egg. Since 2002, it has been law that all potential food allergens (peanut, tree nut, seafood, fish, milk, eggs, soybeans and wheat) must be clearly identified, however small the amount.

Example: instead of simply albumin the ingredients list should read Albumin (egg) or egg albumin.

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

Egg protein containing ingredients include:

Egg (white and yolk)	Albumin	Dried egg or powdered egg
Globulin	Livetin	Ovalbumin
Ovomucin	Ovomucoid	Ovovitellin

Does my child have to avoid eating chicken?

No. Allergy to chicken is very uncommon and is different to egg allergy.

Do all egg based ingredients need to be avoided?

No. **Egg lecithin** and **egg emulsifier** are made from the fat component of the egg and the chance of an allergic reaction to these ingredients is unlikely.

“May contain traces of egg” statements

These statements are used by manufacturers to indicate that the product may be contaminated with egg through processing and packaging. At present these statements are voluntary and there are no clear guidelines for companies regarding how and when to use them. The wording of the statements makes it very difficult to determine your level of risk and a product that does not contain the statement may be no safer than a product that does. The chances of having a significant allergic reaction through contamination are extremely unlikely and most families choose to ignore these statements as the only safe alternative is to not include any commercial food products in your diet.

FOOD PREPARATION

Highly allergic children can have a mild reaction from foods contaminated with egg from cooking surfaces and utensils, being in the kitchen when egg is being cooked or when touched by someone who has been handling eggs.

VACCINATIONS FOR CHILDREN WITH EGG ALLERGY

- All routine vaccinations including **MMR vaccine** can be safely administered to children with egg allergy. MMR vaccine is not prepared in eggs but on chicken fibroblasts. MMR vaccine can be given to egg allergic patients.
- **Influenza, yellow fever and Q fever vaccines** contain some egg proteins. Therefore, in patients with previous anaphylactic reactions to egg, if it is decided to vaccinate these vaccines should be administered cautiously in split doses, under medical supervision.
- Children who have **egg allergy without a history of anaphylaxis** may receive the influenza, yellow fever and Q vaccines as a single dose under medical supervision.