

# Allergy and Immunology

## EGG ALLERGY

Up to 10% of infants have allergy to egg. Around 70-80% of children will tolerate egg baked in foods but still react to other forms of egg. For the majority of children, their egg allergy will resolve by 10-12 yrs of age and often earlier.

### HOW CAN YOU TELL WHEN MY CHILD HAS GROWN OUT OF THEIR EGG ALLERGY?

The doctors will determine if your child has grown out of their egg allergy by a combination of allergy testing and food challenge with egg. A positive allergy test to egg does not always mean your child will have symptoms when they eat egg and does not indicate what form of egg your child can tolerate. A hospital challenge to the different forms of egg (baked, cooked and raw) is the best way for the doctors to decide what form of egg your child can eat and when they have outgrown their egg allergy completely. Do not do challenges at home unless discussed with your doctor.

### VACCINATIONS FOR CHILDREN WITH EGG ALLERGY

- All routine vaccinations including **MMR vaccine** and **Influenza 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.
- **Yellow fever and Q fever vaccines** contain some egg proteins. Therefore, in patients with previous anaphylactic reactions to egg who require these vaccines, they should be administered cautiously **in split doses** and under medical supervision.
- Children who have **egg allergy without a history of anaphylaxis** may receive yellow fever and Q vaccines as a single dose under medical supervision.

### HOW DO YOU TREAT EGG ALLERGY?

There is currently no treatment for food allergy. If your child has a confirmed egg allergy, avoiding the form of egg they react to is the only way to prevent symptoms.

### HOW CAN MY CHILD AVOID EGG?

The majority of children reacting to egg react to the egg white, but allergies to egg yolk can also occur. Avoiding the whole egg is recommended as it is hard to separate egg white and yolk. Other types of eggs (e.g. duck, quail) can contain similar proteins to hen's egg and should be also be avoided.

Although eggs are a good source of protein, iron and some vitamins, if children are eating other foods such as meat, fish, chicken and legumes excluding eggs has little effect on overall nutritional intake for most children.

Egg can be an ingredient in many of the foods we eat therefore it is important to read and understand food labels to be able to choose foods that are safe for your child.

### What Foods Contain Egg?

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

### LABEL READING

All packaged foods must have an ingredients list and it is law that all common 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.

### 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. For children at risk of severe allergic reactions companies can be contacted directly to explore food processing, packaging and cleaning procedures.

**Products labelled as “May be present” have undergone more robust assessment and should be avoided by those with severe reactions to processed and baked forms of egg.**

**Does my child have to avoid eating chicken?**

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

**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 baked egg incorporated in foods such as cakes or biscuits may be tolerated. Your doctor will advise what forms of egg need to be avoided.

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

**Baking without egg**

If baked egg is not tolerated, 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
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	<p>1 ½ tablespoons water, 1 ½ 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</p>
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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.

### **ALLERGEN MANAGEMENT AT HOME**

Have a plan regarding storage and cooking of foods in your home as cross contamination can occur during storage, cooking and serving of foods. Casual skin contact with touching egg during cooking can result in localised skin reactions is most unlikely to cause a significant reaction. Take care with activities that involve potential contact with raw egg such as baking or craft activities using egg cartons or eggs.

### **ALLERGEN MANAGEMENT WHILST EATING OUT**

- Parties and eating at cafes and restaurants can pose a challenge for families with a child with a food allergy.
- If your child has an EpiPen prescribed have it with them at all times.
- Plan ahead and discuss your child's allergies in advance
- If you are not sure that the food is suitable do not give it to your child to eat.

### **ALLERGEN MANAGAEMENT AT CHILDCARE AND SCHOOL**

- Ensure your child has an up to date Allergy Action Plan.
- Teach your child not to share food or drinks.
- Excursions and camps will need advanced planning and communication with the childcare centre or school.
- Remind staff about craft activities that involve cooking or use of eggs or egg containers and ensure they are clean.
- Children can still be involved in chicken hatching projects. Minimise contact with egg shell and ensure hands are washed.

Refer to the ASCIA (Australasian Society of Clinical Immunology and Allergy) website for further resources for Schools and Childcare [www.allergy.org.au](http://www.allergy.org.au)

### **For further information refer to:**

**ASCIA** (The Australian Society of Clinical Immunology and Allergy) is the peak professional body of Clinical Immunologists and Allergists in Australia and New Zealand.

Their website contains a wide range of information including Guidelines for prevention of food anaphylactic reactions in schools, preschools and childcare centres and Action plans - [www.allergy.org.au](http://www.allergy.org.au)

**Allergy & Anaphylaxis Australia:** a non-profit organisation that provides information, training and support. Membership provides you with access to local support groups and seminars, quarterly newsletters and discounts on resources. Website contains outlines on each states policy on managing food allergies in schools, preschools and childcare facilities - [www.allergyfacts.org.au](http://www.allergyfacts.org.au)

**FSANZ** (Food Standards Australia and New Zealand): for information on food labeling - [www.foodstandards.gov.au](http://www.foodstandards.gov.au)

### **Disclaimer**

**The food and ingredient lists included in this resource are not exhaustive and may change, individuals with food allergy should always check food labels each time a product is purchased.**

**This resource is intended to accompany a medical consultation regarding the management of a diagnosed food allergy.**