

# Egg Allergy in Children

## Child Health Information



### What is egg allergy?

Egg allergy is caused by an allergic reaction to egg protein. This protein is found mostly in the egg white but also in the yolk. It is common in children under 5 years and usually first noticed in infancy when egg is introduced into the diet for the first time. It is rare for egg allergy to develop in adulthood. Those who develop egg allergy as adults may also be allergic to birds or feathers but that is unusual in children.

### What are the symptoms?

Most reactions to egg are mild. Commonly infants refuse the egg-containing food, develop redness and sometimes swelling around the mouth and may vomit after eating. Stomach ache or diarrhoea may also occur. Symptoms nearly always occur immediately or within 2 hours of eating the food. The more the egg is cooked or processed the less likely it is to cause a reaction.

Rarely, some children also develop a more severe reaction with cough, difficulty breathing, an asthma-type wheeze or even anaphylaxis.

Further reactions do not, as a rule, become increasingly severe unless a greater amount or a less well-cooked form of egg is eaten. Accidental skin contact usually only causes a rash but no generalized or dangerous symptoms. Egg allergy may also be responsible for worsening of eczema, but this is usually more difficult to diagnose given the slower time to onset of symptoms.

### Will the allergy resolve?

Egg allergy will resolve in most children, usually by school age. Generally, as they grow out of it, children tolerate highly cooked egg (eg cakes), followed by lightly cooked egg (e.g. pancakes, scrambled egg) and then finally raw egg (eg uncooked cake mix, mayonnaise).

Children who have had more severe reactions (e.g. with wheezing) may take longer to grow out of their allergy and in some cases egg allergy will persist. Some people will never be able to tolerate raw or very lightly cooked egg but can eat highly cooked egg without problems.

## How is egg allergy diagnosed?

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The diagnosis of egg allergy is based on the history of previous reactions, and can be confirmed by skin tests (SPTs) or blood tests (IgE/RAST).

## What is the treatment?

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- The best current treatment is to avoid all food containing egg. This will usually allow the allergy time to resolve. If your child is already known to tolerate some highly cooked egg products, these can be continued in the diet.
- Egg may be found in a wide range of foods, including: cakes, pastries, desserts, meat products, salad dressings, glazes, pasta, battered and bread-crumbed foods, ice cream, chocolates and sweets. There is further advice about egg-free diets and cooking at the end of this leaflet. The proteins in eggs from other birds are very similar to those in hens' eggs and should be avoided as well.
- You should obtain antihistamine syrup or tablets such as chlorphenamine or cetirizine (from your doctor or some are available without prescription eg piriton<sup>®</sup>, Piriteze<sup>®</sup>, Zirtek<sup>®</sup>) and keep this available at all times. An adrenaline auto-injector pen is not usually required but your doctor will prescribe this if a child were considered to be at high risk of a severe allergic reaction. If you are provided with an adrenaline injection your doctor will show you how to use it and provide a treatment plan.
- You should inform school, nursery or other carers of your child's allergy and also provide emergency antihistamine medication (plus adrenalin if prescribed).
- After a period of time egg reintroduction can be considered. This is most often over the age of 2. Your doctor may advise an allergy test to guide when this is appropriate, or may ask you to begin reintroducing well-cooked egg at home without testing if the risk of reaction is felt to be low. Advice sheets are available to help you reintroduce egg. If your child has had more severe reactions involving wheezing, the decision whether to reintroduce egg will be made by an allergy specialist.

## Can my child have their routine immunisations?

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We recommend that children are fully immunised to protect them from serious infections. Children with egg allergy need to take special precautions with yellow fever vaccine and some influenza vaccines, but otherwise they should be immunised (vaccinated) in the normal way including with MMR. The nasal influenza vaccine (Fluenz<sup>®</sup>) is safe to be given to egg allergic children.

Allergic reactions to vaccines are extremely rare. Occasionally it is felt to be sensible to have some immunisations in a hospital setting for example if the reaction to egg has been a very severe anaphylactic reaction involving significant breathing problems. These children should be under the care of the allergy team and their case can be discussed individually. Children who have had an allergic reaction to a previous dose of vaccine will also need immunisation in hospital.

## MMR – measles mumps and rubella

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The MMR vaccine has an excellent safety record in egg-allergic children. It can be given to all egg-allergic children as a routine procedure in primary care. The MMR vaccine is grown on cultured-embryo-chick fibroblasts and is generally free of hen's egg protein. When traces of egg protein are found, the protein is highly processed and the concentrations are too low to represent a risk. Virtually all egg allergic infants and children can therefore be immunised in primary care in the normal way.

## Can I continue to breastfeed my baby?

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If you are breastfeeding, any food proteins, such as egg, will also be present in small amounts in your breast milk. If your baby is well, with no allergic symptoms, then it is fine for you to eat egg as normal. If your baby has symptoms, such as eczema or rashes, which may be due to an allergy to the egg in your milk, then it may be worthwhile removing egg from your own diet for a couple of weeks to see whether your baby's symptoms improve. If there is no improvement in your baby's condition, then eggs can be re-introduced back into your diet.

## Does egg allergy mean my child is at risk of other allergies?

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Most children with egg allergy will already have a history of eczema. Children with egg allergy are also more likely to develop asthma later in childhood, than those without egg allergy. Allergies to other foods are more common in egg-allergic children but current advice is to try other new foods as normal.

## I have another child/infant to whom I have not given egg. When should it be introduced into their diet?

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Current advice is that egg should be introduced into the weaning diet from 6 months onwards. Allergies are more common in siblings but there is no evidence to suggest that delaying the introduction of egg beyond 6 months will reduce the chance of your child developing egg allergy. It is reasonable to start with highly cooked egg such as sponge cake, dried egg pasta or hard-boiled egg before trying lightly cooked egg.

## More information about egg-free diets and cooking

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- Eggs are used as a main ingredient in dishes such as omelettes but are also used for a variety of functions in other foods.
- Egg in the form of dried egg powder is used in confectionary to create a sticky texture such as Cadbury Crème egg<sup>®</sup>, Mars<sup>®</sup> bar, Chewitts<sup>®</sup>.
- Mayonnaise contains raw or pasteurised eggs. Egg-free mayonnaise is sold in health food shops and some supermarkets.
- Some foods such as ice cream, breaded foods etc will not always contain egg so always check the label or look for alternative recipes if making at home.
- If egg is present in any amount in packaged foods sold in the European Union it must by law appear on the ingredients list (manufacturers do not have to put a specific allergy warning box but many do). Outside the EU egg may also be referred to by unusual terms e.g. egg lecithin or albumen, ovalbumin (= egg white).

- Manufacturer’s websites/ customer care lines give information about egg ingredients and lists of egg-free foods can be obtained directly from many food manufacturers and supermarket chains (at customer help desks or telephone their customer care line). They can be very helpful in the day-to-day management of the diet.
- Eggs in recipes for baked goods generally play one of two roles: binder (to hold the ingredients together) or leavening agent (to help it rise). Depending on the function the egg had it can often be substituted with other ingredients such as oil, mashed banana, fruit puree or baking powder. Commercial egg-replacers can be bought in health food shops and can sometimes be useful. There are egg-free recipe books available and a wide range of recipes can be found on the web. Many are American so it may be worth purchasing American cup measures if you enjoy cooking. It is relatively easy to make very good egg-free cakes and pancakes at home.

<b>The Egg ‘Ladder’</b>	
<b>Egg containing food groups: The more egg is cooked at a higher temperature and for a longer time the less allergic it tends to be.</b>	
<b>1)Manufactured/processed foods containing highly cooked egg</b> Shop bought sponge or fairy cake Jaffa cakes Sponge finger biscuits	<b>2)Highly cooked egg:</b> Homemade cakes Hard biscuits containing egg Dried egg pasta/ noodles Very hard -boiled egg (yolk solid)
<b>3)Lightly cooked egg:</b> <b>It depends how well cooked this group is as to if they will be tolerated eg whether pancakes have any ‘sticky’ batter left inside.</b> Soft boiled, fried or scrambled egg Omelette; Quiches; Fresh egg pasta Some battered and bread-crumbed food Pancakes; Yorkshire pudding; Soft cookies Egg custard; Lemon curd Some marshmallows and other sweets eg Crème egg®; Chewitts® Ice creams made with egg Egg glazes on pastry etc	<b>4)Uncooked egg</b> Soft meringues Mayonnaise Uncooked cake mixes (eg licking spoon when cooking!) Sorbets made with egg white Home-made chocolate mousse Some horseradish and tartar sauces Some cake icing (eg Royal icing as it contains egg white)

## Sources of information about egg allergy

Examples of web-sites with egg free recipes: <http://www.vegansociety.com>

<http://www.egglesscooking.com>, <http://www.kidswithfoodallergies.org>

Allergy UK 01322 619898 <http://www.allergyuk.org>

The anaphylaxis campaign: Helpline: 01252 542029 <http://www.anaphylaxis.org.uk/>

This leaflet is based on information from the British Society for allergy and Clinical Immunology (BSACI)