

Your quick guide to: Egg Allergy

The information in this factsheet has been written to help people understand more about egg allergy.

Eggs are one of the most common foods to trigger allergic symptoms in babies and young children. Most children with an egg allergy will start to outgrow it by the time they go to school. In some cases it will persist into later childhood or in rare cases, adulthood. Egg allergy can occasionally develop in adult life.

More about egg allergy

Reactions to egg are usually triggered by the protein part of the egg (mainly in the egg white). Babies who have eczema are at an increased likelihood of developing an egg allergy. Having another type of food allergy, for example to cow's milk or a family history of allergy (atopy), also increases the risk.

Allergic symptoms

Allergic reactions to egg can be mild, moderate or severe (anaphylaxis). There are certain things that affect how severe an allergic reaction may be, including the amount of egg eaten, and how well the egg was cooked.

Egg does not have to be eaten to cause an allergic reaction, coming into contact with egg shells or touching (raw) egg can cause allergic symptoms usually affecting the skin in highly sensitive individuals.

Most reactions to egg are mild and symptoms are seen soon after eating egg or foods containing egg. Babies will often show reluctance or refuse to eat the egg. If egg comes into contact with the skin around the mouth it can cause a local reaction which is seen as a rash and may include redness, and raised red bumps that are called hives.

Other allergic symptoms affecting the skin include swelling to the lips, eyes and face. The stomach may also be affected and vomiting is common as well as stomach ache/cramps and loose stools (diarrhoea). Egg allergy can also cause eczema flares. Severe (anaphylaxis) allergic reactions to egg are less common but possible and

affect the breathing and may be seen as a cough, noisy breathing (wheeze) and circulation which results in them becoming pale and floppy babies and small children) or older children and adults who feel dizzy and may lose consciousness. Severe allergic reactions are a medical emergency and an ambulance should be called immediately. More information on anaphylaxis can be found in the following factsheet: Anaphylaxis and Severe allergic reactions.

Breast feeding and egg allergy

Small amounts of egg protein may be passed through mother's milk during breastfeeding. If the infant has no symptoms the mother can continue eating egg. However, if the infant has any gut or skin symptoms such as eczema, they may benefit from the mother trialling excluding egg from her diet. If there is no improvement in symptoms after two weeks, eggs can be reintroduced back into the mother's diet.

Diagnosing and testing for egg allergy

If you suspect that you or your child may have an egg allergy, it is important to discuss this with a health professional. This will normally be your GP or Health visitor who can offer further advice and recommend if allergy testing is needed. Allergy testing for egg can be done by a blood test and/or a skin prick test. The availability of access to these tests will vary from and may require referral to an allergy specialist. Sometimes a diagnosis is made on the clinical history alone.

Egg allergy and the diet

Some people with an egg allergy can eat egg that has been well cooked (e.g. egg as an ingredient in a cake) and will only develop allergic symptoms if they eat loosely cooked egg (e.g. scrambled egg) or raw egg (e.g. fresh mayonnaise or chocolate mousse). This is because the structure of the egg protein is changed by heat from cooking which makes it less likely to cause allergic symptoms. Around 80% of people with an egg allergy can

Key facts:

Babies who have **eczema** are at an increased likelihood of developing an **egg allergy**

Small amounts of egg protein **may be passed** through mother's milk during **breastfeeding**

Most children with an egg allergy will start to **outgrow it** by the time they go to **school**

The measles, mumps and rubella vaccine (**MMR**) can be **safely given** to all children with **egg allergy**

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tolerate a well baked egg in a cake.

Therefore not all people with an egg allergy need to avoid all forms of egg and this should be decided on an individual basis. It will depend on the severity of previous allergic reactions and the results of allergy testing. A GP or allergy specialist should provide information on whether all forms of egg need to be avoided. In those who are allergic to well-cooked egg, the reactions may be severe and strict avoidance of all egg and egg containing foods is necessary.

Where children have had mild to moderate reactions to egg they may be asked to re-introduce egg into the diet at home. Children who have had a severe reaction to egg in the past should not be given egg at home in any form until advised by a health professional – and then this is usually only done in hospital under supervision called a well baked egg challenge test where staff are trained to recognise and treat symptoms of allergic reaction should it occur.

Egg allergy and vaccinations

The influenza (flu) and yellow fever vaccine are made by growing the vaccine in chicken eggs and small amounts of the protein can remain in the vaccine.

The flu vaccine is part of the UK immunisation schedule for babies over 6 months, adults over 65 and those considered to be at high risk, including those with asthma requiring continuous use of inhaled or oral steroid treatment. (NICE Guidelines on seasonal influenza). Yellow fever is a travel vaccine given to those visiting high risk areas, so it is only required if traveling overseas to high risk areas.

The measles, mumps and rubella vaccine (MMR) can be safely given to all children with egg allergy even those that have had anaphylaxis. Sometimes it is developed on chick embryo cell cultures (not chicken egg) but is considered safe for egg allergic children to have. (Reference source: BSACI Egg Allergy Guidelines and the BNF 2017-2018)

Children with egg allergy can safely receive the intranasal (up the nose) influenza vaccine in any setting including GP surgeries and schools. Where these vaccines are given, facilities should be available and staff trained to recognise and treat anaphylaxis. The amount of egg (ovalbumin) contained in a vaccine will vary from manufacturer and batches of vaccines more information can also be sourced from the manufacturer of the vaccine. Health professionals can also access information in the green book, a reference guide which includes the latest information on vaccinations and vaccination procedures (and by vaccination updates available before the flu season on the DOH website Influenza vaccine: Ovalbumin Content). At this current time there is no egg free influenza vaccine available in the UK.

Extra caution should be taken for those with a severe egg allergy that have required admission to intensive care for severe anaphylaxis to egg, or have severe asthma or active wheezing or required recent oral steroids for their asthma -as it is possible to react to vaccines containing small amounts of egg protein (although this is very rare). In this case a referral to an allergy specialist for assessment on the risk versus benefit of receiving the flu vaccine to help decide whether the vaccine is needed and how and where the vaccine is to be given. (BNF- 2017-2018 Children Vaccination section).

Where there has been a confirmed anaphylactic reaction to a previous dose of the flu vaccine or a confirmed anaphylactic reaction to any part of the vaccine other than (Ovalbumin) the vaccine should NOT be given.

Examples of egg containing foods

Baked / Well-cooked egg

- Plain cakes
- Dried egg pasta
- Prepared meat dishes and sausages containing egg
- Egg glaze on pastry (for example sausage rolls)

- Quorn or similar micro protein products
- Gravy granules (if they contain egg)
- Shop bought pre-cooked frozen Yorkshire puddings
- Manufactured meringues (without 'sticky bits' in the middle)
- Manufactured (shop bought) pancakes and Scotch pancakes
- Dried egg noodles, well-cooked fresh egg pasta ONLY IF COOKED FOR 10 MINUTES

Loosely cooked egg

- Lemon curd
- Quiche / flan / Spanish tortilla
- Scrambled egg
- Fried egg, egg fried rice
- Omelette
- Poached egg
- Egg in homemade batter, e.g. chicken dipped in egg and breadcrumbs mix
- Homemade products where egg is used to make breadcrumbs to stick to fish/chicken etc.
- Hollandaise sauce
- Homemade pancakes and some Yorkshire pudding – especially those that contain any 'sticky' batter inside.

Undercooked / Raw egg

- Mayonnaise
- Some ice creams, especially fresh and deluxe types
- Royal icing (both fresh & powdered royal icing sugar)
- Horseradish sauce
- Raw egg in cake mix and other dishes awaiting cooking (Children of all ages can't resist tasting them!)
- Some cheeses if they contain egg white lysozyme or other egg proteins.
- Salad cream
- "Frico" edam cheese or other cheeses that contain egg white lysozyme
- Chocolate bars containing egg in their filling e.g. Nougat, Milky Way and Mars Bar, Snickers, Chewitts sweets
- Most types of prawn crackers

Your quick guide to: Egg Allergy

This is only a guide. Do please check ingredients to ensure that you are:

- Not excluding foods unnecessarily
- Not eating foods that contain egg by mistake
- Having an egg allergy (hen's eggs) is likely to mean that you are very likely to be allergic to eggs from other birds like duck, goose, quail so will also need to avoid these too. Egg allergy is different to being allergic to chicken, so children who have an egg allergy do not usually have a problem with eating chicken.

It is easy to avoid eggs that are served on their own when they look like an egg; however they are often hidden in prepared and manufactured foods so beware...

Guidance on egg consumption

It was previously suggested that raw and loosely cooked forms of egg should be avoided due to the risk of salmonella food poisoning to vulnerable groups of salmonella. Changes in advice from the food standards agency (October 2017) have resulted in the advice that eggs that are produced under the British Lion Code of practice (which is identifiable from the egg carton/box) can be safely eaten in raw or lightly cooked forms by (babies, infants, pregnant women, and elderly persons). However if you are egg allergic you should only eat egg in the form you tolerate.

Egg free diet information

Reading a food label

In the European Union (EU) ingredients lists on food labels have to clearly emphasise (for example in bold or highlighted)

whether they contain any of the 14 most common allergens. One of these 14 foods that has to be labelled is EGG. Outside of the EU food labelling laws will be different it is important to check ingredients carefully, especially where food has been imported from outside of the EU or when eating out whilst on holiday.

Example of a food label:

INGREDIENTS: Rapeseed Oil (78%), Water, Pasteurised Free Range Egg & Egg Yolk (7.9%), Spirit Vinegar, Salt, Sugar, Sunflower Oil, Lemon Juice Concentrate, Antioxidant (Calcium Disodium EDTA), Flavourings, Paprika Extract

Non-food items containing egg

These can be identified by reading the ingredients label. By law cosmetics, toiletries, perfumes and medications include a list of ingredients on their packaging. Where the labelling is in Latin, the words you need to look for are OVUM or OVO. However only avoid these if they caused irritation – they are often not a problem.

Egg free cooking

- Recipes can be easily adapted using egg replacers or other ingredients such as apple sauce, chia seeds or bananas
- Vegan recipes are all egg free by definition – invest in a vegan cookbook or get some recipes from the Vegan Society or a vegan website such as: <https://www.vegansociety.com/resources/recipes/>; <https://veganuary.com/recipes/>

- Egg free cookery books are widely available
- Allergy UK has some delicious egg free recipes on its website
- Ask your dietitian for some egg free recipes

Egg replacers

These usually have little or no nutritional value but are useful in cooking. Whole egg replacers and egg white replacers can be purchased from your pharmacist, health food shop and in most supermarkets now.

Egg replacers are useful but it is also easy to make egg free cakes without them – look on the Allergy Helpline for further information if you are not able to go online.

Baking powder helps a recipe rise; pureed apple, mashed banana and beetroot are just some examples of binding agents that can be used instead of eggs. Chia seeds, flax and chick pea water (aqua faba) are some other very useful egg replacers that will help you add more variety into your egg free diet.

For more ideas visit: <https://www.bbcgoodfood.com/recipes/collection/egg-free> or the vegan websites above.

Egg free substitute foods

Egg free mayonnaise and other egg free products are now widely available in supermarkets, health food shops and online.

If you have other food allergies ALWAYS check the labels in case they contain other ingredients you are allergic to.

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