CONDITION

Egg allergy

Egg allergy is an immune reaction to proteins found in egg.

WHAT IT IS
Immune reaction to proteins in egg

BODY SYSTEM
Immune system, skin, lungs, and digestion

MAIN SYMPTOMS
Hives, swelling, vomiting, wheeze

WHAT CAUSES IT
Immune response to egg proteins

HOW IT IS DIAGNOSED
History, allergy tests, supervised oral food challenge

MAIN TREATMENT
Egg avoidance and emergency adrenaline

CAN IT BE CURED?
Sometimes - many children outgrow it

IS IT AN EMERGENCY?
Sometimes - breathing trouble or collapse after exposure

LONG-TERM OUTLOOK
Often improves in childhood; some cases persist

Overview

Egg allergy happens when the immune system mistakes egg proteins for a threat and releases chemicals that cause an allergic reaction. Most reactions involve hen's egg, although eggs from other birds contain similar proteins.

Egg allergy is most common in babies and young children. Many children outgrow it, but it can continue into adulthood or, less often, first appear in an adult.

Some people react to all forms of egg. Others can safely eat egg baked thoroughly into foods such as cakes. Heating changes some egg proteins, but it does not make egg safe for everyone. A healthcare professional should assess this before you try baked egg at home.

Egg allergy differs from egg intolerance. An allergy involves the immune system and can cause a serious whole-body reaction called anaphylaxis. Intolerance usually causes digestive

symptoms and does not cause anaphylaxis.

Symptoms

Most immediate reactions begin within minutes and usually within two hours of eating egg. Symptoms may include:

A severe reaction involving breathing or circulation is anaphylaxis and needs emergency treatment. A previous mild reaction does not mean future reactions will be mild.

Some immune reactions are delayed. Food protein-induced enterocolitis syndrome, or FPIES, can cause repeated vomiting, paleness, and unusual tiredness several hours after eating a trigger food. Delayed reactions require a different assessment from immediate allergy.

Egg touching the skin may cause local redness or hives, especially in children with eczema. This does not always mean eating egg will cause the same reaction. Serious reactions from being near cooked egg are uncommon because egg protein does not usually become airborne in meaningful amounts.

- Raised, itchy welts called hives
- Redness, itching, or swelling of the skin
- Swelling of the lips, face, tongue, or eyelids
- Tingling or itching in the mouth
- Stomach pain, nausea, vomiting, or diarrhoea
- Sneezing, a runny nose, coughing, or wheezing
- A hoarse voice, throat tightness, or trouble breathing
- Dizziness, unusual drowsiness, confusion, or collapse

Causes and risk factors

The main allergens are proteins in egg white, including ovalbumin and ovomucoid. Egg yolk also contains proteins that can cause allergy.

Some proteins break down with prolonged heating. This may allow certain people to tolerate egg baked into a wheat-based food while still reacting to scrambled, boiled, or lightly cooked egg. Tolerance cannot be predicted from cooking method alone.

Egg allergy is more likely in children with eczema, especially severe eczema, or another food

allergy. A family tendency toward asthma, eczema, or allergies may also increase risk, but egg allergy is not inherited predictably.

Exercise, illness, alcohol, or some medicines may lower the amount of egg needed to cause symptoms in certain people.

Diagnosis

Diagnosis begins with a detailed history of what was eaten, how much, when symptoms appeared, what happened, and whether the reaction has occurred again.

A skin-prick test or blood test for egg-specific immunoglobulin E, called specific IgE, may support a diagnosis of immediate allergy. These tests show sensitisation, meaning the immune system recognises egg. A positive result alone does not prove that eating egg causes symptoms, and test size cannot reliably predict the severity of a future reaction.

An oral food challenge is the most direct way to confirm an allergy or find out whether it has resolved. Increasing amounts of an egg-containing food are given under medical supervision, with treatment available. Do not perform a food challenge at home unless your allergy team has provided a specific plan.

Delayed reactions are diagnosed mainly from the symptom pattern and improvement after removing the trigger. Standard skin and blood allergy tests may be negative.

Commercial food IgG tests, hair analysis, and similar alternative tests do not diagnose egg allergy and may lead to unnecessary restriction.

Treatment and management

The main treatment is avoiding the forms of egg that cause reactions. Avoidance should match the confirmed diagnosis. Someone who passes a supervised baked-egg challenge may receive a plan that includes certain baked foods, while another person may need to avoid egg in all forms.

Egg can appear in baked goods, mayonnaise, pasta, desserts, sauces, glazes, and processed foods. Check labels each time because recipes can change. Labelling rules differ by country. When eating away from home, ask about ingredients and contact between egg-containing and egg-free foods.

A dietitian can help if egg is a major part of your or your child's diet. Eggs provide protein, vitamins, and minerals, but these can come from other foods. Cooking substitutes are not

always egg-free, so check their labels.

Your allergy team may provide a written emergency plan. If an adrenaline auto-injector has been prescribed, carry it as directed and make sure caregivers know how to use it. Adrenaline, also called epinephrine, is the first treatment for anaphylaxis. Antihistamines like cetirizine or loratadine may help mild itching or hives, but they do not treat breathing problems or poor circulation and must not delay adrenaline.

Specialists sometimes offer treatment to raise the amount of egg needed to trigger a reaction. Oral immunotherapy uses carefully controlled amounts of an allergen. The anti-IgE medicine omalizumab may be available for selected people in some countries. These treatments reduce risk rather than cure the allergy, require specialist oversight, and do not replace avoidance or emergency planning.

Complications

The most important complication is anaphylaxis, which can involve throat swelling, breathing difficulty, a sudden fall in blood pressure, or collapse. Earlier reactions do not accurately predict the severity of the next one.

Avoiding too many foods can cause poor nutrition, slowed growth in children, or anxiety around eating, particularly when several foods have been removed without a clear diagnosis.

Egg allergy can also affect school, travel, social events, and eating out. A practical written plan can reduce uncertainty without unnecessarily limiting daily life.

Prevention

Egg allergy cannot always be prevented. It is not caused by something a parent did during pregnancy or breastfeeding, and avoiding egg during these periods has not been shown to prevent allergy in most children.

Current guidance generally supports introducing well-cooked egg in an age-appropriate texture when a baby is ready for solid food, rather than delaying it. Once tolerated, egg can remain part of the usual diet.

A baby with severe eczema or an existing food allergy may need individual advice before egg is introduced. Early introduction lowers risk for some children but cannot guarantee prevention.

If egg allergy is already present, label checking, careful food choices, and managing shared cooking surfaces can help prevent exposure. They do not remove the underlying allergy.

Living with it and what to expect

Many children become able to eat egg as they grow. Some first tolerate thoroughly baked egg and later tolerate less-cooked forms; others continue to react to every form. There is no reliable timetable for an individual child.

Follow-up may include reviewing reactions, checking growth and nutrition, updating emergency plans, and repeating skin or blood tests. If the history and results suggest improvement, a supervised food challenge may be offered. Do not test whether the allergy has resolved by giving egg at home without a plan.

Persistent egg allergy can continue through the teenage years and adulthood. Most people can still eat a varied diet, attend school or work, travel, and eat in restaurants with suitable planning.

People with egg allergy can receive routine measles, mumps, and rubella vaccination. Current guidance also allows age-appropriate influenza vaccination using usual precautions. Yellow fever vaccine requires specialist assessment because it may contain egg protein.

When to get medical help

Call emergency services immediately if egg exposure is followed by:

Use an adrenaline auto-injector immediately if the emergency plan says to do so. Do not wait for a rash. If there is doubt between anaphylaxis and a milder reaction, follow the emergency plan and seek urgent help.

Arrange a routine medical appointment if egg repeatedly causes hives, swelling, vomiting, coughing, or other symptoms. Seek follow-up if avoidance is affecting nutrition, growth, school, or anxiety; an auto-injector needs reviewing; or you think the allergy may have resolved.

- Trouble breathing, wheezing, or repeated coughing
- Throat tightness, tongue swelling, or difficulty speaking
- Collapse, faintness, confusion, or marked drowsiness
- Pale, floppy, or unresponsive behaviour in a young child
- Symptoms affecting several body systems, especially if worsening quickly

Common questions

Can I eat baked egg if I am allergic to egg?

Possibly, but only after assessment. Some people tolerate thoroughly baked egg while reacting to scrambled or boiled egg; others react to very small amounts in any form. Testing and a medically supervised challenge may be needed.

Will my child outgrow an egg allergy?

Many children do, but the age cannot be predicted. Reaction history and allergy-test results can help a specialist decide when to consider a supervised challenge. Some egg allergies continue into adulthood.

Are vaccines safe if I have an egg allergy?

Most are. Routine MMR and influenza vaccines can be given according to current guidance. Vaccination settings should be able to recognise and treat rare vaccine reactions. Yellow fever vaccination needs specialist advice.

Is egg intolerance the same as egg allergy?

No. Egg allergy is an immune reaction and may cause hives, swelling, wheezing, vomiting, or anaphylaxis. Intolerance usually causes digestive discomfort and does not cause anaphylaxis. Repeated reactions should be assessed.

Can touching or smelling egg cause anaphylaxis?

Touching egg may cause a local rash, especially on irritated skin. Smelling cooked egg usually does not expose you to enough protein to cause a serious reaction. Risk may differ where egg protein becomes airborne, such as during some cooking or food-processing tasks.

Can I eat chicken if I have an egg allergy?

Usually, yes. Egg allergy does not normally mean you are allergic to chicken meat. Rarely, people react to related proteins in both. If chicken has caused symptoms, do not test it again yourself; seek an allergy assessment.

Sources

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