

Allergy to eggs is caused by the immune system's reaction to a protein in eggs. Two factors are necessary for a food allergy to occur – genetic predisposition and exposure to the food. The seriousness of reactions to eggs varies from mild to life-threatening, depending on the person and the amount of egg eaten.

A doctor, preferably an allergist who is a member of the Canadian Society of Allergy and Clinical Immunology, is the best person to diagnose the allergy and assess its seriousness. If you or your child has been diagnosed with an egg allergy (either to the white or yolk), the only treatment is to avoid eggs completely. This includes foods and other products containing eggs, as well as foods that may have come in contact with eggs. Check the *Read Labels Carefully!* section of this pamphlet for more information.



BABY'S FIRST TASTE

Doctors and dietitians recommend that babies be breast or formula-fed with no solid foods for the first 6 months of life.

When there is a family history of any food allergy, it is best to ask a doctor or an allergist when to introduce eggs to the baby's diet.

If there is no family history of food allergies, introduce cooked egg yolk at 8 to 9 months of age and cooked egg white at about 12 months. This timing takes into account the development of the infant's immune system. Start with 1 small spoon of cooked egg yolk per day. Increase slowly to 3 egg yolks per week. Baby's first birthday is a good time to introduce the whole egg.

If a breast-fed baby is found to have an allergy to eggs, the mother may be advised to stop eating eggs for as long as she breast-feeds.



GIVING EGGS ANOTHER CHANCE

Allergy to eggs is one of the few food allergies that can last a lifetime. Sometimes when the allergy is mild, the doctor may suggest giving the child a very small amount, perhaps in a cooked food which contains eggs, such as a cookie. If this is tolerated, the amount can be slowly and gradually increased starting with a small quantity of hard-cooked egg yolk and later adding egg white (e.g., omelette). Be sure to check with an allergist before trying this.

Fortunately, most children outgrow their allergy to egg by age 5 to 7 years but when it is severe, it can last a lifetime.

THE FACTS ABOUT EGG ALLERGY

Cause

An abnormal reaction of the body's immune system to the protein in eggs.

Age of onset

Usually occurs during the first year of life, or when eggs are first introduced.

Diagnosis

Should be done by a doctor or an allergist who may use several tools, including:

- Detailed history
- Skin prick test
- Food challenge
- Blood tests

Symptoms

Reactions to a food typically begin within minutes but may also occur up to 2 to 4 hours after eating and usually last less than one day.

Allergic reactions to food can include any of the following symptoms:

Digestion

- Tingling in the mouth
- Vomiting
- Nausea
- Diarrhea
- Abdominal pain (cramps)

Skin

- Rash
- Eczema
- Redness
- Change in skin colour
- Hives
- Itching
- Swelling

Air Passages

- Runny nose, sneezing
- Nasal congestion
- Wheezing
- Breathing difficulty
- Itchy, watery eyes
- Coughing, choking, gagging

Anaphylaxis

Severe allergic reaction in which several different parts of the body are affected. It can lead to loss of consciousness and death. Immediate medical help is necessary. Those at risk should carry epinephrine and wear a "MedicAlert™" bracelet.

Treatment

- Be prepared. Carry injectable epinephrine (e.g., EpiPen®) if prescribed and know how to use it. Go to a hospital emergency room for follow-up.
- Complete avoidance of eggs including any foods or other products containing eggs until all allergy symptoms are under control or have disappeared (as determined by an allergist).
- As a means of delaying or possibly preventing the allergy, breast-feed without introducing solid foods for the first 6 months.



SAFETY TIPS

When eating out or buying bakery products, ask if eggs were used in any part of the preparation. **BE CAUTIOUS!** You may not always be given the correct answer.

Tell everyone who may have contact with an allergic child about the allergy. Be sure daycare centre staff and babysitters understand the importance of isolating the child from contact with eggs and know what to do if a reaction occurs.

Teach an allergic child not to share foods.

Avoid eating from buffets and at restaurants where foods with egg batter are deep-fried in oil that is reused for other foods.

READ LABELS CAREFULLY!

In order to avoid foods containing eggs, it is important to read labels of packaged or prepared foods carefully.

Note: Any word containing "ovo" or "albumin" most likely refers to a food which contains eggs.

Food ingredients that indicate or may indicate the presence of eggs. Avoid the following.

- Albumen
- Albumin
- Conalbumin
- Duck, goose, quail egg
- Egg (white, yolk, dried, powdered, solids, frozen, pasteurized)
- Eggnog
- Egg substitutes (Egg Beaters®)
- Lecithin (egg)
- Livetin
- Lysozyme
- Ovalbumin
- Ovoglobulin
- Ovofactohydrolyze proteins
- Ovomacroglobulin
- Ovomuroid
- Ovomucin
- Ovotransferrin
- Ovovitellin
- Simplese
- Silico-albuminate
- Vitellin

Foods that contain or may contain eggs

- Baby foods (some)
- Battered foods
- Béarnaise sauce
- Breads and buns (can contain or be glazed with eggs)
- Caesar salad
- Cakes
- Candies (cream centres in chocolates)
- Consommé soup
- Cookies
- Cream pies
- Custards/Puddings
- Dessert mixes (some)
- Doughnuts
- Eggnog
- Egg noodles
- French toast
- Hollandaise sauce
- Homemade root beer
- Hot dogs (some)
- Ice cream (some)
- Icings or frostings
- Mayonnaise
- Meat mixtures (meatloaf, hamburger, meatballs,...)
- Meringue
- Newburg sauce
- Omelettes
- Orange Julep®
- Pancakes
- Quiche
- Salad dressings (some)
- Salami (some)
- Soup clarified with eggs
- Soup with noodles
- Soufflé
- Surimi
- Waffles
- Wonton soup

Non-Food sources of eggs

- Anesthetic (Diprivan / Propofol)
- Certain vaccines (flu shots)
- Egg shampoos
- Eggshells used in crafts
- Some artists' paints

BAKING IS POSSIBLE

Eggs are an important ingredient in baking. When baking for someone with an egg allergy, these substitutions can be used. For best results when using a substitute, use recipes with only 1 or 2 eggs. Egg-free baking gets easier with practice.

For each egg called for in a recipe, substitute ONE of the following:

- 5 mL (1 tsp) baking powder, 25 mL (1½ tbsp) water and 25 mL (1½ tbsp) oil
- 5 mL (1 tsp) baking powder, 15 mL (1 tbsp) water and 15 mL (1 tbsp) vinegar
- 5 mL (1 tsp) yeast dissolved in 50 mL (¼ cup) warm water
- 1 packet of unflavoured gelatin, 30 mL (2 tbsp) of warm water. Do not combine until ready to use.
- ½ large mashed banana



Commercial egg substitutes, such as Kingsmill Foods Egg Replacer®, Celimix Brand Egg Replacer® and Ener-g Egg Replacer®, are available and can be ordered directly from the company. They can also be found in some health food stores or the natural food section of some grocery stores.

FREQUENTLY ASKED QUESTIONS

Can a person allergic to eggs eat chicken?

In most cases, the answer is yes. Most often the antibodies against eggs identify chicken as non-egg and chicken can be eaten safely. In rare cases, the antibodies find a similarity between the protein structure of chicken and eggs and the child can react to both.

Can a person allergic only to egg white still eat the yolk?

Eggs have two allergenic components with different properties — the yolk and the white. The egg white is the component which causes the most severe reactions. However, it makes little difference which part of the egg a child is allergic to. It is very difficult to separate the white from the yolk without having some parts of each combine. Extremely small amounts can sometimes trigger severe reactions.



Can a person who is allergic to raw eggs eat cooked eggs?

Usually not. Egg white is only slightly modified by heat, making it allergenic either raw or cooked. Egg yolk is substantially altered by heat and it can be tolerated by some if it is well cooked. But remember, it is very difficult to separate the white from the yolk without having some parts of each combine. However, sometimes when the allergy is disappearing, a person can eat cooked eggs but still react to raw eggs.

If a parent is allergic to eggs, will a child be?

A child's risk of developing food allergies is strongly influenced by the family history of allergies. Children without an allergic parent have a 15% risk of developing allergies. When one parent is allergic, the risk increases to 20 to 40%. When both parents are allergic, a child has a 40 to 60% risk of developing an allergy. A child does not usually inherit a specific food allergy from the parent, but rather the tendency to be allergic.

SPEAK TO A DIETITIAN

Eggs are one of nature's healthiest foods. They contain valuable high-quality protein along with essential vitamins and minerals such as folate, vitamin B₁₂, zinc and iron. The egg's food value is divided between the white and the yolk.

Eliminating eggs from the diet significantly reduces food choices and means missing out on many health benefits.



If you are concerned that you or your allergic child are not getting all the nutrients required, ask your local health unit or doctor for a referral to a dietitian. You can also contact Dietitians of Canada at www.dietitians.ca.

A dietitian will help you manage food choices without sacrificing good health or the pleasure of eating.

ALLERGY/ASTHMA INFORMATION ASSOCIATION

For more information about egg allergies, contact the Allergy/Asthma Information Association.

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EGG ALLERGY

The Facts

