

# FOOD ALLERGY FACT SHEET

## Egg Allergies

### What age group is most affected by egg allergies?

Egg allergy is estimated to affect approximately 1.3% of young children, although most children outgrow this allergy. For infants and children, this is the second most common food allergy behind milk allergies. Most egg allergies begin in childhood, but egg allergies can develop at older ages.

The egg yolk and white both contain proteins that can cause allergies. There are over 40 different types of protein in eggs, but ovalbumin, found in the egg white, is the most prevalent. Allergic reactions to egg white are more common than allergies to egg yolk.

### What are the symptoms?

The most common symptoms of an allergic reaction to eggs include:

- Skin inflammation or hives (most common reaction)
- Eczema
- Asthma symptoms (coughing, wheezing, chest tightness, or shortness of breath)
- Nasal congestion, runny nose, and sneezing (allergic rhinitis)
- Digestive symptoms (cramps, nausea, or vomiting)
- Anaphylaxis
  - Constriction of airways (swollen throat or a lump in the throat making breathing difficult)
  - Abdominal pain and cramping
  - Rapid pulse
  - Shock (a severe drop in blood pressure felt as dizziness, lightheadedness, or loss of consciousness)

### What foods contain egg?

Even when a food is labeled “egg-free,” it could contain egg protein. Commercial egg substitutes typically are made of egg whites. Some fat substitutes, such as Simplese®, also are made with egg proteins. The following list includes some

products that may contain egg proteins, so extra care should be taken when reading food labels for these products.

### Products or Ingredients with Egg

- Albumin (also spelled albumen)
- All egg products (scrambled eggs, hard-boiled eggs, etc.)
- Apovitellin
- Breeding on processed meat and poultry products
- Egg (whole, dried, powdered, solids, white, yolk)
- Eggnog
- Egg substitutes, cholesterol-free egg substitute (e.g., Eggbeaters®)
- Egg wash
- Fat substitutes
- Globulin
- Ice cream and gelato
- Livetin
- Lysozyme
- Marshmallows
- Marzipan
- Mayonnaise and mayonnaise-based salad dressings (including Caesar dressing)
- Meatloaf and meatballs
- Meringues (meringue powder)
- Ovalbumin
- Ovoglobulin
- Ovomucin
- Ovomuroid
- Ovotransferrin
- Ovovitelia
- Ovovitellin
- Processed meats
- Pudding and custard
- Sauces
- Silici albuminate
- Simplese®
- Soufflés
- Stratas and quiche
- Surimi
- Trailblazer
- Vitellin



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Eggs may be found in:

- Artificial flavorings
- Baked goods (including pastries, bread, muffins, bread pudding, and quick bread)
- Lecithin
- Natural flavorings
- Nougat
- Pasta
- Pretzels
- Specialty coffee drinks (eggs can be used in the foam or topping)

## Where is egg located on food labels?

Food labels that are regulated by the U.S. Food and Drug Administration (FDA) follow the regulations of the *Food Allergen Labeling and Consumer Protection Act* (FALCPA). FALCPA requires that the major eight food allergens are listed on the label in one of three ways: (1) using the common name, (2) common name written in parenthesis after the ingredient, or (3) in a “contains” statement.

For example, hamburger buns that contain egg could be labeled in either of the ways shown below (bold is used for illustrative purposes only):

Label 1	Label 2
<p><b>INGREDIENTS:</b> Whole wheat flour, water, high fructose corn syrup, albumin, soybean oil, whey, yeast, sugar, soy flour</p> <p>Contains: <b>Egg</b>, Wheat, Milk, Soy</p>	<p><b>INGREDIENTS:</b> Whole wheat flour, water, high fructose corn syrup, <b>albumin (Egg)</b>, soybean oil, whey, yeast, sugar, soy flour</p>

Labels should also be checked for warnings such as “may contain eggs,” “produced on shared equipment with eggs,” or “produced in a plant that uses eggs in other products.” These foods should be avoided because the product may contain a small amount of egg through cross-contact.

All child nutrition staff should be trained to read product labels and recognize food allergens. Because food labels change from time to time, child nutrition staff should check labels for egg and egg ingredients for every product each time it is received. It is recommended that labels be maintained for a minimum of 24 hours for every product served to a child with food allergies in case of a reaction. If the product is saved for later use as leftovers, keep labels for 24 hours after all product has been used up or discarded.

## What substitutes can be used for egg in student meals?

When menu substitutions or accommodations for a student with life-threatening food allergies are outside of the meal pattern, a medical statement from a state licensed healthcare professional, such as a physician, is required. Refer to the manual *Accommodating Children with Disabilities in the School Meal Programs: Guidance for School Food Service Professionals* on the USDA website (<https://www.fns.usda.gov/2017-edition-accommodating-children-disabilities-school-meal-programs>) for information on the required content of the medical statement. If there is uncertainty about the statement, or if it does not provide enough information, contact the household or physician (as permitted by the family) for clarification.

However, clarification of the medical statement should not delay the child nutrition department from providing a meal modification. Child nutrition staff should follow the portion of the medical statement that is clear and unambiguous to the greatest extent possible while obtaining the additional information or amended statement.

When planning menus for children with egg allergies, consider current food choices to determine if a reimbursable meal can be selected from foods offered that do not contain egg. This approach will minimize the need to prepare special recipes or to make menu substitutions.



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Child nutrition staff should always carefully read labels, even for foods that generally do not contain eggs.

The following chart lists common menu items that may be used as safe alternatives for items that contain eggs.

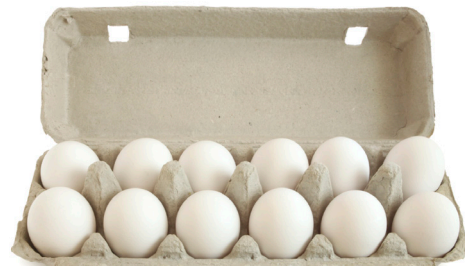
Common Menu Items That May Contain Egg	Possible Substitutes or Alternatives That Do Not Typically Contain Egg*
Breakfast entrees containing eggs	Yogurt, cheese, and cereal
Bread, bagels, muffins, crackers, and other bread products	Egg-free bread, French-type bread, and tortillas
Pancakes, waffles, and French toast	Egg-free pancakes
Processed meats	Grilled or baked meats
Breaded products, including chicken, fish, corn dogs, and other breaded items	Meat or fish with no breading
Mayonnaise-based salad dressings and salads	Mustard, vinegar, and Italian dressing
Pasta	Rice, couscous, barley, and egg-free noodles
Meatloaf and meatballs	Hamburgers
Casseroles	Macaroni & cheese and pizza
Pudding	Fruited gelatin
Baked desserts, including cookies and cakes	Fruit crisps and homemade fruit pies made without egg
Any desserts made with marshmallows or meringue (for example, crisped rice squares or some types of pie)	Graham crackers and whipping cream
Pretzels (some soft varieties)	Graham crackers and saltines
Ice cream and frozen yogurt	Sorbet and shaved ice

\*Always check the ingredient label to verify ingredients and check for potential cross-contact.

## Baking Substitutions

The following ingredients can be used to replace one to three eggs in a recipe:

- 2 Tbsp cornstarch, arrowroot flour, or potato starch = 1 egg
- 1 Tbsp soy powder + 2 Tbsp water = 1 egg
- 1 Tbsp soy milk powder + 1 Tbsp cornstarch + 2 Tbsp water = 1 egg
- 1 banana = 1 egg in cakes
- 1 Tbsp milled flax seed + 3 Tbsp cold water = 1 egg
- 1 tsp gelatin + 3 Tbsp cold water + 7 tsp boiling water, chilled and beaten = 1 egg
- 2 Tbsp water + 1 Tbsp oil + 2 tsp baking powder = 1 egg



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## Common Questions

### Can egg substitutes be used to prepare foods for children with egg allergies?

No. Typically, egg substitutes are made from egg whites, which are highly allergenic for children with egg allergies. Egg substitutes were primarily developed for cooking food for individuals needing to reduce cholesterol consumption.

### Can someone with an egg allergy sometimes eat cooked eggs?

People who have mild to moderate egg allergies may be able to eat traces of egg in baked goods (for example, cakes, bread, and cookies) if permitted by their healthcare professional. Still, foods containing large amounts of eggs should be avoided (for example, French toast or pancakes).

## References

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U.S. Food and Drug Administration. (2018). *What you need to know about food allergies*. <https://www.fda.gov/food/buy-store-serve-safe-food/what-you-need-know-about-food-allergies>

## For More Information

Food Allergy Research & Education  
<http://www.foodallergy.org>

Institute of Child Nutrition  
<http://www.theicn.org/foodsafety>

U.S. Food and Drug Administration  
*Food Allergens*  
<http://www.fda.gov/Food/IngredientsPackagingLabeling/Food-Allergens/default.htm>

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