

FOOD ALLERGY FACT SHEET

Milk Allergies

What age group is most likely to have a milk allergy?

About 2.5% of children under the age of three have a milk allergy, which is the most common cause of allergic reactions in young children. This allergy is usually outgrown in the first few years of life, so it is more common in infants and young children than in adults.

Many proteins in milk can cause an allergic reaction. There are two main categories of proteins in milk:

1. Casein—proteins found in the solid part or curd (part of milk that curdles)
2. Whey—proteins found in the liquid part of milk (what remains after milk curdles)

What are the symptoms?

Milk allergies can cause a range of symptoms that occur within a few minutes to a few hours after exposure.

Immediate symptoms of a milk allergy might include:

- Hives (urticaria)
- Wheezing
- Itching or tingling around the lips/mouth
- Swelling of lips, tongue, or throat
- Coughing or shortness of breath
- Vomiting

Symptoms that may take more time to develop include:

- Loose stools or diarrhea, which may contain blood
- Abdominal cramps
- Runny nose
- Watery eyes
- Colic in babies



Milk, along with peanuts and tree nuts, is one of the most common causes of anaphylaxis. Signs of anaphylaxis may include one or more of the following symptoms:

- Constricted airways (making breathing difficult)
- Facial flushing
- Itching
- Shock with a severe drop in blood pressure

What foods contain milk?

Individuals with a milk allergy need to follow a completely milk-free diet to avoid possible reactions. Eliminating fluid milk and other dairy products such as cheese from the diet is obvious, but many nondairy products and processed foods contain casein and whey (the proteins in milk). Reading food labels is important to eliminate exposure to ingredients that contain milk.

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Products or Ingredients with Milk

The following list of products may contain milk and should be avoided.

- Butter (butterfat, butter oil, butter acid, butter ester)
- Buttermilk
- Casein & caseinates — ammonium caseinate, calcium caseinate, casein hydrolysate, hydrolyzed casein, iron caseinate magnesium caseinate, potassium caseinate, sodium caseinate, zinc caseinate
- Cheese (all types)
- Cottage cheese
- Cream, whipped cream
- Cream cheese
- Curds
- Custard
- Dairy product solids
- Diacetyl
- Galactose
- Ghee
- Half and half
- Hydrolysates — casein hydrolysate, milk protein hydrolysate, protein hydrolysate, whey hydrolysate, whey protein hydrolysate
- Ice cream, ice milk, sherbet
- Lactalbumin/lactalbumin phosphate
- Lactoferrin
- Lactose/lactulose
- Lactate solids
- Lactic yeast
- Lactitol monohydrate
- Lactoglobulin
- Margarine
- Milk (all forms – condensed, derivative, dry, evaporated, goat’s milk and milk from other animals, low-fat, malted, milkfat, non-fat, powder, protein, skimmed, solids, whole)
- Milk fat, anhydrous milk fat
- Pudding
- Quark
- Recaldent
- Rennet, rennet casein
- Simplese® (fat replacer)
- Sour cream, sour cream solids, imitation sour cream
- Sour milk solids
- Tagatose
- Whey (all forms)
- Whey protein hydrolysate
- Yogurt (regular or frozen), yogurt powder

Keep in mind milk/milk ingredients can also be found in:

- Baked goods/breaded food items
- Candy (caramel, chocolate, or nougat)
- Flavoring (artificial butter, caramel, or natural)
- High protein flour
- Lactic acid (usually not a problem), lactic acid starter culture
- Luncheon meats, hot dogs, or sausages (may use casein as a binder)
- Margarine
- Milk substitutes (soy-, nut- or rice-based dairy products, possible cross-contact)
- Nisin
- Nondairy products (may contain casein)
- Shellfish (may be dipped in milk to reduce fishy odor)
- Tuna (may contain casein)

Allergens are not always present in these foods. Always read the labels and ask questions if unsure about a product’s ingredient.

Where is milk 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.



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

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

Labels also should be checked for warnings such as, “may contain milk,” “produced on shared equipment with milk,” or “produced in a plant that uses milk in other products.” These foods should be avoided as the product may contain trace amounts of milk protein due to cross-contact.

All child nutrition staff should be trained how to read product labels and recognize food allergens. Because food labels change from time to time, child nutrition staff should check labels for milk and milk ingredients for every product each time it is received. If the label does not provide clear information, then the manufacturer must be contacted for clarification or a different product should be used. 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.

Ingredients That Do Not Contain Milk

Listed are some ingredients that may be confused with ingredients that do contain milk, but these ingredients do not contain milk and need not be restricted by someone with a milk allergy:

- Calcium lactate
- Calcium stearoyl lactylate
- Cocoa butter
- Cream of tartar
- Lactic acid (however, lactic acid starter culture may contain milk)
- Oleoresin
- Sodium lactate
- Sodium stearoyl lactylate

What substitutes can be used for milk in school meals for students with a milk-related disability?

When a child has a milk-related disability, as determined by a state licensed healthcare professional, such as a physician, the program regulation [7 CFR 210.10 (m)] requires the school to provide the milk substitute specified by the healthcare professional. The child’s parent or legal guardian must provide the school with a medical statement signed by a state licensed healthcare professional before a milk substitute can be provided. 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 physician’s 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.



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What substitutes can be used for milk in school meals for students without a milk-related disability?

Schools have the option to offer a milk substitute in accordance with program regulation for the National School Lunch Program located at 7 CFR 210.10(m). For example, when a milk substitute is requested, and there is not a recognized disability, but may be a medical or other special dietary need such as milk intolerance.

Child nutrition departments must inform the State agency of any schools opting to provide milk substitutes and must ensure those milk substitutions meet USDA, Food and Nutrition Service (FNS) nutrient requirements (milk substitutes must be nutritionally equivalent to fluid milk). For example, low-fat or fat-free lactose-free milk, or reduced-lactose milk, would meet the nutrient requirements, among others. Be aware that school nutrition programs will not receive Federal reimbursement for a meal that substitutes juice or water for milk for a non-disability reason.

In this instance, since the milk substitution is due to a non-disability reason and can be accommodated within the established meal pattern, USDA, FNS does not require school districts to request a medical statement.

However, although it is not required by FNS, your local State agency may still require a medical statement. Check with your State agency before changing any policies. Furthermore, even if not required by the State agency, child nutrition offices may still choose to request a written medical statement from a state licensed healthcare professional in support of a request for a modification within the program's meal pattern. Child nutrition departments will be reimbursed for a non-disability modified meal that is within the meal pattern, regardless of whether they have obtained a written medical statement. Refer to the manual *Accommodating Children with Disabilities in the School Meal Programs: Guidance for School Food Service Professionals* on the USDA website for information on the required nutrient content of milk substitutes for non-disability cases.

When planning menus, consider current food choices offered to determine if a student who cannot consume milk may select a reimbursable meal from foods offered that do not contain milk proteins. This approach will minimize the need to prepare special recipes or to make menu substitutions for children with milk allergies. The following chart lists common menu items that may be used as safe alternatives to items that contain milk. Child nutrition staff should always carefully read labels, even for foods that generally do not contain milk.

Common Menu Items That May Contain Milk	Possible Substitutes or Alternatives That Do Not Typically Contain Milk*
Biscuits	Rolls or breadsticks made without milk
Breaded products (for example, chicken nuggets or patties, fried zucchini or okra)	Non-breaded products (for example, grilled chicken patty)
Bread, muffins, bagels, and other bread products	Tortillas, homemade bread products made without milk
Butter	Dairy-free margarine
Casseroles containing milk, cheese, butter, or sour cream	Scratch-made casseroles with dairy-free margarine, soy sour cream**, soy cheeses
Cheese and any menu items that contain cheese in any form	Soy cheese** or menu items without cheese (for example, a hamburger instead of a cheeseburger)
Chocolates and candies	Dairy-free chocolates
Crackers (some varieties)	Dairy-free crackers, some chips
Ice cream and frozen yogurt	Sorbet, ices, soy ice cream



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Mayonnaise- or cream-based salad dressings	Oil and vinegar-based salad dressings
Pasta (some varieties)	Rice, couscous, barley, beans, legumes
Prepared baked goods (cookies, cakes, quick breads)	Scratch-made baked goods without milk or dairy (angel food cake and oil-based cookies and cakes)
Processed meats (hot dogs, luncheon meats, sausages)	100% beef, chicken, pork, etc.
Processed soups (some varieties, especially cream- or milk-based soups)	Scratch-made soups without milk
Pudding	100% beef, chicken, pork, etc.
Yogurt	Soy pudding**

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

**Soy products are common substitutes for milk products, but soy also is a common allergen.

Baking Substitutions

Water or fruit juice can be substituted in equal amounts for milk in baking and cooking. For example, use 1 cup of water in place of 1 cup of milk.

Common Questions

How does lactose intolerance differ from a milk allergy?

Food intolerances can sometimes be mistaken for food allergies. Lactose intolerance is caused by a deficiency of lactase, the enzyme that breaks down the sugar (lactose) found in milk into its digestible components. Common symptoms of lactose intolerance are nausea, bloating, diarrhea, gas, and cramps. Lactose intolerance is not life-threatening. Schools may offer lactose-free milk as part of the reimbursable meal without a written request. Those with lactose intolerance can often eat foods that contain milk as an ingredient and can usually consume other dairy products such as yogurt without symptoms. Milk allergy, in contrast, is a reaction to the proteins (rather than the sugar) in milk and is an immune response.

Is a milk allergy a disability?

A milk allergy is considered a disability, and child nutrition staff are required to provide a milk substitute, as prescribed by a state licensed healthcare professional's statement. The *Americans with Disabilities Act* states a broad interpretation of a disability, and it is reasonable to expect that other types of milk allergies and lactose intolerance may be considered disabilities, as determined by a state licensed healthcare professional.

Is a medical statement required for a milk substitution?

If a student has a milk-related disability, a medical statement is required in order to provide a substitute beverage for the milk that does not meet FNS nutrient requirements for milk. For students without a milk-related disability, schools may choose to provide a substitute beverage for the milk; schools may accept a written substitution request from a parent or legal guardian or a medical authority as recognized by the state. Any milk substitution in a non-disability



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situation must be nutritionally equivalent to fluid milk as provided in the National School Lunch Program regulation located at 7 CFR 210.10(m). Schools are not required to grant substitution requests for students without milk-related disabilities but are encouraged to consider ethnic and religious preferences when providing a fluid milk substitution. Refer to the manual *Accommodating Children with Disabilities in the School Meal Programs: Guidance for School Food Service Professionals* for information on the required nutrient content of milk substitutes for non-disability cases.

Can a child have a milk allergy and still consume cheese?

A child with a true milk allergy will not be able to consume any dairy products, including cheese and yogurt. On the other hand, children with lactose intolerance may be able to consume some types of cheese and yogurt without experiencing adverse effects.

Can juice be substituted for milk?

Students without milk-related disabilities may only be offered a nondairy beverage that is nutritionally equivalent to fluid milk. However, if a student has a milk-related disability, a juice substitution written in the medical statement must be followed.

Is goat's milk a safe alternative to cow's milk for students with food allergies?

Goat's milk protein is similar to cow's milk protein and may cause a reaction in milk-allergic individuals. It is not a safe alternative.

If a product is labeled "dairy-free" or "nondairy," is it safe for a person with milk allergies?

No. The term "dairy-free" does not have an FDA regulated definition, so there is no assurance that the product does not contain milk proteins. The FDA definition of "nondairy" states that the product can include milk proteins and still be labeled "nondairy." Consequently, ingredient labels should always be checked for the presence of milk even if one of these terms is used on the packaging.



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References

- Asthma and Allergy Foundation of America. (2018). *Milk allergy*. <http://www.kidswithfoodallergies.org/page/milk-allergy.aspx>
- Centers for Disease Control and Prevention. (2013). *Voluntary guidelines for managing food allergies in schools and early care and education programs*. www.cdc.gov/healthyyouth/foodallergies/
- Food Allergy Research & Education. (n.d.). *Milk allergy*. <https://www.foodallergy.org/living-food-allergies/food-allergy-essentials/common-allergens/milk>
- Food Allergy Research & Education. (2019). *Tips for avoiding your allergen*. <https://www.foodallergy.org/resources/tips-avoiding-your-allergens>
- Mayo Clinic. (2018). *Milk allergy*. <https://www.mayoclinic.org/diseases-conditions/milk-allergy/symptoms-causes/syc-20375101>
- U.S. Department of Agriculture, Food and Nutrition Service. (2017). *Accommodating children with disabilities in the school meal programs: Guidance for school food service professionals*. <https://www.fns.usda.gov/2017-edition-accommodating-children-disabilities-school-meal-programs>
- U.S. Food and Drug Administration. (2018). *Food allergen labeling and consumer protection act of 2004 (FALCPA)*. <https://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/Allergens/ucm106187.htm>
- 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 and Education
<http://www.foodallergy.org>

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

The National Institute of Diabetes and Digestive and Kidney Diseases, *Lactose Intolerance*
<https://www.niddk.nih.gov/health-information/digestive-diseases/lactose-intolerance>

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

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