

When Milk Doesn't Do a Body Good

Handling Dairy Allergies and Intolerances

FOOD PROTECTION CONNECTION



In any type of foodservice setting—from schools to long-term care—you'll likely encounter people with dairy allergies or intolerances. While many recognize that nuts can cause life-threatening reactions among those with allergies, it can be hard to grasp that dairy allergies are just as serious.

Adding to the confusion are the numerous types of dairy allergies and intolerances. Some are severe and require complete avoidance of any dairy ingredient, while others may justify avoiding certain types of dairy.

By brushing up on these conditions and learning precautions for each, you can better understand and nourish your clients while preventing life-threatening reactions.

TYPES OF DAIRY ALLERGIES AND INTOLERANCES

The first step to understanding necessary modifications is to understand the specific condition. There are six types of dairy allergies or intolerances that you may come across:

1. Milk/Dairy Allergy

Condition: A food allergy occurs when the body's immune system reacts to the otherwise harmless proteins in foods. In the case of a dairy allergy, the body produces IgE (immunoglobulin E) antibodies designed to "fight" the milk proteins.



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In producing these IgE antibodies, the body also releases chemicals that cause an allergic response and various symptoms. Some people may have mild allergies while others can have a life-threatening reaction.

Symptoms:

- Hives
- Itchy mouth
- Nausea
- Vomiting
- Diarrhea
- Trouble swallowing
- Wheezing
- Passing out
- Chest pain
- Drop in blood pressure
- Swelling of the throat
- Anaphylaxis (severe life-threatening reaction that can occur within minutes)

Population: Any age (though more common among children) – so you're likely to see it across work settings.

Dietary Modifications:

Complete elimination of any type of dairy product or ingredient.

2. Non-IgE Mediated Cow's Milk Protein Allergy

Condition: Unlike a traditional allergy with an IgE response, this is an allergy that does not cause production of IgE

antibodies. However, it still triggers an immune system response (thought to occur at the cellular level instead).

Symptoms:

- Mucous and/or blood in the stool
- Abdominal discomfort
- Colic
- Fussiness
- Eczema

Population: Diagnosed in infancy, so you're more likely to see it in hospital settings. Many children will outgrow the condition between one to three years of age. However, some children will not—so if you work in a school setting, you may see children with this condition.

Dietary Modifications:

Complete elimination of any type of dairy product or ingredient. If the infant is breastfeeding, the mother will need to eliminate all dairy from her diet. If formula fed, the family can switch to a hypoallergenic or elemental formula. If the condition persists into childhood, the child must follow a dairy-free diet.

3. Food Protein-Induced Enterocolitis Syndrome (FPIES)

Condition: This is another type of non-IgE mediated food allergy, and quite severe. The most common

trigger food for FPIES is dairy.

Symptoms: Approximately one to four hours after a child ingests the trigger foods, they experience intense repetitive vomiting and diarrhea which can lead to dehydration and even shock.

Population: Most commonly diagnosed in infants and young children. Most children with FPIES outgrow it around school-age. You may encounter children with this condition in hospitals and school settings.

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Brush up on precautions to help prevent life-threatening reactions to dairy



Dietary Modifications:

Complete elimination of any type of dairy product or ingredient. Similar to above, this may affect an infant's formula, a breastfeeding mother's diet, or an older child's diet.

4. Lactose Intolerance

Condition: The individual does not produce enough lactase, an enzyme needed to break down lactose (the form of sugar found in dairy products). As such, the lactose sugar is not broken down in the small intestine like it normally would be. It instead travels to the large intestine where bacteria in the body start to break it down, causing discomfort.

While lactose intolerance causes uncomfortable symptoms, it is not life threatening like an allergy.

Symptoms:

- Gas
- Stomach discomfort
- Bloating
- Diarrhea

Population: All ages. However, since lactase production can decline over time, it's likely that you'll see a greater proportion of older adults with lactose intolerance in long-term care settings.

Dietary Modifications:

Individualized. People with lactose intolerance may be able to tolerate certain forms of dairy, as different products contain varying amounts of lactose. There are also specialty milk products on the market where lactose is already broken down, making it easier to digest.

5. Sensitivity to A1 Beta-Casein

Condition: There is emerging (though not conclusive) evidence that certain people may have a sensitivity to a protein called A1 beta-casein in cow's milk.

Traditional dairy milk contains several different types of casein proteins. The two most common are A1 beta-casein and A2 beta-casein. A few recent studies have shown that A1 may cause more digestive upset compared to A2.

Researchers believe that certain cases of self-diagnosed lactose intolerance may in fact not be related to the lactose, but rather that A1 beta-casein protein. Keep in mind this is very new research, so it's not definitive. However, it's wise to be aware of it in case you come across a client that reports this issue.

Symptoms:

- Gas
- Stomach discomfort
- Bloating
- Diarrhea

Population: Any age—so you could encounter in any work setting.

Dietary Modifications:

Select an alternative to regular milk—either a non-dairy alternative, or a dairy product made solely with A2 beta-casein. The latter is not a dairy alternative, but is instead sourced from select breeds of cows that only produce the A2 beta-casein protein in their milk.

6. Self-Reported Dairy Intolerance or Avoidance

Condition: The individual reports they are intolerant to dairy and/or that they wish to avoid it, but there is no official medical diagnosis.

This is a bit of a catch-all bucket. The condition could be related to gastrointestinal side effects they've experienced in the past—and as such, there may in fact be a true issue like lactose intolerance or a sensitivity to the A1 beta-casein protein. It could also be an undiagnosed non-IgE mediated allergy with very mild responses, like eczema.

RESEARCHERS BELIEVE

certain cases of self-diagnosed lactose intolerance may not be related to the lactose, but to A1 beta-casein protein.

On the flip side, they may have simply decided to avoid dairy based on input from family, friends, the media, or misconceptions about dairy products.

Symptoms: Vary widely.

Population: All ages, though more common among adults.

Dietary Modifications: In self-reported intolerances, a nutrition interview can help you learn more about what the patient does not tolerate or enjoy. You can work to adjust meals from there. A consult with an RD can also be very helpful for further understanding the patient's issues.

FOODSERVICE PRECAUTIONS FOR DAIRY ALLERGIES AND INTOLERANCES

People with food allergies or intolerances put a lot of trust in foodservice staff to prepare safe meals. Once you're aware of a client's condition, you can implement appropriate modifications. Here are some tips:

Handling lactose intolerance, A1 sensitivity, or mild self-reported intolerance:

- **Interview clients.** Chat with them about which dairy products they can and can't tolerate. For example, some people with lactose intolerance can snack on yogurt comfortably, but can't chug a tall glass of milk. Similarly, some people with self-reported intolerances may tolerate dairy that's baked into products, but perceive discomfort with fresh dairy.
- **Offer alternatives.** Consider keeping different variations of traditional cow's milk on hand, like lactose-free dairy milk. Or, consider keeping calcium-fortified dairy alternatives on hand, like soy milk. Product selection will depend on the number of clients with particular issues, cost-effectiveness of products, other medical conditions, nutritional needs, and applicable regulations for your foodservice setting. There is no one "right" choice.
- **Communicate clearly.** If there is a serving line for students or residents to grab food, label foods with potential allergens, including dairy. Similarly, ensure staff is available to answer questions about whether dairy is present in a dish. Though the conditions in this section are not life-threatening, this will help people to make their own informed decisions based on their personal needs.

Handling dairy allergies, non-IgE mediated cow's milk protein allergy, or FPIES:

For these issues, complete elimination of all dairy products and ingredients is necessary – and consequences of accidental ingestion are much more severe.

Become an allergen-aware kitchen.

- Prevent cross-contamination by frequently washing hands, changing gloves, and cleaning surfaces.
- Ensure that foods are clearly labeled in-storage with potential allergens.
- Always check product labels when opening a new package. Even if the product was previously safe, manufacturers change formulations frequently.
- Don't assume a food is naturally dairy free. Some surprising sources of dairy include certain salad dressings, pasta sauces, flavored chips, instant potatoes, or hot dogs.
- Label potential allergens on the serving line.
- Use separate utensils for serving each item.
- Remember that a dairy ingredient cannot simply be removed if it is mistakenly put on or in an item. For example, a slice of cheese cannot be taken off a sandwich and served to an allergic resident or student. The order must be remade, as small amounts of allergens can cause a severe reaction.

Modify meals.

- Add meals to your menu plan which can easily be modified to a dairy-free option. For example, the shredded cheddar on top of a bowl of chili could simply be left off, or cream sauce on pasta could be swapped for plain red sauce.
- Use olive oil for sautéing vegetables and meats, rather than butter.
- For products like salad dressings and pasta sauces, choose versions that are already dairy free which can be used for everyone.
- Offer calcium-fortified dairy alternatives as it fits your program's requirements and budget.
- In a hospital setting where cases of FPIES or non-IgE mediated cow's milk protein allergy are seen, offer dairy-free meal options for the breastfeeding mother.

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Be prepared.

- Ensure back-of-the-house and front-of-the-house are familiar with allergen awareness. They should either understand how to communicate potential allergens, or know who the person-in-charge is to ask about potential allergens.
- Create a food allergy plan that outlines all steps to prevent reactions—as well as what to do in emergencies. Train your staff on these procedures. Remember, an anaphylactic reaction can start in just minutes.

SPECIFIC CONSIDERATIONS FOR SCHOOL NUTRITION PROGRAMS

According to the Centers for Disease Control and Prevention (CDC), 20 percent of children with food allergies will have a reaction to a food while at school. It's essential that all foodservice staff put their utmost effort into preventing allergic reactions.

Children with food allergies have legal rights to a safe meal and safe space to learn. These rights are afforded to them through the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973. Food allergies qualify as a disability under the ADA (since a potential anaphylactic reaction can affect the ability to breathe), and as such, students can have a 504 Plan drafted.

This legal document includes all the accommodations that the school will provide for the child. Some examples of accommodations may include:

- Designation of food-free or allergen-free classrooms.
- The right to dairy-free foods at meal or snack times.
- Specific seating arrangements in the cafeteria, like an allergen-free table.
- Implementation of point-of-purchase alerts that help cafeteria staff double-check a young student's tray (without compromising student privacy).
- Offering parents easy ways to access recipes, such as an online database, to check for allergens.
- Providing open and clear communication about the process for modifying recipes or changing meal plans in the event of inventory issues.

Ingredients to Avoid for Dairy Allergies

Avoiding dairy means more than just skipping the milk, cheese, and yogurt. Many processed foods unexpectedly include dairy. While manufacturers are legally required to identify allergens in plain language on labels, you may encounter a label that is not compliant. Use this list to help you identify dairy ingredients in a product.

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| Artificial butter flavor | Lactalbumin |
| Artificial cheese flavor | Lactate solids |
| Butter | Lactoglobulin |
| Buttermilk | Lactose |
| Casein | Lactulose |
| Caseinate (including calcium caseinate, potassium caseinate, and any other version) | Milk (and any variation of this, including evaporated milk, milk solids, dry milk powder, etc.) |
| Cheese (including cottage cheese, cream cheese, cheddar cheese, etc.) | Nougat |
| Cream | Paneer |
| Curds | Pudding |
| Custard | Quark |
| Dairy solids | Rennet |
| Galactose | Skyr |
| Ghee | Sour cream |
| Half and half | Whey |
| Hydrolysates | Yogurt |



- Offering a milk substitute for children. For children with a 504 Plan due to an allergy, schools are *required* to offer an alternative. Depending on the doctor's directions, this may include a non-dairy milk substitute, juice, water, a special formula, or another beverage.
- For children with non-life-threatening food intolerances or personal preferences, the school may *optionally* offer nutritionally-comparable milk alternatives. In order to use these for a reimbursable meal, they must meet the current USDA standards for milk substitutes (which limits the options that can be served – i.e. no water, juice, or low-protein milk alternatives).

SUMMING IT UP

Allergies can seem overwhelming, but with proper allergen-awareness procedures and a little culinary creativity, it's easy to create meals that are both delicious and safe. **E**

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SAN CE Questions | FOOD PROTECTION CONNECTION



This Level III article assumes that the participant has thorough knowledge of the topic. The desired outcome is to integrate analysis and application of knowledge, incorporating continuous quality improvement into best practice.

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1. Which condition can cause severe, life-threatening symptoms such as anaphylaxis?
 - A. Milk allergy
 - B. Sensitivity to A1 beta casein
 - C. Lactose intolerance
2. Which condition causes severe repetitive vomiting approximately one to four hours after consuming a trigger food?
 - A. Sensitivity to A1 beta casein
 - B. Non-IgE mediated cow's milk protein allergy
 - C. Food protein-induced enterocolitis syndrome (FPIES)
3. Which condition causes gastrointestinal discomfort due to undigested milk sugar entering the large intestine?
 - A. Milk allergy
 - B. Sensitivity to A1 beta casein
 - C. Lactose intolerance
4. A slice of cheese is accidentally placed on the sandwich of a patient with a milk allergy. What is the appropriate action to take?
 - A. No action is necessary—it's only one slice
 - B. Remove the slice of cheese and serve the sandwich
 - C. Remake the sandwich with new ingredients
5. A resident in your long-term care facility reports that they are lactose intolerant. As a foodservice director, which would be the best next step to take?
 - A. Eliminate all dairy from their diet
 - B. Interview them to see which dairy products they may tolerate
 - C. Ignore it; it's not a severe condition
6. Which of the following conditions qualifies as a disability in school settings, giving the child rights to certain foodservice accommodations?
 - A. Milk allergy
 - B. Lactose intolerance
 - C. Self-reported dairy intolerance
7. A child has lactose intolerance and her parents request a milk substitute be served at school. Under current USDA guidelines, which of the following is true regarding the school's obligations? The school can...
 - A. *Optionally* serve water or juice for a reimbursable meal
 - B. *Optionally* serve nutritionally-comparable lactose-free milk for a reimbursable meal
 - C. *Be required* to provide a milk alternative of the parent's choosing