

FOOD ALLERGIES AND INTOLERANCES

Food Allergy Vs. Food Intolerance

- ▶ *While food allergies and food intolerances are both caused by reactions to certain foods, they are not the same.*
- ▶ *It is vital to see your doctor if you think you have a food allergy or intolerance before getting rid of any foods from your diet. By working with a health-care team, you can make sure that you're getting the care you need.*
- ▶ *If you believe you have a food allergy or intolerance, keep a diary of all the food you eat to find what might cause reactions and what exactly those reactions are.*
- ▶ *The strength and type of your reaction can help you find out whether you are having an allergic reaction to a food or a food intolerance.*

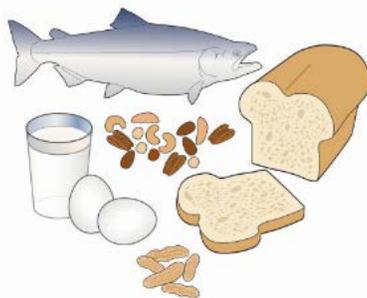
At-A-Glance	Food Allergy	Food Intolerance
Overview	Urgent , severe	More common , general symptoms
Symptoms	<ul style="list-style-type: none"> • Itching • Problems breathing • Throwing up • Drop in blood pressure 	<ul style="list-style-type: none"> • Upset belly • Cramps • Bloating • Diarrhea (loose stool)
Reaction to	Protein in certain foods	Sugar in certain foods
Causes	<ul style="list-style-type: none"> • Milk. • Soy. • Eggs. • Wheat. • Peanuts. • Tree nuts. • Fish. • Shellfish. 	<ul style="list-style-type: none"> • Wheat and other grains. • Cow's milk and dairy products. • Corn products. • Sugar found in fruits and honey. • Wheat starch and starches in other grains.



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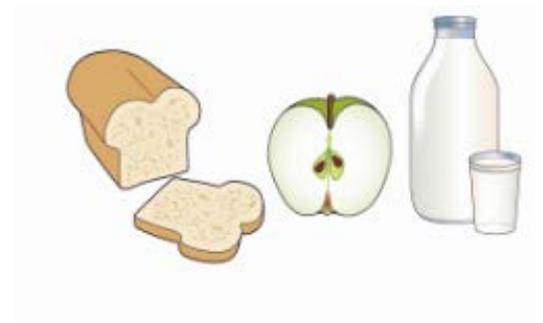
Food Allergy

- A food allergy occurs when you feel an **urgent, severe reaction** after you eat a certain food or food group.
- A sudden allergic reaction to food can take place **within a few minutes to an hour** after you eat a certain food.
- Common reactions of a food allergy are:
 - Itching in the mouth (often at the start of the reaction).
 - Throwing up.
 - Diarrhea (loose stool).
 - Belly pain.
 - Drop in blood pressure.
 - Problems breathing.
 - Wheezing due to asthma.
 - Skin reactions, such as hives or eczema (an itchy rash).
- Doctors can do **skin and blood tests to find allergies**. A food allergy indicates an allergic **reaction to a protein** in certain food groups.
- The **big eight food groups** that cause the most food allergies in North America are:
 - Milk.
 - Soy.
 - Eggs.
 - Wheat.
 - Peanuts.
 - Tree nuts.
 - Fish.
 - Shellfish.
- Food allergies are best treated by avoiding foods that cause a reaction.
- *Those with certain food allergies, such as peanuts, tree nuts and shellfish, as well as other foods linked to sudden and severe reactions where the throat could close, should be under the care of an allergy doctor and carry an injectable epinephrine syringe (EpiPen®), which treats severe allergic reactions.*



Food Intolerance

- Food intolerances are **fairly common**.
- Food intolerances are harder to figure out.
- Reactions from a food intolerance may involve:
 - Upset belly.
 - Cramps.
 - Bloating.
 - Gas.
 - Diarrhea (loose stool).
 - Belly pain.
 - Heartburn.
- A food intolerance or sensitivity indicates a **reaction to sugar** in certain food groups.
- Common foods to which people have food intolerances are:
 - Wheat and other grains that have gluten (gluten intolerance).
 - Cow's milk and dairy products (lactose intolerance).
 - Corn products.
 - Sugar found in fruits and honey (fructose intolerance).
 - Wheat starch and starches in other grains (starch intolerance).



It is vital to work with your doctor if you think you have a food allergy or intolerance before omitting foods from your diet.



FOOD INTOLERANCE: LACTOSE INTOLERANCE

What is Lactose Intolerance?

- ▶ Lactose intolerance is when you are **not able to digest a lot of lactose**, which is **the main sugar in milk**.
- ▶ Lactose intolerance results from **a shortage of the enzyme lactase**, which is normally made by the cells that line the small gut. **Lactase** breaks down the sugar in milk into simpler forms so it can then be pulled into the blood stream.
- ▶ Symptoms start about **30 minutes to two hours after eating or drinking foods that have lactose** (mainly milk products). The harshness of symptoms varies based on the amount of lactose you are able to handle.
- ▶ For most people, lactose intolerance **develops over time**.
- ▶ Symptoms may start years after childhood.
- ▶ Close to 50 million adults in the U.S. are lactose intolerant.
- ▶ Lactose intolerance is usually caused by genes, meaning you are born with it, and it doesn't go away.
- ▶ Sometimes lactose intolerance is brought on by something else, such as a virus or infection that causes temporary damage to the small intestine. Once your gut is healed from these other causes, you are often able to consume lactose again.



Common Symptoms of Lactose Intolerance

Symptoms of lactose intolerance are not the same for each person. Some common symptoms are:

- Upset belly.
- Cramps.
- Bloating.
- Gas.
- Diarrhea (loose stool).

Food Allergies and Intolerances – What to Know:

- ▶ It is important to know the differences between food allergies and food intolerances.
- ▶ A food allergy is a sudden, urgent and severe reaction to a food when it is eaten or touched. Symptoms include feeling itchy or having trouble breathing.
- ▶ A food intolerance, or sensitivity, often has less severe symptoms, though is still very uncomfortable. Symptoms include gas and cramping pain.
- ▶ Do not get rid of anything from your diet until your doctor tells you to do so.



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FOOD INTOLERANCE: LACTOSE INTOLERANCE

Getting Tested for Lactose Intolerance

Lactose intolerance can be hard to figure out based just on symptoms. **A gastroenterologist can use tests** to find out if you're lactose intolerant:

Lactose Breath Test

- Given to older children as well as adults.*
- This test measures the amount of hydrogen in the breath. **This test is very accurate.**
- In the test, the patient drinks a lactose-loaded drink, and the breath is tested at routine intervals.
- Hydrogen in the breath means improper digestion of lactose.
- Certain foods, medications and smoking can change the test's accuracy and may need to be skipped before the test.

Stool Acidity Test

- **Used for infants and young children.**
- This test, which measures the amount of acid in the stool, has no risk to young children.
- This test is not very specific.



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Lactose Tolerance Test

- **This test is not often used.** This test may be performed if the lactose breath test is not available.
- Given to older children as well as adults.*
- Before the test, patients do not eat, and blood is taken to measure the fasting blood-sugar level.
- Patients then drink a large amount of a liquid that has lactose.
- Blood samples are taken over a two-hour period, which tell how well the body is able to digest lactose.

** The lactose tolerance and hydrogen breath tests are not given to infants and young children, because giving these patients a lactose load can result in diarrhea (loose stool), which can cause dehydration.*

Food Allergies and Intolerances – What to Know:

- ▶ It is important to know the differences between food allergies and food intolerances.
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FOOD INTOLERANCE: LACTOSE INTOLERANCE

Controlling Symptoms of Lactose Intolerance

Being diagnosed with a food intolerance and needing to change how you eat, **can feel like a lot to take on**. While it is not as severe as having a food allergy, **a food intolerance can impact your life**.

You might be scared to eat for fear of having a reaction. You may not want to join your family and friends when they go out, because you're worried about cross-contamination. These feelings are normal and can be handled by **talking to your gastroenterologist and a registered dietician or nutritionist**.

By learning more about **what a food intolerance means for you**, you'll feel more in control and better able to manage the changes.

- ▶ Symptoms of lactose intolerance **can be controlled through diet**.
- ▶ Many older children and adults do not need to avoid lactose entirely, but people differ in the amounts of lactose they can handle. This means you need to figure out, through trial and error, how much lactose you can handle.
- ▶ Some people with lactose intolerance are able to eat old cheeses (where the lactose has had time to change).
- ▶ There are some products to help control symptoms:
 - **Lactase enzyme:** These help people digest solid foods that have lactose; enzymes are taken just before a meal or snack and can come in tablet, chewable or liquid form.



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- **Lactose-free milk and other products:** These are found at most supermarkets; the milk has all of the other nutrients found in normal milk and stays fresh for about the same length of time. Examples are soy or almond milk. Also, hard cheeses like blocks of parmesan often have no lactose.

Watching for Hidden Lactose

Though milk and foods made from milk are the only noteworthy natural sources, **lactose is often added to prepared foods**. It is vital for people with very low tolerance for lactose to know about the many foods that have lactose, even in small amounts. **Be sure to read all labels**.

Some common items that have lactose are:

- Bread and other baked goods.
- Processed breakfast cereals.
- Instant potatoes, soups and breakfast drinks.
- Margarine.
- Lunch meats (other than kosher).
- Salad dressings.
- Candies and other snacks.
- Mixes for pancakes, biscuits and cookies.
- Powdered meal-replacement supplements.
- Some “nondairy” products, such as powdered coffee creamer and whipped topping, may have parts that are derived from milk and therefore have lactose.
- Lactose is used as the base for more than 20 percent of medications and about 6 percent of over-the-counter (OTC) drugs. Many types of birth control pills have lactose, as do some tablets for stomach acid and gas. **A pharmacist can answer questions about the amounts of lactose in certain meds.**



Reading Food Labels

If any of these items are on a food label, **it may have lactose:**

- Milk.
- Lactose.
- Whey.
- Milk by-products.
- Dry milk solids.
- Non-fat dry milk powder.

Nutrition Facts		Amount/serving	%DV*	Amount/serving	%DV*
Serv. Size 16 oz (454g)		Total Fat 4g	6%	Total Carb. 81g	27%
Serv. Per Cont. 1		Sat. Fat 1g	4%	Fiber 5g	22%
Calories 400		<i>Trans</i> Fat 0g		Sugars 5g	
Fat Cal. 35		Cholest. 0mg	0%	Protein 15g	
		Sodium 620mg	26%		
*Percent Daily Values (DV) are based on a 2,000 calorie diet.		Vitamin A 15% • Vitamin C 90% • Calcium 10% • Iron 20%			

INGREDIENTS: Pasta (Durum Wheat Semolina, Niacin, Iron Lactate, Thiamine Mononitrate, Riboflavin, Folic Acid), Tomato Powder, **Parmesan Cheese** Packet, Seasoning (Salt, Sugar, Garlic, Onion, Natural Flavors, Premium Spices, **Romano Cheese** Glycol, Bell Pepper, Xanthan Gum, Paprika Oleoresin), Sea Salt, Onions, Basil, Evaporated Cane Juice, Bell Pepper, Asparagus, Bell Peppers, Organic Extra Virgin Olive Oil, Seasoning (Garlic, **Parmesan Cheese [part skim milk]**, salt, **cheese culture**, enzymes, micro crystalline cellulose used for anti-caking), Salt, L-Glutamic Acid, Spices, Parsley, Silicon Dioxide [Anti-Caking Agent]), Garlic, Zucchini, Spinach, Allspice, Coarse Ground Pepper, Mushrooms, Celery, Carrots

PROCESSED IN A KITCHEN THAT HANDLES WHEAT, EGG, **MILK**, FISH, SHELLFISH, SOYBEAN, PEANUT AND TREE NUT PRODUCTS.
CONTAINS: **MILK**, WHEAT

Getting Appropriate Nutrition

Milk and other dairy products are a major source of nutrients, like **calcium and vitamin D**, in a balanced diet. Calcium is needed for the growth and repair of bones throughout life. As you remove milk and dairy items from your diet, **be sure to get extra calcium in other ways.**

The table below shows how much calcium you should be getting each day and some ideas on how to get it.

Food and Nutrition Board, Institute of Medicine, National Academics

Dietary Reference Intakes: Estimated Average Requirement of Calcium Intake Per Day (in mg)

Age	Male (mg of Calcium/Day)	Female (mg of Calcium/Day)
1 to 3 years	500	500
4 to 8 years	800	800
9 to 13 years	1,100	1,100
14 to 18 years	1,000	1,000
19 to 30 years	800	800
31 to 50 years	800	800
51 to 70 years	800	1,000
>70 years	1,000	1,000



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It is important in meal planning to make sure that **each day's food has enough calcium**, even if your diet does not have dairy products.

Many foods are high in calcium but do not have lactose, including:

- Firm tofu with calcium sulfate (3.5 oz: 683 mg calcium).
- Soy milk (1 cup: 200–300 mg calcium).
- Sardines, with edible bones (3 oz: 382 mg calcium).
- Salmon, canned with edible bones (3 oz: 198 mg calcium).
- Broccoli (1 cup: 90 mg calcium).
- Oranges (1 medium: 50 mg calcium).
- Pinto beans (1/2 cup: 40 mg calcium).
- Tuna, canned (3 oz.: 10 mg calcium).
- Lettuce greens (1/2 cup: 10 mg calcium).



Dairy products that are high in calcium and **low in lactose** (meaning there is some lactose, so they can be consumed by people who can handle a little bit of lactose) include:

- Plain, low-fat yogurt (1 cup: 415 mg calcium, 5 g lactose).
- Reduced-fat milk (1 cup: 295 mg calcium, 11 g lactose).
- Swiss cheese (1 oz.: 279 mg calcium, 1 g lactose).
- Ice cream (1/2 cup: 85 mg calcium, 6 g lactose).
- Cottage cheese (1/2 cup: 75 mg calcium, 2–3 g lactose).

If you have symptoms from dairy fat, you could also try hard cheeses that are low in fat as well as a source of calcium.

Adapted from Manual of Clinical Dietetics. 6th ed. American Dietetic Association, 2000; and Soy Dairy Alternatives.



Still Having Symptoms?

It can be scary to keep having symptoms, even after changing to a low-lactose or lactose-free diet. If this is the case for you, perhaps you are eating **hidden lactose**. **A dietician can help** you find out if you are unintentionally consuming lactose through such things as medications, supplements or other sources.

If you are eating a strict lactose-free diet, and are sure you aren't consuming hidden lactose, your doctor should think about testing you for other causes of your symptoms (such as celiac disease or Crohn's disease) to make sure nothing else is going on.

Try the MyGIHealth® app to better note your symptoms and when they happen.

Food Allergies and Intolerances – What to Know:

- ▶ It is important to know the differences between food allergies and food intolerances.
- ▶ A food allergy is a sudden, urgent and severe reaction to a food when it is eaten or touched. Symptoms include feeling itchy or having trouble breathing.
- ▶ A food intolerance, or sensitivity, often has less severe symptoms, though is still very uncomfortable. Symptoms include gas and cramping pain.
- ▶ Do not get rid of anything from your diet until your doctor tells you to do so.

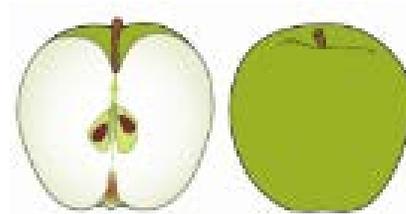


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FOOD INTOLERANCE: FRUCTOSE MALABSORPTION

What is Fructose Malabsorption?

- ▶ Fructose is a **type of sugar that is naturally found** in fruits, some veggies and honey. It is also used as a sweetener in some soft drinks and fruit drinks.
- ▶ Fructose malabsorption is when the body doesn't take in fructose the right way, meaning **the body is not able to break it down during digestion.**
- ▶ When undigested fructose reaches the bowels, it **reacts with naturally occurring bacteria**, which can cause the common symptoms of fructose malabsorption.



Note: Fructose malabsorption should not be confused with hereditary fructose intolerance, which is a condition diagnosed very early in life, when a baby starts eating food or formula.



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Common Symptoms of Fructose Malabsorption

Symptoms of fructose malabsorption often come about two hours after consuming fructose, though it **varies from person to person**.

- Bloating
- Belly pain
- Heartburn
- Diarrhea (loose stool)
- Gas

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FOOD INTOLERANCE: FRUCTOSE MALABSORPTION

Getting Tested for Fructose Malabsorption

To prove fructose intolerance, your doctor can order a breath test that checks for hydrogen.

Fructose Breath Test

- Given to older children as well as adults.*
- This test measures the amount of hydrogen in the breath. This test is very accurate.
- In the test, the patient drinks a fructose-loaded drink, and the breath is tested at routine intervals.
- Hydrogen in the breath means improper digestion of fructose.
- Certain foods, medications and smoking can change the test's accuracy and may need to be skipped before the test.

** Hydrogen breath tests are not given to infants and young children, because giving these patients a fructose load can result in diarrhea (loose stool), which can cause dehydration.*

Food Allergies and Intolerances – What to Know:

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FOOD INTOLERANCE: FRUCTOSE MALABSORPTION

Controlling Symptoms of Fructose Malabsorption

Being told you have a food intolerance or malabsorption issue and needing to change how you eat, **can feel like a lot to take on**. While it is not as severe as having a food allergy, **a food intolerance or malabsorption issue can impact your life**.

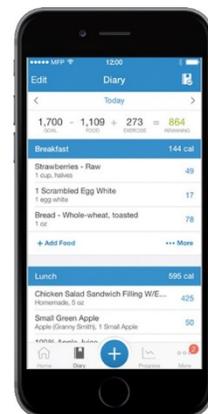
You might be scared to eat for fear of having a reaction. You may not want to join your family and friends when they go out, because you're worried about cross-contamination. These feelings are normal and can be handled by **talking to your gastroenterologist and a registered dietician or nutritionist**.

Not eating fructose and eating a low-sugar diet is the best way to put off the painful symptoms linked to fructose malabsorption.

However, **many people with fructose malabsorption can eat some amount of fructose without problems**. By keeping a food diary, you can find out how much fructose is too much for you.

Limit your intake of:

- Fruit, fruit juices and dried fruit.
- Honey.
- Sodas and other drinks that have high-fructose corn syrup.
- Alcohol.



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You should know that **high-fructose corn sweetener** is often added to prepared foods and is found in high concentrations in non-diet soft drinks and most fruit juices. **Be sure to read nutrition labels before eating or drinking things you may think have fructose.**

Foods With Excess Fructose (To Avoid)

- Agave
- Apples
- Asparagus
- Boysenberries
- Cherries
- Fresh figs
- High-fructose corn syrup
- Honey
- Mango
- Pears
- Rum
- Sugar snap peas
- Sun-dried tomatoes
- Tomato paste
- Watermelon



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Still Having Symptoms?

It can be scary to keep having symptoms, even after changing to a low-fructose or fructose-free diet. If this is the case for you, perhaps you are eating **hidden fructose**. **A dietician can help** you find out if you are unintentionally consuming fructose through such things as medications, supplements or other sources.

If you determine you are not consuming hidden fructose, it is time to meet again with your gastroenterologist to find out if more tests or treatment options are needed.

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