

LACTOSE INTOLERANCE

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Lactose Intolerance

What is lactose intolerance?

Lactose intolerance is the inability to digest lactose, the sugar primarily found in milk and dairy products. It is caused by a shortage of lactase in the body, an enzyme produced by the small intestine that is needed to digest lactose. While lactose intolerance is not dangerous, its symptoms can be distressing.

What are the symptoms of lactose intolerance?

Symptoms of lactose intolerance occur when there is not enough lactase being produced by the body to digest the lactose consumed. Symptoms of lactose intolerance include nausea, cramps, gas, bloating, or diarrhea within 30 minutes to 2 hours after consuming milk or dairy products. The severity of symptoms varies, depending on the amount of lactose an individual person can tolerate. Some people may be sensitive to extremely small amounts of lactose-containing foods while others can eat larger amounts before they notice symptoms. Age and digestion rate may influence how much lactose an individual may tolerate.

What causes lactose intolerance?

Some causes of lactose intolerance are known. Certain digestive diseases, such as Crohn's disease, ulcerative colitis, celiac sprue (an inherited disorder affecting the lining of the small intestine), other inflammatory bowel diseases, and injuries to the small intestine (surgery or trauma) may reduce the amount of lactase available to process lactose properly. If the small intestine is injured, lactose intolerance may be temporary, with symptoms improving after the intestine has healed.

Who is affected by lactose intolerance?



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For most people, lactose intolerance develops over time as the body produces less lactase. Certain populations are more affected than others with some degree of lactose intolerance, including Mediterraneans, Arabs, 80% of African-Americans, Mexicans, Native Americans and 90% of Asians.

How is lactose intolerance diagnosed?

The most common test for the diagnosis of lactase deficiency is the hydrogen breath test. This test is done at an outpatient clinic or doctor's office. In practice, many doctors will ask patients who suspect they have lactose intolerance to avoid milk and dairy products for one or two weeks to see if their symptoms subside, and will then confirm the diagnosis with the hydrogen breath test.

The hydrogen breath test measures the amount of hydrogen in the breath after drinking a lactose-loaded beverage. Undigested lactose in the colon is fermented by bacteria and produces hydrogen and other gases. Hydrogen is absorbed, carried by the blood to the lungs, and exhaled. Raised levels of hydrogen in the breath within 90 minutes indicate improper digestion of lactose. This test has a 90% sensitivity to determine lactose intolerance. Certain foods, medications, and cigarettes can affect the test result, so the patient will be instructed to avoid these prior to taking the test.

Foods High In Lactose

The most common high-lactose foods include:

- Milk, milkshakes and other milk-based beverages
- Whipping cream and coffee creamer
- Ice cream, ice milk, sherbet
- Cheese
- Butter
- Puddings, custards
- Cream soups, cream sauces
- Yogurt
- Foods made with milk

Other foods that MAY contain lactose in smaller quantities include:

- Bread baked goods
- Milk chocolate
- Salad dressings and sauces
- Breakfast cereals and cereal bars
- Instant potatoes, soups, rice and noodle mixes
- Lunchmeats
- Candies and other snacks

- Mixes for pancakes, biscuits and cookies
- Margarine
- Organ meats (such as liver)
- Sugar beets, peas, lima beans

How do I know if processed foods contain lactose?

When buying food, read the ingredients on food labels carefully. Ingredients derived from milk that contain lactose include:

- Whey
- Caseinates
- Nougat
- Cheese
- Milk by-products
- Dry milk solids
- Lactose
- Butter
- Curds
- Yogurt
- Dry milk powder

Depending on the severity of your symptoms, you may need to avoid or limit foods containing these ingredients. Also avoid items that state “may contain milk” on the food label.

Lactose is also present in about 20% of prescription medications, such as birth control pills (oral contraceptives), and about 6 percent of over-the-counter medications, such as some tablets for stomach acid and gas. Viactiv® calcium chews contain lactose and should be avoided while following a lactose-free diet.

These medications usually affect only people with severe lactose intolerance. Ask your healthcare provider which medications contain lactose, and read the labels on over-the-counter medications to check their lactose content.

How is lactose intolerance treated?

Lactose intolerance is easily treated. The goal of treatment is to control symptoms through dietary changes.

People with lactose intolerance can usually find a level of lactose-containing foods that will not produce symptoms. You can learn through trial and error what amount and type of lactose-containing products you can tolerate.

In addition, you may try consuming small amounts of milk or dairy products with meals because lactose may be better tolerated when eaten with other foods. You may be better able to tolerate certain dairy products that contain lower amounts of lactose, including cheese and cottage cheese.

The lactase enzyme in liquid or tablet form is available for purchase. No prescription is needed. Take the enzyme with the lactose-containing food. Lactase will help digest the lactose so the body can absorb it.

How can I maintain a balanced diet?

Milk and dairy products are a major source of calcium, an essential nutrient for the growth and repair of bones and teeth throughout life. Calcium is also essential for blood to clot normally, muscles and nerves to function properly, and the heart to beat normally.

People who are lactose-intolerant don't necessarily have to consume milk and dairy products to get the calcium they need to maintain proper nutrition.

If you have trouble consuming enough calcium-rich foods in your daily diet, talk to your healthcare provider or a dietitian about taking a calcium supplement. The amount of calcium you will need from a supplement will depend on how much calcium you are consuming through food sources.

The following foods contain calcium:

- Almonds
- Dried beans
- Tofu
- Sardines
- Shellfish
- Dark green leafy vegetables
- Calcium-fortified juice
- Calcium-fortified soy, almond, rice, or coconut milk
- Salmon, canned

Lactose-Free Diet

A lactose-free diet should be followed for two weeks. If symptoms have subsided after the two-week strict diet, gradually add foods with lactose back into the diet slowly and monitor tolerance. You may be able to tolerate up to 12 grams of lactose at one time. The following lists can be used to help determine what foods to try in your diet:

Lactose content of milk and milk products

High-lactose foods

The following foods contain approximately 5-8 grams of lactose:

- Milk (whole, reduced fat, fat-free, buttermilk) - 1/2 cup
- Condensed milk - 3 tbsp
- Evaporated milk - 1/4 cup
- Cheese spread - 56.89 grams (2oz)
- Cottage cheese - 3/4 cup
- Ricotta cheese - 3/4 cup
- Half-and-Half - 1/2 cup
- Yogurt, plain - 1/2 cup
- Ice cream - 3/4 cup
- Ice milk - 3/4 cup
- Sour cream - 1/2 cup
- Heavy cream - 1/2 cup

Low-lactose foods

The following foods contain approximately 0-2 grams of lactose:

- Milk, treated with lactase enzyme - 1/2 cup
- Sherbet - 1/2 cup
- Aged cheese (such as blue, brick, cheddar, Colby, Swiss, Parmesan) - 28.34 grams (1oz)
- Processed cheese - 28.34 grams (1oz)
- Butter - 1 tsp.

The following ingredients come from milk and do not contain lactose:

- Casein
- Lactalbumin
- Lactate
- Lactic acid

General guidelines to aid in the management of your lactose intolerance upon completion of the lactose-free diet:

- Gradually add small amounts of food and drinks that contain lactose to determine your tolerance level. You may be able to tolerate up to 1/2 cup of milk or the equivalent with each meal.
- Drink milk in servings of one cup or less.
- Try hard cheeses that are low in lactose, like cheddar.
- Drink milk with a meal or with other foods.

- Try yogurt with active cultures. You may be able to digest yogurt better than milk. Your own tolerance may vary depending on the brand. Frozen yogurt may not be tolerated as well as yogurt.
- Substitute lactose-reduced dairy products and 100% lactose-free milk for regular dairy products. These products are located in the dairy section of most supermarkets.
- The lactose enzyme is also available in tablet form and will help you to tolerate foods containing lactose. Right before eating, take 1-3 tablets, depending upon your lactose intolerance. Some over-the-counter enzyme products that are available include Lactaid®, Lactrace®, Dairy Ease®, and Sure-Lac®.
- Many canned nutritional supplements (such as Ensure®, Boost®) are lactose-free. Product labels should be checked.

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