

## Patient education: Lactose intolerance (The Basics)

Written by the doctors and editors at UpToDate

### What is lactose intolerance?

Lactose intolerance is a condition that makes it hard for your body to digest milk and foods made with milk (called dairy products). If you have lactose intolerance and you eat dairy products, you can get diarrhea, belly pain, and gas.

Lactose intolerance can affect anyone. But it is most common among Native American, Asian, and black people.

In people who do not have lactose intolerance, the body makes a protein called an "enzyme" that breaks down lactose, the main form of sugar found in milk. In people who do have lactose intolerance, the body either does not make enough of the enzyme, or the enzyme does not work as well as it should. Also, some infections, such as you might get with food poisoning, can damage the enzyme. But if that happens, the problem usually goes away within a few weeks. Luckily, people with lactose intolerance can take an enzyme supplement to help with their problem.

### What are the symptoms of lactose intolerance?

The symptoms happen only after you eat dairy foods. They can include:

- Cramps or belly pain (usually around or below the belly button)
- Bloating (feeling like your belly is full of air)
- Gas
- Diarrhea (often it is bulky, foamy, and watery)
- Vomiting (this happens mostly in teens)

### Is there a test for lactose intolerance?

Yes, there are 2 ways to test for lactose intolerance. One is a breathing test, and one is a blood test. The breathing test is more common.

Your doctor or nurse will tell you how to prepare for your test. You will not be able to eat or drink anything for several hours before the test. Plus, you might have to change your medicines or stop smoking for a while before the test.

- **Lactose hydrogen breath test** – For this test, you drink a liquid that has lactose in it. Then you breathe into a special machine every 30 minutes. The machine measures how much hydrogen you breathe out. People who have lactose intolerance breathe out more hydrogen than normal.
- **Lactose tolerance test** – For this test, you drink a liquid that has lactose in it. The doctor or nurse will take blood samples from you when the test starts, and again 1 and 2 hours later. If your blood has low levels of sugar after you drink the lactose, it means you probably have lactose intolerance.

### Should I see a doctor or nurse?

Yes. If you think you might have lactose intolerance, tell your doctor or nurse. He or she can ask you questions to make sure that there are no other problems.

### How is lactose intolerance treated?

Treatment differs depending on how severe the problem is. But in general, treatment can include:

- Eating less dairy food
- Finding non-dairy sources of nutrients (such as calcium and vitamin D) and protein
- Taking an enzyme supplement that will help you break down dairy foods

### How do I reduce the amount of dairy foods I eat?

You can start by cutting down but not stopping foods you know contain dairy. Dairy foods should be consumed with meals. Dairy foods include milk, cream, ice cream, yogurt, cheese, and butter. This table shows how much lactose is in some common dairy foods ([table 1](#)).

Your doctor or nurse might suggest that you talk to a nutritionist to learn which foods have lactose. The nutritionist can also make sure that you get enough calcium and vitamin D in your diet.

If you are really sensitive to dairy foods or lactose, you will also need to read the labels on everything you eat. Milk or lactose is sometimes added to foods you might not suspect, such as cereal, instant soups, and salad dressings. Check the ingredient list of foods for anything that might suggest lactose. Look for these words:

- Milk, "milk byproducts," "dry milk powder," and "dry milk solids"
- Lactose
- Whey (whey is milk that has gone sour)

Although some medicines are made with lactose, most people who are lactose intolerant can handle the very small amount in medicines.

### Which enzyme supplement should I use?

There are many enzyme supplements to choose from, including Lactaid (tablets or liquid), Lactrase, LactAce, Dairy Ease, and Lactrol. You should take the supplement right before you start eating. If you forget, you can take it during the meal, but it might not work as well.

The important thing to know is that each product works a bit differently for each person. Plus, none of them can break down every last bit of lactose, so some people still have symptoms even with an enzyme supplement.

### Should I take calcium or vitamin D supplements?

That depends on whether you completely avoid dairy foods. If you do, your doctor or nurse might recommend calcium supplements. He or she might also check your vitamin D levels to decide whether you should take supplements.

### Is lactose intolerance basically a food allergy?

No. There are people who are allergic to milk and dairy foods. But the symptoms of a dairy allergy are often different from those of lactose intolerance. In the case of an allergy, the body reacts to the protein in milk, rather than to the sugar. Plus, allergies involve the body's infection-fighting system, called the immune system. Lactose intolerance does not.

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## GRAPHICS

### Lactose content of different foods

| Product                              | Lactose content (grams) |
|--------------------------------------|-------------------------|
| <b>Milk (1 cup)</b>                  |                         |
| Whole, 2 percent, 1 percent, skim    | 9 to 14                 |
| Buttermilk                           | 9 to 12                 |
| Evaporated milk                      | 24 to 28                |
| Sweetened condensed milk             | 31 to 50                |
| Lactaid milk (lactose-reduced)       | 3                       |
| Goat's milk                          | 11 to 12                |
| Acidophilus, skim                    | 11                      |
| <b>Yogurt, low fat, 1 cup</b>        | 4 to 17                 |
| <b>Cheese, 1 ounce</b>               |                         |
| Cottage cheese (1/2 cup)             | 0.7 to 4                |
| Cheddar (sharp)                      | 0.4 to 0.6              |
| Mozzarella (part skim, low moisture) | 0.08 to 0.9             |
| American (pasteurized, processed)    | 0.5 to 4                |
| Ricotta (1/2 cup)                    | 0.3 to 6                |
| Cream cheese                         | 0.1 to 0.8              |
| <b>Butter (1 pat)</b>                | 0.04 to 0.5             |
| <b>Cream (1 tablespoon)</b>          |                         |
| Light, whipping, sour                | 0.4 to 0.6              |
| <b>Ice cream (1/2 cup)</b>           | 2 to 6                  |
| <b>Ice milk (1/2 cup)</b>            | 5                       |
| <b>Sherbet (1/2 cup)</b>             | 0.6 to 2                |

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