

# Lactose Tolerance Hydrogen (Breath)



## Does this test have other names?

Hydrogen breath test, HBT, lactose breath test

## What is this test?

This test measures the amount of hydrogen gas in your breath at regular intervals. It will show how well your body breaks down lactose, the sugar found in dairy products, and fructose, the sugar in fruit. This test also shows whether you have a high amount of bacteria in your small intestine.

Normally, the lactose you eat is broken down in your small intestine. If it can't be broken down there, it goes to your colon, or large intestine. In the colon, the lactose can ferment, causing excess hydrogen. This extra hydrogen is absorbed into your blood and travels to the lungs, where you release it in your breath.

## Why do I need this test?

You may need this test if you have symptoms of lactose intolerance. Symptoms include:

- Gas
- Stomach cramps
- Bloating
- Occasional vomiting
- Diarrhea, especially after you eat or drink milk and other dairy products, such as ice cream and cheese

Lactose intolerance is more common in people of certain ethnic backgrounds. These include African American, Hispanic/Latino, American Indian, and Asian.

You also might have this test if you have an intestinal problem like inflammatory bowel disease or a malabsorption syndrome like short gut syndrome. Infants who are not gaining enough weight may also have this test.

## What other tests might I have along with this test?

Your healthcare provider might also order a glucose tolerance test, which is used mainly to diagnose diabetes. A glucose tolerance test can help tell whether your symptoms are caused by lactose intolerance or diarrhea from malabsorption.

If this test is for your child, they may have stool tested for acidity. A child may have glucose in their stool because of undigested lactose.

## What do my test results mean?

Test results may vary depending on your age, gender, health history, and other things. Your test results may be different depending on the lab used. They may not mean you have a problem. Ask your healthcare provider what your test results mean for you.

Normal test results compare your exhaled breath before and after you drink liquid containing sugar. The amount of hydrogen gas in your breath should increase by no more than 20 parts per million.

If your breath test shows you are exhaling large amounts of hydrogen, it may mean you aren't fully digesting and absorbing lactose.

## How is this test done?

This test is done with several breath samples over a period of time. You will first breathe into a bag. Then you will drink a beverage that contains lactose, fructose, or other sugars. You must drink it all. About every 30 minutes for the next 3 to 4 hours, you will be asked to breathe into a bag. Each time, a technician will empty the bag with a syringe.

## Does this test pose any risks?

If you are lactose intolerant, drinking the sugar may cause bloating, cramps, diarrhea, and gas.

## What might affect my test results?

Your results could be affected if you:

- Exercise strenuously before or during testing
- Take antibiotics within a month before testing
- Eat or drink while testing
- Smoke before or during testing
- Chew gum or breath mints during testing

## How do I get ready for this test?

- Stop taking antibiotics at least 2 to 4 weeks before your test.
- The day before your test, don't eat high-fiber foods, such as beans or whole-grain cereals. Don't drink carbonated beverages.
- Don't eat or drink anything except for water for a period of time before the test. Your healthcare provider will tell you how long this will be.
- Don't smoke the day before testing.
- Don't exercise strenuously the day before testing.
- Brush your teeth before your test begins, or as directed by your healthcare provider.

Your healthcare provider may give you other dietary directions. Be sure your provider knows about all medicines, herbs, vitamins, and supplements you are taking. This includes medicines that don't need a prescription and any illicit drugs you may use.

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