

What is a Hydrogen Breath Test?

This is a test for bacterial overgrowth, or intolerance to lactose, fructose, or sucrose. Glucose is a sugar that will be broken down by bacteria (if present) in the small bowel with hydrogen or methane gas as a by-product. The breath sample will be analyzed for hydrogen or methane content to determine if you are able to properly break down the lactose, fructose, or sucrose, or if you have bacterial overgrowth.

What can I expect from a Hydrogen Breath Test?

This test requires that you drink a mixture of glucose, lactose, fructose, or sucrose in water.

- **Glucose** is a sugar that will be broken down by bacteria (if present) in the small bowel with hydrogen as a by-product.
- **Lactose** is the sugar found in milk and is normally broken down in the small bowel.
- **Sucrose** is a common sugar found in foods such as candy.

After drinking the solution, you will be asked to breathe into a plastic bag. Breath samples are obtained every 15 minutes for adults, and every 30 minutes for children. The breath sample will be analyzed for hydrogen content to determine if you are able to properly break down the lactose or sucrose, or if you have bacterial overgrowth.

The test for glucose lasts about 2 hours and the test for lactose, fructose, and sucrose lasts about 2-3 hours. The test is performed in the Gastrointestinal Physiology Laboratory of the Medical Procedure Unit.

How do I prepare for a Hydrogen Breath Test?

Please follow the instructions below to ensure a successful test.

- **4 weeks before your test:**
 - Stop taking antibiotics
 - Stop taking bowel preps
- **2 weeks before your test:**
 - Stop taking Pepto-Bismol.
- **1 week before your test:**
 - Stop taking any laxatives
 - Stop taking any motility Medications (Reglan, domperidone, erythromycin)
- **2 days before your test:**
 - Eat a **low carbohydrate and dairy diet**. The purpose of this diet is to avoid foods that may produce gas in the intestinal tract for 2 days before your test, as this could cause inaccurate test results.

| | Allowed | Avoid |
|-----------------------------|---|--|
| Grains/ starches | Rice, quinoa, potato, oatmeal, corn tortillas, popcorn, gluten-free bread/crackers/pasta. Cereals: plain cheerios, plain rice/corn Chex, corn flakes, Rice Krispies. | Wheat products including bread, pasta, crackers, cookies, cake, cereal, flour tortilla, rye barley |
| Vegetables | Bell peppers (any color), carrots, chives, cucumber, eggplant, green beans, kale, lettuce, olives, parsnip, spinach, summer/winter squash, zucchini, tomato. Limit to ½ cup portion: beets, butternut squash, broccoli, brussel sprouts, corn, fennel bulb, green peas, sweet potato. | Artichoke, asparagus, cauliflower, garlic, leeks, mushrooms, okra, onion/shallots, snow peas, sugar snap peas. |
| Fruit | Banana, blueberry, cantaloupe, cranberry, grapes, honeydew, kiwi, lemon, lime, orange, papaya, | Apple, apricot, blackberry, cherry, dried fruit (raisins), grapefruit, mango, nectarine, |

| | | |
|-------------------|--|---|
| | pineapple, pomegranate, raspberry, strawberry, avocado | pear, peach, plum, prunes, watermelon. |
| Proteins | Meat, eggs, fish, tofu, most nuts (see “avoid” column), peanut butter, almond butter. | Beans, hummus, edamame, cashews, pistachios. |
| Dairy | <i>Lactose free</i> milk/yogurt/ice cream, rice milk, any aged or hard cheese (including cheddar, provolone, swiss, parmesan, feta, goat, etc) | Milk, yogurt, ice cream, cottage cheese, ricotta, cheese, soy milk, almond milk |
| Beverages | Water, coffee, tea, sugar-free beverages (crystal light, diet pop) | Regular soda and other beverages with high fructose corn syrup |
| Sweeteners | Pure maple syrup, sugar substitutes (such as Stevia), table sugar. | Agave, honey, high fructose corn syrup. |

Sample menus:

Day 1

Breakfast: 2 scrambled eggs and 1 banana.

Lunch: salad with grilled chicken, tomato, cucumber, carrots, feta, balsamic vinegar + olive oil dressing.

Snack: 1 cup fruit (such as blueberries and strawberries), small handful of peanuts or almonds.

Dinner: Grilled chicken, baked potato, ½ cup steamed broccoli.

Snack: 1 cup popcorn.

Day 2

Breakfast: plain cheerios with lactose-free milk (such as Lactaid brand) or oatmeal with cinnamon and blueberries.

Lunch: sandwich with turkey, cheese, lettuce, and tomato on gluten-free bread; plain potato chips or 1 orange.

Snack: baby carrots and 1 cheese stick.

Dinner: grilled salmon with lemon, brown rice or quinoa, sautéed zucchini and yellow squash.

Snack: 1 cup grapes

One day before your test:

Do not smoke or vape for at least 24 hours prior to the test, or any time during the test.

The day of your test:

- You should have **nothing by mouth eight 8 hours before the test.**
- **Do not eat, drink, or smoke** until your examination is completed.
- This includes any type of **gum or candy.**
- Do not sleep or exercise for at least 1 hour before taking the test or at any time during the test.

Please note: breath tests can be done any time *before* a colonoscopy prep; but not for four (4) weeks *after* a colonoscopy prep, or any test that requires a bowel prep.

Can I take my medicine before a hydrogen breath test?

- Yes, take critical medicines, such as those for your heart, blood pressure, breathing, or seizures, with sips of water on the morning of the test.
- Do not take noncritical medicines, including over-the-counter medicines (non-prescription) and supplements unless your doctor or nurse has advised you to.
- If you are unable to keep your appointment, please call the Medical Procedures Unit at (734) 936-9250 or toll-free at (877) 758-2626.

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