

## Hydrogen/Methane Breath Test

### What is the Hydrogen/Methane Breath Test?

The hydrogen/methane breath test is a test that uses the measurement of hydrogen in the breath to diagnose several conditions that cause gastrointestinal symptoms. Large amounts of hydrogen may be produced where there is a problem with the digestion or absorption of food in the small intestine that allows more unabsorbed food to reach the colon or when the colon bacteria move back into the small intestine. Some of the hydrogen produced by the bacteria, whether in the small intestine or the colon, is absorbed into the blood flowing through the wall of the small intestine and colon. The hydrogen-containing blood travels to the lungs where the hydrogen is released and exhaled in the breath where it can be measured.

### When is Hydrogen Breath Testing Used?

- The first condition for which hydrogen breath testing is used is for diagnosing bacterial overgrowth of the small bowel, a condition in which larger-than-normal numbers of colonic bacteria are present in the small intestine.
- The second condition for which hydrogen breath testing is used is when dietary sugars are not digested normally. The most common sugar that is poorly digested is lactose, the sugar in milk. Individuals who are unable to properly digest lactose are referred to as lactose intolerant.
- The third condition for which hydrogen breath testing is used is for diagnosing rapid passage of food through the small intestine.

All three of these conditions may cause abdominal pain, abdominal bloating and distention, flatulence (passing gas in large amounts) and diarrhea.

### Are there Side Effects of Hydrogen Breath Testing?

The side effects of hydrogen breath testing are exactly what one would expect to see in people who poorly digest and absorb sugars and carbohydrates, for example, bloating, distention, pain and diarrhea. When the test sugar is used these symptoms are unlikely to occur or are mild because the dose of the test sugar is small.

### How do I Prepare for the Hydrogen Breath Test?

To ensure the best results for your test, follow these instructions carefully and completely.

- **Twenty-four (24) hours** before your test, stop eating all grains (including pasta, bread and cereals), all fruits, all vegetables including any products that contain corn, , all nuts, seeds and beans, all dairy products (including cheese, ice cream, butter and yogurt) and all meats. You may have the following foods:
- Baked or broiled chicken or turkey or fish with salt and pepper only,
- Plain, steamed white rice,
- Eggs, and
- Clear chicken or beef broth and
- Water **only** to drink.
- You must adhere to the above diet to ensure an accurate test.

- Twelve hours before your test, you may have nothing by mouth, except water. You may take your oral medicines with water.
- You may not smoke or be exposed to second-hand smoke at least 1 hour before and not any time during the test.
- You may not sleep or do any vigorous exercise for at least 1 hour before your test.
- Inform your health care provider in advance if you have recently used antibiotics. You will need to stop all antibiotics four weeks before your test.
- Inform your health care provider in advance if you have had a recent colonoscopy. Your test will need to be scheduled at least three weeks after a colonoscopy
- Inform your health care provider if you are taking probiotics. You will need to stop taking probiotics 2 weeks before your test.
- Inform your care provider if you have experienced new runny diarrhea.
- If you are diabetic and take Insulin, talk with the doctor who prescribes your Insulin about reducing the dose the day of the exam.
- If you are diabetic, please bring your glucose meter, test strips, and a source of fast-acting glucose with you (such as glucose tablets or glucose gel).
- Please bring reading materials or your electronic devices with you because you will be in the procedure area for about 3 hours.

## What Happens During the Hydrogen Breath Test?

- Depending on the purpose of the test, you will drink a small amount of a test sugar (such as lactose, sucrose, fructose, or lactulose).
- You will then blow air into a bag at designated times for 3 hours. A nurse will analyze these breath samples.

## What Happens After the Hydrogen Breath Test?

- You may resume your normal activities and diet after a hydrogen breath test.

Your doctor will inform you of the test results.

## How do you get to your test?

If you are being seen at National Jewish Health, please check in at the Front Desk. The test will take place in MIDC (Minimally Invasive Diagnostic Center). If you have questions or need to cancel or reschedule the appointment, please call 303-270-2424.

Visit our website for more information about support groups, clinical trials and lifestyle information.

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