



Hydrogen Breath Test – FAQs for the Patient

What is the purpose of this test? The purpose of the Hydrogen Breath Test (HBT) is to investigate unexplained gastrointestinal complaints that you have been experiencing, such as bloating, gas, diarrhea, IBS, abdominal distention and pain, malnutrition, etc.

How does it work? Using just your breath, this non-invasive test can help to investigate if you have an intolerance to specific foods, as well as a condition known as bacterial overgrowth (explained further along in this document).

How can you tell if I have a problem just from testing my breath? It's very simple. When you have a problem digesting certain foods (or you have bacterial overgrowth), specific bacteria in your gut get exposed to the undigested food and create the gases, hydrogen and/or methane. These gases get absorbed into your blood, which then gets dumped into your lungs, and you breathe it out.

How accurate is this test? Breath testing, and specifically HBT, has been around for over 40 years and the medical literature is very favorable regarding the accuracy of this test.

What is the advantage of the test? This test is similar to other diagnostic tests that your doctor may order, but with the added advantage that it is non-surgical – you can be back at work the same day. As with any other test, HBT offers your doctor one view into the overall picture of your gastrointestinal health.

What do I have to do for this test? There are a few simple steps involved, but it's important to understand why you are being asked to follow these steps. You'll receive a set of instructions to help you prepare for the test which will remind you to of things like, not to smoke and to brush your teeth on the morning of the test. It's important that you follow the recommendations precisely to ensure that you get the best results and haven't wasted your day. Below are the two most important instructions:

1. **Pre-test Recommended Diet:** Remember, that the purpose of this test is to investigate the theory that you are having trouble digesting certain foods (carbohydrates) properly. In order to investigate that effectively, your doctor needs to ensure that you are not digesting problematic foods from meals that you consumed 1 to 3 days earlier. The recommended diet that you will be asked to follow prior to the test will ensure that there is no interference from undigested food on the morning of the test.
2. **12 Hour Fast Before the Test:** The goal of HBT is to test the response you have to a specific food (carbohydrate), which will be administered during the test. To do this, your doctor needs you to have an empty stomach, which requires that you fast for a minimum of 12 hours. For example, if your test is at 8:30 am Monday, you should not eat or drink anything AFTER 8:30 pm on Sunday evening. Anything you do eat the day before, should be according to the recommended diet plan.

What happens if I fail to fast properly? At the start of the test, you will be asked to provide a baseline breath sample to determine if you fasted properly. If you do not follow the 12 hour fast and the recommended diet, you will not pass the baseline reading and the test will be canceled and



rescheduled for another date. This is why the 12 hour fast and recommended diet are so critical to the success of the HBT.

How long is the test? The test can last anywhere from one to two hours as the goal is to measure gas production throughout the digestion process. Some tests can be longer. Your doctor or their team will advise you of the approximate length of the test.

Will I have to do this test more than once? It depends on whether the first test reveals anything positive about your suspected condition or gastrointestinal complaints. The goal of the test is to demonstrate that you are having a reaction to a specific food (carbohydrate). Because of the complexity of food, its ingredients and composition, it may be necessary to test you using several different carbohydrates before your doctor determines if your complaints are related to a specific food (carbohydrate).

What is bacterial overgrowth? Small Intestine Bacterial Overgrowth (SIBO), is a condition where a specific type of bacteria which are normally only present in the colon, overgrow into the small intestine. These bacteria should not be in the small intestine and if they are present, they will feed off of the food (carbohydrates) we consume daily and create many of the gastrointestinal problems that people experience.

Should I keep a food diary? If your gastrointestinal problems were enough to send you to seek your doctor's help, a food diary can be extremely helpful in investigating your symptoms and complaints. Important information to include in your food diary would be **1)** Foods and beverages you consume on a daily basis (be detailed, include things like condiments, toppings, sides, etc.), **2)** Time of day, **3)** If possible, a camera picture of the food ingredient label if it came from a package, etc, **4)** Any symptoms that occurred within 1-8 hours after you consumed the foods and beverages. Plan on keeping the diary for a least a month and eat the foods that you would regularly eat. Do not alter your diet just to make the food diary look good. That will not help with investigating your problem.

I don't always get sick when I eat dairy, it seems random, why? As mentioned previously, diet and food are complex. It could be that if you consume a particular amount of dairy, you are fine and have no problems. However, if you have too much in a given meal, that is when you experience issues. You might think this is simple to identify but it's difficult to know the precise lactose content in various dairy products. In general, the scientific literature recommends testing for lactose intolerance using 25 grams of lactose because that most closely represents the lactose found in a single serving of dairy, for example an 8 ounce glass of milk. If your lactose HBT test is negative, this may indicate one of two things – that you are not lactose intolerant and you and your doctor need to investigate another cause for your problems. Or, it could mean that you can tolerate a particular amount of dairy, which is a good thing as dairy is an important part of the diet due to the nutrient, calcium. In order to determine how much lactose creates a problem for you, your doctor may want to perform a second lactose HBT and increase the dose, say to 50 grams of lactose. If the second test comes back positive, your doctor can advise you of options including changes to your diet.

How is a dietician or a nutritionist going to help me? Because diet and food are so complex, a dietician or nutritionist can be extremely helpful in crafting a diet that will assist you in avoiding problematic foods. Your doctor may be able to refer you to a dietician or nutritionist in your area.