

## Hydrogen and Methane Breath Tests

**What is a BREATH TEST?** Information for physicians and patients. (H<sub>2</sub>. Hydrogen and CH<sub>4</sub>.Methane)

**Hydrogen and/or Methane gas** in the body are produced from intestinal bacteria. Bacteria, normally in the large intestine, produce hydrogen or methane through fermentation of carbohydrates. Substrates containing these carbohydrates, like Lactulose, is given orally to test for small intestinal bacterial presence. Some of the hydrogen or methane produced from the bacterial fermentation causes bloating, abdominal discomfort or diarrhea. The gases are absorbed by the intestinal mucosa and enter the vasculature and transported to the lungs. The gases are then exhaled through normal breathing. These are collected in a bag for immediate analysis.

In **Small Intestinal Bacterial Overgrowth (SIBO)**, bacteria exist in the small intestine. Lactulose, when used as the challenge dose, is poorly absorbed in the gastrointestinal tract making it the perfect substrate to test for bacterial overgrowth throughout the length of the small bowel (21 feet).

*NOTE: If lactose or fructose is given as substrate, bacteria compete with the natural digestive process and metabolize the sugar before it is absorbed and may produce an early rise in breath hydrogen. Dedicated intolerance testing for these sugars are performed separately.*

In Lactose and Fructose intolerance, the individual has a deficiency in the enzymes needed for its absorption. Normally, it is broken down in the small intestine, absorbed, and very little lactose or fructose reach the large intestine. If it reaches the colon in its raw form, it is metabolized by colonic bacteria producing a large amount of gas which can be measured distally in the breath sample. (Positive Intolerance Test).

\*Have your physician or health care provider call our Scheduling Desk at 651.342.7495 to order the test.

**The Guidelines below are to be followed for ALL Hydrogen/Methane Breath Tests**  
**\*\*12 HOURS BEFORE YOU START YOUR BREATH TEST, YOU SHOULD**  
**FAST. THIS MEANS DO NOT EAT OR DRINK ANYTHING OTHER THAN**  
**WATER.**

If you are not able to comply with these guidelines for testing, then you may not be a candidate for a breath test and your doctor can assist you in determining if another test without these preparation limits is more suitable.

- No antibiotics or antifungals 4 WEEKS BEFORE TESTING. Finish taking any antibiotics or antifungals (except those who are re-testing following SIBO treatment).
- WAIT TWO WEEKS (14 days) after surgery, colonoscopy, enemas, or colonics.
- 4 DAYS BEFORE YOUR TEST avoid all laxatives. This includes (high dose) vitamin C, magnesium or probiotics that is being taken specifically to induce a laxative effect.
- No smoking, including second-hand smoke, for at least 1 hour before or at any time during the breath test.
- No fermentable food 1 day before testing.
- No sleeping or vigorous exercise for at least 1 hour before or at any time during the breath test.

Before you start the breath test, a 1-2 day preparation is required consisting of a 1-2 day (12-36 hours) restricted diet and a 12-hour fasting period (stop eating in the early evening the day before testing and do not eat until after you test that following morning).

**If you are uncertain if something will affect the test, avoid the product/ food or consult your physician prior to starting the test.**

### **Prep Diet**

If you suffer from constipation, follow the SIBO preparation diet for 2 days (36 hours plus overnight fasting). If you suffer from diarrhea, follow the SIBO preparation diet for 1 day (12 hours plus overnight fasting).

The first 12 or 36 hours is the restricted diet. Limit your foods to those below, and nothing else:

- You may drink plain water, coffee, tea (no sugar/artificial sweeteners or cream added)
- Baked or broiled chicken, fish or turkey. (Salt and pepper only) (no butter or oils)
- Plain steamed white rice
- Eggs
- Meat broth (e.g. liquid used to make slow-cooker chicken breast). Regular broth that may have been made from bones or vegetables is not allowed.

The goal of the SIBO preparation diet is to starve your bacteria in order to produce the best test results. SIBO bacteria love plant products and sugars, so the only foods that you can have are those listed above – if it is not on this list DO NOT eat it.

### **Fasting Before the Test**

Stop eating the evening before the morning of your test; similar to a fasting blood draw. The last 12 hours DO NOT eat or drink anything, except water.

On the day of your study, report to Stillwater Natural Medicine. Someone will check you in and take you to our conference room where you will wait between breath samples. This test will take a least **3 hours** or longer. We have some magazines and WiFi if made available. Don't hesitate to ask questions during the procedure.