

Bacterial Overgrowth of the Small Intestine Breath Test (BOSI)

This simple, non-invasive test detects bacterial overgrowth in the small intestine, a common condition that often underlies chronic symptoms of maldigestion and malabsorption, including bloating, gas, diarrhea, irregularity, and abdominal pain.

Bacterial concentrations in the small intestine are normally kept to a minimum. When excessive, the delicate mucosal lining is disrupted, including the microvilli that facilitate absorption. As a result, bacterial overgrowth of the small intestine (BOSI) can inhibit nutrient absorption and lead to the following serious health problems:

- Altered intestinal permeability (“leaky gut”)
- Carbohydrate intolerance
- Malabsorption
- Malnutrition and weight loss
- Anemia
- Fibromyalgia
- Chronic Fatigue Syndrome
- Osteoporosis

The Bacterial Overgrowth Breath Test is appropriate for patients who demonstrate:

- Irritable Bowel Syndrome (IBS), the most commonly diagnosed gastrointestinal disorder, affecting 20% of the general population. The BOSI test aids in identifying the actual cause of IBS. Studies suggest that as many as 50-75% of patients with IBS have BOSI, as demonstrated by hydrogen breath testing.
- Unexplained abdominal symptoms, especially gas and bloating
- The inability to tolerate sweet or starchy foods, fiber, or friendly flora supplements

Procedure:

From timed collections, this safe, non-invasive test measures both hydrogen and methane levels produced by bacteria in the small intestine. Higher levels of these gases in the breath indicate increased bacterial concentrations. Simple and easy-to-perform, hydrogen breath testing offers a greater reproducibility and a more comprehensive assessment of BOSI than even a direct tissue culture.

Clinical Utility:

- Once bacterial overgrowth has been detected, intervention strategies involving diet, digestive support, probiotics and antimicrobials can be used to treat the condition.
- Successful eradication of BOSI has been shown to reduce bloating, gas, diarrhea, and abdominal pain in patients more effectively than many other treatments for IBS.
- Bacterial overgrowth may manifest silently, without overt clinical signs. Patients without clear symptoms of gastrointestinal distress may benefit from testing, especially those with a history of chronic constipation, hypochlorhydria (including use of acid-blocking drugs), or maldigestion.

• Analytes:

Total levels:

Hydrogen
Methane,
Hydrogen + Methane

Graphs:

Hydrogen + Methane (in ppm)
plotted over 120 minutes

• Specimen Requirements:

Six fasting breath samples—at
baseline, 20 min, 40 min, 60 min,
90 min, 120 min

• Before Patient Takes This Test:

- Avoid high-fiber foods and supplements (2 days before)
- Eat a light dinner (on the night before)
- Fast (12 hours before)
- Inform practitioner of all medications and supplements
- See instructions inside test kit for details



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Bacterial Overgrowth of the Small Intestine

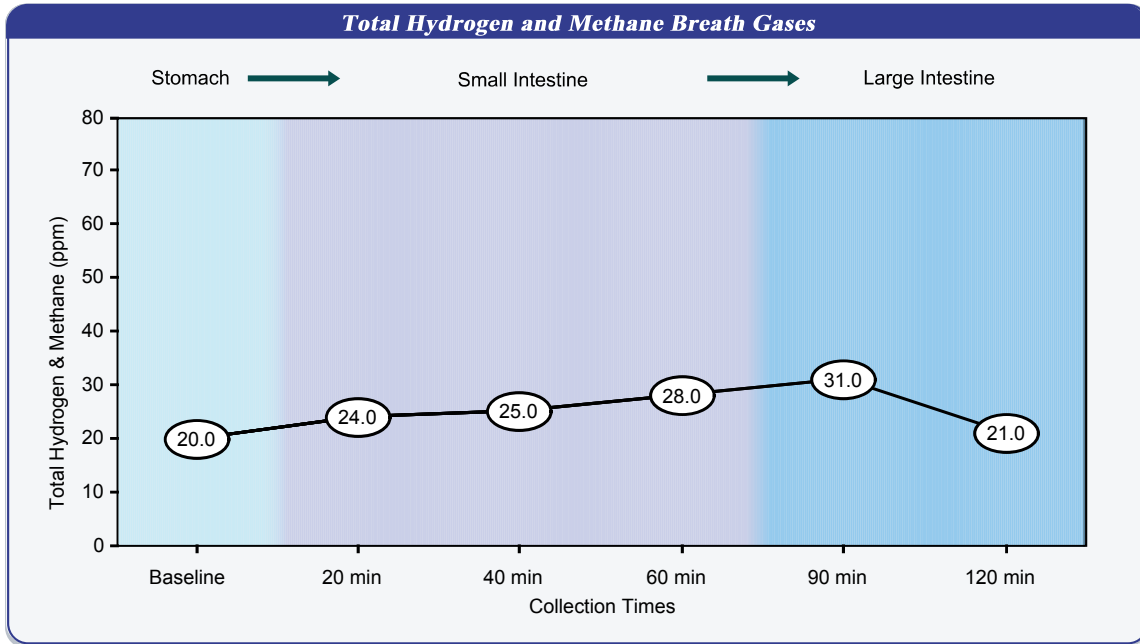
Breath Test



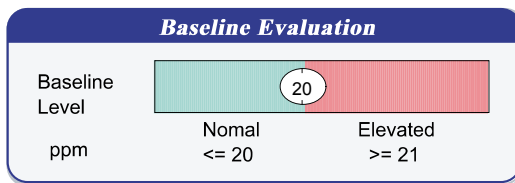
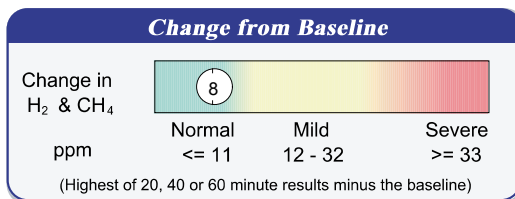
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Patient: **Sample Patient** **Order Number:**
 Age: 36 Completed:
 Sex: M Received:
 MRN: Collected:

SAMPLE REPORT



Minutes	Base-line	20	40	60	90	120
Hydrogen (H ₂)	10	12	12	13	14	12
Methane (CH ₄)	10	12	13	15	17	9
Total	20	24	25	28	31	21



This test was developed and its performance characteristics determined by GSDL, Inc. It has not been cleared or approved by the U.S. Food and Drug Administration.

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This test reveals important clinical information about:

- **Overgrowth of bacteria in the small bowel**, one of the leading causes of indigestion, bloating, stomach cramps, irregularity and other chronic symptoms of Irritable Bowel Syndrome (IBS)
- **Chronic bacterial fermentation and malabsorption** that can set the stage for systemic disorders including altered intestinal permeability ("leaky gut"), anemia and weight loss, progressive bone thinning, failure to thrive, poor digestive function, bacterial translocation (causing immune dysfunction and toxic overload), and malnutrition

Advantages of the Breath Test:

- **Both hydrogen and methane breath levels plotted over time**, for a sensitive, specific analysis that allows enhanced detection rates, increased clinical significance, and noninvasive specimen collection

For test kits, clinical support, or more information contact:

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More detailed publications with references are also available: www.GDX.net