



**GI ASSOCIATES OF DELAWARE**  
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**LACTOSE HYDROGEN BREATH TEST**

The hydrogen breath test is a test that uses the measurement of hydrogen in the breath to diagnose several conditions that cause gastrointestinal symptoms. In man, only bacteria--specifically, anaerobic bacteria in the colon--are capable of producing hydrogen. The bacteria produce hydrogen when they are exposed to unabsorbed food, particularly sugars and carbohydrates. Although limited hydrogen is produced from the small amounts of unabsorbed food that normally reach the colon, large amounts of hydrogen may be produced when there is a problem with the digestion or absorption of food in the small intestine that allows more unabsorbed food to reach the colon. Large amounts of hydrogen also may be produced when the colonic bacteria move back into the small intestine, a condition called bacterial overgrowth of the small bowel. In this latter instance, the bacteria are exposed to unabsorbed food that has not had a chance to completely traverse the small intestine to be fully digested and absorbed. Some of the hydrogen produced by the bacteria 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.

Hydrogen breath testing is used in the diagnosis of two conditions. The first is a condition in which 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. Testing also may be used to diagnose problems with the digestion of other sugars such as sucrose, fructose and sorbitol. The second condition for which 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.

Prior to hydrogen breath testing, individuals fast for at least 12 hours. At the start of the test, the individual blows into a hydrometer (machine to calculate the H<sub>2</sub> level). Additional readings may be obtained at 30-minute intervals. The test usually takes 30 to 45 minutes.

- **Please do not eat or drink anything after midnight.**
- **The day before the test, avoid high-fiber foods and all dairy products.**
- **Drink 12 oz of regular milk (no soy milk or Lactaid milk) 3 hours before your appointment.**

<b>Appointment Day:</b>	<b>Date:</b>	<b>Be There At:</b>
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<b>Follow Up Day:</b>	<b>Date:</b>	<b>Be There At:</b>
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