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# The Justification for Breath $H_2$ Testing

**QUESTION:**

What is the justification for a breath hydrogen test for lactose malabsorption, since the diagnosis can apparently be made by simply removing milk and milk products from the diet and looking for change in the patient's symptoms?

**ANSWER:**

There are at least four reasons why simply withholding milk from the diet is an imprecise and inadequate approach to the diagnosis of carbohydrate malabsorption:

1. The simplistic approach of withholding milk from the diet as a diagnostic test will be unequivocal only with those patients who are so obviously intolerant that they probably know it anyway. Even then, the answer is incomplete since the procedure provides no evidence as to whether or not total avoidance of milk products is necessary for the relief of symptoms.
2. Recently, it has become clear that many marginally intolerant patients are not suspected of having carbohydrate intolerance until it is identified by the breath hydrogen test. As reported at the meetings of the AGA in San Francisco in May 1986 and in Chicago in 1987 (reference below), many patients were unsuspected lactose malabsorbers. Results from the test enabled patients to associate symptoms with lactose ingestion which led to improvement after its restriction. Without the breath $H_2$ test, the relationship may be difficult to establish and it may be difficult to convince the doubting patient to conscientiously avoid milk during the test.
3. When the test is properly performed, the breath $H_2$ response provides a general guide as to the severity of the malabsorption. It is useful to have at least semi-quantitative data which suggest how severe the lactose malabsorption might be. Therefore, the test can be included in the diet. Total avoidance may be an unnecessary burden for some patients and a threat to health unless supplemental calcium is added to their diets.
4. Being able to generate objective data from the test offers the somewhat rare opportunity in this area of gastroenterology to provide convincing evidence that the problem is real and the cause is known; which will give important reassurance to many patients. This is too often not the case with such diagnose of IBS or with the imprecise approach of simply avoiding milk products as a diagnostic test for lactose intolerance.

References:

1. Patient awareness of lactose associated symptoms. E.M. Narvaes, J. A. DiPalma and W. P. Pierson. Abstract of papers presented to the annual meeting of the American Gastroenterology Association, San Franciso, CA, May 1986, Gastroenterology 90/5: 1562, 1986.
2. Correlation between lactose malabsorption and lactose clinical intolerance. F. Lami, C. Callegari, M. Tatali, M. Miglioli and L. Barbara. Abstract of papers presented to annual meeting of the American Gastroenterological Association, Chicago, May 1987, Gastroenterology 92/5: 1489, 1987.