

Patient: **BOB**  
**TEST**

**Order Number:**

Completed:

Received:

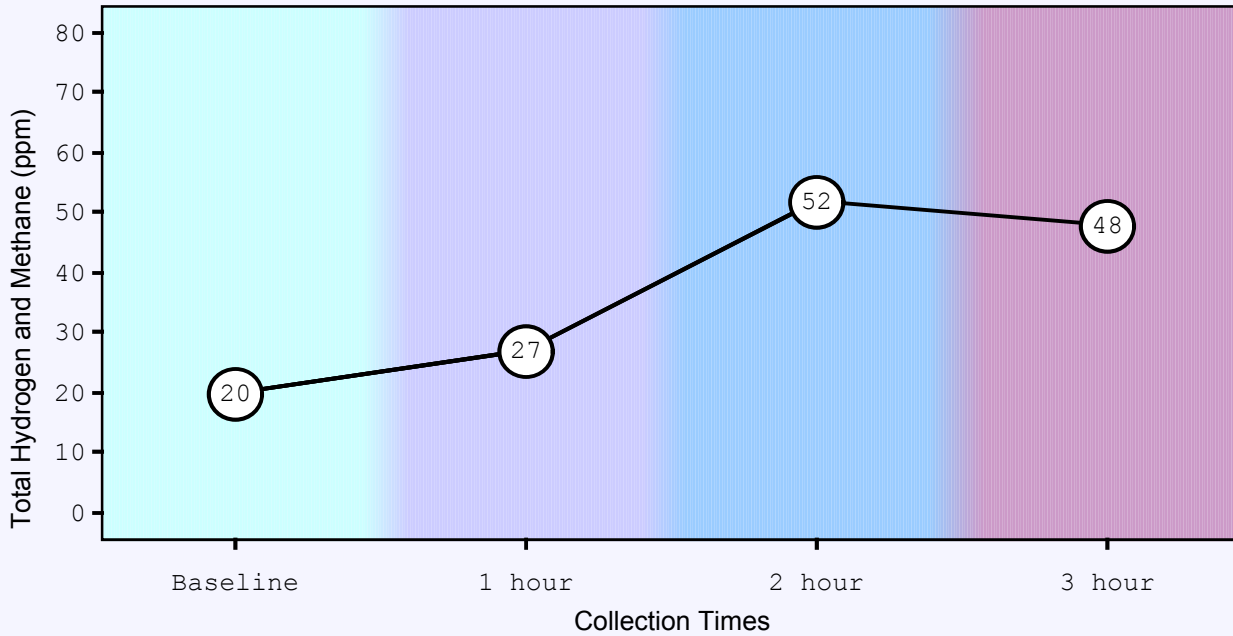
Collected:

Age: 36

Sex: M

MRN:

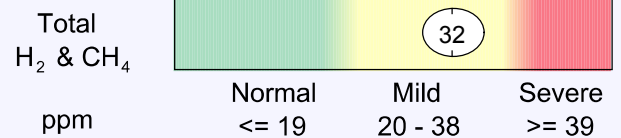
**Total Hydrogen & Methane Breath Gases**



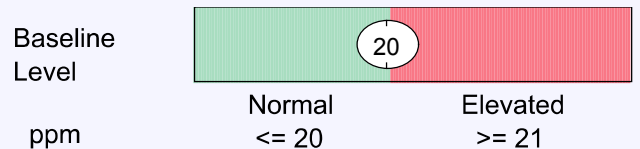
**Hydrogen & Methane (ppm)**

Hours	Base-line	1	2	3
Hydrogen (H <sub>2</sub> )	10	12	15	17
Methane (CH <sub>4</sub> )	10	15	37	31
Total	20	27	52	48

**Change from Baseline**



**Baseline Evaluation**



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

## Commentary

**Lactose Intolerance** Lactose, or "milk sugar", is a disaccharide that is normally hydrolyzed by lactase, producing glucose and galactose. This enzyme, along with other disaccharidases, is secreted by the microvilli of the small intestine. Deficiency of the enzyme may result from damage to the microvilli, or may be inherited (more commonly in African, African-American, Asian, Hispanic, Native American, Mediterranean, and Jewish individuals). Whether acquired or inborn, lactase deficiency leads to incomplete digestion of lactose.

When lactase is deficient, the undigested lactose in the challenge drink will be fermented by colonic bacteria, producing hydrogen and/or methane gases, which are absorbed into the bloodstream and then released into the breath. Generally, the higher the level of breath gases, the greater the degree of lactose intolerance.

**Your results:** Your breath test for lactose intolerance showed a net increase in total breath gases of 20-38 ppm. This represents mild lactose maldigestion and malabsorption. Lactose malabsorption may feature intestinal cramping, gas and bloating, diarrhea, and eventually lead to bacterial overgrowth of the small intestine as bacteria feed on the undigested carbohydrate. Lactase deficiency may, in some cases, result from intestinal parasitic infection. Avoidance of lactose (see *sources of lactose* below) or supplementation with lactase preparations can help to minimize symptoms.

False positive results are possible (especially for elevated hydrogen) with incomplete avoidance of high-fiber foods, exposure to tobacco smoke or napping during collection.

**Sources of lactose:** Milk, cream, cheese, butter, many margarines, yogurt, artificial sweeteners containing lactose, baked goods made with milk, breading on fried foods, breakfast and baby cereals containing milk solids, buttered or creamed foods, cake and pudding mixes, many frostings, milk chocolate, hot dogs, luncheon meats, sausage, hash, processed and canned meats, creamy salad dressings, nondairy creamers (except for Coffee Rich), weight reduction formulas, many prescription drugs, many types of vitamins, foods containing whey, casein, caseinate, and sodium caseinate.