

## Breath Testing Features

- **Medical Expertise:** SIBO specialist doctors interpret all results, generate recommendations and are available for consultations.
- **Gold Standard:** Testing is run on QuinTron BreathTracker analyzers measuring hydrogen(H<sub>2</sub>), methane (CH<sub>4</sub>), and carbon dioxide(CO<sub>2</sub>) gases. QuinTron manufactures and supplies laboratory equipment and collection materials that are the most recognized breath testing system used by hospitals, gastroenterologist, clinics, laboratories and researchers world-wide.
- **Exceeding Quality Expectations:** Neurovanna meets and exceeds manufacturer quality control procedures for running and maintaining equipment.
- **CO<sub>2</sub> Correction Factor:** All samples are processed using carbon dioxide (CO<sub>2</sub>) correction factor technique that reduces errors and improves sample interpretation.
- **Cost Effective:** Neurovanna offers the lowest cash pricing by not accepting insurance and proudly using the USPS for shipping.

## Leaders in Quality Control

Exceeding the lab equipment manufacturer's suggested quality control recommendations for usage, maintenance and storage.

- **Frequent Calibrations:** Lab equipment is calibrated before each test run and after every 5th test to ensure the most precise measurements for each of your patient's samples.
- **CO<sub>2</sub> Correction Factor:** All samples are processed using carbon dioxide (CO<sub>2</sub>) correction factor technique that improves sample standardization and improves interpretation.
- **Stability:** Ambient room temperature and humidity are monitored and tightly controlled to reduce environmental impacts.
- **Reducing interfering factors:** Sample processing and testing is conducted in a windowless room free of sun exposure to sample tubes or laboratory machinery.
- **Partnering with Industry Leaders:** Neurovanna proudly uses QuinTron's patented EasySampler™ Test Kits for non-invasive and easy to use collection which is consistent with materials used in most published SIBO research, trusted by hospitals, gastroenterologist and other great institutions world-wide.

### Common symptoms and reasons to test for SIBO:

Nausea, Flatulence, Bloating, Diarrhea, Constipation, Malnutrition, Irritable Bowel Syndrome (IBS), Irritable Bowel Disease (IBD), Leaky Gut Syndrome, Chronic Fatigue Syndrome, Acid Reflux, Rosacea, Restless Leg Syndrome (RLS), Fibromyalgia, Gastroesophageal Reflux Disease (GERD), Celiac Disease & Diverticulitis.



Consultations available with an experienced and practicing SIBO doctor.



# Breath Testing - Glucose/ Lactulose

Hydrogen and methane breath testing assists in the diagnosis of Small Intestinal Bacterial Overgrowth (SIBO). SIBO is a condition where there is an imbalance in bacteria found in the small intestines. Normally the small intestines contains very little bacteria, which is the opposite of the much higher levels (17 X's) found in the large intestines. SIBO can be caused by having too many bacteria or containing the wrong kind of bacteria. This increased bacterial load results in excessive amounts of fermentation and inflammation. Classic symptoms of SIBO result from this and includes gas, bloating and abdominal pain.

## Diagnosis, Interpretation & Recommendations Provided

Although there is no universal diagnostic criteria for non-invasive diagnosis of SIBO, generally accepted conservative guidelines for breath test diagnosis of SIBO have been established in the medical literature.

### Glucose

- A rise over lowest preceding value in hydrogen production of 12 parts per million (ppm) or greater within 120 minutes PSC\*.
- A rise over lowest preceding value in methane production of 12 ppm or greater within 120 minutes PSC.
- A rise over lowest preceding value in the combined sum of hydrogen and methane production of 12 ppm or greater within 120 minutes PSC.

### Lactulose

- A rise over lowest preceding value in hydrogen production of 20 parts per million (ppm) or greater within 120 minutes PSC.
- A rise over lowest preceding value in methane production of 12 ppm or greater within 120 minutes PSC.
- A rise over lowest preceding value in the combined sum of hydrogen and methane production of 15 ppm or greater within 120 minutes PSC.

## Interfering Factors

- Improper preparation of the patient, including the inappropriate choice or incomplete avoidance of food by the patient on the night before the test will provide a high, but gradually falling level of H<sub>2</sub> or CH<sub>4</sub>.
- Rapid transit time can give a false-positive result.
- Delayed gastric emptying/slow transit can give a false-negative result.
- Smoking in the area of the test collection can result in false hydrogen positive.
- Sleeping during test collection, can result in false hydrogen positive.

\* PSC = Post Substrate Consumption

## Simplifying the Process: Results, Interpretations & Recommendations

### What You Get

- SIBO diagnosis based on generally recognized guidelines for gas interpretation.
- Doctor generated interpretation of testing data, patient history and patient response to challenge substrate.
- Doctor treatment recommendations provided by actively practicing SIBO experts.

Neurovanna provides a lab report that lists measured gas levels in table and line-graph formats. This report indicates if the results meet the generally recognized SIBO guidelines

Neurovanna also provides a doctor-generated interpretation based on gas measurements, submitted patient information and patient's reaction to consumed substrate during their 3-hour breath collection test. This report provides observational feedback to possibilities of improper collection, dietary impact and any unique data feedback. Neurovanna test interpretations are generated by doctors who are experts in diagnosing and treating SIBO. Consults with SIBO specialist doctors are available for active Neurovanna clients.