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**Small Intestinal Bacterial Overgrowth (SIBO)  
And Intestinal Methanogen Overgrowth (IMO)  
Testing and Treatment Information**

Instructions for breath test from: <https://www.youtube.com/watch?v=l8yGz9MngfM>

No probiotics for 4-5 days prior to the test

No antibiotics for 2 weeks prior to test

No smoking

No sleeping or exercise for 1 hour before the test or during the test

Nothing but water for 12 hours before the test and during the test – sip, don't gulp

You may brush your teeth

If you are having unusual diarrhea, especially watery (can cause false negative test due to bacteria flushing; wait 7-14 days after recovering before doing the test

Beginning 24 hours before the test, follow this diet for 12 hours:

Avoid grains, fruits, fruit juices, sugar in all forms, artificial sweeteners, all dairy, vegetables, nuts and seeds, beans, soy products and alcohol.

You may eat baked or broiled seafood, poultry, lean beef and pork, eggs, plain white rice, plain coffee and tea, small amounts of salt and pepper, and a teaspoon of olive oil.

After this 12 hour diet, only water is allowed for the next 12 hour (you may sleep during this time), and during the test.

The test will determine whether there are microbes that are producing excess amounts of 2 or 3 gasses: hydrogen, methane and hydrogen sulfide. If there is elevated hydrogen and/or hydrogen sulfide, the diagnosis small intestinal bacterial overgrowth (SIBO). If there is elevated methane, the diagnosis is intestinal methanogen overgrowth (IMO). Methanogens are not technically bacteria, but a similar group of organisms called Archaea.

### **Treatment**

SIBO and IMO are chronic disorders and often need long-term management for complete recovery. Symptoms can significantly improve and may never recur to the original severity but relapse is common and ongoing prevention is needed.

There are four components to successful recovery from SIBO and IMO: antimicrobial treatment, diet, prokinetic medication, and addressing other contributing factors (e.g. stress reduction and management).

#### **I. Antimicrobial treatment**

##### **Antibiotics:**

Antibiotic treatment for SIBO and IMO, whether prescription drugs or natural, does not focus on underlying causes, which include intestinal bacterial imbalance (from food poisoning, prior antibiotics, opioid medications, acid reflux medications); intestinal obstructions from scar tissue (adhesions) after abdominal trauma or surgery; endometriosis; head injury; diabetes; hypothyroidism, etc. Dr. Traub will discuss the various antibiotic options with you. Both prescription antibiotics and natural antibiotics are more than 90% effective in relieving symptoms of SIBO and IMO.

Rifaximin (Xifaxan) is expensive (\$1978 for 2 weeks course), but very effective. Most insurance drug plans cover the cost, with a small or zero co-pay. It is not systemically absorbed and does not cause antibiotic-associated diarrhea or vaginitis. It also has anti-inflammatory effects.

Neomycin (also not systemically absorbed but unlike rifaximin will affect bacteria in large intestine) or Flagyl (metronidazole) may be added to rifaximin for methane-producing bacteria.

Prescription antibiotics are taken for 14 days. Botanical antimicrobials are taken for 4-6 weeks. Multiple courses of antibiotics and/or herbs are frequently needed to reduce gas-forming bacteria in the small intestine to normal numbers. **If gas levels are above 35 ppm more than one round of treatment will usually be needed. Methane-producing bacteria and constipation cases are generally harder to treat and often require rifaximin plus neomycin or metronidazole.**

Hydrogen sulfide SIBO requires a prescription of a bismuth-containing medication as well as rifaximin.

### Herbs:

Generally, at least two herbs are taken at a time, for 4-6 weeks. In cases of high gas levels on breath testing, they can be taken for up to 8 weeks.

### Options:

Allimed (garlic) 1 twice daily and Apex H-PLR (Berberine + Oregano) 3 three times daily.

Berberine and Neem for hydrogen-producing bacteria.

Garlic (Allicin) and Neem or Oregano and Neem for methane-producing microbes that often cause constipation.

If you are intolerant to a combination of herbs, single herbs may be more tolerable.

Researchers at Johns Hopkins effectively treated SIBO using Candibactin AR (oregano oil, thyme oil, sage, and lemon balm ) and Candibactin BR (berberine and proprietary blend of *Coptis (Coptis chinensis)* Root & Rhizome, Chinese Skullcap (*Scutellaria baicalensis*) Root, Phellodendron (*Phellodendron chinense*) Bark, Ginger (*Zingiber officinale*) Rhizome, Chinese Licorice (*Glycyrrhiza uralensis*) Root, Chinese Rhubarb (*Rheum officinale*) Root & Rhizome), made by Metagenics.

Other patients in the study took Biotics Research FC Cidal and Dysbiocide.

FC Cidal is proprietary blend of:

French Tarragon (*Artemisia dracunculus*) (leaf)  
Indian Tinospora (*Tinospora cordifolia*) (stem & root)  
Horsetail (*Equisetum arvense*) (whole herb)  
Thyme (*Thymus vulgaris*) (leaf)  
Pau D' Arco (*Tabebuia impetiginosa*) (inner bark)  
Stinging Nettle Extract (*Urtica dioica*) (root)  
Olive (*Olea europaea*) (leaf)

Dysbiocide contains: Dill (*Anethum graveolens*) (seed), Stemona (*Stemona sessilifolia*) (root) (powder and extract), Wormwood (*Artemisia absinthium*) (shoot & leaf) (extract), Java Brucea (*Brucea javanica*) (fruit) (powder & extract), Chinese Pulsatilla (*Pulsatilla chinensis*) (rhizome) (powder & extract), Jamaica Quassia (*Picrasma excelsa*) (bark) (extract), Cutch Tree (*Acacia catechu*) (heartwood & bark) (powder & extract), Hedyotis (*Hedyotis diffusa*) (aerial part) (powder & extract), Yarrow (*Achillea millefolium*) (leaf & flower) (extract).

We may add Allicin if constipation is a symptom.

Although whole garlic is a high FODMAP food, pure allicin or Allimax is generally well tolerated by SIBO patients.

Oil of oregano can be caustic to mucus membranes and cause stomach pain or burning. This is not due to bacterial die off.

Bacterial die off can occur from prescription or herbal antibiotics and cause a variety of symptoms. Reduction of dose can usually relieve die off symptoms.

## Elemental Diet:

An elemental diet is an option for some patients. It consists of a powder of predigested nutrients in place of all meals for 2-3 weeks. It is more effective than the Low FODMAP diet, and as effective as antibiotic treatment in up to 85% of cases. It must be used with caution in diabetes, patients on dialysis, and with patients who are underweight. I recommend Dr. Ruscio's Elemental Heal. The elemental diet is designed to starve microbes by decreasing their food, while still nourishing the patient. Patients will typically lose 5 lbs. per week on the elemental diet.

Unlike a urinary tract infection, 100% improvement should not be expected from antimicrobial treatment.

It's necessary to begin the second phase of treatment as soon as the first course of antimicrobial treatment is completed.

## II. Diet:

Ask Dr. Traub for a printed copy of the modified Low FODMAP diet (SIBO Specific Food Guide). Follow the dietary guidelines. The most important guideline, however, is that if a certain amount of a certain food aggravates your symptoms, you should avoid it. If you tolerate a certain amount of a certain food that is not recommended on the SIBO Diet, you can eat it, as long as you do not eat too much and develop symptoms from it.

**IMPORTANT: Prior to starting the SIBO diet, please tell Dr. Traub what foods you want to be able to eat, and what foods you may miss. It's possible that he will allow exceptions to the SIBO diet guidelines to accommodate your desire for some of your favorite foods.**

Dietary treatment is designed to starve microbes by decreasing their food, while still feeding the patient. Gut microbes predominately ferment carbohydrates (grains, beans, starchy vegetables, sugars, soluble fibers).

It is important to space meals at least 4 hours apart to allow proper digestion to occur. Between meal snacking is discouraged.

It is fine, however, to drink plenty of water and tea.

It's important to understand that relapse and recurrence is common. However, the treatment approach we use is clinically proven and researched.

## III. Prokinetic:

Virtually all patients with SIBO and IMO have a small bowel motility problem that contributes to their symptoms also. This is caused by bacterial toxins impairing the function of the migrating motor complex (MMC). The MMC is responsible for normal peristaltic movement of the small intestine, moving bacteria out, and preventing large intestine bacterial backflow. When it is impaired, food and bacteria do not move normally through the small bowel and ferments, producing hydrogen, methane and hydrogen sulfide gases. The MMC creates "housekeeping waves" of contractions that move the digesting food through the 26 feet of small intestine, and eating between meals disrupts this process. Prokinetic medications are necessary to restore the MMC and normal peristalsis. They are not laxatives and do not cause diarrhea.

Listen to a podcast about the MMC: <https://thehealthygut.com/podcast/mmc/>

To avoid a relapse after antibiotic treatment, it is virtually imperative that you start a prokinetic medication the day following the last dose of antibiotics is taken and continue the SIBO Specific Food Guide. Dr. Traub will recommend a pro-kinetic medication for you.

Prescription options: low-dose erythromycin, low dose naltrexone, Prucalopride.

Prescription Prokinetics:

I usually start with low-dose erythromycin as it is inexpensive and reliably effective. It is prescribed as a 250 mg tablet and the dose is ¼ tablet daily taken at bedtime. The dose is so small it does not have any antibiotic effect and is well-tolerated. It must be used cautiously for patients with heart disease and who are taking other medications. It has **drug-herb interactions with berberine, so the two should not be prescribed together.**

Low dose naltrexone (LDN) is a drug that blocks opioid receptors and thus blocks the pain-killing effects of narcotic pain medications. LDN may be contraindicated if you use any opioid medications such as codeine, hydrocodone, and oxycodone. LDN has many other benefits besides being a pro-kinetic, and is frequently prescribed for patients with autoimmune diseases, inflammation, depression, fibromyalgia and cancer. It is not strong enough as a prokinetic for about 30% of patients.

Prucalopride (Motegrity) is a good drug for constipation (also beneficial for nausea, bloating, pain). It has been linked to birth defects and must be used with caution in patients with heart disease.

Herbal options are: Gut Motivator, Motil Pro, Ginger

Gut Motivator herbal formula. Dose: 30-60 drops at bedtime. It is safe for long-term use. It has a pleasant taste of fennel.

Motil Pro (Pure Encapsulations) is a capsule containing 5 HTP, ginger root, vitamin B6 and acetyl-L-carnitine. Dose: 2-3 capsules at bedtime or morning and bedtime. It may cause diarrhea in some patients and should be avoided in patients with GERD.

Ginger: Dose 1000 mg at bedtime. It may cause diarrhea in some patients and should be avoided in patients with GERD. It is not strong enough for many patients.

Spacing meals by 4-5 hours and 12 hours overnight allows the MMC to activate properly. Stress turns off the MMC so decreasing stress is important!

Prokinetics are taken for at least 3 months. You can try tapering off it after 3 months but many need to continue taking it long term, especially if SIBO/IMO symptoms have been present for longer than 5 years before starting treatment

Tapering schedule is: every other day for 2 weeks, then every 3 days for 2 weeks. If symptoms do not recur, you can stop the prokinetic.

### **Probiotics**

Probiotics are unnecessary if you are taking rifaximin or natural antimicrobials.

You **should** take a probiotic if you are taking neomycin or metronidazole.

Probiotics and especially prebiotics can worsen SIBO symptoms. Fiber can also worsen constipation in some SIBO patients.

### **IV. Address other contributing factors**

Decrease stress: rushing/worrying. Take conscious breaths, practice yoga, meditation, gratitude. Rest. Visceral manipulation, cranial osteopathy.

Learning to manage anxiety is essential, as anxiety is a major contributor both to the development as well as the persistence of microbial overgrowth. I urge you to take advantage of a website specifically for this:

[www.sibostressfree.com](http://www.sibostressfree.com)

Decrease alcohol intake.

Treat hypothyroidism, diabetes, diverticulosis, obesity, low stomach acid, gastroparesis, fibromyalgia, celiac disease, etc.

**Re-testing:**

With partial improvement or no improvement, repeat the breath test 2 weeks after completion of antimicrobial treatment. It's ok to re-test while on low-dose erythromycin and other pro-kinetics.

If test remains positive for SIBO, Dr. Traub will recommend another course of antibiotic treatment **that may be different from the first course.**

**Follow-up appointments:**

Because SIBO requires long-term treatment and management, you should schedule appointments for regular monitoring with Dr. Traub. If you begin a prescription antibiotic, you should follow-up in 2 weeks. If you begin herbal antibiotics, you should follow-up in 4 weeks. If you are taking only prokinetics, you should schedule monthly follow-up appointments. Once your symptoms have improved to the point that you no longer need antibiotic treatment and a prokinetic, you can schedule appointments as needed or at least on an annual basis.

**Good Resources:**

Pimentel, M. A New IBS Solution. Health Point Press, Sherman Oaks, CA. 2006.

<http://www.siboinfo.com/associated-diseases.html>

Traub, M. Small Intestinal Bacterial Overgrowth: Clinical Presentation, Risk Factors, Diagnosis and Treatment – Clinical Handbook 2020

(ask Dr. Traub for a copy or a pdf)

To order SIBO cookbooks: <http://www.breathtests.com/patientstore.html>

The SIBO Diet Plan: [https://www.amazon.com/SIBO-Diet-Plan-Relieve-Symptoms/dp/1641520582/ref=sr\\_1\\_1?ie=UTF8&qid=1522427919&sr=8-1&keywords=sibo+diet+plan](https://www.amazon.com/SIBO-Diet-Plan-Relieve-Symptoms/dp/1641520582/ref=sr_1_1?ie=UTF8&qid=1522427919&sr=8-1&keywords=sibo+diet+plan)