

SIBO DIET

WHAT IS SIBO?

SIBO (Small Intestine Bacterial Overgrowth) is an overgrowth of nonpathogenic bacteria in the small intestine. Although it is normal for these bacteria to be within the body, they should mainly be contained within the *large intestine*. The small intestine should be relatively clear of bacteria; it is not designed for large colonization of bacteria. So, when bacteria accumulate or back up into the small intestine—an inappropriate location for them, they ferment the food that passes through (causing symptoms such as abdominal bloating, gas, and pain), damage the structure and function of the small intestine, and interfere with the absorption of nutrients.

SIBO is identified with a breath test. The test involves drinking a sugar solution of lactulose and graphing the amount and type of gas produced during the small intestine transit time of 2-3 hours. Because humans can't digest or absorb lactulose (only bacteria have the proper enzymes to do this), bacteria in the gut consume the lactulose and produce gas. Therefore, if bacterial overgrowth is present, excessive amounts of hydrogen and/or methane gas will be produced.

WHAT CAUSES SIBO?

The main underlying causes for SIBO are thought to be:

◇ **Decreased Motility:** An important protective mechanism against SIBO is the migrating motor complex (MMC), a cleansing wave which is the "housekeeper" of the small intestine, clearing bacteria from the small intestine and moving them down into the large intestine during fasting at night and between meals. This downward movement is necessary to sweep away debris and bacteria from the small intestine on a daily basis and keep bacteria in their place. When the MMC malfunctions, bacteria start to accumulate in the small intestine.

The primary cause of decreased motility is acute gastroenteritis (food poisoning, stomach flu, or traveler's diarrhea). A portion of the toxin produced by pathogenic bacteria looks like a protein on one of the nerve cells in our small intestine. Because of the similarity, something called "molecular mimicry" can occur, where the immune system attacks the protein on the nerve cells at the same time it's attacking the toxin. These nerve cells are necessary for the proper functioning of the MCC.

Health conditions such as Hypothyroidism and Diabetes, surgery (nerve damage), and certain medications (especially opiates) can also contribute to slow motility.

- ◇ **Physical Obstructions:** Tumors, surgical adhesions, or hairpin turns in the bowel can block the path of clearing away of bacteria out of the small intestine.
- ◇ **Non-Draining Pockets:** Diverticuli (pockets off the side of the small intestine) collect debris which cannot be cleaned out.

Some additional factors which can increase the likelihood of developing SIBO by encouraging bacterial overgrowth include:

- **Pathogens**
- **Ileocecal valve dysfunction** (when this valve gets "stuck open," it allows bacteria to back up from the large intestine into the small intestine and accumulate where it doesn't belong)
- **Antibiotic usage**
- **Overconsumption of sugar or alcohol**
- **Low stomach acidity or use of acid-blocking medications**



SIBO SYMPTOMS:

Some believe that SIBO is the underlying cause of IBS (SIBO has been found in up to 84% of IBS patients).

Research has also linked SIBO with IBD (Crohn's Disease and Ulcerative Colitis).

Common symptoms include:

- Abdominal Pain & Cramps
- Abdominal Bloating & Distension
- Gas (Flatulence/Belching)
- Constipation & Diarrhea
- Heartburn & GERD
- Nausea
- Food Sensitivities
- Headaches
- Joint Pain
- Fatigue
- Skin issues (eczema, rosacea, rashes, acne)
- Depression & Brain fog
- Malabsorption & Nutritional Deficiencies (B12/iron anemia)
- Restless legs syndrome
- Weight loss

SIBO RESOURCE:

➤ Dr. Allison Siebecker's SIBO website:
<http://www.siboinfo.com/>

SIBO DIET - FOOD LIST

WHAT TYPE OF DIET IS BEST FOR SIBO?

Because diet can have a significant impact on the intestinal bacteria population, a diet consisting of less fermentable foods can be key when addressing SIBO. A SIBO diet attempts to reduce the food sources for the bacteria by starving them of the carbohydrates they eat and ferment to gas.

Practitioners who specialize in SIBO, such as Dr. Allison Siebecker, believe that a combination of the **Specific Carbohydrate Diet (SCD)**, which limits specific sugars and starches, and the **Low FODMAP Diet (LFD)**, which limits the highly fermentable fruits and vegetables, is the most effective diet for SIBO. This is essentially a low fiber, starch-free Paleo diet with low-FODMAP fruits and vegetables.

The **SCD Diet** limits disaccharides (double sugars) as well as grains and starch. The **Low FODMAP Diet** limits fermentable oligo-saccharides, disaccharides, mono-saccharides and polyols—foods which are poorly absorbed in the small intestine and can be left there to ferment and cause symptoms.

ADDITIONAL CONSIDERATIONS:

- **The SIBO DIET** should be followed **after** an antibiotic or herbal protocol and **continued** for at least 3 months after successful eradication.
- **AVOID MOST PROBIOTICS** because these species may be the same ones that are already overgrown in the small intestine and it is undesirable to introduce more of these bacteria into the gut. The exceptions include *Bacillus clausii*, *Saccharomyces boulardii*, *Lactobacillus casei*, *Lactobacillus plantarum*, and *Bifidobacter brevis*. These species can help treat SIBO or they stimulate the MMC.
- **AVOID PREBIOTICS** because they are a fermentable food for bacteria. Since there are already too many bacteria, we don't want to feed them and encourage further growth. Common prebiotics found in probiotic supplements include: FOS (fructooligosaccharide), inulin, arabinogalactan, and GOS (galactooligosaccharide).
- **LIMIT SNACKING BETWEEN MEALS** since this prevents the MMC from doing its job (the MMC only kicks in when you haven't eaten in a few hours).

SCD "LEGAL" / LOW FODMAP FOODS		
<p>MEAT/PROTEIN:</p> <ul style="list-style-type: none"> - Beef - Lamb - Seafood - Bone Broth - Eggs - Pork - Bacon (<i>cured with honey</i>) - Fish - Poultry <p>DAIRY (if tolerated):</p> <ul style="list-style-type: none"> - Butter - Yogurt (<i>homemade with 24-hr ferment</i>) - Ghee <p>FATS/OILS:</p> <ul style="list-style-type: none"> - Bacon Fat - Coconut Oil - Lard - Macadamia Oil - Palm Oil - Garlic-infused oil - Polyunsaturated Oils: Borage, Flax, Hemp, Sesame, Sunflower, Walnut - Butter/Ghee - Duck Fat - MCT Oil - Olive Oil - Tallow <p>BEANS:</p> <ul style="list-style-type: none"> - Lentils: 1/2 cup brown, 1/4 c green or red - Lima (1/4 cup) 	<p>FRUITS:</p> <ul style="list-style-type: none"> - Banana - Grapes - Melon - Pineapple - Berries - Guava - Papaya - Pomegranate - Citrus - Kiwi - Passion fruit <p>VEGETABLES:</p> <ul style="list-style-type: none"> - Arugula - Bok Choy (1 cup) - Cabbage (1 cup) - Celeriac - Cucumber - Green Beans (10) - Lettuce - Peppers (bell & chili) - Radish - Scallion (green part) - Squash: butternut (1/4c), kabocha, yellow - Zucchini (3/4 c) - Bamboo Shoots - Broccoli (1/2 cup) - Carrots - Collard Greens - Endive - Kale - Peas (green: 1/4 c) - Radicchio - Rutabaga - Tomato <p><i>* Fruits & Vegetables should be cooked, peeled, de-seeded, and pureed at first</i></p> <p>NUTS/SEEDS:</p> <p><i>* Introduce with caution in very small amounts only (i.e. 10 almonds/pecans/walnuts, 20 macadamia nuts, 1 T. pine nuts/sesame seeds, 2 T. pumpkin seeds)</i></p>	<p>SWEETENERS:</p> <ul style="list-style-type: none"> - Honey (2 Tbsp) - Stevia (pure/no inulin) <p><i>* <u>NO</u> agave, cane sugar, coconut sugar, fructose, maple syrup, molasses, sugar alcohols (sorbitol, xylitol, etc)</i></p> <p>BEVERAGES:</p> <ul style="list-style-type: none"> - Coconut milk (no thickeners) - Coffee (1 weak cup/day) - Fruit juice from low FODMAP fruits (1/3 c) - Tea: black (weak), green (<2 cups), white, chamomile, ginger, hibiscus, lemongrass, mate, mint, oolong, rooibos, rose hip - Water <p>SPICES/SEASONINGS:</p> <ul style="list-style-type: none"> - All spices (except onion & garlic) - Mayo (homemade or honey-sweetened) - Mustard (without garlic) - Pickles (without garlic/sugar) - Tabasco - Vinegar: Apple Cider, White, Red & White Wine <p><i>* <u>NO</u> balsamic vinegar, soy sauce/tamari, chocolate, gums/carrageenan, onion or garlic powder</i></p>