



## Digestion Protocols: SIBO

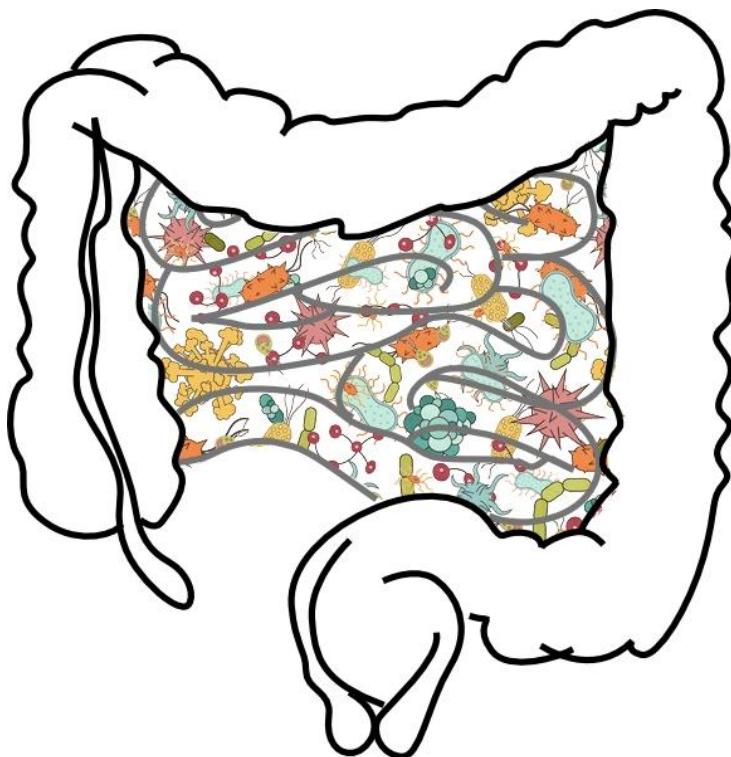
**SIBO** is short for **S**mall **I**ntestinal **B**acterial **O**vergrowth. It's a bacterial infection of the small intestine.

Bacteria are normal in the digestive tract. But, with SIBO, it isn't the presence of bacteria which is the problem. The problem is that there are too much bacteria and/or the wrong type of bacteria. By the "wrong type of bacteria," it doesn't necessarily mean some weird strain of bacteria is wreaking havoc on the gut. Most often, SIBO occurs because bacteria which should be in the large intestine migrate into the small intestine.

SIBO can rob you of nutrients such as B12 and iron. It also damages the mucosa, deconjugate bile leading to fat malabsorption, trigger pro-inflammatory cytokines leading to leaky gut, cause sugar cravings, and increase mucus production.

Taking antibiotics may get rid of the overgrowth temporarily, but they can upset the normal gut flora balance, and the "bad" bacteria are just likely to proliferate again – which is why SIBO recurrence is so high. If antibiotics are used to treat SIBO, they **MUST** be combined with and followed by a strict diet for prevention.

It's also important to get to the root cause, which may be a problem with the ileocecal valve between the small and large intestines, an inefficient migrating motor complex which could stem from "sympathetic overload", aka stress. Migrating motor problems can result from eating meals closer than 4 hours apart. If underlying causes are not addressed, recurrence is almost inevitable.





## Evaluation

- ☐ Symptom Survey
- ☐ Breath Tests
  - ☐ 3-Hour Lactulose Test: Quintron Labs, Commonwealth Labs
  - ☐ Hydrogen v Methane
  - ☐ Lactulose v Glucose
- ☐ Urine Organic Acids Tests
- ☐ Food Allergy Testing
- ☐ Small Bowel Aspirate Test
- ☐ Stool test for markers
  - ☐ Digestion and Absorption Markers (pancreatic elastase, pancreatic enzymes, putrefactive SCFAs)
  - ☐ Gut Immunology Markers (inflammation markers)
  - ☐ Metabolic Markers (pH, bile acids, levels of short chain fatty acids)
  - ☐ Microbiology Markers (pathogenic bacteria, beneficial flora)
  - ☐ Parasitology (presence of parasites or eggs)

## Symptoms of SIBO

- ☐ Flatulence
- ☐ Belching
- ☐ Bloating – especially after eating and up under the ribs or in the middle of the gut
- ☐ Abdominal pain and cramping
- ☐ Feel full really fast while eating
- ☐ Food intolerances
- ☐ Diarrhea
- ☐ Constipation
- ☐ Oily looking stools
- ☐ Malnutrition – robs you of nutrients such as B12 and iron
- ☐ Anemia
- ☐ Joint pain
- ☐ Feeling stressed
- ☐ Depression
- ☐ Brain fog
- ☐ Poor memory
- ☐ Anxiety
- ☐ Depression
- ☐ Asthma
- ☐ Skin conditions such as rashes, eczema, rosacea, and acne



## Common Causes of SIBO

- ☐ Stress – decreases vagus nerve activity
- ☐ Antibiotic usage
- ☐ Not enough gastric acid
- ☐ H. pylori infection
- ☐ Leaky gut syndrome
- ☐ Chronic pancreatitis
- ☐ Crohn's disease
- ☐ Diabetes
- ☐ Diverticulosis
- ☐ Structural anomaly in the small intestine
- ☐ Injuries
- ☐ Fistula
- ☐ Intestinal lymphoma
- ☐ Scleroderma
- ☐ Food sensitivities, like gluten
- ☐ Protein pump inhibitors or antacids
- ☐ Impaired immune system function
- ☐ Dysmotility - a condition in which the muscles of the digestive system become impaired and are no longer able to empty contents efficiently (migrating motor complex malfunction)
- ☐ Ileocecal valve dysfunction
- ☐ Heavy metals

## Lifestyle Habits to Improve SIBO

- ☐ Chew slowly
- ☐ Stress management techniques- HeartMath, meditation
- ☐ Movement: yoga, barre exercises, tai chi
- ☐ Practice proper breathing
- ☐ Get 7-8 hours or more of sleep each night
- ☐ Don't drink liquids during meals
- ☐ Stay hydrated: drink half your body weight in ounces of water
- ☐ Breathing and appreciation before meals
- ☐ Space meals 4-6 hours apart
- ☐ Don't eat too close to bedtime (no closer than 3 hours)
- ☐ Acupuncture
- ☐ Vagus nerve stimulation
  - ☐ Gargling
  - ☐ Gag reflex
  - ☐ Singing loudly
  - ☐ Coffee enemas
- ☐ Ileocecal valve manipulation
  - ☐ Massage
  - ☐ Manipulation
  - ☐ Reflex points
- ☐ Do the things you love
- ☐ Fecal transplants



## Dietary Habits that Improve SIBO

- ☐ Water fast
- ☐ Elemental diet
- ☐ SIBO diet: primarily a low-carbohydrate diet
- ☐ Specific Carbohydrate Diet (SCD)
- ☐ Low FODMAP diet
- ☐ Eliminate all grains, starchy vegetables, lactose, sweeteners other than honey, and beans
- ☐ Eat smaller amounts of food
- ☐ Avoid overeating
- ☐ Chew slowly and thoroughly
- ☐ Large glass of warm water upon rising with juice of one lemon, cayenne pepper, ginger, and/or turmeric
- ☐ Bitters in hot water
- ☐ Celery juice on an empty stomach
- ☐ Eat probiotic-rich foods: sauerkraut, fermented vegetables, kefir unless they are not tolerated -- with SIBO, avoidance of d-lactic acid bacteria is important, so making homemade sauerkraut using bifidus as a starter can be helpful
- ☐ Eliminate alcohol and tobacco
- ☐ Eliminate processed foods

## Herbs and Nutrients to Improve SIBO

- ☐ Allimed/Allicin
- ☐ Berberine: found in Goldenseal, Oregon Grape, Barberry, Coptis, Phellodendron
- ☐ Neem
- ☐ Biofilm disruptor: Interfase Plus/Klaire Labs
- ☐ MotilPro: Pure Encapsulations – prokinetic
- ☐ Iberogast: prokinetic
- ☐ Biotics FC Cidal with Biotics Dysbiocide
- ☐ HCl
- ☐ Oregano oil
- ☐ Wormwood oil
- ☐ Lemon balm oil
- ☐ Peppermint oil
- ☐ Tarragon oil
- ☐ Frankincense oil
- ☐ Clove oil
- ☐ Indian barberry root
- ☐ Cinnamon
- ☐ Ginger
- ☐ Triphala
- ☐ Probiotics: d-lactic acid free, Bifidobacterium species
- ☐ Vitamin B12
- ☐ Vitamin D
- ☐ Vitamin K
- ☐ Digestive enzymes
- ☐ Iron
- ☐ Zinc
- ☐ Magnesium



## The Elemental Diet

This approach seeks to starve the bacteria, but feed the person, by replacing meals for 2 weeks with an Elemental Formula. Elemental formulas are powdered nutrients in pre-digested, easily absorbed form.

**Advantages:** 80-84% success in eradicating of SIBO. Proven effectiveness, safety and tolerability. Easily obtained in retail/web stores.

**Drawbacks:** No eating for duration of treatment (2-3 weeks). There is weight loss (a drawback for those of low weight).

The following information is provided to clarify the components of elemental formulations.

### Protein

- ☐ Keep it simple
- ☐ Sunwarrior Natural Classic or Warrior Blend
- ☐ Sacha inchi
- ☐ Amino acid powder
  - ☐ Can be expensive because so much is needed; the RDA for protein is 45-55 grams/day -- 1 gram = 1000 mg
  - ☐ Amino acids taste unpleasant

### Carbohydrate

- ☐ Honey
- ☐ Dextrose (glucose)
- ☐ Glucose flavored liquid
- ☐ Grape syrup (similar profile to honey)
  - ☐ Example - Nature's Flavors: Organic Tapioca
  - ☐ Maltodextrin

### Fat

- ☐ Oil
  - ☐ Note: medium chain triglyceride oil (MCT &/or Coconut Oil) are recommended in cases of fat malabsorption, common in SIBO, as they absorb easily. MCT oil can cause diarrhea; increasing amounts slowly helps to avoid this.
- ☐ Hemp and flax are also acceptable



### **Vitamins & Minerals**

- ☐ Multivitamin/mineral that contains no fiber, food or anything other than synthetic nutrients
- ☐ Some options include Freeda SCD Multi, Klaire VitaSpectrum Powder, Pure Encapsulations Nutrient 950
- ☐ Source Naturals L-Glutamine Powder: 3.53 oz (100 g)

### **Salt**

- ☐ Sodium is an essential electrolyte
- ☐ The Adequate Daily Intake for salt is 1500mg (CDC)

### **Avoid**

- ☐ Fiber, gums, thickeners, food items, or prebiotics
- ☐ Forms of protein and sugar not listed above
- ☐ Standard cleansing formulas such as Mediclear, Clearvite, or Ultraclear are not elemental formulas

## **The SIBO Diet**

All dietary treatments strive to reduce the food sources for the bacteria. They seek to feed the person but starve the bacteria.

This diet has a significant impact on the intestinal bacterial population. Bacteria primarily eat carbohydrates so all the recommended diets decrease carbohydrates to reduce the bacteria by limiting their food supply. The only carbohydrate that bacteria do not eat much of is insoluble fiber. The established SIBO treatment diets are the Specific Carbohydrate Diet (SCD), the Low FODMAP Diet (LFD) or a combination of these diets such as SCD + LFD).

"Fermentable" refers to what bacteria eat.

### **Fermentable Carbohydrates/Saccharides**

- ☐ Starch
- ☐ Resistant Starch
- ☐ Soluble Fiber
- ☐ Sugar (in all its forms)
- ☐ Prebiotics (inulin, FOS, MOS, GOS, arabinogalactan)



## Sources of Fermentable Carbohydrates/Saccharides

- ☐ Starch: grains, beans, starchy vegetables
- ☐ Resistant Starch: whole grains, seeds, legumes
- ☐ Soluble Fiber: grains, beans, nuts/seeds, vegetables, fruit
- ☐ Sugar: fruit, sweeteners
- ☐ Prebiotics: agave, beans, vegetables, roots/herbs, supplements

Some carbohydrates are absorbed so quickly they may not have time to be fermented. These are the single sugars glucose and fructose, which exist on their own in honey but are combined with fermentable carbohydrates in all other foods.

Ripe fruit, non-starchy vegetables, and nuts are allowed on the diets for health and variety purposes, even though they do contain fermentable carbohydrates.

## The Specific Carbohydrate Diet

- ☐ **Allowed:** meat/fish/poultry, eggs, some beans, lactose-free dairy, non-starchy vegetables, ripe fruit, nuts/seeds, honey, and saccharine
- ☐ **Not Allowed:** grains, starchy vegetables, lactose, some beans, and any sweeteners other than honey, saccharine, and occasional stevia
- ☐ An introduction diet is recommended to start with
- ☐ Then the diet is progressive as the intestines heal: at the beginning, cooked vegetables, cooked ripe fruit, no beans, and very little nuts are recommended
- ☐ Personal tailoring of the diet within the allowed foods is recommended as individuals vary greatly as to what they can tolerate

## Low FODMAP Diet

Start with a FODMAP elimination diet for two weeks. FODMAPs stands for Fermentable Oligosaccharides, Disaccharides, Monosaccharides, and Polyols.

They're foods that aren't fully absorbed in the body and end up fermenting in the digestive tract. The fermentation actually feeds the bacteria, making it more difficult to fight SIBO and SIBO symptoms.

The FODMAP diet has a good success rate for IBS, IBD, and other GI conditions with similar symptoms. Because it allows grains, fiber, sugar, and other fermentable carbs, it may need to be slightly adapted for some with SIBO.





## Foods to avoid during phase 1

- ☐ It's important to stick with a total elimination of the foods on the “avoid” list for this period:
  - ☐ Fructose: some fruit and fruit juices, honey, processed cereals, baked goods, high-fructose corn syrup, maple syrup, processed sugars
  - ☐ Lactose: conventional dairy and processed products with dairy and added lactose
  - ☐ Fructans: wheat, garlic, onion, asparagus, leeks, artichokes, broccoli, cabbage
  - ☐ Galactans: legumes, cabbage, Brussels sprouts, soy
  - ☐ Polyols: sorbitol, isomalt, lactitol, maltitol, xylitol, and erythritol, commonly found in sugar-free gum, mints, and some medications

## Foods to enjoy during phase 1

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Almond or coconut milk | <input type="checkbox"/> Tomatoes                       | <input type="checkbox"/> Pineapple            |
| <input type="checkbox"/> Leafy greens           | <input type="checkbox"/> Bananas                        | <input type="checkbox"/> Strawberries         |
| <input type="checkbox"/> Squash                 | <input type="checkbox"/> Blueberries                    | <input type="checkbox"/> Quinoa               |
| <input type="checkbox"/> Carrots                | <input type="checkbox"/> Grapes                         | <input type="checkbox"/> Sprouted nut butters |
| <input type="checkbox"/> Cucumbers              | <input type="checkbox"/> Cantaloupe and honeydew melons |   |

The goal of the SIBO diet is to repair the intestinal lining, ease inflammation, get rid of the bacterial overgrowth and eat a diet rich in the essential nutrients that your body hasn't been absorbing. During the elimination phase, keep a supply of foods from the enjoy list on hand; if you slip and consume any FODMAPS, it's suggested to start the two-week period again.

High-quality clean proteins are easy to digest — and will give your body essential nutrients and energy. While somewhat limited during the FODMAPS elimination, you can still enjoy some fruits, including tomatoes, bananas, grapes, blueberries, strawberries, cantaloupe, honeydew melons and pineapple.

As your body heals from SIBO, eating fresh pineapple, which is rich in bromelain, each day can help lower inflammation while helping digestion. Bromelain has health benefits, particularly for those with digestive disorders, allergies, asthma, and joint pain.

In addition to pineapple, bananas help improve digestive health and boost energy levels. They're a good source of both potassium and manganese, which the body needs while healing from SIBO. They will need to be avoided in cases of blood sugar imbalance. Carrots, cucumbers, leafy greens, squash, quinoa, and sprouted nut butters are also on the enjoy list. Don't get in a rut eating only certain foods during this first phase; be as diverse as possible.





## **Dr. Ritamarie's Modified SCD and FODMAP Diet for SIBO include SCD allowed foods**

- ☐ Exclude all but Low FODMAP foods initially
- ☐ Exclude all processed foods
- ☐ Exclude dried fruits
- ☐ Exclude all fruit juice
- ☐ Exclude all alcohol
- ☐ Exclude caffeine
- ☐ Exclude all dairy
- ☐ Exclude all gluten
- ☐ Only organic, pastured animal foods

See Dr. Ritamarie's modified SCD and low FODMAP Diet information for a complete list.

<http://www.drritamarie.com/go/SIBODietGuidelines>