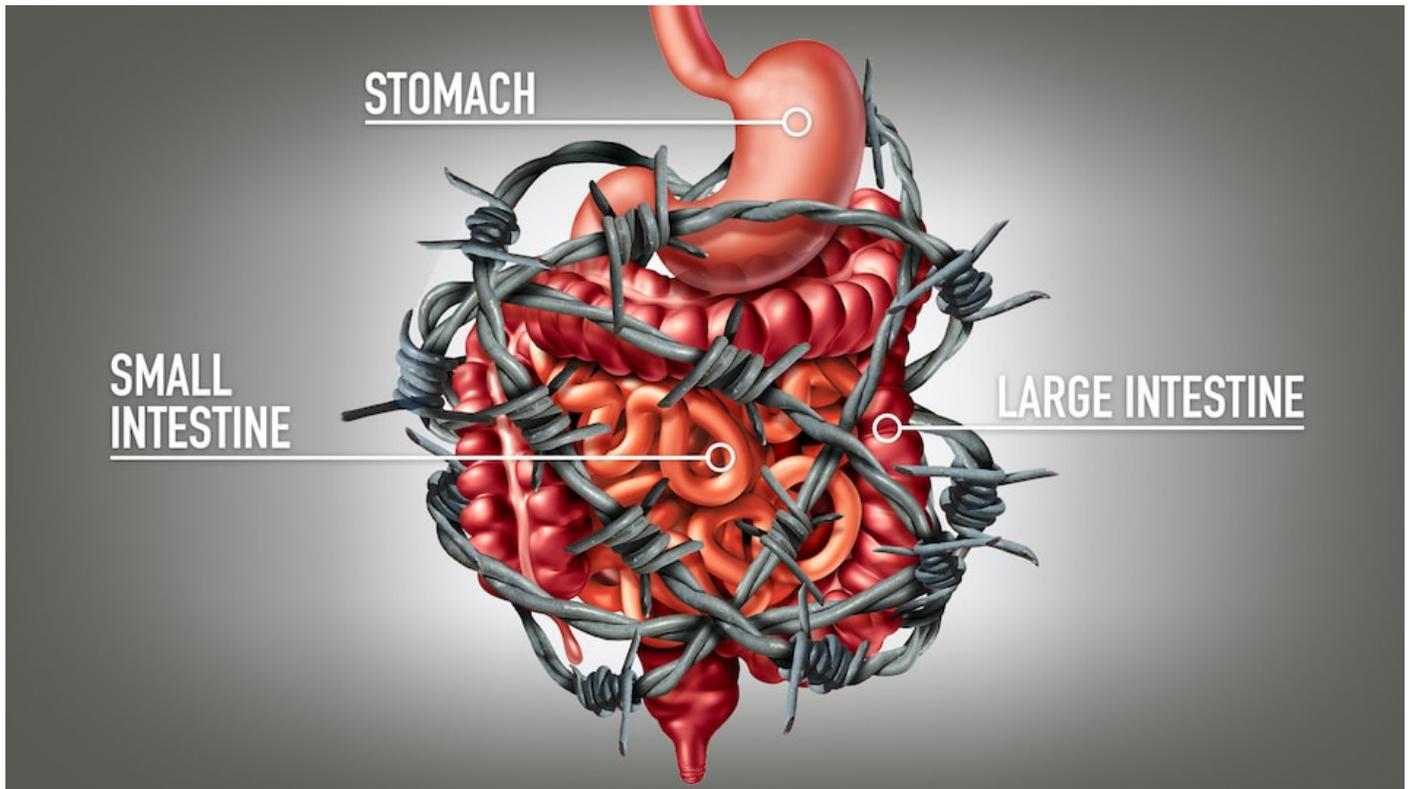


Understanding Small Intestinal Bacterial Overgrowth (SIBO)

If you frequently feel bloated after eating or you experience repeated bouts of abdominal pain or discomfort, gas, cramps, diarrhea, or constipation, you probably already suspect dysfunction in your gastrointestinal (GI) tract, also known as your digestive system or “gut.” However, the problem may not be with your digestive system itself but what is inside a part of it, specifically the microorganisms living in your small intestine.

The *small intestine* is a narrow tube-like organ approximately 20 feet long that connects the stomach to the large intestine and is responsible for extracting most nutrients from food. The *large intestine* is a much wider and shorter tube-like organ that primarily absorbs water from undigested food and carries solid waste out of the body.



Bacteria and other microorganisms (both beneficial and potentially harmful) naturally reside in both the small and large intestines. Beneficial microbes perform essential functions, such as producing nutrients that the body cannot obtain from food alone. However, when bacteria (good or bad) multiply too fast in the small intestine, it leads to a condition called *small intestinal bacterial overgrowth (SIBO)*, which results in symptoms described at the beginning of this post.

Left untreated, SIBO can lead to nutritional deficiencies, unplanned weight loss, and osteoporosis. SIBO can also damage the lining of the small intestine, which can cause *increased intestinal permeability (aka leaky gut)* – a condition in which large protein molecules pass through the intestine into the bloodstream, triggering immune reactions that can result in food allergies or sensitivities, chronic inflammation, and autoimmune diseases.

If you have been experiencing any of the symptoms of SIBO, you have probably tried numerous over the counter and prescription medications to treat the symptoms – antacids, laxatives, and anti-diarrheal preparations. Perhaps they helped for a short time, but they probably did not provide the long-term relief you were searching for. That's because these medications treat only the symptoms, leaving the root cause untouched.

With SIBO, it's very important to treat the condition at the root instead of masking the symptoms.

Who is at Risk for SIBO?

Several factors place a person at an increased risk of developing SIBO, including the following:

- Narcotic medications
- Anti-spasm medications, such as those used to treat irritable bowel syndrome (IBS)
- Long-term use of proton pump inhibitors (PPIs), a commonly prescribed and over the counter class of medicines for reducing stomach acid and treating heartburn
- *Hypochlorhydria* – a condition in which the stomach produces insufficient stomach acid
- Frequent use of antibiotics, which can alter the balance of bacteria in the small intestine
- A compromised immune system
- Excess sugar or alcohol, which feed bacteria
- Certain chronic, systemic illnesses, such as diabetes, lupus, or scleroderma (a condition that affects the connective tissues)
- *Diverticulosis* – tiny bulging pouches (diverticula) in the small intestine
- Irritable bowel syndrome (IBS), which is typically caused by SIBO or by an inflammatory bowel disease (IBD) such as

Crohn's

- Long-term celiac disease (gluten intolerance)
- *Gastroparesis* – a condition that affects the stomach muscles or nerves, inhibiting proper muscle function, which results in the inadequate grinding of food and the impaired emptying of the stomach contents into the small intestine
- Organ system dysfunction, including cirrhosis, renal failure, and pancreatitis
- Surgery that has changed the small intestine's structure, such as gastric bypass surgery
- Scar tissue in the small intestine as the result of radiation therapy or multiple abdominal surgeries
- *Amyloidosis* – a buildup of amyloid protein deposits in the small intestine that changes its structure

Diagnosing Small Intestinal Bacterial Overgrowth and Its Underlying Causes

SIBO is easy to diagnose through the use of non-invasive hydrogen and methane breath testing. During the test, you drink a small amount of test sugar and then blow air into a bag at regular intervals. Tests results indicate whether you have SIBO.

At BioDesign Wellness Center, we also perform the following tests:

- **Blood tests for vitamin and mineral levels:** SIBO can affect vitamin and mineral levels in two ways. First, if SIBO damages the lining of the small intestine, it can inhibit the absorption of nutrients from food. Second, bacteria in the gut produce many vitamins; if certain vitamin-producing bacteria are crowded out by other bacteria, low levels of that vitamin will result. As gut health and function are restored, we supplement with vitamins and minerals to ensure that all cells in the body

are receiving proper nutrition.

- **Physical exam to assess vagus nerve function:** A weak gag reflex is an indication that vagus nerve function is impaired. The vagus nerve stimulates the stomach muscles. If the nerve isn't signaling the stomach muscles to contract, *motility* issues arise. (*Motility* refers to the muscle contractions that mix and propel the contents of the stomach through the gastrointestinal tract.) Any vagus nerve function impairment must be addressed.
- **Gastrointestinal Microbial Assay Plus (GI MAP) stool testing:** This non-invasive stool test uses DNA technology to identify parasites, bacteria, and viruses and assesses overall digestive function. This test shows the composition of gut microbes, so we can work on re-establishing a healthy balance of good bacteria in the gut.

Treating Small Intestinal Bacterial Overgrowth

Conventional treatments for Small Intestinal Bacterial Overgrowth are often limited to the use of antibiotics and dietary restrictions (including avoiding FODMAPs, as explained later in this post). However, this treatment approach has severe limitations. Underlying causes of SIBO must be addressed, including these common causes:

- History of constipation, often stemming from a sluggish gallbladder, which leads to poor digestion of fats
- Emotional stress, which impacts serotonin levels in the gut thus altering gut motility
- Chronic stress, which alters the response of the vagus nerve, impacting digestion
- Low stomach acid, which results in poor digestion of protein, allowing for putrefaction in the gut
- Chronic infections (such as sinus and urinary tract

infections) that increase dependence on antibiotics, which negatively impact gut health

- Use of proton pump inhibitors (PPIs) to reduce the production of stomach acid, a common treatment for acid reflux or gastroesophageal reflux disease (GERD), which can cause or contribute to SIBO

An effective SIBO treatment plan needs to address not only the bacterial overgrowth but also all the underlying causes of that overgrowth; for example:

- **A sluggish gallbladder**, far more common in women than in men, often goes undiagnosed because the problem is subclinical. In fact, the majority of women we see with gallbladder issues have no readily detectable medical findings associated with a gallbladder problem. It's not until we perform a history and physical exam during our initial consultation that the problem is identified. The signs are vague – bloating after eating (similar in SIBO), feeling poorly after eating a fatty meal or fried food, experiencing shoulder pain (referred from the gallbladder), stomach pain, heartburn (often coming from poor gallbladder function), constipation, or loose stools (again like SIBO). Dietary changes and supplements can be used to restore gallbladder function.
- **Improperly digested fats** set the stage for bacterial overgrowth and inflammation in the digestive tract. Although carbohydrates are often identified as the prime suspects behind SIBO because they feed bad bacteria in the gut, we have found clinically that fat digestion is just as important and often overlooked. Treatments to improve liver and gallbladder function along with short-term supplementation with pancreatic enzymes and long-term changes to diet can improve fat digestion.
- **The vagus nerve** can lose its *tone* when the brain is

subjected to chronic stress. Think of tone in terms of tuning a musical instrument. The vagus nerve needs to be tuned to produce the proper tone for signaling digestion. When subjected to chronic stress, the brain signals for cortisol and adrenaline, which alters the tone of the vagus nerve over time leading to impaired digestion. There are exercises to stimulate the vagus nerve as well as nutrients to calm the mind, thereby restoring vagus nerve tone and function.

In each of these cases, treating the underlying cause of small Intestinal Bacterial Overgrowth, in addition to reducing the microbial population in the small intestine, leads to a better long-term outcome.

What About the Low FODMAP Diet?

FODMAPs are foods containing hard-to-digest carbohydrates and sugar alcohols. (FODMAP stands for **F**ermentable **O**ligo-, **D**i-, **M**ono-saccharides **A**nd **P**olyols.) The low FODMAP diet is typically used to treat IBS and other functional gastrointestinal disorders (FGIDs), but it can be very useful in SIBO treatment, as well. Keep in mind, however, that diet is only one of the many possible contributing factors – all contributing factors must be addressed.

For many people with SIBO there are a few commonly known trigger foods, so not all FODMAP foods need to be avoided or eliminated from the diet. In fact, a diet that is too restrictive can lead to nutritional deficiencies and cause people to abandon the diet altogether. In our experience, the most common trigger foods for SIBO are:

- Dairy
- Garlic
- Onions

Every person is different, so we work closely with patients to identify their trigger foods and make targeted dietary adjustments, so the diet is easier to adopt.

What are the Treatment Options for SIBO?

At BioDesign Wellness Center, we don't believe in masking your symptoms with dangerous medications. We realize it's important to treat not only the bacterial overgrowth but also the conditions that may have caused that overgrowth. Our treatments are tailored to the individual and may include the following:

- Modifying the diet
- Increasing physical activity to increase motility (the movement of food and waste products through the digestive system)
- Using pre- and probiotics to restore a healthy balance of gut microbes
- Addressing any nutritional deficiencies
- Restoring healthy immune function
- Restoring healthy gallbladder function
- Restoring healthy nerve function (which impacts motility)

We'll utilize the 5 Pillars of Health to balance your gut bacteria and treat your SIBO effectively. Our doctors know how to prevent your SIBO from coming back, and you'll be able to enjoy a life free of bloating, gas, diarrhea, and other unpleasant symptoms.

Contact Us Today to Control Your SIBO

If you've been unsuccessful treating your SIBO with a traditional approach, our doctors can probably help to eliminate your symptoms once and for all. By understanding the 5 Pillars of Health and making changes in your lifestyle, you'll be able to live a life free of SIBO once and for all. Call our customer

experience manager, Lori, at (813) 445-7770 to schedule a consultation.

Disclaimer: *The information in this blog post about Small Intestinal Bacterial Overgrowth (SIBO) is provided for general informational purposes only and may not reflect current medical thinking or practices. No information contained in this post should be construed as medical advice from the medical staff at BioDesign Wellness Center, Inc., nor is this post intended to be a substitute for medical counsel on any subject matter. No reader of this post should act or refrain from acting on the basis of any information included in, or accessible through, this post without seeking the appropriate medical advice on the particular facts and circumstances at issue from a licensed medical professional in the recipient's state, country or other appropriate licensing jurisdiction.*