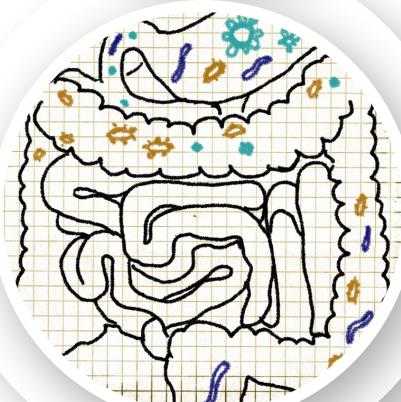


SIBO PROTOCOL

2nd Ed.

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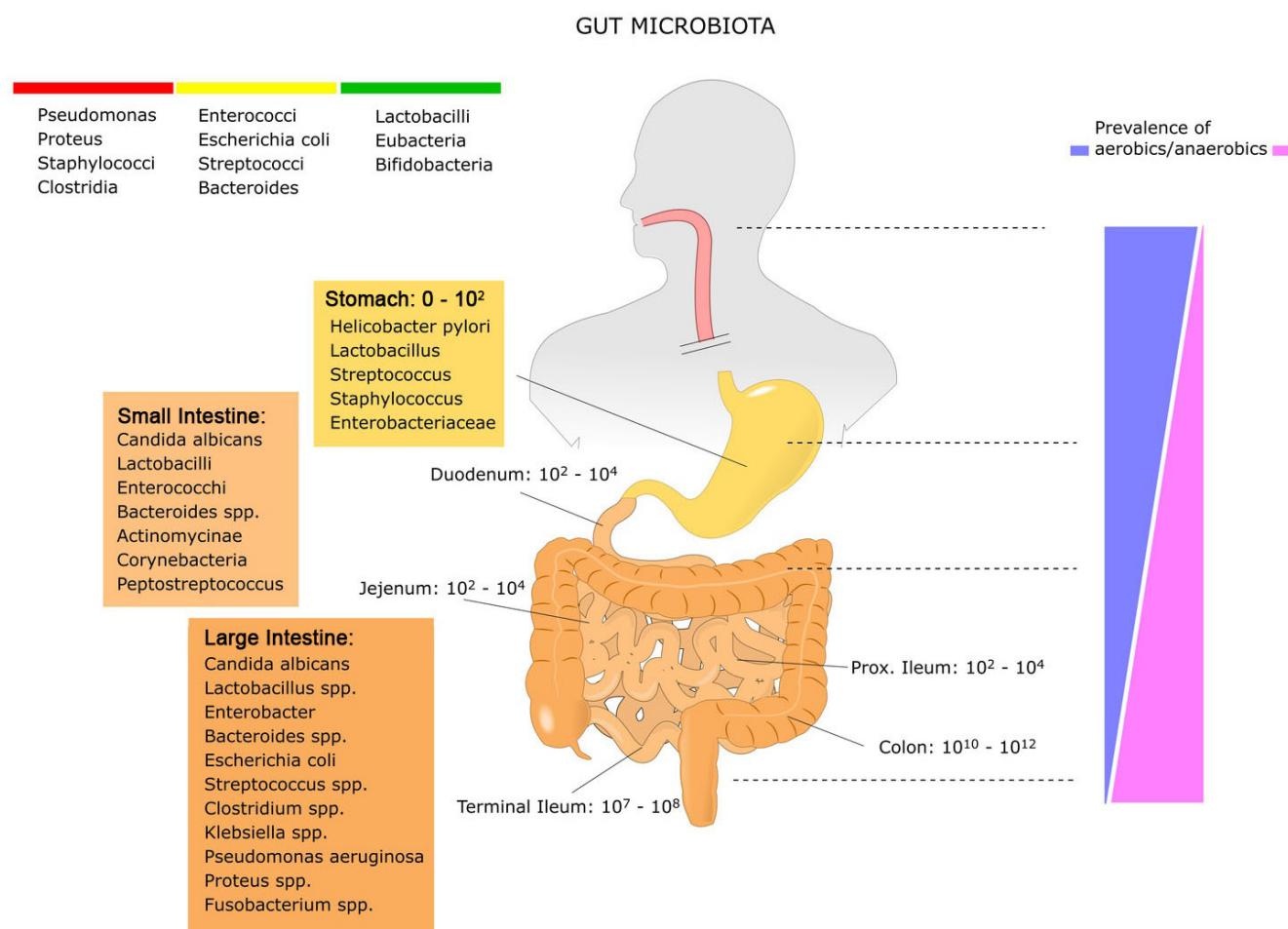
Small Intestine Bacterial Overgrowth (SIBO) is a condition in which abnormally high amounts of commensal bacteria are present in the small intestine. These bacteria ferment the food we eat and produce gases (predominantly hydrogen, methane, and hydrogen sulfide), which result in symptoms characteristic of Irritable Bowel Syndrome (IBS) such as abdominal distension, flatulence, eructations, acid reflux, diarrhea and/or constipation.

The bacterial overgrowth can also result in nutrient deficiencies due to malabsorption, contribute to intestinal hyperpermeability (“leaky gut”), and promote systemic inflammation, which may consequently lead to the more serious chronic diseases that damage vasculature. In fact, studies have shown that people tested positive for SIBO had increased risks in coronary artery disease ^[12] and deep vein thrombosis ^[13], and more serious complications from diabetes ^[14] and kidney disease ^[15].

Studies have demonstrated that SIBO may be the underlying cause of symptoms in 50 – 84% of IBS cases, and eradication of the bacterial overgrowth results in significant reduction in these symptoms. SIBO is also now recognized as causative or associated with myriad of conditions, ranging from rosacea and GERD to fibromyalgia and Parkinson’s disease.

Normally the small intestine has low bacteria counts, which are kept low through the following mechanisms:

- **Above the Small Intestine:** Hydrochloric acid in the stomach prevents overgrowth
- **Within the Small Intestine:**
 - Pancreatic and brush-border enzymes → break down complex carbohydrate and promote absorption → reduce nutrient availability for bacteria



- o Bile acids and pancreatic enzymes prevent overgrowth
- o Intact gastrointestinal immune function (ie. IgA)
- **Below the Small Intestine:** Ileocecal (IC) valve separates colon from the small intestine
- **Migrating motor complex (MMC):** a neuromuscular activity periodically sweeps through to 'cleanse' the small intestine of bacteria growth

It is important to be able to recognize the signs and symptoms of SIBO, when to run diagnostic tests, and the proper choice of treatment for each individual patient.

Causes of SIBO

Bacterial overgrowth occurs when intestinal stasis gives bacteria the opportunity to proliferate locally. There are a number of different factors that can lead to the development of SIBO:

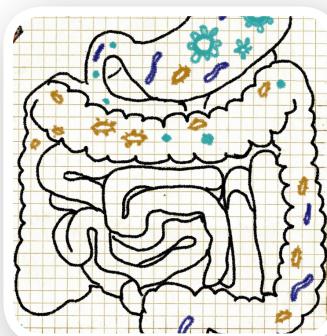
- **Infectious Gastroenteritis:** bacterial toxins (acute) and post-infectious autoimmunity can both compromise the integrity of the gut linings and MMC
- **Compromised Digestion:** hypochlorhydria, pancreatic enzyme and/or bile insufficiency, *Helicobacter pylori* infection
- **Neuropathy:** complications of diabetes, Parkinson's disease, multiple sclerosis
- **Iatrogenic:** post-surgery, opiate medication, proton pump inhibitors/antacids
- **Mechanical/Structural Dysfunction:** strictures, adhesions, space-occupying lesions, congenital anatomical abnormalities, diverticulitis, gynecological conditions (eg. endometriosis, ovarian cysts), ileocecal valve dysfunction
- **Others:** hypothyroidism, chronic stress (sympathetic nerve dominance), low secretory IgA

Did You Know?

SIBO often develops following a bout of gastroenteritis (**an estimated 7-31% of GI infections will develop SIBO**).

These bacteria (eg. *Campylobacter jejuni*, *E. coli*, *Clostridium spp.*) secrete neurotoxins that impair nerve conduction and inactivate the MMC. Some other toxins (eg. CdtB), through molecular mimicry, can trigger autoimmunity and, consequently, damage the MMC.

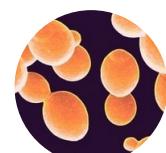
Good & Bad Bacterial Flora



GOOD



Bifidobacteria



Saccharomyces spp.



Lactobacilli

BAD



Campyloacter



Escherichia Coli



Clostridium difficile



Circle the score of the situation(s) that best describe your symptoms, and add them up to yield a score in the end.

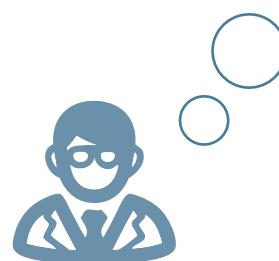
QUESTIONS	SCORES
1. How often did you have discomfort or pain anywhere in your stomach/abdomen? (If your answer is NEVER, please skip to #3)	
a. Quite often (more than 3 times/week)	2
b. Sometimes (about 1-2 times/week)	1
c. Rarely or Never	0
2. How long have you had this discomfort?	
a. Less than 2 weeks	0
b. 2 weeks to 2 months	1
c. More than 2 months	2
3. How often do you have loose/watery stool?	
a. Rarely or Never	0
b. Occasionally	1
c. 1-2 times/week	2
d. More than 3 times week	4
4. Do you have constipation?	
a. Yes (< 4 bowel movements/week)	4
b. No	0
5. How often do you have difficulty having a bowel movement (straining, feeling that you have not finished)?	
a. Rarely or Never	0
b. Occasionally	1
c. 1-2 times/week	2
d. More than 3 times/week	3
6. How long does it usually take you to finish passing stool?	
a. Less than 5 minutes	0
b. 5-10 minutes	1
c. More than 10 minutes	3
7. Do you have loose/watery stool alternating with constipation/hard stool?	
a. Yes	3
b. No	0
8. How often did you feel bloated after meals?	
a. Rarely or Never	0
b. Occasionally (1-2 times a month)	1
c. About once a week	2
d. Almost everyday	4
SUBTOTAL A:	

QUESTIONS	SCORES
9. Are you lactose intolerant?	
a. Yes	2
b. No	0
10. Do you have chronic anemia (ie. iron or B12 deficient) with no apparent cause?	
a. Yes	2
b. No	0
11. How often do you belch within an hour AFTER meals?	
a. Rarely	0
b. Occasionally (1-2 times a week)	1
c. More than 3 times a week	2
d. Almost every meal	4
12. How often do you feel that you have a problem with passing too much gas?	
a. Rarely or Never	0
b. 1-3 days/week	1
c. Everyday	2
13. How often do you have gastroesophageal acid reflux (GERD)?	
a. Rarely or Never	0
b. Occasionally (1-2 times a month)	1
c. Once a week	2
d. More than twice a week	3
14. How often did you have foul-smelling (eg. rotten-egg), and/or floating stool?	
a. Rarely or Never	0
b. Occasionally	1
c. 1-3 days/week	2
d. Everyday	3
15. Were you on any of the medications for stomach discomfort or acid reflux, such as antacids and proton pump inhibitors?	
a. No	0
b. Yes	1
16. Do you have multiple food sensitivities/intolerances?	
a. No	0
b. Yes	3
SUBTOTAL B:	

QUESTIONS	SCORES
17. Have you been diagnosed with any of the following conditions? (May select more than one)	
<input type="radio"/> Celiac Disease	2
<input type="radio"/> Hypothyroidism	3
<input type="radio"/> IBS	4
<input type="radio"/> H. pylori infection	2
<input type="radio"/> IBD (Ulcerative Colitis or Crohn's Disease)	1
<input type="radio"/> Rosacea/acne rosacea	2
<input type="radio"/> Diabetes	1
<input type="radio"/> Scleroderma	1
<input type="radio"/> Chronic fatigue syndrome/Fibromyalgia	2
<input type="radio"/> Restless Leg Syndrome	2
<input type="radio"/> Liver Cirrhosis	1
18. Have you been having difficultly gaining weight despite good appetite?	
a. No	0
b. Yes	2
19. What are your daily average stress levels on a scale of 1 to 10 (10 being the most stressed you have ever been)?	
a. 5 or less	0
b. 6-8	1
c. 9-10	2
20. Have you had these gut problems since a bout of gastroenteritis (ie. food poisoning, vomiting & diarrhea, traveller's diarrhea)?	
a. No	0
b. Yes	2
21. Have you been experiencing any of the following: anxiety, depression, poor sleep quality/insomnia, mood swings, and irritability?	
a. No	0
b. Yes	2
SUBTOTAL C:	
TOTAL (A+B+C):	

SCORING:

- **Score 19-73:** SIBO highly likely
- **Score 8-18:** SIBO likely, but other conditions are also possible
- **Score < 8:** Symptoms may not be due to SIBO, and other conditions should be considered



SIBO can be measured both directly and indirectly.^{[2]-[5]} The direct test involves endoscopy and culture, while the more common breath test is an indirect measure.

Endoscopy & Culture

Endoscopy and culture is widely considered the gold standard for SIBO testing, as it directly detects the presence of bacteria in the small intestine. However, there are several limitations to this test.

Aside from being expensive and invasive, endoscopy only samples the proximal small intestine, potentially missing the diagnosis of distal overgrowth, which some researchers posit to be the more common type. Furthermore, anaerobic bacteria are not readily cultured, and there is potential for contamination from other mucous membranes.

And finally, there is no globally agreed upon cut-off for what is considered a positive test. Most studies consider levels of 10^5 cfu/mL (colony forming unit/milliliters) as positive results, while others consider the cut-off anywhere from 10^4 to 10^7 cfu/mL. For these reasons, endoscopy is not commonly employed in the clinical setting.

Breath Test

Breath testing is the most common and cost-effective diagnostic tool for SIBO. Bacteria produce hydrogen and methane gases as a by-product of fermentation, and these gases can be detected in a breath sample. While this is an indirect measure, it does give clinically useful information, such as which gases are present and roughly where they are located, and as such is the best clinical test for SIBO.

Substrates:

There are a variety of substrates that can be used for detecting SIBO, including glucose, lactulose, and ^{14}C (isotope) xylose. Glucose is readily absorbed in the proximal small intestine, so it is not useful for detecting distal SIBO. For this reason it is not recommended as an ideal substrate. Lactulose is a non-absorbable sugar that is readily fermented by intestinal bacteria. Because it is not absorbed, it traverses the length of both the small and large intestines, allowing for measurement of gas by-products produced along the length. Lactulose is the most commonly used substrate for breath testing.

Antibodies to Bacterial Cytotoxins & Cytoskeletal Proteins [Autoimmune]

Testing for the presence of anti-bacterial cytotoxins, such as anti-CdtB (cytolytic distending toxin B), and anti-cytoskeletal proteins (eg. anti-vinculin) can help rule in/out the potential association with post-infectious causes of SIBO.

CdtB is a potent exotoxin secreted by pathogenic bacteria such as *Shigella*, *E.coli*, *Campylobacter jejuni*, and *Salmonella*. It is involved in the breakdown of intercellular junctions by disintegrating the cytoskeletal polymers of the enterocytes. CdtB is also a DNAase that can directly damage DNA and potentially cause neoplasm in affected cells.

The presence of anti-cytoskeletal proteins may indicate an autoimmune reaction towards the intercellular junctions as the result of molecular mimicry between bacterial cytotoxins and cytoskeletal proteins.

While this test does not replace the lactulose breath test, it can be helpful to confirm if the SIBO is autoimmune in origin and monitor the integrity of intestinal linings as treatment progresses.

Test Length:

Although some labs still offer a 2-hour test, it is best to perform a 3-hour test in order to assess the full length of the small and large intestines.

Gases Measured:

The breath test should measure the presence of both hydrogen (H_2) and methane gases (CH_4), as well as CO_2 (for validating sample collections). Labs that only measure hydrogen are insufficient, as treatment approaches may vary depending on which gases are elevated.

Currently hydrogen sulfide gas is not detected using standard breath test labs.

Test Preparation:

The breath test typically requires a 12-hour prep diet and a 12-hour fast. The prep diet is restricted to white rice, poultry, meat, fish, eggs, hard cheeses, clear beef or chicken broth, oil, salt, and pepper; vegetables, fruits, and other carbohydrate-rich foods should be avoided. The rationale for a prep diet is to minimize the presence of fermentable foods in order to obtain a clear baseline. The following morning the patient would take a baseline sample and then consume the lactulose solution. They would then collect samples every 20 minutes for 3 hours.



Interpretations:

A rise in hydrogen of ≥ 20 p.p.m. by 120 minutes during SIBO breath test is considered positive. Methane levels ≥ 10 p.p.m. is considered methane-positive. For methane-positive patients, the clinician should take into account of the slowed GI transit time caused by methanogens, and therefore, might need to look at both methane & hydrogen levels beyond 120 minutes.

Limitations:

While the 3-hour lactulose breath test is the best available, there are still limitations:

- Indirect measure for SIBO
- No global consensus of what constitutes a positive result
- Significant number of false positive and false negative results
- May not detect presence of non-hydrogen or methane producing bacteria (eg. hydrogen-sulfide producing)
- Inconvenient preparation prior to the test (ie. a 12-hour prep diet and a 12-hour fasting)



Is Glucose Really More Sensitive than Lactulose?

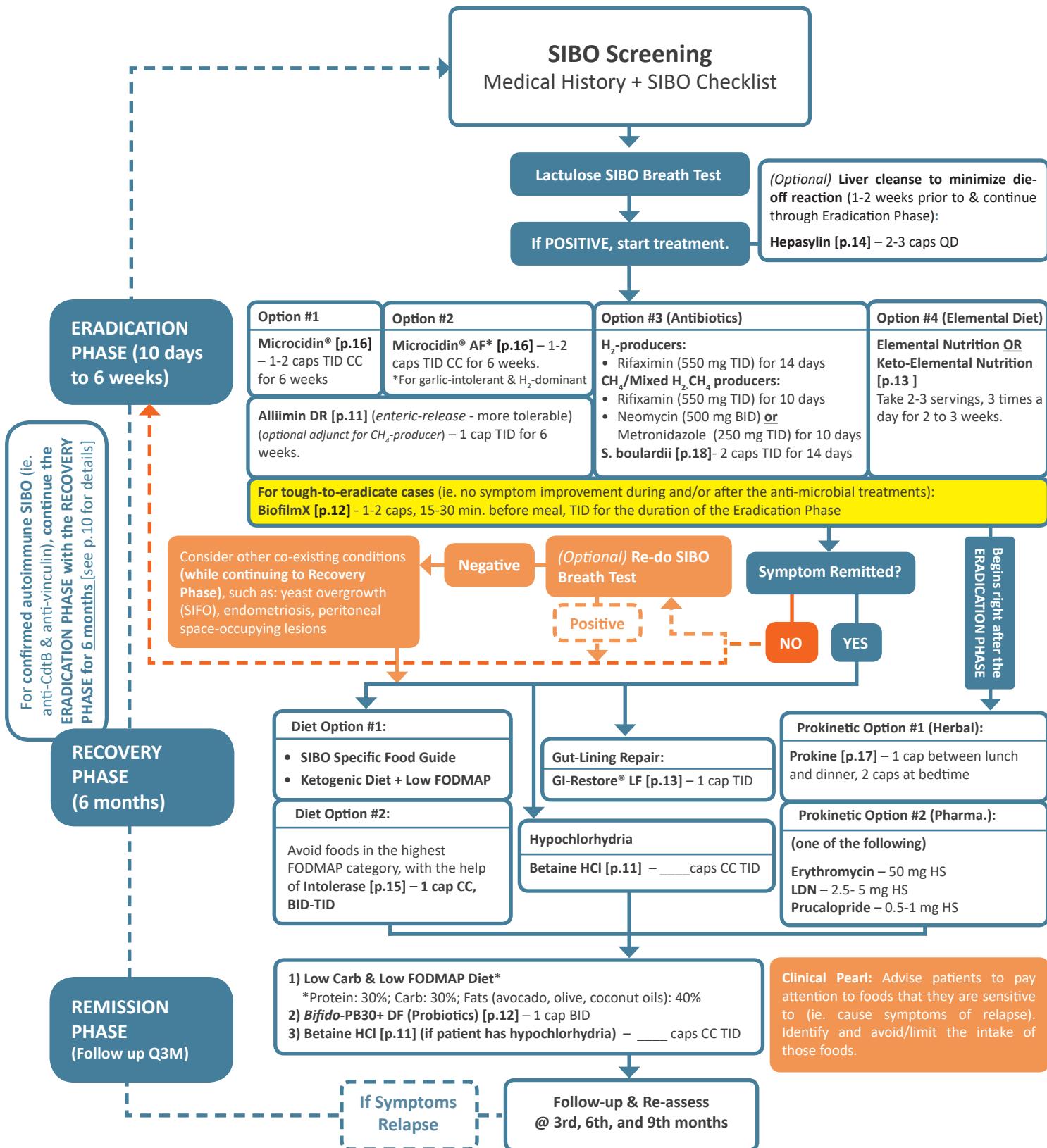
Some studies note that glucose has a higher sensitivity than lactulose in detecting SIBO. However, this is because it is compared to the 'gold standard' of endoscopy and culture, which only detects the proximal SI. Glucose is readily absorbed so it also only detects the proximal SI, therefore leading to the perceived higher sensitivity.



Limitations of Organic Acids Test (OAT)

The Organic Acids Test (OAT) offers a comprehensive metabolic snapshot of a patient's overall health with many biomarkers.

Although it provides the evaluation of intestinal yeast and bacteria, OAT can only indirectly tell you if you have a bacterial overgrowth. It cannot tell you where the overgrowth is occurring, and thus can only be used as a preliminary test to assess health, NOT to be used to diagnose SIBO.



Adapted From Dr. Siebecker's SIBO Treatment Algorithm. Reference: Siebecker A, Sandberg-Lewis S. Small Intestine Bacterial Overgrowth: Often-Ignored Cause of Irritable Bowel Syndrome. Townsend Lett. 2013;(February/March), p85-91. <http://www.townsendletter.com/FebMarch2013/ibs0213.html>



V



Sample Prescription #1

Prep. Phase (1-2 weeks):

- Hepasylin - 2 caps QD. Total: 1 bottle

Eradication Phase (6 weeks):

- Microcidin® - take 2 caps, TID, CC.
Total: 3 bottles
- BiofilmX - take 1 cap, TID, 15-30 min. before meal. Total: 2 bottles

Recovery Phase (6 months):

- Prokine - take 1 cap between lunch & dinner, and 2 caps at bedtime (3 caps/ day).
Total: 4 bottles
- GI-Restore® LF - take 1 cap AC, TID.
Total: 6 bottles
- Intolerase - take 1 cap CC, TID.
Total: 6 bottles
- Betaine HCl - take 1 cap CC, TID.
Total: 3 bottles

Remission Phase (3 months):

- Bifido-PB30+ DF - take 1 cap BID.
Total: 4 bottles
- Betaine HCl - take 1 cap CC, TID.
Total: 2 bottles



Sample Prescription #2

Prep. Phase (1-2 weeks):

- Hepasylin - 2 caps QD. Total: 1 bottle

Eradication Phase (10 days):

- Rifaximin - take 550 mg, TID
- Metronidazole - take 250 mg, TID (CH_4)
- BiofilmX - take 1 capsule, TID, 15-30 min. before meal. Total: 1 bottle
- S. boulardii - take 2 capsules, TID with antibiotics. Total: 2 bottles

Recovery Phase (6 months):

- Prucalopride - take 0.5-1 mg HS.
- Betaine HCl - take 1 cap CC, TID.
Total: 3 bottles
- GI-Restore® LF - take 1 cap, TID.
Total: 3 bottles

Remission Phase (3 months):

- Bifido-PB30+ DF - take 1 cap BID.
Total: 4 bottles
- Betaine HCl - take 1 cap CC, TID.
Total: 2 bottles

Elemental Diet - An Alternative to Anti-Microbials

- **Elemental Nutrition [p.13]** - An elemental diet consists of only pre-digested/elemental nutrients (ie. amino acids, simple carbohydrates, medium chain triglycerides), and essential vitamins and minerals.

It can be used as the sole source of nutrition for a limited period of time **in place of antimicrobials in the Eradication Phase** to significantly decrease the bacterial overgrowth.

A clinical trial [16] demonstrated that a two-week, as well as a three-week, exclusive elemental diet was able to normalize the lactulose breath test (LBT) results in 80% and 85% of SIBO-positive patients, respectively.

It can also be used in Crohn's disease patients whose ability to digest and absorb is compromised.

- **Keto-Elemental Nutrition [p.13]** - For patients with duodenal overgrowth or co-existing fungal overgrowth, even simple carbohydrates like maltodextrin can potentially be utilized by the bacteria/fungi before they can be absorbed by the body.

By incorporating ketogenesis in Elemental Nutrition, we can further limit the food sources of the bacterial overgrowth, as well as providing a better sense of satiety.

Dosing Calculator

Determine
The Daily
Serving Size
of Elemental
Nutrition for
Your Patient





High Recurrence Rate - A Challenge for Both Patients & Doctors

One study showed that the recurrence rates of SIBO were 12.6% at 3 months, 27.5% at 6 months, and 43.7% at 9 months after successful antibiotic treatment.^[6] Clinically, common SIBO relapse timeframes are about 2.5 months or even shorter unless the underlying causes are treated.

There are many underlying causes for SIBO recurrences, such as old age, chronic use of proton pump inhibitors (PPIs)^[6], metabolic syndrome^[7], immune dysfunction (eg. post-infectious autoimmunity), chronic neuro-degenerative diseases, and inability to comply with dietary changes.

Enhance Dietary Compliance

Poor compliance is a common theme in all SIBO-specific diets (eg. low-FODMAP diet), especially when patients are required to stay on such diets beyond 3 months. Additionally, there is often a lot of anxiety and stress associated with the regimen, which can potentially negate all the beneficial effects from the diet because stress and anxiety suppress our digestion and gut motility.^[9] Also, any undigested carbohydrates can become the fuel to further feed the bacterial overgrowth and exacerbate SIBO symptoms.

To prevent SIBO recurrences, not only do we need to reduce FODMAP availability in our diet, but also ensure timely & complete digestion of carbohydrates because any partially digested carbohydrates can further feed the bacterial overgrowth present in the duodenum and proximal part of the jejunum.

Most digestive enzyme supplements can only cover 10-20% of estimated daily intakes of common FODMAPs, which is not enough to prevent SIBO recurrence. **Intolerase [p.15]**, on the other hand, is formulated to reach the target of covering 70-100% of daily FODMAP intakes. It provides an easy-to-comply alternative to low FODMAP diets and eases the stress and anxiety associated with foods during the SIBO recovery phase.

Minimize Bacterial Survival

Incorporating **betaine hydrochloride [p.11]** with each meal, especially in those with suspected hypochlorhydria, can greatly reduce the chance of bacteria survival in the stomach and the duodenum.

Bitter herbs may also be used to promote digestive juice production (ie. stomach acid, bile, and pancreatic enzymes) to limit bacterial growth in proximal small intestine.

Improve Psychosomatic Aspects of SIBO

Despite the fact that SIBO is an ‘organic’ disease, there is no denying its psychosomatic association.

Our mood and mental status can affect the activities of our enteric nervous system (ENS) via the autonomic nervous system (ANS) – namely sympathetic (SNS) and parasympathetic nervous systems (PNS).

The PNS is responsible for stimulation of the “rest-and-digest” or “feed-and-breed” activities including sexual arousal, urination, digestion and defecation. When there is a stress/alarm (eg. fight-or-flight) situation, our SNS will become activated to override the PNS and ENS and **inhibit all GI activities (i.e. peristalsis and MMC function; secretions of stomach acid, mucus, enzymes, and bile)**^[9]. Therefore, when people are under stress, they will often have symptoms of indigestion, nausea/vomiting, and constipation/diarrhea.

Herbal adaptogens (ie. **Adrenergyn® [p.11]**) and calmatives (ie. **Resolaxin [p.18]**) are great at assisting the body with shifting from the SNS-dominant state to the PNS-dominant state to help restore the MMC function of the gut.



Implementing PNS-stimulating activities, such as meditation, yoga, and breathing exercises, can also promote the PNS state. In addition, there are specific exercises that can directly stimulate the vagal nerve, which in turn can help shift the ANS from SNS to PNS: gargling, singing, swallowing (ie. drinking in small sips).

Addressing the Autoimmune Components of SIBO

Some SIBO cases, especially the chronically recurrent **diarrhea and mixed types**, might be of unclear autoimmune origins. The current consensus attributes the history of post-bacterial gastroenteritis to be the main cause of autoimmune SIBO.^[8] As aforementioned in the ‘Diagnostic Testing’ [p.5], bacteria like *Shigella*, *E. coli*, *Campylobacter jejuni*, and *Salmonella* are known to release cytotoxins (ie. cytolethal distending toxin B [CdtB]) into the enterocytes, disrupting the actin filaments and intercellular junctions^[10], and directly damaging the DNA’s.^[11]

Furthermore, through CdtB’s molecular mimicry to the cytoskeletal proteins of the enterocytes (ie. vinculin, zonulin, actin), these bacteria could cause a cascade of immune response attacking both the cytotoxins (ie. antibodies) and the cytoskeleton (ie. auto-antibodies) and continue to destroy the entero-linings at a much greater extent even after the pathogens were eradicated. **As the damage continues to occur, the gut MMC function cannot be restored, consequently causing the recurrence of SIBO, as well as the increased susceptibility to future infectious gastroenteritis, creating a vicious cycle of infections.**

Once the autoimmune origin of SIBO is confirmed via anti-CdtB and anti-vinculin testing, the following multi-faceted approaches should be considered **on top of the Recovery Phase of the SIBO-specific protocols:**

- **Long-Term Anti-Microbial Treatment (6 months) (Microcidin [p.16] or Microcidin AF [p.16]):** reduces the risk of re-infections by the pathogenic bacteria that caused gastroenteritis in the first place
- **Mitochondrial Support (Neuromin [p.17]):** promote cellular/tissue regeneration
- **Anti-inflammatory (Inflamliief+ [p.14], EPA & DHA):** reduce tissue damage and allow repair and regeneration
- **Vitamin D3 (Liqui-D3 [p.15] 1000 IU/drop):** modulate immune function & regulate gut flora
- **Probiotics (Bifido-PB30+ DF [p.12]):** form barriers to pathogens and modulate immune & metabolic functions

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Acknowledgement: Special thanks to Dr. Allison Siebecker (ND), Dr. Christine Chen (ND), Dr. Joseph Cheng (ND), Dr. Charles Liu (ND), and Dr. Tomah Philips (ND) for their contributions of clinical expertise and review of this protocol.

Adrenergyn®

Adrenal Support for HPA-Axis Dysfunction

Adrenergyn® contains synergistic adaptogenic herbs and vitamin B5 for patients with HPA-axis dysregulation and debility or during convalescence.

- Contains Cs-4 strain of *Cordyceps sinensis*, the most extensively studied strain shown to enhance ATP generation and modulate cortisol level under stress.
- Clinically proven herbal remedies to increase the oxygen utilization in the body, scavenge free radicals that cause oxidative stress, and regulate the adrenal functions.
- Useful in restoring circadian rhythm, improving restless sleep, tiredness, declined cognitive ability, and weakened immune function caused by prolonged stress.

Ingredients (per capsule):

(Each capsule contains 4070 mg Dried Herb Equivalent)	
Rhodiola Extract 10:1 (<i>Rhodiola rosea</i>)	75 mg (root) (3% rosavins, 1% salidrosides) (equivalent to 750 mg of dried herb)
Cordyceps Cs-4 Extract 8:1 (<i>Cordyceps sinensis</i>).....	200 mg (mycelium) (7% cordycepic acid) (equivalent to 1600 mg of dried herb)
Eleuthero Extract 10:1 (<i>Eleutherococcus senticosus</i>).....	70 mg (root) (0.8% eleutherosides) (equivalent to 700 mg of dried herb)
Ashwagandha Extract 6:1 (<i>Withania somnifera</i>).....	170 mg (root) (7% withanolides) (equivalent to 1020 mg of dried herb)
Vitamin B5 (from d-calcium pantothenate).....	10 mg

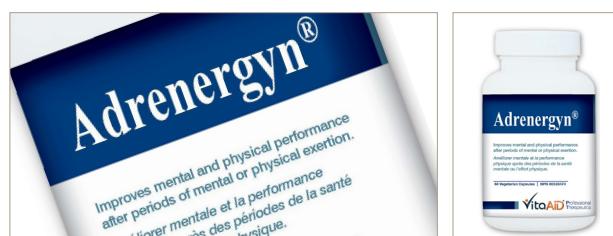
Non-medicinal Ingredients:

Silicon dioxide, L-leucine, pullulan/ hypromellose (capsule)

Suggested Use:

Adults - Take 3 capsules daily, preferably before meals, or as directed by a health care practitioner. Consult a health care practitioner for use beyond 1 month.

Dosage Form: 84 Vegetarian Capsules



Alliimin DR

Delayed-Release Garlic Extract

Alliimin DR is a potent allicin concentrate from freeze-dried fresh garlic, encapsulated in a pH-controlled releasing vegetarian capsule allowing optimal alliin to allicin conversion in the small intestine.

- Standardized and lab-certified to contain 20,000 mcg alliin per gram (yielding 10,000 mcg allicin).
- Broad spectrum antimicrobial effects. Clinically proven to relieve the symptoms associated with upper respiratory tract infections, as well as other microbial infections.
- Helps to improve hyperlipidemia and maintain cardiovascular health.

Ingredients (per capsule):

Garlic (<i>Allium sativum</i>) (bulb).....	500 mg
Standardized to contain: Allicin .. 5,000 mcg (from Alliin)	

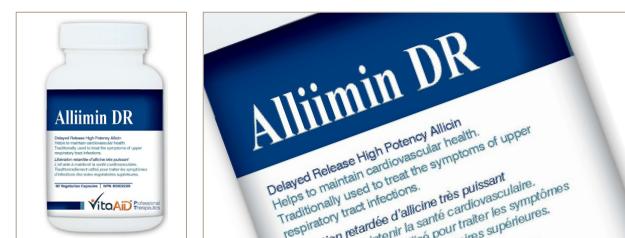
Non-medicinal Ingredients:

Certified organic apple fiber, L-leucine, hypromellose (capsule)

Suggested Use:

Adults - Take 1-2 capsules daily with food, or as directed by your health care practitioner. For prolonged use, consult a health care practitioner.

Dosage Form: 84 Vegetarian Capsules



Betaine HCl

Digestive Aid for Hypochlorhydria

Betaine HCl is a source hydrochloric acid to aid in the digestion of protein in the stomach.

Ingredients (per capsule):

Betaine Hydrochloride.....	825 mg
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Non-medicinal Ingredients:

Silicon dioxide, L-leucine, hypromellose (capsule)

Suggested Use:

General Digestive Aid: Adults - Take 1 capsule with each meal, 3 times a day.

Patients diagnosed with Hypochlorhydria: Dosage may be increased as directed by your health care practitioner.

Dosage Form: 150 Vegetarian Capsules





Bifido-PB30+ DF

SIBO-Friendly, Bifidus-Only Probiotics

Bifido-PB30+ DF combines five proprietary, research-driven Bifidobacteria strains, which have been extensively studied in clinical trials to carry out a myriad of health benefits, such as modulating inflammatory response, enhancing immune function, and normalizing gut motility.

- Five Strains, 30 billion CFU
- Includes HN019 - Clinically Proven to Regulate Gut-Motility
- Stability: Acid & Bile-Resistant
- Efficacy: Human Gut-Anchoring Ability
- Safety: ATCC-Registered & Antibiotic Resistance Tested

Bifidobacteria have been considered the most important organisms in the colonic flora. They are among the earliest microbiota genera to colonize the infant gut as they can be transmitted from the mother's birth canal, GI tract, and breast milk. However, Bifidobacteria concentrations decrease as individuals age, with greatest declines observed in the elderly.

Indications:

- newborns with disrupted microbiota (ie. antibiotic use)
- restoring gut motility in the elderly
- patients with predisposition to d-lactic acidosis, such as Small Intestinal Bacterial Overgrowth (SIBO), and Short Bowel Syndrome

Ingredients (per capsule):

<i>Bifidobacterium bifidum</i> (BB-06).....	4 billion
<i>Bifidobacterium breve</i> (BB-03).....	5 billion
<i>Bifidobacterium longum</i> subsp. <i>infantis</i> (BL-26).....	1 billion
<i>Bifidobacterium lactis</i> (BL-04).....	10 billion
<i>Bifidobacterium lactis</i> (HN019).....	10 billion

May contain up to 55 billion viable cells at the time of manufacture.

Non-medicinal Ingredients:

L-leucine, hypromellose, maltodextrin, microcrystalline cellulose, trehalose

Suggested Use:

Children, Adolescents, Adults - Take 1 capsule, 1-3 times a day, or as directed by your health care practitioner. Take a few hours before or after taking other medications.

Dosage Form: 42 Vegetarian Capsules



BiofilmX

Biofilm Disrupting Formula

BiofilmX combines multiple fibrinolytic & mucolytic enzymes to help breakdown biofilms and augment the efficacy of antimicrobial agents.

- Serrapeptase - a potent mucolytic enzyme that help reduce the inhibitory effects of bacterial biofilms and decrease chronic inflammation.
- Systemic fibrinolytic proteases and polysaccharide-digesting enzymes to help breakdown the integrity of biofilms and their adhesion to target tissues.
- Alpha lipoic acid - a sulfur-containing compound known to disrupt biofilms and provide antioxidant protection to the host.
- Delayed-release encapsulation (FREE of phthalate - commonly found in enteric coating) to help bypass the stomach and retain the bioactivity of the enzymes.

Clinical Applications:

- Decrease inflammatory edema.
- Accelerates the elimination of sputum, pus and hematoma.
- Enhance pathogen eradication of antibiotics/ antimicrobials.

Ingredients (per capsule):

Serrapeptase (from <i>Serratia marcescens</i> E-15).....	30,000 SU
Protease (from <i>Aspergillus oryzae</i>)	15,000 HUT
Alkaline Protease (*Nattozymes®)	4,225 HUT (1,500 FU (from <i>Aspergillus oryzae</i> & <i>Aspergillus melleus</i>)
Xylanase (from <i>Trichoderma longibrachiatum</i>)	1,100 XU
Pectinase (from <i>Aspergillus niger</i>)	50 endo-P
Beta-Glucanase (from <i>Trichoderma longibrachiatum</i>)	30 BGU
Glucoamylase (from <i>Aspergillus niger</i>)	25 AGU
Hemicellulase (from <i>Aspergillus niger</i>)	4,000 HCU
Cellulase (from <i>Aspergillus niger</i>)	500 CU
Alpha Lipoic Acid	200 mg

*Nattozymes® is a registered trademark of National Enzyme Company®

Non-medicinal Ingredients:

Silicon dioxide, L-leucine, hypromellose (capsule)

Suggested Use:

Adults - Take 1 capsule 15-30 min. prior to meal, 3 times a day, or as directed by a health care practitioner. Consult a health care practitioner for use beyond 4 months.

Dosage Form: 84 Vegetarian Capsules



Elemental/ Keto-Elemental Nutrition

Elemental Medical Foods with Ketogenic Option

Elemental Nutrition consists of only pre-digested/elemental nutrients (ie. amino acids, simple carbohydrates, medium chain triglycerides), and essential vitamins and minerals.

It can be used, as the sole source of nutrition for a limited period of time, in place of antimicrobials in the Eradication Phase to significantly decrease the bacterial overgrowth. It can also be considered in Crohn's disease patients whose ability to digest and absorb is compromised.

Keto-Elemental: For patients with duodenal overgrowth or co-existing fungal overgrowth, even simple carbohydrates like maltodextrin can potentially be utilized by the bacteria/fungi before they can be absorbed by the body.

By incorporating ketogenesis in the elemental diet, Keto-Elemental can further limit the food sources of the bacterial overgrowth, as well as providing a better sense of satiety.

Elemental Nutrition Facts (per serving):

Total Calories.....	200 kcal
Protein.....	10 g (40 kcal)
Total Carbohydrates (Sugar 20 g).....	.25 g (100 kcal)
Fats.....	6.7 g (60 kcal)

Keto-Elemental Nutrition Facts (per serving):

Total Calories.....	200 kcal
Protein.....	7.5g(30kcal)
Total Carbohydrate (Sugar 0g).....	7.5g(30kcal)
Fats.....	15.6g(140kcal)

Ingredients (per serving):

Vitamin A (from vitamin A palmitate) (850 IU).....	255 mcg RAE
Vitamin C (ascorbic acid).....	20 mg
Vitamin D3 (cholecalciferol) (100 IU).....	2.5 mcg
Vitamin E (d-alpha tocopheryl acetate) (10 IU).....	.6.7 mg AT
Vitamin K2 (menaquinone-7).....	10 mcg
Vitamin B1 (from thiamine hydrochloride).....	0.5 mg
Vitamin B2 (from riboflavin 5'-phosphate, sodium).....	0.5 mg
Vitamin B3 (niacinamide).....	4 mg
Vitamin B6 (from pyridoxal 5'-phosphate, calcium).....	1 mg
Folate (from L-5-MTHF, calcium).....	.60 mcg
Vitamin B12 (methylcobalamin).....	1.5 mcg
Biotin.....	.50 mcg
Vitamin B5 (from calcium pantothenate).....	4 mg
Calcium (from calcium bisglycinate).....	.85 mg
Iron (from iron (II) bisglycinate).....	2 mg
Phosphorus (from potassium phosphate).....	.85 mg
Iodine (from potassium iodide).....	.20 mcg
Magnesium (from magnesium bisglycinate).....	.40 mg
Zinc (from zinc gluconate).....	.2.5 mg
Selenium (from selenium glycinate).....	.25 mcg
Copper (from copper (II) bisglycinate).....	.150 mcg
Manganese (from manganese (III) bisglycinate).....	.200 mcg
Chromium (from chromium (III) nicotinate glycinate).....	.15 mcg
Molybdenum (from molybdenum (VI) bisglycinate).....	.10 mcg
Choline (from choline bitartrate).....	.35 mg
L-Serine.....	.200 mg

Other Ingredients: Medium chain triglycerides, glucose, tapioca maltodextrin, stevia extract, citric acid, natural chocolate/vanilla flavours, natural herbal flavours*, sodium chloride*, sodium copper chlorophyllin*, lutein*, glycine, taurine, L-alanine, L-arginine, L-cysteine, L-glutamine, L-histidine, L-leucine, L-lysine hydrochloride, L-methionine, L-proline, L-threonine, L-tryptophan, L-tyrosine, L-valine, L-aspartic acid, L-isoleucine, L-phenylalanine, L-carnitine

* in Keto-Elemental Nutrition Only

Suggested Use: Adults - Take 1-2 servings, 2-3 times a day for 14-21 days, or as directed by your health care practitioner.

Dosage Form: Powder (9 servings or 27 servings per container)

GI-Restore® LF

Comprehensive Gut-Healing Formula for Low FODMAP Diet

GI-Restore® LF is a Low FODMAP, gut-healing formula to help relieve inflammatory conditions of the GI tract and repair the linings of the stomach, the small intestine, and the colon via multiple mechanisms:

- Support intercellular tight junctions
- Promote mucus secretion in the stomach and facilitate healing of inflammation and ulcers.
- Anti-inflammatory and anti-histamine actions - ensure gut lining integrity and regulate acid secretion
- Promote proper tissue formation and regeneration
- Contain Butyrate (SCFA) to support Colonocytes & Colon Lining Integrity. SCFAs are derived from soluble fibers via bacterial fermentation, and can become deficient over long term Low FODMAP diet.

Ingredients (per 3 capsules):

Zinc Carnosine	150 mg
Curcumin (from <i>Curcuma longa</i>)	200 mg (root, rhizome) (*C3-Complex®)
L-Glutamine	600 mg
Cayenne Extract 18:1 (<i>Capsicum annuum</i>)	20 mg (fruit) (equivalent to 360 mg of dried herb)
Quercetin (isolate)	300 mg
Calcium Butyrate	300 mg

*C3-Complex® is a registered trademark of Sabinsa Corp.

Non-Medicinal Ingredients:

Silicon dioxide, L-leucine, hypromellose (capsule)

Suggested Use:

Adults - Take 1 capsule, 3 times a day, or as directed by a health care practitioner.

Dosage Form: 84 Vegetarian Capsules





Hepasylin

Herbal Hepato-Protectant

Hepasylin is a comprehensive herbal liver tonic formula containing milk thistle, dandelion, artichoke and alpha lipoic acid to protect the hepatocytes and maintain healthy liver function.

- Contains USP-Grade Milk Thistle Extract standardized in silybins and HPLC-verified. Silybins are the most active compounds of silymarin group to provide the optimal liver-protecting effect.
- Increases the reduced glutathione level in the liver, promotes bile flow, provides powerful antioxidants for cell protection, and enhances the detoxification process in the liver.

Ingredients (per capsule):

Milk Thistle Extract (<i>Silybum marianum</i>).....	250 mg
(seed) (USP-Grade) (70% total silybins*)	
(*silybins A&B: 40-65%; isosilybins A&B: 10-20%;	
silydianin & silychristin: 20-45%)	
Dandelion Root Extract 12:1 (<i>Taraxacum officinale</i>).....	20 mg
(equivalent to 240 mg dried herb)	
Artichoke Leaf Extract 10:1 (<i>Cynara scolymus</i>).....	50 mg
(equivalent to 500 mg of dried herb)	
Licorice Root Extract 15:1 (<i>Glycyrrhiza glabra</i>)	10 mg
(equivalent to 150 mg of dried herb)	
Alpha Lipoic Acid	20 mg

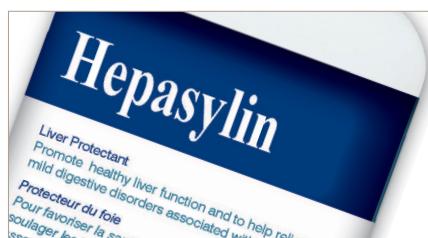
Non-medicinal Ingredients:

Certified organic apple fiber, silicon dioxide, L-leucine, hypromellose (capsule)

Suggested Use:

Adults - Take 1 capsule 2 times daily, or as directed by your health care practitioner.

Dosage Form: 120 Vegetarian Capsules



Inflamlief

Natural COX-2 inhibitor to relieve inflammation;
Bioavailability enhanced by Bioperine®

Inflamlief is a unique formula with enhanced bioavailability by the addition of Bioperine® (piperine from black pepper). It contains multiple, natural COX-2 inhibiting agents specialized for relief of inflammation, swelling and minor pain.

- Contains daily dosage of 1000 mg of patent iso-alpha acid standardized *Humulus lupulus* extract clinically proven to be a COX-2 (Cyclooxygenases) inhibitor with comparable effect to 400 mg ibuprofen.
- Reduces PGE2 production of the specific target cells. Provides effective anti-inflammatory support without the cardiovascular, gastrointestinal and renal adverse effects.
- Contains highly concentrated phyto-antioxidants to scavenge free radicals and reduce oxidative stress in inflamed tissues such as arthritis, muscle tearing, and any discomfort caused by inflammation.

Ingredients (per capsule):

(Each capsule contains 6300 mg Dried Herb Equivalent)	
Hops Extract 30:1 (<i>Humulus lupulus</i>).....	167 mg
(Perluxan™) (cone) (30% alpha and iso-alpha acids)	
(equivalent to 5000 mg of dried herb)	
Boswellia Extract 20:1 (<i>Boswellia serrata</i>) (gum resin)	60 mg
(65% boswellic acid) (equivalent to 1200 mg of dried herb)	
Curcumin (from <i>Curcuma longa</i>)	200 mg
(root, rhizome) (C3-Complex®)	
Rosemary Extract 6:1 (<i>Rosmarinus officinalis</i>)	15 mg
(leaf) (equivalent to 90 mg of dried herb)	

C3-Complex® and Bioperine® are registered trademarks of Sabinsa Corp.

Non-medicinal Ingredients:

L-leucine, pullulan/hypromellose (capsule), piperine (Bioperine®)

Suggested Use:

Adults - Take 3 capsules, 2 times a day, or as directed by a health care practitioner.

Dosage Form: 84 Vegetarian Capsules



Intolerase

"Digest Your Intolerances" for SIBO & Malabsorption

Intolerase is an ultra-potent, broad-spectrum carbohydrazyme formula designed to break down fermentable carbohydrates and support post-eradication phase of SIBO treatment.

- Helps prevent SIBO and its recurrence.
- Easier-to-comply alternative to strict low FODMAP & elemental diets.
- Enzyme potencies are based on the estimated dietary intake of common FODMAPs in general population.
- Contains butyrate (SCFA) to support colonocytes & lining integrity.

Ingredients (per capsule):

Alpha-Galactosidase (from <i>Aspergillus niger</i>)	925 GalU
Lactase (from <i>Aspergillus oryzae</i>).....	3,000 ALU
Amylase (from <i>Aspergillus oryzae</i>).....	8,109 DU (contains 7,709 bacterial amylase units)
Glucoamylase (from <i>Aspergillus niger</i>)	150 AGU
Pectinase (from <i>Aspergillus niger</i>)	90 endo-P
Beta-Glucanase (from <i>Trichoderma longibrachiatum</i>)	105 BGU
Hemicellulase (from <i>Aspergillus niger</i>)	20,000 HCU
Invertase (from <i>Aspergillus niger</i>)	2,100 Sumner
Xylanase (from <i>Trichoderma longibrachiatum</i>)	1,650 XU
Maltase (from <i>Hordeum vulgare</i> seed)	300 DP
Protease (from <i>Aspergillus oryzae</i>)	15,000 HUT
Acid Protease (from <i>Aspergillus oryzae</i>)	15 SAPU

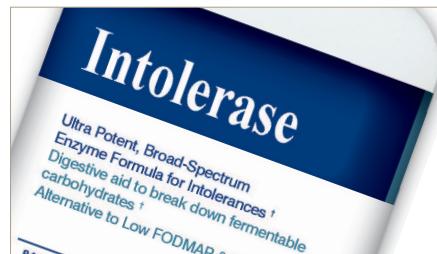
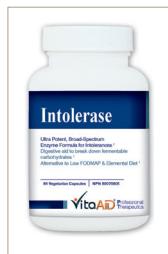
Non-medicinal Ingredients:

Calcium butyrate (250 mg), microcrystalline cellulose, silicon dioxide, L-leucine, hypromellose (capsule).

Suggested Use:

Adults - Take 1 capsule with carbohydrate-rich meal, 2-3 times a day, or as directed by your health care practitioner. For prolonged use, consult a health care practitioner.

Dosage Form: 84 Vegetarian Capsules



Liqui-D3

Vitamin D3 is known for its function in:

- Increasing calcium absorption in the gut for osteoporosis prevention.
- Modulating serotonin synthesis and release and improving mental health.
- Optimizing immune system and reducing the risk of metabolic syndrome.

Key Features:

- Utilize pure crystalline vitamin D3 as our starting material minimizing unnecessary non-medicinal ingredients.
- Use Medium Chain Triglycerides (MCT) from coconut as base - a much more stable source than PUFAs, such as corn or sunflower oil.
- Free of preservative or stabilizing agent, such as butylated hydroxytoluene (BHT).
- Laboratory-tested potency and stability from the first to the last drop.

Ingredients (per drop):

Vitamin D3 (25 mcg) (cholecalciferol)	1000 IU
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Non-medicinal Ingredients:

Medium chain triglycerides (MCT), natural flavor

Suggested Use:

Take 1 drop per day, or as directed by a health care practitioner. Suitable for all age groups.

Dosage Form: 60 mL Liquid (2100 servings)





Microcidin®

Broad-Spectrum Anti-Microbial & Anti-Candida Formula

Microcidin® contains multiple antimicrobial ingredients with different mechanisms to inhibit and eradicate pathogenic microbes such as bacteria, virus, fungus (eg. *Candida albican*) and parasites.

- Contains lab-verified high allicin content from freeze-dried garlic concentrate. Encapsulated in a pH-controlled releasing vegetarian capsule allowing optimal alliin to allicin conversion in the small intestine.
- Coptis (Huang Lian) contains berberine as its main constituent. Coptis is the king herb for detoxification in Traditional Chinese Medicine, especially during infections and Liver Fire. In modern medicine, coptis by itself or combined with clove extract has been shown to inhibit fungal growth and candidiasis.
- Synergized with highly concentrated oregano extract, and caprylic acid for broad spectrum microcidal effect in prevention and eradication of microbial infections.

Ingredients (per capsule):

Huang Lian Extract 12:1 (<i>Coptis chinensis</i>).....	60 mg (rhizome) (20% berberine) (equivalent to 720 mg dried herb)
Garlic (<i>Allium sativum</i>) (bulb).....	240 mg (20,000 mcg alliin/g to yield 10,000 mcg allicin/g)
Oregano Extract 23:1 (<i>Origanum vulgare</i>).....	40 mg (leaf) (30% carvacrol) (equivalent to 920 mg dried herb)
*Clove Extract 3:1 (<i>Syzygium aromaticum</i>).....	50 mg (flower bud) (30% volatile oil) (equivalent to 150 mg dried herb)

*Non-medicinal Ingredients:

Magnesium caprylate, undecylenic acid, silicon dioxide, L-leucine, pullulan/ hypromellose (capsule)

Suggested Use:

Adults - Take 1 capsule with meal, 2-3 times per day, or as directed by a health care practitioner.

Dosage Form: 84 Vegetarian Capsules



Microcidin® AF

Low FODMAP Anti-Microbial Formula

Microcidin® AF is a low-FODMAP "Allium-Free" broad spectrum antimicrobial formula that targets multiple mechanisms to inhibit and eradicate pathogenic bacteria, fungi and parasites.

- Allium-free formula (low-FODMAP compatible) for individuals sensitive to garlic.
- Berberine has been shown to improve IBS symptoms (abdominal pain, stool frequency & urgency), as well as anxiety and depression in patients with IBS-D.
- Cinnamon - "warming" antimicrobial to prevent loose stool from the "cooling" property of berberine.
- Synergized with concentrated Thyme and Oregano extracts for spasmolytic, carminative, and broad spectrum antimicrobial effect in the GI tract.
- Neem and Uva Ursi extract are potent antimicrobials, anti-biofilm, and provide additional gastroprotective and antiulcer effects.

Ingredients (per capsule):

Berberine Hydrochloride	250 mg
Thyme Extract 20:1 (<i>Thymus vulgaris</i>)	35 mg (leaf) (equivalent to 700 mg dried herb)
Cinnamon Extract 10:1 (<i>Cinnamomum aromaticum</i>)	40 mg (bark) (equivalent to 400 mg dried herb)
Neem Extract 20:1 (<i>Azadirachta indica</i>)	35 mg (leaf) (equivalent to 700 mg dried herb)
Uva Ursi Extract 10:1 (<i>Arcostaphylos uva-ursi</i>)	35 mg (leaf) (equivalent to 350 mg dried herb)
Oregano Extract 5:1 (<i>Origanum vulgare</i>).....	50 mg (leaf) (30% carvacrol) (equivalent to 375 mg dried herb)

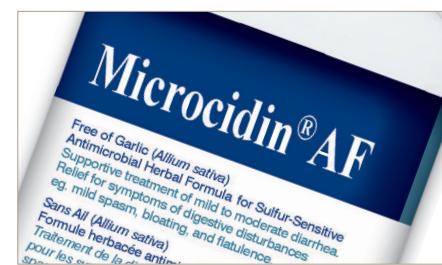
Non-medicinal Ingredients:

Silicon dioxide, L-leucine, hypromellose (capsule)

Suggested Use:

Adults - Take 2 capsules with food, 3 times per day, or as directed by a health care practitioner.

Dosage Form: 112 Vegetarian Capsules



Neuromin

Comprehensive Neuro-Protective Formula

Neuromin is a comprehensive formula to support nerve regeneration and prevent cognitive decline. Working via various mechanisms to protect neurons from damage with aging and restore function in various disease processes.

- Pyrroloquinoline quinone (PQQ) facilitates nerve regeneration by promoting nerve growth factor, and also acts as a neuro-protectant via its antioxidant effects. Its benefits for memory & attention are enhanced by the addition of CoQ₁₀ according to clinical data.
- PQQ protects mitochondria by significantly reducing levels of inflammatory markers such as CRP and IL-6.
- Benfotiamine combined with folate and B12 resulted in significant improvement in nerve conduction velocity and is effective in the treatment of diabetic neuropathy.
- Active R-alpha lipoic acid provides additional antioxidant effects and protects nerves and mitochondria from damage.
- Phosphatidylserine has been shown to enhance memory and cognitive function in elderly patients.
- Active forms of vitamin B12 and folate to support methylation process in neurons.

Ingredients (per capsule):

Pyrroloquinoline quinone (PQQ).....	5 mg
Coenzyme Q ₁₀ (ubiquinone).....	37.5 mg
R-alpha-lipoic acid (sodium salt) (stabilized).....	75 mg
Benfotiamine.....	35 mg
5-Methyltetrahydrofolate (from Ca 5-MTHF).....	100 mcg
Niacinamide	25 mg
Vitamin B2 (riboflavin-5'-phosphate (sodium salt)).....	5 mg
Vitamin B6 (pyridoxal 5'-phosphate).....	5 mg
Vitamin B12 (methylcobalamin).....	100 mcg
Mixed Phospholipids (from <i>Glycine max</i>).....	50 mg (seed) (phosphatidylserine, phosphatidylcholine, phosphatidylinositol, phosphatidylethanolamine)

Non-medicinal Ingredients:

Silicon dioxide, L-Leucine, hypromellose (capsule)

Suggested Use:

Adults - Take 2 capsules, 2 times per day, or as directed by your health care practitioner. Use for a minimum of 3 months to see beneficial effects. For prolonged use over 24 weeks, consult a health care practitioner.

Dosage Form: 56 Vegetarian Capsules



Prokine

Natural Prokinetic Formula

Comprehensive Prokinetic Formula to help regulate gut motility.

- Acts on the 5-HT receptors to promote gastrointestinal migrating motor complex (MMC) function.
- Promotes digestive enzyme & bile secretions.
- Contains cofactors to support neurotransmitter synthesis & restore MMC.
- Indications:
 - Small intestine bacterial overgrowth (SIBO)
 - Dyspepsia, Gastroparesis, Indigestion, Nausea & Vomiting
 - Gastroesophageal Reflux Disease (GERD)
 - Irritable Bowel Syndrome (IBS)

Ingredients (per 3 capsules):

L-5-HTP (L-5-Hydroxytryptophan)	225 mg
(from <i>Griffonia simplicifolia</i>) (seed)	
Ginger Extract (<i>Zingiber officinale</i>)	600 mg
(rhizome) (standardized to contain 6% gingerols)	
Chamomile Extract 10:1 (<i>Maticaria chamomilla</i>)	150 mg
(flower) (equivalent to 1500 mg of dried herb)	
Cinnamon Extract 10:1 (<i>Cinnamomum aromaticum</i>)	90 mg
(bark) (equivalent to 900 mg of dried herb)	
Peppermint Extract 20:1 (<i>Mentha x piperita</i>)	120 mg
(herb) (equivalent to 2400 mg of dried herb)	
Gentian Extract 10:1 (<i>Gentiana lutea</i>)	90 mg
(root) (equivalent to 900 mg of dried herb)	
Benfotiamine	30 mg
Vitamin B6 (from calcium pyridoxal-5-phosphate)	15 mg
5-Methyltetrahydrofolate (from Ca 5-MTHF)	300 mcg
Vitamin B12 (methylcobalamin)	300 mcg

Non-medicinal Ingredients:

Silicon dioxide, L-leucine, pullulan/hypromellose (capsule)

Suggested Use:

Adults - Take 1 capsule between lunch and dinner, and 2 capsules at bed time, on an empty stomach; or as directed by a health care practitioner.

Dosage Form: 126 Vegetarian Capsules





Resolaxin

Eases stress and promotes relaxation without sedative effects

Resolaxin is a comprehensive herbal stress management formula targeting individuals that are constantly stressed, nervous, anxious, restless, and/or suffering from Irritable Bowel Syndrome (IBS).

- Natural herbal combination that works by binding the GABA receptors to promote muscle relaxation and calm the mind.
- Wild jujube seed is a traditional Chinese medicine herb used for calming the mind, improving sleep quality & digestive function, and reducing the high blood pressure & relieving IBS caused by stress.
- Contains L-theanine to induce a sense of inner calm without affecting alertness.
- Combination of carminative and calming herbs - an ideal formulation for IBS.

Ingredients (per 2 capsules):

(Contains 6360 mg Dried Herb Equivalent)

Chamomile Extract 6:1 (<i>Matricaria chamomilla</i>)	240 mg (flower) (1% apigenin) (equivalent to 1440 mg dried herb)
Lemon Balm Extract 5:1 (<i>Melissa officinalis</i>).....	120 mg (leaf) (5% rosmarinic acid) (equivalent to 600 mg dried herb)
Wild Jujube Extract 18:1 (<i>Zizyphus spinosa</i>).....	220 mg (seed) (2% triterpene saponins) (equivalent to 3960 mg dried herb)
Passion Flower Extract 4:1 (<i>Passiflora incarnata</i>)	90 mg (flower) (3.5% vitexin) (equivalent to 360 mg dried herb)
L-Theanine (from <i>Camellia sinensis</i>) (leaf).....	80 mg
Magnesium (from magnesium citrate).....	50 mg
Vitamin B6 (from pyridoxine hydrochloride)	10 mg

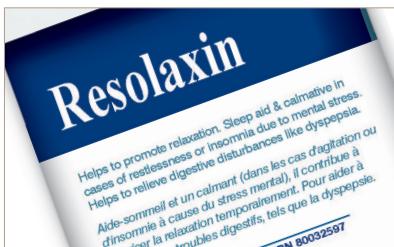
Non-medicinal Ingredients:

Silicon dioxide, L-leucine, pullulan/ hypromellose (capsule)

Suggested Use:

Adults - Take 2 capsules 2-3 times a day, or as needed for calming effect. Take 2-3 capsules 1/2 to 1 hour before sleep as needed for relaxation and better sleep. Take 1-2 capsules with each meal for IBS. Or else use as directed by a health care practitioner.

Dosage Form: 56 / 112 Vegetarian Capsules



S. boulardii

Saccharomyces boulardii is a probiotic clinically used in the treatment and prevention of gastrointestinal disease such as antibiotic-associated diarrhea, acute traveller's diarrhea, *C. difficile* infections, and *H. pylori*.

- The most effective probiotic for the prevention and treatment of antibiotic-associated diarrhea and recurrent *C. difficile* infections.
- Significantly reduces the duration of acute childhood diarrhea and the risk of prolonged diarrhea.
- Improves intestinal permeability and reduces relapse rate in patients with Crohn's disease.
- Reduces diarrhea in patients undergoing total enteral nutrition (TEN).
- Regulates intestinal microbial homeostasis and stabilizes the gastrointestinal barrier, interfering with the ability of pathogens to colonize and infect the mucosa.
- Modulates local and systemic immune responses.

Ingredients (per capsule):

Saccharomyces boulardii (whole cell)..... 5 billion cfu

*cfu - colony forming units

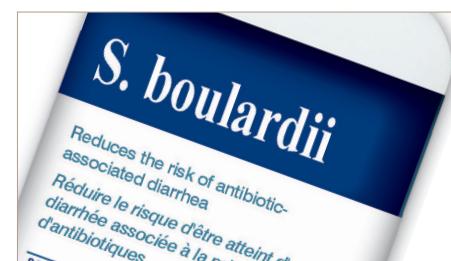
Non-medicinal Ingredients:

L-leucine, maltodextrin, silicon dioxide, hypromellose/ pullulan (capsule)

Suggested Use:

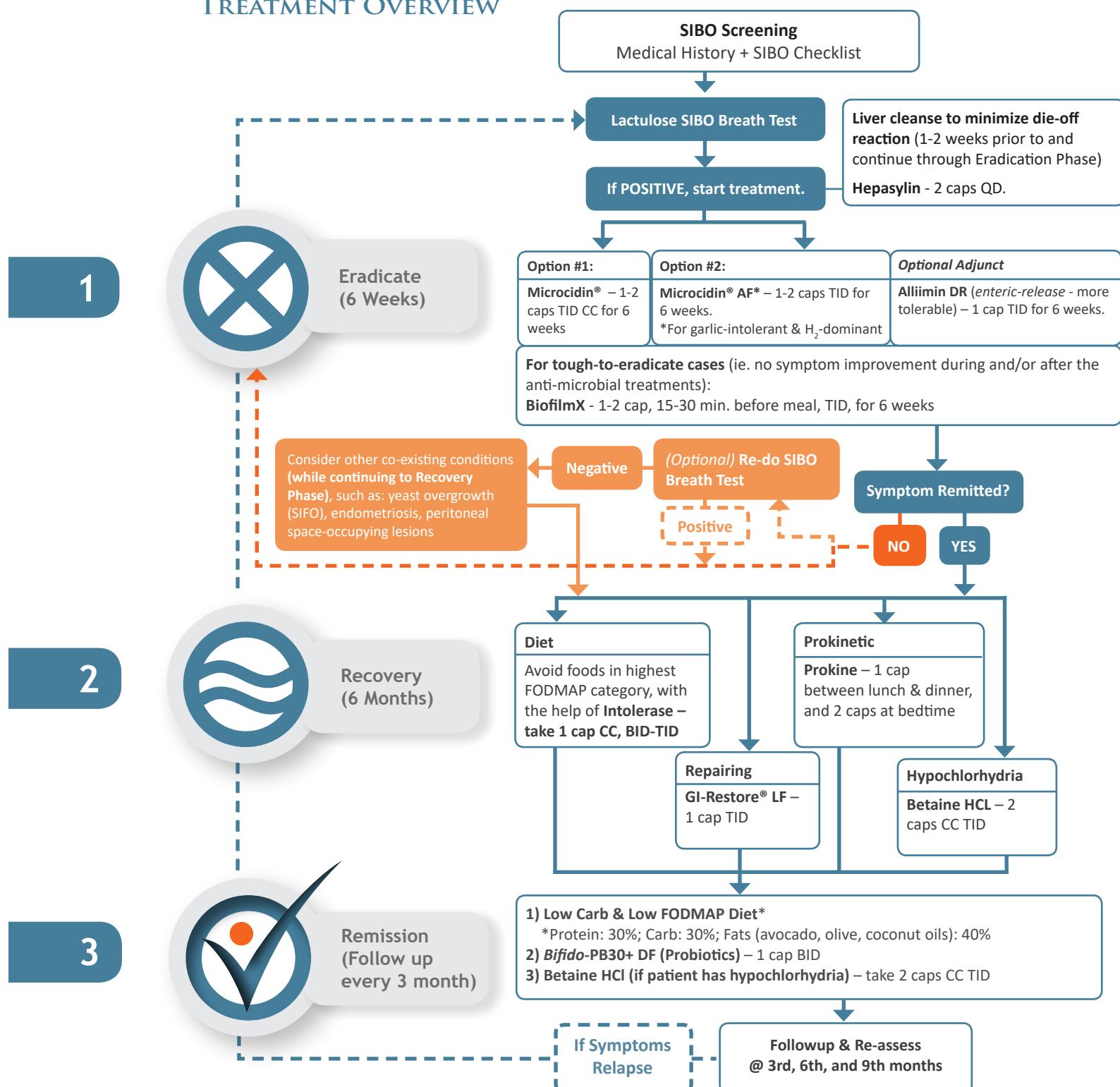
Children, Adolescents, and Adults – Take 2 capsules, 1-3 times a day, or as directed by a health care practitioner. For children under 6 years old, open the capsule and administer the powder form.

Dosage Form: 84 Vegetarian Capsules



SMALL INTESTINE BACTERIAL OVERGROWTH

TREATMENT OVERVIEW



Adapted From Dr. Siebecker's SIBO Treatment Algorithm. Reference: Siebecker A, Sandberg-Lewis S. Small Intestine Bacterial Overgrowth: Often-Ignored Cause of Irritable Bowel Syndrome. Townsend Lett. 2013;(February/March), p85-91. <http://www.townsendletter.com/FebMarch2013/ibs0213.html>

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