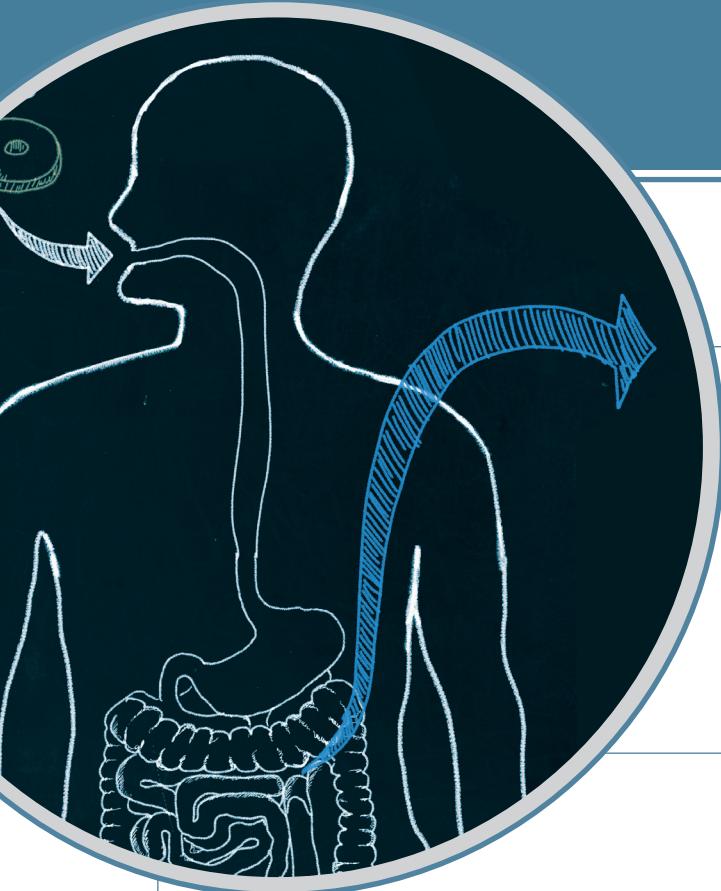




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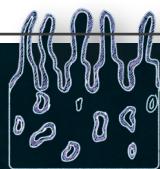
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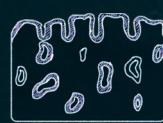
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**Acknowledgement:** Special thanks to Dr. Bobby Parmar (ND), Dr. Tomah Phillips (ND), Dr. Christine Chen (ND), and Dr. Joseph Cheng (ND) for their contributions of clinical expertise and review of this protocol.



Healthy Small Intestine



Celiac Disease



## Introduction

Proper gastrointestinal function provides the foundation for overall health and wellbeing. Digestive issues are one of the top reasons for doctor visits in North America, however allopathic treatments often have limited success and therefore many patients seek other complementary and alternative care. While myriad symptoms can arise from GI dysfunction, uncovering and treating the root cause is key to restoring health. This guide outlines **four key categories** of GI dysfunction, as well as effective treatment strategies.

## Categories of GI Dysfunction

Gastrointestinal dysfunction can be classified as a disorder of digestion/absorption, dysbiosis/infection, inflammation/leaky gut, or of neurogenic origin. Understanding the underlying mechanisms based on these categories is crucial for providing targeted treatment strategies. Note that although it is helpful from a diagnosis and treatment standpoint to group disorders by categories, it is possible to have overlaps.

### Digestion & Absorption Dysfunction

1

The fundamental role of the GI tract is breaking down food particles for nutrient absorption. Chemical digestion is aided largely by hydrochloric acid (HCl), digestive enzymes and bile. Insufficiencies of these secretions can result in nutrient deficiency, food sensitivities and inflammation.

Although it is commonly believed that *Helicobacter pylori* (*H. pylori*) is associated with decreased HCl secretion, it can also cause an increased release of gastric acid. There is a two-way interaction between gastric acid secretion and *H. pylori* associated gastritis, and HCl release is either increased or decreased depending on the location of the *H. pylori* gastritis.<sup>1</sup>

*H. pylori* gastritis confined to the stomach antrum results in hypersecretion of HCl and is associated with duodenal ulcers, whereas that occurring in the stomach body mucosa is accompanied by decreased gastric acid release, inflammation, and an increased risk of enteric infection and gastric cancer.

#### Major Causes of Dysfunction:

- **Hypochlorhydria:** acid-blocking medications, *H. pylori* infection, aging, stress, autoimmune Hashimoto's hypothyroidism<sup>4</sup>
- **Digestive enzyme insufficiency:** diet, stress, genetics (i.e. lactose intolerance), dysbiosis
- **Bile insufficiency**
- ***H. pylori* infection:** can result in hypo- or hyperchlorhydria with gastritis
- **Celiac disease and non-celiac gluten enteropathy:** flattening of intestinal villi impairing absorption
- **Inflammation / intestinal hyperpermeability** (see page 3)



#### Undesired effects of PPIs/H2 blockers

Many patients that present with GERD will already be on a PPI or H2 antagonist. It is well known that these medications have common side effects, including B12 deficiency, osteoporosis, and increased risk of SIBO.

While discontinuing these medications seems the obvious course of action, continuing acid-blocking drugs until the GERD and PUD are well managed can improve patient compliance and prevent undesired return of symptoms.

D-limonene can be an effective treatment to help wean GERD patients off PPIs.

See 'Treatment of GERD' on page 6.

## Treatment Principles:

- Evaluate if hypo- or hyperchlorhydria is present
- If the patient is already on acid-blocking medications, educate them on undesired consequences and wean them off slowly to prevent rebound acidity once symptoms are well managed
- If low HCl, stimulate secretion (eg. bitters, apple cider vinegar)
- If *H. pylori* present, eradicate
- Avoid known food intolerances (i.e. lactose, fructose, gluten)
- Supplement digestive enzymes with meals to aid breakdown of the nutrients
- Reduce stress, chew food thoroughly

**Associated Conditions:** Celiac Disease, Candidiasis, GERD, IBS, IBD, Leaky Gut Syndrome, Peptic Ulcer Disease, SIBO

## Dysbiosis & Infection | 2

Understanding the role of our microbiome in health and disease is one of the biggest research topics guiding the future of medicine. The complex gut ecology consists of trillions of beneficial bacteria that keep pathogenic bacteria in check. An imbalance of this ecology (dysbiosis) or infection is implicated in a wide range of disease and dysfunction.

### GI Flora Functions:

- Aid in digestion (enzyme production)
- Produce nutrients (i.e. B12)
- Barrier against pathologic microbial overgrowth
- Modulate immune and inflammatory responses

Disease states can occur when there is overgrowth of pathogenic/opportunistic microbes (eg. candida infection), or excess bacteria colonizing in the wrong location, as occurs in small intestinal bacterial overgrowth (SIBO). Candidiasis and SIBO share a few overlapping clinical signs & symptoms, such as abdominal cramps and pain, gas and bloating, abnormal bowel movement, fatigue, and headache. Despite the overlapping symptoms of these two conditions, it is important to make the proper diagnosis, as treatment targets and strategies are different.

### SIBO vs. Candidiasis

	SIBO (see p.9 for protocol)	Candidiasis (see p.6 for protocol)
DDx	<ul style="list-style-type: none"><li>• Often accompanied by GERD</li><li>• Excessive gas: bloating, flatulence, and belching</li><li>• Malabsorption: steatorrhea, anemia</li><li>• Systemic: joint/muscle pain, rosacea</li><li>• Worse with prebiotics &amp; soluble fibre intake</li></ul>	<ul style="list-style-type: none"><li>• Oral thrush</li><li>• Genital itching (sometimes with "cottage cheese" like vaginal discharge)</li><li>• Systemic: pruritic skin rash</li><li>• Worse with sugar intake</li></ul>
Test Methods	Hydrogen/Methane Breath Test	<ul style="list-style-type: none"><li>• Culture, IgA/IgG/IgM Antibody Test</li><li>• Comprehensive Stool Analysis</li></ul>
Treatment Strategies	<p><b>Specific Carbohydrate Diet (SCD) (for &gt; 1 year):</b> elimination of complex carbohydrates, such as water-soluble fibre, which feed bacterial overgrowth.</p> <p><b>Eradication Phase</b></p> <ul style="list-style-type: none"><li>• <b>Herbs (for 1 month):</b> Berberine-containing herbs (eg. Coptis, Hydrastis), Allicin, Oregano</li><li>• <b>Antibiotics (for 2 weeks):</b> Rifaximin<sup>12,13</sup> (for hydrogen-producing bacteria); add Neomycin/ Metronidazole for methane-producing.<sup>13</sup></li></ul> <p><b>Recovery Phase (&gt; 3 months):</b></p> <ul style="list-style-type: none"><li>• Prokinetic Agents: Erythromycin or Low-dose Naltrexone</li><li>• Gut-Lining Repair</li></ul>	<p><b>Anti-candida diet (Week 1-16+):</b> starve the candida by eliminating refined carbohydrate/sugar, avoiding high sugar fruits and starchy vegetables, alcohol and dairy.</p> <p><b>Antifungal phase (Week 3-12+):</b></p> <ul style="list-style-type: none"><li>• Replace healthy GI flora with probiotics.</li><li>• Antifungal herbs: Coptis, Allicin, Oregano, Clove</li><li>• Support liver detoxification to decrease "die-off" symptoms.</li><li>• Promote elimination: increase water-soluble fibre and water intake.</li></ul>

## Major Causes of Dysfunction:

- Medications: antibiotics, acid blockers (PPIs/H2 antagonists)
- Infection: bacterial or viral gastroenteritis, candidiasis
- Weakened/compromised immune system
- Stress: physical or mental/emotional

## Treatment Principles:

- Diet: SCD diet for SIBO; Anti-candida diet for Candidiasis
- If an infection is present, eradicate pathogenic bacterial/fungal overgrowth using antimicrobial herbs or antibiotics
- Restore GI flora (probiotics, *S. boulardii*)

**Associated Conditions:** Candidiasis, GERD, IBS, Peptic Ulcer Disease (caused by *H. pylori* infection), SIBO

## Inflammation & Hyperpermeability | 3

The GI epithelium has the dual function of being selectively permeable to specific nutrients while providing a protective barrier against pathogenic substances.

Molecules can be absorbed through the epithelial cells (transcellular) and via the tight junctions between cells (paracellular). The paracellular transport accounts for over 85% of passive absorption.

When tight junctions are damaged or impaired, it increases paracellular transport of partially digested food particles and other unwanted antigens.

These food particles/antigens then can trigger the release of inflammatory cytokines and other immune mediators, which consequently, start a cascade of systemic inflammation that can manifest anywhere in the body, such as skin, joints, and the GI tract.

Disruption of tight junctions with increased permeability is commonly referred to as 'leaky gut.' Once thought to be a fringe term, this disease process is now widely recognized in mainstream scientific literature, albeit by the term intestinal hyperpermeability.

Research indicates a role of altered permeability in myriad disease processes, including autoimmune states (i.e. rheumatoid arthritis, SLE), autism<sup>6</sup>, asthma<sup>7</sup>, eczema<sup>8</sup>, food allergies<sup>9</sup>, IBS<sup>10</sup>, and inflammatory bowel disease (IBD)<sup>11</sup>.

## Major Causes Of Dysfunction:

- Stress: lowered cortisol levels with prolonged stress, decreased release of secretory IgA, reduced blood flow to GI mucosa
- Infection/Dysbiosis: Intestinal microbes influence permeability by altering inflammatory response
- Diet: ingestion of food allergens, low fiber (slowed bowel transit allows endotoxins to concentrate and irritate GI mucosa), high oxidative food (eg. trans-fats, burnt/grilled meats, deli meats)
- Environmental toxins: PCBs disrupt tight junction protein expression
- Medications: NSAIDs
- Lifestyle: excessive alcohol, smoking



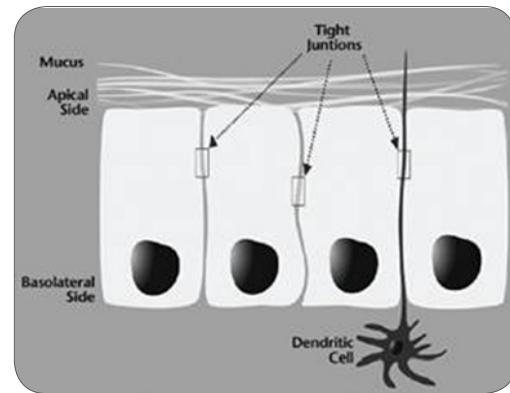
## Clinical Pearls: SIBO, IBS and GERD

If a patient suffers from both IBS and GERD symptoms, SIBO should be at the top of the list of diagnoses. The increased intraluminal pressure caused by excessive gas production leads to acid reflux, as well as GI distress typical of IBS. Recent research has cited SIBO as an underlying cause in 84% of patients with IBS.<sup>5</sup>



## SIBO Testing: Gold Standard

The standard test for SIBO is a breath test that measures both the hydrogen and methane gas produced by bacteria in the small intestine. After a one day preparatory diet, patients drink a lactulose solution and the gas produced is graphed over a 3-hour period and compared to baseline. Excessive gas production (H<sub>2</sub> and/or methane) before the 2-hour cut-off will indicate SIBO.



### Treatment Principles:

- Anti-inflammatory diet: high in fresh organic fruits/vegetables, avoid processed foods, high sugar, high-temperature cooking (ie. grill, deep frying), and trans-fatty acids
- Avoid irritants/triggers (i.e. food allergens, antibiotics, NSAIDs, alcohol, smoking)
- Add digestive aids until gut integrity is restored (i.e. digestive enzymes, apple cider vinegar)
- Soothe inflamed GI lining (slippery elm, DGL) and restore gut integrity (L-glutamine, zinc carnosine, quercetin)
- Reduce inflammation: curcumin, boswellia
- Reinoculate gut flora if dysbiosis suspected – probiotics & prebiotics (FOS)

**Associated Conditions:** Celiac disease, IBD, Leaky Gut Syndrome, Peptic Ulcer Disease

## Neurogenic & Psychogenic Origins of Dysfunction | 4

Our enteric nervous system (ENS) is a vast body of independent neural networks with complexity comparable to that of our central nervous system (CNS). In fact, the ENS resembles the CNS so much that all neurotransmitter classes found in the brain can also be found in the ENS, with serotonin and dopamine being the primary ones.<sup>16</sup>

Over 90% of serotonin stored is present in the enterochromaffin cells throughout the GI tract and ENS plexuses, and over 95% of our body's 5-hydroxytryptamine (5-HT) receptors are present in the GI tract, making serotonin the primary neurotransmitter in regulating GI activities.

In the gut, serotonin serves to activate both secretory and peristaltic reflexes, and activates vagal afferents (via 5-HT<sub>3</sub> receptors) that signal to the brain.<sup>16</sup> Although the ENS is an independent functional unit, it constantly communicates with our CNS to respond to any changes in the external environment, and vice versa.

### Major Causes of Neurogenic/Psychogenic Dysfunction:

- Depression/Anxiety
- Hyperthyroidism
- Chronic Stress
- Malnutrition (eg. B12)
- Substance abuse: alcohol, cigarette smoking

### Neurogenic/Psychogenic Influences On Our Gut

Our mood and mental status can affect the activities of our 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; secretions of stomach acid, mucus, enzymes, and bile)<sup>17</sup>. Therefore, people under stress will often have symptoms of indigestion, nausea/vomiting, and constipation.

However, for some individuals who are undergoing chronic stress (emotional or physical), have a lowered stress tolerance, or are suffering from mood disorders such as anxiety and depression, the communications between the brain and ENS may become disoriented and respond in opposite ways. This explains why some people with anxiety issues may experience abdominal cramping and diarrhea in stressful situations. The exact mechanism of this paradoxical phenomenon is unclear, but it could be due to an imbalance of neurotransmitters in our gut, as well as inflammation from chronic stressor damaging the neurotransmitter receptors embedded in the gut lining.

Such imbalance in neurotransmitters can disrupt normal peristalsis and functions of GI sphincters (e.g. lower esophageal sphincter, pyloric sphincter, iliocecal valves) and can potentially lead to GI complications such as GERD, SIBO, dysbiosis, dyspepsia and irritable bowel syndrome (IBS).

Therefore, treating the neurogenic/psychogenic origins of gut issues is imperative as they are often the root causes of recurrent or resistant GI disorders.

### Treatment Principles:

- Stress management
- Neurotransmitter support eg. B vitamins, St. John's Wort, 5-HTP, Magnesium
- Adaptogenic & anxiolytic supplements
- Carminative herbs to normalize peristalsis.

**Associated Conditions:** GERD, IBS, Peptic Ulcer Disease

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# Conditions & Protocols

## Candidiasis

**Risk Factors:** post-antibiotic treatment, history of gastroenteritis, high sugar diet, chronic stress, immune compromised

**Hallmark Signs & Symptoms:** patient feeling “sick all over,” GI disturbances (gas, bloating, indigestion), fatigue, “brain fog,” abnormal vaginal discharge, skin conditions (eczema, psoriasis, allergies)

**STEP 1**  
Diagnosis is most often made based on symptoms and medical history.

**Diagnostic Testing/ Medical Procedures:**

If symptoms are not clearly diagnostic, consider additional lab testing: (i.e. blood IgG, IgA, IgM antibodies, Comprehensive digestive stool analysis)

**STEP 2**  
**Anti-candida diet (Week 1-16+):** starve the candida by eliminating sugar, avoiding high sugar fruits and starchy vegetables, alcohol and dairy

**STEP 3**  
**Week 3-12+ of the following:**

- Antifungal phase <sup>[1]</sup>: allicin, caprylic acid, undecylenic acid, oregano extract
- Reinoculate with beneficial bacteria to out-compete resistant candida<sup>[2]</sup>
- Support liver detoxification <sup>[3]</sup> to decrease “die-off” symptoms: silymarin, NAC
- Promote elimination: increase water-soluble fiber and water intake.

**STEP 4**  
**Maintenance Phase:**

- Maintain balanced whole foods diet with low carbohydrates and minimal or no refined carbohydrates
- Maintain healthy GI flora.

**Remedies to consider:**

1. Microcidin (P.12) (Step 3)
2. Supreme-PB30+ Dairy Free (P.14) (Step 3)
3. Hepasylin (P.11) (Step 3)

## GERD

**Risk Factors:** hypo- or hyperchlorhydria, chronic stress, anxiety/depression, obesity, pregnancy, smoking, alcohol

**Hallmark Signs & Symptoms:** acid reflux, burning throat, dry cough, hoarseness, bitter taste in mouth, lump in throat, burning chest pain, worse at night or lying down

**STEP 1**

**Diagnostic Testing/ Medical Procedures:**

- Rule out physical causes: hiatal hernia, pregnancy, obesity
- If SIBO symptoms present, test and treat accordingly (see SIBO p.9)

Determine if hypochlorhydria:

- Gold standard: Heidelberg capsule test
- At-home tests: baking soda challenge or Betaine HCL Challenge (Note: these tests may be suggestive of hypochlorhydria but are not considered diagnostic)

**STEP 2**

- Diet - avoid foods known to weaken lower esophageal sphincter (LES) tone and worsen GERD symptoms: mint, chocolate, alcohol, caffeine, tomato, citrus, spicy foods, high carbohydrates/starches
- Avoid eating within 2 hours before bedtime
- Strengthen LES tone
- **D-limonene † 1000 mg every day or every other day for 2 weeks** <sup>[1]</sup>

**STEP 3**

Soothe and heal inflamed esophageal lining with demulcent and vulnerary herbs/nutrients (DGL, slippery elm, zinc carnosine)<sup>[2]</sup>

**STEP 4**

If patient on PPI or H2 blocker, consider weaning off slowly once symptoms are well managed using the above treatments.

**Remedies to consider:**

1. Betaine HCl (P.10) (Step 1)
2. Limonen-E (P.10) (Step 2)
3. GI-Restore (+) (P.11) (Step 3)

 † D-limonene 1000 mg every day or every other day for 2 weeks resulted in complete relief of GERD symptoms in 86% of subjects in a double-blind RCT.

[Wilkins JS Jr. Method for treating gastrointestinal disorders. U.S. Patent (6,420,435). July 16, 2002.]

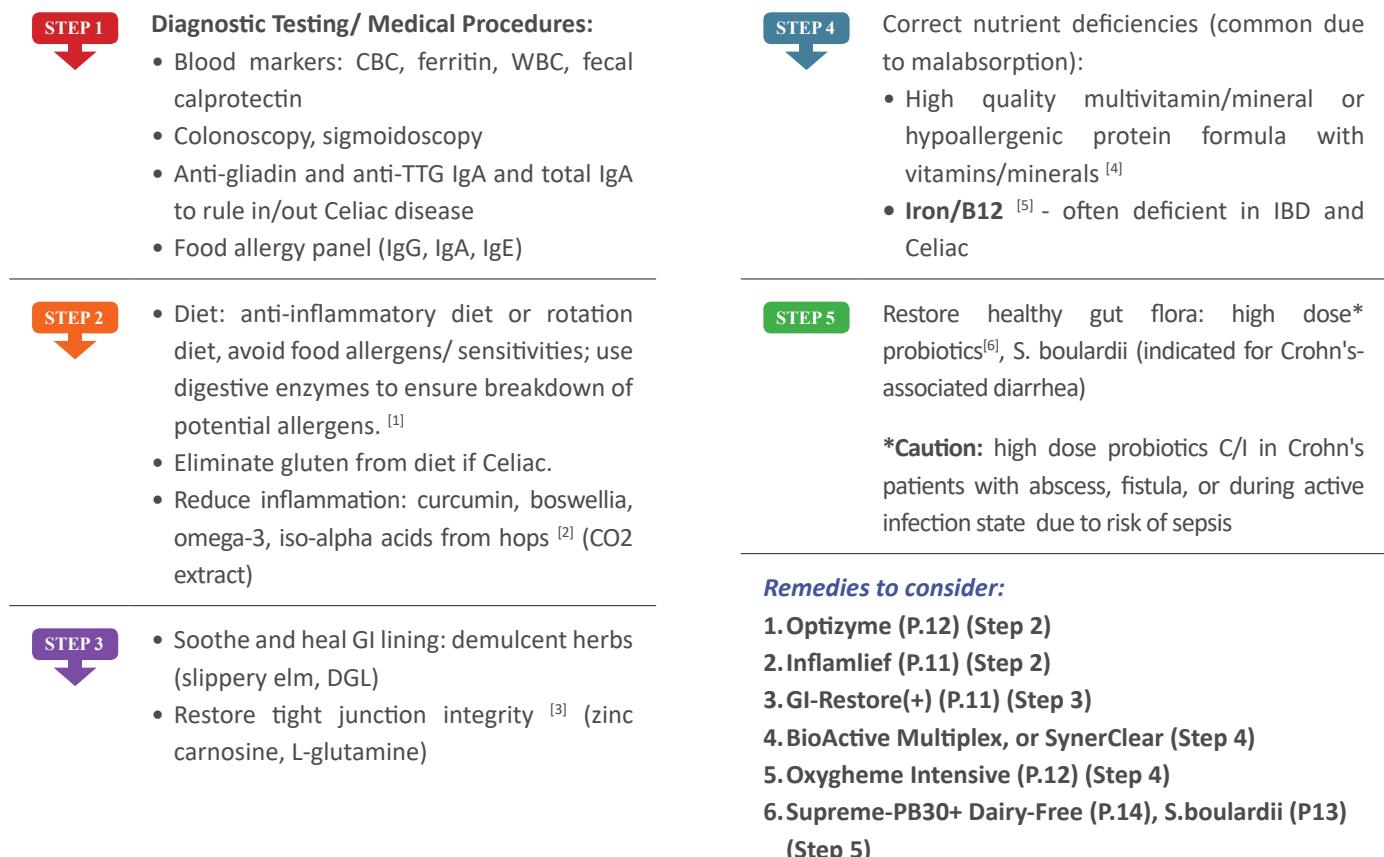
# Inflammatory Bowel Disease (IBD) & Celiac Disease

**Risk Factors:** food sensitivities, family history of autoimmune, history of GI infections, OCP use, chronic stress

## Hallmark Signs & Symptoms:

Crohn's Disease	Ulcerative Colitis
<ul style="list-style-type: none"> <li>• Fatigue, Anemia</li> <li>• Inflammation may occur <b>anywhere along the GI tract</b> (eg. oral, stomach); <b>skipped lesions</b> [via imaging]</li> <li>• Ulcers on mucus lining extend into <b>all layers of the GI lining</b> [upon biopsy]</li> <li>• Pain generally at lower <b>RIGHT</b> abdomen</li> <li>• <b>Bleeding during bowel movement - NOT common</b></li> <li>• Persistent diarrhea</li> <li>• <b>Malabsorption</b></li> </ul>	<ul style="list-style-type: none"> <li>• Fatigue, Anemia</li> <li>• Inflammation typically <b>limited to only large intestine; continuous lesion</b> throughout affected area [via imaging]</li> <li>• Ulcers on mucus lining <b>do not extend beyond inner lining</b> [upon biopsy]</li> <li>• Pain generally at lower <b>LEFT</b> abdomen</li> <li>• <b>Bloody diarrhea</b></li> <li>• Frequent &amp; <b>URGENT</b> bowel movements</li> </ul>

**Celiac:** unexplained malnutrition, chronic anemia without other cause, fatigue, gas & bloating, symptoms related to gluten





# Conditions & Protocols

## Irritable Bowel Syndrome (IBS)

**Risk Factors:** chronic stress, anxiety/depression, dysbiosis.

**Hallmark Signs & Symptoms:** abnormal bowel movement for at least 3 months, gas & bloating, diarrhea/constipation, abdominal pain/discomfort without other cause

- STEP 1**
- IBS is a constellation of symptoms, rather than a diagnosis – first step is to determine root cause(s)
  - Allergy Panel Test (IgG, IgE, IgA) to determine if food allergies/sensitivities are causing or contributing to IBS symptoms

- STEP 2**
- Diet: avoid known food allergens, follow low FODMAP (Fermentable Oligo-Di-Monosaccharides and Polyols) diet
  - Eat cooked/warm foods (avoid eating raw).
  - Use digestive enzymes/ aids to reduce discomfort from fermentation of undigested food <sup>[1]</sup>
  - Use carminative herbs with meal to alleviate abdominal cramps. <sup>[2]</sup>

- STEP 3**
- Restore gut epithelial cell integrity: L-glutamine, zinc carnosine. <sup>[3]</sup>
  - Restore healthy gut flora <sup>[4]</sup>: probiotics

- STEP 4**
- Address neurogenic component: stress reduction (i.e. mindfulness based meditation), adaptogenic & anxiolytic herbs. <sup>[5]</sup>

\*If IBS symptoms have not resolved at all at this point, consider other causes (ie. SIBO - see SIBO protocol on p.9)

### Remedies to consider:

1. Optizyme (P.13) (Step 2)
2. Resolaxin (P.13) (Step 2)
3. GI-Restore(+) (P.11) (Step 3)
4. Bifido-PB30+ Dairy-Free (P.10) (Step 3)
5. Supreme-PB30+ Dairy-Free (P.14) (Step 3)
6. Adrenergyn (P.10), Femalance (P.10) (Step 4)

## Leaky Gut Syndrome

**Risk Factors:** food sensitivities, chronic stress, history of gastroenteritis, highly oxidative diet

**Hallmark Signs & Symptoms:** skin rash, GI complaints (gas, bloating), arthritis, fibromyalgia, cognitive impairment

- STEP 1**
- Diagnostic Testing/ Medical Procedures:**
- Intestinal Permeability Test
  - Food allergy panel (IgG, IgA, IgE)
  - Consider testing for heavy metal toxicity if suspected based on medical history

- STEP 2**
- Remove (Week 1-12):**
- Diet: anti-inflammatory diet
  - Elimination of common food allergens; use digestive enzymes (esp. proteases) to ensure breakdown of potential allergens.

- STEP 3**
- Repair (Week 2-12) <sup>[1]</sup>:** L-glutamine (6-10g QD), soluble fibres, vitamin B5 (500-1000 QD) <sup>[2]</sup>, zinc L-carnosine, omega-3 [EPA] (1-3g QD), anti-inflammatory herbs <sup>[3]</sup>

- STEP 4**
- Reinoculate (Week 4-12):** probiotics & prebiotics <sup>[4]</sup> (gradually increase the dose over 2 weeks)

- STEP 5**
- Reintroduce (Week 12 onward):** reintroduction of previously shown reactive foods - one by one.

### Remedies to consider:

1. GI-Restore (+) (P.11) (Step 3)
2. Bio-B5 Forte (Step 3)
3. Inflamlief (P.11) (Step 3)
4. Ultra-PB100+ Dairy-Free (P.14) (Step 4)

# Peptic Ulcer Disease

**Risk Factors:** *H. pylori* infections (80-90% of cases), chronic stress, NSAIDs, smoking, alcohol

**Hallmark Signs & Symptoms:** a gnawing, burning pain in mid-upper quadrant, usually associated with meals or at night.

- **Gastric ulcer:** hypochlorhydria to normal acid secretion, pain right after meals
- **Duodenal ulcer:** normal to hyperchlorhydria, high pepsin, pain with an empty stomach or 2-3 hours after meals
- **Other symptoms:** bloating, heartburn, nausea or vomiting, dark/black stool and/or vomiting blood (coffee-grounds consistency) in severe cases

## STEP 1 Diagnostic Testing/ Medical Procedures to rule in/out *H. pylori* infection:

- Endoscopy/biopsy - indicated for patients  $\geq$  55 years old to rule out cancer
- Stool antigen test - the best non-invasive test (95% sensitivity and specificity)
- Urea breath test - results may be altered by other urease-producing bacteria

## STEP 2 If *H. pylori* is present, eradicate it with Triple Therapy (PPI + amoxicillin + clarithromycin).

**\*Note:** avoid using acid-promoting or irritating agents in active ulcers as they may worsen outcomes.

- Soothe the inflamed GI lining with demulcent herbs (DGL, slippery elm, marshmallow). <sup>[1]</sup>
- Restore epithelial cell and tight junction integrity: L-glutamine, zinc carnosine <sup>[1]</sup>
- Avoid irritant foods/substances: spicy foods, caffeine, tobacco, alcohol, smoking
- Stress reduction. May consider adaptogenic & anxiolytic herbs. <sup>[2]</sup>

## STEP 3 Slowly wean off the PPIs once the stomach lining has been healed (confirmed by endoscopy). May use probiotics <sup>[3]</sup> to prevent future recurrence of *H. pylori*.

### Remedies to consider:

1. Adrenergyn (P.10), Resolaxin (P.13) (Step 4)
2. GI-Restore (+) (P.11) (Step 5)
3. Ultra-PB100+ (P.14)

# SIBO

**Risk Factors:** Medications (antibiotics, PPIs), history of gastroenteritis, diabetes, hypochlorhydria, use of OCPs, alcohol, ileocecal valve dysfunction, post-surgery

**Hallmark Signs & Symptoms:** severe gas & bloating, belching, diarrhea/constipation, GERD

## STEP 1

### Diagnostic Testing/ Medical Procedures:

Lactulose breath test [gold standard]

## STEP 2

- **Diet: SIBO Specific Food Guide** – elimination of complex carbohydrates (i.e. starches, grains, pasta, legumes, and breads) and high FODMAP foods which feed bacterial overgrowth.
- Incorporate digestive enzymes (esp. carbohydrate-digesting ones) to ensure breakdown of fermentable fibres <sup>[1]</sup>

## STEP 3

**Antimicrobial phase (Month 0-1):** Berberine-containing herbs (i.e. coptis, hydrastis), allicin, oregano extract. <sup>[2]</sup>

## STEP 4

**Recovery phase (Month 1-3+):** Herbal Prokinetic Agent, or low-dose erythromycin or low-dose naltrexone. Incorporate gut-repairing protocol to help restore the migrating motor complex (MMC).

### Remedies to consider:

1. Intolerase (P.12) (Step 2)
2. Microcidin (P.12) or Microcidin AF (P.12) (Step 3)
3. Prokine (P.13) (Step 4)
4. GI-Restore LF (P.11) (Step 4)

\*For more detailed information about SIBO treatment, please refer to our SIBO Therapeutic Protocol.



# Featured Products

## Adrenergyn

### Adrenal Modulator

- Cs-4 strain of *Cordyceps sinensis*** - the most well-studied strain in human clinical studies to enhance oxygen utilization, ATP generation, anti-oxidation, as well as body's immune function.
- Eleuthero** have been shown to modulate the blood pressure & cortisol levels under stress, enhance oxygen usage in cells, and increase endurance of the muscles.
- In TCM, **Cordyceps** tonifies *Kidney Yang* and *Lung*; **Eleuthero** tonifies *Spleen* and *Kidney* and anchors the mind.
- Ashwagandha** supports hypothalamic-pituitary-adrenal axis, as well as the thyroid function by enhancing T4 to T3 conversion.
- Rhodiola** is shown to affect multiple systems to promote emotional well-being, mental clarity, and physical endurance. Like Eleuthero, it also modulates the overshooting cortisol levels. In TCM, rhodiola tonifies *Lung Qi* and promote blood flow.

**Ingredients (equivalent to 4670 mg dried herb per capsule):**

Rhodiola Extract 18:1 ( <i>Rhodiola rosea</i> ) (root).....	75 mg (3% rosavins, 1% salidroside) (equivalent to <b>1350 mg of dried herb</b> )
<i>Cordyceps</i> Cs-4 Extract 8:1 ( <i>Cordyceps sinensis</i> ).....	200 mg (7% cordycepic acid) (mycelium) (equivalent to <b>1600 mg of dried herb</b> )
Eleuthero Extract 10:1 ( <i>Eleutherococcus senticosus</i> ).....	70 mg (0.8% eleutherosides) (root) (equivalent to <b>700 mg of dried herb</b> )
Ashwagandha Extract 6:1 ( <i>Withania somnifera</i> ) (root).....	170 mg (1.5% withanoloids) (equivalent to <b>1020 mg of dried herb</b> )
Vitamin B5 (from d-calcium pantothenate).....	10 mg

## AdrenoForte DP

### Herbal Cortisol Depletion Support

- Free of animal glandular tissue.**
- Licorice** helps to increase the cortisol level via its inhibitory effect on cortisol breakdown (ie. inhibition of 11-beta-hydroxysteroid dehydrogenases). In TCM, licorice tonifies *Spleen Qi*.
- Panax Ginseng** helps to tonify the adrenal functions. In TCM, Panax ginseng tonifies Qi and Yang.
- In TCM, **Eleuthero** tonifies *Spleen* and *Kidney* and anchors the mind.
- Astragalus** - “The King Herb of Qi” in TCM - to tonify *Spleen* and *Lung* and enhance the immune functions.
- Highly concentrated **Bacopa Extract (30:1; 50% bacopasides)** - a potent Ayurvedic brain tonic to support cognitive function and memory.

**Ingredients (equivalent to 6110 mg dried herb per capsule):**

Asian Ginseng Extract 10:1 ( <i>Panax ginseng</i> ) (root).....	85mg (20% ginsenosides) (equivalent to <b>850 mg of dried herb</b> )
Astragalus Extract 12:1 ( <i>Astragalus membranaceus</i> ).....	100 mg (root) (equivalent to <b>1200 mg of dried herb</b> )
Licorice Extract 8:1 ( <i>Glycyrrhiza glabra</i> ) (12% glycyrrhizin).....	170mg (root) (equivalent to <b>1360 mg of dried herb</b> )
Eleuthero Extract 10:1 ( <i>Eleutherococcus senticosus</i> ).....	75mg (root) (equivalent to <b>750 mg of dried herb</b> )
Bacopa Extract 30:1 ( <i>Bacopa monnieri</i> ) (whole plant).....	65mg (50% bacopasides) (equivalent to <b>1950 mg of dried herb</b> )
Vitamin B5 (from d-calcium pantothenate).....	10 mg

## Bifido-PB30+ DF

### Bifido-Only Probiotic Formula

**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.

#### Key Features

- Without FOS & Dairy-Free. Suitable for SIBO Patients
- Includes HN019 - clinically shown to Regulate Gut-Motility
- Stability: Acid & Bile-Resistant
- Efficacy: Human Gut-Anchoring Ability
- Safety: ATCC-Registered & Antibiotic Resistance Tested

#### Indications:

- newborns with disrupted microbiota (ie. antibiotic use)
- restoring gut motility in the elderly
- patients with predisposition to d-lactic acidosis, such as 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> BI-26.....	1 billion
<i>Bifidobacterium lactis</i> BL-04 .....	10 billion
<i>Bifidobacterium lactis</i> HN019.....	10 billion

May contain up to 60 billion viable cells at the time of manufacture.

## 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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## Limonen-E

### D-Limonene for GERD Relief

- D-limonene has been shown to be effective in relieving occasional heartburn and gastroesophageal reflux disorder (GERD).
- Ultra-potent D-Limonene (>99.5%)
- 1 g of D-limonene (~24 drops) daily or every other day has been clinically shown to achieve complete relief of symptoms

**Ingredients (per 24 drops):**

D-Limonene (from <i>Citrus sinensis</i> ) (peel).....	1000 mg
Vitamin E (from alpha-d-tocopheryl acetate).....	2.4 IU

## GI-Restore (+)

### Comprehensive Gut-Healing Formula

- Polaprezinc (Zinc L-Carnosine) - helps to protect intercellular tight junctions and reduce gut hyperpermeability.
- Combination of herbal demulcents - DGL (10:1) and Slippery Elm - to coat and soothe inflamed GI linings.
- L-glutamine to promote tissue regeneration in the GI tract.
- Quercetin to exert anti-histamine and anti-inflammatory effects in the gut.
- **GI-Restore+:** contains S-methylmethionine in Cabbage juice concentrate to protect GI mucosa
- Powder form to ensure contact throughout the entire GI tract.

#### Ingredients (per 1/2 teaspoon):

Slippery Elm Extract (4:1) ( <i>Ulmus rubra</i> ) (branch bark).....	150 mg (water extract) (equivalent to 600 mg of dried herb)
DGL (Deglycyrrhizinated Licorice) (10:1).....	152 mg ( <i>Glycyrrhiza glabra</i> ) (root) (equivalent to 1520 mg of dried herb)
Zinc L-carnosine (polaprezinc).....	25 mg
L-Glutamine.....	500 mg
Quercetin (isolate).....	50 mg

#### Included in GI-Restore+:

Cabbage Juice Concentrate (20:1) ( <i>Brassica oleracea</i> ).....	150 mg (leaf) (low-temperature spray-dried) (equivalent to 3000 mg of cabbage juice)
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## GI-Restore LF

### Comprehensive Gut-Healing Formula for Low FODMAP Diet

GI-Restore® LF is a Low FODMAP, gut-healing formula to help relieve inflammation of the GI tract and support the linings of the gut via multiple mechanisms:

- Supports intercellular tight junctions
- Promotes mucus secretion in the stomach
- Modulates inflammation and histamine actions - ensure gut lining integrity and regulate acid secretion
- Promotes proper tissue formation and regeneration
- Contains 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 capsule):

Zinc L-Carnosine.....	50 mg
Curcumin (from <i>Curcuma longa</i> ) (root, rhizome) (*C3-Complex*)....	67 mg
L-Glutamine.....	200 mg
Cayenne Extract 18:1 ( <i>Capsicum annuum</i> ).....	6.7 mg (fruit) (equivalent to 360 mg of dried herb)
Quercetin (isolate).....	100 mg
Calcium Butyrate.....	100 mg

## Hepasylin

### Herbal Hepato-Protectant

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

- Milk thistle extract standardized by not only silymarin but also **silybin** – the most active compound of silymarin group – to guarantee the maximum 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 15:1 ( <i>Silybum marianum</i> ) (seed).....	250 mg (standardized to 80% silymarin, min. 30% silybin) (equivalent to 3750 g dried herb)
Dandelion Root Extract 4:1 ( <i>Taraxacum officinale</i> ).....	20 mg (equivalent to 80 mg dried herb)
Artichoke Leaf Extract 5:1 ( <i>Cynara scolymus</i> ) (leaf).....	50 mg (standardized to 2.5% cynarin) (equivalent to 250 mg of dried herb)
Licorice Root Extract 4:1 ( <i>Glycyrrhiza glabra</i> ).....	10 mg (equivalent to 40 mg of dried herb)
Alpha Lipoic Acid.....	20 mg

## Inflamlief

### Herbal Inflammation-Relief Formula

- Features patented hops CO<sub>2</sub>-extract, clinically shown to relieve pain with comparable effect to 400 mg ibuprofen.
- Provides relief without the cardiovascular, gastrointestinal and renal adverse effects of the pharmaceutical anti-inflammatory medications.
- Contains highly concentrated phyto-antioxidants to scavenge free radicals and reduce oxidative stress in inflamed tissues.

#### Ingredients (per capsule):

(Each capsule contains 6,300 mg Dried Herb Equivalent)	
Hops Extract 30:1 ( <i>Humulus lupulus</i> ).....	167 mg (Perluxan™) (cone) (30% alpha and iso-alpha acids) (equivalent to 5,000 mg of dried herb)
Boswellia Extract 20:1 ( <i>Boswellia serrata</i> ) (gum resin).....	60 mg (65% boswellic acid) (equivalent to 1,200 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)
Piperine (from <i>Piper nigrum</i> fruit) (Bioperine®).....	1.7 mg



# Featured Products

## Intolerase

### "Digest Your Intolerances" for SIBO & Malabsorption

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

- Helps support the compliance of FODMAP-restrictive diet
- 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

## Microcidin

### Broad Spectrum Anti-Microbial Formula

- Contains multiple antimicrobial ingredients with different mechanisms to inhibit and destroy the pathogenic microbes, such as bacteria, virus, fungi (eg. *Candida albican*) and parasites.
- Coptis (Huang Lian) contains high berberine. Coptis is the king herb for detoxification in TCM, for infections and Liver Fire. In modern medicine, coptis itself or combined with clove extract have been proven to inhibit fungal growth and candidiasis.
- Contains lab-standardized high allicin content from freeze-dried garlic concentrate. Allicin is a potent natural antibiotic that does not cause dysbiosis.
- Synergized with highly concentrated oregano extract, undecyleic acid and caprylic acid for broad spectrum microcidal effect in prevention and eradication of microbial infections.

#### Ingredients (per capsule):

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

## Microcidin AF

### Low FODMAP Anti-Microbial Formula

**Microcidin® AF** is a low-FODMAP "Allium-Free" broad spectrum antimicrobial formula.

- 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 supporting the mood in patients with IBS-D.
- Cinnamon - "warming" antimicrobial to balance 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 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>Arctostaphylos uva-ursi</i> ).....	.35 mg (leaf) (equivalent to 350 mg dried herb)
Oregano Extract ( <i>Origanum vulgare</i> ).....	.50 mg (leaf) (30% carvacrol)

## Oxygheme Intensive

### Supports hemoglobin production & integrity

Fortified version of Oxygheme containing **higher dose of iron (22.5 mg/capsule)**, **active folate (5-methyltetrahydrofolate)**, and **active vitamin B6 (pyridoxal-5-phosphate)**.

- Contains **iron in amino-acid-chelate form**, providing MFP factor-like effect for better bioavailability and GI tolerance.
- **Active folate, vitamin B6 and vitamin B12** to support hemoglobin production and integrity.
- Red beet juice extract is used for anemia or blood deficiency in traditional Ayurvedic and Chinese Medicine.

#### Ingredients (per capsule):

Iron (from iron bisglycinate) (TRAACS®).....	22.5 mg
Vitamin B6 (pyridoxal-5-phosphate).....	3 mg
Vitamin B12 (methylcobalamin).....	.300 mcg
5-MTHF (QuatrefolicR) (5-methyltetrahydrofolate).....	.100 mcg
Vitamin C (as ascorbic acid).....	.100 mg
Vitamin E (12 mg ATE) (from d-alpha tocopheryl acetate).....	.18 IU
Beet Extract 10:1 ( <i>Beta vulgaris</i> ) (root).....	.200 mg (equivalent to 2 g of dried beet root)

# Optizyme

## High Dose, Full-Spectrum Digestive Enzyme Formula

- Full spectrum of plant-derived digestive enzymes working in different pH zones of the entire GI tract.
- Contains high dose digestive enzymes to yield much faster and more effective relief to symptoms of indigestion and malnutrition.
- Proteases could effectively relieve prolonged allergic symptoms such as eczema and chronic sinusitis caused by foods.
- Also useful for individuals who are convalescing from illnesses, severe injuries, burns, chemotherapy or operations/surgeries by helping them obtain better absorption and tolerance of foods.

### Ingredients (per capsule):

Amylase (from <i>Aspergillus oryzae</i> ).....	17500 DU
Glucoamylase (from <i>Aspergillus niger</i> ).....	.9.5 AGU
Alpha-Galactosidase (from <i>Aspergillus niger</i> ).....	180 GalU
Cellulase (from <i>Aspergillus niger</i> ).....	160 CU
Beta-glucanase (from <i>Trichoderma longibrachialium</i> ).....	70 BGU
Maltase (from barley malt).....	60 DP
Hemicellulase (from <i>Aspergillus niger</i> ).....	30 HCU
Lactase (from <i>Aspergillus oryzae</i> ).....	.650 ALU
Invertase (from <i>Saccharomyces cerevisiae</i> ).....	213 SU
Pectinase (from <i>Aspergillus niger</i> ).....	8 endo-P
Phytase (from <i>Aspergillus niger</i> ).....	13.5 FTU
Lipase (from <i>Aspergillus niger</i> ).....	11500 LU
Protease I (pH 2.5-6.5) (from <i>Aspergillus oryzae</i> ).....	.23 SAPU
Protease II (pH 7-10) (from <i>Aspergillus oryzae</i> ).....	22500 HUT
Bromelain (from <i>Ananas comosus</i> ).....	120 GDU/1,800,000 PU
Papain (from papaya ( <i>Carica papaya</i> ) fruit/latex).....	100,000 PU

# S. boulardii

## Support Gut Microbiota of Individuals on Antibiotic Treatment

*Saccharomyces boulardii* is a probiotic clinically used to support the gut flora of patients on antibiotic treatment.

- Support the recovery of the antibiotic-associated diarrhea, as well as other types of acute, prolonged diarrhea.
- Improves intestinal permeability and supports the remission of patients with history of inflammatory bowel disorders.
- Regulates intestinal microbial homeostasis and stabilizes the gastrointestinal barrier, interfering with the ability of pathogens to colonize and infect the mucosa.

### Ingredients (per capsule):

<i>Saccharomyces boulardii</i> (whole cell).....	5 billion cfu
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# Prokine

## Natural Prokinetic Formula

- 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 capsule):

L-5-HTP (L-5-Hydroxytryptophan).....	225 mg (from <i>Griffonia simplicifolia</i> ) (seed)
Ginger Extract ( <i>Zingiber officinalis</i> ).....	600 mg (rhizome) (standardized to contain 6% gingerols)
Chamomile Extract 10:1 ( <i>Matricaria chamomilla</i> ).....	150 mg (flower) (equivalent to 1,500 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 2,400 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 L-5-MTHF).....	300 mcg
Vitamin B12 (methylcobalamin).....	300 mcg

# Resolaxin

## Herbal GABA Agonist for Stress Relief

- **Wild jujube seed & passionflower** are potential GABA receptor agonists to promote the mind and muscle relaxation.
- **Wild jujube seed**, a TCM herb used for **calming the Shen (mind)** and **nourish Heart Yin**, improving sleep quality & digestive function, and reducing the high blood pressure & relieving IBS caused by stress.
- **Chamomile & lemon balm** - excellent nervine tonics
- **L-theanine** induces a sense of inner calm and promote restful sleep without affecting alertness.
- Not only useful in calming the mind and promoting relaxation, but also ideal for IBS (diarrhea or constipation dominant).

### Ingredients (equivalent to 3387 mg dried herb per capsule):

Chamomile Extract 8:1 ( <i>Matricaria chamomilla</i> ).....	120 mg (flower) (1% apigenin) (equivalent to 960 mg dried herb)
Lemon Balm Extract 5:1 ( <i>Melissa officinalis</i> ).....	53.3 mg (leaf) (5% rosmarinic acid) (equivalent to 267 mg dried herb)
Wild Jujube Extract 17:1 ( <i>Zizyphus spinosa</i> ) (seed).....	110 mg (2% triterpene saponins) (equivalent to 1980 mg dried herb)
Passion Flower Extract 4:1 ( <i>Passiflora incarnata</i> ) (flower).....	45 mg (3.5% vitexin) (equivalent to 180 mg dried herb)
L-Theanine (from <i>Camellia sinensis</i> ) (leaf).....	50 mg
Magnesium (from magnesium citrate).....	25 mg
Vitamin B6 (from pyridoxine hydrochloride).....	5 mg

## Supreme-PB30+ DF

### Multi-Strain/Dairy Free Probiotic Formula

- Contains 55 billion viable cells comprised of 11 species of human gut-anchoring probiotics to ensure successful establishment in each of their particular niche.
- Carefully selected strains with complete resistance tests (22 antibiotics); all strains are registered with genomic banks.
- All strains are acid- and bile-resistant, ensuring their passage through the entire GI tract.
- L. rhamnosus GG, clinically shown to support and relieve antibiotic-associated diarrhea.
- B. lactis BI-04 is shown in RCT to support immunity.
- Perinatal & neonatal supplementation of L. rhamnosus HN001 - clinically shown to support healthy blood sugar metabolism during gestation and healthy immune functions of newborns.

Formulation WITHOUT FOS Available

#### Ingredients (per capsule):

<i>Lactobacillus acidophilus</i> La-14.....	6 billion cfu
<i>Lactobacillus rhamnosus</i> Lr-32.....	2 billion cfu
<i>Lactobacillus casei</i> Lc-11.....	5 billion cfu
<i>Lactobacillus salivarius</i> Ls-33.....	1 billion cfu
<i>Bifidobacterium bifidum</i> Bb-06.....	1 billion cfu
<i>Bifidobacterium lactis</i> BI-04.....	5 billion cfu
<i>Streptococcus thermophilus</i> St-21.....	2 billion cfu
<i>Bifidobacterium breve</i> Bb-03.....	1.5 billion cfu
<i>Lactobacillus plantarum</i> Lp-115.....	1.5 billion cfu
<i>Lactobacillus rhamnosus</i> HN001.....	2 billion cfu
<i>Lactobacillus rhamnosus</i> GG.....	.3 billion cfu

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

## Ultra-PB100+

### Multi-Strain/Dairy Free Probiotic Formula

- Comprised of 13 human gut-anchoring probiotics to ensure successful establishment in each of their particular niche.
- Carefully selected strains with complete resistance tests (22 antibiotics); all strains are registered with genomic banks.
- All strains are acid- and bile-resistant, ensuring their passage through the entire GI tract.
- Comprehensive strain combination to maximize efficacy.
- Provides formulas with or without prebiotic (FOS) to meet each individual's needs.
- Powdered formula for easy dose adjustment & administration.
- High dose probiotic has been used as an adjunct support in inflammatory bowel diseases (IBD) to achieve remission and reduce relapse rate.

#### Ingredients (per serving/teaspoon):

<i>Lactobacillus acidophilus</i> La-14.....	15 billion cfu
<i>Lactobacillus rhamnosus</i> Lr-32.....	15 billion cfu
<i>Lactobacillus casei</i> Lc-11.....	10 billion cfu
<i>Lactobacillus salivarius</i> Ls-33.....	8 billion cfu
<i>Bifidobacterium bifidum</i> Bb-06.....	2 billion cfu
<i>Bifidobacterium lactis</i> BI-04.....	12 billion cfu
<i>Streptococcus thermophilus</i> St-21.....	8 billion cfu
<i>Bifidobacterium breve</i> Bb-03.....	5 billion cfu
<i>Lactobacillus plantarum</i> Lp-115.....	5 billion cfu
<i>Lactobacillus rhamnosus</i> HN001.....	3 billion cfu
<i>Bifidobacterium infantis</i> Bi-26.....	1 billion cfu
<i>Lactobacillus rhamnosus</i> GG.....	6 billion cfu
<i>Lactobacillus reuteri</i> 1E1.....	1 billion cfu

May contain up to 200 billion viable cells at the time of manufacture.

## Femalance

### Jia Wei Xiao Yao Wan/ 加味逍遙丸 Augmented Free & Easy Wanderer

Soothes the Liver and Relieves Qi Stagnation

Strengthens the Spleen

Nourishes the Blood and Calms Heat & Fire

#### Ingredients:

Bupleurum chinense, Angelica sinensis, Paeonia lactiflora, Atractylodes lancea, Poria cocos, Glycyrrhiza uralensis, Paeonia suffruticosa, Gardenia jasminoides, Mentha haplocalyx, Zingiber officinale

## Harmovex

### Tian Wang Bu Xin Dan/ 天王補心丹 Emperor of Heaven's Heart Tonifying Pills

Replenishes Yin and Blood

Strengthens Heart & Kidney and Calms Mind (Shen)

#### Ingredients:

Rehmannia glutinosa, Salvia miltiorrhiza, Angelica sinensis, Acorus tatarinowii, Codonopsis tangshen, Poria cocos, Schisandra chinensis, Ophiopogon japonicus, Asparagus cochinchinensis, Scrophularia ningpoensis, Polygala tenuifolia, Ziziphus spinosa, Platycladus orientalis, Platycodon grandiflorum, Glycyrrhiza uralensis