Rebalancing Your Gut Microbiome

A Comprehensive Guide to Microbiome Health, Probiotic Therapy & Gut Restoration

Your gastrointestinal microbiome — the diverse community of beneficial bacteria, viruses, and yeasts in your intestinal tract — is fundamentally important for optimal health. These microscopic organisms outnumber your own cells by 10 to 1 and perform over 6,000 essential biochemical processes your body cannot accomplish alone. When the balance and quantity of these organisms isn't optimal, it's no wonder we experience a wide variety of symptoms. Diversity is absolutely key to a thriving microbiome.

Why Your Microbiome Matters

A well-balanced microbiome provides remarkable health benefits across every body system:

- Reduces inflammation and pain while modulating your immune system
- Optimizes nutrient absorption and boosts metabolism for healthy fat loss
- Restores neurotransmitter balance for better mental health, cognition, and memory
- Regulates hormones — including estrogen, cortisol, and insulin
- Produces short-chain fatty acids (SCFAs) that fuel the gut lining and reduce inflammation
- Trains immune tolerance — preventing autoimmunity and allergies
- Protects against pathogen overgrowth — bacteria, yeasts, parasites
- Supports detoxification via beta-glucuronidase regulation and toxin binding

Your Action Plan

1. Incorporate Fermented Foods Daily

Eat small portions of fermented foods throughout the day — just a couple of bites from different varieties, ideally several times daily. Fermented foods seed and diversify your microbiome.

- Sauerkraut — authentically fermented (Bubbies brand)
- Pickles and kimchi — naturally fermented varieties
- True sourdough bread (if you consume grains)
- Kombucha and fermented vegetables
- Kefir — dairy, coconut milk, or water kefir
- Tempeh
- Apple cider vinegar with the "mother" (Bragg's brand)
- Cultured dairy products (GOOD Culture brand)

2. Emphasize Colorful, Diverse Plant Foods

Consume large amounts of colorful vegetables and fruits daily. Make bitter foods a regular part of your diet — endive, dandelion greens, arugula, dill, sesame. Bitter compounds stimulate bile flow and digestive enzymes. If whole foods aren't sufficient, consider berberine, gentian, goldenseal, Oregon grape, or turmeric supplements.

Signs Your Microbiome Needs Support

- Bloating, gas, cramping, or discomfort after meals
- Constipation, diarrhea, or alternating between both (IBS pattern)
- Persistent brain fog, poor memory, or difficulty concentrating
- Mood instability, anxiety, or depression without clear cause
- Chronic fatigue that doesn't respond to sleep
- Food sensitivities or new intolerances developing over time
- Skin conditions — eczema, psoriasis, acne, rosacea
- Frequent illness, slow immune recovery, or recurrent infections
- Autoimmune flares or unexplained inflammatory symptoms
- Strong sugar or carbohydrate cravings (yeast/pathogen signaling)
- History of multiple antibiotic courses

Recommended Probiotic Products

Not all probiotics are created equal. Strains, delivery mechanism, and formulation all matter significantly. Below are the products most frequently used at Larrea:

SEED Daily Synbiotic

Contains: Lactobacillus Plantarum, Bacillus pumilus, and multiple targeted strains

A two-part capsule system delivering 53.6 billion AFU of clinically studied probiotic strains with a prebiotic outer capsule. Lactobacillus Plantarum binds and excretes harmful toxins including heavy metals from the gut, and helps ease anxiety and depression by influencing neurotransmitter production. Bacillus pumilus optimizes nutrient metabolism and supports immune function.

TerraFlora Deep Immune

Contains: Bacillus pumilus, LC-Plasma (Lactococcus lactis strain Plasma), spore-based strains

LC-Plasma activates antiviral immunity by stimulating plasmacytoid dendritic cells (pDCs) and boosting type I interferon production — clinically shown to lessen the duration and severity of respiratory infections. Supports both innate and adaptive immunity without overstimulating inflammation. Ideal for immune-compromised or infection-prone patients.

3. Feed Your Beneficial Bacteria

Include foods rich in inulin fiber — jicama, chicory, sunchokes — to nourish your beneficial bacteria. Aim for 25 different types of fiber daily. Fiber diversity drives species diversity.

Important: If increasing fiber causes bloating or pain, contact your provider immediately for SIBO testing — bacterial overgrowth in the small intestine can make fiber counterproductive.

4. Avoid Microbiome Disruptors

- Processed foods and refined sugars — feed pathogenic bacteria and yeast
- Grains (breads, pasta, cookies, tortillas, crackers, rice) — eliminate or drastically reduce
- Alcohol — more than two drinks causes intestinal barrier dysfunction; polyphenol-rich foods help counteract this
- Glyphosate/pesticides — choose organic and GMO-free foods whenever possible
- Antibiotics, NSAIDs, PPIs — each significantly disrupts gut ecology
- Chronic stress — elevates cortisol, impairing gut motility and barrier integrity
- Chlorinated tap water — kills both beneficial and pathogenic bacteria

5. Optimize Your Eating Environment

Digestion begins in your mind and mouth. The vagus nerve connects your brain directly to your gut — your mental state during meals measurably impacts enzyme production, stomach acid, and motility.

- Eat slowly and chew thoroughly — digestion begins in the mouth
- Eat in a calm, relaxed state — avoid eating while stressed or rushing
- Practice gratitude — parasympathetic activation improves digestion
- Avoid large meals late at night — give your gut 12+ hours overnight to rest (MMC cycle)

OrthoBiotic / OrthoBiotic-R

Contains: Lactobacillus strains, Bifidobacterium strains, Saccharomyces boulardii

A comprehensive blend paired with Saccharomyces boulardii — a beneficial yeast that directly competes with Candida and supports gut barrier integrity. OrthoBiotic-R (Restoration) offers even higher potency for post-antibiotic recovery or significant dysbiosis. Excellent foundation probiotic for most patients.

MegaSporeBiotic™

Contains: 100% spore-based Bacillus strains

Spores survive stomach acid intact, activating in the small intestine. Clinically shown to maintain healthy gut barrier function and — combined with an anti-inflammatory diet — can heal leaky gut. Particularly useful when other probiotics haven't produced results.

ProbioMax® Lean DF

Contains: HOWARU® Shape Bifidobacterium animalis subsp. lactis B420

Shown to assist with healthy body composition by improving gut barrier function, reducing body fat mass, and promoting less calorie consumption — driven by gut barrier integrity, not appetite suppression. Well-suited for metabolic syndrome or weight management.

ProBioPhage DF

Contains: 4 types of bacteriophages + 7 strains of probiotics

Bacteriophages are viruses that only infect bacteria — highly specific, targeting problematic bacterial species without disturbing beneficial ones. Best for persistent dysbiosis or specific pathogen overgrowth that hasn't responded to standard probiotics.

Bifido Blend

Contains: Bifidobacterium longum, Bifidobacterium breve, and additional Bifido strains

Produces diamine oxidase (DAO) — the enzyme responsible for breaking down histamine in the gut. Critical for histamine intolerance or MCAS. Also reduces intestinal permeability and supports estrogen clearance via beta-glucuronidase reduction.

Diversity is the foundation of a healthy microbiome. The more varied your diet, the more diverse your gut ecosystem — and the more resilient your health.

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Testing to Guide Treatment

Microbiome restoration works best when guided by objective testing. We use several tools to identify specific imbalances:

Test	What It Reveals
GI-MAP	Comprehensive stool DNA test — pathogens, dysbiosis, parasites, SIgA, beta-glucuronidase, intestinal permeability markers
SIBO Breath Test	Lactulose or glucose breath test — identifies bacterial overgrowth in the small intestine (key if fiber causes bloating)
Organic Acids Test	Identifies fungal and bacterial metabolites, mitochondrial function, B-vitamin status, and oxalate levels
Zonulin (stool/blood)	Quantifies intestinal permeability — guides leaky gut protocol and tracks repair progress
Comprehensive Stool Culture	Identifies specific bacterial imbalances and antibiotic sensitivities for targeted treatment

General Probiotic Guidelines

- Take probiotics away from antibiotics by at least 2 hours
- Rotate products every 1–3 months to prevent tolerance and improve diversity
- Refrigerate live cultures; spore-based probiotics are shelf-stable
- Start with lower doses and increase gradually — die-off (Herx) reactions are common
- Pair with prebiotic foods (fiber) for maximum benefit
- Consistency matters — microbiome shifts take 4–12 weeks of sustained effort
- Testing before and after provides the clearest picture of progress

Further Learning

- mindbodygreen.com — 10 Things You Need to Know About Your Microbiome
- highintensityhealth.com — gut health and microbiome resources
- articles.mercola.com/fermented-foods.aspx
- healthyfocus.org — The Hadza Diet and the Key to a Healthy Microbiome

The Gut-Brain Connection

The gut and brain are in constant two-way communication via the vagus nerve, the enteric nervous system (often called the 'second brain'), and the gut-brain axis. Your microbiome produces or influences over 90% of the body's serotonin, as well as GABA, dopamine precursors, and other neurotransmitters that regulate mood, motivation, sleep, anxiety, and cognition.

- Anxiety and depression are strongly correlated with dysbiosis
- Brain fog often clears significantly with microbiome restoration
- Sleep quality improves as GABA-producing bacteria are restored
- Chronic stress depletes Lactobacillus and Bifidobacterium — the most protective strains
- Food cravings are often driven by gut microbes signaling for their preferred substrates

The Gut-Immune Connection

Approximately 70–80% of the immune system resides in the gut-associated lymphoid tissue (GALT). The microbiome continuously trains immune cells to distinguish friend from foe — a process that, when disrupted, underlies most autoimmune and allergic conditions.

- Secretory IgA (SIgA) — the gut's first-line immune defense — depends on a healthy microbiome
- Leaky gut allows microbial fragments (LPS) to enter circulation, driving systemic inflammation
- MCAS and histamine intolerance are frequently rooted in gut dysbiosis
- Autoimmune conditions almost universally involve intestinal permeability
- Restoring the microbiome often reduces autoimmune flare frequency and severity

The Gut-Hormone Connection

The gut microbiome plays a central role in hormone metabolism — particularly estrogen, cortisol, and thyroid hormones. The estrobolome (the collection of microbes that metabolize estrogen) directly affects estrogen dominance and clearance.

- Elevated beta-glucuronidase (from dysbiosis) recirculates estrogen — driving estrogen dominance
- Bifido strains reduce beta-glucuronidase and support proper estrogen clearance
- Gut dysbiosis impairs thyroid hormone conversion (T4 → T3)
- Cortisol dysregulation from chronic stress directly disrupts microbiome composition
- Healthy gut bacteria support insulin sensitivity and blood sugar regulation

What to Expect From Restoration

Microbiome restoration is not a quick fix — it requires sustained dietary and lifestyle changes alongside targeted supplementation. Here's what a realistic timeline looks like:

Timeline	What to Expect
Week 1–2	Die-off reactions possible — fatigue, bloating, mood shifts (sign it's working)
Week 2–4	Improved bowel regularity, reduced bloating, initial energy improvement
Month 1–2	Clearer thinking, improved mood stability, reduced food sensitivities
Month 2–3	Skin improvements, better immune response, reduced inflammation markers
Month 3–6	Sustained hormonal balance, autoimmune improvement, lasting energy
Ongoing	Maintenance with diet, rotation of probiotics, annual retesting

Microbiome restoration is not a one-size-fits-all protocol. Your provider will select strains, sequences, and combinations based on your specific test results, symptoms, and health history — and adjust as your gut ecosystem responds.