velocity health

The *Ultimate* Gut Health Guide

PART ONE: Nutrition & Supplements

Introduction

A healthy gut is the foundation for overall wellness and resilience. Your digestive system does more than just process food. It's intricately connected to the operation of your brain, immune system, and even how you age.

In fact, many scientists now refer to the gut as a "second brain," revolutionizing our understanding of how digestion links to mood, health, and even the way we think.[1]

A balanced gut can enhance mental health and cognitive performance, while an imbalanced one (dysbiosis) is associated with issues like anxiety, brain fog, and inflammation.[1]

And nurturing a diverse gut microbiome may also promote healthy aging. Studies show that centenarians harbor gut bacteria that help ward off infections and maintain gut homeostasis or balance.[2] By taking care of your gut, you invest in better immunity, improved mental clarity, higher physical performance, and even longevity.

CITATIONS
1. Johns Hopkins Medicine. *The Brain-Gut Connection*.
2. Lennon A. *How Bacteria-Eating Viruses and Gut Bacteria May Contribute to Longevity*. 2023.

Gut Health 101

Understanding a few core principles of gut health will empower you to make effective changes. **Here are the basics:**

Gut Microbiome: The gut is home to trillions of microorganisms (bacteria, fungi, viruses) collectively called the microbiome. A healthy microbiome is diverse and balanced, meaning plenty of beneficial microbes and fewer harmful ones. These friendly bacteria help digest food, produce vitamins, train our immune system, and crowd out pathogens. When the microbiome falls out of balance (a state called dysbiosis), it can contribute to issues ranging from digestive troubles to metabolic and immune disorders.

Key point: diversity is generally beneficial. The more variety in your gut bugs, the more resilient your gut ecosystem tends to be.

Gut-Brain Axis: Ever had "butterflies" in your stomach when anxious? That's the gut-brain connection in action. The gut and brain constantly communicate via nerves (primarily the vagus nerve), hormones, and immune signaling. This bidirectional axis means mental stress can affect your digestion, and gut irritation can influence your mood. In fact, irritation in the GI tract can send signals to the central nervous system that trigger anxiety or mood changes.[1] The gut produces many of the same neurotransmitters as the brain does. (For example, a large proportion of the body's serotonin is made in the gut lining.) A well-functioning gut-brain axis supports better stress response, mood stability, and cognitive function, whereas disruptions here are linked to conditions like IBS, depression, and even neurodegenerative diseases.

CITATIONS
1. Johns Hopkins Medicine. *The Brain-Gut Connection*.

Gut Health 101 *cont.*

Gut Barrier Integrity: The lining of your intestines is a single-cell-thick barrier that decides what gets absorbed into your bloodstream and what stays out. Ideally, this barrier is selectively permeable, allowing nutrients through but blocking toxins and microbes. If the barrier becomes overly porous (a phenomenon often called “leaky gut”), unwanted particles can slip into the bloodstream, triggering inflammation and immune reactions. Maintaining gut barrier integrity is critical: a leaky gut has been linked to gastrointestinal disorders and systemic issues. For instance, chronic stress has been shown to increase intestinal permeability (making the gut lining leaky) and even allow bacteria/endotoxins to translocate into the body.[3] Conversely, a strong gut barrier helps prevent inflammation and keeps our immune system from overreacting. Loss of barrier integrity is thought to contribute to conditions like inflammatory bowel disease (IBD), obesity, and metabolic disorders.[4] Strengthening the gut lining (through nutrition, targeted nutrients, and lifestyle modification) is a key part of gut healing.

CITATIONS

3. Kelly, J. R. et al. *Breaking Down the Barriers: The Gut Microbiome, Intestinal Permeability and Stress-Related Psychiatric Disorders*. 2015.

4. Chelakkot, C. et al. Mechanisms Regulating Intestinal Barrier Integrity and Its Pathological Implications. Experimental & Molecular Medicine. 2018.

Gut Health 101 *cont.*

Circadian Rhythms of the Gut: Your gut has its own internal clock. There are daily (circadian) fluctuations in gut processes, including fluctuations in the composition of gut bacteria, digestive enzyme secretion, and intestinal motility. Disrupting your body's circadian rhythm (say, through irregular sleep patterns, jet lag, or erratic meal timings) can disturb these gut rhythms. Research shows that circadian disruption can alter the gut microbiota composition and perturb metabolism and inflammatory pathways.[5] In essence, when you stay up all night or eat at odd hours, your gut's timing is thrown off, which may contribute to dysbiosis and metabolic issues. On the flip side, aligning eating patterns and daily routines with your body's natural clock can have a positive effect. For example, consistent meal times and daytime eating help beneficial gut microbes follow a healthy rhythm.[5] Understanding the gut's circadian nature underscores why lifestyle regularity (sleep schedule, meal timing) is so important for gut health.

With these fundamentals in mind, let's move on to actionable strategies. We'll start with foundational steps **(Tier 1)** suitable for anyone looking to optimize gut health or address mild symptoms, and then progress to advanced protocols **(Tier 2)** for those with chronic gut issues. Later sections will delve into lifestyle habits, nutrition, supplements, and cutting-edge therapies in more detail.

CITATIONS
5. Bishehsari et al. *Circadian rhythms and the gut microbiota: from the metabolic syndrome to cancer*. 2020.

Tier 1

Foundational Gut Optimization *30-Day Plan*

For individuals with moderate or occasional gut symptoms (bloating, indigestion, irregularity) or anyone looking to strengthen their gut health, Tier 1 is a one-month plan focusing on fundamental lifestyle and dietary upgrades. This 30-day plan is about removing common gut antagonists and adding core gut-friendly habits. Even if your gut issues are mild, these foundational steps can significantly improve digestion, energy, and well-being.

Goal: Reset and optimize your gut through simple, sustainable changes in diet, routine, and stress management. By the end of 30 days, you should experience less bloating, more regular bowel movements, improved mood/energy, and a sense of resilience in your digestion.. **Here's a week-by-week breakdown for Tier 1:**

***Week One* – Clean Up Your Diet:** In the first week, eliminate or reduce the most common gut offenders in your diet. This includes ultra-processed foods, excessive sugar, and artificial additives. A typical Western diet high in refined carbs, processed meats, fried foods, and sugars can disrupt the gut microbiome and drive inflammation.[6] So focus on whole, unprocessed foods this week. Cut out sugary drinks and snacks, fast food, and heavily processed meals. Also try reducing alcohol and caffeine if either is in excess, as these can irritate the gut lining for some people. Instead, build meals around clean protein (fish, poultry, eggs, legumes), plenty of cooked vegetables, low-glycemic fruits, and healthy fats (olive oil, avocado, nuts). This "gut cleanse" period gives your digestive system a break from irritants and lowers the overall inflammatory load. Many people notice that just removing junk food and alcohol leads to less bloating and discomfort within days. Remember to stay well-hydrated, too. Drink plenty of water throughout the day to support digestion and motility.

CITATIONS
6. Flynn H. *Western diet could impact gut inflammation, leading to chronic conditions*. 2024.

Tier 1: Foundational Gut Optimization *30-Day Plan*

***Week 2* – Prioritize Fiber and Fermented Foods:** Once you've removed the bad stuff, it's time to actively add the good stuff. In the second week, increase your intake of dietary fiber gradually. Fiber is the primary fuel for your gut's beneficial bacteria. When microbes ferment fiber, they produce short-chain fatty acids that heal and energize the colon cells. Aim to incorporate a diverse array of plant foods, such as vegetables, fruits, whole grains, nuts, seeds, legumes. A famous guideline from microbiome research is to eat **30 different plant-based foods per week** for maximal diversity.[7] Greater variety in fiber types encourages a more diverse microbiome, which is linked to better gut health and even a lower risk of diseases (The fermentation of diverse fibers leads to production of butyrate and other compounds that reduce inflammation and protect against colon cancer).[7] So, challenge yourself to try new plants: different colored produce, leafy greens, root veggies, berries, etc.

Along with fiber, add fermented foods to your daily diet. These bring in live probiotic microbes and additional nutrients. Good options include yogurt or kefir (for dairy-tolerant folks), fermented vegetables like sauerkraut or kimchi, kombucha, miso, or tempeh. Start with 1-2 small servings of fermented foods per day. Not only do fermented foods inoculate your gut with beneficial bacteria, but emerging research shows they can increase microbiome diversity and reduce inflammation in the body.[8] One study found that a 10-week diet high in fermented foods led to a significant decrease in inflammatory markers and an increase in the diversity of gut microbes.[8] As you add fiber and fermented foods, go slow if you're not used to them—a sudden jump can cause gas or bloating. By the end of week 2, you should be eating a predominantly whole-food, high-fiber diet with daily probiotic foods, setting a strong foundation for your gut.

CITATIONS
7. Mansfield R. *Could you eat 30 plant-based foods a week?* 2021.
8. Wastyk H.C. *Gut Microbiota-Targeted Diets Modulate Human Immune Status.* 2021.

***Week 3* – Optimize Eating Habits & Circadian Rhythm:** In the third week, focus on how and when you eat, not just what you eat. This is about aligning your habits with your gut's natural processes. First, practice mindful eating: chew your food thoroughly and eat without distractions. Digestion begins in the mouth. Chewing well and eating slowly can reduce bloating and improve nutrient absorption. (You'll be surprised how much this helps!) Aim not to eat in a rushed or stressed state; when you're relaxed, your parasympathetic "rest and digest" mode is activated, which enhances digestion.

Next, consider meal timing. Try to consume your meals in a consistent window each day (for example, 8am-7pm eating window with an overnight fast). Avoid late-night heavy meals, since eating very late can disrupt the gut's restorative processes at night. Research on chrononutrition indicates that an erratic eating schedule can disturb the daily rhythms of your microbiome.[5] By keeping a regular meal schedule (e.g., breakfast, lunch, dinner around the same times each day) and giving yourself at least 12 hours overnight with no food, you support the circadian rhythm of your gut. Some people find benefits in **time-restricted feeding**—for instance, only eating within an ~10-hour window in the daytime—which can improve digestion and metabolic health. This week, also pay attention to meal composition to aid digestion. Perhaps introduce pro-motility agents such as bitters or digestive tea (like ginger or peppermint tea) before meals to stimulate digestive juices, and don't go overboard with portion sizes (large heavy meals can slow digestion; smaller, balanced meals may be easier on the gut).

CITATIONS
5. Bishehsari et al. *Circadian rhythms and the gut microbiota: from the metabolic syndrome to cancer*. 2020.

Tier 1: Foundational Gut Optimization *30-Day Plan*

***Week 4* – Stress, Movement, and Sleep:** In the final week of the foundational plan, integrate lifestyle practices that support long-term gut health. **Stress management** is crucial. Identify at least one stress-reduction technique that you will practice daily. Good options are diaphragmatic breathing exercises, meditation, yoga, or even a relaxing hobby in the evening. High stress directly impacts the gut (As discussed, it can loosen the gut barrier and alter motility.), so making relaxation a habit will help your digestion stay calm. **Physical activity** is another pillar: aim for moderate exercise most days (such as a brisk 30-minute walk, cycling, or swimming). Regular exercise has been shown to increase the diversity of gut microbes and boost levels of beneficial short-chain fatty acids.[9] It also helps regulate bowel movements and reduce stress. Just avoid very intense exercise without proper recovery, as overtraining can sometimes stress the gut (balance is key). **Sleep** is the third component this week: commit to a consistent sleep schedule, aiming for 7–9 hours of quality sleep per night. Poor sleep or irregular sleep can negatively affect the gut microbiome. Studies show that even short-term sleep deprivation can lead to a reduction in beneficial bacterial diversity.[10] To improve your sleep, establish a calming bedtime routine (no heavy meals or screens right before bed). Adequate sleep will synergize with your other efforts, since the gut lining undergoes repair during sleep and the microbiome follows a day-night cycle. By the end of week 4, these lifestyle habits—daily stress reduction, regular exercise, and consistent sleep—should be part of your routine. They will not only help maintain the improvements you've made, but also continue to enhance your gut health going forward.

After 30 days on this foundational plan, most people notice substantial improvements: better digestion, more regular and comfortable bowel movements, reduced bloating, and often improvements in energy, mood, and even skin health. **Tier 1** may be all you need if your issues were mild or mainly due to diet/lifestyle. But if you have more persistent or severe gut problems (e.g., diagnosed IBS, frequent pain, significant dysbiosis or "leaky gut" concerns), you may consider progressing to **Tier 2**, which is a more advanced gut reset protocol designed to take place over 60 days. But even if you move to Tier 2, the habits from Tier 1 are still the foundation for a healthy gut—you'll keep these healthy practices while layering on more targeted interventions.

CITATIONS
9. Hawley J.A. et al. *Exercise, the Gut Microbiome and Gastrointestinal Diseases: Therapeutic Impact and Molecular Mechanisms*. 2025.
10. Karl J.P. et al. *Severe, short-term sleep restriction reduces gut microbiota community richness but does not alter intestinal permeability in healthy young men.* 2023.

Tier 2

Advanced Gut Reset *60-Day Plan*

For individuals with chronic or severe gut issues—such as IBS, SIBO (small intestinal bacterial overgrowth), dysbiosis, or suspected “leaky gut”—Tier 2 provides a deeper, therapeutic reset over the course of about two months. This is a comprehensive protocol involving elimination diets, targeted supplementation, and a structured reintroduction phase to truly rehabilitate the gut environment. It’s more intensive than Tier 1, but can lead to significant relief and healing for those who haven’t found success with basic measures.

Goal: Over 60 days, calm down inflammation and irritation in the gut, eradicate any bacterial overgrowth or dysbiosis, then rebuild a healthy microbiome and strong gut lining. By the end of this reset, you should see major symptom reduction (e.g. minimal bloating, pain, or irregularity), improved food tolerance, and markers of gut health (like stool consistency, frequency, and overall well-being) vastly improved. **We can break Tier 2 into two phases (each roughly 4 weeks)**

Tier 2: Advanced Gut Reset *60-Day Plan*

Phase One (Weeks 1 - 4) **Remove and Soothe:** The first month focuses on removing triggers and sources of imbalance, while soothing and healing the gut. This includes a strict elimination diet and (if needed) antimicrobial treatments:

Elimination Diet (Remove Offending Foods): For at least the first 2-4 weeks, adopt a gut-healing elimination diet. The idea is to remove common dietary triggers and inflammatory foods completely to give the gut time to heal. An approach that has been repeatedly proven to work well is the Low-FODMAP diet, which involves cutting out specific fermentable carbohydrates that often provoke IBS symptoms (found in foods like wheat, certain fruits, dairy, onions/garlic, legumes, etc.). Clinical trials show that a low-FODMAP diet can improve symptoms in ~70% of IBS patients.[11] Alternatively, or in addition, you might eliminate other known irritants such as gluten, dairy, soy, corn, artificial additives, and alcohol—especially if you suspect sensitivity to any of these. Essentially, Phase 1 diet is anti-inflammatory and hypoallergenic. Focus on easily digestible, soothing foods. For example, meals might include cooked vegetables (to ease digestion of fiber), well-cooked proteins, bone broth (rich in collagen and amino acids to help the gut lining), and healthy fats. Spices like ginger and turmeric can be included for their digestive and anti-inflammatory benefits (if tolerated). During this phase, you're not only removing foods that might be "feeding" bad bacteria or irritating your gut lining, but also partially starving out the overgrown microbes by depriving them of fermentable fuels. This can lead to a reduction in gas, bloating, and discomfort. Expect that your food variety will be limited for a few weeks, but remember that this is temporary and therapeutic.

CITATIONS
11. Dugum M. et al. *Managing irritable bowel syndrome: The low-FODMAP diet.* 2016.

Tier 2: Advanced Gut Reset *60-Day Plan*

Optional Targeted Therapies (Address Dysbiosis): If testing or symptoms indicate you have SIBO or a dysbiosis (imbalanced gut flora), Phase 1 is also the time to actively address that. Under guidance of a healthcare provider, you could use **antimicrobials**—either pharmaceuticals like rifaximin (for SIBO) or natural herbal antimicrobials. Rifaximin is a non-absorbed antibiotic that stays in the gut; it's FDA-approved for IBS-D (diarrhea-predominant IBS) and often used for SIBO eradication, with studies showing it is effective and well-tolerated.[12] Herbal alternatives (or complements) can be similarly effective. For example, a blend of herbal antimicrobial supplements (like oregano oil, berberine, garlic extract, and neem) was found to have a ~46% success rate in clearing SIBO, slightly higher than rifaximin's ~34% success in one study.[13] These herbs can selectively inhibit pathogenic bacteria and yeast in the gut. Typically, an antimicrobial protocol might last 2–4 weeks during Phase 1. It's crucial to do this step with professional oversight because the specifics (dosing, combinations) matter, and you want to avoid excessive die-off reactions. (When bad bacteria die rapidly, they can release toxins causing temporary symptom flare-ups.) Alongside antimicrobials, you might also add a **digestive enzyme supplement** or bile acid supplement if you have specific difficulties digesting fats or proteins. This can help alleviate symptoms and ensure proper nutrient breakdown while your gut heals.

Gut-Soothing Support: While you're eliminating and eradicating, also add things that soothe and protect the gut. This could include supplements or foods like L-glutamine (an amino acid that fuels intestinal cells), aloe vera juice (anti-inflammatory to the gut lining), slippery elm or marshmallow root (herbal demulcents that coat and soothe mucous membranes), and of course bone broth or collagen peptides for extra healing nutrients. These can help reduce inflammation in the gut and support the intestinal barrier as you remove the irritants. Many people find that during elimination, these gut-soothing additions greatly reduce symptoms like heartburn, pain, or loose stools. Ensure you are also maintaining the lifestyle practices from Tier 1—stress reduction, good sleep, gentle exercise—because they become even more critical when you're trying to heal a sensitive gut.

CITATIONS

12. Gatta L. et al. *Systematic review with meta-analysis: rifaximin is effective and safe for the treatment of small intestine bacterial overgrowth.* 2017.
13. Metabolic Solutions Blog. *Is herbal therapy better than rifaximin for treating small intestinal bacterial overgrowth?* 2014

Tier 2: Advanced Gut Reset *60-Day Plan*

Phase Two (Weeks 5 - 8) **Rebuild and Reintroduce:** After a thorough cleanup in Phase 1, the second month focuses on rebuilding a resilient gut ecosystem and slowly expanding the diet to a sustainable long-term pattern.

Gradual Reintroduction of Foods: A key part of any elimination diet is systematically reintroducing foods to identify which ones you can tolerate and which trigger symptoms. By week 5 or so, if your symptoms have significantly improved, you'll begin reintroductions. Introduce foods one at a time, every 3–4 days, and monitor your reactions. For example, if you eliminated dairy, you might try a small serving of yogurt and observe for any return of symptoms over 72 hours. If you've been low-FODMAP, you would reintroduce each category of FODMAPs (fructose, lactose, polyols, fructans, galactans) one by one, in small amounts, to see which group causes issues. Keep a food and symptom journal during this process. The goal is to diversify your diet again as much as possible without causing symptom flares. You may discover that only certain foods are problematic. (For instance, some people with IBS find they can handle lactose-free dairy but not wheat, or vice versa.) Those foods that don't cause symptoms can remain in your diet going forward. It's important not to stay on an extremely restrictive diet for longer than necessary. Research cautions that staying strictly low-FODMAP for too long may starve and reduce your numbers of beneficial gut bacteria, so the reintroduction phase is crucial to find a balanced, personalized diet.[11] By the end of reintroductions, you'll have a clear sense of your trigger foods (which you might continue to limit or avoid) versus well-tolerated foods (which should make up your core diet).

CITATIONS
11. Dugum M. et al. *Managing irritable bowel syndrome: The low-FODMAP diet.* 2016.

Tier 2: Advanced Gut Reset *60-Day Plan*

Reinoculate with Beneficial Microbes: Phase 2 is also the time to build up a healthy microbiome after the "weeding" phase. This often involves **probiotic** supplements and prebiotic foods or supplements. You can introduce a high-quality probiotic supplement (if you weren't already using one). Look for a multi-strain product with clinically studied strains. (For example, Lactobacillus and Bifidobacterium species that are known to support gut health.) Probiotics can help crowd out any remaining bad actors and populate the gut with friendly organisms. Studies show probiotics significantly reduce IBS symptoms compared to placebo.[14] Additionally, emphasize prebiotic fibers to feed those good bugs. Foods like asparagus, garlic, onions, oats, bananas, or a dedicated prebiotic supplement (such as inulin, fructooligosaccharides, or resistant starch) can selectively nourish beneficial bacteria. (Introduce prebiotics gradually, as they can sometimes cause gas while your gut adjusts. Even low doses can be effective. For instance, certain prebiotics are known to boost Bifidobacteria growth, enhancing a healthy microbiota composition).[15] The reinoculation phase helps restore diversity and metabolic function to your microbiome.

CITATIONS
14. Didari T. et al. *Effectiveness of probiotics in irritable bowel syndrome: Updated systematic review with meta-analysis.* 2015.
15. Yoo S. et al. *The Role of Prebiotics in Modulating Gut Microbiota: Implications for Human Health.* 2024

Tier 2: Advanced Gut Reset *60-Day Plan*

Repair the Gut Lining: The final component is providing nutrients that strengthen and repair the intestinal lining (to truly "seal and heal" the gut). L-Glutamine is a star player here. It's the primary fuel for enterocytes (gut lining cells) and can help regenerate a leaky gut. Some practitioners recommend 5–10 grams of glutamine powder daily in this phase. (Notably, research suggests that high doses of glutamine may be needed for measurable reduction in intestinal permeability. One meta-analysis found that only doses above 30 g/day led to significant improvements in gut barrier function.[16] While typical doses are lower, many patients subjectively report better gut tolerance and less bloating on glutamine, and it's considered safe in moderation.) **Zinc carnosine** is another well-researched supplement. It's a compound used in Japan for gastric ulcers and has been shown to stabilize gut barrier integrity and promote repair processes.[17] A standard dose is 75 mg twice daily. Other supportive nutrients include **omega-3 fatty acids** (from fish oil, to lower inflammation), **vitamin D** (important for mucosal immunity), and **antioxidants** (like vitamins A, C, E or curcumin) which help calm inflammation while the gut heals. You may also continue collagen supplementation or bone broth consumption to provide amino acids like glycine and proline that build connective tissue in the gut lining. All these "repair" strategies work synergistically to fortify the intestinal wall and reduce any lingering "leakiness."

Monitor and Adjust: During Phase 2, listen to your body. As you reintroduce foods, you might need to pause if a certain food causes a flare, give yourself a few extra days of gut rest (returning to the strict elimination diet), and then try a different item. It's normal to have minor setbacks, but overall you should see a trend of improved tolerance and comfort. If certain supplements aren't agreeing with you (e.g., some people are sensitive to probiotics or prebiotics initially), adjust the dose or form (sometimes a different strain or a lower dose is better tolerated) or add them later in the phase. By the end of week 8, you ideally will be on a personalized diet that avoids your specific triggers but is as inclusive as possible, and you'll have established a daily regimen of any needed supplements that keep your gut in check.

CITATIONS
16. Abbasi F. et al. *A systematic review and meta-analysis of clinical trials on the effects of glutamine supplementation on gut permeability in adults.* 2024.
17. Mahmood A. et al. *Zinc carnosine, a health food supplement that stabilises small bowel integrity and stimulates gut repair processes.* 2006.

Tier 2: Advanced Gut Reset *60-Day Plan*

After completing the 60-day advanced reset, the results can be transformative for those who started with significant gut problems. Many individuals report that long-term issues like chronic bloating, abdominal pain, alternating diarrhea/constipation, or severe reflux are dramatically reduced or gone. Energy improves as nutrient absorption improves. Skin conditions or joint pains driven by gut inflammation may calm down. Brain fog often lifts as the gut-brain axis normalizes. Importantly, maintain the healthy habits and diet you've identified as your new normal. Tier 2 isn't meant to be a temporary quick fix but rather a therapeutic intervention that transitions you into a sustainable lifestyle for gut health. In the sections below, we'll explore in detail some of the key strategies referenced in these plans—including lifestyle factors, nutrition specifics, beneficial supplements, and emerging therapies—along with the scientific rationale behind them.

Lifestyle & Behavioral Strategies for a *Healthy Gut*

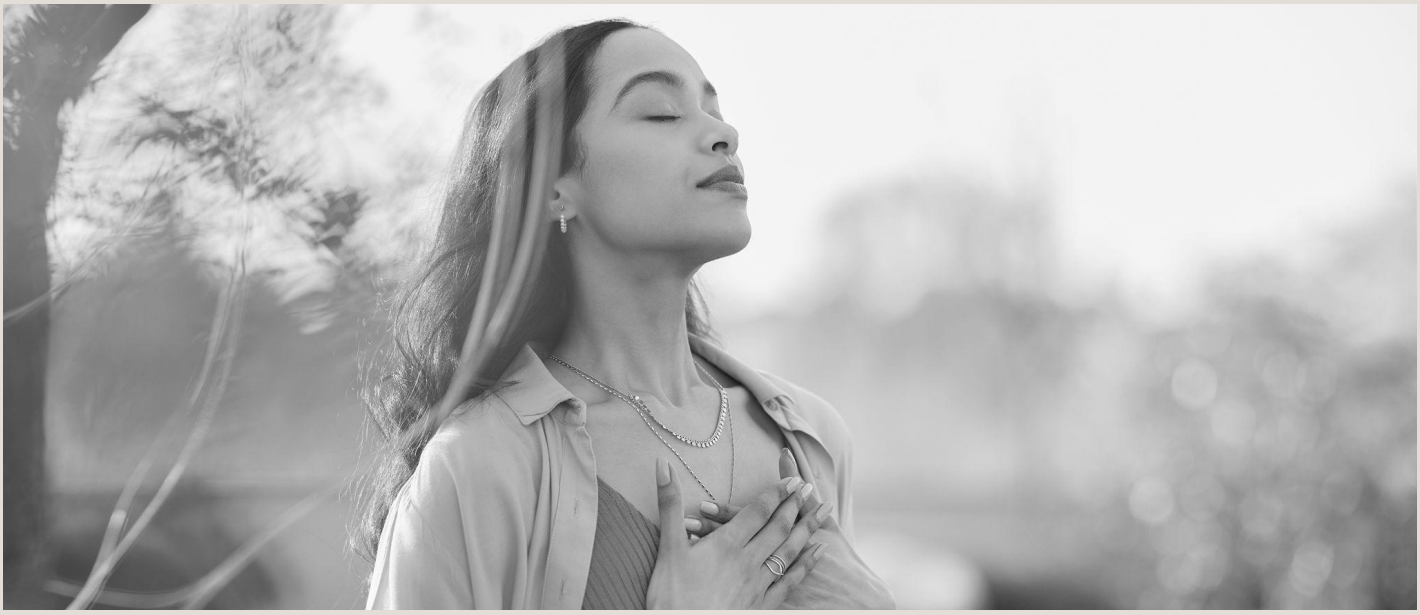
How you live day-to-day has a profound impact on your gut. Beyond diet, factors like sleep, stress, and exercise can either support or disrupt your digestive health. Incorporating gut-friendly lifestyle practices is just as important as taking the right supplements or eating the right foods. Here are the **key lifestyle and behavioral strategies** to optimize your gut health:

Align with Your Circadian Rhythm: Maintaining a consistent daily routine can significantly benefit your gut. Try to wake up, eat meals, and go to sleep at roughly the same times each day. This regularity reinforces your body's internal clocks, including the clocks in your digestive system. In contrast, irregular sleep or meal times can throw off gut function. Pulling an all-nighter, for example, or eating in the middle of the night can disrupt your microbiome's normal daily cycle.[5] Where possible, expose yourself to natural light in the morning (to set your circadian clock) and dim lights in the evening. Consider time-restricted eating (such as eating all meals within a 10-12 hour window during the day) to give your gut a consistent fasting period at night. Studies in animals and humans suggest that consistent feeding-fasting cycles help beneficial gut bacteria follow healthy rhythms and can improve metabolic health.[5] In short, living in tune with day-night cycles—sleeping at night, being active in daytime, and keeping meal times regular—creates an optimal environment for your gut to function.

CITATIONS
5. Bishehsari et al. *Circadian rhythms and the gut microbiota: from the metabolic syndrome to cancer*. 2020.

Lifestyle & Behavioral Strategies for a Healthy Gut *cont.*

Stress Management and Mindfulness: Chronic stress is a known enemy of gut health. High stress levels can alter gut motility (leading to diarrhea or constipation), change the composition of your microbiome, and increase intestinal permeability (contributing to "leaky gut").[3] To counteract this, it's essential to have daily stress-relief practices. Find what works for you. It could be mindfulness meditation, deep breathing exercises, yoga, tai chi, journaling, or even leisure activities like walking in nature or listening to music. Activating the "relaxation response" helps shift your nervous system into a parasympathetic state where digestion flourishes. Even simple acts like taking 5–10 slow, deep belly breaths before a meal can prime your body for proper digestion. Some people benefit from scheduling short breaks during the workday to unwind or doing a short meditation in the morning and/or before bed. Not only will stress reduction likely improve any stress-related gut symptoms (such as IBS flares), it also has systemic benefits. Lower cortisol (stress hormone) levels can lead to reduced inflammation in the gut. Remember, your brain and gut are in constant two-way communication. By calming your mind, you are directly soothing your gut-brain axis.



CITATIONS

3. Kelly, J. R. et al. *Breaking Down the Barriers: The Gut Microbiome, Intestinal Permeability and Stress-Related Psychiatric Disorders*. 2015.

Lifestyle & Behavioral Strategies for a Healthy Gut *cont.*

Regular Movement and Exercise: Physical activity is a boon for your gut. Exercise stimulates intestinal contractions (peristalsis), helping to prevent constipation and keeping food moving through efficiently. In addition, consistent moderate exercise has been linked to beneficial shifts in the gut microbiome. Research shows that people who exercise regularly tend to have a more diverse gut microbial community and higher levels of butyrate-producing bacteria (which contribute to a healthy colon).[9] In one study, previously sedentary individuals who started an exercise program increased their gut microbe diversity and production of short-chain fatty acids—but these positive changes diminished if they returned to being sedentary, underscoring the importance of consistency. Aim for at least 150 minutes of moderate exercise per week (e.g., 30 minutes, 5 times a week). Great gut-friendly activities include walking, jogging, cycling, swimming, or yoga. High-intensity exercise can also be beneficial, but extreme training (like marathon running or very intense CrossFit-style workouts) can sometimes transiently increase gut permeability or cause GI upset, so balance intense workouts with adequate rest and nutrition. Ultimately, find physical activities you enjoy. Not only will this improve your gut motility and microbiome, but exercise also reduces stress, which, as noted, further benefits the gut.

CITATIONS
9. Hawley J.A. et al. *Exercise, the Gut Microbiome and Gastrointestinal Diseases: Therapeutic Impact and Molecular Mechanisms*. 2025.

Lifestyle & Behavioral Strategies for a Healthy Gut *cont.*

Prioritize Quality Sleep: Never underestimate the power of good sleep for gut health. While you sleep, your digestive system undergoes critical housekeeping tasks. The migrating motor complex sweeps residual debris and bacteria through the intestines, and the gut lining cells renew and repair. Poor sleep or irregular sleep schedules can disrupt these processes. For instance, studies have found that even a short period of sleep restriction or sleep schedule shift can alter the gut microbiota composition and reduce its diversity.[10] Inadequate sleep also increases stress hormones and systemic inflammation, which can manifest in gut symptoms. Strive for 7–9 hours of sleep per night. To support better sleep, create a relaxing bedtime routine (no heavy meals within 2–3 hours of bed, limit caffeine after early afternoon, and shut off bright screens an hour before bed to allow melatonin to rise). Ensure your sleeping environment is dark, cool, and quiet. If you have trouble sleeping, practices such as taking magnesium in the evening, gentle stretching, or listening to calming sleep stories or binaural beats might help. Getting quality sleep will amplify all your other gut-healing efforts. You'll notice better appetite regulation, less stress, and a happier gut when you are well-rested.

CITATIONS
10. Karl J.P. et al. *Severe, short-term sleep restriction reduces gut microbiota community richness but does not alter intestinal permeability in healthy young men.* 2023.

Lifestyle & Behavioral Strategies for a Healthy Gut *cont.*

Healthy Bathroom Habits: Though less often discussed, even your routine on the toilet can be a lifestyle factor for gut health. Don't ignore the call to stool—chronic "holding it in" can lead to constipation and disrupt your bowel rhythm. Try to establish a regular time for bowel movements (many people find that mornings, after hydrating and maybe after a warm beverage, are ideal). Consider using a footstool to prop your feet up when sitting on the toilet. This simulates a squat position and can help with complete evacuation by straightening the recto-anal angle. Avoid straining excessively; if stools are hard, focus on increasing hydration and fiber intake, and possibly use natural stool softeners like magnesium or prune juice rather than pushing too hard (which can cause hemorrhoids). Basically, be kind to your body in this very natural process. Your gut will thank you.

In summary, shaping your lifestyle in a gut-friendly way means living in balance: regular rhythms, managing stress, staying active, and sleeping deeply. These behaviors create the environment in which your gut can truly thrive. Many gut issues will significantly improve just by changes in lifestyle alone, even before changing a single thing in your diet. And when combined with the nutritional strategies below, the impact is even greater.

Nutrition for Gut Health

Nutrition is the cornerstone of gut health. What you eat directly feeds your gut microbes and can either soothe or aggravate your digestive tract. By choosing the right diet and eating pattern, you can reduce inflammation, nurture a balanced microbiome, and strengthen your gut lining. Here we outline the key **nutritional strategies** for optimal gut health:

Adopt an Anti-Inflammatory, Whole-Foods Diet: The overall pattern of your diet matters more than any single food. Aim for a diet that is predominantly unprocessed and rich in natural, anti-inflammatory foods. This often resembles a **Mediterranean diet**—abundant in vegetables, fruits, legumes, nuts, whole grains, fish, and olive oil, while low in refined sugars, deep-fried foods, and processed meats. Such a diet provides plenty of fiber, omega-3 fatty acids, and polyphenols, all of which support a healthy gut environment. Fiber and polyphenols act as prebiotics (food for your good bacteria), and omega-3s help resolve inflammation in the gut lining. By contrast, a pro-inflammatory diet (think: the standard Western diet high in red meats, butter, fried foods, and sugar) can harm gut health. Diets high in saturated fats and low in fiber tend to decrease beneficial gut microbes that protect the gut barrier, leading to more endotoxin release and inflammation.[6] For example, beneficial bacteria like Faecalibacterium and Akkermansia, which produce butyrate and maintain the gut's mucus layer, dwindle when fiber is lacking or when too much animal fat is present.[6] So, base your meals around anti-inflammatory choices: colorful produce (for antioxidants), lean proteins or plant proteins, and healthy fats from fish, nuts, seeds, avocado, etc. Use herbs and spices (ginger, turmeric, oregano, garlic) not only for flavor but for their antimicrobial and anti-inflammatory properties. This kind of diet will naturally help reduce gut inflammation and promote a favorable microbiome.

CITATIONS
6. Flynn H. *Western diet could impact gut inflammation, leading to chronic conditions*. 2024.

Nutrition for Gut Health *cont.*

Increase Fiber Diversity: We've touched on fiber, but its diversity deserves emphasis. Different types of dietary fiber (soluble, insoluble, resistant starch, fermentable oligosaccharides, etc.) each nourish different communities of gut bacteria. To cultivate a rich and resilient microbiome, consume a wide variety of fiber sources. Aim for the "30 different plant foods per week" challenge, as noted earlier.[7] This might include various vegetables (leafy greens, cruciferous veggies like broccoli/cauliflower, root veggies like sweet potatoes or carrots), fruits (berries, apples, kiwis, bananas), whole grains (oats, quinoa, brown rice, buckwheat), legumes (lentils, chickpeas, black beans), nuts and seeds (almonds, flaxseed, chia, pumpkin seeds), and mushrooms and herbs. Each plant contributes its own mix of fibers and polyphenols that encourage growth of certain beneficial microbes. As your gut bacteria ferment these fibers, they produce short-chain fatty acids such as butyrate, acetate, and propionate, which have multiple benefits: they nourish the gut lining, maintain the mucus barrier, modulate the immune system, and even communicate with the brain to regulate appetite and mood. Indeed, people who eat a greater variety of plants have been shown to have a more diverse microbiome and higher production of health-promoting metabolites.[7] If your current diet is low in fiber, increase intake gradually to avoid gas/bloating—your microbiome will adapt over time. Also, ensure you're drinking enough water, as fiber works best with adequate hydration.

CITATIONS
7. Mansfield R. *Could you eat 30 plant-based foods a week?* 2021.

Nutrition for Gut Health *cont.*

Include Fermented Foods: Fermented foods are unique in that they contain live microbes (probiotics) and bioactive compounds that can directly benefit the gut. Traditional diets around the world often include fermented staples (yogurt, kefir, fermented vegetables, sourdough, fermented soy, etc.), and modern science is rediscovering their value. Adding fermented foods can increase your gut microbiota diversity and reduce inflammatory markers.[8] Yogurt and kefir, for instance, provide Lactobacillus and Bifidobacterium strains that can temporarily colonize the colon and support digestion of lactose and other compounds. Fermented vegetables like sauerkraut, kimchi, or pickles (fermented in brine) are rich in lactic acid bacteria, enzymes, and organic acids that help the gut. Kombucha (fermented tea) and fermented soy products like miso or tempeh also contribute different probiotic species. Incorporate a variety of fermented foods daily—e.g., a serving of unsweetened yogurt or kefir in the morning, a side of sauerkraut or kimchi with lunch or dinner, or a glass of kombucha as a snack. Start with small amounts if you're not used to them. Over time, these foods can help strengthen your digestion (Many people report improved regularity and less bloating.) and possibly even your immune function. There's also evidence that fermented foods may help train your immune system to be less reactive (which is useful in conditions like allergies or autoimmune tendencies). Think of fermented foods as a natural probiotic and an integral part of a gut-friendly diet.

CITATIONS
8. Wastyk H.C. *Gut Microbiota-Targeted Diets Modulate Human Immune Status.* 2021.

Nutrition for Gut Health *cont.*

Practice Elimination and Reintroduction (If Needed): If you suspect certain foods don't agree with you, or you have a condition like IBS, consider a structured elimination diet to identify triggers. As described in Tier 2, a common approach is the Low-FODMAP diet, which eliminates specific fermentable carbs for a few weeks. This diet has robust evidence for IBS—up to 3 in 4 people experience improvement in symptoms.[11] Other elimination protocols include removing common allergens like gluten, dairy, soy, eggs, and then testing them one by one (this is often done in "leaky gut" or autoimmune protocols). The general process is: strictly remove the suspected foods for a short period (usually 2–4 weeks) to see if symptoms improve; then reintroduce foods one at a time to see if any symptom flare occurs, indicating a sensitivity. It's very important to do the reintroduction systematically.[11] Introduce only one new food every 3 days or so, and track any digestive changes. This way, you can clearly pinpoint if, say, dairy is the food causing problems if it was something else. Elimination diets are not meant to be permanent; they are diagnostic tools and a way to give your gut a rest. Staying on a very restrictive diet long-term can actually be detrimental (leading to nutrient gaps and a less diverse microbiome). So, once you identify your personal trigger foods, you can keep those out of your regular diet but happily enjoy all the other foods that your body tolerates well. For example, you might discover that garlic and onion (high in FODMAP fructans) are causing your bloating—you can limit those, but still eat other veggies, fruits, and whole grains freely. Or you might find gluten is an issue and choose naturally gluten-free grains. The end result is a personalized, varied diet that avoids only what it needs to. If you're doing an elimination diet, it can be helpful to work with a nutritionist or doctor, especially to ensure you maintain proper nutrition during the elimination phase and to plan the reintroduction properly.

CITATIONS
11. Dugum M. et al. *Managing irritable bowel syndrome: The low-FODMAP diet.* 2016.

Nutrition for Gut Health *cont.*

Anti-Inflammatory Add-ons: Certain foods and ingredients have outsized benefits for gut health due to their anti-inflammatory or gut-soothing properties. Integrate these into your diet regularly:

Omega-3 Rich Foods: Fatty fish (salmon, sardines, mackerel) or plant sources like flaxseed and walnuts provide omega-3 fats which can reduce gut inflammation and support a balanced immune response in the gut mucosa.

Bone Broth and Collagen: As mentioned earlier, bone broth is rich in gelatin and collagen, plus minerals – consuming it may help support the gut lining (anecdotally many with leaky gut or IBD find it beneficial). You can sip on warm bone broth or use it as a base for soups.

Ginger and Peppermint: Ginger root has pro-kinetic and anti-inflammatory effects. It can help with nausea and accelerate gastric emptying. Peppermint (especially in enteric-coated capsules) has been shown to relieve IBS symptoms by reducing spasms in the gut. Ginger tea or peppermint tea can be soothing after meals.

Turmeric (Curcumin): This golden spice contains curcumin, a potent anti-inflammatory compound that may benefit the gut lining and has shown some promise in managing ulcerative colitis (in adjunct to medical therapy). Use turmeric in cooking (with black pepper to enhance absorption) or consider a curcumin supplement if appropriate.

arlic, Onions, and Leeks (If Tolerated): These contain prebiotic fibers like inulin and FOS that feed good bacteria. (Note: they are high-FODMAP foods, so they are not tolerated by everyone. If you tolerate them, they are great for microbiome diversity; if not, you can get prebiotics from other sources.)

Nutrition for Gut Health *cont.*

Polyphenol-rich Foods: Berries, green tea, red grapes, olive oil, cocoa, etc. Polyphenols have antimicrobial properties that favor good bacteria and can reduce oxidative stress in the gut. Even coffee has beneficial polyphenols (just don't overdo caffeine if it triggers you).

By making your daily diet rich in these kinds of foods, you create a naturally gut-healing menu. There's no need to try and strive for absolute perfection (indulging occasionally is fine, and stress over diet is counterproductive). If most of your meals are whole-food-based and diverse, your gut will be in a much happier state.

In essence, think of food as your primary medicine for the gut. Every meal is an opportunity to either feed health-promoting bacteria and calm your gut or to feed undesirable microbes and inflame your gut. Once you adapt to a gut-friendly diet, you'll likely find that it's enjoyable, flavorful, and satisfying. And the way you feel (light, clear, energized) will reinforce sticking with it. Your microbiome will thrive on variety and nutrients, and it will reward you with better digestion and health.

Evidence-Based *Supplements* for Gut Health

While a healthy diet is the foundation, supplements can provide targeted support to accelerate gut healing or address specific deficiencies. Here we cover **science-backed supplements** that are commonly used for gut health, along with the evidence behind them:

Evidence-Based *Supplements* for Gut Health *cont.*

Probiotics: These are supplements containing live beneficial bacteria (or sometimes yeasts) that help bolster your gut microbiome. Probiotics can come as capsules, powders, or even in liquid form, and often include strains like Lactobacillus, Bifidobacterium, or Saccharomyces boulardii.

What the evidence says: Probiotics have been studied extensively, especially in IBS and infectious diarrhea. Meta-analyses have found that probiotics significantly improve overall IBS symptoms and abdominal pain compared to placebos.[14] Certain strains are particularly well-studied. For example, Bifidobacterium infantis 35624 for IBS or Saccharomyces boulardii for preventing antibiotic-associated diarrhea. Probiotics can also help restore balance after antibiotic use and modulate the immune system in the gut (some are used to prevent eczema in infants or reduce gut inflammation in ulcerative colitis as adjunct therapy).

How to use: Choose a reputable, high-potency probiotic (look for supplements with, say, 10-50 billion CFUs from multiple strains). If you have specific issues, you might target specific strains (e.g., S. boulardii for recurrent C. diff or traveler's diarrhea prevention, Lactobacillus rhamnosus GG for general gut support). Start with a lower dose and increase gradually if well-tolerated. Some people experience mild gas or changes in stool when starting probiotics, but this is usually temporary as your gut flora adjusts. If one product doesn't agree with you, you might try another with different strains. Probiotics are generally safe; just be consistent (daily intake) for at least a month to see if you notice benefits. They work best in conjunction with a prebiotic-rich diet that helps those good bugs thrive once they're in your gut.

CITATIONS
14. Didari T. et al. *Effectiveness of probiotics in irritable bowel syndrome: Updated systematic review with meta-analysis.* 2015.

Evidence-Based *Supplements* for Gut Health *cont.*

Prebiotics: Unlike probiotics (the organisms themselves), prebiotics are food for your beneficial gut microbes. Prebiotic supplements are typically specific types of fiber or starch that humans can't digest, but our gut bacteria can ferment. Examples include inulin, fructo-oligosaccharides (FOS), galacto-oligosaccharides (GOS), resistant starch (e.g., from potato starch or green banana flour), or newer ones like human milk oligosaccharides (HMOs).

What the evidence says: Prebiotics have been shown to selectively stimulate the growth of beneficial bacteria such as Bifidobacterium and Lactobacillus. For instance, inulin and FOS are well-known to increase bifidobacteria in the colon, which is associated with improved gut stability and health.[15] Prebiotic supplementation can increase production of short-chain fatty acids (like butyrate), with positive effects on colon health and possibly metabolic health (some studies show improved blood sugar regulation or appetite regulation). Some trials also suggest that prebiotics can help with constipation by softening stools (through fermentation processes) and may even have mood benefits (the so-called "psychobiotic" effect) by influencing the gut-brain axis.

How to use: Prebiotics are found in many plant foods (as discussed), but you can take concentrated forms as supplements if needed. Common prebiotic supplements are powders you can mix in water or a smoothie. Introduce them **slowly**—start with maybe 1/4 or 1/2 of the recommended dose, and build up every few days. It's normal to have a bit more gas initially; if it's too much, cut back and increase more gradually. Some popular choices: a teaspoon of inulin or FOS daily, or a tablespoon of potato starch (which provides resistant starch). Prebiotics can be especially useful if you're not hitting a diverse plant intake, but even with a great diet, a little extra prebiotic can further enrich the microbiome. Just be mindful if you have SIBO or are FODMAP-sensitive; in such cases, prebiotic supplements might trigger symptoms until those conditions are addressed. Work them in when your gut is ready.

CITATIONS
15. Yoo S. et al. *The Role of Prebiotics in Modulating Gut Microbiota: Implications for Human Health.* 2024

Evidence-Based *Supplements* for Gut Health *cont.*

Digestive Enzymes: These supplements provide additional enzymes to help break down food. They're useful for people who have difficulty digesting certain macronutrients. For example, lactase drops or pills help lactose-intolerant individuals digest dairy; alpha-galactosidase (Beano) helps break down gas-forming fibers in beans; broad-spectrum enzyme formulas often contain proteases (for proteins), lipases (for fats), amylases (for carbs), and enzymes for fiber like cellulase.

What the evidence says: The research on digestive enzymes for general use is limited, but there is support in specific scenarios. Pancreatic enzyme replacement is well-proven in pancreatitis or cystic fibrosis (where patients lack digestive enzymes). For IBS, some small studies and much anecdotal evidence suggest that enzymes can reduce post-meal bloating and discomfort, especially in those with presumed enzyme insufficiencies or those eating heavy meals.[18] A 2017 study indicated a combination of enzymes and other supplements improved bloating and GI symptoms in people with IBS and IBD.[18] Additionally, enzymes like DPP-IV are marketed to help with gluten digestion (though not for celiac disease, only minor sensitivities). Overall, while more research is needed, many individuals find relief by using targeted enzymes for known trouble foods.

How to use: If you notice specific foods bother you (e.g., beans causing gas, fatty meals causing steatorrhea or floating stools, protein-heavy meals feeling heavy in your stomach), you can take an appropriate enzyme right before eating that meal. There are general digestive enzyme blends available over-the-counter that you take at the start of each meal. These can assist your body's own enzymes in breaking down food more completely. Look for products that are GMP-certified. If one doesn't help after a couple weeks of use, try a different one (enzyme formulas can vary). For lactose intolerance, taking lactase enzyme with dairy is a well-established remedy. For general bloating, a broad-spectrum enzyme might help. Keep in mind, if you have normal digestion, adding enzymes probably won't make a dramatic difference, but if you have an underlying insufficiency or you're eating under suboptimal conditions (e.g., very large meal, or eating when stressed which reduces enzyme secretion), they can be a useful aid.

CITATIONS
18. Medical News Today. *Can digestive enzyme supplements help reduce bloating?* 2024

Evidence-Based *Supplements* for Gut Health *cont.*

L-Glutamine: Glutamine is an amino acid that serves as the primary fuel for enterocytes (the cells lining your small intestine). It is popularly used to "heal and seal" the gut lining.

What the evidence says: In critical illness and endurance athletics, glutamine's role in gut integrity has been studied. Some clinical trials have shown that glutamine supplementation can reduce markers of intestinal permeability (leaky gut), particularly at high doses.[16] For instance, a systematic review found that glutamine had a significant beneficial effect on gut permeability only when daily dosage exceeded 0.3 g/kg (which is >20 g for most adults).[16] In athletes who undergo heavy exercise (which can induce leaky gut and inflammation), glutamine supplements appeared to improve gut barrier function in some studies. There is also a small body of research suggesting glutamine might help IBS, especially IBS-D (diarrhea type), with one trial in IBS-D showing symptom improvement and improved barrier function.

How to use: Glutamine is typically taken as a powder. A common regimen is 5 grams, 1–3 times per day (mixed in water or a shake). Many gut protocols use ~10-15 g per day. It's virtually tasteless and usually well-tolerated. Doses up to 30 g/day have been used in studies for short periods without issue, but it's always best to start lower and see if you benefit. Glutamine is contraindicated in those with certain conditions like liver disease or very severe MSG sensitivity (glutamine can convert to glutamate in the body). For most people, it is safe and can be used for 8–12 weeks during an intense gut healing phase. If it helps, you might notice reduced bloating, firmer stools, or just an overall sense of a calmer gut. It can also aid muscle recovery from workouts (as a bonus).

CITATIONS
16. Abbasi F. et al. *A systematic review and meta-analysis of clinical trials on the effects of glutamine supplementation on gut permeability in adults.* 2024.

Evidence-Based *Supplements* for Gut Health *cont.*

Butyrate Supplements: Butyrate is a short-chain fatty acid (SCFA) naturally produced by good gut bacteria fermenting fiber. It is the preferred fuel for colon cells and has anti-inflammatory effects in the gut. Some people with dysbiosis or certain digestive disorders (like ulcerative colitis or IBS) have low butyrate production. To compensate, you can take butyrate orally (often in the form of sodium butyrate or butyrylated fats) or via resistant starch to boost internal production.

What the evidence says: Butyrate supplements have shown promise in clinical studies for gut health. For example, a randomized trial in IBS patients found that a microencapsulated sodium butyrate supplement significantly reduced abdominal pain, bloating, and improved bowel habit satisfaction compared to placebo.[19] Butyrate is known to strengthen the gut barrier, reduce inflammation in the colon, and improve motility. In ulcerative colitis, butyrate enemas have been used to help heal the colon lining, and orally some patients report benefit (though more research is needed). For metabolic health, SCFAs like butyrate also improve insulin sensitivity and reduce inflammation beyond the gut.

How to use: Butyrate supplements often come in enteric-coated capsules (so that the butyrate is released in the intestine and not absorbed too early). A typical dose is around 300–600 mg of butyrate (in salt form) taken 1-2 times daily with meals. Be aware, butyrate has a strong odor (like rancid butter). The capsules contain this odor, but if you burp you might notice the smell. Some products mitigate this with coating. Alternatively, you can "supplement" butyrate by consuming foods that foster butyrate-producing bacteria. For instance, eating resistant starch (found in cooled cooked potatoes or green bananas) can naturally increase butyrate in your gut. If you do take a butyrate pill, it may take a few weeks before you notice its effects. Many IBS sufferers report it helps reduce pain and urgency. For general gut health, if your fiber intake is high, you might not need this, but it can be a targeted tool for those with confirmed low SCFA production or specific inflammatory conditions.

CITATIONS
19. Lewandowski K. et al. *The effectiveness of microencapsulated sodium butyrate at reducing symptoms in patients with irritable bowel syndrome.* 2022.

Evidence-Based *Supplements* for Gut Health *cont.*

Collagen or Gelatin: Collagen is the main structural protein in our connective tissues, including the gut lining. It provides amino acids like glycine, proline, and hydroxyproline. The theory is that supplementing collagen (or gelatin, which is a cooked form of collagen) provides these building blocks to help repair and strengthen the gut lining and the collagen-rich tissues in the digestive tract.

What the evidence says: Direct research on collagen for gut health is limited, but some indirect evidence and heaps of anecdotal support exist. Glycine (abundant in collagen) has known anti-inflammatory and cytoprotective effects. It's one reason bone broth (rich in glycine) is considered gut-healing. Some small studies in athletes have shown collagen supplementation can improve joint pain (collagen is also popular for skin and joints). In the gut context, a few studies have noted that patients with inflammatory bowel disease had lower serum collagen levels or imbalances in collagen turnover. Collagen supplements might support mucosal healing indirectly by providing amino acids that are used in rebuilding tissues.

How to use: Collagen supplements come as powders (often collagen peptides) that easily dissolve in hot or cold liquids. They are flavorless and mix well into coffee, tea, or smoothies. A typical dose is 10–15 grams per day. Gelatin (like grass-fed gelatin powder) can also be used; it gels in liquid and can be used to make gut-friendly desserts like gelatin gummies with ginger or turmeric. Many people incorporate collagen as a daily health routine (for skin, hair, nails, etc.), and any benefit to the gut is a bonus. It's certainly a low-risk supplement to try. If nothing else, it's a clean protein source. If you follow a plant-based diet, you can't have collagen (as it's animal-derived), but you can focus on food sources of its amino acids (like glycine in legumes or use a mix of plant protein powders).

Evidence-Based *Supplements* for Gut Health *cont.*

Zinc Carnosine: This is a compound of zinc and carnosine (often called zinc-L-carnosine). Originally developed in Japan, it's used there as a prescription for gastritis and ulcers. It has a unique ability to adhere to gut mucosa and promote healing.

What the evidence says: Zinc carnosine has been studied for its effects on the gut lining. Research indicates that it helps stabilize intestinal permeability and supports repair of the gut lining (pmc.ncbi.nlm.nih.gov). For example, one study found that zinc carnosine could significantly reduce damage and inflammation in the small intestine caused by NSAIDs (nonsteroidal anti-inflammatory drugs). Another trial in athletes suggested it reduced exercise-induced increase in gut permeability. Essentially, it appears to protect gut epithelial cells and enhance mucosal defenses. It also has mild antimicrobial effects against H. pylori (the bacteria associated with ulcers).

How to use: Typical dose is 75 mg of zinc carnosine taken twice daily (this usually provides around 16 mg of elemental zinc per dose, so be mindful of total zinc intake). It's often labeled as PepZin GI in supplements. You would usually take it about 30–60 minutes before meals for gut support. If you have symptoms of gastritis, ulcer risk, or known leaky gut, this supplement could be very beneficial for a 2-3 month course. It's generally very safe. Since it contains zinc, avoid taking it at the exact same time as high-phytate foods or other mineral supplements to ensure good absorption. Users often report improved stomach comfort and less heartburn, and in gut repair protocols, it's a respected, evidence-backed component.

Evidence-Based *Supplements* for Gut Health *cont.*

Herbal Antimicrobials: We discussed these in the Tier 2 plan—they are plant-derived substances that can reduce pathogenic bacteria, yeast, or parasites in the gut. Common ones include oil of oregano, berberine (from goldenseal, barberry, etc.), allicin (from garlic extracts), neem, olive leaf extract, grapefruit seed extract, and caprylic acid (from coconut). These are usually used in cases of SIBO, Candida overgrowth, or dysbiosis, as a more natural alternative or complement to antibiotics/antifungals.

What the evidence says: A notable study found that an herbal antimicrobial regimen was as effective as rifaximin in eradicating SIBO, with 46% of patients on herbal therapy clearing the bacterial overgrowth (confirmed by breath test) versus 34% on rifaximin (metsol.com). In that study, the herbal protocol used combinations like oregano oil and berberine for 4 weeks. Other studies have shown specific herbs can inhibit problematic gut microbes. For instance, berberine has been shown to shift the gut microbiome and has anti-inflammatory effects in the gut. (It's even been used clinically for IBS-D with success in reducing diarrhea frequency.) Oregano oil is broad-spectrum antimicrobial and anti-fungal. Grapefruit seed extract can inhibit Candida yeast. These herbs also tend to have some anti-inflammatory and antioxidant properties. However, they can also kill some good bacteria, so they should be used judiciously and typically short-term.

How to use: Herbal antimicrobials are potent, so working with a knowledgeable practitioner is ideal. They often come in capsules with standardized extracts. A common approach for SIBO is to take a combination of two or three agents (for example: oregano oil capsules plus a berberine-containing formula, taken twice daily for 4 weeks). It's important to follow the dosing instructions on the product or as given by your doctor. More is not always better, and these can cause die-off reactions if the dosage is too aggressive. Support your body with adequate hydration and perhaps a liver support herb (like milk thistle) if on a long course, since processing microbial toxins can burden your system. After using herbal antimicrobials, it's wise to follow up with probiotics and prebiotics to rebuild the microbiome (the "weed and seed" approach). People often report improvements in symptoms like bloating, stool consistency, and even energy levels after addressing a gut overgrowth with herbs. They are a powerful tool in the toolkit, bridging the gap between food and pharma.

Evidence-Based *Supplements* for Gut Health *cont.*

Each of these supplements addresses a specific aspect of gut health.

Whether it's balancing the microbiome, aiding digestion, fortifying the gut barrier, or reducing unwanted microbes. Not everyone will need all of them; the best approach is to tailor to your needs. For instance, someone with leaky gut and food sensitivities might benefit most from L-glutamine, zinc carnosine, and a probiotic, whereas someone with SIBO might focus on herbal antimicrobials, a prokinetic (see next section), and a specific diet. When used appropriately, evidence-based supplements can significantly speed up recovery and improve outcomes, but they work best in conjunction with diet and lifestyle changes.

Your gut health is in *your hands*

Take it step by step, be patient and persistent, and know that you are building the foundation for a long, healthy, and vibrant life from the inside out.

Have additional *questions?*

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