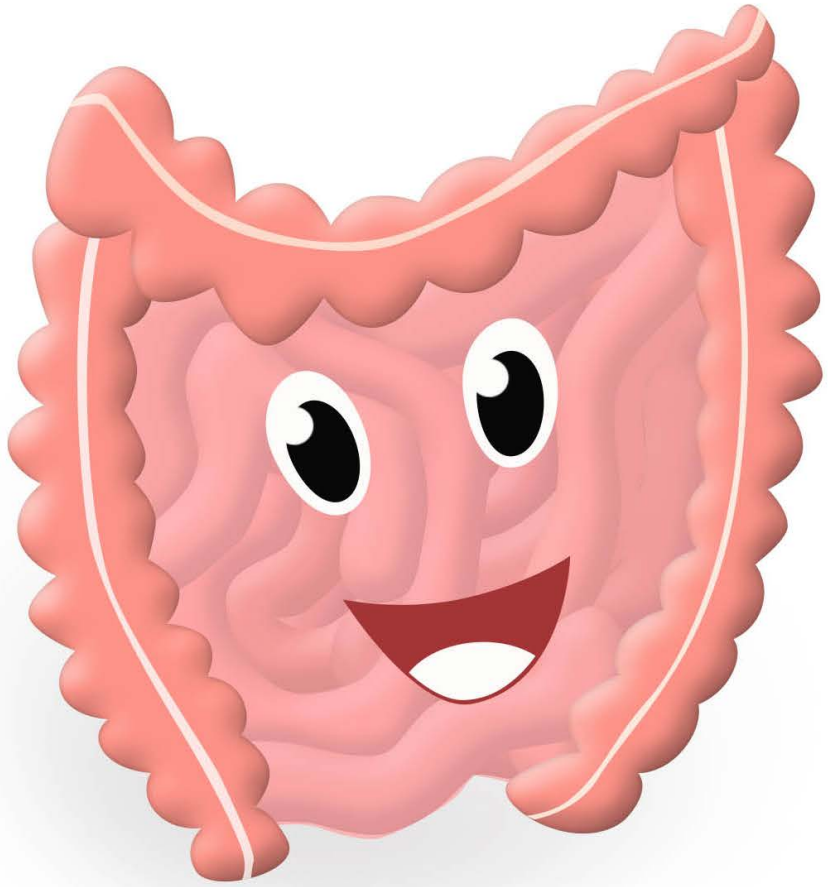
New Probiotics

To End Gut Infections

Solutions for C. Difficile, SIBO, IBS, Leaky Gut and More



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C.difficile TREATMENT

New Probiotics to End Gut Infections

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Michelle Moore • Lester Moore

New Probiotics to End Gut Infections, Solutions for C. Difficile, SIBO, IBS, Leaky Gut and More.

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1 The Problem With Gut Infections

Going through a G.I. infection or other gut illness can cause pain, inflamed bowels, discomfort, diarrhea, constipation, urgency, cramping and distress. These symptoms caused by either C. diff. bacteria or other irritable bowel conditions leave you afraid of getting too far from the bathroom. Millions of people struggle with these conditions that can make working at your job or enjoying life's normal activities too difficult, or worse yet, a thing of the past.

Most gut disorders are caused by an imbalance of healthy gut bacteria. However, the underlying cause can be a poor diet, high levels of stress or using antibiotic drugs. Unfortunately, antibiotics are the standard treatment for gut infections, yet these drugs often fail to work. In fact, using antibiotics can make gut imbalances worse and these drugs are the number one cause of C. difficile infections.

Using antibiotics is like having a bomb go off in your gut. It will kill both the good and the bad bacteria. Without the good bacteria in place to keep bad bacteria in check, the "bad guys" are free to grow out of control. The result is dysbiosis or an unbalanced gut microbiome.

Gut Infections and Dysbiosis are More Common Than Ever

Researchers are just now beginning to uncover the powerful interconnection between human health and the vast ecosystem

of bacteria, viruses, fungi, and protozoa that lies hidden inside each one of us. Recent discoveries by the Human Microbiome Project have highlighted the vast number and huge diversity of microscopic organisms that live in the gut. When this vast but delicate ecosystem gets out of balance, it sets the stage for challenging gut infections, chronic diseases and inflammation in the gut and body.

Gut dysbiosis usually means an overabundance of harmful or pathogenic species in the gut. Dysbiosis can also be a low diversity of species or a lack of healthy and protective species. IBS, SIBO, Leaky Gut and C. difficile infections are all forms of gut dysbiosis. The following statistics show how prevalent and serious dysbiosis can be:

- **C. difficile:** The Centers for Disease Control (CDC) estimates 500,000 C. diff. infections (CDI) occur each year in the U.S., with approximately 20% of people getting recurring C. diff. after antibiotic treatment[1].
- **IBS:** It's estimated that Irritable Bowel Syndrome (IBS) affects 25 to 45 million people in the U.S. alone[2, 3].
- **IBS after C. diff.:** It's common to get IBS after having C. difficile infections.
- **SIBO:** Up to 80% of people with IBS also have Small Intestinal Bowel Overgrowth (SIBO)[4, 5].
- **Leaky gut:** People with IBS typically have leaky gut.

Gut infections and overgrowth of unhealthy bacteria have a profoundly negative effect on the immune system that leads to an inflamed, leaky gut. Toxins created by harmful pathogens in the gut irritate the intestinal lining, causing gaps to form between intestinal cells. These gaps allow food particles and toxins to enter the bloodstream. Over time, these inflammatory agents lead to chronic inflammation in the body. And chronic inflammation eventually leads to chronic diseases, including cancer, autoimmune diseases and others.

> Research shows that gut infections and related conditions, if left unresolved, are the root cause of many chronic diseases later in life.

Leaky gut has been linked to diabetes, cardiovascular disease, obesity, autoimmune diseases, metabolic syndrome, multiple sclerosis (MS), Inflammatory Bowel Disease (IBD), and even mood disorders like autism, anxiety and depression[6, 7, 8].

What Causes Gut Dysbiosis

There are many causes, but below are some key highlights:

- High sugar, high calorie Western diets allow for the overgrowth of yeast and gut pathogens.
- Antibiotic use is a major cause of dysbiosis as it wipes out healthy bacteria that keep pathogens in check.
- Stress is a major cause of gut issues, including physical, emotional or mental stress. Stress affects gut motility, or how quickly food moves through the gut. Stress also negatively affects the balance of healthy gut microbes and disrupts the protective intestinal mucous layer from healing itself.
- Proton Pump Inhibitors (PPIs) that reduce stomach acid are a factor in developing CDI, IBS and SIBO. An acidic stomach is a natural barrier to prevent bacteria from entering the intestines. Reducing stomach acid with drugs allows unwanted bacteria to enter the small intestine.
- In addition to PPIs, SIBO may be caused by low bile production. Bile has antimicrobial properties and it helps keep the small intestine clean. Low bile allows unhealthy gram-negative bacteria to grow in the small intestine.

Gut Issues at a Glance

C. difficile Infection (CDI)

C. difficile is a gut infection, caused by an overgrowth of C. diff.

bacteria in the colon. C. difficile infections are debilitating and can be life-threatening, especially for people who are already critically ill. Common symptoms include severe diarrhea, severe intestinal inflammation (colitis), fever, loss of appetite and nausea.

Because C. difficile bacteria are antibiotic resistant, it's very common for the infection to return after antibiotic treatment has ceased. CDI is most often caused by antibiotic use. Because antibiotics kill off healthy gut bacteria and their beneficial byproducts, opportunistic bacteria like C. diff. are allowed to overgrow and cause infection. Conventional treatments, usually antibiotics, often lead to recurring infections.

Irritable Bowel Syndrome (IBS)

Irritable Bowel Syndrome (IBS) is a disorder that includes both abdominal pain and changes in consistency or frequency of stool. IBS can also cause diarrhea or constipation. IBS is usually a long-term, chronic issue. While the cause of IBS is unclear, it is likely linked to inflammation and immune system dysfunction, as well as genetic and dietary factors.

If you have IBS, there's a very good chance you also have Small Intestinal Bacterial Overgrowth (SIBO) and leaky gut. IBS diarrhea is linked to previous C. difficile infections, even if testing negative for C. difficile.

Conventional treatments have offered limited help, including antibiotics, antidepressants, anti-diarrheal products and diet changes[9]. Most people relapse after stopping conventional treatments because the root cause hasn't been addressed. The root cause is why the bacterial overgrowth and gut inflammation started in the first place. Alternatives therapies include probiotics therapies for IBS (including for SIBO), although many people have not found relief with conventional probiotics.

SIBO (Small Intestinal Bacterial Overgrowth)

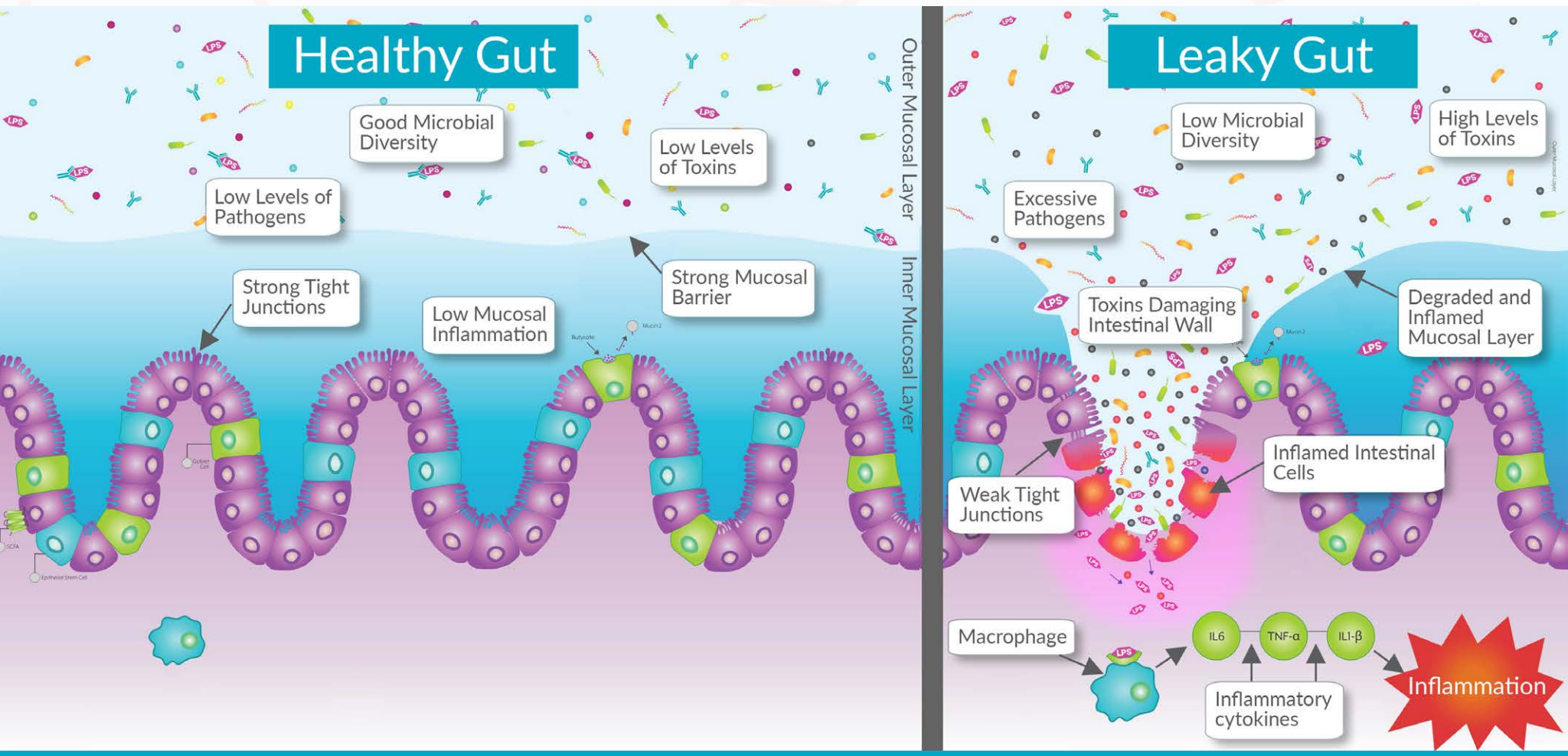
SIBO occurs when a large number of bacteria colonize and grow in the small intestine. The small intestine normally has a limited number of microbes. SIBO can lead to chronic diarrhea as well as constant bloating, gas, and abdominal discomfort. SIBO affects a large portion of those with IBS[4, 5].

SIBO involves a microbial shift inside the small intestine away from the normal gram-positive bacteria to unhealthy gram-negative bacteria (like E. coli). Invading gram-negative bacteria cause irritation and inflammation because of their LPS endotoxin. This LPS toxin is irritating to the small intestine and causes the small intestine to become permeable (leaky gut).

Conventional treatments offer limited help, including antibiotics like Rifaximin. Antibiotics don't address the root issue of the overgrowth, so SIBO often returns after treatment. Another option is a low FODMAP diet, though SIBO may return after making any diet changes. Alternative therapies include herbal remedies and probiotics for reducing the symptoms of IBS and SIBO[10, 11].

Leaky Gut Linked to Chronic Diseases

Having a leaky gut is connected to both SIBO and IBS. Leaky gut can cause digestive issues like diarrhea, IBS, gas and bloating. Cer-



tain foods, stress, toxins and gut infections can lead to a leaky gut.

Normally, nutrients from food are transported through the intestinal lining into the bloodstream. However, leaky gut is when there are holes in the intestine that stay open and allow large particles of food, bacteria, and their toxins to leak into the bloodstream.

The most common bacterial toxin in the intestine is called "LPS" or lipopolysaccharide. When this LPS toxin stays inside the intestine, it's pretty harmless. But when LPS escapes into the bloodstream, it can cause acute inflammation and chronic disease in the body.

Currently, there are no conventional medical approaches to leaky gut as it's not recognized as a disease. Alternative approaches focus on removing inflammatory foods, stress reduction and probiotics that help against LPS.

Be Encouraged!

Many people with difficult gut infections and other challenges have tried all kinds of antibiotics, special diets and probiotic supplements with no relief. Even new medical procedures like fecal transplants have considerable downsides and limitations. Worse yet, many people's doctors have run out of treatment ideas, telling their patients there's nothing more they can do.

But you can overcome these conditions! The answer lies in reversing how the problem was created in the first place. And as you'll see in the following chapters, you have some powerful new tools to help you succeed.

Three Steps to End Gut Infections

In the following three chapters, you'll discover the three steps to overcome stubborn gut conditions by cleansing, reconditioning and defending your gut microbiome. Here's a quick preview of each step:

1. Cleanse

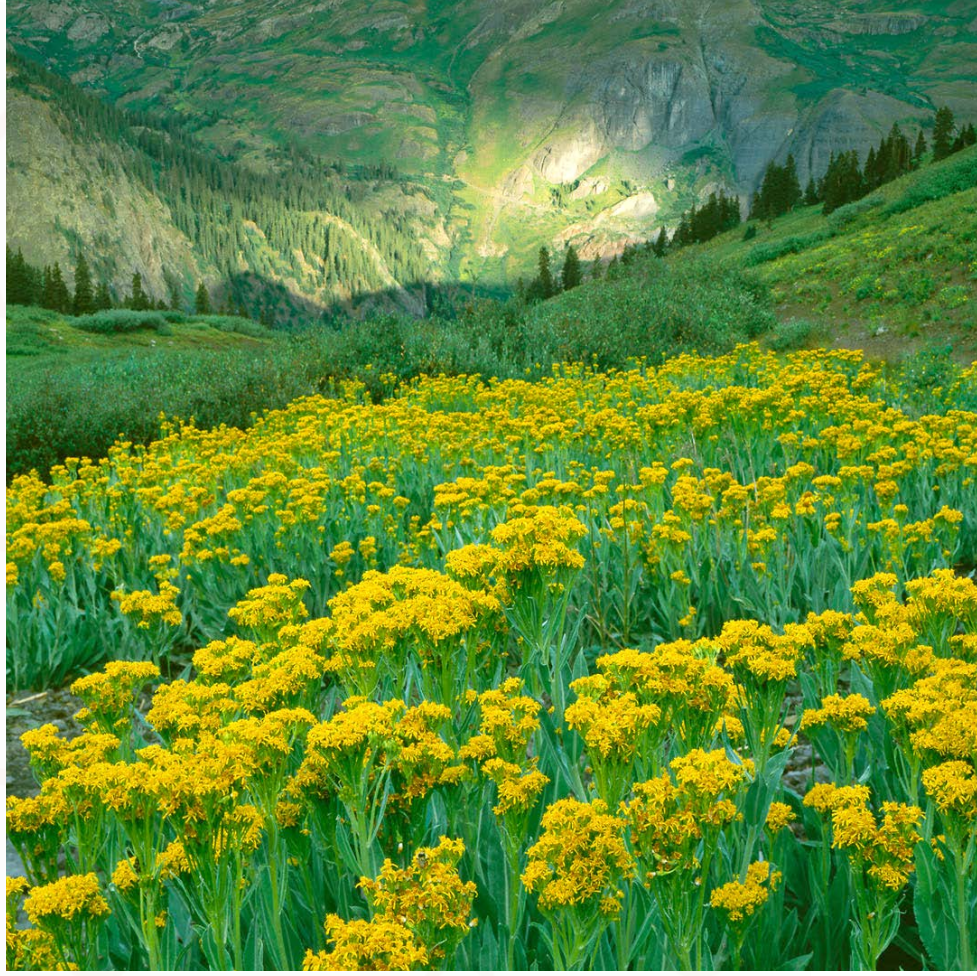
Bind and eliminate pathogenic bacteria and the toxins they produce and heal gut inflammation.

2. Recondition

Restore healthy microbiome balance and recondition your gut flora with true probiotics.

3. Defend

Eliminate and defend against disease-causing bacteria in your gut and ease the symptoms of dysbiosis.



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2 | Step 1 Cleanse Your Gut

Even if you've been disappointed with the results of mainstream medical treatments and traditional probiotics, there is hope. There are solutions for even the most challenging gut infection or intestinal disorder. Recent advances in probiotic therapies offer a powerful way to heal your gut and to keep it properly balanced to ward off gut problems, including recurring infections.

This chapter and the two that follow it will give you three steps to break free from gut problems once and for all. The key is to address the problem on multiple fronts. Each of the three steps is designed to work together against gut problems. While following any of these steps alone can provide benefits, following all three steps at the same time will give you the fastest and longest lasting results.

Step 1: Cleanse Your Gut

Step 1 is about binding and eliminating disease causing bacteria and the toxins they create that cause gut inflammation. This step is crucial, yet it is often overlooked by mainstream medicine. And standard probiotics have little to no toxin binding effects.

Toxins from microbial overgrowths are what drives the worst symptoms of C. diff. infections (CDI), IBS, SIBO, leaky gut, H. pylori and other gut imbalances. These bacterial toxins irritate the digestive system, causing diarrhea, nausea, stomach aches and other life-draining symptoms. Removing these irritants sig-

nificantly reduces intestinal inflammation and damage, helps your intestines start to heal, and reduces gut symptoms like C. difficile diarrhea or toxin induced gut inflammation. Most importantly, binding gut toxins will help you feel better faster.

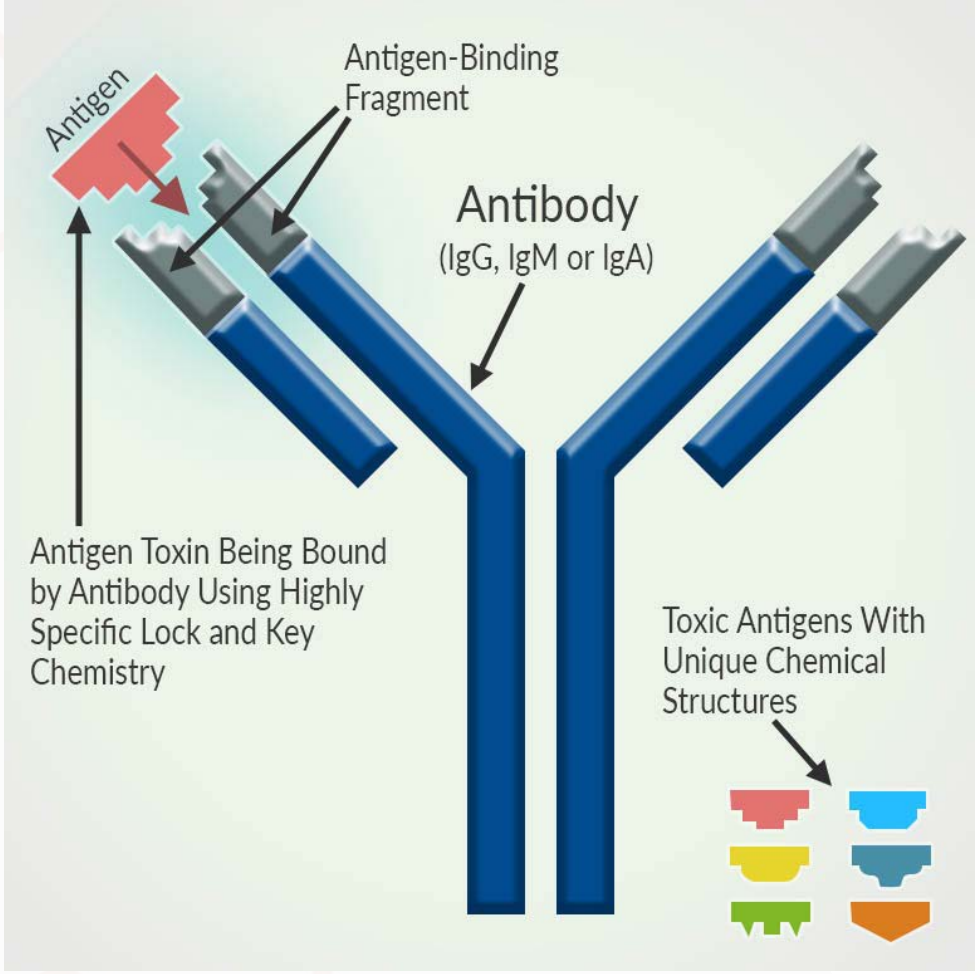
While true probiotics help soothe G.I. inflammation, there is also a potent binder that works in highly targeted ways to reduce gut toxins and inflammation.

True Probiotics that Reduce C. diff Colitis and GI Inflammation

Supplementing with true probiotics can help remove inflammatory gut toxins. In particular, Bacillus spore probiotics have been shown to heal damaged intestines by reducing gut toxins, reducing inflammation and healing leaky gut. Also, a particular species of yeast can help relieve a common symptom of gut inflammation. Below are several benefits of key Bacillus bacterial species as well as the Sac. b. species of yeast:

- **Improves C. diff colitis:** Bacillus coagulans therapy improves C. difficile colitis symptoms, reduces colon inflammation, provides better stool consistency and improves C. diff. outcomes[1].
- **Reduces colon inflammation:** Bacillus coagulans is very effective at targeting colon inflammation and C. difficile colitis, as well as inflammatory bowel diseases like IBS, IBD, Crohn's and ulcerative colitis[2].
- **Targets and destroys C. diff toxins:** Bacillus clausii creates an enzyme that helps break apart C. difficile toxins A and B, resulting in a strong protective effect against intestinal damage[3].
- **Helps heal leaky gut:** Bacillus indicus (HU36), Bacillus subtilis (HU58), Bacillus coagulans, Bacillus licheniformis, and Bacillus clausii have been found to aid in healing leaky gut, a common condition that leads to many immune related diseases[4].
- **For C. difficile diarrhea:** Saccharomyces boulardii (or Sac. b) is a yeast that acts as a probiotic. It has been shown to reduce intestinal inflammation and control harmful bacterial gut overgrowths. Sac. b is used for C. difficile associated diarrhea and antibiotic-associated diarrhea[5]. Sac. b. destroys C. diff. toxins A and B and prevents the formation of C. diff. toxin B[6].

The benefits listed above are just a few of the many healing properties of Bacillus and Sac. boulardii probiotics that you will discover in more detail in Steps #2 and #3. While true probiotics are a powerful way to combat intestinal inflammation, adding a targeted binder to "mop up" pathogenic gut toxins will boost your gut healing and help you feel better faster!



Immunoglobulins Selectively Target Gut Pathogens and Their Toxins

Immunoglobulins are antibodies made of proteins which are a part of your immune system. There are different kinds of antibodies but they all work in the body to control infections. Immunoglobulin G (IgG) is the most abundant antibody in the body. IgG is most commonly found in the blood and in the fluid around cells where it works to evict unwanted pathogens from the body.

Immunoglobulin antibodies have a chemical lock called an antigen-binding fragment. This lock only binds to a specific toxin that it is keyed to fit. The antibody can be fitted with any lock that's needed, depending on which toxins need removed. The lock is very specific and can differentiate between thousands of different bacteria, yeast, mold, microbial toxins, allergens and viruses. Antibodies are saved by your immune system in case you are exposed to the same toxin again in the future. So immunoglobulins know precisely what to do when a potentially dangerous organism is caught entering your body.

Supplements containing serum-derived IgG bind to unwanted elements inside your GI system, sticking to them like glue. The IgG then pulls the toxins safely out of your body before they have a chance to damage the fragile lining of the intestines. Immunoglobulins reduce the toxic impact on the gut and immune system. Below are several benefits of Serum-Derived Immunoglobulins:

- Immunoglobulins are clinically proven to support immune health and digestive function.
- **Gut infections and overgrowths:** IgG protects against infections and binds to bacteria, fungi, mold, viruses and their associated toxins[7]. It binds inflammatory LPS (lipopolysaccharides) toxins, H. pylori (gram negative bacteria found in the stomach), mycotoxins, Staphylococcus, Salmonella, E. coli and other pathogenic bacteria.
- **C. diff. toxins:** IgG binds both C. difficile toxins A and B[8, 9, 10].
- **Irritable Bowel Syndrome (IBS) support:** IgG improves pain and diarrhea and manages chronic loose and frequent stools[11]. Multiple studies show benefit for IBS management.
- **Irritable Bowel Disease (IBD) support:** Significantly improves symptoms of IBD[12, 13], multiple studies show benefit for IBD management.
- **SIBO support:** IgG therapy can resolve diarrhea symptoms and allow for normal bowel function[14].
- IgG supports a healthy gut mucosal layer and strengthens gut barrier function so fewer toxins enter the bloodstream.

MEGA IgG2000: A Precision Toxin Binder

An immunoglobulin product that works in several unique ways is Mega IgG2000. This product contains 3 different serum-derived immunoglobulins (IgG, IgM and IgA) and is supported by over 40 studies, including human clinical studies. The results show Mega IgG2000 is safe and effective in helping gut infections, binding pathogen toxins, and maintaining and supporting healthy gut barrier function.

If you have gut issues like C. diff, leaky gut, autoimmunity, mold toxicity, diarrhea, H. pylori or loose or frequent stools, then see what Mega IgG2000 can do for you!

Mega IgG2000 is ideal for gut infections and any kind of dysbiosis. It mops up and neutralizes microbial and environmental toxins, thereby lowering the toxic burden in your gut. It's ideal for G.I. symptom relief, including diarrhea, frequent loose stools, C. difficile infections, ulcerative colitis, Crohn's disease or anyone needing to restore gut health.

Mega IgG2000 also helps sooth gut irritability and supports a healthy inflammatory response in the gut. It significantly reduces inflammation and intestinal damage and strengthens the gut barrier. And it provides intestinal mucosal defense for autoimmune conditions.

Unique Benefits of Mega IgG2000

Mega IgG2000 provides uniquely targeted binding. It only targets destructive toxins and disease-causing pathogens. Unlike most toxin binding supplements, Mega IgG2000 will not absorb minerals, nutrients, healthy bacteria or other supplements or drugs you may be taking. Immunoglobulins also stay in the intestine where they are needed most and they are not absorbed into the blood stream.

Mega IgG2000 is a dairy-free formula derived from bovine serum. Most immunoglobulin formulas are milk-derived and are much less concentrated. Mega IgG2000 is lactose-free and free of milk proteins including casein and B-lactoglobulin. It's safe for those with most allergies and intolerances. But it's not for those who have an allergy to beef or for vegetarians or vegans.

If you have complex gut infections or gut disorders and need help getting these issues under control, MegaIgG2000 is a must-have product.

Mega IgG2000 Usage and Side Effects

Dosage: For ages 2+, the standard dose is 4 capsules daily (such as 2 capsules in the morning and 2 capsules in the evening). For acute concerns, it can be dosed up to 12 capsules daily for the first 1-2 weeks. However, 1-2 capsules per day works well for long-term health maintenance.

Timing: For general support to help heal the gut and increase gut toxin cleanup, take between meals. For LPS focused support, take before or with food to bind to LPS toxins inside the food.

Duration: The effects of Mega IgG2000 can be felt within 1-4 weeks, depending upon the severity of dysbiosis. Take for at least 8 weeks to see best results. There are no restrictions on length of use, so it can be taken long-term for ongoing maintenance.

Drug interactions: There are no known interactions with foods, medications or supplements as immunoglobulins selectively bind to biological toxins and leave other substances alone.

Side effects: Mega IgG2000 may cause mild constipation, especially at higher doses. Be sure to drink plenty of water and to reduce the dosage if you experience constipation.

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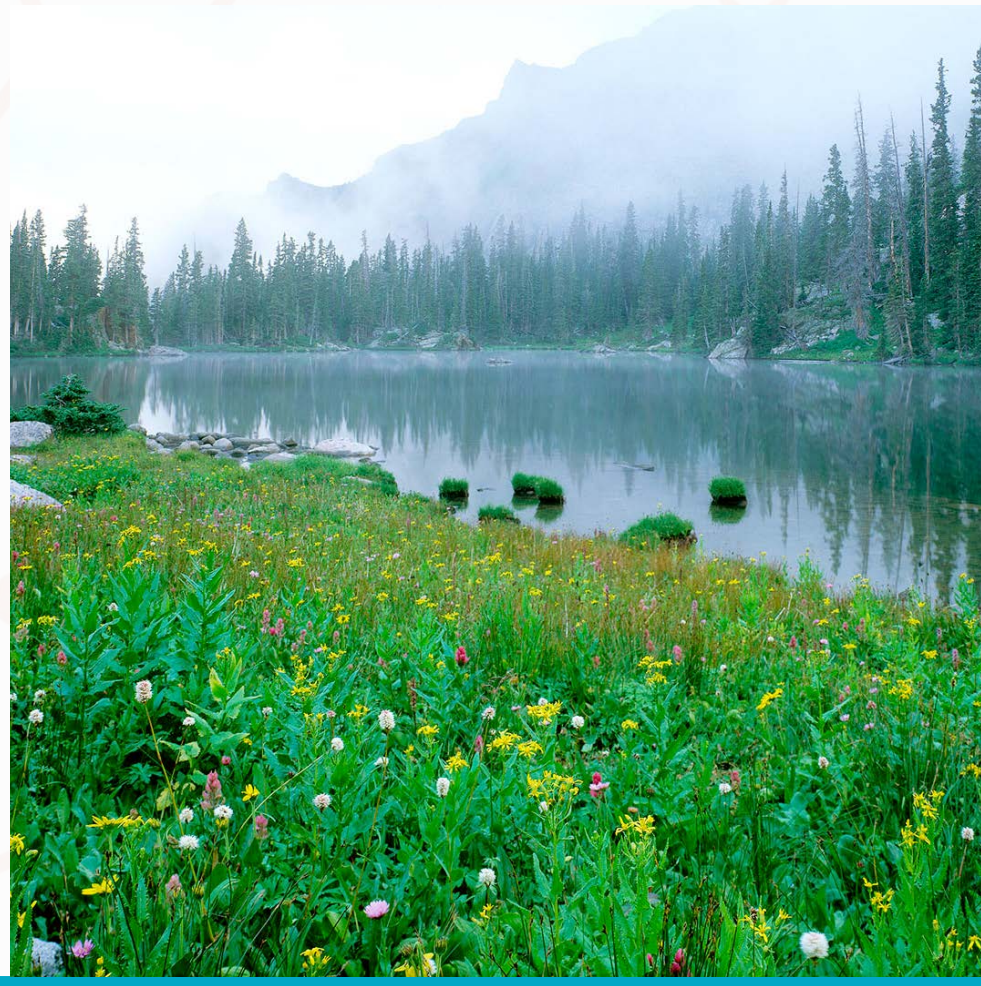


3 | Step 2 Recondition Your Gut

Your microbiome is just like a bountiful and diverse garden growing many kinds of flowers, herbs, vines, vegetables and fruit trees. To keep the garden healthy, productive and beautiful, you have to give it nutrients, till the soil and pull the weeds. Likewise, a strong and healthy microbiome has to be tended and reconditioned to solve gut challenges, maintain your immune system and fend off infections.

Step 2: Recondition Your Gut With True Probiotics

Imagine a new class of probiotics that works like gardeners in a flower garden. They loosen and fertilize the soil and add nutrients to make conditions perfect for flowers to grow. And they pull out the weeds and actually discourage new weeds from growing.

Just like tiny gardeners, true probiotics change the gut in beneficial ways to help reverse gut infections and dysbiosis. Because of their potency and function, true probiotics are quite different from the standard probiotics you are probably familiar with.

In order to recondition the gut, a probiotic must have meaningful and measurable benefit through reducing gut inflammation, promoting the growth of beneficial bacteria and targeting gut pathogens. Step 2 is focused on promoting a healthy gut environment and boosting beneficial microbes.

What is a True Probiotic?

According to the World Health Organization, a probiotic is defined as "*live microorganisms which when administered in adequate amounts confer a health benefit on the host*[1]". In order to be labeled as a probiotic, scientific evidence for the health benefit should be demonstrated. So a true probiotic should provide documented, substantial changes inside the intestine. But unfortunately, 95% of so-called probiotics on the market are unable to produce significant shifts in gut health, due to poor survivability in your stomach and weak colonization in the G.I. tract[2].

True probiotics are certainly not the usual "re-seeding" probiotics, such as the common Lactobacillus or Bifidobacteria strains. These strains are killed by stomach acid, so only a small amount survive into your intestine. These strains also lack many of the benefits of true probiotics. Lactobacillus and Bifidobacteria provide little benefit and are often a waste of money. Below are more downsides to these re-seeding strains:

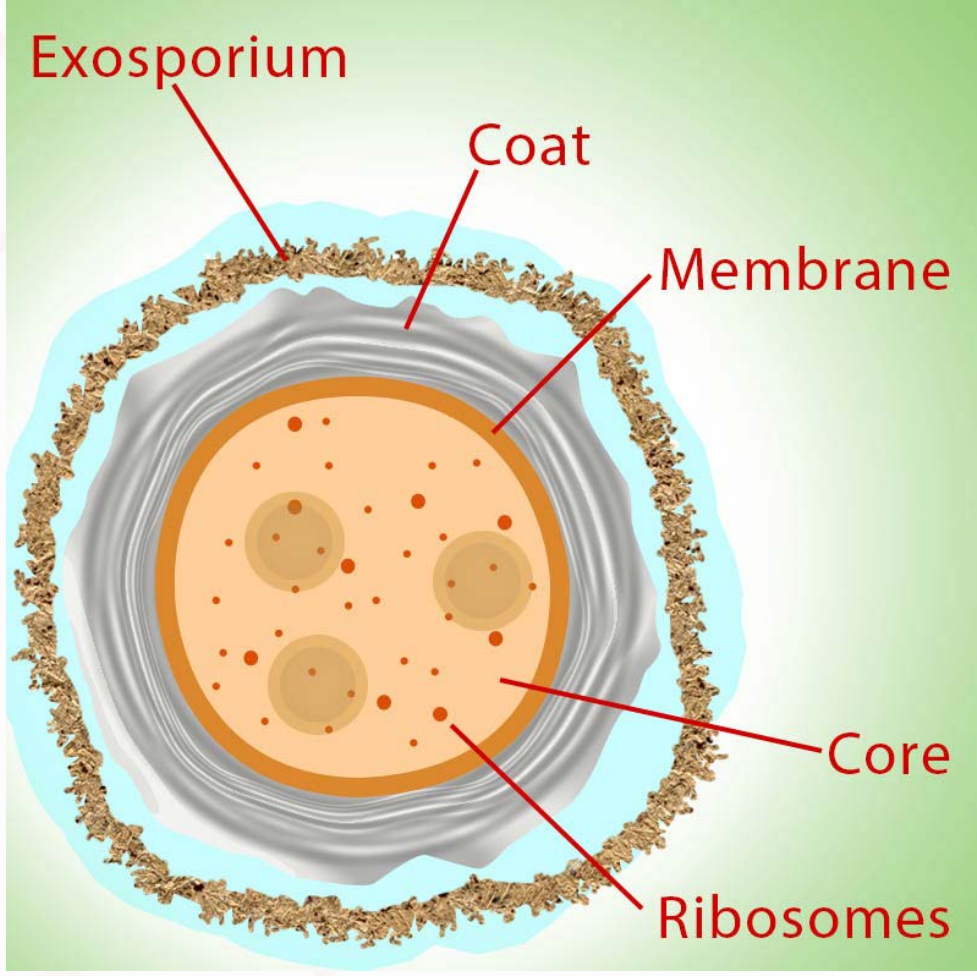
- Each person's microbiome is unique and not all strains of probiotics have a place in every person's gut microbiome. If a strain lacks a place to call home inside your gut, it will be eliminated from your system.
- Not all probiotic strains are a major influencer inside your gut. All Lactobacillus species make up a small 1% off the human gut microbiome[3].

The Benefits of Bacillus Probiotics

For decades, various species of Bacillus spores have been used in the probiotic industry. But recent advances in strain isolation, identification and stabilization have led to the discovery of novel Bacillus probiotics that possess unusual healing properties.

Bacillus species are hardy spore-forming bacteria that are found in the soil and they are often referred to as sporebiotics. Bacillus bacteria are incidentally eaten by people because of their abundant presence in nature, often found on fruits and vegetables. Bacillus subtilis is used in the fermented food natto and has been eaten for countless generations. There are hundreds of Bacillus species and some are also natural residents in the human gut microbiome.

True probiotics made with Bacillus recondition the gut by effectively shifting the gut and it's flora into favorable conditions. They work by lowering the pH in the intestines, reducing gas production, increasing microbial short-chain fatty acid production that strengthens gut integrity and immune function[4], targeting



pathogenic or opportunistic species, and encouraging the growth of beneficial, keystone bacteria like Akkermansia muciniphila, Faecalibacterium prausnitzii, and Bifidobacterium species in as little as 30 days[5].

Five especially important Bacillus strains include: Bacillus coagulans, Bacillus clausii, Bacillus subtilis HU58, Bacillus licheniformis, and Bacillus indicus HU36.

Spore Forming Probiotics Arrive Alive!

In its dormant form, Bacillus will surround itself with a tough, natural outer shell called a spore that protects it from light, heat, pressure, acid, lack of oxygen, and other environmental factors. Bacillus probiotics are unusual because of their bi-phasic life cycle, with both a "live" state and a spore state. You can think of them like a plant that forms tough seeds in order to produce more plants the following year. This is what makes Bacillus probiotics very tough. They can change from their dormant spore form to their live, active form depending on the environment.

Bacillus spores are so hardy they can remain dormant for centuries, sustaining the life of the bacteria inside. Because of their spores, Bacillus probiotics are naturally designed to survive digestion where they easily pass through the hot, acidic stomach and digestive processes without losing any potency.

Targeted C. difficile and Gut Support

For decades, Bacillus probiotics have been used widely around the world for fighting off intestinal pathogens, antibiotic associated diarrhea and improving immune system function. Bacillus spores

shift gut conditions to favor the healthy bacteria and repel the bad bacteria. They encourage the increase of healthy compounds in the gut like short-chain fatty acids that help heal damaged intestines and reduce intestinal inflammation. These traits make Bacillus strains excel at mending gut dysbiosis and infections like C. difficile. Below are some key Bacillus benefits:

- Bacillus coagulans improves C. difficile colitis symptoms, reduces colon inflammation, provides better stool consistency and improves C. diff. outcomes[6].
- Bacillus coagulans reduces recurring C. diff. infections after vancomycin treatment[7].
- Bacillus clausii makes the antimicrobial compound clausin that inhibits C. difficile and other Gram-positive bacteria[8].
- Bacillus clausii creates an enzyme that helps break apart C. difficile toxins, resulting in a strong protective effect against intestinal damage[9].
- Bacillus subtilis HU58 produces over a dozen targeted antimicrobial substances on site in the GI system, targeting harmful gut bacteria. See Step 3 for more details on this strain.

MegaSporeBiotic: Professional Strength Bacillus Probiotic

MegaSporeBiotic contains five pharmaceutical grade strains of Bacillus spores to provide targeted benefits against gut overgrowths, dysbiosis, leaky gut and C. difficile infections. This broad-spectrum probiotic delivers 4 billion Bacillus spores daily to your intestines, the highest level on the market for a spore probiotic. Each batch of product is laboratory tested to verify the correct species, that all species are in 100% spore form and that the proper potency of each species is present.

The five strains found in MegaSporeBiotic are: Bacillus coagulans, Bacillus clausii, Bacillus subtilis HU58, Bacillus licheniformis , and Bacillus indicus HU36. MegaSporeBiotic boasts a 5-year shelf-life, does not require refrigeration, and can be used during antibiotic therapy. **MegaSporeBiotic is ideal for support during infections and for long-term maintenance.**

Once it reaches the intestines, MegaSporeBiotic can increase the diversity of your gut flora by changing the pH, crowding out unwanted bacteria, and increasing the production of key nutrients. Due to its survivability and lasting health benefits, MegaSporeBiotic has become a revolutionary tool for total gut restoration.

MegaSporeBiotic Benefits

- **Natural and safe[10].** All five strains of Bacillus are found in nature and are a normal part of the human digestive tract. They have a place in each person's unique microbiome, so they will bind and colonize in the intestine of every person.
- **Survives stomach acid[11].** Unlike most other probiotics, Bacillus spores survive 100% intact and fully potent as they pass through your stomach on the way to the intestines.
- **Increases healthy bacteria[12].** MegaSporeBiotic performs a variety of healing and infection-fighting functions in the body. This unique formula reconditions the gut by increasing microbial diversity and encouraging the growth of key health-promoting gut bacteria.
- **Balances your gut flora[12].** Unlike common probiotics that only re-seed your intestinal flora, Bacillus spores actually police your G.I. tract to support the growth of good bacteria and to reduce overgrowth of infectious species.
- **Immune system stimulation[13].** These Bacillus spores modulate the immune response inside the intestines. Bacillus subtilis increases immunoglobulin A (IgA) levels in the gut[14]. Bacillus subtilis HU58 produces vitamin K2 and other nutrients and plays a key role in immune system development.
- **Prevents infections[15].** Studies show that these Bacillus species are effective in preventing a range of different infections, including UTIs, Candida, upper-respiratory infections and other chronic bacterial and yeast infections.

» **Antioxidant production**[16]. Antioxidants are vital to prevent and reverse disease conditions. But most antioxidant supplements have to pass through the stomach before they reach the intestines where your body actually absorbs them. But the proprietary Bacillus indicus HU36 species naturally produces antioxidants inside your gut at the actual site of absorption, making it extremely bioavailable.

The First Probiotic to Protect its Human Host

A study from August 2017 examined MegaSporeBiotic and leaky gut and was published in the World Journal of Gastrointestinal Pathophysiology[17]. In the study, MegaSporeBiotic was clinically shown to improve leaky gut in just 30 days. MegaSporeBiotic effectively fixed the gut lining, favorably altered the immunological response to food, significantly decreased both digestive and systemic inflammation and reduced a major hallmark of chronic degenerative disease.

After 30 days of taking MegaSporeBiotic, the study participants also had better insulin responses, indicating that the probiotic enables a favorable endocrine response to food. This is the first time a probiotic has been shown to significantly reduce intestinal inflammation and activate the immune system to improve leaky gut symptoms in human subjects.

Suggested Use and Precautions

MegaSporeBiotic is generally well tolerated by most people. If you are a first time user, it's prudent to start with less than the full amount listed on the label. Gradually work up to 2 capsules per day over a few weeks, per your tolerance. Some people experience mild constipation with MegaSporeBiotic. If you experience any discomfort, then reduce the dose or stop taking the product until symptoms clear, then start again slowly, if well tolerated.

MegaSporeBiotic is not affected by antibiotic drugs, so it may be taken at the same time. It's best to take MegaSporeBiotic with food.

Always consult with your doctor before starting any nutritional supplement program or before using this or any product during pregnancy, or if you have a serious medical condition.

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4 | Step 3 Defend Your Gut

Step 1 focused on removing C. diff. toxins and other damaging irritants from your gut to reduce G.I. inflammation. Step 2 was about reconditioning your gut to promote the growth of healthy bacteria and heal damaged intestinal tissues. These first two steps were accomplished using a combination of highly targeted toxin binders and true probiotics. But for difficult gut infections and G.I. disorders, a third step is needed to help relieve the debilitating symptoms that commonly occur with these challenges.

Step 3: Defend Your Gut and Control Negative Symptoms

Bacillus spore probiotics and their amazing reconditioning properties were covered in the previous chapter. But Bacillus probiotics also help police the gut to push out pathogens and prevent bacterial overgrowths. And a healthy species of yeast can help address some of the worst symptoms of gut disorders. Using these healing species as probiotics is like sending ground troops and snipers into your gut to selectively target pathogenic microbes, including C. difficile.

Special Forces Support for Diarrhea

Saccharomyces boulardii (aka S. boulardii or Sac. b.) is a beneficial species of yeast found inside mangosteen and lychee fruit.

It is very similar to baker's yeast, but a different species. It was discovered by the microbiologist Henri Boulard during the 1920's cholera outbreak. People were preventing cholera by drinking a tea made of lychee and mangosteens. The active ingredient was isolated and the species was named boulardii after the scientist who discovered it.

Saccharomyces boulardii is the world's best known probiotic yeast and it's been used as a probiotic for decades. Clinical studies show that Sac. b. supports gut health following antibiotic therapy[1]. Saccharomyces boulardii is a normal inhabitant of the human intestines, so it's recognized and at home in your microbiome. Sac. b. also has no pathogenic powers, meaning it cannot grow out of control or cause an infection.

S. boulardii Benefits

Sac. b. significantly reduces the frequency, severity and duration of diarrhea with no side effects[2, 3]. It also shortens the length of hospital stays for patients with diarrheal infections[4]. And Sac. b. reduces the symptoms of colitis[5]. Below are the key benefits provided by Sac. boulardii:

- Reduces severity and duration of diarrhea.
- Shortens duration of hospital stay.
- Helps heal and restore gut tissues.
- Fights infectious bacteria inside the gut.
- Gut barrier integrity maintenance[11, 12].
- Modulates intestinal enzymes to protect gut lining[13].
- Antioxidant potency[14].
- Anti-inflammatory properties and reduction of Candida[15]
- Supports immunoglobulin production in the gut[16].

How S. boulardii Works

If you look at Sac. b. under a microscope you'll notice how big it is. It's up to 5 times larger than most bacteria. Its shape can vary depending on your personal microbiome, but it takes up a lot of real estate in your digestive tract. Because S. boulardii so big, it physically pushes disease-causing bacteria out of the way, a process called competitive exclusion[6]. S. boulardii also traps and binds disease-causing bacteria onto its surface, keeping them away from your intestines[7].

But that's not the only way S. boulardii works. There are at least nine mechanisms of action that set Sac. b. apart from other probiotics[8, 9], as listed below:

- Immune regulation[10].
- Production of antimicrobial substances.
- Pathogen competitive exclusion[6].
- Pathogen adhesion[7].

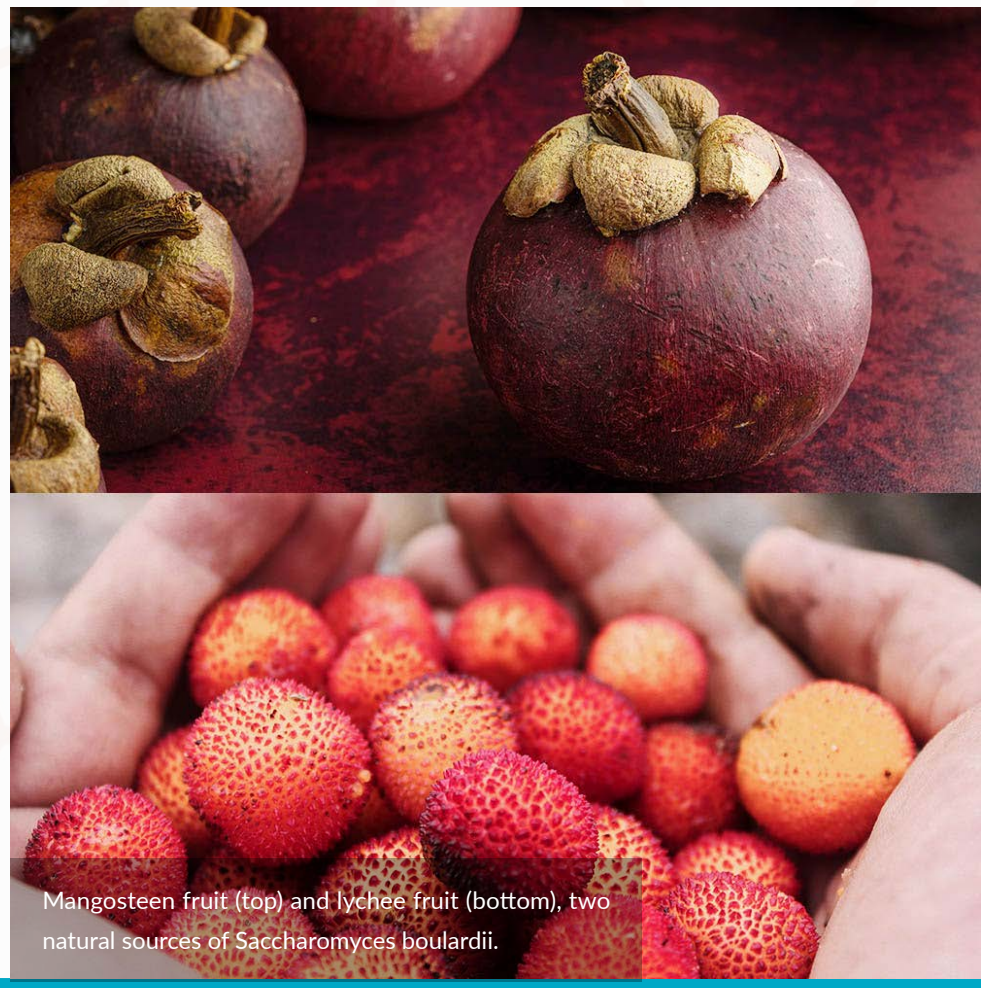
S. boulardii has also been examined in human clinical studies against a wide range of gut infections and disorders. This versatile yeast has been proven to help the following conditions:

- Supports a healthy microbiome during or after antibiotic use.
- Helps relieve C. difficile bowel disorders in adults and children.
- Several clinical studies show that S. boulardii is helpful for support with gut disorders, especially antibiotic-associated diarrhea and C. difficile associated diarrhea[17].
- S. boulardii secrets an enzyme that digests C. diff. toxin A and it helps prevent the formation of C. diff. toxins[18].
- Supportive in children with autism.
- Supportive against Inflammatory Bowel Diseases.

Sac. b. Precautions

Most people tolerate S. boulardii very well with no side effects, even people who are quite ill. However, there have been rare cases of fungal infection caused by taking S. boulardii.

In one particular case, a patient with a compromised immune



Mangosteen fruit (top) and lychee fruit (bottom), two natural sources of Saccharomyces boulardii.

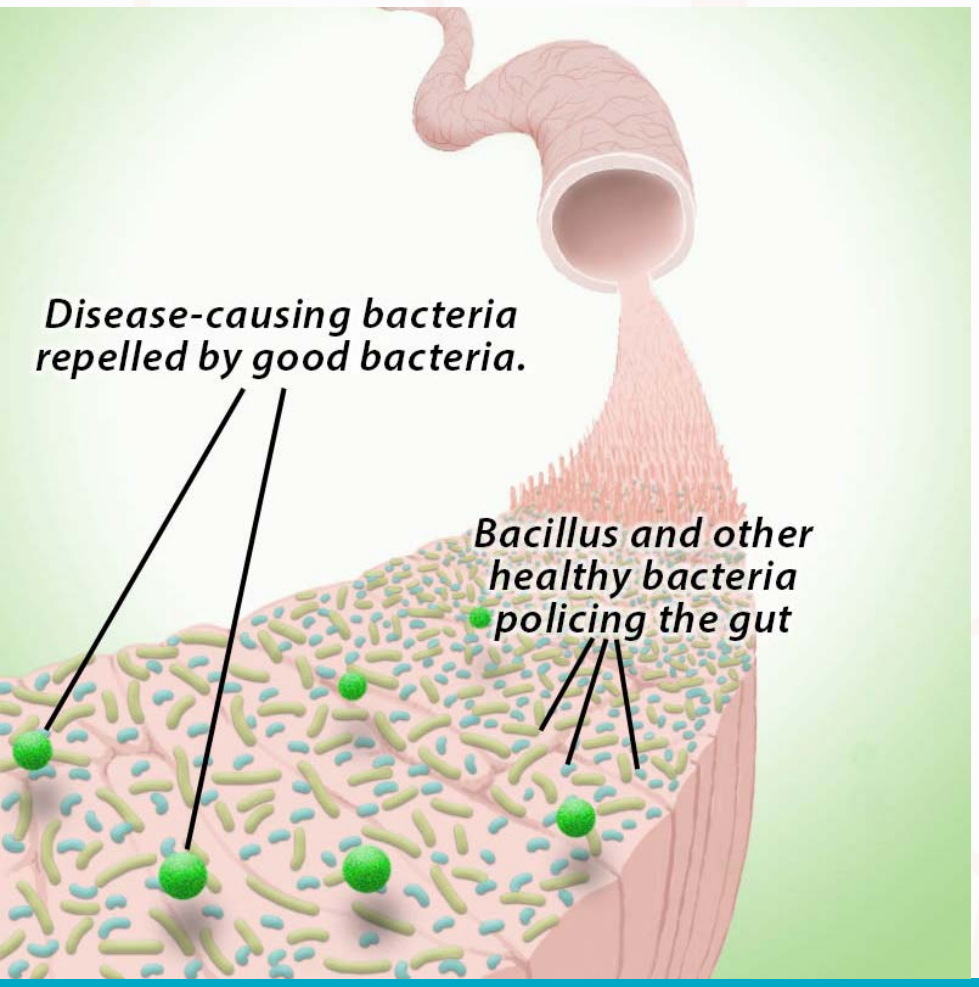
system and several other health challenges, including C. diff. and Candida, took S. boulardii and developed fungemia, which is a blood fungal infection[19]. Of all the rare cases of S. boulardii infection, most of the patients were critically ill, had a CVC (catheter), received IV antibiotics and were intubated[20].

While fungemia is unlikely, it can be a serious complication if it does occur. So the use of Sac. b. probiotics should be considered very carefully or avoided for people with compromised immune systems and significant health challenges.

Precision Action of HU58

HU58 is a special strain of **Bacillus subtilis** with unique gut policing properties. This strain of friendly bacteria was discovered at the University of London as a natural species inside the human gut[21]. In fact, it is one of the most dominant species found in the human microbiome, comparable in numbers to Lactobacillus species[22]. Bacillus subtilis is safe for human use[23] and is generally regarded as safe in the U.S. by Food and Drug Administration and also by the European Food safety Authority[24].

HU58 is a rugged spore that can withstand extreme pH levels, high temperatures, dehydration, antibiotic drugs, high pressures, radiation, and even the harsh environment of the digestive tract[24]. It can also produce targeted natural antibiotics, which makes it particularly effective at balancing gut flora[25]. Bacillus subtilis is especially effective at gut colonization where it can thrive with or without oxygen[26].



How HU58 Works

For over 50 years B. subtilis has been known to produce antibiotic substances that can fight off infections. Bacillus subtilis devotes much of its time and energy into producing 66 different natural antibiotic substances[27, 28]. These natural antibiotics have rapid killing activity against many different disease-causing bacteria[29].

Man made antibiotic drugs have many side effects and are prone to resistance. They are also very simple chemically and usually have just one mode of action. So bacteria learn to resist synthetic antibiotic drugs very easily and quickly, causing the drugs to become less effective over time. But the antibiotic substances produced by B. subtilis are free from these problems.

The antibacterial substances made by B. subtilis are a natural part of the human gut, so they are recognized as friendly by your body. The B. subtilis antibiotics also target specific strains of "bad" bacteria and are much less likely to cause resistance[30].

Basically, antibiotic drugs work like an old World War II bomb, dropped from high altitude with no guidance and no steering. It's a hit and miss weapon that can cause a lot of collateral damage. In contrast, the dozens of antibiotic substances made by Bacillus subtilis work like a battalion of highly trained snipers. They infiltrate enemy territory and eliminate the enemy with incredible precision, without collateral damage.

Bacillus subtilis Fights Diarrhea

Bacillus subtilis is very effective at fighting infections and infection symptoms[31]. It is especially helpful for reducing diarrhea caused by infections or by taking antibiotic drugs[32]. B. subtilis reduces symptoms like gut pain, vomiting, nausea and bloating according to a randomized, double-blind, placebo-controlled human clinical trial[33]. This amazing Bacillus species also helps restore gut flora balance and overall intestinal health[34].

Antibiotics often cause negative side effects, especially diarrhea. In fact, between 25% and 44% of people who take antibiotics experience antibiotic-associated diarrhea, regardless of age or sex. And diarrhea is also caused by gut infections like C. difficile.

Thankfully B. subtilis is highly effective at treating diarrhea and acute gut infections[35]. There have been 23 clinical studies involving 1800 patients that show the ability of B. subtilis to speed infection recovery, improve diarrhea and even reduce symptoms of irritable bowel syndrome[36].

Other Benefits of Bacillus subtilis HU58

Bacillus subtilis has many unique benefits that make it ideal for

use as probiotic. But because of its high potency and pronounced effects, most people will benefit most from Bacillus subtilis HU58 as part of a blend of multiple probiotic species, such as with the yeast probiotic Saccharomyces boulardii or other species of Bacillus spores. Below is a summary of all the benefits of B. subtilis:

- Makes natural antibiotics to fight gut infections[25].
- Reduces diarrhea caused by infections or antibiotic drugs[24].
- Makes essential amino acids and vitamins[27].
- Survives stomach acid to arrive at full potency in your gut[37].
- Supports and boosts the immune system in multiple ways[38].
- Reduces gut tissue inflammation[39].
- Helps "police" and tend your normal gut flora[40].
- Safe, effective and normal component of your gut[23, 30].
- Stable and potent and requires no refrigeration.

RestorFlora: A Special Support Probiotic for Diarrhea

RestorFlora is a special-purpose probiotic that is ideal for diarrhea, antibiotic-associated diarrhea, C. difficile-associated diarrhea and gastrointestinal upset. It is a three strain product that contains the friendly yeast Sac. boulardii in a high potency of 5 billion CFU per capsule. RestorFlora also contains Bacillus subtilis HU58 as well as Bacillus clausii, both at 1 billion CFU each.

RestorFlora is best for short term use during active infections and gut challenges where diarrhea is involved. It's best taken along with a broad spectrum probiotic such as MegaSporeBiotic.

HU58: A High Potency Bacillus Subtilis Probiotic

HU58 Bacillus subtilis is one of the five strains of Bacillus spores inside the MegaSporeBiotic product and one of three species found inside RestorFlora. The HU58 product is a single-strain probiotic with a mega dose of B. subtilis HU58 of 10 billion CFU. Taken along with MegaSporeBiotic, The HU58 product can "supercharge" gut flora balance and restoration.

HU58 is for temporary support for especially difficult G.I. challenges, such as severe or recurring gut infections. The HU58 product is not a substitute for MegaSporeBiotic or RestorFlora, but an optional add-on product to boost the effectiveness of other probiotics.

HU58 is highly stable in the acid stomach environment[24], allowing it to pass through the stomach to reach the intestines without losing potency. B. subtilis supports healthy gut microbiome balance and digestion and can help prevent diarrhea of various causes[24]. HU58 is well tolerated and safe, supports a healthy response to foods and plays a role in immune system development[41].

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Michelle's Recommended Healing Products

MegaSporeBiotic

MegaSporeBiotic is an all-spore probiotic that survives harsh stomach acid to arrive in the gut at full strength. It contains five strains of Bacillus that recondition the microbiome and support healthy digestion and immune function. **Ideal for long-term use**, MegaSporeBiotic supports the growth of healthy bacteria and helps control non-favorable bacterial overgrowth.

- Type of support: **Recondition** and **Defend**.
- Contains **Bacillus subtilis HU58**, which produces antimicrobial substances in the gut to resist unhealthy bacteria and rebalance the microbiome.
- Contains *Bacillus coagulans*, which reduces C. difficile colitis, eases colon inflammation, lessens diarrhea and improves C. diff. outcomes.
- Contains *Bacillus indicus* HU36™, which supplies antioxidants directly to the GI tract where they are best absorbed.

RestorFlora

RestorFlora contains the friendly yeast species *Saccharomyces boulardii,* which is helpful for diarrhea caused by either C. difficile or antibiotic drugs. **RestorFlora is ideal for short-term use** during active infections and intestinal upset. Best used in combination with MegaSporeBiotic.

- Type of support: **Defend** and **Recondition**.
- *S. boulardii* secretes an enzyme that digests C. diff. toxin A and helps prevent the formation of C. diff. toxin B^3. Also contains **Bacillus subtilis HU58**, and Bacillus clausii.
- Reduces harmful bacterial overgrowth, eases intestinal inflammation, and improves gut disorders, including IBS.

Mega IgG2000

Mega IgG2000 neutralizes a range of toxins from bacteria, mold and the environment, including C. difficile toxins A and B. It also helps reduce inflammation and intestinal damage and supports healthy gut barrier function. Unlike clays, charcoal and other binders that indiscriminately bind to a wide range of things, Mega IgG2000 only targets disease-causing bacterial components and toxins inside the gut. **Ideal for long term use.**

- Type of support: **Cleanse**.
- Binds destructive gut toxins, including C. diff. toxins A and B, binds inflammatory LPS, protects against gut infections, assists G.I. tissue healing and helps resolve diarrhea.
- Will **NOT** bind drugs, nutrients and other supplements.
- Bovine sourced. Lactose-free, casein-free, and β-lactoglobulin-free.

Always consult with your doctor before starting any nutritional supplement program, before using any product during pregnancy, or if you have a serious medical condition.

10% SAVINGS

Use Promo Code **PR10**

Basic

If you only choose one product, then MegaSporeBiotic is best. Ideal for gut infection support and microbiome reconditioning. Great for long-term daily use.

~~$64~~ **$58**

https://tinyurl.com/4n2xrfzy

Plus

Mega Plus Pack. Added toxin binding and inflammation support with Mega IgG2000. Ideal to cleanse and recondition the gut during infection healing and recovery.

~~$128~~ **$115**

https://tinyurl.com/2p599fzn

Complete

Gut Restoration Pack. With RestorFlora to address diarrhea. Broad action to cleanse, recondition and defend the microbiome. Ideal for use during active infections.

~~$172~~ **$155**

https://tinyurl.com/yc4z9ucs

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