Dr. Bill Rawls’

DIET GUIDE

a part of Dr. Bill Rawls’ Restore Program™
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A WORD FROM DR. BILL RAWLS:

If you have any sort of chronic illness, the likelihood that you have digestive issues is high—the two often seem to go hand-in-hand. Digestive problems are some of the most common maladies suffered by Americans. Much of it we bring upon ourselves; it’s rooted in what we eat and how we go about life (I’m just as guilty as anyone).

For the first half of my life, I embraced everything the food industry had to put on my plate. It was so easy. I also lived with chronic digestive issues. As my health deteriorated mid-life from Lyme disease and fibromyalgia, so did my digestive function. At one point, a food sensitivity panel showed that I had high sensitivity to 75% of all foods!

A significant part of my recovery was restoring normal digestive function. During the process, I explored nearly every dietary concept and eating plan out there. I came to respect how foods that humans have eaten for the past 1,000 years and the past 10,000 years influence what we should be eating today. I studied dietary habits (past and present) of different populations around the world and dug up the prevailing science that supported my evolving views.

This comprehensive diet guide is the result of that effort. I used this information to solve my own digestive issues, and over the years helped many others do the same. This guide is an important key to your recovery.

Making the transition to a clean diet is a life-changing journey. It is about using foods to enhance your wellbeing instead of just satisfying a craving. Breaking away from the comfort of familiarity, however, can be like setting sails on a ship bound for the unknown. There is always uncertainty about the new and different.

With that in mind, I’ve designed this Diet Guide to make the
transition more comfortable and doable. **Whether you embrace it, and how thoroughly you embrace it, will ultimately determine the success of your recovery.**

In good health,
Dr. Bill Rawls
The Dr. Rawls Diet Guide explains the causes of digestive dysfunction and Leaky Gut, and how digestive function relates to chronic disease. This guide separates the healing process into 4 phases, and includes which foods to eat (or avoid) for each phase. How long you stay in each phase depends on your symptoms.

Where you start and how intensely you embrace each step depends on your degree of symptoms. Virtually everyone suffering from any sort of chronic disease process faces digestive issues of some sort. Anyone can benefit from following the recommendations in this guide; if your symptoms are mild, you may progress through the initial phases quickly. Otherwise, you may have to take your time.

This document will be your go-to resource for food and eating. The closer you follow this approach, the quicker you will move towards wellness.
For many people, one of the biggest roadblocks to becoming well is poor digestive health. It seems to go hand-in-hand with many chronic disease processes. Without normal digestion, the body is unable to properly absorb important nutrients and rid itself of toxins. The digestive system is intricately connected with every other system in the body. Normal health is impossible without normal digestion.

This section of the guide starts by discussing the primary factors that contribute to digestive dysfunction. It goes on to describe how these factors come together to create problems in the intestinal tract. The chapter concludes with guidelines for minimizing these factors to allow healing.

Causes of Digestive Dysfunction

The first step in solving a problem is understanding the causes of that problem. For any type of digestive dysfunction, there are three primary contributing factors:

- Anti-nutrients
- Chronic stress
- Microbiome imbalance

What’s an anti-nutrient?

Anti-nutrient is a term for naturally-occurring food substances that: a) interfere with absorption or utilization of nutrients in the body, b) contain substances that irritate the gut, or c) contain toxins, both naturally or artificially occurring.

Individuals with a healthy digestive system tolerate a normal amount of anti-nutrients in foods without a problem,
but under less optimal circumstances, anti-nutrients can cause extensive damage.

**Anti-Nutrients, & Other Food Hazards**

**Seeds (Grains & Beans)**

For the past 5,000-10,000 years, *seeds (mostly grains and beans) have come to dominate the world’s food supply*. Chosen for convenience, plants cultivated for grains and beans are easy to grow on a large scale and can be grown almost anywhere there is fertile land and water. Cultivation of grains and beans was a primary factor that propelled humans beyond a primitive hunter-gatherer existence. Grains and beans store well and can also be fed to livestock.

Grains and beans, however, are not necessarily natural foods for humans. Humans went through millions of years of evolution before adopting grains and beans as a major food source—and perhaps there was a reason.

Consider the true purpose of a seed. *A seed contains a fertilized embryo* for forming a new plant. *Everything else present in the seed is there to protect and nourish the fertilized embryo*. Different plants use different seed strategies. Seeds found inside fruits and vegetables are functionally very different than seeds released freely from the plant (grains, beans, nuts).

Fruits contain seeds that are specifically meant to be eaten (including vegetable fruits such as squash or cucumbers, and fruits such as watermelon and berries). Seeds of this type are extremely resistant to digestion and pose little harm to the creature that consumes them. To the plant’s ultimate benefit, well-fertilized intact seeds are then widely distributed via the excrement of the animal (at least in the wild).

Many other types of seeds, however, are specifically not designed to be eaten. Grains, beans, and possibly tree nuts fall into this category. Carbohydrates, fats, proteins, and other nutrients present in the seed are there to nourish the fertilized embryo—not some other creature. Many proteins present in these seed types are irritating to animal
intestinal tracts; some are actually designed as deterrents to discourage consumption.

**Storage Proteins (Gluten)**

Storage proteins are specialized proteins that provide amino acids necessary for the sprouting of a seed. All seeds contain storage proteins in the inner parts of the seed (called the endosperm). Because plant storage proteins are of different structure than animal proteins, they are typically hard to digest and irritating to the intestinal tract of animals. Different seeds have different proteins, some more irritating than others.

The most well-known storage protein is gluten. Gluten is actually not one protein, but instead, a family of proteins. Exclusive to grains related to wheat (rye, barley, ancient forms of wheat), gluten is what allows bread to rise. Gliadin, a component of gluten found only in wheat (not barley or rye) is the most reactive protein of all. Because fluffy bread is so desirable, modern wheat has been specifically cultivated for high gluten concentrations and increased “stickiness”.

Not surprisingly, wheat gluten is notoriously hard on the digestive tract (think as if you were eating glue). Most people do not tolerate wheat in any significant amount. Modern gluten proteins are highly allergenic (produces allergies).

**What about Celiac Disease?**

Celiac disease is the most extreme form of gluten sensitivity. It occurs in about 3% of the population. Intestinal symptoms include gas, bloating, and frequent loose stools. It is also associated with systemic symptoms that include weight loss, muscle wasting, muscle pain, headaches, and very severe fatigue. Testing is indicated with the presence of these symptoms. People who test positive should avoid all gluten.
Lectin Proteins

Lectins are specialized proteins that are present in all plants. Of all parts of the plant, seeds have the highest concentrations. The purpose of lectins is to protect the plant from consumption by insects and other creatures. Lectins bind to the carbohydrates in cell membranes in the intestinal tract of whatever creature consumes the plant or seed. This causes irritation of tissues.

When humans eat plants, we are exposed to the potentially damaging effects of lectins. Of course, humans have been eating plants for a very long time—we do have natural protection. Cells of the gut are coated with a protective barrier composed of special types of carbohydrate molecules called glycoconjugates and a fine layer of sialic acid molecules (this forms a layer of protective mucous). As long as concentrations of lectins in food are not excessive, lectins are not a significant problem.

In a healthy gut, the substances in the protective layer act like a decoy. Lectins are neutralized by binding to the decoy carbohydrates instead of the actual cellular lining of the gut. The few lectin proteins that make it through the barrier are neutralized by IgA antibodies produced by immune cells in the intestines. Nearly everyone has IgA antibodies specific to certain dietary lectins.

Problems arise when lectin concentrations are excessive. Most grains and beans are particularly high in lectins. The type of lectins present in grains and beans are particularly irritating to the intestinal tract. Because seed lectins are found in the outer coating of the seed, whole grain products have higher concentrations of lectins than grains that have the bran (outer coating) stripped off.

Raw beans are so high in lectins that they are actually poisonous. Prolonged soaking and boiling is required to make them edible. This is probably the reason why prehistoric people left beans off the menu.

High concentration of grain and bean lectins found in processed food products are very erosive to the linings the stomach and intestines. Chronic stress slows the movement of food materials through the gut.
and compounds the erosive process.

Primary sources of problematic lectins include:

- Grains, especially wheat and corn
- Legumes, especially soybeans, kidney beans, and peanuts
- Tree nuts, such as almonds, pecans, walnuts, cashews, pistachios
- Nightshade vegetables, including tomatoes, potatoes, eggplant, peppers
- Dairy from cows raised on corn and soybeans
- GMO seeds (corn, soy) are especially high in lectins

Lectins can be reduced (but not eliminated) in grains by sprouting and boiling. **Baking is not enough heat to significantly reduce the high concentration of lectins** in wheat products. Although lectins are resistant to stomach acid and heat, lectin concentrations can be **reduced (but not eliminated) in beans by extended soaking, fermenting, and prolonged boiling**. Fermented soybean products (tofu, tempeh) are lower in lectins than other soy products.

**Excessive Carbohydrates**

Carbohydrates tempt our taste buds like nothing else. Sugars and starches, as well as grains and beans, are loaded with carbs. Together, these food items are enough to cause an epidemic of diabetes and obesity in America.

The issue with grain and bean carbohydrates is that they usually don’t get completely broken down and feed abnormal bacteria in the gut. This not only causes **overgrowth of bacteria, but also stimulates growth of disease-causing bacteria (pathogens)** in the gut.

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**White Rice, the Exception to the Rule**

Cooked white rice is actually very friendly to the digestive system. The **lectins and storage proteins in white rice do**
not seem to be as damaging as other grains and are mostly broken down by steaming or boiling (brown rice provides more nutrients, but is higher in lectins).

White rice is the least allergenic grain. It is not goitrogenic and contains no hormonally active substances. White rice has the lowest concentration of phytic acid of all seeds. In addition, the carbohydrates in white rice are completely broken down and absorbed and therefore make minimal contribution to bacterial overgrowth in the small intestine.

Phytate
Phytate (phytic acid) is found in the hulls of nuts, seeds, and grains. Phytic acid is present in the seed to store phosphorus for the growing plant. This molecule binds to minerals such as calcium, iron, and zinc, and prevents absorption by the body. Phytic acid can be reduced by cooking, fermenting, and sprouting. It is a minor anti-nutrient.

Goitrogens
Goitrogens are substances that block thyroid function by interfering with iodine uptake. There are many foods that are mild goitrogens, but the primary ones to know about are cruciferous vegetables, soy and soy products (including fermented soy), peanuts, and strawberries.

Generally, the effect is mild and mostly a concern only to people with poorly controlled thyroid disease. Goitrogens are reduced in food by steaming and boiling. Wheat gluten is not labeled as a goitrogen, but it is also closely linked to autoimmune thyroid disease.

Isoflavones
Soy and soy products contain hormonally active substances called isoflavones. Whether this is good or bad is hotly debated.
Mycotoxins (Mold)

Mycotoxins are toxins produced by fungi (molds) growing on food. There are a variety of different molds that can grow on food. Any vegetables or fruit beyond the fresh stage can grow mold, even in the refrigerator.

Peanuts and mushrooms are notorious for harboring toxin-producing fungi. All dairy products, minus cultured dairy (yogurt, kefir), grow fungi rapidly. Cottage cheese contains the highest concentration of mold toxins.

The most toxic substance produced by mold is called *trichothecene*. Trichothecene is produced by multiple types of mold, including black mold (a common problem in homes and workplaces). Trichothecene is also produced by a fungus that commonly contaminates wheat, corn, and oats. People who have become sensitive to black mold from exposure at home or at work will be especially sensitive to mold growing in foods.

Toxic Fats

Fat (including oils) is not something you ingest purely as an energy source—it literally becomes part of you. The membranes surrounding each of the trillions of cells in your body are made of fat. Any fats or oils that you eat end up as part of your cell membranes.

Polyunsaturated oils from vegetables sources (corn, soybean) are particularly susceptible to damage from high heat (frying or high temperatures used in processing). When consumed, damaged oil particles are laced into the membranes of all cells in the body. Damaged oil particles are potent free radicals that set off destructive chain reactions—certainly not how you want to treat your cell membranes!

Monounsaturated oils (olive, sesame, avocado) are less susceptible (but not immune) to this process. Therefore, these oils are preferred in cooking and preparing food. Even these oils, however, can be damaged by high heat; high temperatures on the stove should never be used when cooking with vegetable oil. When purchasing oils, make sure they have been minimally refined (no chemicals used in processing) and
cold-pressed (it will say so on the bottle).

Saturated oil is the least susceptible to damage by high heat causing free-radical formation. The most well-known vegetable source of saturated fat is coconut oil. Unlike saturated fat from animal sources, which consist of long chains of fat, coconut oil contains saturated fat of medium length. Called medium-chain triglycerides (MCT), these fats are burned immediately for energy and have lower potential to cause arterial plaques. Coconut oil also contains fats that suppress viruses (monolaurin).

Saturated fat found in red meat (beef, pork) consists of long chains. When consumed, long-chained saturated fats thicken blood (think lard mixed in water), contributing to arterial plaque formation. Grain-fed beef and (especially) pork are excessively fatty.

Antibiotics, hormones, and other toxins are concentrated in the fat. Undigested animal fat stimulates growth of unfavorable bacteria in the colon (called putrefaction dysbiosis), causing odorous flatulence and increasing risk of colon cancer.

Even so, animal source protein is the least reactive and best tolerated of all protein sources. The trick to gaining the most benefit with the least amount of harm depends on the source of meat chosen. Small farms with open pastures are the best source for domestic meat.

Fish and seafood are top choices (especially wild caught) because of the high levels of omega-3 fatty acids. These special fats reduce inflammation in the body and protect cell membranes.

Poultry (chicken, turkey, eggs) is next on the list with a blend of polyunsaturated and saturated fats. Pasture-raised is preferred, however, in both poultry and eggs. Corn-fed, hormone-injected chickens are plump but unhealthy. Antibiotic use in the industry is heavy and most poultry meat is now contaminated with antibiotic-resistant bacteria (all poultry and eggs should be thoroughly cooked before consumption).

Having a little bit of dietary saturated fat is actually a good thing. Small amounts of saturated fat stabilize cell membranes in the body and reduce inflammation. Occasionally (2-4 times per month), putting
pasture-fed (beef, bison) or wild sources (elk, venison) of lean red meat on the table is a reasonable choice. Portions matter, however; 6 ounces (the size of a deck of cards) is enough to meet daily protein requirements.

**Dairy Issues**

Dairy carries multiple concerns. Many people do not have adequate enzymes to break down the primary sugar in milk called lactose. Lactose intolerance contributes to intestinal discomfort, gas and bloating, and loose stools when dairy is consumed.

*Casein proteins in milk are as difficult to digest as gluten; they irritate the gut and are highly allergenic.* Whey proteins, which make up 20% of milk proteins, are generally well tolerated.

*Grain-fed dairy also contains lectins* from the grains. **Toxins, hormones, and antibiotics** are also commonly used in industrial milk production. In addition, dairy products (other than fermented dairy) are **more apt to grow toxin-producing fungus than any other food source** (cottage cheese being the worst).

**Artificial Toxins**

**Pesticides, herbicides, and other unnatural chemicals used in agriculture** are certainly a threat to general health, but the potential for disrupting the digestive process is difficult to define. All unnatural toxic substances must be processed by the liver and extra pressure on the liver may have a negative effect on digestion.

**Many drugs inhibit digestive function:**

- **Acid inhibiting drugs,** commonly used for reflux and stomach complaints, inhibit digestion of proteins and slow gastric emptying.
- **Sedative drugs** inhibit the movement of food material through the intestinal tract.
- **Non-steroidal anti-inflammatory drugs (NSAIDs)** such as ibuprofen and naproxen compromise the protective barrier in
the stomach and promote inflammation and ulceration of the lining of the stomach.

- **Antibiotic therapy** destroys normal flora in the gut, allowing overgrowth of disease-causing bacteria and yeast. This, inadvertently, suppresses immune function and allows low virulence microbes to flourish.

- **Anti-fungal drugs** are notorious for compromising normal liver function.

### Chronic Stress

When confronted by a threat or even the perception of a threat, the body responds by shifting resources to confront the threat. Normal bodily functions take a back seat to preparing the body for confrontation with a natural threat, such as a tiger for our predecessors. In the modern world, ‘the tiger’ never goes away and the body stays in continual high alert.

Most people do not realize how stressed they really are. People come to accept chronic stress as a normal part of daily life because they do not know anything different. **The cumulative effect on digestion, immune function, and hormonal balance is devastating.**

### Microbiome Imbalance

The presence of stealth microbes can cause an imbalance in the body’s microbiome, which is the sum of all the good and bad bacteria that inhabit the body. The microbiome includes both normal flora (microbes that cause no harm) and potential pathogens (disease-causing microbes). A healthy immune system keeps potential pathogens continually suppressed.

The total body microbiome is made up mostly of microbes found in the gut, oral cavity, vagina, and skin, but microbes can be found throughout the body. A person’s microbiome is as unique as his or her genes. There are over 10,000 species possible with an infinite number of different combinations.¹
Just after birth, the immature microbiome of an infant is the same as the mother. Exposure to the environment at large quickly establishes a unique microbiome for that individual. Though the microbiome of the adult is relatively stable, it continues to be influenced by environmental factors.

The gut microbiome is particularly sensitive. Many factors, with processed foods at the top of the list, can disrupt the normal balance of microbes present in the gut. The types of carbohydrates present in processed foods shift the balance of the microbiome toward harmful bacteria for the whole body.

Our microbiome is also continually being expanded. New microbes from food, liquids, breathing, and insect bites get added to the mix. Some, like the stealth microbes associated with Lyme disease, are potential pathogens (disease-causing organisms). Many chronic illnesses are being traced to stealth microbes that have become part of the microbiome; in many ways, chronic disease and aging can be seen as a microbiome disruption.

One stealth microbe that can particularly affect the gut is mycoplasma. Mycoplasma is commonly associated with Lyme disease, fibromyalgia, and chronic fatigue. It is notorious for infecting and disrupting microvilli in the intestines. Mycoplasma is very common. One third to two thirds of the population carry mycoplasma without knowing it. Recognized or not, it can still cause subtle ongoing damage to the gut.

Antibiotic use is common for conditions like Lyme disease. Short term antibiotic use (days to a couple of weeks) is generally well tolerated, but antibiotic therapy used chronically for weeks or months severely disrupts the microbiome and allows pathogens to flourish. This intensifies any damage already present to the intestinal lining (mucosa).

Can your microbiome balance affect your mood?

Serotonin is considered the neurotransmitter responsible for mood. Though some serotonin is produced in the brain, 90% of serotonin in the body is actually produced by cells in the intestinal tract. Serotonin in the gut is important for normal motility, which is the movement of food through the intestinal tract.

Recent scientific studies demonstrate that gut bacteria heavily influence serotonin production by cells in the gut. Certain bacteria also produce serotonin. This suggests that a balanced microbiome is not only important for normal gut function, but possibly also for a positive mood!¹
Understanding Digestive Dysfunction

For Americans, digestive dysfunction is heavily rooted in what they eat. The typical American diet, comprised mostly of processed food products derived from wheat, corn, and soybeans, and meat and dairy from animals raised on corn and soybeans, is loaded with difficult to digest proteins, carbohydrates and fats, and toxins of every variety. In other words, it is the worst possible diet for the digestive tract.

Chronic stress compounds the problem by slowing the movement of food out of the stomach and through the intestinal tract. Chronic stress also adversely affects serotonin production. Serotonin may also be affected by imbalances of bacteria in the gut. Serotonin is another important component for peristalsis, which is the movement of food materials through the intestinal tract.

Slow movement means that food materials stagnate and sour, enhancing their erosive properties. The stomach lining becomes inflamed and the protective barrier is stripped away. Left unprotected, the stomach lining is susceptible to infection with microbes such as mycoplasma and H. Pylori. This is how ulcers form.

The normal flow of digestive enzymes and acid is suppressed. Everything gets backed up. Symptoms of reflux, heartburn, and chronic stomach discomfort appear.

Without acid and enzymes, proteins are not properly digested. Most proteins in foods are foreign to the body. If not properly broken down by the digestive process, food proteins can stimulate an allergic response.

Processed food and chronic stress also inhibit bile flow in the liver and gallbladder. Bile is necessary for digestion of fat. It is also the vehicle for carrying neutralized toxins out of the body. Inhibited bile flow
causes liver congestion, retention of toxins, gallbladder dysfunction, formation of gallstones, and poor digestion of fat.

Processed food products are loaded with starch and sugar—much more than the body can use or absorb. Additionally, **wheat and corn are loaded with starches** that are not broken down and absorbed by the body. **Excess sugar and starches are fodder for intestinal bacteria.**

Undigested starches and sugars **stimulate overgrowth of bacteria in the small intestine** (bacteria in the small intestine normally occur at very low concentrations). Fermentation of starches and sugar by bacteria causes symptoms of bloating and trapped gas. Bacterial overgrowth **compromises the protective barrier of the intestine.** (This entire process is often referred to as **SIBO** - Small Intestine Bacterial Overgrowth.)

Starches and sugars also **stimulate growth of yeast.** Yeast are always present in the intestines, but growth is normally inhibited by friendly bacteria. The presence of undigested carbohydrates allows yeast to flourish. Yeast overgrowth is also toxic to the intestinal lining and intensifies immune dysfunction.

Once the outer barrier is stripped away, **intestinal cells are left unprotected.** Lectins and other proteins such as gluten are then able to attach to and disrupt cell membranes of intestinal cells. Microvilli covering the surface of intestinal cells are destroyed and the **ability of the cells to absorb vital nutrients is compromised.**

This **damage can be intensified by stealth pathogens** such as mycoplasma and borrelia, but even normal friendly flora are opportunists. Once the barrier is down, intestinal microbes can infect intestinal cells and cause damage.

**Understanding Leaky Gut**

Once the intestinal mucosa (lining) has been totally compromised, **foreign proteins**, including lectins and other plant proteins not broken down by normal digestion, **“leak” into the bloodstream** in high concentrations. This is commonly referred to as leaky gut.
Foreign proteins, especially lectins, push the immune system into overdrive. Lectins stimulate antibody production, activate cytokine cascades (messengers of the immune system), and initiate histamine response (causing nonspecific allergic-type responses including skin rashes). Lectins may play a role in rheumatoid arthritis and other autoimmune diseases by stimulating class II HLA antigens on cells which ordinarily wouldn’t show them.

Beyond lectins, all foods contain proteins that can potentially cause sensitivity. Sensitivity to food proteins commonly occurs in the presence of a leaky gut.

What are Food Sensitivities?

Food sensitivities are reactions that occur when food particles leak into the bloodstream in excessive amounts. The immune system detects foreign substances and sends antibodies to bind to the “invaders”. These immune complexes then circulate throughout the body, clogging up the lymph system and causing inflammation.

Sensitivity to a particular food can be mild to severe. Multiple sensitivities are common, and may include wheat, dairy, corn, nuts, yeast, tomatoes, citrus, eggs, soy, bananas, beans, potatoes, pork, and beef. The most common are seeds, nightshade vegetables, dairy, and red meat.

Food sensitivities are the result of antibodies binding to foreign proteins (lectins and other food proteins) that have leaked the bloodstream in excessive amounts (small amounts are normal). The immune complexes that form circulate throughout the body, clogging up the lymph system and causing inflammation in all the organs and tissues. Lectins that have leaked into the bloodstream can also attach to cell membranes of red blood cells causing clumping (called hemagglutination).

System-wide symptoms can occur including fatigue (especially 1–2 hours after eating), brain fog, feeling flu-like, muscle pain, joint
pain, anemia, and a wide range of other nonspecific symptoms (which compounds existing fibromyalgia or Lyme symptoms).

**Leaky Gut and Oxalate**

If that were not enough, increased intestinal permeability (leaky gut) allows a **plant substance called oxalate** to “leak” across the intestinal barrier. Oxalate is an end-product of metabolism in both plants and animals.

Many foods are high in oxalate, but **if the gut barrier is intact, oxalate is not absorbed to any significant degree.** In other words, people with a normal healthy gut can eat foods that are high in oxalate and not have a problem. **With leaky gut, however, large amounts of oxalate can be absorbed.**

Oxalate is not considered an antinutrient because it does not damage the digestive tract directly, but absorbing too much of it is a problem. Excess **oxalate binds with calcium in the body to form sharp crystals** that build up in tissues. **Muscle pain, joint pain** associated with movement, and fatigue are possible associated symptoms.

Oxalate is excreted by the kidneys. Excessive oxalate is associated with increased risk of **kidney stones** (70% of kidney stones are calcium oxalate). Interestingly, people with Crohn’s disease, known for increased intestinal permeability, have a 3x increased risk for kidney stones. Crohn’s disease is also commonly associated with muscle pain and fatigue.

Oxalate crystals can also concentrate in the bladder and vulvar/vaginal area in women, causing **chronic bladder irritability** and **chronic vulvar pain** (called vulvodynia). About a third of women with this condition respond well to a low oxalate diet.

The **primary high-oxalate foods to avoid** include nuts (especially almonds), most grains, most legumes (especially soybeans and peanuts), beets and beet greens, potatoes, tomatoes, sweet potatoes,
Toxin Build-Up in the Colon

Everything eventually works its way downstream to the colon. Excessive starches stimulate bad bacteria. Buildup of toxins from bad bacteria (called dysbiosis) and other sources causes loose stools. Toxins can also damage the colon, resulting in decreased mobility and constipation. Many people alternate between the two.

Damage in the walls of the colon allows pouches called diverticula to form. When multiple diverticula are present, it is called diverticulosis. If diverticula become infected, the condition is called diverticulitis.

Buildup of toxins and undigested animal fat can also contribute to formation of colon cancer.
You can’t eradicate all threats to normal digestive function, but you can minimize them—it is the price (and benefit) of becoming well. How much is your health worth?

Digestive dysfunction is common with chronic illness, but the degree of dysfunction is highly variable. The effort necessary to restore normal function depends on the overall health of the gut. For some people, gut restoration will be a major part of the overall recovery process.

**IMPORTANT:** If symptomatic digestive dysfunction is present, herbal supplements should not be started until symptoms are resolving.

**Testing and Diagnostics**

Testing is only necessary for severe disease or when symptoms persist, despite efforts to restore normal function. Gastrointestinal dysfunction is common, and mild to moderate symptoms often respond to dietary and lifestyle changes alone.

- **Colonoscopy / upper endoscopy.** If symptoms are persistent and do not respond to the restoration protocol, evaluation by a specialist may be indicated to determine the degree of dysfunction. Colonoscopy should be standard screening for colon cancer in all individuals over age 50.

- **Food sensitivity testing.** Specific food sensitivity testing can be helpful for defining the presence of leaky gut and identifying problematic foods. Note, however, that food sensitivity testing is not absolute and does not check for lectin sensitivities; the two can occur simultaneously. Lectin sensitivities often do not show up on food sensitivity panels.
• **Stool culture and stool evaluation for parasites.** Testing is indicated for persistent or bloody diarrhea. This is especially important in cases of loose stools associated with travel abroad.

• **Comprehensive stool analysis.** This type of testing is expensive and usually not necessary. It is valuable only when symptoms do not respond to the gut restoration protocol. Comprehensive Digestive Stool Analysis (CDSA) by Genova Diagnostics is the standard test for comprehensive stool analysis.

• **Liver function.** Routine blood testing is readily available for testing the functional capacity of the liver. Blood testing can also be performed for hepatitis if liver function is compromised.

• **Liver and gallbladder ultrasound.** Noninvasive test for evaluating liver size and the occurrence of stones in the gallbladder.

• **Testing for celiac disease.** Simple blood tests are available for celiac disease, but wheat intolerance commonly occurs in absence of true celiac disease. Determining whether symptoms are related to gluten insensitivity is a simple matter of avoiding gluten products for several weeks.

• **Urinary oxalates.** 24-hour urine collection for measurement of urinary oxalates can help identify individuals at high risk for kidney stone formation.

Any abnormal symptoms such as vomiting or vomiting blood, passage of blood from the rectum, severe cramping or any other severe symptoms should be immediately reported to your health care provider.

THE 4 PHASES OF GUT RESTORATION

A diet for optimal health and a diet for healing digestive dysfunction are not necessarily the same. Many otherwise healthful foods can irritate an inflamed gut. Also, the foods that contribute to digestive dysfunction can vary from person to person. To get well, foods that irritate the gut
must be avoided long enough for healing to occur.

This restoration protocol is divided into four phases. During the initial Healing Phase, all foods that can potentially disrupt digestive dysfunction are eliminated to allow the gut to heal. This phase typically lasts two weeks to two months, depending on the level of dysfunction present.

This is followed by the Initial Reintroduction Phase and the Advanced Reintroduction Phase. Foods that have potential to cause reactions, but are otherwise healthful are carefully reintroduced. Absence of intestinal and systemic symptoms indicates that a food is okay. The Reintroduction Phase is divided into two stages to make it easier. This phase can last 1-6 months depending on the number of food reactions present. The final phase is the Maintenance Phase, where you put into practice all the concepts that you’ve learned.

Additional Tips for Healing provides recommendations for natural supplements that can accelerate the healing process.

The time frame for how quickly gut issues resolve depends on the degree of dysfunction and how rigorously the protocol is followed. Most people will notice significant improvement in energy and reduction in symptoms after only a week or two on a restrictive diet. Complete healing, however, can take months. Complete resolution of strong sensitivities to particular foods can take years.

Doing a gut recovery protocol as a strict vegan is possible, but challenging. Getting enough quality protein is the main issue. Vegans must rely on beans for protein, which are high in damaging lectins. The safest bean products are fermented soy including tofu and tempeh. Other options include pea, hemp, or soy protein powder.

Monitoring Progress

Progress is defined by reduction in symptoms. Symptoms from food sensitivities typically occur 1-2 hours after eating, but can sometimes be delayed to the next day or be chronic.
**Intestinal symptoms include:**
- Abdominal/stomach discomfort
- Nausea
- Bloating, trapped gas
- Loose stools with undigested food
- Flatulence
- Chronic pain at the lower right of the abdomen

**Systemic symptoms include:**
- Fatigue
- Muscle or joint pain
- Headache
- Itching rash
- Exacerbation of Lyme/fibromyalgia symptoms

Sometimes it is difficult to differentiate from Lyme/fibromyalgia symptoms, but as healing progresses, it will be easier to distinguish where symptoms are coming from.

**Stool characteristics** can be helpful for monitoring. Normal stools come spontaneously with little abdominal straining, are formed but soft, brown in color, and sink. Floating stools indicate poor fat digestion. Grey stools indicate inhibited bile flow. Loose stools with undigested food indicate poor digestive function overall. Extremely odorous stools indicate bacterial imbalance.

**Phase 1: Healing**
*(2 weeks to 2 months, until symptoms improve)*

The Healing Phase acts as an elimination diet that *only allows foods with a low potential for harm*. When most grains, beans, nuts, nightshade vegetables, high oxalate foods, red meat, and dairy are excluded, the menu does seem fairly limited. Fortunately, there are enough exceptions to allow for a healthful and nutritious diet. Once healing progresses, a wider variety of foods can be added back in.
All food (with only a few exceptions) should be cooked during the Healing Phase, preferably boiled, steamed, or sautéed using low heat. Cooking breaks down the cell wall in plants and releases nutrients. Cooking also reduces lectin concentrations, kills mold and other microbes, neutralizes many toxins, and makes food easier to digest. Baking and grilling should be avoided during this phase.

Your general approach to eating also matters. Eating quality food, eating less at one time, eating more slowly and chewing food thoroughly, all support not only a healthy stomach, but a healthy GI tract overall. A 12-hour fast each day from 6pm to 6am allows for optimal digestive function.

Chronic stress is often a factor in digestive dysfunction. Stress management is essential for overcoming digestive issues.

Eating organic whenever possible is also a good practice, but fresh sometimes trumps organic. A fresh conventional vegetable or fruit is superior to an organic vegetable or fruit past its prime and growing mold. It is most important to buy organic for thin skinned fruit or vegetables such as berries or celery. Thick skinned vegetables or fruit that can be peeled such as avocado or melons generally do not need to be organic. The Environmental Working Group (ewg.org) posts current recommendations.

Healing Phase: Approved Foods
The following is a list of foods that are low in lectins, oxalate, toxins, and other factors contributing to food reactions. It is possible, however, for certain individuals to react to even these foods. Rotate foods around and look for subtle reactions that may alert you to a food that does not agree with you (or food sensitivity testing is positive for that food).

Vegetables
• Low-oxalate cooked vegetables including asparagus (promotes gut-friendly bacteria), turnips, acorn/butternut squash, pumpkin, zucchini
• Seed pods and seeds from pods including **peas, green beans, snow pea pods**, are low in lectins and generally well tolerated

• Well-cooked **cabbage** is generally well tolerated (avoid for Hashimoto’s thyroiditis)

• Fermented cabbage, found in **Kimchi** (a Korean dish) and **sauerkraut**, promote favorable bacteria in the gut

• Vegetables from the allum family (**onions, garlic, leeks**) promote growth of favorable bacteria in the intestines and offer antimicrobial properties

• **Mushrooms** (brown button, shiitake, portabello) are good sources of nutrition and contain immune enhancing substances called beta-glucans

• **Sea vegetables** (such as nori or wakame) help protect the intestinal lining and are a good source of iodine (admittedly an acquired taste, but great for your GI tract!)

• **Raw cucumber** is the only raw vegetable allowed

• **Pickles** are also just fine; brine curing promotes friendly bacteria in the gut

**Seeds (Grains)**

• Cooked white rice

• Cooked wild rice

• Puffed rice cereal

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**Cooked White Rice**

Cooked white rice is actually very friendly to the digestive system. **The lectins and storage proteins in white rice do not seem to be as damaging as other grains** and are mostly broken down by steaming or boiling. It is the least allergenic grain. White rice has the lowest concentration of phytic acid of all seeds. In addition, the carbohydrates in white rice are completely broken down and absorbed and therefore do not contribute to bacterial overgrowth in the small intestine (SIBO)
or colon.

In general, cooked white rice is a very good choice for providing easy to absorb calories throughout the gut restoration process. It is especially beneficial as a calorie source for **people who are experiencing weight loss and wasting away**. Products made from rice flour should be avoided during the Healing Phase.

**Fruits**
- Temperate fruits including cooked apples, pears, plums, apricots (peeled or cooked)
- Fresh berries including dark cherries, blueberries (raw or cooked)
- Avocados

**Temperate & Tropical Fruits**
Temperate fruits grow seasonally in climates with cold winters. These fruits are much lower in sugar than tropical fruits and are packed with antioxidants and other protective substances. During this phase, larger fruits such as **apples and pears** should be peeled or cooked because of potential fungal growth. **Berries** also grow fungus rapidly and should be eaten only when very fresh or cooked. **Grapes** are the only temperate fruits to be limited or avoided because of high sugar content.

**Avocados** are the tropical fruit exception. Both low in starch, low in oxalate, low in lectins, and high in healthful fats and other protective substances, avocados are a good choice. Avocados, however, also grow fungus rapidly. A ripe avocado is almost black on the outside, slightly soft, and green on the inside. Dark areas or black streaks inside are evidence of fungal growth. Avocados past their prime should be discarded.

**Meat**
- Poultry including **chicken, turkey** (organic pasture-raised preferred)
• Fish including wild-caught salmon, cod, halibut, flounder, grouper, other white fish

**Going Vegan**

Going vegan is possible, but more challenging during recovery. Primary vegan protein sources, including rice with beans and soy, are both high in lectins. The best protein source for pure vegan are fermented soy products (tofu, tempeh, natto). B12 supplements are also indicated. Pescatarians (include fish) and lacto-ovo vegetarians (include eggs and yogurt) have it easier.

**Dairy & Related**

• Oat milk or rice milk

**Oils**

• Olive oil
• Grape seed oil

**Using Cooking Oils**

All oils from seed and nut sources contain lectins and can be associated with food sensitivities. Olive oil and other nut oils contain oxalate. All three of these oils, however, offer antimicrobial properties and healing benefits to the gut. There is probably more benefit than risk here, but they should be used sparingly until you know that you tolerate them well.

**Condiments**

• Egg-free mayonnaise made from grapeseed oil (Vegenaise)
• Vinegar, any type
• Fresh herbs such as basil, oregano, thyme, dill, sage, cilantro, lemongrass
• Dry spices such as cinnamon, cumin, coriander, turmeric, ginger, nutmeg

**Sweeteners**
Beverages

- Ginger tea
- Green tea (great for gradually weaning down on caffeine)
- Water with squeeze of lime, lemon, orange
- Herbal teas
- Roasted dandelion root tea, a substitute for coffee that promotes favorable bacteria

Anti-Inflammatory Ginger Tea

Ginger is excellent for reducing inflammation in the entire GI tract. It helps to settle the stomach and reduce nausea. Ginger has antiviral and immune enhancing properties and is a synergist that helps other herbs work better.

Making ginger tea is easy. Take a large piece of ginger, peel it by scraping it with the edge of a spoon. Slice/chop it into small pieces; enough for a double handful. Pour a gallon of spring water into a large pot and toss in the ginger pieces. Bring to a boil and then reduce to simmer for about 10 minutes. Sweeten with honey or stevia and allow to cool. Strain/filter the tea back into the jug. Store in the refrigerator and enjoy several times a day. If caffeine is a necessity, add a couple of bags of green tea.

Healing Phase: Foods to Avoid

Vegetables

- Nightshade vegetables including potatoes, tomatoes, peppers, eggplant
- High oxalate foods including beets, carrots, celery, collards, kale, leeks, okra, spinach, yellow squash, swiss chard, sweet potato, parsley, rhubarb, figs
• Canned vegetables

**Seeds**

• All gluten grain products (white wheat, whole grain wheat, rye, and barley) should be
  strictly eliminated during your recovery and beyond.
• Bread, pastry, cakes, and pasta made from gluten grains
• Products made from any type of flour, including gluten-free flour
• Breakfast cereals (except puffed rice and oatmeal)
• Legumes (beans of any variety, dried or canned)
• Products made from GMO soy and corn
• Tree nuts and nut-butters (including cashews, almonds, coconuts, pecans, pistachios)
• Peanuts (which are actually legumes)
• Chocolate

**Life without bread?**

People take it like a death sentence. But to get well, you need to avoid all grain products (except white rice), beans, and other seeds for an extended period of time. That said, there are plenty of ways to make other foods enjoyable. And once the gut is completely healed, you can occasionally indulge in a piece of sourdough bread or pasta. You will learn how to balance the pleasure a certain food can offer with the damage it can cause.

**Fruits**

• Tropical fruits such as bananas, pineapple, mango
• Grapes (very high in sugar)
• Figs (high in oxalate)
• Raw fruits of any kind (excluding those mentioned in the “Approved” section above)
• Canned pineapple (high oxalate and sugar)
• Dates (high oxalate)
• Prunes (high oxalate)
• Raspberries, strawberries (high oxalate)

**Meat**

• Grain-fed beef
• Pork
• All processed meats such as sausage, hot dogs, bologna
• Salted meat of any variety
• Eggs (common food allergen, but most people can add it back later)

*Red Meat Allergy:* Cross-allergy between red meat and tick saliva (usually lone star ticks) is not uncommon. Consumption of red meat may cause typical allergic reaction with rash and hives.

**Dairy**

• **All non-cultured dairy products**
  Milk products are primary contributors to GI dysfunction because of lactose-intolerance and sensitivities to casein milk proteins (whey proteins are generally well tolerated).

**Oils**

• Refined vegetable oils such as corn oil, soybean oil
• Canola, sunflower, and sesame oil should also be avoided at this time

**Condiments**

• Ketchup
• Mustard
• Salad dressing with soybean oil
• Regular soy sauce (contains soy and gluten)

**Sweeteners**

• Table sugar
• Organic cane sugar
• All artificial sweeteners

Sugar is directly linked to health problems and digestive issues. Sugar includes refined table sugar, high fructose corn syrup, fruit sugar concentrates, and organic cane sugar. It is hidden in almost everything. What seems like a little bit here and there can add up to be a lot. Minimizing sugar is essential for recovery.

Beverages
• Soft drinks - saturated with sugar or artificial sweeteners
• Black tea - gastric irritant
• Coffee - gastric irritant
• Fruit drinks - excessive sugar
• Beer, wine, other alcohol containing drinks

Alcohol is a toxin that in any amount will hold back your recovery. If caffeine is a habit, wean down slowly using green tea mixed with ginger tea.

Please note that it is nearly impossible to absolutely avoid all offending foods, especially all at one time. The objective is to minimize reactive foods until healing can occur and identify the foods that cause the most problems. Once healing occurs, many foods can be reintroduced.
Phase 2: Initial Reintroduction
(1-3 months)

The process of starting with a very low reactive food list and then gradually adding back other foods is called an Elimination Diet. It is a tedious process, but because food reactions are so individual and so variable, it is the only practical way to identify problem foods.

Foods or food groups should be individually and carefully added back while paying close attention to flare-up of any symptoms. If symptoms have not increased over several days, that food can be left on the list.

The absence of intestinal symptoms is a sign that the gut is healing. Once the gut is starting to heal and the barrier is intact, oxalates are less likely to “leak” across. Therefore, vegetables and fruits containing oxalates are the first group to be reintroduced.

Next, you may want to add raw apples, pears, peaches, plums, and apricots. Try a smoothie. Use grass-fed whey protein powder and rice or oat milk. Later you can try coconut or almond milk. (Avoid green smoothies, especially with raw kale, until the gut is well healed.)

When the gut is well healed, lectins become less of a problem (but you should still be mindful of the potential for damage). Carefully (and individually) add brown rice, roasted pumpkin seeds, sunflower seeds, and sunflower butter.

Food sensitivities take a long time to resolve and sometimes never resolve completely. Go slowly with high protein foods. If you react to something, wait several months until healing progresses further and come back to it again. Immune reactions to foods can sometimes be accompanied by more acute allergic type reactions (rashes, itching skin).

Mung beans and lentils are the easiest beans on the digestive system. Soak them overnight and cook them well.

Try adding pasture-raised eggs. Eggs are the world’s best source of protein and contain many vital nutrients, but many people are very
sensitive to egg protein. Next try other **meats** and **seafood**.

**Coffee** can be added back in limited amounts after intestinal symptoms have resolved.

During this phase, additional cooking methods can be used. **You can start grilling again**, but never place food over an open flame and reduce the heat to prevent charring. Baking is also an option, but typical baked goods made with flour should be avoided.

### Initial Reintroduction: Approved Foods

#### Vegetables

- Sweet potatoes, okra, yellow squash
- Cruciferous vegetables including broccoli, cauliflower, bok choy (well cooked)
- Artichoke (moderately high in oxalates, but very gut friendly)
- Raw carrots (limited at first)
- Celery (cooked at first, later raw)
- Spinach (cooked at first, later raw)
- Swiss chard (cooked)

**Sweet potatoes** are relatively high in oxalate, but otherwise are very palatable and easy to digest. Once intestinal symptoms start to subside, try adding on sweet potatoes. Sweet potatoes are a reasonable food for any meal, even breakfast.

Okra is also high in oxalate, but the “slime” associated with okra is excellent for protecting intestinal mucosa from lectin damage.

Cruciferous vegetables (cabbage, cauliflower, Brussels sprouts, broccoli, kale) can cause severe gas, bloating, and abdominal discomfort for some individuals. It is generally associated with excessive consumption which selects out bacteria that ferment these vegetables. Some people are more prone than others (everyone has a different spectrum of
bacteria in the gut).

Avoidance for several weeks to several months will allow these bacteria to decline. Once that happens, consumption of these otherwise very healthful vegetables can be resumed in limited amounts. Kale and Brussels sprouts are the most difficult to digest and should be left for later.

**Fruits**

- Apples, pears, plums, apricots, peaches (not peeled and raw)
- Melons such watermelon, cantaloupe, honeydew
- Citrus fruits such as oranges, grapefruit, limes, lemons

**Seeds**

- Oatmeal
- Brown rice (sprouted rice has lower lectins)
- Homemade granola
- Pumpkin seeds, roasted
- Sunflower seeds, roasted
- Rice crackers
- Sesame seed butter (tahini; used to make hummus)
- Other seeds including sesame seeds, flax seeds, chia seeds, sesame seeds
- Certain cooked beans including mung beans, lentils

The fats in nuts (and other seeds) go rancid very quickly with exposure to air. The giveaway to the presence of rancid fats is a stale smell. **If nuts, nut butters, or other seeds smell stale, do not eat them**; rancid fats are very bad for you.

Flax seeds and chia seeds are both good sources of omega-3 fatty acids, fiber, and antioxidants. They also contain plant protective substances called **lignans**. Unlike other plant protective substances, however, lignans are very beneficial and are known to have anticancer properties, especially for reducing
breast cancer.

Flax seeds must be ground to gain benefit. Chia seeds can be used whole or ground. Chia is a desert plant. When exposed to water, the seeds break apart and form a gel. This not only adds an important form of fiber to your diet, but also adds a new dimension in food preparation.

Mung beans (yes, there is such a thing, but you may have to order them) and lentils should be thoroughly washed and preferably soaked overnight with several water changes before thorough cooking.

Meat

• Pasture-raised eggs
• Seafood including shrimp, crab, lobster, scallops (very high in omega-3), oysters (great brain food!), mussels
• Limited grass-fed beef
• Lamb
• Wild elk, venison
• Grass-fed bison

Finding high quality meat at a standard grocery stores can be a challenge. Natural or organic groceries are a better choice. Local area farms are often the best source of all; eatwild.com is a great reference.

Dairy or dairy-like

• Cultured grass-fed cow or goat milk products - yogurt, kefir
• Almond, coconut, soy milk (be aware that nut and soy sensitivities are common)
• Whey protein powder
Oils

- Coconut oil
- Ghee limited to 2 teaspoons per day

Ghee, the backbone of Indian cooking, is butter with the milk solids removed. The fats in ghee, which includes saturated fat, omega-6 and omega-3 fatty acids are **anti-inflammatory**, and in limited amounts (2 tsp per day) actually decrease risk of cardiovascular disease\(^2\). Ghee is good for digestion and stimulates bile flow. It is also a great brain tonic.

Ghee can be **made easily by simmering grass-fed pure butter** (look for Kerrygold) for about 20 minutes until the water portion is evaporated and milk solids settle to the bottom of the pot. Ghee is the golden “butter oil”. Pour it off into a separate container to use for cooking. Ghee has a long shelf life unrefrigerated, but refrigeration is recommended (which will turn it to a solid).

Condiments

- Soy sauce in limited amounts
- Hummus

Hummus is a mixture of bean paste (usually garbanzo beans, but other beans such as lentils can be used), olive oil, tahini (sesame paste), lemon juice, and spices. It transforms tasteless sliced vegetables into tasteful snacks. You can also make it from scratch.

Herbs & Spices

**Dry spices** with greater potential to irritate tissues including black pepper, chili powder, Indian curry, paprika, hot chili powder, can now be cautiously added back in.

Beverages

- Coffee (limited)
• Black tea

**Sweeteners**

• Blackstrap molasses (limited to 1-2 teaspoons per day)

  Molasses actually contains a high level of antioxidants compared to other sweeteners and high concentrations of essential minerals. Over the ages, it has been associated with a wide range of health benefits.
Phase 3: Advanced Reintroduction
(1-3 months)

You could stop at this point and have a very clean gut-friendly diet, but you may want to expand your culinary margins a bit further. Tread carefully. The following list of foods have higher potential to set you back.

Note that making a firm identification of a food reaction is sometimes a challenge. It’s a matter of paying close attention and being very tuned to your body. It is also an ongoing process that lasts throughout your recovery and beyond. Note that food sensitivities can change over time. For example, if you replace cow’s milk with soy milk, and at the same time substitute tofu for meat, you may gradually develop a soy sensitivity. Rotating foods frequently helps keep this from happening. In general, as gut health improves, sensitivities to foods decrease.

At this point, you may want to add back in is raw vegetables: salad greens, slaw, carrots and celery with hummus. Go slowly, however, raw foods present more of a challenge to your digestive system.

A wider variety of smoothies are also now an option. You can start doing green smoothies if you like. To make a proper smoothie, you need a high torque food processor or blender. High torque food processors break down raw food, allowing easier digestion.

Advanced Reintroduction: Approved Foods

Vegetables

• Other cruciferous vegetables including as kale and Brussels sprouts (well cooked)
• Raw cabbage in slaw
• Raw salad greens
• Raw celery
• Cautiously (and individually) add back nightshades (peppers,
tomatoes, potatoes, eggplant), well cooked

• If cooked nightshades go well, try raw peppers and tomatoes

**Potatoes** come in a wider variety than is evident in an average grocery store. Potatoes originated in South America, where they come in all shapes, sizes, colors, and are grown from seed (each plant is genetically different).

**Seed-grown potatoes do not require the high concentrations of fungicide** necessary to grow potatoes from spud (average grocery store variety), making them the healthier choice. The lectin concentrations, however, may be the same. Seed-grown potatoes can sometimes be found in natural food stores.

**Fruits**

• Berries including raspberries, blackberries, strawberries
• Dried fruit such as dates, prunes, apricots, raisins
• Limited tropical fruits including bananas, pineapple, mango
• Dark chocolate

**Seeds (includes grains and beans)**

• Quinoa, buckwheat, amaranth, millet
• Limited baked products made with rice, oat, and/or buckwheat flour
• Organic non-GMO corn chips
• Rice and nut crackers (sometimes you need a crunch!)
• Tree nuts such as almonds, pecans, walnuts, cashews, pistachios (go carefully; nuts can really irritate the gut and are a common source of food sensitivities)
• Nut-butters
• Cooked beans
**Lectins and gluten in grains** can be decreased (but not eliminated) by sprouting and fermenting. Lectins are found in the bran (outer protective coating of the grain). This makes sprouted white sourdough bread the lowest lectin bread. Gluten, however, is found in the inside of the grain and is only marginally reduced by sprouting.

Bread is a problem no matter how you look at it. Proteins necessary to stick grain particles together and allow bread to rise are irritating to the intestinal tract. That means that **even breads created from gluten-free flour are irritating to the gut**. Baking does not provide enough concentrated heat to sufficiently break down lectins. All bread flours (white, whole wheat, gluten-free) are loaded with carbohydrates that stimulate growth of unfavorable bacteria in the gut. If bread is added to your list, it should be an infrequent indulgence.

**Lectins** in beans can be reduced by extensive soaking (overnight with several water changes) and prolonged boiling. Sprouting and fermenting also reduces lectins in beans. Soy should be limited to fermented soy products (tofu, tempeh, natto).

### Meat
- No additions

### Dairy or dairy-like
- Limited grass-fed cow’s milk or goat’s milk
- Limited cheeses such as Parmesan, Romano, asiago

### Oils
- Sesame or roasted sesame oil
• Grass-fed butter or butter/olive oil combination

Condiments
• Ketchup, mustard
• Hot spices made with hot peppers

Sweeteners
• Limited natural sugar

Beverages
• Limited beverages containing alcohol (wine, beer, low sugar mixed drinks)

**Tip:** Even after being well recovered, most people with a history of chronic illness are better off limiting or avoiding alcohol completely.
Phase 4: Maintenance
Moving beyond the program

Maintenance is everything that happens beyond the program. By that point, you should feel very comfortable with which foods are supportive of optimal health; a list is not necessary. **You should also be comfortable with which foods work best** for your particular biochemical makeup and your digestive tract.

In general, a diet made up of a wide diversity of natural whole foods is essential for optimal health. Vegetables, both cooked and raw, are the cornerstone of the healthful diet. **Raw vegetables and fruit** provide beneficial enzymes that aid in the digestive process. Regular consumption of **fermented foods** is an important practice for replenishing normal bacteria. Try making your own yogurt or kimchi (Korean dish made from fermented seasoned vegetables).

While going vegetarian is an option, **healthful meat** including fish, pasture-raised eggs, and pasture-raised livestock (primarily poultry) are the best tolerated sources of protein.

### Maintenance Phase: Dietary Guidelines

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<thead>
<tr>
<th>Category</th>
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<td>Vegetables</td>
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<tr>
<td>Seeds</td>
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<tr>
<td>Fruit</td>
<td>15%</td>
</tr>
<tr>
<td>Meat</td>
<td>15%</td>
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<tr>
<td>Fish/seafood</td>
<td>3-4 times/week</td>
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<tr>
<td>Poultry</td>
<td>2-3 times/week</td>
</tr>
<tr>
<td>Eggs</td>
<td>2-4 times/week</td>
</tr>
<tr>
<td>Red meat</td>
<td>1-3 times/month</td>
</tr>
<tr>
<td>Other</td>
<td>5%</td>
</tr>
</tbody>
</table>

Continue to avoid (or strictly limit):

- Gluten-grains
- Processed food products made from flour (any type)
• Grain-fed red meat
• Processed meats
• Grain-fed dairy products
**Managing Stress**

Uncontrolled stress is often a primary driving force behind digestive dysfunction. Putting stress back in the box is essential for allowing the GI tract to perform its job.

- Taking yourself out of stressful situations, if possible, is the best way to combat stress.
- Try a deep breathing exercise to restore calm.
- Regular practice of yoga and/or Qigong instills relaxation
- Passionflower and Motherwort reduce intestinal spasms.
- A relaxing cup of chamomile tea is excellent for calming the intestinal tract

**Repairing the Intestinal Lining**

Drink ginger tea!

Consider it an essential part of your recovery. Ginger has excellent anti-inflammatory properties and is great for healing an inflamed stomach. It also offers antiviral and other antimicrobial properties. Note: ginger tea can cause constipation in some individuals.

Another excellent option for healing the gut is chlorella (freshwater algae). Chlorella is not only excellent for healing the gut, but also provides outstanding healing support for the entire body. It can be used regularly along with ginger tea. It comes in capsules, powder, or tablets. The normal daily dose is 3-5 grams (about 15-20 of the small tablets) two to three times daily. Look for organic mechanically broken cell wall chlorella (as opposed to heat or chemicals used to break the cell wall). Chlorella can cause mild loose stools in some individuals (but is a remedy for constipation in others).
Demulcents

Demulcents are natural substances that **re-establish the mucinous barrier** protecting the gut. Specialized carbohydrates in these substances act like decoys (very similar to the natural barrier that has been stripped away) and bind lectins before they can do damage. Either of the two following options provide benefit.

- **Deglycyrrhizinated licorice (DGL).** DGL is a special form of licorice with the substance that affects adrenal function (and can raise blood pressure) removed. Usually found as a lozenge, DGL can be chewed several times a day.
- **Slippery elm.** Contains a substance called mucilage that provides protection for the lining of the entire gastrointestinal tract.

Protectants

If ulcerations are suspected in the stomach or intestines, more protection may be required.

- **Pepto Bismol.** Over-the-counter medication for protecting the stomach lining
- **Berberine and cat’s claw** offer properties for healing eroded gut lining
- **Sangre de Grado (Dragon’s Blood).** Dragon’s blood is the sap of a South American tree. In liquid form it is deep red, but the natural latex in the sap dries, it forms a protective beige colored layer. It is excellent for application to cuts and scrapes on the skin, but also is commonly used internally for protecting the lining of the stomach. Every natural medicine kit should contain a bottle of dragon’s blood.
- **Avoid use of anti-inflammatory drugs** (ibuprofen, naproxen, numerous prescription drugs) and alcohol, which contribute to ulcer formation in the stomach.

Carminatives
Natural substances that reduce intestinal spasm and reduce gas.

- **Cardamom and fennel** are excellent for reducing intestinal spasm and decreasing cramping.
- **Peppermint oil capsules.** Peppermint oil is very effective for decreasing spasm and cramping in the small intestine. It is generally taken in capsule form whenever spasm occurs. The oil can irritate the intestinal lining if overused, however. Mint also relaxes the lower esophageal sphincter, which may cause heartburn or reflux in some individuals.

### Restore Digestive Function

#### Digestive enzymes

Find a supplement that includes a complement of enzymes for enhancing digestion of fats, carbohydrates, and enzymes. Include products that contain cardamom and fennel, for reducing intestinal spasm and improving motility. (If burning or discomfort occurs, use of digestive enzymes should be discontinued until healing is more advanced.)

#### Improve stomach acidity

**Apple cider vinegar** (ACV) improves digestion in the stomach by increasing acidity. Acetic acid in vinegar is then neutralized in the small intestine to acetate, which is absorbed into the bloodstream. Acetate can help dissolve calcium oxalate crystals in tissues. ACV is also known to help control abnormal blood sugar.

Take 2 tablespoons of ACV in 6oz of water with a drizzle of honey with each meal. (If burning or discomfort occurs, use of ACV should be discontinued until healing is more advanced.)

#### Limit absorption of oxalates

Calcium citrate taken with meals can reduce absorption of oxalate. The calcium binds with oxalate in the gut and prevents absorption
through the intestines. The citrate is absorbed and helps dissolve calcium oxalate crystals already present in tissues. 500 mg calcium citrate tablets are inexpensive and available at any pharmacy. Take one with each meal. Good bacteria in the gut degrade oxalate.

**Restore liver and gallbladder function**

The herb, milk thistle (400 mg daily) is well known for improving biliary flow, protecting liver cells and actually promoting regeneration of liver cells. Andrographis and artichoke extract provide similar properties.

**Nourishment for the gut**

To heal properly, the gut needs a ready supply of vital nutrients.

- The amino acid, L-glutamine, is a primary energy source for intestinal mucosa. Supplementation can enhance healing. The average daily dose of glutamine in powder form is 1000-6000 mg, depending upon severity of disease.
- A, C, B vitamins and minerals are also essential for normal bowel function.
- Omega-3 essential fatty acids reduce inflammation in the gut and encourage normal bowel movements.
- Note that high dose vitamin C can be converted into oxalate.

**Restore Bacteria Balance in the Gut**

Often dietary modifications alone are enough to restore bacterial balance in the stomach and intestinal tract. Even when extra measures are necessary, select herbs and probiotics can accelerate the restoration process. Once well established, normal balance can generally be maintained with diet alone.

** Eliminate abnormal microbial overgrowth**

For significant intestinal dysfunction, antimicrobial supplements may be necessary to reduce the burden of abnormal bacterial overgrowth. Herbs are especially useful for controlling symptoms of SIBO. Herbs
with antimicrobial properties offer the advantage of inhibiting growth of pathogenic organisms, without adversely affecting normal bacterial flora. Natural herbs also normalize immune system.

*Note that herbal therapies have the potential to irritate the gut if significant damage is present. If intestinal symptoms increase after taking herbal therapy, stop or reduce the dose until healing occurs and then resume cautiously.*

- **Artemisia annua (wormwood)** is a useful addition when protozoan and ameba are a concern, 500-700 mg twice daily for no more than one week.

- **Ginger** offers activity against many common gut pathogens. Note that herbal therapies have the potential to irritate the gut if significant damage is present. If intestinal symptoms increase after taking herbal therapy, stop or reduce the dose until healing occurs and then resume cautiously.

**Prebiotics**

*Inulin* and *fructo-oligosaccharides* provide nourishment for favorable bacteria. These substances are found in onions, garlic, chicory and Jerusalem artichoke.

**Fermented foods**

Daily consumption of yogurt and/or other fermented foods is important for seeding the intestinal tract with favorable bacteria, but concentrations of bacteria in yogurt are not adequate if significant dysbiosis is present.

**Probiotics**

Probiotic supplements provide concentrated doses of live bacteria. Special capsules ensure the bacteria are not destroyed by stomach acid. Best quality supplements provide several strains and species of favorable bacteria. Optimal dosing ranges from 10 to 50 billion CFU (colony forming units) daily. Freeze-dried powdered supplements
in capsules are just as effective as live refrigerated preparations and have a much longer shelf life. Probiotics are especially important with and after use of synthetic antibiotics (but not necessarily herbs with antimicrobial properties).

Note that use of probiotics can sometimes be tricky business. Because every person’s microbiome (bacteria makeup) is unique, what works for one person may not work for the next. It should also be noted that probiotics containing lactobacilli can cause worsening of trapped gas, bloating, and intestinal spasm associated with small intestinal bacterial overgrowth (SIBO).

**Probiotic supplements should be taken with food. Start with 10 to 25 billion counts initially.** Dose can be gradually increased over days to weeks if symptoms are refractory. Higher doses are often required for inflammatory bowel disease.

If symptoms of trapped gas, spasm, and bloating occur or increase, switch to a lower dose of a single species probiotic (usually bifidobacterium – *Align*, available at pharmacies, is a good product).

**Managing Constipation**

Constipation is a bothersome and sometimes stubborn symptom commonly associated with digestive dysfunction. *Sometimes enemas or strong laxatives are necessary to break free, but should not be used chronically.*

The over-the-counter product MiraLAX is the safest laxative to use long term. It is not natural, but has no harmful effects on the body and is not absorbed through the intestines. It is an osmotic laxative (pulls fluid into the colon and moisturizes stool).

Most people will have to use 2-4 times the amount recommended on the bottle. Mix with prune juice and take before bedtime. Use enough to cause a natural bowel movement once daily. Once regular bowel movements are established, gradually reduce the dose of Miralax, but continue the prune juice. Prune juice is very high is sorbitol, another
osmotic laxative, and is a great mild laxative by itself. Prune juice can be used long term.

Once you get things going, start taking **triphala**, 500-1000 mg twice daily. Triphala is an Ayurvedic (traditional medicine in India) herbal remedy that gradually restores tone and function to the colon.

Chlorella, the freshwater algae providing healing benefits, also has mild laxative effects and helps restore normal colon function.

Magnesium sometimes causes worsening of Lyme symptoms in some individuals and should be avoided as a laxative for chronic use. Occasional use of magnesium, such as Milk of Magnesia, generally does not cause problems.

Dairy products are very constipating for some people.
Patience and persistence pays off. With time and effort, digestive function will return to normal. You will always have to watch what you eat, but making healthful foods a central part of your life will enhance your recovery overall.

Also remember that we are here to help you—you are not on this journey alone. For general questions or feedback regarding this guide, call the Vital Plan team at 800-951-2414 or email info@vitalplan.com.

Scheduled sessions with Dr. Rawls are also available at affordable rates. For more information, please see our consult schedule page.