

goodness
lover™

12 Ways

TO REPAIR

YOUR LEAKY GUT



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DISCLAIMER

“All disease begins in the gut.”

ANCIENT wisdom spoken by Hippocrates, a Greek physician who is heralded as the father of modern medicine. His declaration is just as, if not even more so, true today as it was 2,500 years ago.

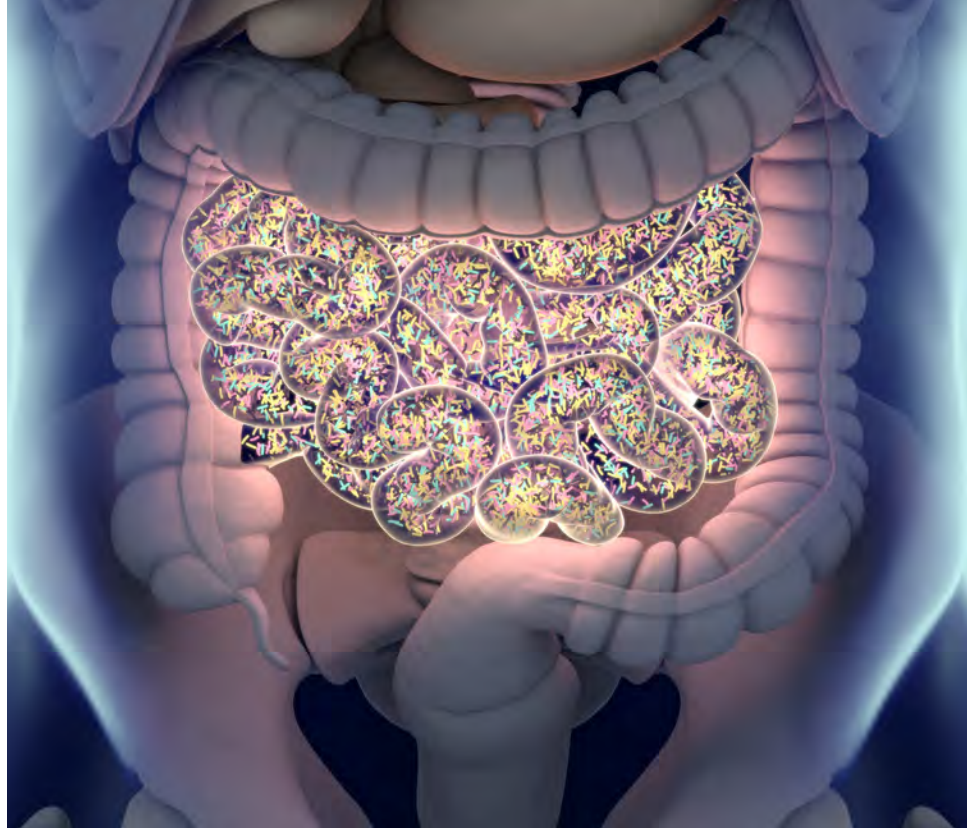
In the last 100 years, our way of life has changed dramatically. Our modern, technologically-advanced lifestyles come with perks like life-saving breakthroughs in emergency medicine, instantaneous long-distance communication and everyday conveniences that we wouldn't know how to live without!

On the other hand, our lives have become increasingly busy, stressful and removed from nature.

We eat highly-processed, genetically-modified, pesticide-ridden foods.

We know that exercise is fundamental to our health, but our sedentary lifestyles make it hard to get as much physical activity as we should.

And we're exposed to health-depleting toxins every day, from the



industrial pollutants and heavy metals in the air we breathe to the radioactive elements and pharmaceutical drugs in our drinking water to the antibiotics and pesticides in our food.

The cumulative stress of modern living takes a toll on our health, and especially on our digestive tracts.

Meanwhile, modern scientists have finally caught up to Hippocrates' ancient word of warning: the latest research affirms that **at least 90% of all modern health problems and diseases begin in the gut.**

Chronic diseases such as arthritis, diabetes, and depression are rising to epidemic proportions - and they can be traced back to an irritated and inflamed gut. Even relatively minor ailments, such as constipation, eczema, lack of libido, aches and pains, and fatigue are directly linked to gut dysfunction.

A compromised gut means increased levels of toxins in the body - fueling inflammation, contributing to disease, causing weight gain and promoting premature aging.

When our gut is unhealthy, the whole body is at risk. That's because the digestive, immune, nervous, and endocrine systems all communicate and interact with one another. When your gut is not functioning properly, the activities of the other systems are compromised.

The gastrointestinal (GI) tract is the engine of the body. It extracts nutrients from the food we consume and delivers energy to every cell of the body. It is a specialized, incredibly complex system, and every part plays crucial functions.²

When our guts are healthy we have vibrant energy. Our immune systems are strong, our minds are sharp and our glowing complexions reflect our vitality.

But when our guts are imbalanced and inflamed, all aspects of our health suffer.

Bacterial imbalance, pathogenic infections, and chronic inflammation all wreak havoc on our digestive system, causing uncomfortable and embarrassing symptoms, depleting our energy and contributing to chronic conditions and serious disease.

LEAKY Gut, also known as increased intestinal permeability/intestinal hyperpermeability, is just what it sounds like. It's a condition in which the intestinal lining loses its integrity and becomes an entry point for inflammatory pathogens.

It may come as a surprise, but [the lining of our intestines is only one cell thick](#). These intestinal cells form the barrier, known as the gut barrier, that separates us from the outside world.

Imagine it as a wall in a castle fortress. In this castle wall there are multiple gates that open and close to allow citizens entry and to force intruders out.

These 'gates' are actually the tight junctions between each of the cells. The cellular junctions have an important and delicate role: to stay large enough to allow small vital nutrients to pass through into the bloodstream, yet small enough to ensure that larger and potentially dangerous particles ('castle intruders') do not cross or 'leak' through.

A healthy gut regulates the barrier between the intestines and bloodstream, allowing nutrients to flow to our organs and preventing contamination by pathogens.

However, when our microbiota is imbalanced we experience inflammation that causes hyper-permeability of our intestinal lining. This means that irritants and toxins are now being released into our bloodstream, damaging our cells and impairing the function of our brain and other vital organs.

It's like having the castle gates continuously open.

Additionally, every time an unwanted particle or pathogen enters the bloodstream, an immune response is triggered. So, if the gut

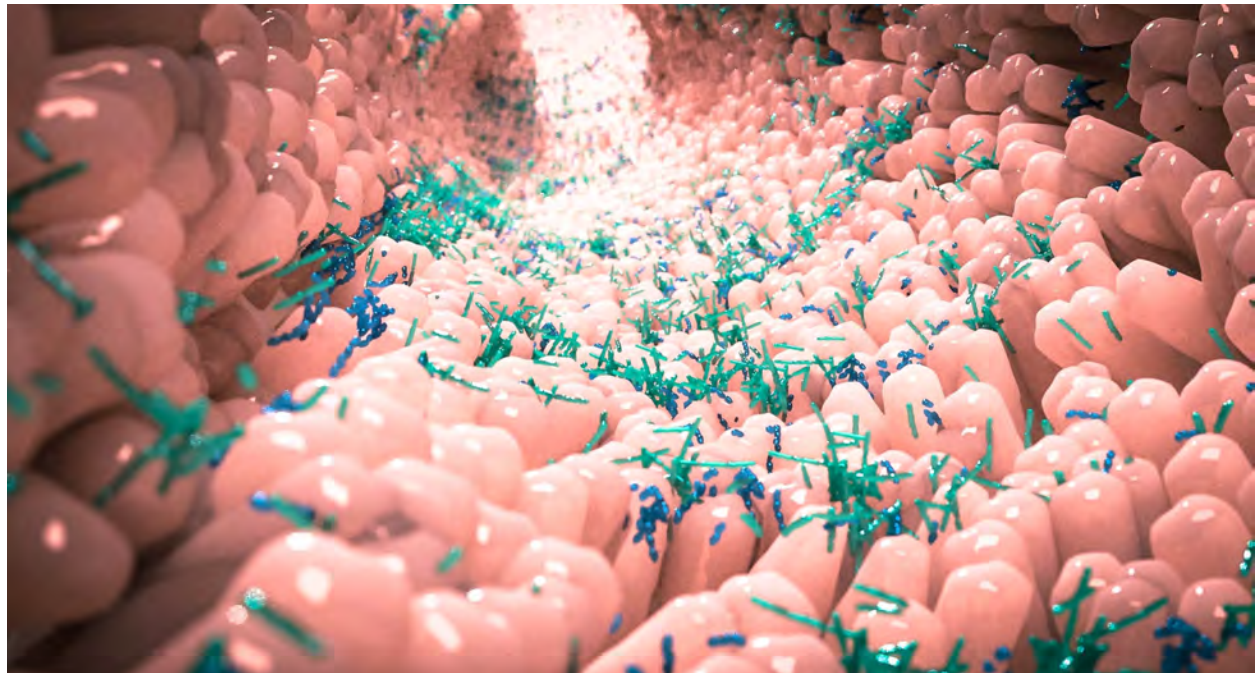
continues to be hyperpermeable, the immune system will be on constant attack.

Thus, when a leaky gut is not healed, it leads to continuous and body-wide inflammation.

Unfortunately, this is taxing on the body, and often leads to the development of secondary inflammatory conditions². It is common for people with chronic GI inflammation to develop autoimmune ailments such as Crohn's disease, rheumatoid arthritis, multiple sclerosis, and ulcerative colitis³.

THE ROLE OF THE MICROBIOME

According to the Human Microbiome Project, around ten trillion bacteria live in your body, while you have only one trillion human cells. In a very practical sense, your microbiome makes up who you are. You are more bacteria than human, and your health heavily depends on the health of your gut.



The most vital part of your GI health is your gut bacterial community, also known as your [microbiome](#). It consists of hundreds of interacting species that co-evolved with you in your gut and other parts of your body.⁴

In a world where bacteria or ‘germs’ have been demonized, we need to remember that bacteria can not only be good for us, but are actually vital to our survival. We rely on these little microbes, commonly known as ‘good bacteria,’ for many important bodily processes, like:

- Immune response
- Protection from pathogenic species
- Maintaining healthy digestion
- Balancing our hormone levels
- Healthy cognitive function

Moreover, these bacteria protect the gut barrier, and work to ensure that the cell wall junctions stay tight and healthy, *thus preventing a leaky gut*.

They are permanent residents of the body, and most of them are found in the colon. Every person’s first contact with bacteria is *in utero* or at birth, and their bacterial community changes during their lifetime.

Microbiota patterns vary from person to person due to different environmental conditions, such as medication, infections, and toxic exposure. In addition, hygiene, age, and genetics also affect the microbiome community.⁵

The interaction between you and your gut microbiome determines whether you stay fit or become unhealthy. Disturbances in the normal gut microbiota lead to bacterial translocation (bacterial overgrowth in non-ideal parts of the GI), intestinal barrier dysfunction (Leaky Gut), and intestinal dysbiosis (the wrong ratios of ‘good’ vs ‘bad’ bacteria).⁶



LEAKY Gut is more common than you may think, and it contributes to many health problems. Recognizing the symptoms of Leaky Gut helps us to make sense of our digestive conditions and choose an appropriate course of treatment. Leaky Gut affects many aspects of our health - not just our digestive capacity, but also our cognitive function, immune response and day to day well-being.

Digestive symptoms of Leaky Gut:

- Constipation
- Gas
- Diarrhea
- Bloating
- Irritable Bowel Syndrome (IBS)
- Small Intestine Bacterial Overgrowth (SIBO)
- Celiac Disease
- Food sensitivities
- Gastric Ulcers
- Crohn's disease



Systemic Symptoms of Leaky Gut:

- Joint pain
- Arthritis
- Chronic fatigue
- Nutritional deficiencies
- Weak immune system
- Skin rashes
- Weight gain
- Thyroid disorders

Cognitive Symptoms of Leaky Gut:

- Brain fog
- Depression
- Anxiety
- Mood swings

Autoimmune Symptoms of Leaky Gut:

- Rheumatoid Arthritis
- Neuropathy
- Neurological Symptoms
- Multiple Sclerosis
- Lupus
- Headache/migraine
- Hashimoto's disease
- Fibromyalgia
- Alzheimer's disease



IN order to heal Leaky Gut we have to identify and remove the cause of intestinal hyperpermeability.

This means discovering the source - or more likely, sources - of imbalance in our microbiome that are fueling inflammation.

1. DIET

The food we consume not only provides our own bodies with the energy and nutrients we need to survive, but it also nourishes the bacterial species in our gut. The species that proliferate in our digestive tract - beneficial or pathogenic - will largely depend on the composition of our diets.

Some foods help grow and maintain healthy levels of the beneficial bacterial community. Other foods not only cause inflammation in our guts, but also initiate and fuel the overgrowth of pathogenic bacteria.

Research verifies that one's diet has a significant - and rapid! - impact on the abundance and variety of one's gut microbiota. Certain types of foods can cause changes in the bacterial community in just 24 hours!

When you consume food that alters the balance of bacteria living in your GI tract, it can also impair hormonal balance and immune function. And, as mentioned earlier, an unhealthy microbiome can lead to a leaky gut.⁷

Food Sensitivities

Leaky Gut can also be caused by inflammation due to food sensitivities.⁸ A food sensitivity is not the same as anaphylaxis (an immediate and severe body-wide allergic reaction), where a trigger food or substance may result in suddenly swollen lips or closed airways. Reactions from food sensitivities are usually much milder and potentially delayed. It can take up to 72 hours for symptoms to appear, which can make it a bit challenging to

identify triggers. Nonetheless, it is essential that we discover which foods instigate inflammation for us.

Symptoms of a food sensitivity can include but are not limited to asthma, arthritis, joint pain, migraines, ear infections, or eczema.

Genetically Modified Organisms (GMOs)

Because they are under-regulated by the government, and many products are new to the market, the long term effects of GMOs are unknown. What is known, however, is that since GMOs were introduced in 1996, numerous health problems have increased.

Cases of people with food allergies, autism, reproductive disorders and digestive ailments have all increased.

It is unknown if these issues occurred as a result of DNA changes in these bioengineered foods, or because of an additional threat: [glyphosate](#).



This is an important mechanism in the body to ensure that nutrients pass from the gut into the bloodstream. However, when there is too much zonulin in the body, the 'gates' of the gut are left wide open, allowing undesired particles to pass through.

The presence of gluten in the body stimulates an overproduction of zonulin, thus contributing to Leaky Gut. That's why even people who do not have celiac disease are susceptible to gluten-induced inflammation.¹⁰

Milk & Dairy Products

Dairy fuels inflammation and congestion. Humans are the only mammal that consumes milk beyond the breastfeeding years and many scientists and nutritionists agree that we simply cease to produce the necessary enzymes to properly digest dairy products by the time we are eight years old.

Research shows that dairy intake reduces the abundance and the diversity of the gut microbiota, especially in people who drink significant amounts of pasteurized milk products, which are relatively sterile in microbiota composition.¹¹

Other research indicates that the gastrointestinal digestion of protein in milk - whether it be processed or raw - leads to the production of a particular molecule that can cause an immune response, with symptoms such as skin reactions, rich mucus production, and inflammation.

Moreover, this molecule slows down the passage of food through the digestive system.¹²

The time it takes for food to pass through our digestive tract is known as transit time and it's a valuable measure of gut function. When our food passes through too quickly, we are unable to break down and absorb nutrients but when it passes through too slowly, the food we eat putrefies into toxic, inflammation-fueling waste.



Lack of Dietary Fiber

Fiber is an important nutrient that is often deficient in the typical high-fat, high-protein modern diet. Fiber supports healthy digestion in several ways: regulating sugar absorption, promoting intestinal motility, cleaning the colon and ensuring regular, healthy bowel movements.

Consumption of fiber is also directly linked to the degree of intestinal permeability we experience. Fermentable fibers feed the bacteria in our guts that produce butyrate. **Butyrate** is an essential compound that we cannot get directly from our foods, but must be produced by the bacteria in our gut. It serves many significant functions.

Butyrate is the primary source of energy for our colon cells. It decreases inflammation and inhibits histamine production. Butyrate produced by bacteria in our guts enters our bloodstream and crosses the blood-brain barrier, where it facilitates the production of Brain-Derived Neurotrophic Factor (BDNF).

BDNF supports our ability to learn, remember and form new memories. It is regarded as 'fertilizer for the brain' because of the way it enhances our neuroplasticity. Loss of neuroplasticity causes the trademark mental decline associated with Alzheimer's and dementia.

In the absence of sufficient butyrate, we suffer from inflammation which triggers Leaky Gut.

Did you know that when we experience Leaky Gut, our blood-brain barrier is also compromised?

As a result, a greater amount of endotoxins reaches our brains causing anxiety, depression and loss of cognitive function.

All of this can be prevented simply by ensuring an adequate consumption of dietary fiber.

Excessive Alcohol Consumption

Alcohol is intensely dehydrating. When we drink, alcohol dries out our intestinal lining and kills off desirable bacterial species in our microbiome. Alcohol in the colon and the small intestine reduces the abundance of helpful bacteria that calm inflammatory activity.

This eventually causes intestinal damage or even Leaky Gut by dissolving mucus on



the intestinal lining, which is responsible for the proper function of the gut barrier.^{13, 14}

You probably know that moderate consumption is defined as *at most* just one drink daily for women and just two drinks daily for men. When we drink more than this we can be sure that our guts are being compromised.

Alcohol consumption drastically changes the profile of our microbiome. As we know, there is a strong connection between the health of our gut and our mental state. **Scientists have recently discovered that alterations in the microbiome caused by alcohol are actually responsible for the reward-seeking behaviour and cravings that underlie addiction.**¹⁵

2. ENVIRONMENTAL TOXINS

Many environmental contaminants, like pesticides, heavy metals and antibiotics, contaminate our water and food. This leads to adverse health effects, such as digestive disorders, oxidative stress, and inflammation.¹⁶

However, a robust and diverse gut microbiome reduces the toxic effect of many contaminants by strengthening the gut barrier and preventing harmful compounds from being absorbed into our bodies.

Pesticides

The problem with pesticides may just be that they are too effective. The synthetic chemicals in conventional pesticides sterilize our crops. They not only eliminate pests, insects and rodents but also destroy soil microbes - the bacteria living on plants that aid digestion and recolonize our GI tract.

When we eat pesticide-contaminated food, our intestinal bacterial communities are wiped out by the antibiotic action of the drug. Glyphosate, the active ingredient in RoundUp, is a dangerous, carcinogenic antibiotic.



Countries and communities around the world are fighting for our health by banning the use of glyphosate. Meanwhile, we can protect ourselves and our families, and support sustainable farming practices by choosing organic foods.

Antibiotics

People are overly exposed to antibiotics not only through their medical use but also their utilization in crops and farm animals. We need to remember that antibiotics not only kill ‘bad’ bacteria but ‘good’ bacteria too.

Exposure to antibiotics can rapidly alter the balance of the gut microbiome, causing immediate effects on health as they wipe out beneficial bacterial colonies thereby enabling the opportunistic growth of antibiotic-resistant pathogenic bacteria.¹⁷

3. DEPRESSION

There is a powerful and deep-seated connection between the GI tract and the cerebrum that is known as the gut-brain axis. Changes in the microbiome and digestive system can affect the function and the structure of the brain, causing depression and anxiety.

Similarly, changes in cognitive function affect the gut bacterial community and the gastrointestinal system.¹⁸ Research shows that depression promotes the onset of irritable bowel syndrome (IBS), and the changes in the gut microbiota causing depression can worsen the symptoms of IBS.¹⁹

4. STRESS

Psychological and emotional stress can affect gut microbiota composition, creating dysbiosis. Dysbiosis, compounded by resulting inflammation, can cause metabolic disease, affective disorders, circadian misalignment, and sleep loss.²⁰



Scientists now know that chronic stress initiates intestinal hyperpermeability. That's because unresolved stress increases inflammation and reduces the diversity and abundance of bacteria that protect us from its damaging effects.

5. LACK OF SLEEP

Insomnia alters the function of the immune system, disrupts our biological rhythms, and impedes the metabolism of nutrients in the body. At the same time, insomnia affects the digestive functions and the bacterial community in the gut. It is a vicious cycle that starts and ends in the gut.

Emergent research confirms that our sleep habits have a direct impact on the composition of our gut bacterial colonies. When we don't get enough rest, the health and diversity of our microbiome suffers.

Scientists even suggest that the microbiome is the link between sleep deprivation and mental decline. When we don't get enough sleep, imbalance in our guts causes inflammation in the brain which manifests as anxiety and depression and contributes to the eventual development of dementia and Alzheimer's.²¹



6. SMALL INTESTINE BACTERIAL OVERGROWTH (SIBO)

Your gut bacteria primarily live in the large intestine. Sometimes however, due to factors like aging, poor motility, diabetes, low stomach acid or injury, the gut bacteria can overgrow in the small intestine. This is known as **Small Intestine Bacterial Overgrowth (SIBO)**.

This overgrowth can stimulate the release of the molecule zonulin, which opens up the junctions of the gut. If there is too much zonulin in your body, the 'gates' or tight junctions of your gut wall will continue to be open, creating Leaky Gut.

7. CANDIDA OVERGROWTH

Leaky Gut can be caused by a fungal overgrowth, referred to as candida. **Candida albicans** is a yeast that is found in the mouth, the gut, and the birth canal.²²



Candida is a naturally occurring and important part of our microbiome. We require Candida to maintain a healthy balance in our guts. Problems arise when we have too much. A diet high in sugar, stress, alcohol or the use of oral contraceptives can all contribute to this fungal overgrowth.²³

When Candida overgrowths bloom into fully-fledged yeast infections, the fungal cells develop long, branching roots that penetrate the wall of our colon and push the intestinal cells further apart, leaving us with a Leaky Gut.²⁴

8. BIRTH AND INFANCY

Your body's first encounter with the microbiome is during your development in the womb and at birth as you are exposed to your mother's bacterial colonies. The composition of your gut microbiota then adapts and evolves as you grow and become exposed to various environmental factors.

Recent studies indicate that the maternal factors that you encounter in utero and shortly after birth can affect your immune system and gut microbiome. For example, children born via the vaginal canal have a much more robust and diverse microbiome than their counterparts born via C-section.²⁵

It logically follows that our first foods have a profound impact on our developing microbiome. Baby's first food is [colostrum](#), the antibody- and nutrient-rich milk that a mother produces during the first several days of its life.

At birth we have a very high degree of intestinal permeability, allowing us to easily and rapidly absorb nutrients and antibodies from Mom's milk. By the end of our first week, our gut junctions become much tighter and more selective.²⁶

Colostrum triggers this shift in newborns thanks to a component called lactoferrin, which nourishes the lining of the digestive tract

and reduces symptoms of Leaky Gut. Colostrum seals the intestinal wall so successfully that doctors have begun using bovine colostrum to heal Leaky Gut in adults!²⁷

Colostrum is produced for less than one week after the baby is born, but the digestive benefits of breastfeeding don't stop there! Research has revealed that infants acquire 40% of their microbiome at the breast!²⁸

The World Health Organization declares that babies should be exclusively breastfed for the first six months of life and should continue to nurse at the breast until and beyond the child's second birthday.²⁹

If you weren't exclusively breastfed in infancy or you didn't nurse through your toddler years, you are certainly not alone! Prevailing wisdom and cultural norms about breastfeeding have changed a lot in recent years. Most of us simply grew up in a day and age where we didn't know any better. Which means that *many* of us have been vulnerable to gut dysfunction from a very early age.

9. CHILDHOOD TRAUMA

Irritable bowel syndrome (IBS) is a disorder linked to the interactions of the gut and the brain, and it is also related to early adverse life events. Research indicates that people who experience severe traumatic incidents have a greater risk of developing IBS and gastrointestinal symptoms related to it.³⁰

A recent study conducted at UCLA discovered that due to the intense connection between the gut and the brain, our microbiomes are dramatically and indefinitely changed by traumatic experiences. Researchers found that adults with a history of trauma in early childhood had a distinctly different gut signature compared to those who did not.

Furthermore, scientists revealed that [changes to the gut as a result](#)



of high stress do not automatically reverse when the source of stress is removed. Experts concluded that deficiencies in the microbiome caused by childhood trauma - if left untreated - could last a lifetime!³¹

THE two keys to repairing a leaky gut are to preserve the diversity and abundance of your body's bacterial community and to prevent lower GI inflammation as much as possible. Much of this can be achieved through food and lifestyle.³²

When it comes to gut repair, your treatment strategy will be unique depending on your specific imbalances and underlying conditions. However, there are some courses of action that are nearly universally beneficial. Use the suggestions here to remove inflammatory triggers, heal tissue damage caused by chronic inflammation and restore integrity to your gut lining.

1. GET TESTED

The numerous gut health issues that can underlie our health challenges have very similar symptoms. We can take advantage of a range of diagnostic tests to positively confirm our diagnosis and guide our treatment plan.

A spectrum of blood, urine, stool and even breath analyses can detect evidence of conditions like Leaky Gut and SIBO, infections like Candida and parasites, deficiencies of nutrients and hormones, toxicity caused by heavy metals and mold, and even food allergies and sensitivities.

If you're pursuing testing, you'll want to work with a qualified medical practitioner to help you make sense of your results. With a little luck and effort, you may find a wonderful professional in your community to guide you through this process. Search online or ask around for practitioners of Functional Medicine or Gut Health Specialists.

If you do not have access to a gut health expert in your hometown and are unable to travel to one, do not fret. Many experts offer online, international consultations. You can have test samples collected at a lab near you and have the results sent to the doctor of your choice, wherever they may be.

2. REST & RELAX

Any change in the gut microbiota affects the performance of the brain, resulting in anxiety and depression.³³ It's important that we invest in activities that put our mind at ease. Practising meditation is one way to reduce stress and calm the fight-or-flight response, which prompts the release of hormones and neurotransmitters in the body that disturb the microbiota.



When stress levels are low, the gut bacterial community can efficiently create anti-inflammatory compounds to heal a leaky gut.³⁴ When stress is high, our guts suffer. Stress takes a major toll on our bodies, especially our digestive tracts.

Let's imagine an individual with perfect health. Someone with a diverse and robust microbiome. Someone who is free of parasitic infections and pathogenic overgrowths. Someone who adheres to a plant-based diet and only consumes organic food. Someone who exercises daily, gets plenty of sleep, has a fulfilling family and social life and takes time out of each day to relax and unwind.

A single stressful life event could wreak havoc on this fairytale individual's microbiome and throw their digestive tract completely out of balance. The death of a loved one. Relocating to a new city. Being fired or starting a new job. Divorce or change in relationship status. We all experience these unexpected and difficult situations at some point or another in our lives.

While we cannot always control external circumstances that cause stress in our lives, we can control the way we respond to them. The greatest payoff of practising meditation, or even just making a habit of taking a little time out of each day for quiet reflection, will be heightened resilience to the stress that life sometimes throws our way.

3. GET SUFFICIENT SLEEP

Our sleep-wake cycle is an essential circadian rhythm that serves as the foundation for our daily well-being. Getting a good night's rest is just as important for our health as eating well and exercising.

A healthy sleep cycle is linked to improved mental function and enhanced immunity, whereas failing to get sufficient rest fuels inflammation and increases our risk of infection. A shortage of sleep also depletes our microbiome, leaving us vulnerable to Leaky Gut and a host of other digestive disorders.³⁵

Getting enough sleep regulates the production of inflammatory substances secreted by the immune system caused by sleep deprivation. Decreasing inflammation can prevent the further development of IBS, liver disorders, gastroesophageal reflux, colorectal cancer - and, of course, Leaky Gut.³⁶

4. REMOVE DIETARY TRIGGERS

Avoid the foods that trigger an immune response, as well as those that cause inflammation and increase the levels of pro-inflammatory and pathogenic bacteria. Eliminate or reduce genetically modified food, sugar, gluten, dairy, processed foods and alcohol.

It's truly worthwhile to try to eat organic as well. Look up *The Dirty Dozen, Clean Fifteen* by EWG (www.ewg.org/foodnews) to learn how you can shop organic on a budget. You'll learn which foods you must definitely buy organic, and which foods are less dangerous to consume even when grown with conventional methods. If you're in an acute inflammatory state where your body seems to be reacting to everything you eat, give your gut a chance to heal by sticking to easy-to-digest foods. That means soups, stews, and well-cooked vegetables. Warm, cooked foods are easier on your digestive tract.

Although we all know that fresh fruits and greens are wonderful for our health, if your gut is compromised you simply may be unable to digest those foods. Take a break while you heal yourself. You'll be able to reintroduce raw fruits and veggies once you've restored balance to your microbiome.

A plant-based diet featuring a diversity of whole foods is your best bet for a healthy gut. As we know, the foods that we eat will either feed a robust and diverse microbiome or they will sustain pathogenic invaders.

Studies have found that a vegan diet is the best choice for a healthy microbiome.³⁷

The harmful effects of animal products on our body cause imbalance almost immediately. **Within 24 hours of eating meat, pro-inflammatory conditions are created in our bodies, our microbiomes are damaged, our insulin resistance increases and our risk for inflammatory diseases like Crohn's and ulcerative colitis increases.**

Still, some people are unwilling to eliminate meat from their diet. If you continue eating meat, you'll want to be sure it's pasture-raised, grass-fed, and free of hormones and antibiotics. If you're eating fish, make sure that it's wild-caught and not farmed.

5. PROBIOTIC SUPPLEMENTS

Several recent studies have shown that probiotic supplements can enhance the production of proteins that are responsible for the tight junctions of the GI tract barrier, reversing leaky gut.³⁸

Further research reveals that probiotic supplements reduce the levels of toxic free radicals in the body, bolstering the body's ability to detoxify harmful compounds and offset their effects through the antioxidant functions of beneficial bacteria.³⁹

Fermented foods, such as sauerkraut, kimchi, miso, tempeh and kombucha, also contain helpful bacteria (probiotics) that may help repair a leaky gut. Eating a wide variety of fermented foods helps us to absorb many different bacterial cultures. Greater diversity of these cultures correlates to stronger immune response and lowered vulnerability to disease.

Live **Lactic Acid Bacteria (LAB)** cultures present in some (though not all) ferments restore and diversify our intestinal flora. These microbiotas live in our gut for just a few weeks. For best results, small amounts of fermented foods should be consumed regularly.

If you have SIBO or candida overgrowth, this is not the best immediate course of action.

6. PREBIOTICS

Prebiotics are compounds in our foods that nourish our microbiome. The non-digestible carbohydrates and dietary fiber in prebiotics promote the growth of beneficial microorganism communities in the body. They serve as food for our gut microbiota. The microbes ferment these insoluble fibers to produce compounds that soothe inflammation.⁴⁰ Sufficient



intake of fiber produces significant levels of these compounds, which helps keep the junctions of the gut tight, preventing intestinal hyperpermeability.⁴¹

You can be sure you're keeping your microbiome happy by eating healthy sources of prebiotics, like chicory root, Jerusalem artichoke, dandelion greens, cooked beans, garlic, leeks, onions (even cooked), asparagus, and banana. You can also get them from apples, konjac root, cocoa, burdock root, flaxseeds, yacon root, jicama root, and seaweed.⁴²

If you have SIBO, this is not the best immediate course of action.

7. SHORT CHAIN FATTY ACIDS

One of the many metabolites derived by gut microbiota from dietary fiber is a [Short Chain Fatty Acid \(SCFA\)](#) known as butyric acid or butyrate. Butyrate, along with other fermentation-derived products are known as postbiotics and have promising effects in treating various diseases, including colorectal cancer, inflammatory (bowel) diseases, diabetes, and obesity, as well as neurological disorders. In short, your immune function and energy metabolism depend on the regulation of butyrate.⁴³

Research shows that butyrate can improve neurological disorders, from depression to cognitive impairment and neurodegenerative diseases. The proper function and structure of the brain are directly related to the function and structure of the gut as well as the composition of the GI tract microbiota. Butyrate and other SCFAs also tighten junctions in the intestinal lining, healing and preventing Leaky Gut.

Optimally, our microbiome is robust and our diet provides all the nutrients those bacteria need to produce the essential chemicals we rely on, like butyrate. But while we're in the process of restoring our microbiome, this may not be the case.

We can supplement with butyrate capsules in the meantime, to ensure that we get all the benefits of butyrate, even when we're not yet producing it ourselves. A recent study found that after 12 weeks of butyrate supplementation, people with digestive disorders reported a significant decrease in abdominal pain and more satisfactory bowel movements.⁴⁴

8. ANTI-INFLAMMATORY FOODS

Day in and day out we are exposed to toxic contaminants that wipe out our microbiome and create inflammation throughout our bodies. Once we've reduced our toxic exposure as much as we possibly can, we must take steps to eliminate inflammation so that our bodies can heal.

Turmeric, ginger, and other anti-inflammatory foods contain polyphenols -- compounds that have anti-inflammatory, anti-aging, and antioxidant properties, as well as neurological and





cardiovascular protection. Polyphenols reduce the risk of diseases in the intestine, and they have prebiotic-like activities that help increase the abundance and diversity of gut microbiota, helping prevent and treat gastrointestinal disorders.⁴⁵

Anti-inflammatory, soothing foods to include in your healing regimen:

Aloe Vera: Often called “The Miracle Plant,” aloe vera has been used for internal and external healing for at least 5,000 years! The American School of Natural Health recommends aloe vera for soothing internal damage as well as increasing energy, detoxifying and fighting infection. Aloe vera stimulates motility of the gut, relieving constipation. Aloe vera leaves contain compounds

that are broken down in the body into metabolites that inhibit the production of proinflammatory cytokines -- molecules that promote inflammation.⁴⁶ Moreover, aloe vera extracts reduce the levels of gastric acid in the stomach, preventing further damage to a leaky gut.⁴⁷ Aloe vera juice also reduces irritable bowel, diarrhea and colitis while soothing gut inflammation and eliminating bloating. It even restores beneficial gut bacteria!

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Ginger: Ginger reduces intestinal gas and soothes the intestinal tract while promoting motility and increasing production of bile. Ginger not only soothes inflammation, but also brings relief for the sore throat and painful esophagus associated with GERD. It decreases the likelihood of acid from your stomach flowing back into your esophagus.



Turmeric: Indians have been taking advantage of the healing power of turmeric for thousands of years in Ayurvedic medicinal formulas and in aromatic culinary delights, like curry. Turmeric is rich in antioxidants and anti-inflammatory compounds. That's all thanks to its active ingredient, curcumin - which is also antiviral, antibacterial and anticancer. Turmeric is widely and effectively used to treat heartburn, inflammation and stomach ulcers. A double-blind study found that curcumin could cause a 70% improvement in good gut bacteria in less than 60 days.

Celery Juice: Celery juice heals inflammation and breaks down and flushes pathogens from the body. When we consume celery juice, we starve harmful organisms like yeast, mold, fungus and viruses. The celery juice even helps to flush the pathogens, along with their toxins and waste, out of our bodies.⁴⁸ Your best bet is to drink pure celery juice on an empty stomach, which enhances your digestive power for the rest of the day and also has a calming effect on the nervous system.





Vegetable Broth: Bone broth has become a popular remedy for inflammation, but there are a few reasons to think twice before jumping on the bandwagon. Bone broths can be a dangerous source of lead. And we can't forget that science has consistently found that consumption of animal products increases rates of chronic diseases. Many people believe the curative ingredient in bone broth is the collagen that is released from within the bone tissue as it slowly simmers. Did you know that you can get collagen from plants too? That's

right. Vitamins A and C work together to produce collagen in the body and foods that are rich in these nutrients will naturally boost your collagen levels. Some of the most concentrated sources for both vitamin A and vitamin C are papaya, kale, berries, almonds, spinach, citrus fruits, mushrooms, pumpkin seeds and carrots. So there's really no need to use an animal product to get our collagen. Skip the bone broth and treat yourself to a warming, soothing mug of healing homemade veggie stock instead.

9. HERBAL REMEDIES

Anti-inflammatory foods like the ones described above will gently and effectively soothe inflammation. But there's no need to stop there. In addition to these medicinal foods, we can use gut-healing herbs to quell inflammation and restore integrity to our gut wall.

Marshmallow Root

Now, we are not referring to marshmallow candies! But did you know that the marshmallow root (from which marshmallow candies are made), are full of health benefits? In addition to soothing skin, coughs and the digestive tract (among many other things), marshmallow root can also assist in repairing the gut lining.



Recent research shows that dried marshmallow root contains proline as the main compound. **Proline** is an amino acid that helps build protein in the body for tissue repair, and it is stored in the collagen. Marshmallow root helps us recover from Leaky Gut by creating a protective layer around the GI cell junctions.

Marshmallow root coats the stomach and esophageal lining with protective mucilage. Marshmallow also soothes inflamed intestines and supports elimination of waste. You can take marshmallow root as a tea, tincture, powder or within a supplement capsule.

Deglycyrrhizinated Licorice Root (DGL)

Several clinical and experimental studies show that the rhizomes and roots of licorice (*Glycyrrhiza*) can treat several diseases through their pharmacological properties. These properties include anticancer, antiasthma, antidiabetic, antioxidative, antimicrobial, antiviral, and anti-inflammatory activities, as well as cardioprotective, neuroprotective, hepatoprotective, gastroprotective, and immunomodulatory effects.⁴⁹

Licorice root also helps maintain the mucosal lining of the stomach and duodenum. It can be taken as a tea or supplement. Be aware however, licorice can cause edema and hypertension when taken in very large quantities, so just don't overdo it!

Slippery Elm

Slippery elm soothes the gut and throat, calms reflux, supports peristalsis and encourages movement from the esophagus all the way through the digestive tract. Slippery elm contains mucilage, which turns into a slippery, thick gel when wet. That's what helps to soothe and coat our digestive tracts.

10. EXERCISE

Exercise enhances our immune function, improves our mental health and reduces our experiences of depression and anxiety. Exercise alone can even increase our production of short chain fatty acids which are essential to a healthy microbiome and overall well being.



Evidence shows that exercise increases the diversity of the gut microbiota, combating dysbiosis. Thus, it can enhance the functions of the GI tract bacterial community to suppress inflammation and regulate the immune response.⁵⁰

Further research demonstrates that people who participate in cardio exercise have healthier guts, particularly when it comes to markers of risks for Leaky Gut.⁵¹

11. DIETARY SUPPLEMENTS

L-glutamine

When it comes to repairing leaky gut, L-glutamine is the supplement of choice for many digestive health specialists. L-glutamine is an amino acid that rebuilds the mucosal lining of the gut and is also the preferred food of some of the beneficial bacteria in our colon.

Often known as glutamine, this compound is one of the most versatile and abundant amino acids in the body. Studies have determined that glutamine is vital for the production of a type of white blood cell that fights disease and illness, and molecules that aid cell communication during an immune response and initiate cell movement to the site of trauma, infection, and inflammation.⁵²

While the body makes L-glutamine, it may still be helpful to consume additional L-glutamine in supplement form, especially for people with immune response disorders. Moreover, research shows that glutamine supplements reduce the symptoms of intestinal hyperpermeability-induced IBS post infections and with predominant diarrhea.⁵³

Plus, glutamine prevents alcoholic injury in the tissue and dysfunction of the colon, as well as liver damage and the spread of toxins found in bacteria in the blood, causing shock, kidney necrosis, and hemorrhages.⁵⁴

Please note however that some people with certain genetic mutations do not feel well while on L-glutamine supplements. If you feel nauseous while on L-glutamine, discontinue use.

Digestive Enzymes

You've been told, "You are what you eat". But a more accurate truth is, "You are what you digest". Acquiring food is only part of the challenge in order to survive and stay healthy. An equally important task is actually digesting and utilizing the food you eat.

Food needs to be broken down to smaller, simpler compounds before your body can absorb them.

If we lack digestive acids our food will putrefy in our stomachs, creating toxins that irritate and inflame our entire body. The contents of the stomach must reach a low acidity, between 2 and 3 pH, before they can move on to the small intestine. If we're not producing sufficient acid our food must rot until it achieves necessary acidity. We certainly don't want that!

This important process of breaking down food for its nutritional components is performed by enzymes, which are either the products of your microbiome or are found naturally in your digestive tract.⁵⁵ However, sometimes our body's natural processes are compromised, and we need supplemental support. There are a few reasons your body may need assistance from digestive enzyme supplements, such as digestive disease, liver disease, pancreatic disease, or simply the aging process.

In these cases, digestive enzymes may decrease the burden of digestion on the digestive organs, which in turn reduces inflammation and heals leaky gut.⁵⁶

12. ESSENTIAL OILS

Did you know that when you apply an essential oil to your skin, it is absorbed into your bloodstream in 30 seconds and reaches every cell in your body within 5 minutes?

Essential oils are up to 100 times more potent than fresh herbs! Massive amounts of plant matter yield just a couple drops of oil, which retains all of the healing properties of the plant in super-concentrated form. Essential oils smell great, but that's just a pleasant side effect. Their real magic is in their molecular structure and the way they interact with our bodies on a chemical level.

Essential oils can be a sweet smelling way to nurse your gut back

to health. Below are a few oil options you may want to try for relieving gut symptoms. However, we always recommend you discuss dosage and applications with a knowledgeable natural health practitioner.

- Lemongrass and melissa - for inflammation
- Turmeric and ginger - to heal stomach lining
- Peppermint - for healthy digestion
- Clove - to support bowel movement
- Rose and geranium - for healthy bacteria
- Oregano and thyme - to help our bodies kill gram negative bacteria
- Lavender - to soothe the nervous system

WAYS TO REPAIR A LEAKY GUT

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WE have only been able to scratch the surface on the topic of the gut, and even Leaky Gut. However, we hope the information you have learned in this ebook will assist you in understanding the importance of a healthy gut, and help you adjust your daily habits to improve your health.

However, we hope your journey doesn't end here.

You need to know the full story.

As such, we'd like to officially invite you to the free screening of *The Gut Solution*, which airs for a limited time only.

The Gut Solution is an 8-part documentary series that discovers that the hidden root cause behind obesity, depression, anxiety, skin issues, autoimmune disease, and even cancer, can be in the gut. This cutting-edge series draws from the wisdom of over 40 world-leading experts, who share how to reverse all of these common ailments that we face today by sharing the tools to heal the gut.

If you are frustrated with your health, and you don't know what's wrong, do not ignore your gut. For many people, gut health is the missing piece of the puzzle.

So, take action today. Watch this groundbreaking series, and learn what you can do to truly restore your health.

If you haven't already, secure your free spot to watch the series by entering your name and email on www.gutsolutionseries.com or clicking the button below.

GET ACCESS NOW

1. Gutbliss: a 10-day plan to ban bloat, flush toxins, and dump your digestive baggage / Robynne Chutkan, MD, FASGE. p. cm. A Penguin Random House Company. Copyright © 2013.
2. Microbiome. 2018 Dec 13;6(1):221. doi: 10.1186/s40168-018-0603-4. A comparative study of the gut microbiota in immune-mediated inflammatory diseases-does a common dysbiosis exist? Forbes JD, Chen CY, Knox NC, Marrie RA, El-Gabalawy H, de Kievit T, Alfa M, Bernstein CN, Van Domselaar G.
3. Microbiome. 2018 Dec 13;6(1):221. doi: 10.1186/s40168-018-0603-4. A comparative study of the gut microbiota in immune-mediated inflammatory diseases-does a common dysbiosis exist? Forbes JD, Chen CY, Knox NC, Marrie RA, El-Gabalawy H, de Kievit T, Alfa M, Bernstein CN, Van Domselaar G.
4. Yale J Biol Med. 2018 Dec 21;91(4):445-455. eCollection 2018 Dec. Natural Selection, The Microbiome, and Public Health. Swain Ewald HA, Ewald PW.
5. Med Sci (Basel). 2018 Dec 14;6(4). pii: E116. doi:0.3390/medsci6040116. Microbiota in the Gastrointestinal Tract. Dieterich W, Schink M, Zopf Y.
6. J Transl Med. 2019 Jan 3;17(1):5. doi: 10.1186/s12967-018-1756-4. Microbiome-metabolome reveals the contribution of gut-kidney axis on kidney disease. Chen YY, Chen DQ, Chen L, Liu JR, Vaziri ND, Guo Y, Zhao YY.
7. J Transl Med. 2017; 15: 73. Published online 2017 Apr 8. doi: 10.1186/s12967-017-1175-y Influence of diet on the gut microbiome and implications for human health. Rasnik K. Singh, Hsin-Wen Chang, Di Yan, Kristina M. Lee, Derya Ucmak, Kirsten Wong, Michael Abrouk, Benjamin Farahnik, Mio Nakamura, Tian Hao Zhu, Tina Bhutani, and Wilson Liao.
8. Food Res Int. 2019 Jan;115:23-31. doi: 0.1016/j.foodres.2018.07.043. Epub 2018 Jul 30. Interplay between food and gut microbiota in health and disease. Danneskiold-Samsøe NB, Dias de Freitas Queiroz Barros H, Santos R, Bicas JL, Cazarin CBB, Madsen L, Kristiansen K, Pastore GM, Brix S, Maróstica Júnior MR.
9. "Glyphosate and Roundup negatively affect gut bacteria | The Detox" <https://detoxproject.org/glyphosate/glyphosate-and-roundup-negatively-affect-gut-bacteria/>. Accessed 27 Apr. 2019.
10. Expert Rev Gastroenterol Hepatol. 2017 Jan;11(1):9-18. Epub 2016 Nov 23. Non-coeliac gluten/wheat sensitivity: advances in knowledge and relevant questions. Volta U, Caio G, Karunaratne TB, Alaedini A, De Giorgio R.
11. Sci Rep. 2016; 6: 32385. Published online 2016 Oct 3. doi: 10.1038/srep32385 Dairy and plant based food intakes are associated with altered faecal microbiota in 2 to 3 year old Australian children P. Smith-Brown,a, M. Morrison, L. Krause, and P. S. W. Davies.
12. International Journal of Food Properties Volume 17, 2014 - Issue 8, Impact of Milk Derived β -Casomorphins on Physiological Functions and Trends in Research: A Review. Mohammad Raies ul Haq, Rajeev Kapila, Umesh Kumar Shandilya & Suman Kapila. Pages 1726-1741 | Received 28 Mar 2012, Accepted 11 Jul 2012, Accepted author version posted online: 16 Jan 2014, Published online: 16 Jan 2014.

13. *Best Pract Res Clin Gastroenterol*. 2017 Oct;31(5):579-588. doi: 10.1016/j.bpg.2017.10.006. Epub 2017 Oct 22. The interaction between smoking, alcohol and the gut microbiome. Capurso G, Lahner E.
14. *Toxicol Lett*. 2015 Jan 22;232(2):356-62. doi: 10.1016/j.toxlet.2014.11.027. Epub 2014 Nov 25. Dissolution of lipids from mucus: a possible mechanism for prompt disruption of gut barrier function by alcohol. Qin X, Deitch EA.
15. "Alcohol, microbiome, and their effect on psychiatric ... - Science Direct." <https://www.sciencedirect.com/science/article/pii/S0278584617309314>. Accessed 29 Apr. 2019.
16. *Nutrients*. 2018 Dec 21;11(1). pii: E22. doi: 10.3390/nu11010022. A Review on Gut Remediation of Selected Environmental Contaminants: Possible Roles of Probiotics and Gut Microbiota. Feng P, Ye Z, Kakade A, Virk AK, Li X, Liu P.
17. *Front Microbiol*. 2015; 6: 1543. Published online 2016 Jan 12. doi: 10.3389/fmicb.2015.01543. Antibiotics and the Human Gut Microbiome: Dysbioses and Accumulation of Resistances. M. P. Francino.
18. *Neuropsychiatr Dis Treat*. 2018 Dec 3;14:3329-3337. doi: 10.2147/NDT.S188340. eCollection 2018. Possible association of Firmicutes in the gut microbiota of patients with major depressive disorder. Huang Y, Shi X, Li Z, Shen Y, Shi X, Wang L, Li G, Yuan Y, Wang J, Zhang Y, Zhao L, Zhang M, Kang Y, Liang Y.
19. *Gut Liver*. 2018 Dec 24. doi: 10.5009/gnl18296. [Epub ahead of print]. Depression Promotes the Onset of Irritable Bowel Syndrome through Unique Dysbiosis in Rats. Takajo T, Tomita K Tsuchihashi H2, Enomoto S Tanichi M Toda H Okada Y Furuhashi H Sugihara N Wada A Horiuchi K Inaba K Hanawa Y Shibuya N Shirakabe K Higashiyama M Kurihara C Watanabe C Komoto S Nagao S Kimura K2, Miura S4, Shimizu K Hokari R.
20. *Front Psychiatry*. 2018 Dec 5;9:669. doi: 10.3389/fpsy.2018.00669. eCollection 2018. The Role of Microbiome in Insomnia, Circadian Disturbance and Depression.
21. "The Latest on Sleep and Gut Health - Your Guide ... - The Sleep Doctor." 29 May. 2018, <https://thesleepdoctor.com/2018/05/29/the-latest-on-sleep-and-gut-health/>. Accessed 29 Apr. 2019.
22. Calderone RA. *Candida and Candidiasis*. 2002. ASM Press, Washington DC.
23. X Zhang, et al. Estrogen effects on *Candida albicans*: a potential virulence-regulating mechanism. *J Infect Dis*. 2000 Apr; 181 (4):1441 - 1446. Epub 2000 Apr 13.
24. "Leaky Gut and Candida Yeast Infection - National Candida Center." <https://www.nationalcandidacenter.com/Leaky-Gut-and-Candida-Yeast-Infection-s/1823.htm>. Accessed 29 Apr. 2019.
25. *Birth Defects Res*. 2018 Dec 1;110(20):1494-1503. doi: 10.1002/bdr2.1436. Inherited non-genetic influences on the gut microbiome and immune system. Knoop KA, Holtz LR, Newberry RD.
26. "What's Up With the Virgin Gut? Do Babies Really Have an "Open Gut" 3 May. 2016,

- <https://scienceofmom.com/2016/05/03/whats-up-with-the-virgin-gut-do-babies-really-have-an-open-gut-until-6-months-of-age/>. Accessed 29 Apr. 2019.
27. “Top Six Benefits of Colostrum - Dr. Mercola.” 25 Mar. 2019, <https://articles.mercola.com/sites/articles/archive/2019/03/25/colostrum-benefits.aspx>. Accessed 29 Apr. 2019.
28. “Breastfeeding’s role in ‘seeding’ infant microbiome ... - ScienceDaily.” 8 May. 2017, <https://www.sciencedaily.com/releases/2017/05/170508112411.htm>. Accessed 29 Apr. 2019.
29. “Breastfeeding’s role in ‘seeding’ infant microbiome ... - ScienceDaily.” 8 May. 2017, <https://www.sciencedaily.com/releases/2017/05/170508112411.htm>. Accessed 29 Apr. 2019.
30. *J Clin Gastroenterol*. 2018 Dec 19. doi: 10.1097/MCG.0000000000001153. [Epub ahead of print]. Risk and Protective Factors Related to Early Adverse Life Events in Irritable Bowel Syndrome. Ju T, Naliboff BD, Shih W, Presson AP, Liu C, Gupta A, Mayer EA, Chang L.
31. “Childhood Trauma? Your Gut Remembers - Hyperbiotics.” <https://www.hyperbiotics.com/blogs/recent-articles/childhood-trauma-your-gut-remembers>. Accessed 29 Apr. 2019.
32. *Food Res Int*. 2019 Jan;115:23-31. doi: 10.1016/j.foodres.2018.07.043. Epub 2018 Jul 30. Interplay between food and gut microbiota in health and disease. Danneskiold-Samsøe NB, Dias de Freitas Queiroz Barros H, Santos R, Bicas JL, Cazarin CBB, Madsen L, Kristiansen K, Pastore GM, Brix S, Maróstica Júnior MR.
33. *Neuropsychiatr Dis Treat*. 2018 Dec 3;14:3329-3337. doi: 10.2147/NDT.S188340. eCollection 2018. Possible association of Firmicutes in the gut microbiota of patients with major depressive disorder. Huang Y, Shi X, Li Z, Shen Y, Shi X, Wang L, Li G, Yuan Y, Wang J, Zhang Y, Zhao L, Zhang M, Kang Y, Liang Y.
34. *Adv Mind Body Med*. 2017 Fall;31(4):10-25. The Effects of Stress and Meditation on the Immune System, Human Microbiota, and Epigenetics. Househam AM, Peterson CT, Mills PJ, Chopra D.
35. “How Poor Gut Health and Trouble Sleeping Are Connected - Dr” 25 Oct. 2018, <https://www.dr-michaelgelb.com/how-poor-gut-health-and-trouble-sleeping-are-connected/>. Accessed 28 Apr. 2019.
36. *World J Gastroenterol*. 2013 Dec 28; 19(48): 9231-9239. Published online 2013 Dec 28. doi: 10.3748/wjg.v19.i48.9231. Sleep, immunity and inflammation in gastrointestinal disorders. Tauseef Ali, James Choe, Ahmed Awab, Theodore L Wagener, and William C Orr.
37. “story/20190228-should-you-go-vegan-for-the-sake-of-your-guts - BBC.” 1 Mar. 2019, <http://www.bbc.com/future/story/20190228-should-you-go-vegan-for-the-sake-of-your-guts>. Accessed 28 Apr. 2019.
38. 2017 May 23;8:598. doi: 10.3389/fimmu.2017.00598. eCollection 2017. Leaky Gut As a Danger Signal for Autoimmune Diseases. Mu Q, Kirby J, Reilly CM, Luo XM.
39. Probiotics Efficacy on Oxidative Stress Values in Inflammatory Bowel Disease: A Randomized Double-Blinded Placebo-Controlled Pilot Study. Ballini A, Santacroce L, Cantore S, Bottalico L, Dipalma G, Topi S, Saini R, De Vito D, Inchingolo F.

40. *Clin Rev Allergy Immunol*. 2018 Dec 18. doi: 10.1007/s12016-018-8723-y. [Epub ahead of print]. Microbiota and Food Allergy. Shu SA, Yuen AWT, Woo E, Chu KH, Kwan HS, Yang GX, Yang Y, Leung PSC.
41. Impact of dietary fiber supplementation on modulating microbiota-host-metabolic axes in obesity. Mayengbam S, Lambert JE, Parnell JA, Tunnicliffe JM, Nicolucci AC, Han J, Sturzenegger T, Shearer J, Mickiewicz B, Vogel HJ, Madsen KL, Reimer RA.
42. *Appl Biochem Biotechnol*. 2017 Oct;183(2):613-635. doi: 10.1007/s12010-017-2605-2. Epub 2017 Sep 25. Prebiotic Oligosaccharides: Special Focus on Fructooligosaccharides, Its Biosynthesis and Bioactivity. Singh SP, Jadaun JS, Narnoliya LK, Pandey A.
43. *Neurochem Int*. 2016 Oct;99:110-132. doi: 10.1016/j.neuint.2016.06.011. Epub 2016 Jun 23. The neuropharmacology of butyrate: The bread and butter of the microbiota-gut-brain axis? Stilling RM, van de Wouw M, Clarke G, Stanton C, Dinan TG, Cryan JF.
44. "Microencapsulated sodium butyrate reduces the frequency of ... - NCBI." <https://www.ncbi.nlm.nih.gov/pubmed/22738315>. Accessed 28 Apr. 2019.
45. *Curr Pharm Des*. 2017;23(16):2344-2351. doi: 10.2174/1381612823666170207145420. Gut Microbiota Modulation and Anti-Inflammatory Properties of Dietary Polyphenols in IBD: New and Consolidated Perspectives. Santino A, Scarano A, De Santis S, De Benedictis M, Giovinazzo G, Chieppa M.
46. *Am J Chin Med*. 2017;45(4):847-861. doi: 10.1142/S0192415X17500458. Epub 2017 May 11. Aloe Metabolites Prevent LPS-Induced Sepsis and Inflammatory Response by Inhibiting Mitogen-Activated Protein Kinase Activation. Li CY, Suzuki K, Hung YL, Yang MS, Yu CP, Lin SP, Hou YC, Fang SH.
47. *Avicenna J Phytomed*. 2014 Mar;4(2):137-43. The effects of aqueous extract of Aloe vera leaves on the gastric acid secretion and brain and intestinal water content following acetic acid-induced gastric ulcer in male rats. Keshavarzi Z, Rezapour TM, Vatanchian M, Zare Hesari M, Nabizade Haghighi H, Izanlu M, Sabaghian M, Shahveisi K.
48. "Celery juice is a powerful anti-inflammatory food - Medical Medium." <http://www.medicalmedium.com/celery-juice/celery-juice-is-a-powerful-anti-inflammatory-food>. Accessed 28 Apr. 2019.
49. *Phytother Res*. 2015 Dec;29(12):1868-86. doi: 10.1002/ptr.5487. Epub 2015 Oct 13. Pharmacological Effects of Glycyrrhiza spp. and Its Bioactive Constituents: Update and Review. Hosseinzadeh H Nassiri-Asl M.
50. *PLoS One*. 2016; 11(3): e0150502. Published online 2016 Mar 8. doi: 10.1371/journal.pone.0150502. The Effect of Diet and Exercise on Intestinal Integrity and Microbial Diversity in Mice. Sara C. Campbell, Paul J. Wisniewski, Michael Noji, Lora R. McGuinness, Max M. Häggblom, Stanley A. Lightfoot, Laurie B. Joseph, and Lee J. Kerkhof. François Blachier, Editor
51. "Exercise For Gut Health: It's More Important Than ... - MindBodyGreen." 1 Apr. 2019, <https://www.mindbodygreen.com/articles/exercise-cardio-gut-health>. Accessed 29 Apr. 2019.

52. *Nutrients*. 2018 Oct 23;10(11). pii: E1564. doi: 10.3390/nu10111564. Glutamine: Metabolism and Immune Function, Supplementation and Clinical Translation. Cruzat V, Macedo Rogero M, Noel Keane K, Curi R, Newsholme P.
53. *Gut*. 2018 Aug 14. pii: gutjnl-2017-315136. doi: 10.1136/gutjnl-2017-315136. [Epub ahead of print]. Randomised placebo-controlled trial of dietary glutamine supplements for postinfectious irritable bowel syndrome. Zhou Q, Verne ML, Fields JZ, Lefante JJ, Basra S, Salameh H, Verne GN.
54. *J Nutr Biochem*. 2018 Nov 6;64:128-143. doi: 10.1016/j.jnutbio.2018.10.016. [Epub ahead of print]. EGF receptor plays a role in the mechanism of glutamine-mediated prevention of alcohol-induced gut barrier dysfunction and liver injury. Meena AS, Shukla PK, Sheth P, Rao R.
55. *Evol Anthropol*. 2016 Sep;25(5):253-266. doi: 10.1002/evan.21498. Digestive enzymes of human and nonhuman primates. Janiak MC.
56. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4923703/>

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