

## Leaky Gut? How and Why You Should Repair It...

I've spent close to 40 years studying, researching, and/or treating health problems. During all of that time, one thing hasn't seemed to change: The majority of people continue to suffer from problems and conditions that can easily be corrected.



*Dr. David Williams*

I suppose much of the blame goes to our society, which places a much higher value on form than it does on function. In other words, when it comes to our bodies, performance takes a backseat to aesthetics. We tend to place more importance on how we look than how we feel or function. Most people won't expend the time or effort to deal with recurring headaches or chronic digestive problems, but they wouldn't dream of missing a hair or nail appointment.

Being attractive definitely isn't a bad thing. But looking good doesn't equate with feeling good, and what does it matter how good you look when you feel terrible!

Some of the blame for our misplaced priorities can also be placed on our current health care system. It continues to shun

prevention, while emphasizing the treatment of symptoms rather than underlying causes.

And God forbid there's no pharmaceutical or surgical solution for a health issue. Whenever that's the case, conventional medicine simply says the problem doesn't exist and condemns anyone who says otherwise. It quickly gets labeled as a hypothetical, medically unrecognized condition—one that has been concocted by practitioners of alternative medicine in an effort to tout questionable, unproven therapies and sell dietary supplements and herbal remedies.

### **One of the best examples of this is leaky gut syndrome.**

Just in case you're not familiar with leaky gut syndrome, I'm not referring to leakage out of the body, or diarrhea. Although diarrhea may be a symptom, leaky gut refers to leakage from the gut into the body. It occurs when the intestinal walls become more permeable than normal. This allows undigested food, bacteria, and other substances to pass through the walls into the surrounding tissue, where immune cells have to deal with the aftermath.

Mainstream medicine doesn't have a pharmaceutical or surgical solution to leaky gut syndrome.

So, not surprisingly, most just pretend that it doesn't exist.

Although they feel hard-pressed to call it a "leaky gut," scientific researchers have repeatedly proven it exists. However, they refer to it as "intestinal permeability." Not only has it been well documented, increased intestinal permeability has been directly linked to a long list of other diseases. (See the box on page 2.)

If you suffer from any of the problems listed in that box, one of the first areas you should examine is your gut health. There's a good chance you have leaky gut syndrome. In fact, we all probably have some degree of leaky gut at some point in our lives. Some people may not display any obvious symptoms, while others experience debilitating issues as a result.

With leaky gut syndrome, the area that is primarily affected is the intestines. The wall of the intestines acts as a selective barrier to separate its contents from the rest of the body.

The inner lining is composed of a single layer of epithelial cells that selectively allows nutrients, minerals, water, and other beneficial compounds to pass through and enter into the bloodstream. (To absorb these nutrients,

## Diseases Linked To Leaky Gut Syndrome

- ADHD
- Autism
- Allergies & asthma
- Alzheimer's disease
- Anorexia nervosa
- Autoimmune diseases
- Cancer
- Celiac disease
- Chronic diarrhea/abdominal pain
- Chronic fatigue
- Crohn's disease
- Diabetes (Types 1 & 2)
- Fibromyalgia
- Heart disease
- Inflammatory bowel disease
- Irritable bowel syndrome
- Kidney stones
- Liver disease/cirrhosis
- Lupus
- Mental health concerns (such as depression, schizophrenia, and panic disorder)
- Migraines
- Multiple sclerosis
- Obesity
- Obstructive sleep apnea
- Pancreatic disease
- Parkinson's disease
- Rheumatoid arthritis
- Skin problems (hives, eczema, psoriasis, acne, and rosacea)
- Thyroid conditions

minerals, and other compounds, the intestines are engulfed with a vast network of blood and lymphatic vessels.)

At the same time, this inner lining blocks the passage of waste material, toxins, bacteria, and other pathogens so they can be excreted from the body.

In addition to the epithelial cells lining the intestinal walls, this intestinal barrier also depends on the support of a mucus layer containing antimicrobial proteins

and cells from the immune system. This area contains 80 percent of our immune system.

**Without a doubt, this barrier is the most extensive and important mucosal surface in the entire body.**

The intestinal barrier covers a surface of about 400 square meters, which is about one and a half times as big as a tennis court. Maintaining this barrier requires about 40 percent of the body's total energy expenditure. And the

epithelial cells, which make up part of that barrier, are renewed approximately every five days.

Once the mucosal barrier is damaged, the underlying epithelial cells that make up the gut wall become exposed and are susceptible to being breached.

This barrier is also highly dependent on the presence of beneficial gut bacteria, which are essential to:

- aid in the digestion and absorption of nutrients;
- synthesize vitamins K and B12, biotin, folic acid, and thiamine;
- prevent the overgrowth of pathogenic bacteria;
- activate the immune system;
- help control appetite to influence nutrient intake; and
- metabolize dietary fiber into short-chain fatty acids, which prevent cancer and serve as the primary energy source of intestinal cells.

Much like a cracked dam, when this barrier is damaged, the gut contents begin to "leak" into the adjacent tissue, bloodstream, and lymphatic system. Bacteria, yeast, fungi, viruses, parasites, toxins, and undigested food particles are then able to travel freely throughout the entire body, causing inflammation and tissue damage.

Knowing this, it is easy to see why increased intestinal permeability is associated with such a

### Alternatives® Author: Dr. David Williams; Editor: Larissa Long

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Dr. Williams works with Healthy Directions, LLC, to develop his unique formulations that supply many of the hard-to-find nutrients he recommends. Dr. Williams is compensated on the sales of these nutritional supplements and health products, which allows him to continue devoting his life to worldwide research and the development of innovative, effective health solutions.

wide range of illnesses, diseases, and symptoms.

## 12 Causes of Leaky Gut Syndrome

There are numerous factors that can cause a weakening in the intestinal barrier. Rarely do you find that only a single factor is involved. I'll spend the rest of this newsletter going over the 12 most common causes and what you can do about them so that you can prevent or treat leaky gut.

### **Cause #1: Poor/Low-Fiber Diet**

Over the past several decades, our consumption of highly processed foods has skyrocketed. This unhealthy change has created significant hurdles in trying to maintain the intestinal barrier.

For one, we are eating fewer raw vegetables and fruits, which has lowered our overall intake of fiber. It's estimated that fiber consumption in this country has fallen to 3–8 grams a day. Ideally, it should be around 20 grams. Only about 11 percent of Americans meet the daily recommended intake of fiber.

Insoluble fiber is fermented by beneficial bacteria into short-chain fatty acids—the main energy source for intestinal cells. Fiber is called a “prebiotic” since it feeds probiotic bacteria. And through the production of the short-chain fatty acids, prebiotic fiber helps increase the production of mucopolysaccharides, which are the foundation of the protective mucus barrier. A low-fiber diet increases intestinal permeability.

Most of us need to eat more fiber, but we have to be careful to not raise our blood sugar in the process. Many high-fiber foods are

also high in simple carbohydrates, which can quickly elevate blood glucose levels and trigger the release of insulin. Insulin's job is to move excess glucose out of the bloodstream and store it as fat molecules. This can lead to an increase in body fat, metabolic syndrome, high blood pressure, and diabetes.

The trick is to include sources of fiber that will not cause your blood sugar to spike. Here are few:

- **A medium-sized green banana or plantain** contains about 11 grams of fiber. To avoid a spike in blood sugar, they need to be completely green. The biggest downside of them being green is they are hard and taste bad because the carbohydrates are still mainly starch and haven't been converted into simple sugar. Green bananas and plantains may not taste good, but they are a great, economical source of prebiotic fiber. They can be stored in the refrigerator for a few days or you can peel them, cut them up into small chunks, and place them in a baggie in the freezer. I've found one of the best ways to use them is in a morning protein shake. (But don't blend the shake too long or the fiber will make it so thick it will be hard to drink. You will need a spoon to eat it.)
- **Chickpeas and hummus** contain about 8 grams of fiber per ½ cup.
- **Beans.** Pinto, kidney, black, and lima beans contain roughly 4 grams of fiber per ½ cup. Comparatively speaking, white beans like the Great Northern, cannellini, and baby lima varieties have higher amounts of fiber, and Navy beans have the

greatest content of all at 8½ grams per ½ cup.

- **Avocados** are by far one of my top favorites. Half of an avocado contains almost 7 grams of fiber.
- **Root vegetables.** While many of the root vegetables are fairly low in fiber (1 gram per cup), they typically won't trigger a blood sugar spike. These include turnips, parsnips, jicama, beets, yucca, daikon, Jerusalem artichokes, radishes, carrots, and onions.

Other fibrous foods to consider include apples, oranges, Brussels sprouts, broccoli, peas, and lentils. Chia seeds are also a good bet. In addition to their robust levels of omega-3 fatty acids, they have 5½ grams of fiber per teaspoon. (Chia seeds are also really easy to add to a morning protein shake.)

If you haven't been eating much fiber, start out slow and don't add too much to your diet at once. If your intestines aren't used to processing this amount of fiber, it could result in bloating, cramping, and excess gas.

(Of note, these symptoms can also indicate small intestine bacterial overgrowth, or SIBO, a condition where bacteria that should reside in the colon have worked their way up into the small intestine. It normally takes a good 8–12 hours for food to transverse the GI tract and reach the colon. When someone begins to experience severe gas, bloating, and/or diarrhea within an hour of consuming a high-fiber food, there's a good possibility they have SIBO. The misplaced bacteria are breaking down and fermenting this fiber higher in the GI tract than normal. Gas in the small intestine can be

very uncomfortable, much more so than gas in the large intestine.)

For the sake of comfort, it's best to gradually increase your fruit and vegetable intake over a period of several weeks. It gives your body time to adapt. Proper digestion and fermentation of fiber in the colon requires sufficient amounts of beneficial bacteria to be present. It takes a little time for significant numbers of new bacterial strains to develop.

To accelerate the process and achieve faster results, I definitely recommend taking a probiotic supplement. Some individuals may also require digestive enzymes and/or enzyme-rich foods.

### **Cause #2: Too Many Grains**

We consume more wheat and other cereal grains now than ever before. Cereal grains contain "anti-nutrients" such as gluten. Gluten contains a protein called gliadin, which has been found to trigger a pro-inflammatory immune response and increase intestinal permeability. Wheat and other grains also have proteins called lectins. Lectins can bind to the epithelial cells that line the gut and disrupt the barrier.

The overconsumption of wheat and grains contributes to chronic inflammation and autoimmune diseases. This explains why individuals with a higher sensitivity to gliadin will often experience a great deal of relief when they switch to a gluten-free diet.

### **Cause #3: Sugar and Fat**

The typical Western diet is characterized by a high intake of fat and refined carbohydrates (sugar, corn syrup, white flour, refined grain products, etc.). Research has

shown that this combination has devastating effects on the intestinal barrier and can lead to leaky gut syndrome. ([\*Gastroenterology\* 2012 May;142\(5\):1100-1](#))

One of the worst sugars is fructose. Fructose not only leads to leaky gut but also overgrowth of harmful intestinal bacteria strains. In just the past few decades, high-fructose corn syrup (HFCS) has become the most widely used sweetener in our food supply. Try to avoid, or at the very least minimize, your consumption of HFCS.

Certain plant-derived flavonoids, like quercetin in apples and onions, have been shown to partially offset the detrimental effects fructose has on the intestinal barrier. (Even so, HFCS is in so many products that the best advice is to avoid it as much as possible.)

I've been raving about the many health benefits of onions for decades. Honestly, I continue to be shocked at just how little attention onions receive, maybe because they are so inexpensive and abundant. Onions are a relative of garlic, but instead of being praised like garlic, they are treated more like poor, backwoods relatives. Although I'm a huge fan of garlic, it doesn't contain quercetin, but neither do white onions. To reap the benefits of this flavonoid, choose yellow and red onions. Apples, cherries, and capers are also good sources of quercetin.

### **Cause #4: Emulsifiers**

Emulsifiers are another group of compounds that have become ubiquitous in processed foods.

In the not-too-distant future, I feel that emulsifiers will turn out to be one of the most detrimental

food additives we've utilized in the past several decades. (I will be covering emulsifiers in greater detail in an upcoming newsletter.)

Remember, the epithelial cells that make the wall of the intestinal tract are protected by a mucus barrier. The importance of this mucosal barrier can't be overstated. The fact that 40 percent of the body's entire energy production is utilized just to maintain this barrier is a testament to just how essential it is to our health.

Simply put, emulsifiers are compounds that act much like detergents. They allow oil and water to mix. This may be great in the washing machine when you need to remove oil stains from clothing. And food manufacturers love it because it prevents separation in things like salad dressings. But in the intestines, emulsifiers can break down the protective mucus layer and lead to a leaky gut.

Keep in mind, the problem stems from manmade emulsifiers. Some natural foods actually contain emulsifiers that do not cause serious problems in the body.

For example, all dairy products contain milk proteins that act as emulsifiers, and both parts of an egg contain emulsifiers. The egg white has emulsifying proteins and the yolk contains lecithin, which is also an emulsifier.

Eggs are one of the key ingredients in homemade mayonnaise and Caesar dressing because of their ability to emulsify the oil and water and keep them from separating.

Mustard is also a natural emulsifier and another key ingredient in these two condiments. Pectin,

found in apples and peaches, is a natural emulsifier as well.

Consuming whole, natural foods such as these has not been shown to disrupt the protective mucosal barrier in the gut. In fact, lecithin actually *enhances* intestinal barrier function. I suspect there are a couple of reasons for this.

First, whole, natural foods contain a multitude of compounds that work together in the body and balance out or negate any potential ill effects.

For instance, eating an apple is much different than drinking apple juice. It's easy to drink large amounts of apple juice, which can cause a dramatic spike in blood sugar levels and the need for extra insulin. However, you'd have to eat several apples to get the same amount of juice. This is due to the satiety and bulking action of the apple's natural fiber content.

Second, the small amount of emulsifiers naturally found in whole foods are broken down as they pass through the small intestine, and any detergent effect they might have is insignificant by the time it reaches the colon.

It's important to keep in mind that bile acids from the liver also act as natural emulsifiers. However, they are also neutralized by the time they reach the colon.

For all of these reasons, whole foods can and should be part of a healthy diet. But synthetic and semi-synthetic emulsifying agents are a totally different matter. Not only are their effects far more powerful, we are consuming them in increasingly greater quantities.

Although the FDA recognizes the synthetic and semi-synthetic

emulsifiers as safe, I have serious doubts about this.

One study observed the effects that one emulsifier, polysorbate 80, had on intestinal mucosal cells. When it was consumed at only 6.7 percent of the acceptable daily rate, it caused a 59-fold increase in the transfer of *E. coli* bacteria across the mucosal wall and epithelial cells of the colon. ([Gut 2010 Oct;59\(10\):1331-9](#))

Other studies have reported similar findings. The consumption of synthetic emulsifiers is breaking down the mucus barrier that protects the cells of the intestines from harmful bacteria and other pathogens. This has contributed to a dramatic increase in leaky gut syndrome and inflammatory bowel diseases since the mid-twentieth century. ([Nature 2015 Mar;519\(7541\):92-6](#)) ([J Physiol Pharmacol 2009 Dec;60 Suppl 6:61-71](#))

Food manufactures use emulsifiers not only to avoid separation of ingredients, but also as bulking agents, to stabilize ingredients and increase shelf life, and to improve "mouth feel."

You'll find these manmade emulsifiers in ice cream, breads, baked goods, salad dressings, chocolate, margarine, processed meat, veggie burgers, peanut butter, non-dairy milks, frozen desserts, reduced fat foods, dairy- and gluten-free goods, and dozens of other products.

Common emulsifiers that you should make an effort to eliminate from your diet include: polysorbate 60, polysorbate 80, methylcellulose, carrageenan, carboxymethylcellulose, sodium stearoyl

lactylate, polyglycerols, and xanthan and other gums.

### **Cause #5: Drugs**

It probably goes without saying that leaky gut syndrome can be caused by the use of antibiotics. These medications indiscriminately kill bacteria throughout the body, including beneficial bacteria in the intestines. They routinely destroy friendly gut bacteria that are key to protecting the intestinal mucosal barrier. Studies have shown that a single round of antibiotics will disrupt the normal bacterial flora in the gut for over a year.

I suspect there are dozens, if not hundreds, of prescription and over-the-counter drugs that can directly or indirectly lead to a leaky gut. This is not an area where lot of research has been done—and I don't expect there will be any time soon. The pharmaceutical companies certainly don't want to spend money in an area that would only reveal additional side effects associated with their products.

However, it has been well established that both anti-inflammatories (aspirin, ibuprofen, naproxen, etc.) and acid reflux drugs do increase intestinal permeability, and are some of the most detrimental in altering intestinal pH and the composition of the gut microbiome. What may be even worse, they have been shown to directly damage the mucosal barrier and the entire lining of the gastrointestinal tract.

### **Cause #6: Inflammation**

Inflammation (acute or chronic) anywhere in the body can increase intestinal permeability.

In response to injury, infection, or invasion of pathogens, the immune system releases small

signaling proteins called cytokines that can produce fever, inflammation, and tissue destruction. These proteins affect the intestinal barrier and can result in a leaky gut.

When most people talk about inflammation and leaky gut syndrome, they overlook one of the most common chronic infections of our time—periodontal (gum) disease.

Though often thought of as just a minor nuisance, periodontal disease could contribute to leaky gut syndrome and all the problems associated with it. I've detailed methods to resolve periodontal disease in the past, including the use of specific oral probiotics. (Visit [drwilliams.com](http://drwilliams.com) to read more.)

Two particularly good supplements that I've successfully used and recommended to reduce and break the systemic cycle of inflammation are berberine and modified citrus pectin.

Additionally, aloe vera gel and cabbage juice work great to accelerate the repair and healing of a chronically inflamed intestinal tract.

Be sure to use aloe vera *gel* (not juice). Make sure it does not contain anthraquinone or aloin (the laxative components of aloe vera).

The standard recommended oral dose is 30 ml three times daily. A company called Lakewood sells a product called "Organic Aloe Gel, PURE Inner Fillet Gel." To order, visit [lakewoodjuices.com](http://lakewoodjuices.com).

I also recommend cabbage juice, which contains the enzyme methionine (formerly called vitamin U). For the greatest benefit, it's best to make cabbage juice

fresh in a juicer. It is very effective in promoting the healing of the gut in general, including ulcerations.

### **Cause #7: Injury**

Any kind of severe injury or trauma to the body sets off a systemic inflammatory response that increases intestinal permeability. This occurs roughly 72–96 hours following the injury.

Injury to the intestinal and mucosal barrier can also result from radiation or chemotherapy. Radiation can permanently damage areas of the intestinal wall.

### **Cause #8: Cesarean Birth and Formula Feeding**

Infants who are born by Cesarean section and/or formula fed rather than breastfed have been found to have more of a leaky gut than those who are born vaginally and breastfed.

As you might expect, newborns naturally have more permeable guts since their digestive tracts are so immature. This is actually helpful in absorbing immune-boosting proteins from the mother's milk.

However, for some babies born via Cesarean and/or formula fed, the permeable gut can progress to a leaky gut condition and can result in a long list of health problems. Recurring infections, food allergies, eczema, rashes, and asthma or respiratory problems are some of the more common problems.

Resolving leaky gut syndrome can clear up many of the hard-to-resolve skin problems these young children experience. Unfortunately, since leaky gut syndrome doesn't get any attention in conventional medical circles, most of these children are subjected to

extensive testing and numerous drugs, and the underlying problem is rarely resolved.

### **Cause #9: Chronic Stress**

Chronic stress initiates the production and release of the stress hormone cortisol from the adrenal glands. Cortisol prepares the body for fight or flight during stressful situations. It ramps up some functions needed for these activities and slows or shuts down others. Digestion is one function that's not needed or desired during fight-or-flight situations, so it is curtailed.

Chronically elevated cortisol disrupts the normal digestive process, which alters the gut microbiota and increases inflammation. Research has shown the gut microbes then send inflammatory signals to the brain. The brain, in turn, signals back to the adrenals, completing the cycle and perpetuating the stress and damage that causes a leaky gut. (*Adv Exp Med Biol* 2014;817:73–113) (*PLoS One* 2012;7(6):e39935) (*J Neurogastroenterol Motil* 2015 Jan 1;21(1):33–50)

### **Cause #10: Vitamin and Nutritional Deficiencies**

The amino acid L-glutamine has been shown to be particularly effective at protecting and repairing the lining of the gut and preventing leaky gut syndrome.

Earlier I mentioned that permanent intestinal damage can occur in cancer patients who undergo radiation therapy.

Animal studies have shown, though, that when cancer patients took L-glutamine prior to radiation treatment, it limited the damage, supported new mucosal cell growth, accelerated healing, and

prevented leaky gut. ([Cancer 1990 Jul 1;66\(1\):62–8](#))

Also, studies have shown that pre-treatment with L-glutamine given to breast cancer patients undergoing chemotherapy can significantly decrease occurrences of leaky gut, without interfering with the treatment.

For general gut health, 2–5 grams daily of L-glutamine is recommended. With these cancer studies, though, the dose was around 10 grams daily, given 12 days prior to treatment.

Additionally, vitamins A, C, and D are crucial for maintaining the intestinal barrier, as are iron and zinc. Deficiencies in any one of these has been shown to increase the risk and development of leaky gut.

Over 40 percent of our population has dietary intakes of vitamins A, C, and D below the average requirement. In the elderly, it's estimated that between 70–90 percent are deficient in vitamin D. Iron deficiency is the most common and widespread nutritional deficiency in the world. And roughly 12 percent of the general population is low in zinc—but that jumps to 40 percent in the elderly.

While mainstream medicine continues to tell us that there's no benefit to taking a daily multivitamin, millions of people suffer from the numerous effects of leaky gut syndrome possibly caused by nutritional deficiencies. I feel that taking a high-quality multivitamin is vital for staying healthy these days.

### **Cause #11: Aging**

If you're anything like me, I don't have to tell you that getting older seems to change everything. This includes intestinal permeability,

which tends to be more common as we age. Interestingly however, it's not age, per se, that causes deterioration of the gut barrier. Rather, intestinal permeability increases with chronic inflammation and “minor disease changes” commonly associated with age, such as type 2 diabetes.

It has also been found that higher gut permeability is linked with lower muscle strength and decreased physical activity. This is a problem of epidemic proportions in our current elderly population.

Numerous health problems commonly associated with aging could be eliminated with regular exercise, particularly weight-bearing exercises, as these help build and retain muscle. Walking and aerobic exercises just won't do the trick.

Adequate protein consumption is also important. If you follow the current recommendation of limiting your meat consumption at each meal to a 4-ounce serving (the size of your palm or a deck of cards), you may not be supplying your body with enough protein. Depending on the type of meat, a 4-ounce serving provides 20–30 grams of protein.

If you're older and you want to keep the muscle mass you currently have (and continue to stimulate muscle growth to replace what has been lost), research indicates you need to increase your protein intake. Sarcopenia, the degeneration and loss of muscle tissue, is becoming a new epidemic in our society, just as I predicted it would years ago.

According to two studies, young men required 20 grams of quality protein (whey) per meal to

stimulate muscle growth following exercise, but older men needed twice that amount—40 grams per meal—to achieve the same muscle-building stimulation. ([Br J Nutr 2012 Nov 28;108\(10\):1780–8](#)) ([Am J Clin Nutr 2009 Jan;89\(1\):161–8](#))

Also, inadequate consumption of protein can have a direct influence on the protective mucosal barrier of the gut.

In the body, protein is broken down into its smaller building blocks called amino acids. For the body to produce mucus, it requires the essential amino acid threonine. Threonine is classified as an essential amino acid because the human body can't produce it. It has to come from the diet. The list of foods highest in threonine includes beef, lamb, pork, chicken, turkey, fish, liver, eggs, cheese, and pumpkin seeds. Beans and lentils are also on this list and have the added benefit of providing the fiber necessary to fix/prevent leaky gut syndrome.

I've probably said it 100 times already, but there are so many advantages to making a protein shake for breakfast. For my protein source, I use whey powder. It contains all nine essential amino acids.

### **Cause #12: Bacterial Imbalance**

Balancing the bacteria in the gastrointestinal tract is essential, and not just for correcting a leaky gut. It's one of the foundations and requirements for preventing future problems and the only way to optimize your overall health.

An intact intestinal barrier is dependent on sufficient numbers of beneficial bacteria being present. These bacteria, the microbiome,

manufacture the food supply for the intestinal cells. They help detoxify chemicals like food preservatives, pesticides, herbicides, and other compounds that would otherwise destroy intestinal cells and the mucosal barrier. They help keep disease-causing organisms in check. They work hand-in-hand with our immune system to minimize gut inflammation. Without these beneficial bacteria, the gut wall couldn't survive, and neither could we.

The power of live fermented foods and/or a quality probiotic is hard to overstate. Their benefits reach far beyond correcting problems like diarrhea or chronic constipation. When you understand the downstream effects of leaky gut syndrome, it's obvious that issues like diarrhea and constipation are only the tip of the iceberg. Correcting a leaky gut can be one of the first steps in resolving (and just as importantly, preventing) numerous far-more-serious health problems.

The human microbiome and its effect on our health are topics that I've been researching passionately for practically my entire adult life. It has taken me around the world several times, from remote jungle villages to some of the most sophisticated laboratories in the world. And one factor has continued to hold true in all of my research. Social groups or societies whose diets include fermented, probiotic-rich foods experience the greatest health and longevity.

To live in our world and emulate the habits of these societies has become practically impossible. Even if we were able to, our microbiome is under assault from every angle. Even the best diets can be negated by the chemicals in our air, water, and food supply.

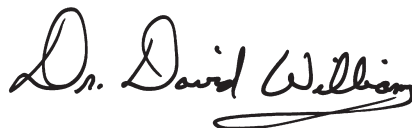
Nutritional deficiencies are rampant. (One of the major exceptions would be readers of this newsletter.) Most everyone drinks chlorinated water—the purpose of which is to kill bacteria...all bacteria. The large majority of our society takes one or more drugs on a daily basis. Fermented foods are no longer part of most people's everyday diet.

These factors are the reasons why leaky gut syndrome is so pervasive in our society. I no longer believe that some people have a leaky gut and others don't. We all have a leaky gut at one time or another. And the symptoms or diseases that manifest can vary depending on the individual. Some may experience acute, obvious problems with the digestive tract. Others may not feel the immediate effects, but instead a more serious disease later in life after years of toxicity and chronic inflammation.

I believe unraveling the human microbiome is one of the last great frontiers in the quest to achieve optimal human health. But it will only provide another rung in the ladder. The body has the innate ability to repair and heal itself when given the right environment and raw materials. Regularly consuming fermented foods and/or quality probiotics help in both of those arenas.

I hope I have helped you learn a thing or two about leaky gut and why you should prevent/treat it. Please take the steps to do so. You won't regret it!

Happiest of holidays to you and yours; I will "see" you in 2018!



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