

Ann Arbor Holistic Health

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Leaky Gut Syndrome: Origins, Causes, Symptoms and Treatment



The concept of a leaky gut is confusing and odd-sounding. It evokes an image of a tin pail riddled with holes, or a faucet with a constant drip. How can our *guts* be leaky?

Snapshot #1: Healthy Gut

Let's start with normal digestion. The intestines are not solid barriers, as tin pails and faucets tend to be, but are permeable - like filters. The digestive tract serves as a filtering system, much like the ones people use in their homes to purify water. A healthy filtering system has a wall of cells which are closely bound together in what are called tight junctions. This filtering system has three important jobs:

Absorb food filtered through the intestinal wall.

1. Serve as a protective barrier by preventing the passage of toxins, partially digested food, bacteria, yeast, and viruses into the blood stream. These larger molecules are too big to properly filter through and are shuttled to the large intestine where they are expelled.
2. Act as a key element of the immune system.

Snapshot #2: Leaky Gut

Have you ever gone camping and tried to purify water that was filled with sludge and debris? Even if you haven't, try to imagine filtering drain pipe run-off in your home Brita filter. It probably wouldn't be something to serve to friends. Those with leaky gut syndrome have malfunctioning intestinal filters. Often these intestinal filters are malfunctioning because of what they have been forced to filter.

Digestive tracts can be stressed by undetected food allergies, overuse of antibiotics, and excessive alcohol consumption, among other things. Over time, these stressors wear microscopic holes that allow toxins and undigested food to enter into the blood stream. This triggers a defensive reaction from the liver, lymphatic system, and an immune response. White blood cells attack the undigested food and inflammation increases. Cells that make up the wall of a healthy small intestine are closely bound together. The stress of increasing inflammation causes these tight junctions to give way and gaps appear between the cells. This is the essence of a leaky gut.

Once our filtering system begins to fail, its job performance suffers:

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1. The gut cannot absorb nutrients properly, leading to malnutrition and nutrient deficiencies.
2. The protective barrier is compromised and toxins, partially digested food, bacteria, yeast and viruses enter the blood stream. However, with increased permeability, it is not only the “sludge” and “debris” that cause problems. Healthy foods can trigger immune responses as they escape through our permeable gut into our blood stream. Our immune system begins to label these healthy foods as toxins too. What may have initially been only one food allergy or sensitivity could turn into many.
3. Additionally, nutrient absorption dysfunction leaves our immune system constantly activated and overstressed. An overstressed immune system can potentially cause an autoimmune illness such as rheumatoid arthritis or thyroid problems.

The 7 Most Common Systemic Symptoms of a Leaky Gut:

How do we know if we have a leaky gut? Since 70% of our immune system is located in our digestive tract, poor digestion and absorption becomes a systemic problem - our whole body feels the effects. This is why discovering and treating a leaky gut is so important.

While the following is not an exhaustive list of symptoms or systems affected by a leaky gut, here are some of the most common:

1. Digestive System

- abdominal pain
- indigestion
- diarrhea / constipation
- Crohn's disease, Ulcerative colitis & IBS
- gas

2. Respiratory System

- asthma
- shortness of breath

3. Muscular System

- chronic joint pain
- chronic muscle pain

4. Integumentary System (skin, hair, nails)

- skin rashes
- acne
- eczema
- psoriasis

5. Nervous System

- headaches and migraines
- confusion
- fuzzy or foggy thinking
- mood swings
- nervousness
- poor memory
- aggressive behavior

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- anxiety
- fatigue
- feeling toxic

6. Immune System

- poor immunity
- recurrent vaginal infections

7. Urinary System

- recurrent bladder infections
- bed-wetting

Dr. Weston Price and Michael Pollan: The “Upset Tummy” Then and Now

In the 1930s a well-known and highly respected dentist, Dr. Weston, began to notice deteriorating dental health in his patients. He was particularly curious about the relationship between nutrition and tooth decay. His hunch: that population groups untouched by civilization would have better health than his Western patients.

Dr. Weston traveled the world to observe diverse population groups, sitting at the dinner tables' of the Swiss and Pygmies alike. He found that various diseases particular to the Western world during the 1920s and 1930s were rarely, if ever, found in non-Western cultures. He argued that the adoption of Western patterns of living, including commercially prepared and stored foods, were directly affecting the onset of these chronic illnesses.

Over the years, this view has been corroborated by many nutritionists, sociologists, anthropologists, and journalists. Michael Pollan, one of the more recent critics of the industrial food system, has commented that “populations that eat a so-called Western diet...invariably suffer from high rates of the so-called Western diseases: obesity, type 2 diabetes, cardiovascular disease, and cancer.[...]. Four of the top ten killers in America are chronic diseases linked to this diet.” (Food Rules, xii)

Causes of a Leaky Gut

As Michael Pollan sarcastically quipped in his most recent book, Westerners “have developed the one diet that reliably makes its people sick!” (Food Rules, xiii) But what are we excluding or including in our diets that is making us so sick that some of us even have holes in our guts to prove it? The following is a list of general causes of a permeable digestive tract:

1. Chronic Inflammation

Induced by stress, IBS, or a food allergy, chronic inflammation is one of the biggest causes of a leaky gut.

2. Damage from taking large amounts of nonsteroidal anti-inflammatory drugs (NSAIDS)

Certain pain relief medications can be detrimental to our bodies, especially when taken frequently. Consult your medical practitioner for a less caustic pain reliever.

3. Cytotoxic drugs

Can eradicate malignancies by killing tumor cells, and also treat the symptoms of arthritis. These medications cannot discriminate between good and bad cells, and therefore kill both. This can be detrimental for our intestinal health.

4. Radiation

Abdominal radiation therapy can weaken our digestive tracts.

5. Antibiotics

Excessive use of antibiotics harms our guts in two ways. Firstly, antibiotics kill beneficial bacteria. Our digestive tract is home to hundreds of helpful bacteria, which is responsible for metabolizing wastes and building immunity. When this beneficial bacteria is lost, our bodies are more susceptible to leaky gut syndrome. Secondly, antibiotics promote the growth of Candida, one of the largest contributors to the development of leaky gut syndrome.

6. Excessive alcohol consumption

Alcohol consumption can irritate the stomach and intestinal lining. It can also suppress prostaglandin production. Prostaglandins are hormone-like substances that regulate inflammation and encourage tissue repair. Therefore, excessive alcohol consumption impairs some of our bodies natural reparative defenses.

7. Compromised immunity

This can be a result of small intestine bacteria overgrowth, chronic stress, or intestinal infections. It is important to take even small infections seriously. If not addressed immediately, they can grow.

8. Food Sensitivities/allergies

Food sensitivities can cause inflammation and worsen a leaky gut. Food sensitivities are also symptoms of a leaky gut because once our digestive tract becomes permeable, additional food sensitivities may develop. Allergy tests reveal sensitivities to almost every food eaten, but the most common are to milk products and grains. Interestingly these are the two foods added to our diet 10,000 years ago with the advent of agriculture. The proteins found in grains and milk, gluten and casein, are the most difficult for our bodies to digest. After struggling to process gluten and casein for years, our digestive tract can wear thin.

Implications of a Leaky Gut

We know it's a lot to ask for people to remove entire food groups, such as dairy, from their diets, or to live as if we were in the Prohibition. But once a leaky gut is discovered, dealing with it immediately is imperative. Leaky gut syndrome is implicated in many other serious health complications, such as:

- ***Rheumatoid arthritis***
- ***Fibromyalgia***
- ***ADD, ADHD***
- ***Autism***
- ***Schizophrenia***
- ***Crohn's disease, Ulcerative Colitis, IBS, IBD***

Mending the Leak: Simple Resolutions

While cytotoxic drugs, radiation, alcohol, and antibiotics are fairly straightforward elements to eliminate, inflammation, compromised immunity and food allergies require some effort.

Luckily the last three elements are often tied to a food allergy, so the discovery and removal of certain foods can drastically improve our health. After the offending food is removed, many health practitioners recommend taking additional supplements to strengthen your digestive

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tract. Here is a list of commonly used food allergy tests and healing agents for leaky gut syndrome:

1. ELISA

The Enzyme-linked Immunosorbent Assay panel (ELISA) is a recommended 96 well panel test done in conjunction with the RAST test at Digestive Health Ann Arbor. By undergoing both the ELISA and the RAST, patients are able to measure a wide variety of potential allergens. The ELISA test examines whether we have an IgA or IgG response by coating a well-plate with 96 food antigens and adding the patient's sera to check for the antibody/antigen action. The panels and RAST are easy to do, and results return quickly.

2. Supplements and Vitamins

Vitamin D, essential fatty acids, and probiotics are recommended supplements that help speed up our recovery process. Supplements such as quercetin and curcumin are plant-based herbs that lessen inflammation and ease our symptoms. Once we know what food is causing us problems, we can jump start our healing with some of these natural remedies.

3. RAST

Most Doctors provide an IgE blood test called RAST (short for radioallergosorbent test). Though this method is extremely accurate in determining immediate allergic responses, it does not address the issue of latent allergic responses. At Digestive Health Ann Arbor, we complete the RAST alongside the ELISA for more comprehensive results.

4. Elimination Diets

Though elimination diets are accurate and cost-effective, they involve a long and arduous process. Most food intolerances are caused by the following foods: Dairy, wheat, egg, soy, peanuts, shellfish, and tree nuts. Removing one of the above from your diet can theoretically indicate the allergen, but as we have seen with Leaky Gut Syndrome, we often have more than one allergen due to years and years of damaging inflammation. Testing for multiple-allergens is very difficult to do with this method.

5. Stool Samples

Stool samples are excellent barometers of human health. Since the majority of the body's immune cells are present in the intestinal tract, a stool sample is the best place to search for evidence of food allergies. However, stool samples are messy and unpleasant.

6. Skin Prick Tests

Skin prick tests, one of the most common methods for IgE immune responses, can be painful and do not detect non-IgE food allergies. They can also be inaccurate with a high level of false positives.

New Beginnings at Digestive Health Ann Arbor

Caring for our filtering system is essential not only for food digestion and absorption, but the health of our entire body. The symptoms of a leaky gut are our bodies way of alerting us about a digestive problem. Though facing a permeable digestive tract can be daunting, it is imperative that we heed these messages and remember that there is hope. If you or a loved one is experiencing discomfort or pain, a simple food allergy blood test will quickly and easily highlight which foods are triggering the leaky gut. After slight modification to our diets and lifestyles, as well as taking appropriate supplements, our digestive tracts will heal and become high functioning filtering systems again.

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