

Leaky-Gut Syndrome

How it can happen and what you can do about it.

Did you know that our intestines are much more than just part of our elimination system? It's only in the past several years research has discovered that over 70% of our immune system resides in our gut and a full 90% of serotonin, a neurotransmitter responsible for regulating appetite, mood, sleep and more, is found in our gut.

Just as we're learning all the amazing ways gut health can contribute to our overall good health, we've also begun to learn more about how problems in the gut can produce body-wide symptoms we might not immediately link to poor gut health.

A healthy gut is chock full of "good flora", beneficial bacteria that help break down our food and extract the nutrients we need. The mucosa of the gut is made up of epithelial cells and they are perfectly spaced together with what are called "tight junctions" between them. These are the right-sized openings that allow the nutrients to pass from our gut into our body where they can then be used by our cells. In Leaky-Gut Syndrome those tight junctions become loose, the intestines become permeable and unbroken long chain proteins, pathogens, toxins and antigens slip out and circulate throughout the body producing a systemic inflammatory response. This inflammation may produce any number of conditions such as:

- Inflammatory Bowel Disease or Irritable Bowel Syndrome
- Rheumatoid Arthritis
- Food Allergies
- Asthma
- Celiac Disease
- Skin Issues

There are even those who believe that by allowing these substances to cross into the brain, conditions such as ADD/ADHD, Autism and Parkinson's disease can result. This however remains a controversial theory and hotly contested in medical circles.

What causes Leaky-Gut Syndrome?

Dietary choices can influence gut permeability. When **alcohol** is metabolized in our body the resulting product, acetaldehyde, can increase intestinal permeability.

Sugar and artificial sweeteners cause inflammation that can contribute to damage of the intestinal wall that breaks apart those tight junctures.

The consumption of **dairy products**, especially by those who are lactose intolerant, produces the same kind of inflammation described above.

Industrial food additives, preservatives and colorants are difficult for our bodies to figure out what to do with. These "non-food" particles are very irritating and damage the mucosal lining of the intestines, increasing its permeability.

Pesticides are sometimes difficult and occasionally impossible to remove fully from the produce we buy. Another example of damaging substances, our bodies remove these from the blood and store them in bodily tissue where they continue to do us harm.

Certain medications - non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen, aspirin and naproxen can irritate or damage the lining of the intestines and increase its permeability.

We're certainly all aware of the damaging effects of **chronic stress** on our health and one of the conditions it can contribute to is Leaky – Gut Syndrome. Now we've all had a nervous tummy that leads to too much bathroom time before a stressful or even an exciting event but it's the chronic unremitting stress of certain situations in our lives that can give us the intestinal damage that can lead to a leaky gut. Do you have a sick loved one you are responsible for taking care of? Marriage trouble? A boss at work that just won't quit? It's these kinds of situations that grind on day after day produce a kind of inflammatory protein called cytokines that contributes to gut permeability.

How will I know I have it?

Well you could be having the more obvious digestive symptoms like diarrhea, constipation, gas or bloating but there are other things that could signal you have something amiss in your gut such as allergies, skin issues, nagging fatigue and widespread joint pain. Neurological symptoms such as brain fog, memory issues and unstable mood can all be symptoms of Leaky-Gut Syndrome as well.

You may not think of these symptoms together as signs of one specific condition. It's also not uncommon for these symptoms singly or together to be related to some other disease or condition so it only makes good sense to have a visit with your healthcare provider. Make sure to mention you'd like to explore the possibility of leaky-gut. It's often not something they will think of on their own.

Your doctor may perform one or several tests for leaky-gut as it can be tricky to diagnose. One of these tests is a urine test in which you ingest two forms of sugar, one with small molecules (mannitol) and one with large molecules (lactulose) if your urine

shows presence of the large molecule lactulose then your gut may be considered overly permeable.

The other test often performed is a blood test to measure your levels of zonulin. Zonulin in the gut is responsible for how those tight junctures we mentioned earlier work. The perfect amount of zonulin means your junctures are neither too tight or too loose and the perfect size nutritional particles are making their way into your body. Too much zonulin and those junctures loosen up allowing all manner of nasties to cross over causing some or all of the symptoms listed above.

What can I do if I have it?

- Reduce your stress – If you can't reduce the stress you're under make sure to put some good coping mechanisms in place. Give yourself plenty of breaks for "you time" and develop a meditation practice. Stress is cumulative and breaking the cycle, even for a little while will help.
- Add fermented foods to your diet containing probiotics that heal the gut and keep bad bacteria in check. Supplementing with probiotics along with consuming sauerkraut, kimchee and probiotic rich yogurts can go a long way to getting your gut back to good health. Coconut products contain a medium chain fatty acid that is very soothing to the gut. Sipping a cool, refreshing coconut kefir drink is one yummy way to get back on track. Organic foods and low sugar fruits like berries are another way you can use food as medicine.
- Other forms of supplementation such as curcumin, which has the double whammy effect of increasing natural immunity AND lowering inflammation may be helpful in the treatment of Leaky-Gut Syndrome.

- Glutamine is an essential acid in our bodies that acts as a direct fuel source for the cells in our gut lining. This helps improve the integrity of the tight junctures and may help to resolve the leaky gut.

You don't have to suffer with the system-wide symptoms of Leaky-Gut Syndrome and with proper testing, lifestyle changes and perhaps some wise supplementation, you have help heal your gut, improve your immunity and definitely your mood!