

# Could Leaky Gut Be What's Troubling You?

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So what causes increased intestinal permeability? There's still much to be learned, but diet, chronic stress, certain medications and bacterial imbalance seem to play important roles. Eating a diet high in refined sugar can lead to overgrowth of yeast species, which has been associated with leaky gut. Preservatives and chemicals in processed foods can damage the lining, and so can consumption of gluten – a protein found in wheat, rye and barley.

Chronic stress can lead to a weakened immune system, affecting your ability to fight off invading bacteria and viruses and worsening the symptoms of leaky gut. Medications like aspirin and non-steroidal anti inflammatories (NSAIDs) that can damage the lining of your gut, as well as antibiotics that kill off your essential good bacteria are also associated with increased intestinal permeability. In fact, an imbalance between beneficial and harmful species in your gut called dysbiosis is one of the leading theories about what causes increased intestinal permeability. Excessive alcohol consumption, infection with parasites, radiation and chemotherapy can damage the lining of the intestine and are also risk factors.

In addition to bloating and digestive distress, a lot of the patients I see with leaky gut have a combination of other symptoms like food allergies, chronic sinus infections, achy joints, fatigue, brain fog or unexplained rashes. Typically they've been to multiple doctors trying to make sense of their symptoms, and conventional tests and imaging studies have been unrevealing. There can be a feeling of hopelessness and despair, because the symptoms seem so unrelated.

When you think of leaky gut not so much as a disease, but as a mechanism by which a number of different conditions can develop, it starts to make sense. A leaky gut is the pathway for how toxins enter the body through the GI tract and create all kinds of mayhem once they're in, sort of like party crashers who slip through security and proceed to make a mess of the venue.

## What Tests Are Available for Leaky Gut?

Leaky gut is a clinical diagnosis, and while there's no specific test that can tell you with 100% certainty that you have it, a positive Intestinal Permeability Test is strongly associated with the condition. This test measures the ability of two non-metabolized sugar molecules – mannitol and lactulose – to get through the digestive lining.

Mannitol is a small molecule that normally passes through easily and serves as a marker of how well nutrients are being absorbed. Lactulose is a larger molecule that doesn't normally pass through very well and serves as a marker for whether there are large holes in the lining. To perform the test, the patient mixes pre-measured amounts of lactulose and mannitol and drinks it. The test measures the amount of lactulose and mannitol recovered in a 6-hour urine sample.

Low levels of both mannitol and lactulose indicate malabsorption. Elevated levels of both lactulose and mannitol suggest general increased intestinal permeability, consistent with leaky gut. Permeability to lactulose may be increased, suggesting leaky gut, while permeability to mannitol may be decreased, suggesting malabsorption of small molecules. The lactulose/mannitol ratio is a useful value; an elevated ratio indicates that the effective pore size of the gut lining has increased, allowing larger, possibly harmful molecules to gain access to the body.