



## Leaky Gut Syndrome

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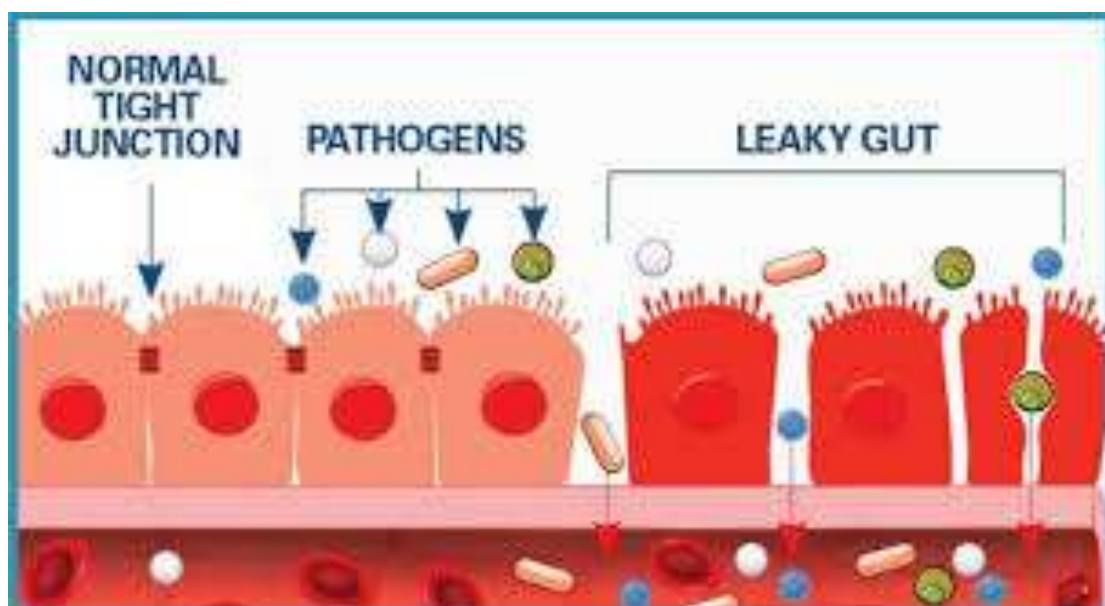
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### INTRODUCTION

- Leaky gut syndrome is a hypothetical, medically unrecognized condition.
- Recent talks about gut health have become more frequent. In these talks, Leaky Gut Syndrome often becomes a hot topic of debate. It leaves many people puzzled and eager for answers. This blog goes into detail on Leaky Gut Syndrome. It aims to tell fact from fiction and offer info that might help you better your gut health. Leaky gut syndrome is a proposed gastrointestinal disorder that affects the lining of the intestines.
- Leaky gut, or increased intestinal permeability, occurs when the tight junctions of your

intestinal walls loosen. This may allow harmful substances, such as bacteria, toxins, and undigested food particles, to pass into your bloodstream.

- The exact cause of leaky gut remains a mystery, but certain proteins like zonulin and markers of inflammation provide some clues. Other potential causes include long-term NSAID use and an imbalance of gut bacteria known as gut dysbiosis.
- Under certain conditions too much zonulin is produced causing the tight junctions between the epithelial cells to open up too much, creating a situation known as leaky gut



- Zonulin is a protein, synthesized in intestinal and liver cells, that reversibly regulates intestinal permeability. Zonulin modulates the permeability of tight junctions between cells of the wall of the digestive tract. The classic symptom of cholera is profuse, watery, debilitating diarrhea. One of the bacterial toxins associated with cholera, called zonula occludens toxin, rapidly and reversibly opens the tight junctions between intestinal cells,

temporarily causing leaky gut. Dr. Fasano and his colleagues found that cells in the human intestine produce a protein that is almost identical to the zonula occludens toxin, and they named it zonulin. Dr. Fasano's group then isolated zonulin from human intestines and found it to increase intestinal permeability in primates.



- The foreign substances entering the blood can cause an autoimmune response in the body including inflammatory and allergic reactions such as migraines, irritable bowel, eczema, chronic fatigue, food allergies, rheumatoid arthritis and more.

### PRESENT UNDERSTANDING

Leaky gut syndrome is a hypothetical condition that's not currently recognized as a medical diagnosis. It's based on the concept of increased intestinal permeability, which occurs in some gastrointestinal diseases.

### The link between IP and other health conditions

- A chronic increase in IP may contribute to several health conditions, such as:
- irritable bowel syndrome (IBS)
- Crohn's disease
- celiac disease
- chronic liver disease
- diabetes
- food allergies and sensitivities
- polycystic ovary syndrome
- However, a 2015 review article Trusted Source suggests that increased IP may contribute to the development of inflammatory bowel disease (IBD). A separate 2019 review shows evidence of IP occurring before the onset of type 1 diabetes.
- Scientists have also been investigating the gut-brain axis Trusted Source. This is the relationship between the GI tract and the brain. A 2017 review Trusted Source suggests that leaky gut may contribute to mental health conditions, such as anxiety and depression. However, scientists need to carry out further research to support this claim.
- According to 2014 study, the proponents of leaky gut syndrome claim it can cause many health problems.

### Causes of leaky gut syndrome

- Dysbiosis, or bacterial imbalance, is a leading cause of the leaky gut. It means an imbalance between helpful & harmful species of bacteria in your GIT.
- Poor diet, comprising proteins found in unsprouted grains, sugars, genetically-modified foods (GMO), & dairy products.
- Prolonged exposure to stress, which can weaken your immune system.
- Toxin overloaded, that can lead to leaky gut.

### What increases IP&Endotoxemia?

- Increased intestinal Gram negatives, esp in small intestines
- Loss of Akkermansia, faecalibacterium, clostridia
- Gliadin protein, gliadin derived peptides
- Wheat germ agglutinin, other lectins
- Emulsifying agents esp polysorbate 80, carboxymethylcellulose, N acetyl cysteine, polyethylene glycol
- Lack of omega3 fatty acids- effects on intestinal alkaline phosphatase,
- Lack of vit D.

### Symptoms of a leaky gut

- There are no symptoms associated directly with intestinal permeability. But intestinal permeability usually follows from injury to your intestinal lining, and you may have symptoms from that.

For example:

- A burning feeling of ulceration in your gut.
- Painful indigestion from the loss of intestinal mucosa.
- Diarrhoea
- Gas and bloating from fermentation by overgrown bacteria in your gut.
- Low energy from the reduced ability to draw energy from your food.
- Gastrointestinal mucositis from radiation therapy.

### Diseases related to leaky gut

#### 1.Celiac Disease

Celiac disease is an autoimmune (self-attack) disease caused by not tolerating gluten. Leaky Gut Syndrome has been noted in people with celiac disease. Studies show that eating gluten heavily boosts gut porosity in these patients.

#### 2.Diabetes

Type 1 diabetes, an autoimmune (self-attack) disease, has been tied to higher gut porosity. Studies suggest that the immune reaction that wipes out insulin-making beta cells in the pancreas might be sparked off by outside things "leaking" through the gut.

#### 3.Crohn's Disease

High gut porosity is a major factor in Crohn's disease, a lasting digestive problem marked by lingering swelling of the gut tract.



#### 4.Irritable Bowel Syndrome

People with irritable bowel syndrome (IBS) might have higher gut porosity. IBS is a digestive problem defined by diarrhea, constipation, or both.

#### 5.Food Allergies

People with food allergies might have a weak gut barrier. This suggests that a leaky gut might play a part in developing food allergies.

#### 6.Autism

Even though there's no complete proof, some studies have shown that some kids with autism have high gut porosity. We need more studies to clarify the link between leaky gut and autism.

Other diseases that may be a cause of leaky gut include:

- Diseases that may cause intestinal injury, such as HIV/AIDS.
- Chemotherapy and radiation therapies that degrade the intestinal mucosa.

#### How to test for leaky gut

What is leaky gut ?

Leaky gut when your gut is lining is more permeable than it should be

#### When to test for leaky gut

Leaky gut has been associated with the following conditions

1. Food sensitive
2. Fibromyalgia
3. Chronic fatigue syndrome
4. IBS
5. Inflammation of the bowel Disease
6. Depression
7. coeliac disease

#### How to test for leaky gut

1. blood test - serum zonulin
2. stool test - zonulin
3. urine test - PEG400 fraction

#### DIAGNOSIS

##### How is intestinal permeability measured?

- There is no standard test to measure intestinal permeability directly in patients, which is one reason why intestinal hyperpermeability is not a current medical diagnosis. However, there are several kinds of tests currently under investigation in clinical research to look for evidence of intestinal permeability in patients. Tests include:

- Urine test. For this test, you drink a solution containing different kinds of sugars with molecules of different sizes, some of which are not usually absorbed in the intestines. Then analysts measure the sugar levels in your urine to see which ones made it through your gut wall.
- Blood test. This test analyzes a sample of your blood for evidence of gut bacteria infiltration. Specific antibodies and endotoxins are some of the biomarkers analysts look for.
- **Tissue biopsy.** This more invasive test examines a sample of your intestinal tissue in something called an Ussing chamber. The test uses electrical current to measure ion transport across the intestinal barrier. The ion transport measurement is parallel to water transport.
- **Confocal endomicroscopy.** This is an enhanced endoscopy exam that allows scientists to look at your intestinal lining in high resolution and magnification. A contrast fluid injected into your vein may show up in your gut if there is a gap in the lining.

#### TREATMENTLINE

- Since many doctors do not consider leaky gut to be a legitimate medical condition, there is no standard treatment
- However, certain dietary and lifestyle changes may help people to improve the strength of their intestinal barrier..

##### Step 1

Clean up the diet

Do Whole foods organic non-GMO

Don't sugar ,process food, vegetable oil, gluten ,dairy, alcohol.

##### Step 2

L -glutamine

Amino acid for the enterocytes

##### Step 3

Improve the microbiome

Probiotic , dairy free yoghurt , fermented food

##### Step 4

Healthy postbiotics

Prebiotics – probiotics – postbiotics

##### Step 5

Digest food better

Slow mindful eating

Digestive enzymes

Manage stress



## MANAGEMENT

### What is the fastest way to heal leaky gut?

- The only known cure for a leaky gut is to treat the underlying condition that causes it. Specific treatments for IBD, celiac disease and others associated with intestinal permeability have been shown to repair the intestinal lining in those who were affected. On the other hand, treatments that target the intestinal lining independently have not been shown to improve these diseases or prevent intestinal permeability from recurring.

### How can I take care of my gut?

- Scientists are continuing to investigate the benefits of various therapeutics for improving the general health and integrity of the gut lining. These therapies may not be able to mitigate a pathological disease, but they may help mitigate the effects of everyday factors such as diet, stress and bacterial overgrowth that can wear on your intestinal lining. They may even help alleviate your general gastrointestinal symptoms.
- Therapies include:
- **Probiotics.** Specific probiotics are being tested separately for their ability to restore gut barrier function. But in general, probiotics may help maintain the health of your gut lining by preventing overgrowth of the wrong bacteria in your gut, especially your small intestine.
- **Prebiotics.**
- **Reduce dietary fats and sugars**
- **Nutrition.**
- **Low FODMAP diet.**

### Myths & Facts

- Gut health is a hot topic in the health, nutrition, medical, and wellness communities. The amount of research conducted on gut health has mushroomed in the past two decades, and we have learned and confirmed that the gut is intimately connected to hundreds of bodily functions.
- As we learn more, there is a greater interest in figuring out how to take better care of our gut. Unfortunately, there is also a lot of misinformation about gut health, giving rise to inaccurate beliefs or myths.
- **Myth:** Gut Health Is Only About Digestive Health
- **Fact:** Gut health impacts all dimensions of health and wellness.

- **Myth:** With Leaky Gut, Food Particles Enter Your Bloodstream
- **Fact:** Increased intestinal permeability, sometimes known as "leaky gut syndrome," may allow toxins, unwanted bacterial metabolites, bacterial components, and, potentially, entire bacteria to enter the bloodstream.

### Myth: Probiotics Solve All Gut Health Issues

- **Fact:** Probiotics can help to reestablish a healthy gut microbiome, but lifestyle changes are needed to heal the gut and prevent gut health problems.
- **Myth:** Supplements Are Necessary for Gut Health
- **Fact:** If you have a diet that meets your nutrient needs, you do not need supplements.
- **Myth:** Fermented Foods Are as Effective as Probiotics
- **Fact:** While some fermented foods may be considered probiotic candidates, not all fermented foods contain probiotics, and the bacteria in probiotic foods may not survive digestion.

### Myth: Grains Are Bad for Your Gut

- **Fact:** Your gut microbiome benefits from many of the nutrients in grains, including fiber and polysaccharides.
- **Myth:** You Can Only Fix Gut Health Problems with Medicine
- **Fact:** Many health problems that originate in the gut can be prevented and treated with diet and lifestyle.

### Myths & facts about leaky gut

MYTH #1: GLUTEN SENSITIVITY DOES NOT CAUSE INTESTINAL PERMEABILITY

MYTH #2: 'LEAKY GUT' SYNDROME DOES NOT HAVE A SCIENTIFIC BASIS

FACT #1: 'LEAKY GUT' IS NOT RECOGNIZED AS A DIAGNOSABLE MEDICAL CONDITION

FACT #2: INTESTINAL PERMEABILITY EXISTS IN SOME CHRONIC DISEASES

CONSENSUS: INTESTINAL PERMEABILITY CAN BE A SYMPTOM OR CAUSE OF DISEASE

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