## The Leaky Gut Syndrome

The leaky gut syndrome is a condition that affects your digestive system.

The leaky gut syndrome is also known as increased intestinal permeability. It is a condition where large substances are able to pass into the blood stream due to the loose gaps of the intestinal walls. The passage of these substances (toxins, bacteria, and undigested food) has shown a connection with several chronic and autoimmune diseases. For instance, diabetes type 1 has shown a connection with celiac disease. Yet, there is little evidence that it causes serious health problems, therefore, it is not a diagnosis recognized by mainstream physicians.

The role of the digestive system is to digest food in order to pass the nutrients to the blood. It also acts as a barrier to prevent harmful substances from passing to the bloodstream. Permeability is how easy substances can pass across a barrier. In case of leaky got syndrome, increased permeability (loose junctions of the intestinal walls) allows the passage of harmful substances through the intestinal wall. It is thought to cause immune reactions and inflammation.



#### Causes:

- Mainly idiopathic (unknown cause)
- May be associated with chronic diseases such as diabetes type 1 and celiac disease
- High level of protein Zonulin which regulates tight junctions
  - Bacteria and Gluten stimulate its production
- Gluten increases permeability for patients with celiac disease
  - High levels of inflammatory mediators such as:
    - TNF (Tumor Necrosis Factors)
    - o IL-13 (Interleukin 13)
    - Long term use of NSAIDS (Non-Steroidal Anti-Inflammatory Drugs) such as aspirin or ibuprofen
- Low levels of normal flora (Gut Dysbiosis)
- Standard American diet (low in fiber, & high in sugar and saturated fats)
- Heavy alcohol use and stress

Symptoms:





## Food to Avoid:

Some food may cause inflammation in the body, therefore promoting growth of unhealthy bacteria linked to chronic diseases. Certain food may damage the normal flora and cause digestive symptoms such as bloating, constipation and diarrhea.

For instance,



#### Healthy Diet:

The diet should promote digestive health hence it should focus on vegetables, fruits, unprocessed meat, cultured dairy products, healthy fats and lean.

# **Food Sources:**

### **Prebiotics**

Asparagus Artichokes Bananas Garlic Onions Soybeans Whole wheat foods

## **Probiotics**

Aged cheese Kefir Kimchi Miso Sauerfraut Soy beverages Tempeh Yogurt

References:

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