

# Irritable bowel syndrome (IBS):

## How the gut microbiome influences Irritable bowel symptoms

Did you know that an imbalance in the gut can be a key trigger for irritable bowel syndrome (IBS)?

### **In essence: The gut microbiome & IBS**

Studies show that IBS is closely linked to an imbalance in the intestinal flora. When the gut microbiome is disturbed, it can lead to symptoms such as diarrhea, bloating, and abdominal pain, while also fueling inflammatory reactions that exacerbate these issues. Restoring a healthy balance in the gut is now recognized as a promising adjunctive treatment for managing IBS.

The gut microbiome has a significant influence on IBS. Here is how this relationship works:

#### **1. Altered Gut Motility**

- Dysbiosis can disrupt the normal functioning of the gut, leading to either slowed or accelerated bowel movements, both of which are characteristic of IBS. The imbalance in gut bacteria can influence the gut's nervous system (enteric nervous system), affecting how quickly or slowly food moves through the digestive tract.

#### **2. Increased Intestinal Permeability**

An imbalanced gut microbiome can weaken the gut barrier, making it more permeable—a condition often referred to as "leaky gut." This increased permeability allows toxins and bacteria to escape into the bloodstream, triggering an immune response and inflammation, which can contribute to the pain and discomfort experienced in IBS.

### 3. Chronic Inflammation

Dysbiosis can lead to chronic low-grade inflammation in the gut, which is a significant factor in IBS. Inflammatory responses can exacerbate symptoms like abdominal pain, cramping, and bloating, making IBS more difficult to manage.

### 4. Altered Gut-Brain Axis

The gut-brain axis, a bidirectional communication network between the gut and the brain, is influenced by the gut microbiome. Dysbiosis can disrupt this communication, leading to increased stress, anxiety, and depression, all of which are commonly associated with IBS. The imbalance in gut flora can also affect the production of neurotransmitters like serotonin, which plays a role in mood regulation and gut motility.

### 5. Gas Production and Bloating

Certain bacteria in the gut produce gas as a byproduct of fermentation. An imbalance in gut flora can lead to an overproduction of gas, contributing to the bloating and discomfort often experienced by those with IBS.

### 6. Impact on Digestive Enzymes

A healthy gut microbiome aids in the production of enzymes necessary for digestion. Dysbiosis can result in inadequate enzyme production, leading to poor digestion, malabsorption of nutrients, and the exacerbation of IBS symptoms.

## Managing IBS Through Gut Health:

To manage IBS effectively, restoring balance to the gut microbiome is crucial. This can be achieved through dietary changes, probiotics, prebiotics, and lifestyle adjustments. Identifying and avoiding trigger foods, reducing stress, and incorporating gut-friendly foods into your diet can all help in alleviating IBS symptoms.

One effective way to support gut health is through the use of **prebiotics**—indigestible food components that nourish and promote the growth of beneficial gut bacteria. By enhancing the population of these helpful bacteria, prebiotics can contribute to rebalancing the gut microbiome, which in turn may help alleviate the symptoms of IBS.