

# HOW GUT BACTERIA AFFECTS BRAIN AND BODY

We are more bacteria than we are human. Recent research has suggested that the bacteria living in our digestive tract play a significant role in our overall health. Here are some of the physical and mental health conditions that have been linked to imbalances in gut flora.

## DEPRESSION

More than a third of depression sufferers have "leaky gut", or permeability of the gut lining that allows bacteria to seep out into the bloodstream.

## ANXIETY

Prebiotics can have anti-anxiety and antidepressant effects. Consuming beneficial bacteria can also positively change the way the brain responds to the environment.

## SCHIZOPHRENIA

Studies in mice have linked a lack of normal gut bacteria with changes in brain development, but the genetics of the disorder are complex and not fully understood.

## AUTISM

Autism often co-occurs with gastrointestinal issues like leaky gut or irritable bowel syndrome.

## OBESITY & DIABETES

A number of studies have linked instability in the gut microbiome to obesity and obesity related health problems.

## PARKINSON'S DISEASE

People suffering from this disease have different gut bacteria than healthy people.

## CROHN'S DISEASE

Abnormally high levels of certain bacteria strains may be present when Crohn's Disease develops, possibly triggering an atypical immune response.

## COLON CANCER

Sugar-loving microbes in the gut - along with the carbs that feed them - can fuel colon cancer. High carb diets may even be contributing to the rise of colon cancer.

## ULCERATIVE COLITIS

Imbalances in gut flora may be a main factor in both the onset and continuing symptoms of ulcerative colitis.

## RHEUMATOID ARTHRITIS

Studies have found a link between low levels of certain good gut bacteria, high levels of unhealthy *Prevotella copri* bacterium and autoimmune joint disease.

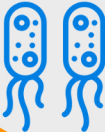
## IRRITABLE BOWEL SYNDROME

There is a definitive link between IBS and an overgrowth of bacteria in the small intestines.

There are thought to be more than 5,000 species of bacteria living in the gut. Here are a few of the main players:

 GOOD  BAD

**HELICOBACTER PYLORI**  
Most common bad bacteria causes gastric ulcers.



**LACTOBACILLI**  
May ward off stress and anxiety.

**METHANOBREVIBACTER SMITHII**  
Responsible for the majority of methane production.



**BIFIDOBACTERIA**  
Effective at treating many intestinal conditions.



**LACTOBACILLUS HELVETICUS**  
Associated with reduced anxiety and depression.



**BIFIDO BACTERIUM LONGUM**  
Also associated with reduced anxiety and depression.

