



GUT HEALTH  
***Understanding It  
and Treating  
Digestive Disorders***



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# UNDERSTANDING GUT HEALTH AND DIGESTIVE DISORDERS

When your gut health is out of whack, it can affect everything — from what you eat to going out with friends to how well you perform at work. Dealing with painful gas, abdominal cramps or belching, and chest pain drains your energy and can be embarrassing in public. But staying home and limiting yourself to just a few safe foods is no way to live either.

Learning how gut health works and what you can do to help your digestive system run smoothly can have a positive impact on your life. In this guide, we explain gut health, and provide information about some of the most common gastrointestinal (GI) conditions and answer frequently asked questions about probiotics, leaky gut, what to eat and so much more.



# HOW A HEALTHY GUT FUNCTIONS

The main goal of digestion is to move food through the GI tract, which starts in the mouth and ends with the anus. Hormones and nerves send signals to muscles lining the GI tract to move food along.

During the journey, stomach acid, bile and enzymes break down food so nutrients can be absorbed and used for energy and tissue repair. Bacteria in your GI tract (called gut flora or the microbiome) play a major role in turning food into substances your body can use.

## ***Exercise and Gut Motility***

People who are bedridden or who spend most of their time sitting or lying down may have more problems with constipation. That's because matter moves more slowly through your GI tract when you're less active.

The longer digested food matter sits in the large intestine — where water is absorbed from the liquid mixture to create solid waste (stool) — the drier it becomes, making it more difficult to pass. If you deal with [constipation](#), try incorporating mild to moderate exercise into your daily routine to help get things flowing.



## ***Microbiome: Your Internal Garden***

The microbiome is like a garden. Feed it the right food in the right amount and it'll flourish, according to experts at Johns Hopkins Medicine.

The microbiome is a combination of bacteria, fungi and viruses that live in your gut. Although it seems odd, humans are meant to have these microorganisms living inside them. The microbiome is important because it helps us digest food. Bacteria break down essential nutrients like iron and vitamin B12 so that we can digest them.

Coexisting with these helpful bacteria (called probiotics) is so important that they and the substances that feed them (prebiotics) are naturally found in breast milk, indicating that it's vital for our GI tracts to be populated with these microorganisms from the start.



There are numerous strains of bacteria in your gut, and they can change depending on what you eat. Eating more fiber promotes the growth of good bacteria because fiber-rich foods tend to contain a lot of prebiotics. On the other hand, eating more sugar and simple carbohydrates, like white bread and chips, can cause harmful bacteria to grow rapidly.

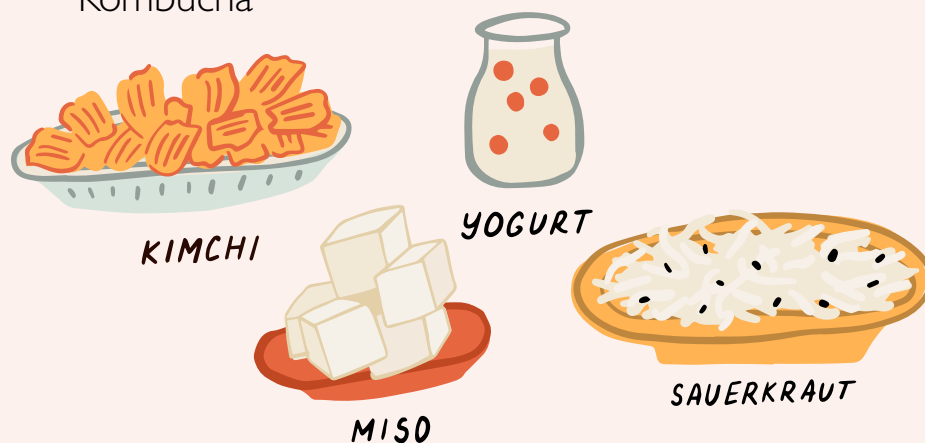
With the right kind of nutrients, the microbiome protects your health. But too much or too little of one thing or another upsets the balance of bacteria in the gut. That can lead to digestive distress.

### ***Should you take a prebiotic or probiotic supplement?***

Probiotic supplements have been popular for a long time, and now prebiotics are gaining ground. But, say the experts, it's better to get them from food than from a pill — supplements aren't regulated, so you can't be sure what you're really getting.

Fermented foods are a good source of [probiotics](#), and some contain prebiotics as well. If you want to populate your microbiome with more beneficial bacteria, start with eating small quantities of probiotic-rich foods, such as:

- Yogurt
- Kefir
- Kimchi
- Sauerkraut
- Miso
- Kombucha



## ***Causes of Dysfunction***

The best way to maintain a healthy gut is a healthy lifestyle that includes regular exercise and a balanced, nutritious diet full of whole foods. Gut problems can develop when you:

- Eat a low-fiber diet
- Don't move enough
- Experience high levels of stress
- Undergo surgery
- Use antibiotics and heartburn medications
- Have anxiety or depression
- Take pain relievers frequently

These factors can alter the balance of the microbiome, allowing bad bacteria to grow unchecked. If digestive diseases run in your family, you may be more sensitive to these environmental changes to your gut health.



# COMMON DIGESTIVE DISEASES

In the United States, 60 to 70 million people deal with digestive diseases ranging from [diverticulitis](#) to [gallstones](#) to chronic constipation. Some gut health problems are short-lived while others are a lifelong problem. This section offers information on three of the most common digestive diseases.

## ***Is leaky gut syndrome a real health problem?***

If you've spent any time searching the internet for information on GI conditions, you've probably come across the term "leaky gut syndrome." It's a popular topic in alternative health circles, but it isn't recognized as a medical diagnosis in mainstream medicine.

However, a similar condition called increased intestinal permeability (intestinal hyperpermeability) may affect people with inflammatory bowel disease (IBD) such as celiac disease and ulcerative colitis.

In healthy people, the lining of the gut allows nutrients to pass through to the bloodstream, but a protective lining keeps harmful organisms out. Chronic inflammatory diseases of the gut can damage that lining and lead to trouble absorbing nutrients and keeping out the bacteria that can lead to disease.

The leaky gut syndrome theory describes how toxins and bacteria cross into the body through the "leaky gut" and then transmit inflammation beyond the GI tract. Some parts of this theory are based in fact, but much is fiction.



## ***Irritable Bowel Syndrome (IBS)***

When you're doubled over in abdominal pain, and running to the bathroom or sitting there for what feels like hours, it's frustrating to get test results that say everything is normal. Such is the case for those with IBS, a common condition for which there is no known cause.

IBS affects up to 15% of the population and is nearly twice as common in women. Symptoms like abdominal pain, diarrhea and constipation come and go and can range from mild to severe.



### ***Is it IBS or IBD?***

It's easy to see why people often confuse irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD). The two conditions share many of the same symptoms, and it's possible for those with IBD to also have IBS.

However, IBD refers to a group of autoimmune diseases in which the immune system mistakenly attacks the GI tract, while IBS is an abnormal functioning of the intestines. IBD is

a more serious condition that causes chronic inflammation and can lead to permanent damage in the GI tract as well as an increased risk of [colorectal cancer](#), [Crohn's disease](#) and [ulcerative colitis](#) are inflammatory bowel diseases.

## Causes

IBS symptoms occur when matter moves through the large intestines too quickly or too slowly. Doctors aren't sure exactly what causes this. Various factors may contribute to the onset of IBS, such as:

- Stressful events early in life
- Depression and anxiety
- Food sensitivities
- GI tract infections
- Problems with gut-nerve signaling to the brain



## Does small intestine bacterial overgrowth (SIBO) cause IBS?

Most of the microbiome in the gut resides in the large intestine, with lesser amounts in the small intestine. SIBO happens when bacterial levels in the small intestine are too high.

This can cause IBS symptoms when you eat carbohydrates, which feed these bacteria. The bacteria produce excessive gas and sometimes cause loose, watery stools and problems with nutrient absorption.

### **SIBO is more likely when you've had:**

- Severe food poisoning or gastroenteritis — an inflammation of the stomach and intestines
- Gastric bypass or abdominal surgery
- Long-term use of proton pump inhibitors — drugs that treat acid reflux by suppressing stomach acid
- Frequent use of antibiotics



SIBO can often be treated with the lifestyle changes recommended for those with IBS symptoms. However, if you have a severe case of SIBO, your doctor may also recommend using antibiotics to quickly reduce bacterial levels in your gut. SIBO can be diagnosed with a breath test. Learn more about the risk factors and treatment of [SIBO](#).

### **IBS Treatment**

The goal of IBS treatment is to relieve symptoms. This is typically accomplished through lifestyle changes, medications or both. Medications are generally recommended based on the person's most distressing symptom and include:

- Laxatives, to increase flow of stool
- Anti-diarrhea drugs, to slow stool movement
- Anti-spasmodic drugs, to reduce intestinal cramping
- Antidepressants, to lessen pain signals

## Beneficial Diet

Certain types of nutrients in food increase the growth of bacteria. These are called fermentable oligosaccharides, disaccharides, monosaccharides and polyols (FODMAPs).

If you have IBS, your health practitioner may recommend that you avoid foods high in FODMAPs to see whether it reduces symptoms. It's not a diet you want to stay on indefinitely, but can be helpful to stay on just until the bacteria overgrowth is contained and you feel better.

After your symptoms improve — usually in four to six weeks — you can slowly start adding high-FODMAP foods back into your diet and note how your gut responds. Understanding which foods cause symptoms can help you control IBS. Learn about the [FODMAP diet](#).

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Wondering if you have IBS? Learn more about [how irritable bowel syndrome is diagnosed](#).

## ***Gastroesophageal Reflux Disease (GERD)***

When the contents of your stomach back up into your esophagus, it can cause a burning sensation in your chest or some vomit in the back of your throat. Commonly called heartburn or acid reflux, it's not alarming if it only happens occasionally.

But if you experience reflux more than twice per week for several weeks, it could be GERD. This chronic digestive problem affects about 20% of the population and can damage the esophagus, increasing the risk of [esophageal cancer](#).



## Causes

Normally, the lower end of the esophagus (the lower esophageal sphincter) tightens to keep stomach acid and food from coming up the tube. But for those with GERD, the sphincter is not able to close as tightly as it should. The sphincter may weaken due to:

- Increased weight from pregnancy
- Pressure from being overweight or obese
- Smoking or secondhand smoke
- Medications for:
  - Pain
  - Sleeping
  - High blood pressure
  - Asthma and allergies
  - Depression



## Treatment

GERD can often be controlled through lifestyle changes such as losing weight and quitting smoking, along with occasional over-the-counter medication. If GERD is more severe, your doctor may also recommend prescription medications and possibly surgery if symptoms remain uncontrolled.

### Common medications for GERD include:

- Antacids, to neutralize stomach acid
- H2 blockers, to stop stomach acid production
- Proton pump inhibitors, to lower the amount of acid the stomach produces

### Beneficial Diet

Unfortunately, no medication in the world that can reverse the effects of consuming a super-sized cola, burger and fries right before going to bed. What you eat and how you eat is important.

People with GERD should eat smaller meals throughout the day and follow a [Mediterranean diet](#), which focuses on vegetables, fruit, fish, nuts and olive oil. Avoid anything that triggers symptoms — some people find that they're sensitive to acidic, spicy or pungent foods, for example.

Just as important as what you eat is when you eat, especially dinner. If you have a full stomach and lie down, it's like tipping a teapot over — the contents may pour out.

The best strategy is to make lunch the biggest meal of the day, with something lighter for dinner, such as soup or salad. Then stay upright for at least three hours after eating.

Learn more about a [GERD diet](#) about how we diagnose [GERD](#).



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## **Crohn's Disease**

Crohn's disease is an autoimmune condition (an illness caused by the body turning on itself) that usually targets the intestines, but can strike anywhere in the GI tract. Symptoms range from abdominal cramps and diarrhea to skin rashes and joint problems.

When the immune system attacks the gut, it creates inflammation (the body's response to injury). Over time, this constant irritation can lead to permanent damage and increased risk of cancer. Crohn's disease can develop at any age, but it is more likely to happen when people are in their teens or 20s.



### **Causes**

What causes Crohn's disease remains a mystery, but contributing factors may include:

- Genes, because inflammatory bowel disease tends to run in families
- Bacteria, because microorganisms in the gut may trigger an immune response
- Smoking, because research indicates it may double your risk of getting the disease

## Treatment

People with Crohn's disease may be tempted to stop taking their medications when they're feeling well. But it's best to talk with your doctor and decide together whether that's a smart decision. The disease can still cause internal damage even if you don't have any symptoms.

The goal of treating Crohn's disease is to prevent and reduce flare-ups — periods when symptoms worsen. This is done primarily through the use of medication, although bowel rest (eliminating solid foods for a few days) or surgery may be necessary in severe cases.

Your doctor may prescribe one or more of several medications available to help people with Crohn's disease, including the newest category: biologics therapy medications. These drugs target the antibodies attacking the gut and are very effective.

### Medications used to treat Crohn's disease include:

- Aminosalicylates, to reduce inflammation
- Steroids, for short-term suppression of the immune system and to reduce inflammation
- Immunomodulators, to lessen overall immune system activity
- Biologics, to prevent the immune system from attacking the gut





### **Beneficial Diet**

During a flare-up, your doctor may recommend a low-residue diet to provide relief from painful symptoms. This diet is deliberately low in fiber, which reduces the number and size of bowel movements. Foods you should temporarily eliminate include whole grains, raw vegetables, dairy and some other foods. (Get more details about the [low-residue diet](#).)

Even during periods of remission, it's important to consider your diet. Crohn's disease can cause you to have problems getting enough iron and vitamins B12 and D from food. Taking a daily multivitamin may help. A simple blood test can tell your doctor if levels of these nutrients are low enough to warrant prescription strength vitamins or even intravenous infusions.

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Learn more about [Crohn's disease](#) symptoms and diagnosis procedures.

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# ADDITIONAL RESOURCES

For more information to promote your gut health, see these resources:

[Gut Health Resources](#)

[The Gut: Where Bacteria and Immune System Meet](#)

[Digestive Disorders Resources](#)

[The Heartburn Center at Johns Hopkins](#)