

Diverticular Disease

Definition & Facts

What is diverticulosis?

Diverticulosis is a condition that occurs when small pouches, or sacs, form and push outward through weak spots in the wall of your [colon](#). These pouches are most common in the lower part of your colon, called the [sigmoid colon](#). One pouch is called a diverticulum. Multiple pouches are called diverticula. Most people with diverticulosis do not have symptoms or problems.

When diverticulosis does cause symptoms or problems, doctors call this diverticular disease. For some people, diverticulosis causes symptoms such as changes in [bowel movement](#) patterns or pain in the [abdomen](#). Diverticulosis may also cause problems such as diverticular bleeding and diverticulitis.

Diverticular bleeding

Diverticular bleeding occurs when a small blood vessel within the wall of a pouch, or diverticulum, bursts.

Diverticulitis

Diverticulitis occurs when you have diverticulosis and one or a few of the pouches in the wall of your colon become [inflamed](#). Diverticulitis can lead to serious complications.

What are the complications of diverticulitis?

Diverticulitis can come on suddenly and cause other problems, such as the following:

Abscess

An abscess is a painful, swollen, infected, and pus-filled area just outside your colon wall that may make you ill with [nausea](#), [vomiting](#), fever, and severe tenderness in your abdomen.

Perforation

A perforation is a small tear or hole in a pouch in your colon.

Peritonitis

Peritonitis is inflammation or infection of the lining of your abdomen. Pus and [stool](#) that leak through a perforation can cause peritonitis.

Fistula

A fistula is an abnormal passage, or tunnel, between two organs or between an organ and the outside of your body. The most common types of fistula with diverticulitis occur between the colon and the [bladder](#) or between the colon and the [vagina](#) in women.

Intestinal obstruction

An intestinal obstruction is a partial or total blockage of the movement of food or stool through your [intestines](#).

How common are diverticulosis and diverticulitis?

Diverticulosis is quite common, especially as people age. Research suggests that about 35 percent of U.S. adults age 50 years or younger have diverticulosis, while about 58 percent of those older than age 60 have diverticulosis.¹ Most people with diverticulosis will never develop symptoms or problems.²

Experts used to think that 10 to 25 percent of people with diverticulosis would develop diverticulitis. However, newer research suggests that the percentage who develop diverticulitis may be much lower—less than 5 percent.²

In the United States, about 200,000 people are hospitalized for diverticulitis each year. About 70,000 people are hospitalized for diverticular bleeding each year.³

Who is more likely to have diverticulosis and diverticulitis?

People are more likely to develop diverticulosis and diverticulitis as they age.

Among people ages 50 and older, women are more likely than men to develop diverticulitis. However, among people younger than age 50, men are more likely to develop diverticulitis.³

References

[1] Peery AF, Keku TO, Martin CF, et al. Distribution and characteristics of colonic diverticula in a United States screening population. *Clinical Gastroenterology and Hepatology*. 2016. Epub ahead of print.

[2] Shahedi K, Fuller G, Bolus R, et al. Long-term risk of acute diverticulitis among patients with incidental diverticulosis found during colonoscopy. *Clinical Gastroenterology and Hepatology*. 2013;11(12):1609–1613.

[3] Wheat CL, Strate LL. Trends in hospitalization for diverticulitis and diverticular bleeding in the United States from 2000 to 2010. *Clinical Gastroenterology and Hepatology*. 2016; 14(1):96–103.e1

Symptoms & Causes

What are the symptoms of diverticulosis?

Most people with [diverticulosis](#) do not have symptoms. If your diverticulosis causes symptoms, they may include

- [bloating](#)
- [constipation](#) or [diarrhea](#)
- cramping or pain in your lower [abdomen](#)

Other conditions, such as [irritable bowel syndrome](#) and [peptic ulcers](#), cause similar symptoms, so these symptoms may not mean you have diverticulosis. If you have these symptoms, see your doctor.

If you have symptoms such as bloating, constipation or diarrhea, or pain in your lower abdomen, see your doctor.

If you have diverticulosis and develop [diverticular bleeding](#) or [diverticulitis](#), these conditions also cause symptoms.

What are the symptoms of diverticular bleeding?

In most cases, when you have diverticular bleeding, you will suddenly have a large amount of red or maroon-colored blood in your [stool](#).

Diverticular bleeding may also cause dizziness or light-headedness, or weakness. See your doctor right away if you have any of these symptoms.

What are the symptoms of diverticulitis?

When you have diverticulitis, the [inflamed](#) pouches most often cause pain in the lower left side of your abdomen. The pain is usually severe and comes on suddenly, though it can also be mild and get worse over several days. The intensity of the pain can change over time.

Diverticulitis may also cause

- constipation or diarrhea
- fevers and chills

- [nausea](#) or [vomiting](#)

What causes diverticulosis and diverticulitis?

Experts are not sure what causes diverticulosis and diverticulitis. Researchers are studying several factors that may play a role in causing these conditions.

Fiber

For more than 50 years, experts thought that following a low-[fiber](#) diet led to diverticulosis. However, recent research has found that a low-fiber diet may not play a role. This study also found that a high-fiber diet with more frequent [bowel movements](#) may be linked with a greater chance of having diverticulosis.⁴ Talk with your doctor about how much fiber you should include in your diet.

Genes

Some studies suggest that [genes](#) may make some people more likely to develop diverticulosis and diverticulitis. Experts are still studying the role genes play in causing these conditions.

Other factors

Studies have found links between diverticular disease—diverticulosis that causes symptoms or problems such as diverticular bleeding or diverticulitis—and the following factors:

- certain medicines—including [nonsteroidal anti-inflammatory drugs](#) (NSAIDs), such as [aspirin](#) , and [steroids](#)
- lack of exercise
- [obesity](#)
- smoking

Diverticulitis may begin when [bacteria](#) or [stool](#) get caught in a pouch in your colon. A decrease in healthy bacteria and an increase in disease-causing bacteria in your colon may also lead to diverticulitis.

References

[4] Peery AF, Barrett PR, Park D, et al. A high-fiber diet does not protect against asymptomatic diverticulosis. *Gastroenterology*. 2012;142(2):266–272.

Diagnosis

How do doctors diagnose diverticulosis and diverticulitis?

If your doctor suspects you may have [diverticulosis](#) or [diverticulitis](#), your doctor may use your medical history, a physical exam, and tests to diagnose these conditions.

Doctors may also diagnose diverticulosis if they notice pouches in the [colon](#) wall while performing tests, such as routine [x-rays](#) or [colonoscopy](#), for other reasons.

What tests do doctors use to diagnose diverticulosis and diverticulitis?

Your doctor may use the following tests to help diagnose diverticulosis and diverticulitis:

CT scan

A [computerized tomography \(CT\) scan](#) uses a combination of x-rays and computer technology to create images of your [gastrointestinal \(GI\) tract](#).

An x-ray technician performs the procedure in an outpatient center or a hospital. A [radiologist](#) reads and reports on the images. You don't need [anesthesia](#) for this procedure.

For a CT scan, a health care professional may give you a solution to drink and an injection of a special dye, called contrast medium. Contrast medium makes the structures inside your body easier to see during the procedure. You'll lie on a table that slides into a tunnel-shaped device that takes the x-rays. A CT scan of your colon is the most common test doctors use to diagnose diverticulosis and diverticulitis.

Treatment

How do doctors treat diverticulosis?

The goal of treating [diverticulosis](#) is to prevent the pouches from causing symptoms or problems. Your doctor may recommend the following treatments.

High-fiber diet

Although a high-[fiber](#) diet may not prevent diverticulosis, it may help prevent symptoms or problems in people who already have diverticulosis. A doctor may suggest that you increase fiber in your diet slowly to reduce your chances of having [gas](#) and pain in your [abdomen](#). Learn more about [foods that are high in fiber](#).

Fiber supplements

Your doctor may suggest you take a fiber product such as methylcellulose (Citrucel) or psyllium (Metamucil) one to three times a day. These products are available as powders, pills, or wafers and provide 0.5 to 3.5 grams of fiber per dose. You should take fiber products with at least 8 ounces of water.

Medicines

Some studies suggest that [mesalazine](#) (Asacol) taken every day or in cycles may help reduce symptoms that may occur with diverticulosis, such as pain in your abdomen or [bloating](#). Studies suggest that the antibiotic [rifaximin](#) (Xifaxan) may also help with diverticulosis symptoms.

Probiotics

Some studies show that [probiotics](#) may help with diverticulosis symptoms and may help prevent [diverticulitis](#).⁵ However, researchers are still studying this subject. Probiotics are live bacteria like those that occur normally in your [stomach](#) and [intestines](#). You can find probiotics in dietary supplements—in capsule, tablet, and powder form—and in some foods, such as yogurt.

For safety reasons, talk with your doctor before using probiotics or any [complementary or alternative](#) medicines or medical practices.

How do doctors treat diverticular bleeding?

Diverticular bleeding is rare. If you have bleeding, it can be severe. In some people, the bleeding may stop by itself and may not require treatment. However, if you have bleeding from your [rectum](#)—even a small amount—you should see a doctor right away.

To find the site of the bleeding and stop it, a doctor may perform a [colonoscopy](#). Your doctor may also use a [computerized tomography \(CT\) scan](#) or an angiogram to find the bleeding site. An angiogram is a special kind of [x-ray](#) in which your doctor threads a thin, flexible tube through a large artery, often from your groin, to the bleeding area.

Colon resection

If your bleeding does not stop, a surgeon may perform abdominal surgery with a colon resection. In a colon resection, the surgeon removes the affected part of your colon and joins the remaining ends of your [colon](#) together. You will receive general [anesthesia](#) for this procedure.

In some cases, during a colon resection, it may not be safe for the surgeon to rejoin the ends of your colon right away. In this case, the surgeon performs a [temporary colostomy](#). Several months later, in a second surgery, the surgeon rejoins the ends of your colon and closes the opening in your abdomen.

How do doctors treat diverticulitis?

If you have diverticulitis with mild symptoms and no other problems, a doctor may recommend that you rest, take oral [antibiotics](#), and follow a liquid diet for a period of time. If your symptoms ease after a few days, the doctor will recommend gradually adding solid foods back into your diet.

Severe cases of diverticulitis that come on quickly and cause complications will likely require a hospital stay and involve [intravenous](#) (IV) antibiotics. A few days without food or drink will help your colon rest.

If the period without food or drink is longer than a few days, your doctor may give you an IV liquid food mixture. The mixture contains

- [carbohydrates](#)
- [proteins](#)
- [fats](#)
- vitamins
- minerals

Severe cases of diverticulitis will likely require a hospital stay.

How do doctors treat complications of diverticulitis?

Your doctor may recommend the following to treat complications of diverticulitis:

Abscess

Your doctor may need to drain an [abscess](#) if it is large or does not clear up with antibiotics.

Perforation

If you have a [perforation](#), you will likely need surgery to repair the tear or hole. Additional surgery may be needed to remove a small part of your colon if the surgeon cannot repair the perforation.

Peritonitis

[Peritonitis](#) requires immediate surgery to clean your abdominal cavity. You may need a [colon resection](#) at a later date after a course of antibiotics. You may also need a blood transfusion if you have lost a lot of blood. Without prompt treatment, peritonitis can be fatal.

Fistula

Surgeons can correct a [fistula](#) by performing a colon resection and removing the fistula.

Intestinal obstruction

If your large intestine is completely blocked, you will need emergency surgery, with possible colon resection. Partial blockage is not an emergency, so you can schedule the surgery or other corrective procedures.

References

[5] Tursi A, Papa A, Danese S. Review article: the pathophysiology and medical management of diverticulosis and diverticular disease of the colon. *Alimentary Pharmacology and Therapeutics*. 2015;42(6):664–684.

Eating, Diet, & Nutrition

What should I eat if I have diverticulosis or diverticulitis?

If you have [diverticulosis](#) or if you have had [diverticulitis](#) in the past, your doctor may recommend eating more foods that are high in [fiber](#).

The [Dietary Guidelines for Americans](#), 2015–2020, recommends a dietary fiber intake of 14 grams per 1,000 calories consumed. For example, for a 2,000-calorie diet, the fiber recommendation is 28 grams per day.

If you have diverticulosis or if you have had diverticulitis in the past, your doctor may recommend eating more foods that are high in fiber.

Should I avoid certain foods if I have diverticulosis or diverticulitis?

Experts now believe you do not need to avoid certain foods if you have diverticulosis or diverticulitis.

In the past, doctors might have asked you to avoid nuts; popcorn; and seeds such as sunflower, pumpkin, caraway, and sesame. Recent research suggests that these foods are not harmful to people with diverticulosis or diverticulitis. The seeds in tomatoes, zucchini, cucumbers, strawberries, and raspberries, as well as poppy seeds, are also fine to eat.

Even so, each person is different. You may find that certain types or amounts of foods worsen your symptoms.

May 2016

This content is provided as a service of the [National Institute of Diabetes and Digestive and Kidney Diseases](#) (NIDDK), part of the National Institutes of Health. The NIDDK translates and disseminates research findings through its clearinghouses and education programs to increase knowledge and understanding about health and disease among patients, health professionals, and the public. Content produced by the NIDDK is carefully reviewed by NIDDK scientists and other experts.

The NIDDK would like to thank:

Lisa L. Strate, M.D., M.P.H., University of Washington School of Medicine, Harborview Medical Center