

## **Diverticulitis and Diverticulosis**

### **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. Most people with diverticulosis will never develop symptoms or problems.

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.

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.

### ***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.

## **Symptoms & Causes of Diverticular Disease**

### ***What are the symptoms of diverticulosis?***

Most people with diverticulitis 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 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.<sup>4</sup> 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.

## **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.

### ***Medical history***

Your doctor will ask about your medical history, including your

- bowel movement patterns
- diet
- health
- medicines
- symptoms

### ***Physical exam***

Your doctor will perform a physical exam, which may include a digital rectal exam. During a digital rectal exam, your doctor will have you bend over a table or lie on your side while holding your knees close to your chest. After putting on a glove, the doctor will slide a lubricated finger into your anus to check for pain, bleeding, hemorrhoids, or other problems.

### **What tests do doctors use to diagnose diverticulosis and diverticulitis?**

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

#### ***Blood test***

A health care professional may take a blood sample from you and send the sample to a lab to test for inflammation or anemia.

#### ***CT scan***

A computerized tomography (CT) scan uses a combination of x-rays and computer technology to create images of your gastrointestinal 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.

### ***Lower GI series***

A lower GI series, also called a barium enema, is a procedure in which a doctor uses x-rays and a chalky liquid called barium to view your large intestine. The barium will make your large intestine more visible on an x-ray.

An x-ray technician and a radiologist perform a lower GI series at a hospital or an outpatient center. A health care professional will give you written bowel prep instructions to follow at home before the procedure. You don't need anesthesia for this procedure.

For the procedure, you'll be asked to lie on a table while the radiologist inserts a flexible tube into your anus and fills your large intestine with barium. You will need to hold still in various positions while the radiologist and technician take x-ray images and possibly an x-ray video, called fluoroscopy. If pouches are present in your colon, they will appear on the x-ray.

### ***Colonoscopy***

Colonoscopy is a procedure in which a doctor uses a long, flexible, narrow tube with a light and tiny camera on one end, called a colonoscope or endoscope, to look inside your rectum and colon.

A trained specialist performs a colonoscopy in a hospital or an outpatient center. A health care professional will give you written bowel prep instructions to follow at home before the procedure. You will receive sedatives, anesthesia, or pain medicine during the procedure.

During a colonoscopy, you'll be asked to lie on a table while the doctor inserts a colonoscope into your anus and slowly guides it through your rectum and into your colon. Doctors may use a colonoscopy to confirm a diagnosis of diverticulosis or diverticulitis and rule out other conditions, such as cancer.

## **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. Click [here](#) to 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. 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

## **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.

## **Eating, Diet, & Nutrition for Diverticular Disease**

### ***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.

The amount of fiber in a food is listed on the food's nutrition facts label. Some fiber-rich foods are listed in the table below.

### ***Fiber-Rich Foods***

#### **Grains**

<b>Food and Portion Size</b>	<b>Amount of Fiber</b>
1/3-3/4 cup high-fiber bran ready-to-eat cereal	9.1–14.3 grams
1-1 1/4 cup of shredded wheat ready-to-eat cereal	5.0–9.0 grams
1 1/2 cup whole wheat spaghetti, cooked	3.2 grams
1 small oat bran muffin	3.0 grams

#### **Fruits**

<b>Food and Portion Size</b>	<b>Amount of Fiber</b>
1 medium pear, with skin	5.5 grams
1 medium apple, with skin	4.4 grams
1/2 cup of raspberries	4.0 grams
1/2 cup of stewed prunes	3.8 grams

#### **Vegetables**

<b>Food and Portion Size</b>	<b>Amount of Fiber</b>
1/2 cup of green peas, cooked	3.5–4.4 grams
1/2 cup of mixed vegetables, cooked from frozen	4.0 grams
1/2 cup of collards, cooked	3.8 grams
1 medium sweet potato, baked in skin	3.8 grams
1 medium potato, baked, with skin	3.6 grams
1/2 cup of winter squash, cooked	2.9 grams

Source: U.S. Department of Agriculture and U.S. Department of Health and Human Services. *2015–2020 Dietary Guidelines for Americans*. 8th Edition. December 2015.

Available at <https://health.gov>

## **Beans**

<b>Food and Portion Size</b>	<b>Amount of Fiber</b>
1/2 cup navy beans, cooked	9.6 grams
1/2 cup pinto beans, cooked	7.7 grams
1/2 kidney beans, cooked	5.7 grams

A doctor or dietitian can help you learn how to add more high-fiber foods to your diet.

### ***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.

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