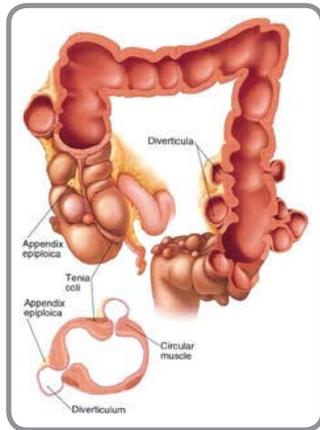


## Diverticular Disease

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**Diverticular Disease** A diverticulum is a sac-like protrusion that can form in the muscular wall of the colon, particularly at points where blood vessels enter. Diverticular disease is a term used to describe people with diverticulosis, which causes no symptoms, and diverticulitis, which usually causes pain, fever, nausea, vomiting, and diarrhea.



Diverticular disease is a common problem that affects men and women equally. The risk of disease increases with age. It occurs throughout the world but is seen more commonly in developed countries.

*Diverticular disease of the colon*

### What Is Diverticular Disease?

A person with diverticular disease may have diverticulosis, diverticulitis, or diverticular bleeding.

#### Diverticulosis

Diverticulosis is often found with a test done for other reasons, such as flexible sigmoidoscopy, colonoscopy, or barium enema. Most people with diverticulosis have no symptoms and will remain symptom free for the rest of their lives.

#### Diverticulitis

Inflammation of a diverticulum (diverticulitis) occurs when there is thinning of the diverticular wall. This may be caused by increased pressure within the colon or hardened particles of stool, which can become lodged within the diverticulum. Both of these events probably decrease blood flow to the diverticulum.

The symptoms of diverticulitis depend upon the degree of inflammation present. The most common symptom is pain in the left lower abdomen. Other symptoms can include nausea and vomiting, constipation, diarrhea, and urinary symptoms.

Diverticulitis is divided into simple and complicated forms.

- Simple diverticulitis, which accounts for 75 percent of cases, is not associated with complications and typically responds to medical treatment without surgery.
- Complicated diverticulitis occurs in 25 percent of cases and usually requires surgery. Complications associated with diverticulitis can include the following:

**Abscess** — a localized collection of pus

**Fistula** — an abnormal tract between two areas that are not normally connected (eg, bowel and bladder)

**Obstruction** — a blockage of the colon

**Peritonitis** — infection involving the space around the abdominal organ

**Sepsis** — overwhelming bodywide infection that can lead to failure of multiple organs

#### Diverticular bleeding

Diverticular bleeding occurs when a small artery located within the diverticulum breaks through the skin into the colon.

Diverticular bleeding usually causes painless bleeding from the rectum. In about 50 percent of cases, the person will see maroon or bright red blood with bowel movements.

## Diverticular Disease Diagnosis

As mentioned above, diverticulosis is often found during tests performed for other reasons, such as routine screening for colon cancer or evaluation of abdominal pain or rectal bleeding. The following are tests that may be recommended to diagnose diverticulosis:

- **Barium enema** — This is an x-ray study that uses barium in an enema to view the outline of the lower intestinal tract.
- **Flexible sigmoidoscopy** — This is an examination of the inside of the sigmoid colon with a thin, flexible tube that contains a camera.
- **Colonoscopy** — This is an examination of the inside of the entire colon.
- **CT scan** — A CT scan is often used to diagnose diverticulitis and its complications.

## Diverticular Disease Treatment

### Diverticulosis

People with diverticular disease who do not have symptoms do not require specific treatment. However, most clinicians recommend increasing fiber in the diet, which can help to bulk the stools and possibly prevent the development of new diverticula, diverticulitis, or diverticular bleeding. However, fiber is not proven to prevent these conditions.

### Increase fiber

Fruits and vegetables are a good source of fiber. The fiber content of packaged foods can be calculated by reading the nutrition label.

### Seeds and nuts

Patients with diverticular disease have historically been advised to avoid whole pieces of fiber (such as seeds, corn, and nuts) because of concern that these foods could cause an episode of diverticulitis. However, this belief is completely unproven. We do not suggest that patients with diverticulosis avoid seeds, corn, or nuts.

### Diverticulitis

Treatment of diverticulitis depends upon the severity of symptoms and clinical findings.

### Home treatment

If you have mild symptoms of diverticulitis, you can be treated at home with a clear liquid diet and oral antibiotics. However, if you develop one or more of the following signs or symptoms develop, you should seek immediate medical attention:

- Temperature >100.1°F (38°C)
- Abdominal pain
- An inability to tolerate fluids

### Hospital treatment

If you have moderate to severe symptoms, you may be hospitalized for treatment. During this time, you are not allowed to eat or drink; antibiotics and fluids are given into a vein.

If you develop an abscess or blockage of the colon, you may require drainage of the abscess (usually performed by placing a drainage tube through the abdomen, vagina, or rectum) or by surgically opening the affected area.

### Surgery

If you develop a generalized infection in the abdomen (peritonitis), you will usually require emergency surgery. A two-part surgery may be necessary in some cases.

- The first surgery involves removal of the diseased colon and creation of a colostomy. A colostomy is an opening between the colon and the skin, where a bag is attached to collect waste from the intestine. The lower end of the colon is temporarily sewed closed to allow it to heal.
- Approximately three months later, a second surgery is performed to reconnect the two parts of the colon and close the opening in the skin. You are then able to empty your bowels through the rectum.

In non-emergency situations, the diseased area of the colon can be removed and the two ends of the colon can be reconnected in one surgery, without the need for a colostomy.

### Surgery versus medical therapy

Surgery to remove diseased area of the colon may not be necessary if you improve with medical therapy. However, people who are treated with surgery are felt to be cured since only 15 percent of people develop diverticulosis after surgery and only 2 to 11 percent of people need further surgery.

Thus, surgery may be recommended for people with repeated attacks of diverticulitis or if there are severe or repeated episodes of bleeding. The decision depends in part upon your other medical conditions and ability to undergo surgery.

### After diverticulitis resolves

After an episode of diverticulitis resolves, the entire length of the colon should be evaluated to determine the extent of disease and to rule out the presence of abnormal lesions such as polyps or cancer. Recommended tests include colonoscopy, barium enema and sigmoidoscopy, or CT colonography.

### Diverticular bleeding

Most cases of diverticular bleeding resolve on their own. However, some people will need further testing or treatment to stop bleeding, which may include a colonoscopy, angiography (a treatment that blocks off the bleeding artery), or surgery.

## **Diverticular Disease Prognosis**

### **Diverticulosis**

Over time, diverticulosis may cause no problems or it may cause episodes of bleeding and/or diverticulitis. About 15 to 25 percent of people with diverticulosis will develop diverticulitis while 5 to 15 percent will develop diverticular bleeding.

### **Diverticulitis**

Approximately 85 percent of people with uncomplicated diverticulitis will respond to medical treatment while about 15 percent of patients will need surgery. After successful treatment for a first attack of diverticulitis, one-third of patients will remain asymptomatic, one-third will have episodic cramps without diverticulitis, and one-third will go on to have a second attack of diverticulitis.

The prognosis is worse following a second attack of diverticulitis; the rate of complications in this group is close to 60 percent. Only 10 percent of people remain symptom free after a second attack.