

Diverticulosis and Diverticulitis: Causes, Symptoms, Treatment and Surgery

Diverticular disease is where small, pouch-like structures called **diverticula** form in weak spots of the colon's muscular wall. It's a common issue, particularly among older adults, and can range from symptom-free diverticulosis to more severe complications like diverticulitis and diverticular bleeding.

What Is Diverticulosis?

Diverticulosis refers to diverticula in the colon, often discovered during tests for other reasons. Most people with diverticulosis don't experience any symptoms and may remain symptom-free for life. However, for some, it can lead to two main complications:

- **Diverticulitis** – inflammation of the diverticula
 - **Diverticular bleeding** – bleeding from one of the diverticula
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Risk Factors for Diverticulosis

Several factors increase the likelihood of developing diverticulosis, including:

- Older age (especially over 60)
- Male sex
- Smoking
- Lack of exercise
- Use of NSAIDs (non-steroidal anti-inflammatory drugs)
- Higher body mass index (BMI)

Contrary to popular belief, a low-fiber diet and constipation don't seem to play a significant role in causing diverticulosis. Genetics may also increase the risk of complications like diverticulitis.

What Is Diverticulitis?

When one or more diverticula become inflamed, it's called **diverticulitis**. This usually happens due to increased pressure in the colon or stool becoming trapped in a diverticulum. For people with diverticulosis, the lifetime prevalence of developing acute diverticulitis is approximately 25%. Acute diverticulitis accounts for more than 2.6 million outpatient visits and 200,000 inpatient admissions annually in the United States. The number and size of diverticula also increase with age, suggesting that diverticulosis is a progressive process

The severity of diverticulitis can vary, with symptoms such as:

- **Left lower abdominal pain** (most common), suprapubic pain
 - Nausea and vomiting
 - Constipation or diarrhea
 - Gastrointestinal bleeding
 - Urinary symptoms, such as pain or frequent urination
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Types of Diverticulitis

1. **Simple Diverticulitis** (about 75% of cases): Can often be managed with medication and does not usually require surgery.
 2. **Complicated Diverticulitis** (about 25% of cases): May lead to abscesses, fistulas, blockages, or serious infections like sepsis, often requiring surgery. Complicated diverticulitis may occur in up to 15% of acute diverticulitis cases.
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Diverticular Bleeding

Diverticular bleeding occurs when an artery within a diverticulum erodes, leading to painless rectal bleeding. Although it usually stops on its own, medical attention is essential, as it can sometimes signal a more serious issue.

Diagnosis of Diverticular Disease

- **Diverticulosis** is often found incidentally during colonoscopies or imaging for other conditions.

- **Diverticulitis** is diagnosed based on symptoms, physical exam and confirmed by imaging tests.
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Treatment Options

Diverticulosis

Treatment is often unnecessary for those without symptoms. However, doctors may recommend a **high-fiber diet** to regulate bowel movements and potentially prevent diverticulitis or diverticular bleeding.

Diverticulitis

Treatment depends on the severity:

- **Mild cases:** Managed at home with a liquid diet and pain relief.
- **Severe cases:** May require hospitalization for intravenous antibiotics and fluids. Surgery may sometimes be necessary for complications like abscesses or generalized infection (peritonitis).

For patients with recurrent diverticulitis, surgery might be recommended to remove the affected section of the colon.

Prevention and Long-Term Outlook

Adopting a high-fiber diet after recovering from diverticulitis may help reduce the risk of recurrence. While most people recover fully with proper treatment, about 15% may eventually require surgery, especially if complications arise, recurrent hospitalization or attacks are frequent.

Minimally invasive surgery, such as robotic procedures, has significantly improved recovery times and outcomes.

When to Seek Medical Attention

If you experience symptoms like **fever, severe abdominal pain, or an inability to tolerate fluids**, it's crucial to seek medical attention. Likewise, **seeing blood in your stool** should never be ignored and warrants a prompt consultation with a healthcare provider.

When Is Surgery Needed?

While most uncomplicated diverticulitis cases resolve with medical treatment, surgery may be required in about 15% of patients. Surgery is often necessary in the following cases:

- **Recurrent diverticulitis:** Multiple episodes may lead to surgery to prevent future attacks.
 - **Complicated diverticulitis:** When severe complications like abscesses, fistulas, or peritonitis occur.
 - **Persistent symptoms:** Surgery might be the best option if symptoms continue despite treatment.
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Types of Surgery for Diverticulitis

Elective Surgery

Elective surgery is often recommended after a severe episode of diverticulitis, recurrent attacks or smoldering disease. The procedure typically involves removing the affected section of the colon and reconnecting the healthy portions. Robotic surgery, when possible, offers smaller incisions, less pain, and a faster recovery. The goal of Surgery is to remove the diseased segment of the colon.

Emergency Surgery

In cases of severe complications, such as a ruptured colon or widespread infection/feces, emergency surgery is required. This often involves a two-stage process:

1. **Stage 1:** Removal of the colon's affected portion and creating a temporary colostomy (Hartman's Procedure). A colostomy is created by attaching the colon to the abdominal wall. This is usually performed as a life-saving procedure to control contamination.

2. **Stage 2:** After the colon heals, the colostomy is reversed, and the healthy parts of the colon are reconnected. This is typically performed 6-9 months later to allow for recovery from first surgery. The second stage may be performed with minimally invasive surgery.
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Recovery After Surgery

The recovery process varies based on the type of surgery. **Robotic surgery** typically results in faster healing, less discomfort, and a quick return to normal activities. Open surgery or procedures involving a colostomy may require a longer recovery period.

What to Expect After Diverticulitis Surgery

After surgery, many patients experience:

- Reduced risk of future diverticulitis attacks
- Relief from chronic symptoms like pain and digestive issues
- A return to normal bowel function (if a colostomy is reversed)

However, surgery is not without risks. Risks such as infection, bleeding, and rare complications where the colon reattachment site leaks are possible. While surgery doesn't eliminate all diverticula, the chances of future diverticulitis are significantly lower.

Conclusion

Diverticulitis, though often manageable with medication, may require surgery in more complicated or recurrent cases. Fortunately, modern surgical techniques, including minimally invasive procedures, have greatly improved outcomes and recovery times. By addressing the condition early and discussing treatment options with your healthcare provider, you can make informed decisions about managing your health. Whether through lifestyle changes or surgical intervention, most patients can look forward to significantly improving symptoms and a better quality of life. If you or a loved one is

dealing with diverticulitis, staying informed and proactive in seeking the best care is essential.

References

1. Balk EM, Adam GP, Cao W, et al. Management of colonic diverticulitis. Comparative effectiveness review no. 233. AHRQ publication no. 20(21)-EHC025.
2. Feingold D, Steele SR, Lee S, et al. Practice parameters for the treatment of sigmoid diverticulitis. *Dis Colon Rectum* 2014; 57:284.
3. Wilkins T, Embry K, George R. Diagnosis and management of acute diverticulitis. *Am Fam Physician*. 2013;87(9):612-620.
4. Peery AF, Keku TO, Martin CF, Eluri S, Runge T, Galanko JA, Sandler RS. Distribution and Characteristics of Colonic Diverticula in a United States Screening Population. *Clin Gastroenterol Hepatol*. 2016 Jul;14(7)
5. Pemberton, J. UptoDate. Diverticular disease: Beyond the basics
6. Poola S, Ritchie M. Antibiotics for uncomplicated diverticulitis. *Am Fam Physician*. 2020;102(11)
7. Strate LL, Liu YL, Syngal S, Aldoori WH, Giovannucci EL. Nut, corn, and popcorn consumption and the incidence of diverticular disease. *JAMA*. 2008 Aug 27;300(8):907-14.