CONDITION

Pseudomembranous colitis

Pseudomembranous colitis is inflammation of the colon, usually caused by toxin-producing Clostridioides difficile bacteria.

WHAT IT IS
Colon inflammation with raised plaques, usually from C. difficile

BODY SYSTEM
Digestive system

MAIN SYMPTOMS
Watery diarrhea, abdominal cramps, fever, nausea

WHAT CAUSES IT
C. difficile infection after disrupted gut bacteria

HOW IT IS DIAGNOSED
Stool toxin testing, sometimes colonoscopy

MAIN TREATMENT
Antibiotics that target C. difficile

CAN IT BE CURED?
Yes - treatment often clears the infection

IS IT AN EMERGENCY?
Sometimes - severe abdominal swelling, dehydration, or fainting

LONG-TERM OUTLOOK
Most recover, but recurrence can occur

Overview

Pseudomembranous colitis is inflammation of the colon, also called the large intestine. The inflamed lining develops raised yellow or white patches called pseudomembranes. These patches contain inflammatory cells, mucus, and damaged tissue.

The condition is usually caused by Clostridioides difficile , often shortened to C. difficile or C. diff. These bacteria can produce toxins that damage the colon lining.

C. diff may live in the bowel without causing symptoms. Problems can begin when antibiotics or other factors disrupt the usual balance of bacteria in the bowel. C. diff can then multiply and release toxins.

Pseudomembranous colitis is considered a form of C. diff infection. However, not everyone

with C. diff diarrhea develops visible pseudomembranes. Rarely, similar patches can result from another infection, reduced blood supply to the colon, or certain medicines.

Illness ranges from manageable diarrhea to severe inflammation. Recognizing persistent diarrhea matters because targeted treatment can clear the infection and reduce the chance of complications.

Symptoms

The main symptom is frequent, loose, or watery diarrhea. It may begin while you are taking an antibiotic or after the course has ended.

Other symptoms may include:

Blood in the stool can occur, but it is not the usual symptom. Mucus may be present.

Symptoms can become more serious if the colon is severely inflamed. Increasing abdominal pain, marked swelling, inability to pass stool or gas, confusion, or fainting need urgent assessment.

Diarrhea has many possible causes. Having diarrhea after antibiotics like amoxicillin or doxycycline does not automatically mean that you have pseudomembranous colitis.

- Cramping or tenderness in the abdomen
- Fever
- Nausea or reduced appetite
- Tiredness
- Signs of dehydration, such as thirst, dry mouth, or reduced urination

Causes and risk factors

Most cases are caused by toxin-producing C. diff bacteria. The bacteria form spores, which are tough particles that can survive for a long time on toilets, bed rails, door handles, and other surfaces. Spores can reach the mouth from contaminated hands.

Antibiotics are the most important risk factor. They may remove some of the protective bacteria normally found in the bowel. This gives C. diff more opportunity to grow. Broad-spectrum antibiotics, which act against many types of bacteria, are often involved, but infection can follow other antibiotics as well.

Your risk may be higher if you:

C. diff can also develop without a recent hospital stay. A small number of people develop pseudomembranous colitis without an obvious antibiotic trigger.

- Recently took antibiotics
- Recently stayed in a hospital or residential care facility
- Previously had C. diff infection
- Are older or have a serious long-term illness
- Have a weakened immune system
- Recently had bowel surgery or another procedure involving the digestive tract

Diagnosis

Diagnosis begins with your symptoms, recent antibiotic use, healthcare exposure, and medical history. A stool sample is normally used to look for C. diff toxins or the genes that allow the bacteria to make toxins.

Laboratories may combine different tests. One test may look for a C. diff protein, another for toxins, and another for bacterial genetic material. Genetic tests are sensitive, but they can be positive in someone carrying the bacteria without illness. Results therefore need to be considered alongside active diarrhea and other symptoms.

Testing is usually performed on loose stool. Formed stool is not normally tested because a positive result may represent harmless carriage rather than active infection.

A blood test may be used to check for inflammation, dehydration, kidney problems, or a raised white blood cell count. A CT scan can assess severe inflammation or complications, but it does not identify the exact cause by itself.

Colonoscopy, in which a flexible camera examines the colon, is not routinely needed. It may be considered when the diagnosis remains uncertain or another cause of colitis is suspected. It can show the characteristic raised plaques. A small tissue sample may be examined under a microscope.

Treatment and management

Treatment usually involves an antibiotic that specifically targets C. diff. The choice depends on factors such as whether this is a first episode, how severe it is, and whether it has returned after earlier treatment.

If another antibiotic may have triggered the condition, it may be stopped or changed when medically safe. Do not stop a prescribed antibiotic on your own, as it may be treating another important infection.

Replacing lost fluid is also important. Some people can drink enough at home, while those with significant dehydration may need fluids through a vein. Severe illness may require hospital care and close monitoring.

Do not start anti-diarrhea medicines without medical advice. Medicines that slow bowel movement may be unsuitable during active C. diff colitis, particularly if the colon is severely inflamed.

Symptoms can return after apparently successful treatment. A recurrence may be treated with another course or type of targeted antibiotic. For repeated recurrences, options can include treatments designed to restore a healthier mixture of bowel bacteria. These include regulated microbiota-based products and, in selected settings, fecal microbiota transplantation. This procedure transfers screened bowel microorganisms from a donor or approved source.

A medicine that binds one of the C. diff toxins may be considered for some people at higher risk of recurrence. It is given alongside antibiotic treatment rather than replacing it.

Surgery is rarely needed. It may be lifesaving if severe inflammation causes a perforation, uncontrolled infection, or a dangerously enlarged colon.

Complications

Most people recover with appropriate treatment. Complications are more likely when inflammation is severe or treatment is delayed.

Possible complications include:

Severe complications are uncommon, but they require urgent hospital care. A swollen abdomen with worsening pain, fainting, confusion, or very little urine can be a warning sign.

- Dehydration and changes in body salts
- Kidney injury caused by fluid loss
- Low blood pressure
- Recurrent C. diff infection
- Toxic megacolon, a dangerous widening of the colon
- A hole in the colon, called a perforation

- Sepsis, the body's severe response to infection

Prevention

Pseudomembranous colitis cannot always be prevented. C. diff spores are widespread, and some necessary antibiotics may disrupt the bowel even when used correctly.

Using antibiotics only when they are likely to help reduces avoidable risk. Antibiotics do not treat viral illnesses such as colds. Never save them for later or take antibiotics prescribed for someone else.

If you have C. diff diarrhea, wash your hands thoroughly with soap and water after using the toilet and before preparing food. Alcohol hand sanitizer does not reliably remove C. diff spores.

Clean frequently touched bathroom surfaces with a product that states it is effective against C. diff spores, following its safety instructions. Wash soiled clothing and bedding carefully. Avoid sharing towels.

Hospitals and care facilities may use gloves, gowns, separate rooms, and special cleaning procedures to limit spread. Tell healthcare professionals about a previous C. diff infection, particularly if you may need another antibiotic.

Probiotics are not a guaranteed way to prevent C. diff infection. Products differ, and they may not be appropriate for everyone, especially people with severely weakened immune systems.

Living with it and what to expect

Many people begin to improve within several days of starting effective treatment, although bowel habits may take longer to settle. Finish the prescribed course unless the prescriber tells you to change it.

Drink regularly while recovering. Small meals and simple foods may feel easier to manage, but there is no single required C. diff diet. Return to your usual diet as tolerated. Seek advice if you cannot replace the fluid you are losing.

Some people have loose stools, bloating, or an unsettled bowel after the infection has cleared. This does not always mean the infection has returned. Temporary changes in bowel bacteria and post-infectious irritable bowel symptoms can cause similar problems.

A recurrence most often causes a return of watery diarrhea after improvement. Contact a healthcare professional rather than using leftover antibiotics. Another stool test may be needed, although repeat "test of cure" testing is generally not useful once symptoms have

resolved because tests can remain positive.

During active diarrhea, take care not to spread spores to other people. Avoid preparing food for others and follow local advice about returning to work, school, or caring responsibilities.

Most people return to their normal activities after recovery. Repeated infections can take longer to manage, but additional treatments are available. Routine follow-up may be needed if diarrhea persists, returns, or leaves you with ongoing bowel symptoms.

When to get medical help

Contact a healthcare professional promptly if you develop frequent watery diarrhea during or after antibiotic treatment, especially if it continues for more than a short period. Also seek advice if you have a previous history of C. diff and similar symptoms return.

Arrange prompt medical assessment for diarrhea accompanied by fever, worsening cramps, reduced urination, or difficulty keeping fluids down.

Seek urgent or emergency help for:

These symptoms do not confirm a complication, but they need urgent assessment.

- Severe or rapidly increasing abdominal pain
- A markedly swollen or firm abdomen
- Fainting, confusion, or unusual drowsiness
- Very little or no urine
- Breathing difficulty or signs of shock, such as cold, clammy skin
- Heavy rectal bleeding
- Inability to pass stool or gas with pain and swelling

Common questions

Is pseudomembranous colitis the same as C. diff?

It is usually a form of C. diff infection in which the colon develops characteristic raised plaques. C. diff can also cause diarrhea and colitis without visible pseudomembranes.

Is pseudomembranous colitis contagious?

The C. diff bacteria that usually cause it can spread through spores in stool. Careful handwashing with soap and water, bathroom cleaning, and safe handling of soiled laundry

reduce the chance of passing spores to others.

Can it come back after treatment?

Yes. Symptoms can return because C. diff spores remained in the bowel or because the normal bowel bacteria have not fully recovered. Recurrent infection can be treated, and repeated recurrences may need a different approach.

Can I take medicine to stop the diarrhea?

Do not take an anti-diarrhea medicine unless a healthcare professional says it is appropriate. Slowing the bowel may be unsafe when severe inflammation or toxic megacolon is possible.

What should I eat while recovering?

Choose foods you can tolerate and drink enough fluid to replace losses. Small, plain meals may be more comfortable at first. There is no special diet proven to cure the infection.

Do I need another stool test after treatment?

Usually not if the diarrhea has resolved. Tests can remain positive after recovery. New or returning watery diarrhea should be assessed based on your symptoms and, when appropriate, repeat testing.

Sources

- Centers for Disease Control and Prevention. "About C. diff." Updated December 18, 2024.
- Johnson S, Lavergne V, Skinner AM, et al. "Clinical Practice Guideline by the Infectious Diseases Society of America and Society for Healthcare Epidemiology of America: 2021 Focused Update Guidelines on Management of Clostridioides difficile Infection in Adults." Clinical Infectious Diseases . 2021;73(5):e1029-e1044.
- Kelly CR, Fischer M, Allegretti JR, et al. "ACG Clinical Guidelines: Prevention, Diagnosis, and Treatment of Clostridioides difficile Infections." American Journal of Gastroenterology . 2021;116(6):1124-1147.
- National Institute for Health and Care Excellence. "Clostridioides difficile infection: antimicrobial prescribing." NICE guideline NG199. Published July 23, 2021.
- van Prehn J, Reigadas E, Vogelzang EH, et al. "European Society of Clinical Microbiology and Infectious Diseases: 2021 update on the treatment guidance document for Clostridioides difficile infection in adults." Clinical Microbiology and Infection . 2021;27 Suppl 2:S1-S21.

- U.S. Food and Drug Administration. "Fecal microbiota products." Safety and availability communications, including information for patients and healthcare professionals.