CONDITION

Clostridium difficile colitis

Learn about Clostridioides difficile colitis, including symptoms, risk factors, testing, treatment, recurrence, prevention, and when to seek urgent care.

WHAT IT IS
Bacterial inflammation of the colon

BODY SYSTEM
Digestive

MAIN SYMPTOMS
Watery diarrhea, abdominal pain, fever, dehydration

WHAT CAUSES IT
Toxin-producing C difficile infection

HOW IT IS DIAGNOSED
Stool toxin or multistep stool testing

MAIN TREATMENT
Oral antibiotics

CAN IT BE CURED?
Sometimes - treatment clears infection without recurrence

IS IT AN EMERGENCY?
Sometimes - severe pain or abdominal swelling

LONG-TERM OUTLOOK
Recovery with possible recurrent infection

Overview

Clostridium difficile colitis is inflammation of the colon caused by the bacterium Clostridioides difficile , often called C. difficile or C. diff . The organism was previously named Clostridium difficile , which is why both names are still used.

C. diff can live in the intestine without causing illness. This is called colonization. Infection develops when the bacteria multiply and release toxins that damage the lining of the colon. The result may be diarrhea, abdominal pain, fever, and dehydration.

The condition often occurs during or after antibiotic treatment. Antibiotics like amoxicillin or doxycycline can disturb the helpful bacteria that normally keep C. diff under control. Symptoms may begin while a person is taking an antibiotic or weeks later. Infection can also occur without recent antibiotic use.

C. diff matters because illness can range from mild diarrhea to severe colon inflammation. Some people improve with treatment and do not have further problems. Others develop another episode after treatment, known as recurrent C. diff infection. Early medical assessment is important when diarrhea occurs after antibiotic use, during a healthcare stay, or in someone with previous C. diff .

Symptoms

The most common symptom is frequent watery or loose diarrhea. Some people also have:

Symptoms vary in severity. Diarrhea alone does not prove that someone has C. diff . Antibiotics, viral infections, laxatives, inflammatory bowel disease, and many other conditions can cause similar symptoms.

Contact a healthcare professional promptly if frequent diarrhea develops during or after antibiotic treatment, especially if it continues, is accompanied by abdominal pain or fever, or makes it difficult to drink enough fluid.

Seek urgent medical care for worsening abdominal swelling or severe pain, repeated vomiting, very little urine, fainting, confusion, bloody stools, or signs of severe dehydration.

Call emergency services for collapse, severe breathing difficulty, inability to awaken normally, or other signs of a medical emergency. Severe C. diff can occasionally cause life-threatening inflammation, but these complications are not present in most cases.

- Abdominal cramping, pain, or tenderness
- An urgent need to have a bowel movement
- Nausea or reduced appetite
- Fever
- Weakness or fatigue
- Signs of dehydration, such as dry mouth, dizziness, or reduced urination

Causes and risk factors

C. diff forms spores, which are protective structures that can survive on surfaces for long periods. Spores may spread through stool and contaminated hands, toilets, medical equipment, or nearby surfaces. A person can swallow the spores after touching a contaminated area and then touching the mouth.

Antibiotic exposure is the most important modifiable risk factor. Almost any antibiotic can disrupt normal intestinal bacteria, although some broad-spectrum antibiotics are more strongly associated with infection. Longer courses and exposure to multiple antibiotics can increase risk.

Other factors that may raise the chance of infection or severe illness include:

Acid-reducing medicines like omeprazole or lansoprazole should not be stopped without medical advice. A clinician can review whether each medicine is still needed.

People taking antibiotics should use them exactly as directed and should not save doses for later or take antibiotics prescribed for someone else. Antibiotics do not treat viral illnesses such as colds or influenza.

Handwashing with soap and water helps remove C. diff spores. Alcohol-based hand sanitizer may not reliably remove or kill them, although it remains useful for many other germs. In healthcare settings and homes with active infection, careful bathroom cleaning and use of an appropriate spore-killing disinfectant may help reduce spread.

- A recent hospital or long-term care stay
- Age 65 or older
- Previous C. diff infection
- A weakened immune system
- Serious underlying illness
- Recent gastrointestinal surgery or procedures
- Inflammatory bowel disease
- Use of medicines that reduce stomach acid, particularly when they are not medically necessary

Diagnosis

Diagnosis usually begins with a review of symptoms, recent antibiotic use, healthcare exposure, medical conditions, and medicines. A clinician may examine the abdomen and assess for dehydration or signs of severe illness.

Stool testing is generally intended for people with new, unexplained diarrhea. Testing formed stool is usually not helpful because a positive result may reflect colonization rather than active infection.

Laboratories may use one test or a combination of tests:

Test results must be interpreted together with symptoms. A highly sensitive molecular test can be positive in a person carrying the bacteria who has diarrhea from another cause.

Blood tests may be used to evaluate the white blood cell count, kidney function, and dehydration. If severe disease or a complication is suspected, abdominal imaging may be needed. Colonoscopy is not routinely required, but it may help when the diagnosis remains unclear or another colon disorder is possible.

Repeat testing to prove that the infection is gone is generally not useful. Tests can remain positive after symptoms resolve.

- A toxin test looks for the harmful toxins produced by C. diff .
- A nucleic acid amplification test, sometimes called a PCR test, detects genes associated with toxin-producing bacteria.
- A glutamate dehydrogenase test detects a substance commonly made by C. diff and is often used as part of a multistep testing process.

Treatment and management

Treatment depends on whether this is a first episode or a recurrence, how severe the illness is, and the person's overall health. A clinician should guide treatment rather than relying on leftover antibiotics or anti-diarrheal medicines.

When possible, the antibiotic that triggered the illness may be stopped or changed. This decision should be made by the prescribing clinician because the original infection may still require treatment.

Specific oral antibiotics are used to treat C. diff . Current specialty-society guidance generally favors fidaxomicin for many initial and recurrent episodes when it is available. Oral vancomycin remains an accepted treatment option. Cost, access, previous treatment, disease severity, and recurrence risk can affect the choice. Metronidazole is no longer preferred for most adults when recommended alternatives are available.

It is important to complete treatment as directed, even if symptoms improve early. People who cannot keep fluids or medicines down should contact their care team.

Supportive care may include drinking fluids and replacing electrolytes, which are minerals such as sodium and potassium. Severe dehydration, kidney problems, or significant colon inflammation may require hospital treatment and intravenous fluids.

Do not start an anti-diarrheal medicine such as loperamide without discussing it with a healthcare professional. Slowing the bowel may be unsafe in some people with severe colitis or

a swollen colon.

Recurrent infection means symptoms return after initially improving and are confirmed as another active episode. Treatment may involve a different antibiotic, a prolonged or tapered antibiotic plan, or therapy designed to restore a healthier intestinal microbiome. The microbiome is the community of organisms that normally lives in the digestive tract.

FDA-approved microbiota-based products may be considered after antibacterial treatment for some adults with recurrent infection. Traditional fecal microbiota transplantation, often called FMT, transfers processed stool from a screened donor into the digestive tract. It may be used in selected patients with repeated recurrences under specialist care. Because infections can be transmitted if donor material is not properly screened and processed, microbiota therapy should only be provided through qualified medical programs that follow current safety requirements.

Surgery is uncommon but may be needed when severe inflammation causes a perforation, toxic megacolon, organ failure, or illness that does not respond to medical treatment. Toxic megacolon means the colon becomes dangerously enlarged and cannot function normally.

Probiotics are not a substitute for treatment. Evidence about their benefits for preventing or treating C. diff is mixed, and they may not be appropriate for people with severely weakened immune systems. Discuss them with a clinician before use.

Complications

The most frequent complication is recurrence. Returning diarrhea should be reassessed because it may represent recurrent C. diff , lingering bowel sensitivity, a medication effect, or another condition.

Other possible complications include:

Severe complications require urgent hospital care. Increasing abdominal swelling, severe or constant pain, reduced bowel movements despite worsening illness, confusion, fainting, or very low urine output should not wait for a routine appointment.

- Dehydration and electrolyte imbalance
- Kidney injury caused partly by fluid loss
- Severe colon inflammation
- Ileus, in which the bowel temporarily stops moving normally
- Toxic megacolon

- A tear or hole in the colon, called perforation
- Sepsis, an extreme whole-body response to infection

Follow up

During recovery, bowel movements may take time to return to their usual pattern. Some people have temporary loose stools or bowel sensitivity after treatment. New or persistent watery diarrhea should be reported rather than assumed to be part of recovery.

Routine follow-up may include reviewing symptom improvement, hydration, medicines, and the need for any future antibiotics. Tell healthcare professionals about a history of C. diff , especially before starting another antibiotic. This does not mean necessary antibiotics should always be avoided. It helps the clinician choose the narrowest effective treatment and monitor for recurrence.

Contact the treating clinician promptly if diarrhea returns, symptoms fail to improve, fever continues, or drinking enough fluid becomes difficult. Do not submit a repeat stool sample unless a clinician recommends it.

To reduce spread while diarrhea is active:

People in the same household do not usually need testing if they have no symptoms. They should use careful hand hygiene and seek medical advice if significant diarrhea develops.

- Wash hands thoroughly with soap and water after using the toilet and before eating.
- Clean visibly soiled bathroom surfaces and follow product directions for a disinfectant effective against C. diff spores.
- Avoid preparing food for other people when possible.
- Wash soiled clothing and linens using the warmest appropriate setting.
- Follow the care team's advice about returning to work, school, or group settings.

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