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What is *C. diff*?

Clostridioides difficile, also known as *Clostridium difficile*, or *C. diff* for short, is an infection from a bacterium that can grow in your intestines and cause bad GI symptoms.

Each year, *C. diff* infects roughly 500,000 people in the U.S. and often calls for hospitalization. The main risk of getting *C. diff* infection is antibiotic use.

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Things to know about *C. diff*:

- *C. diff* is very contagious.
- *C. diff* can usually be treated with antibiotics, but sometimes more intense treatments are needed to get rid of the infection.
- Unlike other intestinal bacteria, it can take a long time to get rid of *C. diff* and start feeling better.
- In very bad cases, *C. diff* infection can be deadly, with estimates of *C. diff*-linked death ranging from 14,000 to 30,000 each year.

How is *C. diff* passed?

Perhaps as much as 10% of people carry the bacteria without feeling sick or having symptoms. These people still shed the bacteria through their stool.

When people who carry *C. diff* do not wash their hands after going to the bathroom, they can taint the food they handle and they can leave the bacteria on things they touch.

The bacteria can survive for months unless the area is fully cleaned with products specifically designed to kill them, like bleach.

If someone touches a surface contaminated with *C. diff*, they may accidentally ingest the bacteria. This doesn't mean they will get sick, but they could still carry the bacteria and be able to spread it.

Symptoms of *C. diff*

The symptoms often start with:

- Watery diarrhea (very liquid stool) three or more times a day for more than two days.
- Belly pain and cramps.
- Mild to moderate nausea.
- Loss of appetite (not feeling hungry).

In more serious cases, symptoms may be:

- Watery diarrhea as often as 15 times per day.
- Severe belly pain and cramping.
- Dehydration.
- Fever.
- Weight loss.

When to call a doctor

If you get diarrhea within a few days of being admitted to, or released from, a hospital, or within two months of taking an antibiotic, and you have had three or more bouts of diarrhea in 24 hours, *C. diff* may be the reason.

Talk to your doctor right away.

Risk factors of *C. diff*

C. diff is most common in hospitals and long-term-care clinics, like nursing homes, but it also occurs in non-hospitalized patients who have not taken antibiotics.

While being on antibiotics can pave the way for *C. diff*, other things can put you at risk as well, including:

- Being at least 65 years old.

- Having abdominal surgery.
- Existing problems or disease in your intestines, such as inflammatory bowel disease (IBD) or colon cancer.
- Having a weakened immune system because of chemotherapy or other drugs that suppress the immune system, or AIDS.
- Past infection with *C. diff*, especially a recent infection.
- Treatment with acid-reducing medications.

If you are healthy, you will most likely not get an infection with *C. diff*. Other organisms often found in your GI tract keep it in check by occupying the sites where *C. diff* could attach and multiply. Think of these sites as parking spaces — if another organism is already there, *C. diff* has nowhere to park. *C. diff* is occurring more often in non-hospitalized community patients, who represent about 40% of cases.

Getting tested for *C. diff*

There are many tests used to investigate causes of diarrhea. Which test your doctor chooses will depend on your symptoms and medical history and whether you are currently in a hospital.

− Stool tests

The easiest and most specific test for *C. diff* is a stool test.

- You will give a stool sample in a sterile holder supplied by your doctor's office or lab.
- The lab will run tests on your stool to look for toxins from the *C. diff* bacteria.
- Stool tests can take 24–48 hours to give results.

+ Blood tests

Blood tests can show a high white blood cell count, which is a sign of infection in the body.

+ Colonoscopy

In a very few cases, your gastroenterologist may feel a test is needed to get a better look at your colon. This test is called a colonoscopy.

A colonoscopy involves looking at the colon from the inside with a long, thin (about the width of your little finger), flexible tube with a tiny camera on the end, through which the doctor can look for signs of *C. diff* infection, pseudomembranous colitis (inflammation in the colon caused by *C. diff*).

- You will be given a medicine to block pain and make you feel sleepy, so you won't feel much during this test.

- It will also let the doctor take tissue samples to look at under a microscope (biopsy) if needed.

+ CT scan

A CT scan looks for thickening of the wall of your intestines.

During this test, you may get an IV injection of a special dye that will let the CT machine take better pictures of your intestines.

- If you have an allergy to iodine or shellfish, tell your doctor, because people with these allergies may have a reaction to the dye.

Treatment for *C. diff*

There are a few options to treat *C. diff*, but your doctor will choose one based on your case, how bad the infection is and your medical history.

If you get diarrhea while taking an antibiotic, your doctor may tell you to stop taking it or switch to some other type. Based on how long you've been dealing with diarrhea or how sick you are, your doctor may want you to get a stool test for *C. diff* and give you IV fluids and electrolytes so that you do not get dehydrated. Unfortunately, *C. diff* can be stubborn, so treatment often calls for many steps.

− Antibiotics

Stopping the antibiotics will often resolve diarrhea. However, if you continue to have diarrhea or do not improve, a stool test for *C. diff* should be performed.

- If *C. diff* is found in the stool, new antibiotic treatment will be required to clear this infection.
- Your doctor will order a different type of antibiotic to specifically treat the *C. diff* infection, usually oral metronidazole or vancomycin.
- Many people who take antibiotics to treat *C. diff* infection start to feel better within three days, but it is vital to keep taking the medication until you finish it (usually 10–14 days). If not, it may not kill all of the *C. diff* organisms, and the infection could come back.
- Approximately 25% of people with *C. diff* will need a second round of antibiotics.
- Good hand washing and special care in shared bathrooms is important to prevent the spread of *C. diff* to others in the household.

+ Probiotics

Probiotics are living microscopic (very small) organisms that research has shown can help your health.

Most often, they are bacteria, but they may also be other organisms, such as yeasts. In some cases, they are like, or the same as, the helpful organisms in your GI tract.

There is some evidence that taking certain probiotics may help treat or prevent *C. diff* infection.

Probiotics are found over the counter in drugstores and health-food stores.

There are many types of probiotics, and not all of them have been studied for treating *C. diff* infection or have been shown to be helpful. It is very important for you to ask your doctor about probiotics (such as if they could be helpful for your case, which ones to take and how much) before you take them.

+ **Surgery**

Rarely, in very severe, life-threatening cases, it may be necessary to remove the infected part of the intestine.

+ **Fecal Microbiota Transplantation (FMT)**

With FMT, stool from a healthy donor is made into a liquid mixture and transferred into the colon of the infected person to reintroduce or boost helpful organisms.

Complications of *C. diff*

Severe *C. diff* can be dangerous, as it can cause rapid dehydration (fluid loss).

If you get dehydrated really fast, it can impact your organs and cause your blood pressure to be dangerously low, damage your kidneys and lead to kidney failure.

In the worst cases of *C. diff*, you could get holes in the lining of the large intestine. Your intestines could also become quite stretched and swollen and may burst. When bacteria or stool from your intestines get into other parts of the body, either through a hole in the bowel or a ruptured colon, it is a medical emergency that needs urgent surgery, because it can be deadly.

When to call a doctor

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