

Infection Prevention and You



What you need to know about *Clostridium difficile*

What is *Clostridium difficile* (or *C. diff*) infection?

Your body has a lot of "good" and necessary bacteria. It also has some "bad" or dangerous bacteria. *Clostridium difficile* (*C. diff*) is part of the normal bacteria found in some people's intestines or colons. Fortunately, when you are healthy and are not taking antibiotics, the millions of good bacteria in your system keep the *C. diff* under control and in smaller numbers. However, when you take an antibiotic, the levels of good bacteria are reduced down to a smaller number. This makes it possible for the *C. diff* to overpopulate your intestine or colon. When this happens, you may get the illness called *Clostridium difficile* colitis.

C. diff produces spores when attacked by antibiotics. The spores can live in the open air or in dirt for up to two years. Normal disinfectants are not effective against the spores. This means that even if you kill the *C. diff* bacteria, spores can still be present. This is why you can get rid of the *C. diff* symptoms when being treated with medicine, but it can come back later.

What are the symptoms of *C. diff* infection?

When you have an imbalance of bacteria and *C. diff* takes over, it creates two main types of toxins that affect your body and give you the symptoms of the actual disease. The toxins attack your intestinal wall and, when left untreated, may cause an ulcer or sore. The symptoms are similar to severe food poisoning. At first, your symptoms may include diarrhea and cramping. The later stages are flu-like symptoms, including weakness, dehydration, fever, nausea, vomiting, and – in advanced stages – blood in your stool/feces. If a patient is left untreated, he/she can die from it. *C. diff* is linked to 14,000 deaths in America each year.

How is *C. diff* diagnosed?

First, you must have some symptoms listed above. You must see your doctor to be diagnosed and treated. A special test is needed to officially determine whether or not you have *C. diff*; this requires the lab to test a sample of your stool. If a diagnosis of *C. diff* is made, a gastroenterologist, a doctor who is trained to deal with illnesses of the gastrointestinal tract (stomach and intestines), will most likely help treat your *C. diff*. The gastroenterologist may perform a colonoscopy to assess the damage to your intestines and the presence of the *C. diff* and polyps (a fleshy growth on the inside of the colon).

Some regular physicians can treat and cure you. If you have a stubborn case of *C. diff*, you may ask your physician to refer you to a specialist. There have been cases where non-specialist physicians did not know enough about *C. diff* and actually aggravated the condition by misdiagnosing or prescribing another antibiotic or medicine that encouraged *C. diff* overpopulation.

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Who is at risk for *C. diff* infections?

Although people, including children, with no known risk factors have acquired *C. diff* infection, the following groups of people are at greatest risk:

1. Those who are now taking or have recently taken antibiotics. Risk goes up if you take broad-spectrum drugs that target a wide range of bacteria, use multiple antibiotics, or take antibiotics for a long period of time.
2. Adults who are 65 years of age or older. The risk of becoming infected with *C. diff* is 10 times greater for people age 65 and older than it is with younger people.
3. Those who are now or have recently been hospitalized, especially for an extended period.
4. Those who live in a nursing home or long-term care facility.
5. Those who have a serious underlying illness or a weakened immune system as a result of a medical condition or treatment (such as chemotherapy).
6. Those who have had abdominal surgery or a gastrointestinal procedure.
7. Those who have a colon disease such as inflammatory bowel disease or colorectal cancer.
8. Those who have had a previous *C. diff* infection.

How is *C. diff* treated?

Antibiotics are usually the cause of recurrent cases of *C. diff*. Ironically, two very powerful antibiotics are used to treat the disease! The most common and least expensive drug used is metronidazole. If metronidazole is ineffective, then vancomycin is prescribed. In rare cases, *C. diff* may not respond well to antibiotics, with infections persisting for months and even years. New studies have shed light on a treatment that was once considered a last resort by many doctors. The treatment is called fecal bacteriotherapy; this means that someone else's "healthy" stool is transplanted inside of the *C. diff* patient. The new study shows that donor stool transplantation effectively cured 90 percent of patients' recurrent *C. diff* infections. Transplanting donor stool is effective because it replaces the good bowel flora that was killed off by the use of antibiotics and naturally combats the invasive bacterium.

How can *C. diff* be prevented?

Hospitals and other healthcare facilities follow strict infection-control guidelines to prevent *C. diff*. Don't be afraid to remind caregivers to follow the recommended precautions:

1. **Hand washing.** Healthcare providers should practice good hand hygiene with soap and warm water or alcohol-based hand rubs before and after treating each person in their care. Visitors also should be diligent about hand hygiene before and after leaving the room or using the bathroom and should not use the patient's sink or bathroom. Patients need to practice good hand hygiene as well.
2. **Contact precautions.** People who are hospitalized with *C. diff* have a private room or share a room with someone who has the same illness. Hospital staff and visitors should wear disposable gloves and gowns while in the room.
3. **Careful cleaning.** In any setting, all surfaces should be carefully disinfected with a product that contains chlorine bleach. *C. diff* spores cannot survive routine cleaning products that contain bleach.
4. **Appropriate use of antibiotics.** Antibiotics are sometimes prescribed when they are not needed. Antibiotics will not cure viral illnesses, such as the common cold. Take a "wait-and-see" attitude with simple ailments. Remember: "Snort. Sniffle. Sneeze. No antibiotics, please!" If you do need an antibiotic, ask your doctor to prescribe one that has a narrow range and that you take for the shortest time possible.

Additional resources

CDC – *Clostridium difficile* infection http://www.cdc.gov/HAI/organisms/cdiff/Cdiff_infect.html

CDC – Vital Signs: Stopping *Clostridium difficile* infections <http://www.cdc.gov/vitalsigns/HAI/index.html>

MedLine Plus – *Clostridium difficile* infections <http://www.nlm.nih.gov/medlineplus/clostridiumdifficileinfections.html>

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