

What is *Clostridium difficile*?

Clostridium difficile, also known as “*C. diff*”, is a germ that can cause diarrhea. Most cases of *C. diff* infection occur in patients taking antibiotics.

Who is at risk for *Clostridium difficile*?

The elderly and people with certain medical problems have the greatest chance of getting *C. diff*. Most cases occur in people who have been treated with antibiotics.

What are the symptoms of *Clostridium difficile*?

The most common symptoms of a *C. diff* infection include, watery diarrhea, fever, loss of appetite, nausea, belly pain and tenderness. In severe cases, *C. diff* causes the colon to become inflamed (colitis) or to form patches of raw tissue that can bleed or produce pus (pseudomembranous colitis). Signs and symptoms of severe infection include watery diarrhea ten to fifteen times a day, abdominal cramping and pain, which may be severe, fever, blood or pus in the stool, nausea, dehydration, loss of appetite and weight loss.

How soon do symptoms appear?

Some people who have *C. diff* never become sick, though they can still spread the infection. *C. diff* illness usually develops during or shortly after a course of antibiotics. But signs and symptoms may not appear for weeks or even months afterward.

How is *Clostridium difficile* spread?

C. diff is spread through direct person-to-person contact, usually by hand-to-hand contact, or via contact with environmental surfaces that have been contaminated with the live bacteria or spores. This can be any surface such as towels and bed sheets as well as door knobs and telephones. Anyone who is taking antibiotics is susceptible, although most cases occur in people who have been hospitalized. In recent years, *C. diff* infections have become more frequent, more severe and more difficult to treat. The drugs administered to treat *C. diff* do not kill the spores, which can germinate and eventually produce toxins. This is why 20 percent of people treated for *C. diff* may have a relapse 1 week to 2 months after treatment. Also they may re-contaminate themselves with the bacterial spores that exist in the local environment for up to six months. People with relapsing *C. diff* are prone to further relapses, each one making treatment more difficult.

How is a person diagnosed?

A stool test for the presence of *C. difficile* toxin and clinical signs of illness are used to diagnose *C. diff*.

What is the treatment?

Under the direction of your physician, stopping antibiotics you are currently taking can reduce the symptoms. Sometimes, treatment with antibiotics specifically targeted to kill *C. diff* bacteria, are prescribed.

Does past infection make a person immune?

No. People can be re-infected with the *C. diff* bacteria or dormant spores.

Should children or others be excluded from child care, school, work or other activities if they have *Clostridium difficile*?

Children who have *C. diff* should be excluded from child care, until afebrile and diarrhea resolves. Additionally, children should be excluded from child care if any of the following apply:

- Diarrhea, if stool is not contained in the diaper or if diarrhea frequency exceeds two or more stools above normal for that child
- A fever or is unable to participate and the staff determines that they cannot care for the child without compromising their ability to care for the health and safety of the other children in the group

A child or an adult with *C. diff* should be excluded from school or work if they are febrile and symptomatic or diarrhea cannot be contained. People who provide patient care should consult with their facility's policy on returning to work.

What can be done to prevent the spread of *Clostridium difficile* infection?

HAND WASHING! Hand washing is the number one measure you can do to prevent the spread of *C. diff*. Hands should be washed using soap and water. Alcohol based hand rubs do not kill the *C. diff* spores. Hands should be washed immediately after using the bathroom, or assisting someone, and immediately before preparing food and eating or joining others for activities. Hands should also be washed after handling soiled clothing or bedding/towels. People who live with you should wash their hands often.

Environmental cleaning is also very important. This includes hard surfaces throughout the living area including door knobs, telephones and remotes as well as bathroom fixtures and counter tops. Cleaning with one part bleach to nine parts water is recommended. You may also use an Environmental Protection Agency (EPA)-registered disinfectant to clean hard surfaces. For more information on these products you may go to www.epa.gov.

When you are prescribed antibiotics by your physician, make sure you take them until completed. Don't take half doses or start and stop your antibiotics prescribed.

Additional Information:

Additional information is available at www.ndhealth.gov/disease/hai or by calling the North Dakota Department of Health at 800.472.2180.

Resources:

1. *Red Book: 2015 Report of the Committee on Infectious Diseases*. 30th ed. [Children in Out-Of-Home Care]. Kimberlin, DW; Brady, MT; Jackson, MA; Long, SS. American Academy of Pediatrics. 2015: 132-151.
2. *Red Book: 2015 Report of the Committee on Infectious Diseases*. 30th ed. [Clostridium Difficile]. Kimberlin, DW; Brady, MT; Jackson, MA; Long, SS. American Academy of Pediatrics. 2015: 296-301.
3. Centers for Disease Control and Prevention (2015). Clostridium Difficile. www.cdc.gov/HAI/organisms/cdiff/Cdiff_infect.html.