

## **CLOSTRIDIUM DIFFICILE FACT SHEET**

- 1. What is *Clostridium difficile*?** – *Clostridium difficile* is a spore-forming, toxin-producing bacterium that causes inflammation of the large colon and is a common cause of antibiotic-associated diarrhea (AAD). It accounts for 15-25% of all episodes of AAD. Infection with *C. difficile* is often referred to as CDI (*C. difficile* infection). It is a particular problem in healthcare settings, such as hospitals and nursing homes.
- 2. How common is CDI?** CDI has been detected in up to 30% of patients with symptomatic diarrhea in hospital settings. Community-acquired (out of hospital) *C. difficile* is an increasingly recognized problem.
- 3. How has CDI changed recently?** - Over the past several years nationwide, many locations have reported increased rates of CDI, including more severe disease and an associated increase in mortality. CDI remains a disease mostly associated with healthcare (at least 80%) and patients most at risk remain the elderly, especially those using antibiotics. Although the elderly are still the group most affected, more disease has been reported in traditionally 'low risk' persons such as healthy person in the community and women during the period before and after giving birth.
- 4. What are the possible reasons for this change in the disease?** - The increased rates and/or severity of disease may be caused by changes in antibiotic use, changes in infection control practices, or the emergence of a strain of CDI with increased virulence and/or antimicrobial resistance.
- 5. Has a new strain of *C. difficile* been identified?** - Yes, in 2004 the emergence of a new epidemic strain of *C. difficile* disease causing hospital outbreaks in several states was reported by the Centers for Disease Control and Prevention (CDC).
- 6. What is unique about this epidemic strain?** - The epidemic strain, identified in 2004 appears to be more virulent, with ability to produce greater quantities of toxins. It is also resistant to a group of antibiotics known as fluoroquinolones.
- 7. How is CDI spread?** – *Clostridium difficile* is shed in feces. People become infected with CDI if they touch items or surfaces that are contaminated with feces and then touch their mouth or mucous membranes. *C. difficile* spores can live for long periods of time on surfaces and virtually any surface (e.g. toilets, bath tubs, rectal thermometers) contaminated with feces harboring CDI spores becomes a reservoir for the organism. CDI is usually transferred to patients via the hands of

healthcare personnel who have touched a contaminated surface, however patient to patient transfer does occur.

**8. What are the symptoms of CDI?** – CDI may cause watery diarrhea, fever, loss of appetite, nausea and abdominal pain or tenderness. This condition is referred to as pseudomembranous colitis. Illness can be severe and result in dehydration, shock and in some instances death. A major complication of pseudomembranous colitis is toxic megacolon, where parts of the colon become dilated and swollen.

**9. Who is at risk of getting CDI?** - The elderly, immunocompromised, people with recent gastrointestinal procedures or surgery, and people who have other illnesses or conditions requiring prolonged use of antibiotics are at greater risk of acquiring the disease.

**10. What is the treatment for CDI?** - In a quarter of patients, CDI will resolve within 2 to 3 days of discontinuing the antibiotic to which the patient was previously exposed. In other cases, CDI is generally treated for 10 days with prescribed antibiotics. There is no vaccine.

**11. How can I prevent the spread of *C. difficile*?**

a. Wash hands with soap and water, especially after using the restroom and before eating. Although alcohol-based hand rubs are useful in healthcare settings, they are ineffective against *C. difficile*. Healthcare providers should always wear gloves when treating a patient known to be infected or colonized with *C. difficile* bacteria.

b. Clean surfaces in bathrooms, kitchens, and other areas on a regular basis with detergents and disinfectants.

c. Because patients receiving antibiotics in healthcare settings are at higher risk for CDI, reducing unnecessary use of antibiotics, stopping them as soon as feasible, and carefully choosing the antibiotic to administer, are all important ways to limit the impact of CDI.

**12. How is CDI diagnosed?** - A variety of laboratory tests can be used to diagnose CDI, in conjunction with the presence of clinical symptoms. These include detection of the toxin associated with CDI, culture for the presence of the organism and "toxigenic culture" for of isolates for toxin production. More recently, FDA approved molecular tests- PCR assays, which test for the gene encoding toxin B are highly sensitive and specific for the presence of a toxin-producing *Clostridium difficile* organism. Antigen detection for *C. difficile* in combination with other tests such as toxin detection or PCR is also performed. People may remain colonized with *C. difficile*, so testing without evidence of clinical symptoms is not recommended. The diagnosis is also suggested through imaging tests such as CT scan and direct colon examination using a scope.

**13. For more information about *C. difficile*:**

<http://www.cdc.gov/HAI/organisms/cdiff/Cdiff.html>

This fact sheet provides general information. Please contact your physician for specific clinical information related to you.