

# C. Difficile

## *Clostridium Difficile*

### What is *Clostridium Difficile*?

*Clostridium difficile* (also known as *C. diff*) is a spore producing bacteria that causes mild to severe diarrhea and other intestinal conditions. It is the most common cause of diarrhea in hospitals and long-term care homes. The diarrhea and other serious intestinal conditions are caused by a toxin that is produced by the bacteria. The spores that are produced by the bacteria allow it to survive for long periods in the environment.

### How does *C. Difficile* spread?

*C. diff* bacteria and their spores are found in feces. People can get infected if they touch surfaces contaminated with feces and then touch their mouth. Healthcare workers can spread the bacteria to their patients if their hands are contaminated. Due to the ability of *C. diff* to produce spores, the bacteria are resistant to many environmental chemicals and interventions. *C. diff* is not spread through the air.

### What if I am colonized with *C. Difficile*?

*C. diff* colonization means that the *C. diff* bacteria are living in the intestines without causing any illness. Normally, the good bacteria that keep the bowel healthy also keep the *C. diff* bacteria in check. If something happens to disrupt the balance of good bacteria, *C. diff* may multiply and cause illness. It is very important to practice good hand washing, especially after using the toilet.

### Who is likely to get a *C. Difficile* infection?

Most cases of *C. diff* occur in patients who are taking certain antibiotics in high doses or over a prolonged period of time. Some antibiotics can destroy a person's normal bacteria found in the gut, causing *C. diff* bacteria to grow. Other factors that may disrupt the balance of good bacteria include gastro-intestinal surgery, certain stomach medications, serious underlying illness, weakened or compromised immune system and advanced age (>65 years). *C. diff* infection can cause watery diarrhea, fever, loss of appetite, nausea, abdominal pain or tenderness. The diarrhea may appear less than a week after acquiring *C. diff*. For healthy people, *C. diff* does not pose a health risk. The elderly and those with other illnesses or who are taking antibiotics are at a greater risk of infection.

### How is *C. Difficile* treated?

For people with mild symptoms, no treatment is needed as the symptoms will often resolve on their own once the antibiotic is discontinued or altered. In severe cases, a physician will determine the best course of treatment.



## What can be done to stop the spread of *C. Difficile*?

1. Practice good hand washing. This is the most effective way to stop the spread of *C. Diff.*



- Wash hands frequently with soap and water for at least 15 seconds using the 6-step method, as *C. diff* produces spores that alcohol cannot kill.
  - Use a hand sanitizer when hand washing facilities are unavailable until a sink is available. When using a hand sanitizer, apply enough to wet the entire hand and rub solution into hands until completely dry.
2. **Clean the environment.** Our environment plays a crucial role in disease spread. In addition to practicing good hand hygiene, thoroughly clean the person's environment (such as bedroom, bathroom, equipment) to prevent further spread of the *C. diff* bacteria. It is important to clean, then disinfect surfaces that are touched often following the two-step method:
- **Step#1 - Cleaning.** Remove dirt and debris from the surface. Clean with an over the counter all-purpose detergent, water and friction, and clean from least soiled to heaviest soiled areas.
  - **Step#2 - Apply a sporicidal disinfectant.** Sporicidal disinfectants need to be applied to a clean surface for the correct period of time and at the correct strength to achieve proper disinfection. Disinfectants must have a Drug Identification Number (DIN); the exceptions are common household bleach and isopropyl alcohol. Always follow manufacturer's recommendations. If you are using a bleach solution, ensure it remains wet on the surface for ten minutes to allow for proper disinfection.



A 5,000ppm bleach solution is a sporicidal disinfectant and will kill *C. difficile* spores (concentration of 1:10 or 0.5%).

**To make this solution follow these steps:**

- Use undiluted household bleach (5.25% or ~50,000ppm)
- Add bleach to water - do not add water to bleach

**Recipes to make a 5,000ppm bleach solution**

- Mix 2 cups (500ml) of bleach with 18 cups (4.5L) of water OR
- Mix 1 cup (250 ml) of bleach with 9 cups (2.25L) of water OR
- Mix 5 t (25 ml) of bleach with ~1 cup (225ml) of water
- Always store bleach solutions in closed, properly labelled containers, away from heat and light

Note: No special precautions are required for handling dishes or waste.

- 3. Clean clothes/fabric.** Wash clothes/fabric separately if they are heavily soiled with feces. First rinse off feces, and then clean in a hot water cycle with soap. Dry items in the dryer with high heat if possible. Dry clean where appropriate. *C. diff* is resistant to sunlight; therefore drying clothes in the sunlight will not kill the *C. diff* spores.
- 4. Use antibiotics wisely.** To limit the development of new antibiotic resistant organisms, antibiotics must be used properly. It is important to take and finish any antibiotics as prescribed for you (do not share with others) and use antibiotics only for serious bacterial infections (they do not work against viruses).

**Can people with *C. Difficile* have visitors?**

**Yes.** Restrictions on activities or visitors at home or in the community are not necessary.

- If you are visiting a person with *C. diff* in a hospital or a long-term care home, staff may ask you to wear gloves and a gown before having contact with the person or his/her environment. It is very important to perform hand hygiene after visiting these facilities.
- If you have *C. diff*, it is important to inform health care providers in the community (doctor, nurse, physiotherapist) so they can take the appropriate precautions (e.g., hand washing, use of gloves).

**References:**

Fact Sheet – Clostridium difficile (*C. difficile*). Public Health Agency of Canada. 2014.

<http://www.phac-aspc.gc.ca/id-mi/cdiff-eng.php>

