



*This article was produced in collaboration with the Public Health Agency of Canada.*

## C. DIFFICILE (CLOSTRIDIUM DIFFICILE)

### The Issue

*Clostridium difficile*, commonly called *C. difficile*, is a bacterium that causes diarrhea and other serious intestinal conditions. It is the most common cause of infectious diarrhea in hospitalized patients in the industrialized world.

### Background

*C. difficile* is one of the most common infections found in hospitals and long-term care facilities.

*C. difficile* bacteria are found in feces. People can become infected if they touch items or surfaces that are contaminated with fecal traces, then touch their mouth or nose. Health care workers can spread the bacteria to other patients or contaminate surfaces through hand contact.

The use of antibiotics increases the chances of developing *C. difficile* diarrhea because antibiotics alter the normal levels of good bacteria found in the intestines and colon. When there are fewer good bacteria, *C. difficile* can thrive and produce toxins that can cause an infection. In hospital and long-term care settings, the combination of a number of people receiving antibiotics and the presence of *C. difficile* can lead to frequent outbreaks.

A study in Quebec showed that a stronger strain of the bacteria may be present in hospitals in the province. The study found that *C. difficile* was indirectly responsible for 108 deaths during a six-month period. While many of these patients were seniors and other factors

contributed to their deaths, younger patients were also affected.

### Symptoms of *C. difficile*

The symptoms of *C. difficile* include:

- watery diarrhea (at least three bowel movements per day for two or more days);
- fever;
- loss of appetite;
- nausea; and
- abdominal pain or tenderness.

### Health Risks of *C. difficile*

Healthy people are not usually vulnerable to *C. difficile*. Seniors – and people who have other illnesses or conditions being treated with antibiotics and certain other stomach medications – are at the greatest risk of infection.

Most commonly, the infection causes diarrhea, which can lead to serious complications, including dehydration and colitis. In rare cases, it can be fatal.

For people with mild symptoms, no treatment is needed. The symptoms usually clear up once the patient stops using antibiotics. In severe cases, medication and even surgery may be needed.



## Minimizing Your Risk

As with any infectious disease, washing your hands often in warm soapy water for at least 20 seconds is your best defense against *C. difficile*. Follow these tips to prevent spread of the bacteria.

- If you work in a hospital or a long-term health care facility, or visit someone there, wash your hands often, especially after using the toilet. Most health care facilities now provide an alcohol-based hand sanitizer at the entrance. Be sure to use it.
- Use antibiotics only when necessary for serious infections. Be sure to take the full course of antibiotics, even after you start to feel better. If even some of the bacteria survive, they may become resistant to the antibiotic, making the infection harder to treat.
- If you are taking antibiotics or stomach medications, talk to your doctor about any concerns you might have about *C. difficile*.

## Public Health Agency of Canada's Role

The Public Health Agency of Canada (PHAC) publishes infection control guidelines for use by the provinces, territories and health care organizations. They have helped in examining the most recent outbreaks of *C. difficile* in Quebec.

Through the Canadian Nosocomial Infection Surveillance Program, the Agency recently completed a six-month surveillance study on *C. difficile* in teaching hospitals across the country. The study focussed on the most serious results of the infection, including dehydration, admissions to intensive care units, surgeries needed to stop the infection and the number of deaths.

The Agency's National Microbiology Lab is also studying the bacteria to see if there is way to differentiate between mild and severe cases of *C. difficile*, and whether there is a new strain of the bacteria that is making people sicker.

In January 2005, the Agency also surveyed all hospitals in Canada to get a better understanding of their infection prevention and control practices for *C. difficile*.

## Need More Info?

For additional information on *C. difficile* go to:  
Public Health Agency of Canada :  
<http://www.phac-aspc.gc.ca/c-difficile/index.html>

Centers for Disease Control and Prevention :  
[http://www.cdc.gov/ncidod/dhqp/id\\_CdiffFAQ\\_general.html](http://www.cdc.gov/ncidod/dhqp/id_CdiffFAQ_general.html)

For other related information go to:  
Public Health Agency of Canada, Infection Control Guidelines :  
[http://www.phac-aspc.gc.ca/dpg\\_e.html](http://www.phac-aspc.gc.ca/dpg_e.html)

Canadian Centre for Occupational Health and Safety,  
Hand Washing :  
[http://www.ccohs.ca/oshanswers/diseases/washing\\_hands.html](http://www.ccohs.ca/oshanswers/diseases/washing_hands.html)

Or contact your local public health unit through your provincial/territorial ministry of health:  
[http://www.hc-sc.gc.ca/hcs-sss/delivery-prestation/ptrole/ptmin/index\\_e.html](http://www.hc-sc.gc.ca/hcs-sss/delivery-prestation/ptrole/ptmin/index_e.html)

For additional articles on health and safety issues go to the It's Your Health Web site at:  
[www.healthcanada.gc.ca/iyh](http://www.healthcanada.gc.ca/iyh)  
You can also call toll free at 1-866-225-0709 or TTY at 1-800-267-1245\*