



island health

Clostridium *difficile*

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

- A gram positive, spore forming anaerobic bacteria
- Found in the gastrointestinal tract/feces of a person who is colonized or infected
- 15% of adults are colonized with *C.diff* and have no symptoms
- People who are undergoing treatments that alter their normal intestinal bacteria (i.e., taking antibiotics), or who have weakened immune systems, are at greater risk for developing a *C. diff* infection that produces toxins and may result in a severe, life threatening disease. Symptoms include diarrhea, which releases spores that can live in the environment for months
- *C. diff* has been a cause of Health Care-Associated diarrhea for more than 30 years
- *C.diff* can be spread in both health care and community settings

CDI Case Definition: Acute onset of diarrhea (3 or more loose stools within a 24 hour period) without another etiology (loose stool = liquid diarrhea that takes the shape of the container) **AND, one or more of the following:**

- Laboratory confirmation (positive *C. diff* toxin assay or PCR), **or**
- Diagnosis of typical pseudo-membranous colitis on sigmoidoscopy or colonoscopy, **or**
- Histological/pathological diagnosis of CDI with or without diarrhea, **or**
- Diagnosis of toxic megacolon

Island Health: Infection Prevention & Control (IPAC)

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How is *C. diff* Spread?

- **Fecal/Oral route**
- **Direct Contact:** with an infected person's faeces or soiled clothing

Indirect Contact: with spores in the environment or on equipment

Risk Factors associated with *Clostridium difficile* infection (CDI) include:

- History of antibiotic usage, particularly fluoroquinolones
- Immunosuppressive therapy post-transplant
- Weakened immune system
- Proton pump inhibitors (PPIs)
- Bowel disease and bowel surgery
- Chemotherapy
- Prolonged hospitalization
- Increased age
- Infection with more virulent strains of *C. diff*, such as NAP1



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Additional Precautions

- Maintain **CONTACT** precautions for patients with new/worsening diarrhea, when a *C. diff* or other stool specimen has been sent, and for confirmed infectious diarrhea/*C. diff*
 - Perform hand hygiene (4 Moments for Hand Hygiene)
 - Use gloves **and** gown when entering a patient's room in acute care or when providing direct care to residents in residential care
- **Equipment:** Dedicate patient/resident/client equipment; clean and disinfect after each patient/resident/client use
- **Room and Equipment Cleaning:** Housekeeping will place a CONTACT PLUS sign outside of the patient's room/bed space and clean/disinfect with a sporicidal solution
- **Patient Placement:** *Patients* with confirmed *C. diff* infection **require a single room** with dedicated toileting facilities
- **Transport:** If a patient must leave the room (i.e., for a test etc.), ensure: 1/ they clean their hands/put on a clean gown before leaving the room; 2/ the bed sheets are clean and; 3/the receiving department are aware that the patient is on contact precautions.

Fecal Microbiota Transplant (FMT)

Within Island Health, Dr Christine Lee (Medical Microbiologist) has reported good results from her FMT treatment trials in patients suffering from prolonged *C. diff* infection. FMT is a procedure in which feces are collected from a screened donor and transferred to a patient with *C. diff*. The purpose of this treatment is to re-create a healthy bacterial balance in the intestine of the patient with *C. diff* by restoring 'good' bacteria depleted by antibiotic treatment. Although the exact mechanism of how this works is unknown, the general theory that recolonizing the colon with healthy bacteria will cure *C. diff* seems to be accepted.

Treatment

- After a *C. diff* infection has been confirmed, treatment includes an appropriate course of oral antibiotics; vancomycin is the drug of choice

NOTE:

- Repeat *C. diff* testing is not recommended after symptoms have resolved as patients may remain colonized for some time
- Anti-diarrheal medications (i.e., Loperamide) should **NOT** be given as further irritation to the bowel may result

Removal of Contact Precautions:

- Discontinue precautions if patient has had no diarrhea for 72 hours and normalized stool that has been documented on a 'Stool Chart'
- Housekeeping to complete a terminal sporicidal clean/remove sign