MANAGEMENT OF CLOSTRIDIUM DIFFICILE INFECTION (CDI)

Clostridium difficile is a spore-forming, gram-positive anaerobic bacillus. It is widely distributed in the environment and colonizes up to 3-5% of adults without causing symptoms.¹ Certain strains can produce two toxins: toxin A and B, which are responsible for diarrhea.

Clostridium difficile produces spores that are resistant to destruction by many chemicals. Spread of CDI occurs due to inadequate hand hygiene and environmental cleaning; therefore, consistent hand hygiene and thorough cleaning of the resident/client environment are necessary for control.

Risk factors for CDI include:

   a) history of antibiotic usage, particularly fluoroquinolones
   b) immunosuppressive therapy post-transplant
   c) proton pump inhibitors
   d) bowel disease and bowel surgery
   e) chemotherapy
   f) prolonged hospitalization.

Additional risk factors that predispose some people to develop more severe disease include

   a) history of CDI
   b) increased age
   c) immunosuppressive therapy
   d) recent surgery
   e) CDI with the NAP1 strain of C. difficile.


Infection Prevention and Control Measures for CDI

Residents with loose/watery bowel movements (conforming to the shape of the container) that are unusual or different for the resident and that cannot be explained (e.g. laxative use, recent enema, gastrointestinal outbreak) should have a specimen sent for C. difficile toxin.

N.B. Only diarrheal stool specimens are tested. Formed stool will not be tested. Discontinuing antibiotics as soon as the patient’s condition permits is also an important aspect of CDI control.
1. Precautions
   - In addition to Routine Practices, **Contact** precautions should be initiated at onset of diarrhea
   - Contact precautions may be discontinued when the resident has had at least 48 hours without diarrhea (i.e. formed or normal stool for the individual)
   - Discontinuation of precautions should only be done in consultation with Infection Prevention and Control

2. PPE
   - Gown and gloves for direct resident care
   - Removal of PPE on leaving the room
   - Hand hygiene after removing PPE

3. Accommodation
   - Single room with dedicated toileting facilities (i.e. private bathroom or individual commode chair) is preferred
   - In multi-bed room
     - maintain physical separation and draw privacy curtain
     - display visible signage indicating precautions to be used
     - provide an easily accessible PPE cart
     - place laundry hamper as close to resident’s bed space as possible
     - dedicate a commode chair and other personal care items for the resident’s use

4. Hand Hygiene
   - Observe meticulous hand hygiene with either alcohol-based hand rub (ABHR) or soap and water
   - Soap and water is theoretically more effective in removing spores than ABHR
   - When a dedicated hand washing sink is immediately available, hands should be washed with soap and water after glove removal
   - When a dedicated hand washing sink is not immediately available, hands should be cleaned using an ABHR, after glove removal
   - Hand hygiene should not be carried out at a resident sink as this will re-contaminate the health care worker’s hands;
   - Education should be provided to the client/resident on the need and procedure to be used for hand hygiene; clients/residents who are unable to perform hand hygiene independently should be assisted by the health care provider.

5. Environmental Cleaning
   - Twice daily cleaning of resident room and disinfecting with a sporicidal agent is essential
• Items used to clean bathroom of a resident with CDI must be dedicated to that bathroom and discarded once Contact Precautions are discontinued (e.g. toilet brush)
• Cleaning staff must use appropriate PPE when cleaning the room of a resident on additional precautions


6. Resident Equipment
• Commodes/bedpans should be dedicated to resident for duration of precautions
• All multi use equipment (e.g. blood pressure cuffs, stethoscopes, glucometers) must be cleaned and disinfected between use

6. Education for staff, residents and visitors should include:
• Information about CDI and the reason for additional precautions
• Hand hygiene
• Appropriate use of PPE

7. Specimen Collection
When collecting stool specimens for CDI toxin testing:
• stool sample is collected as soon as possible after the onset of symptoms
• testing is not done for *C. difficile* cytotoxin on formed stools
• specimen is transported to the laboratory as soon as possible; if there will be a delay, specimen must be refrigerated
• appropriate PPE is worn when collecting stool specimens (e.g., gloves, gown)
• repeating cytotoxin testing as a test of cure is not indicated
• testing for *C. difficile* cytotoxin may be repeated if symptoms do not resolve despite treatment, or to diagnose a relapse of CDI following a period of absence of symptoms.

Additional Resources:


