

Definitions

Clostridium difficile (C.diff): A gram positive bacteria that can form spores and produce toxins known as toxins A and B. It can be found as part of normal flora. Toxin-producing strains may cause *C. diff* infection (CDI) which can be severe and even fatal. CDI is associated with altering or eliminating the normal lower intestinal flora mainly through the use of antibiotics.

Colonized: individual infected with *C.diff* and who has a positive stool test for *C diff* but does not have clinical symptoms, and can infect others.

Infected patient: individual infected with *C. diff*, who has a positive stool test for *C. diff* and clinical symptoms and can infect others.

Case definition: Diarrhea (defined as passage of 3 or more unformed stools in 24 or fewer consecutive hours) **and** a stool test result positive for the presence of toxigenic *C. diff* or its toxins or colonoscopic or histopathologic findings demonstrating pseudomembranous colitis.

Prior to Having an Outbreak (Routine Infection Prevention and Control Response):

1) Administrative measures: Make prevention and control of CDI an organizational priority and supply personnel and other resources necessary for prevention and control. Identify a trained infection preventionist to support these efforts.

2) Maintain ongoing CDI surveillance: Identify all cases of diarrhea among residents and staff. Maintain appropriate and prompt diagnostic testing. Track cases of CDI by monitoring laboratory reports. Maintain a line list of CDI cases. Share surveillance information with medical staff and infection control committee. Use surveillance data to detect outbreaks and unusual clusters or patterns of transmission.

3) Microbiologic identification: Work with your lab to ensure rapid reporting of CDI. Ensure there is a protocol to promptly notify results to the staff to immediately initiate isolation precautions.

4) Hand Hygiene (HH)

- Hand washing with soap and water is the preferred method if hands are visibly soiled

5) Implementation of contact precautions for patients with CDI: Maintain throughout the duration of diarrhea.

- Upon entry to the patient's room don gown and gloves. Change gloves immediately if soiled. Remove gown and gloves before exiting the room. Change gown and gloves and perform HH between patients if cohorting. Ensure that adequate supplies are available.
- Patient placement: private room is preferred particularly for incontinent patients. If not available cohort with dedicated commodes.
- Use dedicated equipment for each patient. Use only disposable, single-use thermometer rather than shared electronic ones.
- Limit patients' activities to their rooms. Patients should perform HH and wear clean clothes prior to leaving their rooms for any reason. Where appropriate, enhanced barrier protection to contain a contaminated body substance is preferred over restriction of the resident.
- Perform routine observational studies to monitor staff compliance. Give feedback to staff and unit leaders.

6) Environmental control measures:

- Use EPA approved germicide/disinfectant according to manufacturer's instructions.
- During routine cleaning/disinfection address the following: bed, bedrails, immediate patient furniture, bedside commodes, and frequently touched surfaces, such as light switches, doorknobs, call bell, and medical equipment.
- Disinfect all items that can be shared between patients, such as infusion pumps, feeding pumps, and glucometers
- Routine observational studies to monitor staff compliance.

7) Education:

- Provide ongoing education to staff on CDI, HH, standard and contact precautions, and appropriate use of PPE
- Educate patients and families on CDI, hand and personal hygiene.

8) Antimicrobial stewardship:

- Establish multidisciplinary (i.e., medical staff, nursing, pharmacy) efforts to monitor and improve antibiotic use.
- Evaluate antimicrobial use among CDI patients and share with your medical staff and facility leadership

9) Notification: notify other units or facilities of patient CDI status prior to transfer.

When you have an Outbreak

1) **Report** the suspected outbreak immediately to the local health department.

- You can report via phone at 208-455-5442 or fax at 208-455-5350.

2) **Administrative support:** Review data on compliance with HH, contact precautions, environmental cleaning, antibiotic use and other infection prevention measures. Assure the LTCF has adequate staffing and adequate resources for infection prevention and control. Consider consulting with an expert infection preventionist, if needed.

3) **Surveillance:** intensify surveillance for diarrhea among patients and staff. Perform patient care rounds for early identification of diarrhea cases, immediately test and initiate contact precautions for all patients suspected to have CDI. Increase active communication with your laboratory staff.

4) Hand Hygiene:

- Implement soap and water for hand hygiene before exiting room of a patient with CDI.
- Remind the staff that alcohol based hand sanitizer is not effective in killing *C. diff* spores.
- Make handwashing facilities available, accessible and conveniently located. Check supplies of soap and towels regularly.
- Ensure that alcohol-based hand sanitizers are available as part of comprehensive HH program.
- Ensure and monitor staff compliance.

5) Contact precautions

- Extend contact precautions to 48 hours after diarrhea is resolved.
- Isolate all patients with diarrhea until CDI is ruled out.
- Patient placement: single room is preferred or cohort residents. Cohort staff if possible and restrict floating of staff.
- Consider additional CDI signs to ensure awareness of all staff. Make sure staff with diarrhea stay out of work for the duration of illness.
- Consider universal glove use on units with high CDI rates.
- Intensify adherence to isolation precautions and monitor compliance.

6) Environmental control measures:

- Consider use of 10% sodium hypochlorite (bleach) for disinfecting patient rooms. Use 10% sodium hypochlorite (bleach) terminal cleaning.
- Consider extending the use of bleach to include all patients' rooms if there is evidence of ongoing transmission.
- Use bleach wipes to disinfect equipment and as an adjunct to environmental cleaning.
- Consider assigning dedicated staff to targeted areas in order to standardize cleaning practices.
- Provide staff training and monitor compliance on how to use the bleach and allow adequate contact time.

7) **Education:** intensify education to physicians, healthcare workers, ancillary personnel (environmental services), residents, families and visitors.

8) **Antimicrobial stewardship:** implement antimicrobial stewardship program.

9) Other measures:

- Limit social activities and group dining.
- Consider limiting or stopping new admissions to the affected facility or unit until the outbreak is controlled.
- Monitor and adjust interventions according to outbreak progress.

Please Note: Neither treatment nor testing is recommended for colonized (asymptomatic) residents

CDI Response Algorithm

