

Clostridium difficile (C. diff) Infection (CDI) in Long-Term Care Facilities



What is C. diff?

C. diff, which is short for *Clostridium difficile*, is a bacterium that is found in the bowel and can cause diarrhea. The number of new cases is at a historical high. Most cases of *C. diff* infections occur in residents with previous antibiotic exposure. The elderly and immunocompromised populations have the greatest chance of getting *C. diff*. The primary clinical symptom of a *C. diff* infection (CDI) is **defined as 3 or more unformed stools over a 24 hour period, ileus, and when other causes of diarrhea have been ruled out**. Symptoms may also include:

- Belly pain and tenderness
- Distended abdomen, bloating
- Fever
- Loss of appetite

Note: Test should only be ordered for symptomatic residents.

C. diff colonization is when a person exhibits NO clinical symptoms, but tests positive for *C. diff* organism and/or its toxin. *C. diff* colonization is more common than *C. diff* infection. Colonized residents can transmit infection.

Core Measures for Long Term Care Facilities

- **Contact Precautions-** *C. diff* infected residents should be placed under contact precautions for the duration of their diarrhea and for a minimum of 48 hours after the last episode of diarrhea. Implement soap and water for hand hygiene before exiting room of a resident with CDI. Residents with active CDI diarrhea should not attend group dining or activities.
- **Hand Hygiene-** Promote hand hygiene. Implement soap and water for hand hygiene before exiting room of a resident with *C. diff* infection. Hand sanitizers are not effective against *C. diff* spores.
- **Education-** Educate healthcare providers (HCP), housekeeping, administration, residents, and families and visitors about *C. diff* and the proper use of Personal Protective Equipment (PPE).
- **Presumptive Isolation-** Symptomatic residents should be placed in isolation pending lab confirmation of CDI.
- **Environmental Cleaning-** Use an [EPA approved](#) sodium hypochlorite (bleach) - containing agent/product for proper disinfection of contaminated environmental surfaces and equipment. Be sure to use the appropriate concentration, dilution, and contact time per manufacturer's recommendations. Dedicate equipment to infected resident or if possible use disposable equipment
- **Lab Notification-** Implement laboratory based alert systems for immediate notification of test results.
- **Implement antimicrobial stewardship program-** Track use of antibiotics that may place resident at risk for CDI
- **CDI Testing-** Restrict testing to symptomatic residents. Focus testing on residents with ≥ 3 unformed stools within 24 hours. It is not necessary to perform a clearance culture when the resident completes the antibiotic treatment and no longer exhibits symptoms of an infection.
- **CDI Isolation-** Place CDI resident in a private room or in a cohort with other CDI residents when possible. All HCP or visitors should wear proper personal protective equipment (PPE) and wash hands vigorously with soap and water for at least 20 seconds.
- **CDI Surveillance-** Report outbreaks of CDI to local health departments for assistance in best practices to control its' spread.

How is C diff spread?

- Is shed in feces
- Any surface, device, or material that becomes contaminated with feces can serve as a reservoir such as bed side tables and bedrails
- From person to person such as, on the hands of doctors, nurses, and other healthcare providers

What risk factors are associated with CDI?

- Antimicrobial exposures
- Low serum albumin
- Underlying illness
- Oncologic process
- Renal insufficiency
- Advanced age
- Gastrointestinal surgery/manipulation
- Immunocompromising conditions

What can Long Term Care Facilities do to prepare?

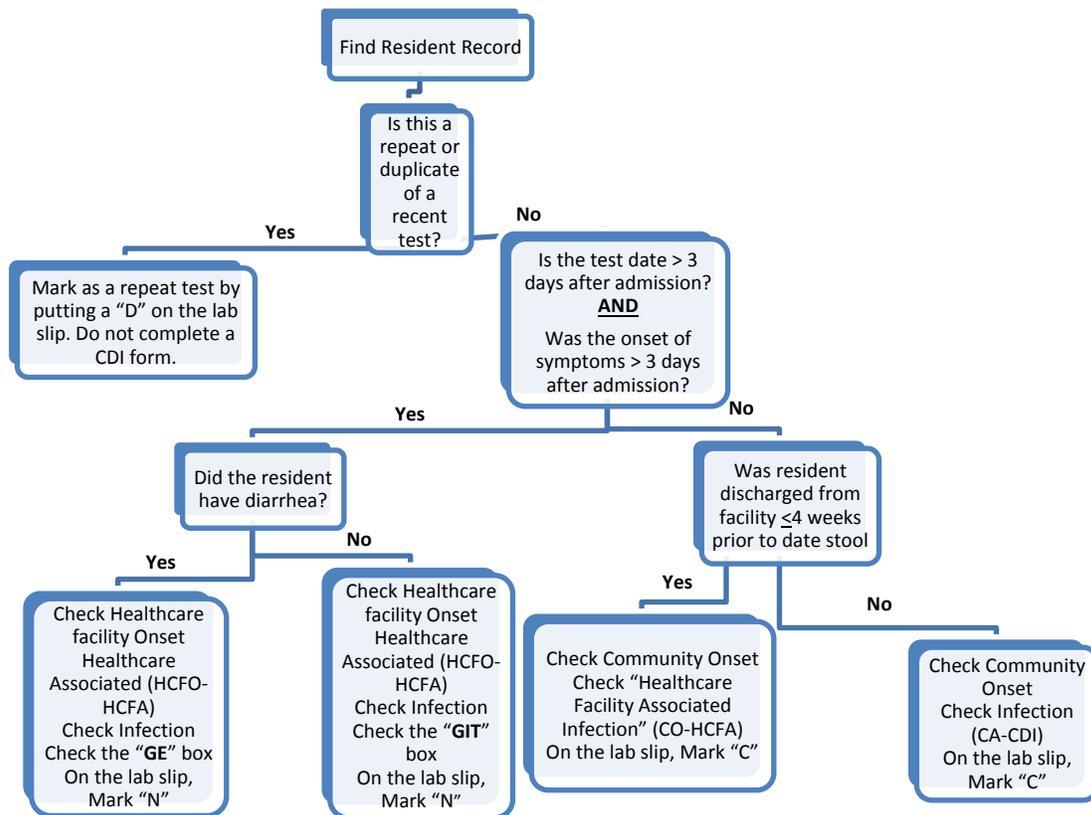
Being proactive is always the best policy! Additional resources about *C. diff* can be found at the following sites:

- CDC *C. diff* Toolkit: <http://www.cdc.gov/hai/pdfs/toolkits/CDI-Primer-2-2016.pdf>
- CDC's *Antibiotic resistance threats in the United States, 2013*: <http://www.cdc.gov/drugresistance/threat-report-2013/>
- 2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings: <http://www.cdc.gov/hicpac/pdf/isolation/Isolation2007.pdf>
- Clinical Practice Guidelines for Clostridium difficile Infection in Adults: 2010 Update by SHEA and IDSA: https://www.idsociety.org/uploadedFiles/IDSA/Guidelines-Patient_Care/PDF_Library/cdiff2010a.pdf
- Arizona's HAI website: www.preventHAIaz.gov

Interventions to decrease the incidence and mortality of healthcare-associated *C. diff* infections

Prevention Checklist

- **When a resident is suspected to have a CDI**
 - Rule out other causes of diarrhea
 - Initiate contact precautions, place the individual in single resident room or in a cohort with other CDI residents if possible, place [Contact Precautions](#) for CDI sign on resident's door which include
 - Order *C. diff* toxin test and obtain stool sample on unformed stool
 - Testing available: Enzyme immunoassay A/B, PCR, stool culture, *C. diff* antigen, and *C. diff* toxin
 - Discontinue any non-essential antimicrobials
 - Discontinue all anti-peristaltic medications
 - Ensure gloves and gowns are easily accessible from resident's room
 - Remind staff to wash their hands with soap and water for at least 20 seconds following contact with the resident
- **Microbiology Laboratory:**
 - Establish protocol and communication with laboratory to obtain positive *C. diff* toxin test results
 - Create a daily list of test results for Infection Control
- **Infection Control Practitioner:**
 - Check microbiology results daily for positive test results
 - Call relevant HCPs to confirm that the resident with positive *C. diff* toxin results is in contact precautions plus status
 - Flag the resident's *C. diff* status in their medical record
 - Alert housekeeping that the resident is on Contact Precautions
- **Environmental Services Staff Person:**
 - Check for Contact Precautions sign on resident door
 - If the Contact Precautions is on the door, clean the room with a bleach based cleaning agent
 - Confirm for supervisor that a bleach based cleaning agent was used for every resident on Contact Precautions
- **Instructions for CDI Infection Surveillance Algorithm For How to Handle Positive Test Results:**



For more information refer to Arizona's HAI Advisory Committee's [Clostridium difficile Infections \(CDI\) Prevention Toolkit](http://azdhs.gov/documents/preparedness/epidemiology-disease-control/healthcare-associated-infection/advisory-committee/step/prevention-strategies/cdiff-prevention-toolkit.pdf) at: <http://azdhs.gov/documents/preparedness/epidemiology-disease-control/healthcare-associated-infection/advisory-committee/step/prevention-strategies/cdiff-prevention-toolkit.pdf>