

# Clostridioides difficile (*C. diff*) Toolkit for Healthcare Facilities

Healthcare Associated Infections Antimicrobial Resistance Program



## **Introduction and Background**

*Clostridioides difficile* (*C. diff*) is a spore-forming, Gram positive anaerobic bacillus that can produce toxins known as toxins A and B. The organism may commonly be found in water, air, human and animal feces, soil, and hospital surfaces. The Centers for Disease Control and Prevention (CDC) has labeled *C. diff* as an urgent threat level pathogen. It is estimated that *C. diff* causes almost a half a million infections each year and about one in 11 people over age 65 diagnosed with a healthcare-associated *C. diff* infection die within a month.

## **Transmission**

*C. diff* is shed in feces; thus, the primary mode of transmission is the fecal-oral route. To cause infection, *C. diff* must be introduced to the gastrointestinal tract through ingestion or otherwise. The *C. diff* spores have a protective coating allowing them to live for months. Healthcare facilities, such as hospitals and nursing homes, as well as childcare facilities are reservoirs for *C. diff*. Surfaces including hands, devices, or materials (commodes, bathtubs, rectal thermometers) that become contaminated with feces can serve as a reservoir for *C. diff* spores. People may become infected if they touch contaminated items or surfaces then touch their mouth or mucous membranes.

## **Clinical**<sup>1,4</sup>

*C. diff* infections (CDI) can cause severe diarrhea, pseudomembranous colitis, toxic megacolon, perforations of the colon, sepsis, and death. CDI develops within a few days or up to several weeks after you take antibiotics and symptoms of a CDI can vary ranging from mild to severe.

### ***Signs and symptoms of mild to moderate infection***

- Watery diarrhea three or more times per day for more than one day
- Mild abdominal pain/tenderness
- Loss of appetite
- Nausea and/or vomiting
- Fever

### ***Signs and symptoms of severe infection***

- Watery diarrhea as often as 10 or more times per day with mucous and/or blood
- Fever
- Loss of appetite
- Nausea and/or vomiting
- Dehydration
- Rapid heart rate
- Abdominal distention and tenderness

### **Risk Factors** <sup>3,4</sup>

People taking antibiotics are seven to 10 times more likely to get *C. diff*, however, it can affect anyone, and most cases occur during or after taking antibiotics.

#### ***Risk factors for acquiring CDI include:***

- Exposure to antimicrobial therapy
- Gastrointestinal procedures
- Advanced age (65 and older)
- Immunocompromising conditions such as HIV/AIDS, cancer, or organ transplant patients taking immunosuppressive drugs
- Serious underlying illness
- Long length of stay in health care settings
- Indiscriminate use of antimicrobials
- Recent stay at a hospital or nursing home
- Previous infections with *C. diff* or known exposure to the germs

### **Diagnosis and Testing** <sup>1,4</sup>

It is important to recognize the difference between colonization versus infection. Colonization is more common. Individuals who are colonized do not have diseases caused by *C. diff* and are often asymptomatic. Patients with CDI show clinical symptoms and test positive for the *C. diff* organism or its toxin.

The diagnosis of *C. diff* should be considered in patients with new and unexplained diarrhea with a frequency of more than three times in a 24-hour period. The diagnosis may be through endoscopic findings of pseudo membranes or through laboratory methods based on stool testing. Laboratory methods include:

- Molecular tests:
  - PCR assays are same day tests.
  - Highly sensitive and specific for the presence of a toxin-producing *C. diff* organism.
  - Can be positive in asymptomatic individuals and those who do not have an infection (may lead to overdiagnosis).
  - When using multi-pathogen, read results with caution as the pre-test probability of *C. diff* might be less.
- Antigen detection:
  - Rapid tests that detect the presence of *C. diff* antigen glutamate dehydrogenase (GDH) in less than an hour.
  - Typically used in combination with the PCR in a two-step testing algorithm.

- Toxin testing:
  - Tissue culture cytotoxicity assay detects toxin B only. The results typically take 24 to 48 hours and require technical expertise to perform.
  - Enzyme immunoassay detects toxin A, toxin B, or both A and B.
- Stool culture:
  - Most sensitive test available.
  - Most often associated with false-positive results.
  - Less useful
    - Labor intensive.
    - Require an appropriate culture environment.
    - Slow in growth (results in 48 to 96 hours).

For additional testing information visit:

[www.cdc.gov/c-diff/hcp/diagnosis-testing/index.html](http://www.cdc.gov/c-diff/hcp/diagnosis-testing/index.html)

**Note: C diff toxin is very unstable. The toxin degrades at room temperature and might be undetectable within two hours after collection of a stool specimen. False-negative results can occur when specimens are not promptly tested or kept refrigerated until testing can be done.**

## [Infection Prevention Guidance](#)<sup>3</sup>

### Health Care Settings

#### Patients with Suspected or Confirmed CDI

- Provide CDI prevention education and training for healthcare personnel.
- Develop and utilize nurse-driven protocols that allow for empirical transmission-based precautions to be implemented for patients with signs and symptoms of suspected or confirmed CDI.
- Notify the Healthcare Provider and the Infection Preventionist or designee for further evaluation, treatment and support.
- Patients with signs and symptoms should:
  - Be placed in contact precautions in addition to any other transmission-based precaution requirements.
  - Be placed in a single-patient room.
    - If a single-patient room is not available, cohort patients with confirmed CDI together and be sure to consider the presence of MDROs, immunocompromised and high-risk 2024 patients.

- Have a dedicated toilet (fixed bathroom fixture used for the disposal of human waste) or commode (portable toilet or a chair with a container underneath).
  - Commode liners should be used with all commodes.
  - Commodes should be immediately emptied, cleaned and disinfected after each use.
- Use a private bath or shower.
  - If a private bath or shower is not available, suspected or confirmed patients should be showered/bathed after non-CDI residents.
  - Cleaning and disinfection of the shower or bath and any additional contaminated surfaces or equipment should be completed immediately after each use.
- Gloves should be worn by anyone who enters the room for any reason.
  - Donned upon entry to the room.
  - Doffed before exiting the room.
  - Immediately after gloves are removed perform hand hygiene using soap and water for *C. diff* and/or as recommended by the CDC.
- Use dedicated patient-care equipment.
  - Clean, disinfect per manufacturer's instructions and/or dispose of dedicated patient-care equipment when visibly contaminated, when transmission-based precautions are no longer required and/or patient is discharged from the facility (e.g., blood pressure cuffs, stethoscopes)
- Facilities should develop and utilize a process to notify receiving departments, units, transportation and/or facilities of the patient's history, risk for, suspected, confirmed and/or colonization status of *C. diff*.
- Contact precautions should remain in place for at least 48 hours after diarrhea has resolved, or for the duration of a hospital admission.

## Cleaning and Disinfecting <sup>5,6</sup>

### Healthcare Settings

#### Perform environmental cleaning to prevent CDI

- Develop and utilize environmental cleaning and disinfection education with an emphasis on *C. diff*.
  - Provide education to all staff, with a more in-depth focus and training relevant to the staff's duties.
- Develop and utilize daily and terminal cleaning protocols and checklists for patient-care areas and equipment.

- Standardize cleaning practices by attempting to routinely assign the same staff members to targeted areas.
- Routinely and as indicated review cleaning products in use or to implement with the following considerations:
  - The Environmental Protection Agency (EPA) provides “lists” of registered antimicrobial products that are effective against common pathogens.
    - Registered products to be used for *C. diff* are located under “List K.”
    - Consider using 10% sodium hypochlorite (bleach) for disinfecting patient rooms and terminal cleaning.
    - Effectiveness against targeted organisms.
    - Expertise and training requirements needed to use.
    - Compatibility with all affected device manufacturer's instructions.
    - Effect on surfaces or devices after repeated exposure.
    - Contact time is reasonable and achievable for the setting.
    - Possible health risks to patients, visitors and staff.
- A suspected or confirmed CDI patient’s room should:
  - be cleaned and disinfected at least once a day to include high touch areas and bathrooms.
  - be cleaned and disinfected after the cleaning of other patient rooms and or areas.
  - clean and disinfect all furniture and/or equipment, such as beds, portable scales, bedside tables, chairs, etc. that are removed from the room for any reason.
  - receive a thorough terminal cleaning and disinfection after the patient is transferred or discharged.
- All departments and areas that may be contaminated by a patient with suspected or confirmed CDI should be cleaned and disinfected immediately after departure or as indicated, such as Physical Therapy, Emergency, Radiology Departments, etc.
- Cleaning solution(s) should be discarded, and cleaning equipment (cleaning cloth, mop, bucket, etc.) should be cleaned and disinfected per manufacturer’s instructions.
  - Consider using disposable cleaning products such as wipes, mop heads, toilet brushes, etc.
- Routinely monitor and audit the effectiveness and compliance with cleaning and disinfection protocols and practices.
  - Review the collected data to:
    - Validate the effectiveness of cleaning and disinfection protocols
    - Disseminate data to the appropriate leadership, staff members and other stakeholders
      - identify issues.

- develop interventions to improve protocols or compliance, as indicated.
- Provide education and training, as necessary.
- Continue to routinely monitor and audit the effectiveness and compliance with cleaning and disinfection protocols and practices, accordingly.

Note: Appropriate cleaning agents on EPA List K can be found here:

[www.epa.gov/pesticide-registration/list-k-epas-registered-antimicrobial-products-effective-against-clostridium](http://www.epa.gov/pesticide-registration/list-k-epas-registered-antimicrobial-products-effective-against-clostridium)

Additional Environmental Guidelines:

[www.cdc.gov/infectioncontrol/guidelines/environmental/index.html](http://www.cdc.gov/infectioncontrol/guidelines/environmental/index.html)

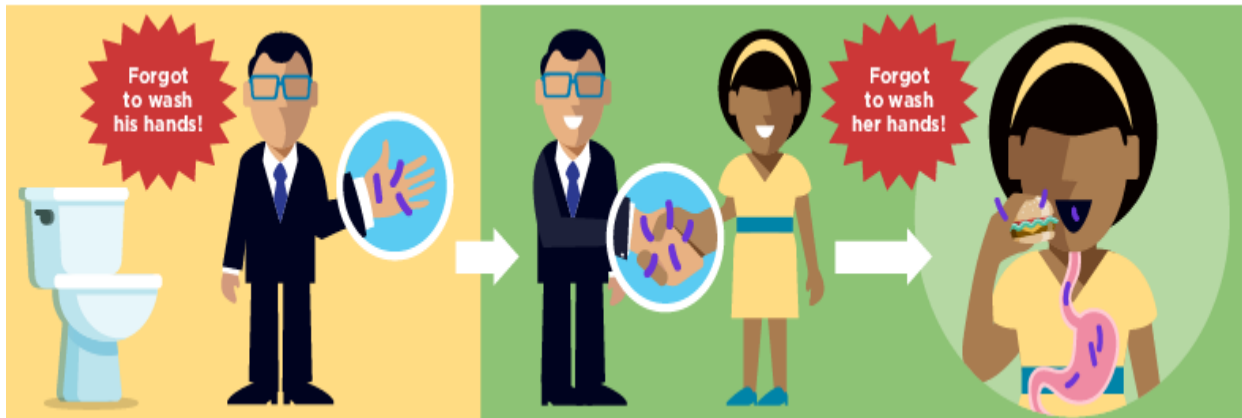


Image retrieved from CDC.

## Antibiotic Stewardship <sup>2</sup>

The microbiome is the collection of microbes, both good and bad, that naturally live within our stomach and intestines and contribute to overall health and wellness by protecting against pathogens, development of the immune system, and digestion. Antibiotics affect the microbiome by destroying both the bad and good microbes that help protect against infections like *C. diff*. A healthy microbiome helps prevent infection.

According to 2022 data from the CDC’s Patient Safety Portal, West Virginia has the highest prescribing rate of outpatient antibiotics in the nation with a prescribing rate of 1,184 per 1,000 population against the national average of 709 per 1,000 population. Studies have shown that 40-75% of antibiotics prescribed in nursing homes may be unnecessary or inappropriate. It is also reported that up to 70% of residents receive one or more courses of systemic antibiotics when followed over a year. Overuse of antibiotics can harm older adults by increasing their risk of CDI. Implementing an antibiotic stewardship program is another key element in combating *C. diff*. Antibiotic stewardship works to measure and improve how antibiotics are prescribed by clinicians

and used by patients. The CDC's Core Elements for Antibiotic Stewardship are frameworks that complement guidelines and standards from professional organizations. The core elements for the various healthcare settings can be found at [www.cdc.gov/antibiotic-use/hcp/core-elements/index.html](http://www.cdc.gov/antibiotic-use/hcp/core-elements/index.html).

## **Education**

### ***Healthcare Personnel***

- Make prevention and control of CDI an organizational priority by supplying personnel and other resources necessary for prevention and control.
- Maintain ongoing CDI surveillance:
  - Monitor CDI rates and target units with highest incidence for evaluation and intervention.
  - Identify all cases of diarrhea among residents and staff.
  - Track cases of CDI by monitoring laboratory reports.
  - Maintain a line list of CDI cases.
  - Monitor hospital-onset CDI cases to help identify gaps and opportunities for improvement.
  - Use surveillance data to detect outbreaks and unusual clusters or patterns of transmission.
- Educate and train healthcare personnel on prevention practices.
  - Hand hygiene before and after caring for patients or residents.
  - Wear a gown and gloves when caring for patients with *C. diff*.
  - Process bed linens, patient gowns, and other textiles appropriately.
- Routinely audit adherence to hand hygiene and contact precautions.
- Provide CDI rates and other performance improvement measures to senior leadership, clinical providers, etc.
- Participate in CDI prevention activities such as regional, state, or special projects.
- Notify other units or facilities of patient CDI status prior to transfer.
- Identify a trained infection preventionist to support these efforts.

### ***Patients/Families***

- Take your medication as prescribed. Antibiotic overuse and/or misuse is a primary factor in CDI development.
- Tell your doctor if you've recently had CDI if you need to take antibiotics for another type of infection.
- Wash your hands with soap and water every time you use the bathroom and always before you eat.
  - Caregivers should do the same.



- Try to use a separate bathroom if you have diarrhea.
  - If sharing a bathroom, clean well before others use it.
- Take daily showers (preferred method of bathing) and wash with soap to remove any *C. diff* germs.
- Clean high touch surfaces regularly. These include:
  - Doorknobs.
  - Electronic devices (Caution: Disinfectants may cause damage to devices. Check manufacturers recommendations for cleaning.
  - Refrigerator handles.
  - Shared cups.
  - Toilet handles and seats.
- Wash laundry before others touch or use them.
  - Use the hottest water temperature that is safe for items being washed.
  - Use chlorine bleach if it can be safely used on items being washed.
  - Dry cleaning is not as effective as other methods at killing CDI spores.
  - Consider wearing gloves.
  - Laundry items include:
    - Towels.
    - Bed linens.
    - Clothing.
  - Wash your hands.

*Note:* You can make a disinfectant for your home by mixing one part bleach to nine parts water.

### [Treatment](#)<sup>1</sup>

Treatment for *C. diff* usually involves taking a specific antibiotic, such as vancomycin or fidaxomicin, for at least 10 days.

For treatment guidelines and recommendations please visit:

[www.idsociety.org/practice-guideline/clostridioides-difficile-2021-focused-update/](http://www.idsociety.org/practice-guideline/clostridioides-difficile-2021-focused-update/)

### [Outbreak and Reporting](#)<sup>3</sup>

The Council for Outbreak Response: Healthcare-Associated Infections and Antimicrobial-Resistant (CORHA) has developed thresholds to assist in the facilitation of *c. diff* prevention and encourage public health collaboration. **The table below provides guidance for the initiation of investigation within a healthcare facility, as well as reporting an outbreak to the local health department.**

Threshold	Acute Care	Long-Term Acute Care	Critical Access Hospital	Nursing Homes
For facilities to conduct additional investigation and report to public health	≥three patients with facility-onset* <i>C. difficile</i> (determined by a positive laboratory test†) in the facility within a four-week period	≥three patients with facility-onset* <i>C. difficile</i> (determined by a positive laboratory test†) in the facility within a four-week period	≥two patients with facility-onset* <i>C. difficile</i> (determined by a positive laboratory test†) in the facility within a four-week period	≥two patients with facility-onset* <i>C. difficile</i> (determined by a positive laboratory test†) in the facility within a four-week period

\*Facility-onset: Specimen obtained on facility day four or later (admission date = day one).

†Two Positive laboratory test: Any molecular, antigen, culture, or other test for *C. diff*.

‡CDI: Positive laboratory test AND symptoms (diarrhea, i.e., three loose feces over 24 hours) AND no laxative use for at least 48 hours before specimen collection AND no other known cause for diarrhea.

Additionally, healthcare facilities with a significant increase in *C. diff* rates compared to their own baseline and/or that of a comparison institution(s) should report to their local health department and begin investigation.

## **Resources**

1. Hand Hygiene Competency
2. Hand Hygiene Audit Tool
3. PPE Competency
4. PPE Audit Tool
5. *C. diff* Infographics from CDC
6. Antibiotic Stewardship Core Element Checklist for Nursing Homes
7. Interfacility Transfer Form

(Insert Facility Name)|  
(Employee Name)

Self-Assessment Key		Instruction Method			Validation Method			
0 - No Experience 1 - Limited Competency/Proficiency 2 - Acceptable Competency/Proficiency 3 - Competent/Proficient (has independently performed during the past year)		P - Protocol/Policy Procedure E - Education S - Self Learning Assignment CP - Clinical Practice D - Demonstration			O - Observation RT - Return Demonstration T - Test VR - Verbal Review C - Certificate			
Hand Hygiene		Self - Assess	Instruction	Date	Validation Method	Date/Initials	Date/Initials	Date/initials
Complete education course from CDC: <a href="http://www.cdc.gov/handhygiene/providers/training/index.html">www.cdc.gov/handhygiene/providers/training/index.html</a>								
Articulates moments of hand hygiene: <ul style="list-style-type: none"> <li>Washes hands immediately before touching patient.</li> <li>Before performing an aseptic task or handling invasive medical devices.</li> <li>Before moving from work on a soiled body site to a clean body site on the same patients.</li> <li>After touching a patient or the patient's immediate environment.</li> <li>After contact with a blood, body fluids, or contaminated surfaces.</li> <li>Immediately after glove removal.</li> </ul>								
Articulates the correct percentage of alcohol that should be in alcohol-based hand sanitizer.								
Performs appropriate use of hand sanitizer: <ul style="list-style-type: none"> <li>Apply gel product to palm of one hand.</li> <li>Rub hand together.</li> <li>Rub gel over all the surfaces of hands and fingers until dry (around 20 seconds).</li> </ul>								

<p>Performs 3 demonstrations of hand hygiene:</p> <ul style="list-style-type: none"> <li>• Wets hands with clean running water, turn off the tap, and apply soap.</li> <li>• Lathers hands by rubbing them together with soap. (Back of hands, between fingers, and under nails)</li> <li>• Scrub hands for at least 20 seconds.</li> <li>• Rinse hands well under clean running water.</li> <li>• Dry hands using a clean towel or air dry them.</li> </ul>							
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(Insert Facility Name)  
 (Employee Name)

Self-Assessment Key		Instruction Method			Validation Method			
0 - No Experience 1 - Limited Competency/Proficiency 2 - Acceptable Competency/Proficiency 3 - Competent/Proficient (Has independently performed during the past year)		P - Protocol/Policy Procedure E - Education S - Self Learning Assignment CP - Clinical Practice D - Demonstration			O - Observation RT - Return Demonstration T - Test VR - Verbal Review C - Certificate			
Personal Protective Equipment (PPE)		Self - Assess	Instruction	Date	Validation Method	Date/Initials	Date/Initials	Date/initials
Complete education course from CDC-Donning and Doffing <a href="http://www.cdc.gov/coronavirus/2019-ncov/hcp/using-ppe.html">www.cdc.gov/coronavirus/2019-ncov/hcp/using-ppe.html</a>								
Complete Project Firstline trainings re: PPE <a href="http://www.cdc.gov/infectioncontrol/projectfirstline/resources/videos.html">www.cdc.gov/infectioncontrol/projectfirstline/resources/videos.html</a>								
Performs appropriate steps to don PPE: <ul style="list-style-type: none"> <li>Identify and gather the proper PPE to don.</li> <li>Perform hand hygiene using hand sanitizer.</li> <li>Put on isolation gown. (Tie all the ties on the gown.)</li> <li>Put on NIOSH-approved N95 filtering facepiece respirator or higher.</li> <li>Put on face shield or goggles.</li> <li>Put on gloves. Gloves should cover the cuff (wrist) of gown.</li> </ul>								

<p>Performs appropriate steps to doff PPE:</p> <ul style="list-style-type: none"> <li>• Remove gloves.</li> <li>• Remove gown.</li> <li>• Healthcare personnel may now exit patient room.</li> <li>• Perform hand hygiene.</li> <li>• Remove face shield or goggles. Carefully remove face shield or goggles by grabbing the strap and pulling upwards and away from head. Do not touch the front of face shield or goggles.</li> <li>• Remove and discard respirator (or facemask if used instead of respirator).</li> <li>• Perform hand hygiene after removing the respirator/facemask and before putting it on again if your workplace is practicing reuse.</li> </ul>							
<p>Performs 3 demonstrations of donning and doffing PPE.</p>							

**Contact Precautions Observation Tool**



Observer: \_\_\_\_\_ Date: \_\_\_\_\_

Location Unit or Wing	Position Ex. LPN, CNA, Dietary	Hand Hygiene Before		PPE Donned Before Entering Room		Contact Precautions		PPE Removed Upon Exit to Room		Hand Hygiene After	
						Gown	Gloves				
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No

To calculate rate:

(A) Total number of times precautions performed appropriately ('yes'): \_\_\_\_\_

(B) Total number of opportunities for precautions to be performed ('yes' + 'no'): \_\_\_\_\_

(A/B)x100= Percentage: \_\_\_\_\_%



# Hand Hygiene Observation Tool

Observer: \_\_\_\_\_ Date: \_\_\_\_\_

Location (Unit or Wing)	Position	Before touching a patient		Before clean aseptic procedure		After body fluid exposure risk		After touching a patient		After touching patient surroundings	
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
		Yes	No	Yes	No	Yes	No	Yes	No	Yes	No

To calculate hand hygiene rate:

- (A) Total Number of times Hand Hygiene was performed ('yes'): \_\_\_\_\_
- (B) Total Number of Opportunities for Hand Hygiene ('yes' + 'no'): \_\_\_\_\_
- (A÷B)X100 = Percentage: \_\_\_\_\_

# CLOSTRIDIoidES DIFFICILE

(formerly known as *Clostridium difficile*)

*Clostridioides difficile* (also known as *C. diff*) is a bacterium that causes diarrhea and colitis (an inflammation of the colon). *C. diff* infection can be life-threatening.

## IMPACT



*C. diff* infection is estimated to cause almost half a million illnesses in the United States each year, and an estimated 29,300 deaths.<sup>1</sup>



About **1 in 6** patients who get *C. diff* infection will get it again in the subsequent 2–8 weeks.<sup>1</sup>



One in 11 people over 65 diagnosed with a healthcare-associated *C. diff* infection die within a month.<sup>2</sup>

## RISK



People are 7 to 10 times more likely to get *C. diff* infection while taking an antibiotic and during the month after.<sup>3</sup>



Extended stays in healthcare settings, such as hospitals and nursing homes, also increase their risk.



More than 80% of *C. diff* deaths occur in people 65 and older.

## SPREAD



*C. diff* spreads when people touch surfaces that are contaminated with poop from an infected person.



Or when people don't wash their hands with soap and water.



It can also happen when one healthcare facility fails to notify another when it transfers a patient with *C. diff*.

## Healthcare professionals can help PREVENT *C. diff* by:



Optimizing the way they prescribe antibiotics.



Using the tests that give the most accurate results.



Rapidly identifying and isolating patients with *C. diff*.



Wearing gloves and gowns when treating patients with *C. diff*—and remembering that hand sanitizer doesn't kill *C. diff*.



Cleaning surfaces in rooms where *C. diff* patients are treated with EPA-approved, spore-killing disinfectant (see list K).

[cdc.gov/cdiff](https://cdc.gov/cdiff)

<sup>1</sup> Guh AY, Mu Y, Winston LG et al. *N Engl J Med* 2020;382:1320–30. DOI: 10.1056/NEJMoa1910215

<sup>2</sup> Lessa FC, Wu YI, Bamberg WM et al. *N Engl J Med* 2015;372:825–34. DOI: 10.1056/NEJMoa1408913

<sup>3</sup> Hensgens MPM, Goochuis A, Delders OM, Kullper EJ. *J Antimicrob Chemother* 2011. DOI: 10.1093/jac/dkr508



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# THE PROGRESSION OF A *C. DIFF* INFECTION



*C. diff* is a bacterium (germ) that causes severe diarrhea and colitis (an inflammation of the colon). *C. diff* infections can be life-threatening.

***C. diff* can infect anyone. Most cases of *C. diff* infection occur while you're taking antibiotics or not long after you've finished taking antibiotics. Other risk factors include:**

- Previous infection with *C. diff* or known exposure to the germs
- Being 65 or older
- Recent stay at a hospital or nursing home
- A weakened immune system, such as people with HIV/AIDS, cancer, or organ transplant patients taking immunosuppressive drugs

**If you have signs or symptoms, see a doctor.**

- The doctor will review your signs and symptoms and order a lab test.
- If it's positive, you'll take an antibiotic for 10 days.

**After you've recovered, you could still be colonized.**

- The germs will be in your body, but you won't feel sick. So you won't need treatment.
- But you can still spread it to others, so always practice good hand hygiene.
- Tell all of your healthcare providers that you've had *C. diff*.

**Some people get *C. diff* over and over again.**

- For those with repeat infections, fecal microbiota transplants have shown promising results.

***C. diff* develops within a few days or up to several weeks after you take antibiotics and symptoms can include:**

- Severe Diarrhea
- Fever
- Stomach tenderness or pain
- Loss of appetite
- Nausea

**You might be admitted to the hospital.**

- Your healthcare providers will use precautions such as wearing gloves and gowns to prevent the spread of *C. diff*.

**About 1 in 6 people who get *C. diff* infection will get it again in the subsequent 2-8 weeks.**

- If you have symptoms again, see your doctor.



***C. diff* is contagious, but you can keep others from getting it.**

- Wash your hands with soap and water every time you use the bathroom and always before you eat.
- Try to use a separate bathroom if you have diarrhea.
- Take showers and use soap.

[cdc.gov/cdiff](https://www.cdc.gov/cdiff)

CS33 1083-A



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## Inter-facility Infection Control Transfer Form

This form must be filled out for transfer to the accepting facility with information communicated prior to or with transfer.

*Please attach copies of latest culture reports with susceptibilities if available.*

### Sending Healthcare Facility:

Patient/Resident Last Name	First Name	Date of Birth	Medical Record Number
		/ /	
Name/Address of Sending Facility		Sending Unit	Sending Facility phone
Sending Facility Contacts	NAME	PHONE	E-mail
Case Manager/Admin/SW			
Infection Prevention			

Is the patient/resident currently in isolation?  NO  YES

Type of Isolation (check all that apply)  Contact  Droplet  Airborne  Enhanced Barrier

Precautions  Other: \_\_\_\_\_

Does the patient/resident have pending cultures?  NO  YES

PPE (personal protective equipment) needed (check all that apply):



Gown



Gloves



Eye Protection



Mask



N-95/PAPR

Does patient currently have an infection, colonization OR a history of positive culture of a multidrug-resistant organism (MDRO) or other organism of epidemiological significance?	Colonization or history <i>If yes, provide date of positive lab result</i>	Active infection on Treatment <i>If yes, provide date of positive lab result</i>
Candida auris		
Clostridioides difficile (C. diff)		
Carbapenem-resistant Acinetobacter baumannii (CRAB)		
Carbapenem-resistant Enterobacterales (CRE)		
Carbapenem-resistant Pseudomonas aeruginosa (CRPA)		
E coli, Klebsiella, Proteus etc. w/Extended Spectrum B-Lactamase (ESBL)		
Methicillin-resistant Staphylococcus aureus (MRSA)		
Vancomycin-resistant Enterococcus (VRE)		
Other:		

### Does the patient/resident currently have any of the following?

- |  |  |
|--|--|
| <input type="checkbox"/> Cough or requires suctioning                    | <input type="checkbox"/> Central line/PICC (Approx. date inserted ___/___/___) |
| <input type="checkbox"/> Diarrhea  | <input type="checkbox"/> Hemodialysis catheter                                 |
| <input type="checkbox"/> Vomiting  | <input type="checkbox"/> Urinary catheter (Approx. date inserted ___/___/___)  |
| <input type="checkbox"/> Incontinent of urine or stool                   | <input type="checkbox"/> Suprapubic catheter                                   |
| <input type="checkbox"/> Open wounds or wounds requiring dressing change | <input type="checkbox"/> Percutaneous gastrostomy                              |
| <input type="checkbox"/> tube Drainage (source) _____                    | <input type="checkbox"/> Tracheostomy  |

Printed Name of Person Responsible for Transfer	Signature	Date and Time	Name and phone of individual at receiving facility/ transportation/ EMS

Please contact the Healthcare-Associated Infections, Antimicrobial Resistance (HAI/AR) program with any questions.

Email: OEPSMDRO@wv.gov Phone: (304) 558-5358 ex.2.

## **References**

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2. The Centers for Disease Control and Prevention Website. *Antibiotic Prescribing and Use*. [www.cdc.gov/antibiotic-use/hcp/core-elements/index.html](http://www.cdc.gov/antibiotic-use/hcp/core-elements/index.html)
3. The Centers for Disease Control and Prevention Website. *C. diff (Clostridioides difficile)*. Retrieved June 27, 2024, from [www.cdc.gov/c-diff/index.html](http://www.cdc.gov/c-diff/index.html)
4. The Centers for Disease Control and Prevention Website. *Clinical Guidance for C. Diff Prevention in Acute Care Facilities*. Retrieved July 10, 2024, from [www.cdc.gov/c-diff/hcp/clinical-guidance/index.html](http://www.cdc.gov/c-diff/hcp/clinical-guidance/index.html)
5. The Centers for Disease Control and Prevention Website. *Considerations for Reducing Risk: Surfaces in Healthcare Facilities*. Retrieved July 10, 2024, from [www.cdc.gov/healthcare-associated-infections/hcp/infection-control/](http://www.cdc.gov/healthcare-associated-infections/hcp/infection-control/)
6. United States Environmental Protection Agency Website. *EPA's Registered Antimicrobial Products Effective Against Clostridioides difficile (C. diff) Spores [List K]*. Retrieved July 10, 2024. [www.epa.gov/pesticide-registration/epas-registered-antimicrobial-products-effective-against-clostridioide](http://www.epa.gov/pesticide-registration/epas-registered-antimicrobial-products-effective-against-clostridioide)