

Guideline: *Clostridioides difficile* prevention and testing

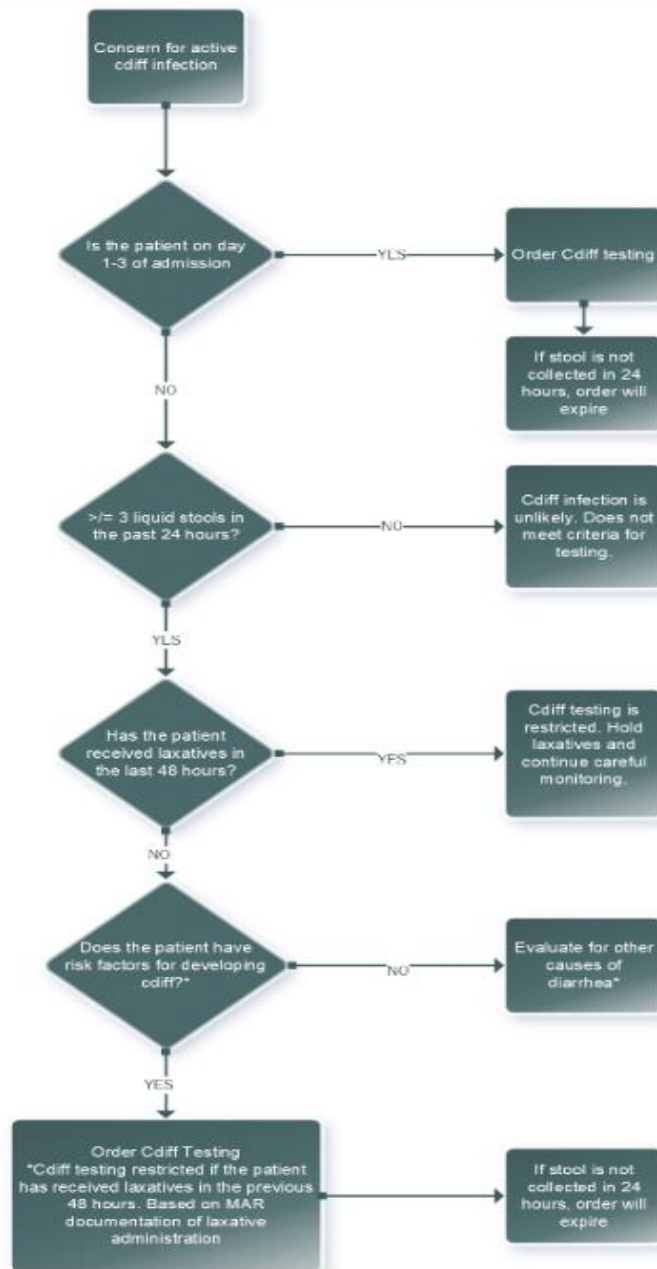
Updated: February 15, 2022

Clinical algorithm:

Did you know.....up to 20% of hospitalized patients can be colonized with *Cd* without having an active infection?

- * Risk Factors for *Cd* Infection**
- Recent or current broad spectrum antibiotics
 - Previous *Cd* infection within the last 6 months
 - Immunosuppression

- * Common Causes of Diarrhea**
- LAXATIVE USE
 - Tube feeds
 - Nutritional supplements
 - Oral CT contrast
 - Oral magnesium
 - IBS/IBD
 - Medications commonly causing diarrhea
 - Pancreatic insufficiency



Clinical guideline summary

PATIENT POPULATION AND DIAGNOSIS: SHWM All inpatients

BRIEF DESCRIPTION:

This guideline is intended to summarize the approach to prevention and testing of *Clostridioides difficile* infection (CDI). *Clostridioides difficile* remains the most important cause of healthcare-associated diarrhea and has become the most commonly identified cause of healthcare-associated infection in adults in the United States.

Definitions

Clostridioides difficile infection (CDI) – symptomatic disease caused by the toxins produced by the organism *Clostridioides difficile*.

Colonization – Occurs when a patient carries a microorganism but has no signs or symptoms of infection. However, it is important to note that a colonized person may have the potential to infect others without clinical signs or symptoms.

Community-onset (CO) – CDI identified as an outpatient or an inpatient ≤ 3 days after admission to the facility (i.e., before or on days 1, 2, or 3 of admission). NHSN definition.

Community-onset Healthcare Facility–associated (CO-HCFA) – Community-onset CDI identified from a patient who was discharged from the facility ≤ 4 weeks prior to current date of stool specimen collection. NHSN definition.

Diarrhea – Passage of three or more liquid stools in 24 or fewer consecutive hours.

Healthcare Facility–onset (HO) – CDI identified >3 days after admission to the facility (i.e., on or after day). NHSN definition.

OVERSIGHT TEAM LEADER(S): Greg Kruse or Dr. Gordana Simeunovic

OWNING EXPERT IMPROVEMENT TEAM (EIT): C.Diff EIT

OTHER TEAM(S) IMPACTED (FOR EXAMPLE: CPCs, ANESTHESIA, NURSING, RADIOLOGY): Nursing, Pharmacy, ED, ICU, Hospitalists and other admitting providers (Neurology, Cardiology, Oncology, Surgical Services)

MANAGING CLINICAL PRACTICE COUNCIL (CPC): Specialty Health CPC

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LAST REVISED: 2/15/22

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Clinical guideline clinical approach

TREATMENT AND MANAGEMENT:

1. Assess for symptoms of CDI promptly to allow diagnosis, isolation and treatment.
 - a. Any positive *C. difficile* lab results > 3 days after admission are considered Healthcare facility- onset (HO)
2. Determine if testing is necessary using the *C. diff* testing algorithm.
3. Follow the Epic order prompts and BPA to reduce unnecessary testing. Only order if the following criteria are met:
 - a. Patient has no laxative use in the past 48 hours, or no other explanation for diarrhea.

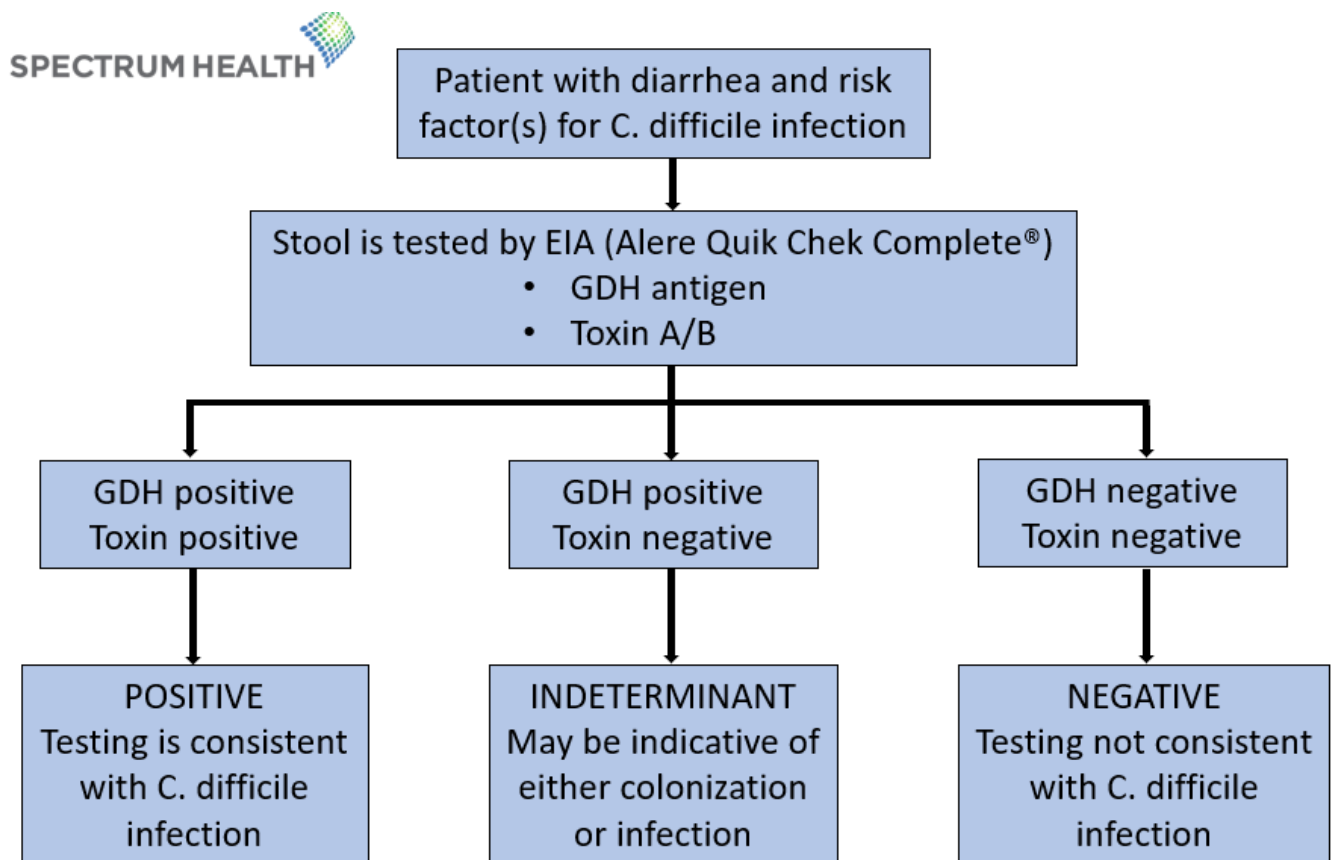
AND

 - b. Three or more liquid stools in the last 24 hours.
4. Testing is restricted if patient has been administered a laxative within 48 hours based on MAR documentation on, or after, day 4 of admission
5. Collect an appropriate specimen promptly.
 - c. Collect only liquid stool.
 - d. Do not contaminate the specimen with water or urine
 - e. Use the empty vial of the stool kit or sterile container with a secured lid.
 - o Consider: The order will be automatically cancelled in the EHR if not collected within 24 hours of the order.
 - o Lab will reject any hard, formed or soft stools.
 - o Refer to the [Lab Test Directory](#)
6. Do not repeat testing within 7 days, following a negative test.
 - a. Additional testing within 7 days will be rejected by the lab.
7. Do not repeat testing following a positive test as a later test of cure.
 - a. There is no clinical value in repeat CDI testing to establish cure; >60% of patients may remain *C. difficile* positive even after successful treatment. ¹
8. Lab testing method:
 - a. Spectrum health uses a two-step testing algorithm.
 - i. The first step tests for *C. difficile* specific protein Glutamate dehydrogenase (GDH)
 - ii. The second step tests for *Clostridioides* A/B toxin

➤ If both proteins are detected, the test result is recorded as positive

- If neither protein is detected, the test result is recorded as negative
 - If only GDH is detected, the test result is recorded as indeterminate
- b. Toxin gene PCR testing may be ordered by an Infectious Disease provider if deemed necessary after consultation.
- If the PCR is positive, the final result is recorded as positive
 - If the PCR is negative, the final result is recorded as negative

Lab testing algorithm



8. Antibiotic Stewardship
- a. Clindamycin or fluoroquinolone treatment are significant risk factors for development of C. difficile infection.

- b. The Antimicrobial Stewardship Team conducts daily chart review for all Spectrum Health patients
 - Treated for community acquired pneumonia (CAP), bladder infection or intra-abdominal infection with a quinolone.
 - Treated for any indication (excluding OB patients) with clindamycin.
- c. Patients are transitioned to lower risk antibiotic treatment (e.g. beta-lactams, TMP-SMX or nitrofurantoin).

References:

1. Clinical Practice Guidelines for Clostridium difficile Infection in Adults and Children: 2017 Update by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA)
2. Guide to Preventing Clostridium difficile Infections, 2013 by the Association for Professionals in Infection Control and Epidemiology, Inc. (APIC)
3. Spectrum Health lab test directory, <https://spectrumhealth.testcatalog.org/>.