



First Episode *Clostridium difficile* Infection (CDI) Management Algorithm



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Approved by Pharmacy & Therapeutics at UHN and MSH in February 2016

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Objective of the CDI Management Algorithm:

This algorithm has been developed with an interdisciplinary approach combined with antimicrobial stewardship strategies to act as a guideline for clinicians to intervene promptly, standardize care, and ensure appropriate monitoring of *C. difficile* patients.

Outlines the steps involved in the initial care of a CDI patient.

Best practice treatment guidelines for antibiotic therapy.

Outlines discipline specific care of patients with a positive CDI result.

Outlines discipline specific patient monitoring strategies.

An assessment tool that assists in determining the patient's treatment.

Summarizes the algorithm and assists in determining if the patient is responding to therapy.

CDI algorithm associated links:

- [CDI algorithm FAQs](#)
- [CDI algorithm e-learning at Mt. Sinai Hospital](#)
- [CDI algorithm e-learning at the University Health Network](#)



1. *C. difficile* is Suspected



Charge nurse/patient care coordinator to ensure algorithm is initiated and followed

1 Initiate contact precautions

2 Order *C. difficile* toxin assay

3 Primary physician or delegate to consider prior to test result if symptoms suggestive of severe or complicated/fulminant disease

What is *C. difficile* test result?

Negative

C. difficile is unlikely

Primary physician or delegate to consider Gastroenterology and Infectious Disease consult

Not Available

Unable to obtain sample within 6 hours
C. difficile not ruled out

Primary nurse to notify primary physician or delegate that *C. difficile* sample is not able to be obtained and discuss plan of care

Positive/Indeterminate

Primary nurse to:

- notify primary physician or delegate
- notify charge nurse/patient care coordinator
- implement additional precautions if not already implemented

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Primary physician or delegate to consider Gastroenterology and Infectious Disease consult for indeterminate cases



2a. Patient Assessment



Primary nurse ensures MD notified of positive *C. difficile* result



MD or delegate to ensure severity assessment is completed within 2 hours of positive *C. difficile* result, and appropriate treatment started within 4 hours.

If *C. difficile* test result is positive



Primary Physician or Delegate

- 1 Complete history and physical exam
- 2 Discontinue/reassess current antimicrobials
- 3 Discontinue/reassess narcotics, bowel regimen, proton pump inhibitors/H2 receptor antagonists and antiperistaltic agents
- 4 Order baseline CBC, electrolytes, creatinine, lactate, albumin if not available
- 5 Assess patients' severity

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Primary Nurse

- 1 Obtain baseline set of vital signs
- 2 Complete ongoing accurate stool charting including stool frequency and consistency
- 3 Ensure education of patient and family

2b. *C. difficile* Severity Criteria

- Age greater than 65
- Immunosuppression (e.g. neutropenia, solid organ or stem cell transplantation, HIV with CD4 lymphocyte count less than $50 \times 10^6/L$, systemic corticosteroids with equivalent of prednisone 20 mg daily)
- Temperature greater than $38^{\circ}C$
- Increase in serum creatinine greater than 50% from baseline OR significantly reduced urine output
- White blood cell (WBC) count greater than $15 \times 10^9/L$
- Albumin less than 30 g/dL
- Abdominal examination consistent with peritonitis



Severity

Mild to Moderate Disease

Patient has less than 2 severity criteria



Patient is hemodynamically stable with no signs of shock*

Severe Disease

Patient has 2 or more severity criteria



Patient is hemodynamically stable with no signs of shock*

Complicated/Fulminant Disease

Patient is hemodynamically unstable or has signs of shock*



Patient has ileus or toxic megacolon

* Shock: SBP less than 90 mm Hg or SBP decrease greater than 40 mm Hg from baseline, urine output less than 0.5 mL/kg/h, decreased level of consciousness, serum lactate greater than 2 mmol/L

3. *C. difficile* Treatment by Severity



MD or delegate to prescribe treatment based on severity of disease assessment



Primary nurse to administer medication within 4 hours

Mild/Moderate Disease

1 Treatment

metronidazole 500 mg PO/NG three times daily for 14 days

*IV if unable to take enteral medication, PO/NG is preferred

Severe Disease

1 Treatment

vancomycin 125 mg PO/NG four times daily for 14 days
+/-
 metronidazole 500 mg IV Q8H 1-14 days

2 Specialist Consultation

Primary physician or delegate may consider specialist consultation:

- General Surgery
- Infectious Diseases

3 Tests

Consider CT scan to assess for *C. difficile* infection

Complicated/
Fulminant Disease

1 Treatment

vancomycin 125 mg PO/NG four times daily for 14 days
AND
 metronidazole 500 mg IV Q8H for up to 14 days

2 Specialist Consultation

Primary physician or delegate must consult both:

- General Surgery
- AND
- Infectious Diseases

3 Tests

CT scan strongly recommended to assess for *C. difficile* infection

4 Palliative approach

If a palliative care is being considered, steps 1-3 may not be appropriate. Consider Palliative Care consult



Where applicable please complete Exceptional Access Program (EAP) documentation for PO vancomycin prior to patient discharge

4. Daily Monitoring



Primary Physician or Delegate

- 1 Complete daily assessment (including assessment of response to treatment and abdominal exam)
- 2 Order:
 - Vital Signs with appropriate frequency
 - Complete blood count (CBC), electrolytes, creatinine, lactate and albumin
 - Accurate intake and output monitoring
 - Consider Registered Dietitian consult
- 3 Reconsider diagnosis if rapid improvement of symptoms occurs within 24 hours



Primary Nurse

- 1 Complete abdominal assessment daily
- 2 Complete ongoing accurate stool charting including stool frequency and consistency
- 3 Document accurate input and output

5. Patient Response to Treatment

