The Mount Sinai Health System Divisions of Infectious Diseases and Gastroenterology Consensus Guidelines to Diagnosing and Treating *Clostridium difficile* Infection (CDI)

Testing:

- Do NOT send stool for *C. difficile* testing without diarrhea (≥ 3 loose bowel movements in 24 hours).
- Do not send stool if there has been recent use of laxatives. Discontinue laxatives and consider testing if diarrhea continues beyond 48 hours and there is no alternative explanation for the diarrhea.
- The Clinical Microbiology Laboratory will reject stool that are not diarrheal (Bristol Stool Chart 1-4).
- Repeat samples are not necessary as the negative predictive value of a single test is >99%.
- Do not send repeat specimens to document "test of cure." The test can remain positive for weeks after treatment. Do not repeat testing in patients who have undergone recent fecal microbiota transplantation (FMT) for the same reason.
- The Clinical Microbiology Laboratory will not accept stool specimens from patients with a negative test within the past 7 days or a positive test within 14 days.
- Downtime forms will only be accepted in the setting of a known EMR downtime or with ID/Clinical Microbiology Approval.

Treatment:

STOP ALL ANTIBIOTICS WHEN POSSIBLE

Severity	Clinical Manifestations	Treatment
Asymptomatic colonization	Positive *C. difficile* test without diarrhea, ileus, or colitis	No treatment necessary
Non-severe	Positive *C. difficile* test with diarrhea and no manifestations of severe	Vancomycin 125 mg* every 6 hours PO/NGT for 10 days (pre-approved)
Severe	Positive *C. difficile* test with diarrhea and ≥ 1 of the following attributable to CDI • WBC ≥ 15,000 • Serum Cr > 1.5 mg/dL	Vancomycin 125 mg* every 6 hours PO/NGT for 10 days (10 days are pre-approved) Consider GI consultation for Fecal Microbiota Transplantation (FMT) in patients without improvement on 5 days of therapy
Fulminant*	Criteria as above with ≥ 1 of the following attributable to CDI • Hypotension • Toxic megacolon • Lactate ≥ 4 • ICU admission for severe disease	Vancomycin 500 mg PO/NGT every 6 hours AND Metronidazole 500 mg IV every 8 hours If unable to tolerate oral therapy can consider Vancomycin retention enema (500 mg in 100 mL Normal Saline every 6 hours) Please consult GI for Fecal Microbiota Transplantation (FMT) Please consult ID and Surgery

* There is no evidence for increased doses with oral vancomycin for CDI. Higher doses may be considered in the setting of fulminant CDI and require ID approval.

Other treatment recommendations:

- Avoid use of anti-motility agents in patients with CDI.
- Avoid use of binding agents (e.g. cholestyramine) as they can bind oral vancomycin.
- If patient not improving on vancomycin, other causes should be evaluated and/or FMT considered. Fidaxomicin is not to be used as a rescue medication if patient not improving on vancomycin.
- Routine prophylactic use of metronidazole or oral vancomycin is not recommended. There may be specific situations where this is warranted and this should be discussed with ID.

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Recurrent CDI

- Defined as episode of symptom onset and positive assay result following an episode of positive assay result in previous 2-8 weeks
- Resistance to either metronidazole or vancomycin has not been described.
- Recurrence occurs in approximately 25% of patients and can be due to failure to eradicate spores or acquisition of a new strain. The risk for recurrence increases with every bout of CDI.

Episode	Treatment
First recurrence	*If PO vancomycin used during first episode:* • Vancomycin 125 mg every 6 hours PO/NGT for 10-14 days (10 days are pre-approved), followed by tapered PO vancomycin: 125 mg every 12 hours x 7 days 125 mg every 24 hours x 7 days 125 daily every other day for 7-14 days OR • *If anticipated discharge to the community within 24 hours*: Fidaxomicin* 200 mg every 12 hours PO for 10 days *If metronidazole used during first episode:* • Vancomycin 125mg every 6 hours PO/NGT for 10 days (10 days are pre-approved)
Second recurrence	Tapered PO Vancomycin Dose 125 mg every 6 hours x 10 days 125 mg every 12 hours x 7 days 125 mg every 24 hours x 7 days 125 mg daily every other day for 7-14 days OR *If anticipated discharge to the community within 24 hours:* Fidaxomicin* 200 mg every 12 hours PO for 10 days Consider FMT
Third	Consider FMT

* Fidaxomicin requires 24/7 ID approval and it is expected that information regarding discharge planning and insurance fidaxomicin coverage will be available at the time of the approval call.

Other treatment recommendations:

- Avoid use of anti-motility agents in patients with CDI
- Avoid use of binding agents (e.g. cholestyramine) as they can bind oral vancomycin
- Routine prophylactic use of metronidazole or oral vancomycin is not recommended

References

1. McDonald LC, *et al*. Clinical Practice Guidelines for *Clostridium difficile* Infection in Adults and Children: 2017 Update by the Infectious Diseases Society of America (IDSA) and Society of Healthcare Epidemiology of America (SHEA). *Clin Infect Dis.* 2018: 66(7); e1-e48.
2. Agency for Healthcare Research and Quality Guideline: Early Diagnosis, prevention and Treatment of *Clostridium difficile*: Update 2016.
3. Surawicz CM, *et al.* Guidelines for Diagnosis, Treatment, and Prevention of *Clostridium difficile* Infections. *Am J Gastroenterol*. 2013: 108(4); 478-98.
4. Dubberke ER, *et al.* Strategies to Prevent *Clostridium difficile* Infections in Acute Care Hospitals: 2014 Update. *Infect Control Hosp Epidemiol.* 2014: 35(6); 628-45
5. Fischer M, *et al.* Fecal microbiota transplant in severe and severe-complicated *Clostridium difficile*: a promising treatment approach. *Gut Microbes.* 2016:1-14.
6. Fischer M, *et al.* Fecal microbiota transplantation plus selected use of vancomycin for severe complicated *Clostridium difficile* infection: description of a protocol with high success rate. *Aliment Pharmacol Ther.* 2015: 42(4); 470-6.