## INTRODUCTION

The *Clostridium difficile* management guideline establishes evidence-based standards for management of *C. difficile* infection (CDI) at UCSF Medical Center, VA Medical Center, and Zuckerberg San Francisco General Hospital. The protocol has been adapted from published consensus guidelines from the Society for Healthcare Epidemiology of America (SHEA), the Infectious Diseases Society of America (IDSA), and the American College of Gastroenterology (ACG) with input from the Antimicrobial Stewardship Program, the Infectious Diseases Management Program, and the Infectious Diseases division.

## DEFINITIONS

| Abbreviation | Definition |
|---|---|
| CDI | *Clostridium difficile* infection |
| FMT | Fecal Microbiota Transplantation |
| ID | Infectious Diseases |
| GI | Gastroenterology |

## PRINCIPLES OF CDI MANAGEMENT

- Refer to the Hospital Epidemiology and Infection Control website for information on work-up of diarrhea and guidance on Infection Control issues pertaining to CDI at UCSF Medical Center (http://infectioncontrol.ucsfmedicalcenter.org/ucsf-clostridium-difficile-infection-prevention)
- Stop all unnecessary antibiotics, shorten antibiotic courses, and narrow the spectrum of antibiotic activity when possible
- Stop acid suppressive medications, especially proton-pump inhibitors, when possible
- Do not use anti-peristaltic agents until acute symptoms of CDI improve

## TREATMENT OF CDI IN ADULT PATIENTS, INITIAL EPISODE

| Clinical definition | Criteria | Treatment |
|---|---|---|
| Initial, mild-mod, Outpatient | Not meeting criteria for severe | Metronidazole 500 mg po q8h x 10-14 days<br>If no response @ 5 days, switch to vancomycin 125 mg po q6h x 10-14 days |
| Initial, mild-mod, Inpatient | Not meeting criteria for severe | Vancomycin 125 mg po q6h x 10-14 days<br>If unable to obtain upon discharge, okay to complete the course with metronidazole 500 mg po q8h |
| Initial, severe | WBC ≥ 15 OR Cr ≥ 1.5x baseline without hypotension, shock, ileus, and/or megacolon | Vancomycin 125 mg po q6h x 10-14 days |

| | | |
|---|---|---|
| Initial, severe+complicated | Hypotension, shock, ileus, and/or megacolon | Vancomycin 500 mg po/ng q6h + metronidazole 500 mg IV q8h +/- rectal vancomycin<br>Rectal vancomycin should be considered in patients with ileus. It is given as 500 mg in 100 mL of 0.9% NaCl and instilled q6h (retain each dose for 1h)<br>Consult ID and General Surgery for consideration of colectomy versus diverting loop ileostomy with colonic lavage |

**TREATMENT OF CDI IN ADULT PATIENTS, RECURRENT DISEASE**

Recurrence is defined as the re-appearance of symptoms and signs of CDI within 8 weeks after completion of therapy for prior CDI episode for which symptoms and signs had resolved.

| Clinical definition | Criteria | Treatment |
|---|---|---|
| 1st recurrence | Except special populations below | Same as for initial therapy, stratified by illness severity |
| 1st recurrence, special population | Hematologic cancer with neutropenia expected > 30 days<br>Recent bone-marrow transplant or treatment for GVHD<br>Solid-organ transplant < 3 mths<br>Otherwise not an FMT candidate | Fidaxomicin 200 mg po q12h x 10 days<br>(be sure to check insurance coverage before prescribing for outpatients; if insurance does not cover can try the MERCK pt assistance program at www. merckhelps.com) |
| ≥ 2nd recurrence | | Vancomycin tapered and/or pulsed PLUS<br>Evaluate for FMT<br>Consult ID, GI |

**VANCOMYCIN TAPER SCHEDULE FOR ADULTS**

125 mg po 4x daily x 14 days

125 mg po 2x daily x 7 days

125 mg po 1x daily x 7 days

125 mg po every other day x 8 days (4 doses)

125 mg po every 3 days x 2 weeks (5 doses)

**TREATMENT OF CDI IN PEDIATRIC PATIENTS, INITIAL EPISODE**

| Clinical definition | Criteria | Treatment |
|---|---|---|
| Initial, mild-mod | Not meeting criteria for severe | Metronidazole 10 mg/kg/dose PO (max 500 mg/dose) q8h x 10-14 days |
| Initial, no response to metronidazole in 5 days | | Switch to vancomycin 10 mg/kg/dose (max 125 mg/dose) po qid x 10-14 days |
| Initial, severe | WBC ≥ 15 OR Cr ≥ 1.5x baseline without hypotension, shock, ileus, and/or megacolon | Vancomycin 10 mg/kg/dose (max 125 mg/dose) PO q6h x 10-14 days |
| Initial, severe+complicated | Hypotension, shock, ileus, and/or megacolon | Vancomycin 10 mg/kg/dose (max 500 mg/dose) PO q6h + metronidazole 10 mg/kg/dose (max: 500 mg/dose) IV q8h<br>Consult ID and General Surgery |

**TREATMENT OF CDI IN PEDIATRIC PATIENTS, RECURRENT DISEASE**

Recurrence is defined as the re-appearance of symptoms and signs of CDI within 8 weeks after completion of therapy for prior CDI episode for which symptoms and signs had resolved.

| Clinical definition | Treatment |
|---|---|
| 1st recurrence | Same as for initial therapy, stratified by illness severity |
| ≥ 2nd recurrence | Vancomycin tapered and/or pulsed PLUS<br>Evaluate for FMT<br>Consult ID, GI |

**VANCOMYCIN TAPER SCHEDULE FOR CHILDREN**

10mg/kg/dose (max 125 mg/dose) po 4x daily x 14 days

10mg/kg/dose (max 125 mg/dose) po 2x daily x 7 days

10mg/kg/dose (max 125 mg/dose) po 1x daily x 7 days

10mg/kg/dose (max 125 mg/dose) po every other day x 8 days (4 doses)

10mg/kg/dose (max 125 mg/dose) po every 3 days x 2 weeks (5 doses)

**SPECIAL SITUATIONS**

**Comment on probiotics**

Mixed data exist regarding use of probiotics for primary prevention of CDI. There is insufficient data to support use for secondary prophylaxis. Can consider use based on patient and provider preference. Relatively contraindicated in immunocompromised populations.

**Comment on duration of therapy in patients receiving ongoing antibiotics**

Extension of CDI therapy in patients receiving ongoing systemic antibiotics is not routinely recommended as there is no supporting literature and this practice could place the patient at high risk for unnecessary drug-related toxicities and promote further disruption of the microbiome. This includes extension of therapy to match a course of antibiotics prescribed for another indication or to provide a "tail" of CDI therapy after systemic antibiotics are completed.

**Comment on secondary antibiotic prophylaxis for CDI**

Routine use of secondary CDI prophylaxis in patients at high risk of CDI recurrence is not recommended as there is no supporting literature and this practice could place the patient at high risk for unnecessary drug-related toxicities and promote further disruption of the microbiome.

**REFERENCES**

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