

## INTRODUCTION

The Adult *Clostridioides difficile* management guideline establishes evidence-based standards for management of *C. difficile* infection (CDI) at UCSF Medical Center. The guideline 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.

Date	Main changes
9/2025 update	Traditional fecal microbiota transplantation (FMT) no longer available, fecal microbiota, live-jslm (Rebyota) added to formulary (restricted)
5/2025 update	Bezlotoxumab no longer available after being discontinued by the manufacturer, removed from guidelines, which are otherwise unchanged
2024 update	Vowst® (fecal microbiota spores live-brpk) was added to UCSF formulary with inpatient adult restrictions for ID/ASP. The IDSA/SHEA guidelines have not yet addressed this agent, and ACG suggests use similar to current indications for FMT. This product is manufactured from human fecal matter sourced from qualified donors and is used to prevent the recurrence of CDI.
2022 update	Fidaxomicin is now first-line therapy for first and second <i>C. difficile</i> episodes (non-fulminant) Added recommendation for bezlotoxumab for certain patients after the 1 <sup>st</sup> episode and all patients after the 2 <sup>nd</sup> episode of CDI Guidelines now apply only to UCSF Health (ZSFG and SFVA have independent guidelines)

## DEFINITIONS

Abbreviation	Definition
ASP	Antimicrobial Stewardship Program (adult)
CDI	<i>Clostridioides difficile</i> infection
FMT	Fecal Microbiota Transplantation
ID	Infectious Diseases (adult)
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 episode, non-complicated, <b>toxin protein <u>negative</u>, toxin gene positive</b>		<p>Treatment for colonization typically is not necessary</p> <p>If treating, most patients: Vancomycin 125 mg po q6h x 10 days</p> <p>In symptomatic patients at very high risk for relapse (advanced age, severe immunocompromise, or need for ongoing systemic antibiotics) could consider Fidaxomicin 200 mg po twice daily x 10 days*</p>
Initial CDI episode, non-complicated, <b>toxin protein <u>positive</u>, toxin gene positive</b>	Not meeting criteria for fulminant	<p>Fidaxomicin 200 mg po twice daily x 10 days*</p> <p>Alternative: Vancomycin 125 mg po q6h x 10 days</p>
<b>Secondary prophylaxis</b> after initial episode after initial episode of toxin protein positive infection		<p>Treat for initial episode as above</p> <p>Bezlotoxumab is no longer available</p>
<b>Fulminant</b>	Hypotension, shock, ileus, and/or megacolon	<p>Vancomycin 500 mg po/ng q6h + metronidazole 500 mg IV q8h +/- rectal vancomycin</p> <p>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)</p> <p>Consult ID and General Surgery for consideration of colectomy versus diverting loop ileostomy with colonic lavage</p> <p>Fidaxomicin is not studied in fulminant CDI</p>

\* can transition to po vancomycin for completion of course if unable to obtain outpatient. If insurance does not cover fidaxomicin can try the MERCK patient assistance program at [www.merckhelps.com](http://www.merckhelps.com).

## 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, and assumes toxin gene AND toxin protein positive in all instances.

Clinical definition	Criteria	Treatment
<b>1<sup>st</sup> CDI recurrence</b> (non-fulminant)		<p>Fidaxomicin 200 mg po q12h x 10 days</p> <p>Alternative:  Vancomycin taper:  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)</p>
<b>Secondary prophylaxis after 1<sup>st</sup> recurrence</b>		<p>Treat as above</p> <p>Bezlotoxumab is no longer available</p> <p>Can consider evaluating for secondary prophylaxis in high risk patients with fecal microbiota spores, live-bprk (Vowst<sup>®</sup>) as an outpatient (alternative: fecal microbiota, live-jslm (Rebyota))</p>
<b>≥ 2 CDI recurrence</b> (non-fulminant)		<p>Vancomycin taper:  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)</p> <p>PLUS</p> <p>Evaluate for secondary prophylaxis with fecal microbiota spores, live-brpk (Vowst<sup>®</sup>): 4 capsules po daily x 3 days 2-4 days AFTER completing antibacterial treatment for recurrent CDI (alternative: fecal microbiota, live-jslm (Rebyota))</p> <p>Consult ID, GI</p>

## SPECIAL SITUATIONS

### **Oral fecal microbiota spores, live-brpk (Vowst, see clinical criteria above)**

- Avoid concurrent use with antibacterials
- Treat for episode of *C. difficile* with fidaxomicin or oral vancomycin as above
- Administer as an outpatient if possible
- Prior to administration of this biotherapeutic, the patient should drink 296 mL (10 oz) of magnesium citrate on the day before and at least 8 hours prior to taking the first dose of fecal microbiota spores, live-brpk
  - For patients with impaired renal function, the clinical study participants received polyethylene glycol electrolyte solution (250 mL)
- Criteria for inpatient administration: Must be expected to be hospitalized > 14 days after *C. difficile* episode
  - All use requires ID/ASP approval
  - This agent is not routinely stocked in inpatient pharmacy. Contact pharmacy purchasing team several days in advance to initiate order.
- Only may receive one course (currently not studied outside of this)
- Avoid in patients with severe immunocompromise

### **Fecal microbiota spores, live-jslm (Rebyota, see clinical criteria above)**

- Now available in lieu of traditional fecal microbiota transplantation, which is not currently commercially available
- Degree to which prior traditional fecal microbiota transplantation data would apply to this product is not clear
- Avoid concurrent use with antibacterials
- Treat for episode of *C. difficile* with fidaxomicin or oral vancomycin as above
- Administer as an outpatient if possible
- Criteria for inpatient administration: Must be expected to be hospitalized > 14 days after *C. difficile* episode
  - All use requires GI and/or ID consultation
  - To be administered colonoscopically
- Avoid in patients with severe immunocompromise

**Bezlotoxumab:** No longer available after being discontinued by manufacturer, previously used as secondary prophylaxis

### **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. Can consider use based on patient and provider preference.

**Comment on secondary antibiotic prophylaxis for CDI**

Do not routinely use prophylaxis if treating with fidaxomicin as the benefit of this therapy is to preserve the microbiome.

Mixed data exist regarding use of vancomycin for secondary prevention of CDI. Can consider use based on patient and provider preference.

For patients with recurrent CDI who are not candidates for commercially available fecal microbiota products (Vowst, Rebyota), relapsed after commercially available fecal microbiota products, or require ongoing or frequent courses of antibiotics, suppressive oral vancomycin may be used to prevent further recurrences.

## REFERENCES

1. Carignan A, Poulin S, Martin P, et al. Efficacy of Secondary Prophylaxis With Vancomycin for Preventing Recurrent *Clostridium difficile* Infections. *Am J Gastroenterol*. 2016;111(12):1834-1840. doi:10.1038/ajg.2016.417
2. Caroff DA, Menchaca JT, Zhang Z, et al. Oral vancomycin prophylaxis during systemic antibiotic exposure to prevent *Clostridioides difficile* infection relapses. *Infect Control Hosp Epidemiol*. 2019;40(6):662-667. doi:10.1017/ice.2019.88
3. Cornely OA, Miller MA, Louie TJ, Crook DW, Gorbach SL. Treatment of first recurrence of *Clostridium difficile* infection: fidaxomicin versus vancomycin. *Clin Infect Dis*. 2012;55 Suppl 2(Suppl 2):S154-161. doi:10.1093/cid/cis462
4. Feuerstadt P, Louie TJ, Lashner B, et al. SER-109, an Oral Microbiome Therapy for Recurrent *Clostridioides difficile* Infection. *N Engl J Med*. 2022;386(3):220-229. doi:10.1056/NEJMoa2106516
5. Johnson S, Lavergne V, Skinner AM, et al. Clinical Practice Guideline by the Infectious Diseases Society of America (IDSA) and Society for Healthcare Epidemiology of America (SHEA): 2021 Focused Update Guidelines on Management of *Clostridioides difficile* Infection in Adults. *Clin Infect Dis*. 2021;73(5):e1029-e1044. doi:10.1093/cid/ciab549
6. Kelly CR, Fischer M, Allegretti JR, et al. ACG Clinical Guidelines: Prevention, Diagnosis, and Treatment of *Clostridioides difficile* Infections. *Am J Gastroenterol*. 2021;116(6):1124-1147. doi:10.14309/ajg.0000000000001278
7. Khanna S, Assi M, Lee C, et al. Efficacy and safety of RBX2660 in PUNCH CD3, a Phase III, randomized, double-blind, placebo-controlled trial with a Bayesian primary analysis for the prevention of recurrent *Clostridioides difficile* infection. *Drugs* (2022). Available at: <https://doi.org/10.1007/s40265-022-01797-x>
8. Khanna S, Yoho D, Van Handel D, et al. Safety and effectiveness of fecal microbiota, live-jslm (REBYOTA®) administered by colonoscopy for prevention of recurrent *Clostridioides difficile* infection: 8-week results from CDI-SCOPE, a single-arm, phase IIIb trial. *Therap Adv Gastroenterol*. 2025 Apr 22;18:17562848251339697. doi: 10.1177/17562848251339697
9. McDonald LC, Gerding DN, Johnson S, 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 for Healthcare Epidemiology of America (SHEA). *Clin Infect Dis*. 2018;66(7):e1-e48. doi:10.1093/cid/cix1085
10. Mullane KM, Winston DJ, Nooka A, et al. A Randomized, Placebo-controlled Trial of Fidaxomicin for Prophylaxis of *Clostridium difficile*-associated Diarrhea in Adults Undergoing Hematopoietic Stem Cell Transplantation. *Clin Infect Dis*. 2019;68(2):196-203. doi:10.1093/cid/ciy484
11. Peery AF, Kelly CR, Kao D, et al. AGA Clinical Practice Guideline on Fecal Microbiota-Based Therapies for Select Gastrointestinal Diseases. *Gastroenterology*. 2024;166(3):409-434. doi:10.1053/j.gastro.2024.01.008
12. Sims MD, Khanna S, Feuerstadt P, et al. Safety and Tolerability of SER-109 as an Investigational Microbiome Therapeutic in Adults With Recurrent *Clostridioides difficile* Infection: A Phase 3, Open-Label, Single-Arm Trial. *JAMA Netw Open*. 2023;6(2):e2255758. doi:10.1001/jamanetworkopen.2022.55758
13. Van Hise NW, Bryant AM, Hennessey EK, Crannage AJ, Khoury JA, Manian FA. Efficacy of Oral Vancomycin in Preventing Recurrent *Clostridium difficile* Infection in Patients Treated With Systemic Antimicrobial Agents. *Clin Infect Dis*. 2016;63(5):651-653. doi:10.1093/cid/ciw401
14. Wilcox MH, Gerding DN, Poxton IR, et al. Bezlotoxumab for Prevention of Recurrent *Clostridium difficile* Infection. *N Engl J Med*. 2017;376(4):305-317. doi:10.1056/NEJMoa1602615

**Original guideline prepared by:**

UCSFMC: Sarah Doernberg, MD, MAS; Catherine Liu, MD; Jennifer Babik, MD, PhD; Rachel Wattier, MD; Alexandra Hilt-Horeczko, PharmD; Jonathan Faldasz, PharmD  
SFVA team: Harry Lampiris, MD; Daniel Maddix, PharmD  
ZSFG team: Lisa Winston, MD; Gregory Melcher, MD; Camille Beauduy, PharmD

**2019 revision prepared by:**

UCSFMC: Sarah Doernberg, MD, MAS  
SFVA: Jennifer Mulliken, MD; Sean Chow, PharmD ZSFG:  
Lisa Winston, MD; Camille Beauduy, PharmD

**2022 revision prepared by:**

Ripal Jariwala, PharmD  
Sarah Doernberg, MD, MAS

**2024 revision prepared by:**

Ripal Jariwala, PharmD, BCIDP  
Emily Kaip, PharmD, BCIDP, BCPS  
Will Simmons, MD  
Sarah Doernberg, MD, MAS

**2025 revisions prepared by**

Ripal Jariwala, PharmD, BCIDP  
Emily Kaip, PharmD, BCIDP, BCPS  
Will Simmons, MD

**Approved by:**

Group	Date
IDMP	2.29.16
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