Treatment of Suspected or Documented Clostridium difficile Infection in Pediatric Patients

General Principles of Management

- Discontinue antibiotics and acid-suppressing medications as soon as clinically appropriate; assure appropriate rehydration
- Avoid anti-peristaltic agents
- Response assessment should be based on resolution of signs/symptoms and NOT repeated PCR testing
- Consult pediatric ID for management of severe, complicated or recurrent infection, or for patients younger than 24 months of age
- Preferred vancomycin preparation is the reconstituted IV formulation administered orally. Oral administration of vancomycin is NOT systemically absorbed and should NOT replace IV vancomycin for treatment of concomitant systemic Gram-positive infections. Vancomycin IV should NOT be used to treat *C. difficile* infection.

Severity	Recommendations
First Occurrence	
Non-severe[1]	metronidazole 30mg/kg/day PO div q6h (preferred) or IV q6h for 7 days (max 500mg/dose) OR vancomycin 40mg/kg/day PO div q6h for 10 days (max 125mg/dose) <u>If initially treated with metronidazole and fail to respond in 3-5 days</u>: switch to vancomycin 40mg/kg/day PO div q6h for 10 days (max 125mg/dose) <u>For pregnant/breastfeeding or metronidazole-intolerant patients</u>: treatment with vancomycin recommended as above
Severe[2]	vancomycin 40mg/kg/day PO div q6h for 10 days (max 125mg/dose) **+/-** metronidazole 30mg/kg/day IV q6hr
Fulminant[3]	<u>If no abdominal distension</u>: vancomycin 40mg/kg/day PO div q6h (max 125 mg/dose) + metronidazole 30mg/kg/day IV div q6h (max 500 mg/dose) (both x 10 days) <u>If complicated with ileus or toxic colitis and/or significant abdominal distension</u>: vancomycin 40mg/kg/day PO div q6h (max 500mg/dose) + metronidazole 30mg/kg/day IV div q6h (max 500mg/dose) + vancomycin 500mg/100mL normal saline enema PR q8h until improvement (all x 10 days)[4]

Severity	Recommendation
First Recurrence	
(all)	vancomycin 40mg/kg/day PO div q6h (max 125 mg/dose) x 10 days
Second Recurrence	
(all)	DO NOT USE METRONIDAZOLE vancomycin PO as pulsed or prolonged tapered dose (max dose 125mg) • Possible pulse: vancomycin 10mg/kg/dose PO QID for 10-14 days, then BID for 7d, then QD for 7d, then every 2-3 days for 2-8 weeks
Third Recurrence	
(all)	Consult Pediatric Infectious Diseases for additional recommendations[5]

[1]Non-severe: immunocompetent patient that does not meet criteria for severe disease
[2]Severe: any hospitalized or immunocompromised patient; OR serum albumin < 3gm/dL and either a) WBC > 15,000 cells/mL; OR b) abdominal tenderness without criteria of fulminant disease OR immunocompromised
[3]Fulminant: ICU admission, hypotension (with or without vasopressors), fever >38.5° C, ileus, significant abdominal distention, mental status changes, WBC > 35, 000/mL, or <2000 cells/mL, serum lactate > 2.2 mmol/L, end-organ failure, megacolon
[4]Avoid rectal medication administration in patients with neutropenia
[5]Alternatives for recurrent disease include (but are not limited to) rifaximin, fecal transplant, and nitazoxanide. (see ref 1 for full discussion). While fidaxomicin (available by full ID consult approval only in adults) was FDA-approved for treatment of first episode of mild/moderate CDI, published data are lacking for use in recurrent and/or severe infections. Pediatric fidaxomicin studies are currently underway. Since the best agent for treatment of recurrent disease is unknown, fidaxomicin should be considered on a case-by-case basis.

Reference:

McDonald LC, Gerding DN, Johnson S, Bakken JS, Carroll KC, 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 Mar 19;66(7):e1-e48. PubMed PMID: 29462280

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