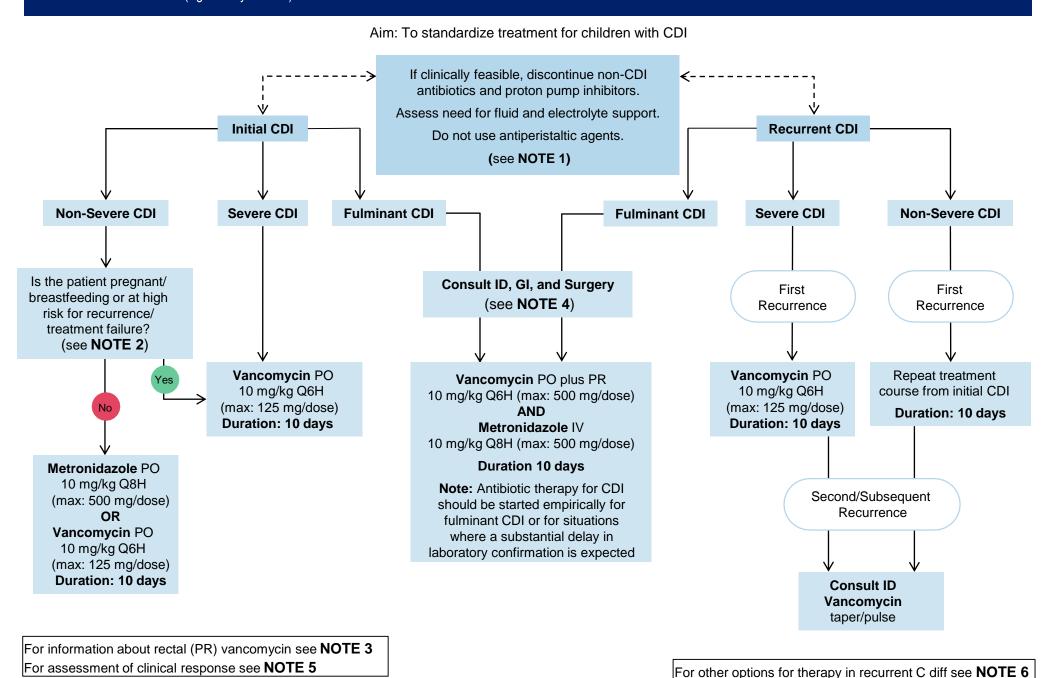
ED/INPATIENT GUIDELINE

CLOSTRIDIOIDES DIFFICILE INFECTION (CDI) TREATMENT GUIDELINE



(Age < 18 years old)



CLOSTRIDIOIDES DIFFICILE INFECTION (CDI) TREATMENT GUIDELINE

Children's

Aim: To standardize treatment for children with CDI

DEFINITIONS

There are no validated criteria for disease severity in children. The definitions below are based on adult criteria.

Non-Severe CDI: Diarrhea ≥ 3 times per day without symptoms defined under severe CDI

(Age < 18 years old)

Severe CDI: Diarrhea ≥ 3 times per day AND at least one of the following: Leukocytosis or leukopenia (WBC > 15,000 or < 5,000) not otherwise explained (e.g. chemotherapy-induced leukopenia)

Elevated age adjusted creatinine or worsening renal function

Fulminant CDI: Diarrhea ≥ 3 times per day AND at least one of the following:

Hypotension or shock

lleus or toxic megacolon

Pseudomembranous colitis by endoscopy

Recurrent CDI: Surveillance definition of recurrent CDI specifies an episode of symptom onset and positive C. difficile Toxin PCR following another episode with positive C. difficile Toxin PCR in the previous 2–8 weeks. Currently, there is no universally accepted clinical definition of recurrent CDI. For clinical purposes, based upon expert opinion, an episode of CDI occurring within 6 months after completion of treatment for a prior CDI may be considered a recurrent CDI episode. If there is uncertainty about whether a CDI event is initial or recurrent, discussion with an Infectious Disease specialist is encouraged.

ADDITIONAL RESOURCES

Antibiotic recommendations for treatment of CDI in adults - see the subsection on CDI in the following guideline: https://starnet.childrenshc.org/References/CDS/adult-sepsis-antibiotic-recommendations.pdf

Guidance on CDI testing

<u>Prevention of CDI transmission, https://starnet.childrenshc.org/References/Policy/1200/1231.00-enteric-(transmission-based)-precautions.pdf</u>

Patient/family education on CDI, https://www.cdc.gov/hai/pdfs/cdiff/Cdiff/tagged-BW.pdf

NOTE 1:

Patients with mild CDI may have spontaneous resolution of CDI after discontinuing the inciting antibiotic(s). Virtually all antibiotics have been associated with CDI. Certain classes (3rd and 4th generation cephalosporins, fluoroquinolones, carbapenems, and clindamycin) have been associated with higher risk for CDI. Consider holding CDI treatment for 48–72 hours. If CDI symptoms have not resolved at that time, initiate treatment for CDI.

NOTE 2:

Populations at high risk for recurrent CDI or treatment failure include: patients with cancer, patients with IBD, patients who are immunosuppressed, patients who are G/J tube dependent, solid organ transplant patients, stem cell transplant patients, and patients with Hirschsprung's disease.

NOTE 3:

Rectal administration of 10 mg/kg vancomycin (standard concentration is 500 mg/100 mL normal saline) is indicated for patients with fulminant disease. Since rectal manipulation in hematology/oncology patients is generally discouraged, the decision to use rectal vancomycin in these patients will require weighing risks vs. benefits.

NOTE 4:

In patients with fulminant CDI, a rising WBC count (≥ 25,000) or a rising lactate level (≥ 45 mg/dL) is associated with high mortality. Patients should be closely monitored, with early specialist surgical input.

NOTE 5:

Clinical response is usually evident within the first 3 days of treatment and includes improvement in abdominal pain, reduced stool frequency, decreasing WBC count if elevated, and resolution of fever if present. If patient symptoms are worsening or have not improved by day 5 or 6 of treatment, a change of therapy is indicated.

NOTE 6:

Fidaxomicin is an alternative agent that is approved for CDI in children 6 months and older. It may be considered in the treatment of recurrent CDI in consultation with Infectious Disease.



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REFERENCES

- 1. Bennett JE, Dolin R, Blaser MJ. Mandell, Douglas, and Bennett's Infectious Disease Essentials. Philadelphia, PA. Elsevier. 2017.
- 2. Deepika P, Dang R, Miranda-Katz M, et al. Risk factors for recurrent community-associated *Clostridioides difficile* infection in children. *Ped Infect Dis J.* 2019; 2019;1073-1078.
- 3. Diorio C, Robins PD, Ammann RA, et al. Guideline for the management of *Clostridium difficile* infection in children and adolescents with cancer and pediatric hematopoietic stem-cell transplantation recipients. *J Clin Oncol.* 2018;36(31):1-11.
- 4. Kamboj M, Khosa M, Kaltsas A, et al. Relapse versus reinfection: Surveillance of Clostridium difficile infection. Clin Infect Dis. 2011;53:1003-1006.
- 5. Khanna S, Shin A, Kelly CP. Management of *Clostridium difficile* infection in inflammatory bowel disease: expert review from the clinical practice updates committee of the AGA Institute. *Clin Gastroenterol Hepatol.* 2017;15(2):166-174.
- 6. Kimberlin DW, Brady MT, Jackson MA, Long SS eds. Red Book: 2018-2021 Report of the Committee on Infectious Disease. 31st ed. Itasca, IL. American Academy of Pediatrics: 2018.
- 7. 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):1-48.
- 8. Mullane KM, Dubberke ER. Management of *Clostridioides* (formerly *Clostridium*) *difficile* infection (CDI) in solid organ transplant recipients: guidelines from the American Society of Transplantation Community of Practice [published online ahead of print April 9,2019]. *Clin Transplant*. doi: 10.1111/ctr.13564.
- 9. Public Health England. Updated guidance on the management and treatment of *Clostridium difficile* infection. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/321891/Clostridium_difficile_management_and_treatment.pdf Published May, 2013. Accessed October 8, 2019.
- 10. Stevens VW et al. Use of oral vancomycin for *Clostridioides difficile* Infection (CDI) and the risk of vancomycin-resistant Enterococci (VRE). *Clin Infect Dis.* 2019 https://doi.org/10.1093/cid/ciz871.
- 11. Yin J, Kociolek LK, Same RG, et al. Oral vancomycin may be associated with earlier symptom resolution than metronidazole for hospitalized children with nonsevere *Clostridiodes difficile* infections. *Open Forum Infect Dis.* 2019 ofz492, https://doi.org/10.1093/ofid/ofz492.
- 12. Wolf J, Kalocsai K, Fortuny C, et al. Safety and efficacy of fidaxomicin and vancomycin in children and adolescents with Clostridioides (Clostridum) difficile infection: a phae 3 multicenter, randomized, single-blind clinical trial (SUNSHINE). Clin Infect Dis. 2020; 71(10); 2581-2588.

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