Clostridium difficile Infection (CDI)

- Discontinue therapy with the inciting antibiotic agent as soon as possible, especially broad-spectrum antibiotics (fluoroquinolones, clindamycin, piperacillin-tazobactam, cephalosporins), as this may influence the risk of clinical response and CDI recurrence
- Discontinue proton-pump inhibitors (PPIs) if unnecessary (see PPI pathway)
- Discontinue use of any anti-diarrheal/antiperistaltic agents
- Start antibiotic therapy for CDI empirically if a substantial delay in laboratory confirmation is expected (>48 h) or if a patient presents with fulminant CDI (see definition below)

INITIAL EPISODE			
Clinical Classification	**Supportive Clinical Data**	**Recommended Regimens**	**Clinical and Therapeutic Considerations**
Initial episode, non-severe	• Unexplained and new-onset diarrhea (≥ 3 unformed stools in 24H) **AND** • WBC < 15,000 cells/mL **AND** • SCr < 1.5 mg/dL	Vancomycin 125 mg PO Q6H for 10 days **OR** Fidaxomicin 200 mg PO Q12H for 10 days **Alternate only if above agents are unavailable:** Metronidazole 500 mg PO TID for 10 days	Ensure loose stools are not a result of laxative Metronidazole should be avoided in patients who are very elderly or infirm
Severe	• Diarrhea **AND** • WBC ≥ 15,000 cells/µL **AND/OR** • SCr ≥ 1.5 mg/dL	Vancomycin 125 mg PO Q6H for 10 days **OR** Fidaxomicin 200 mg PO Q12H for 10 days	**Consult ID and Surgery** **Start supportive care as needed:** • IV fluid resuscitation • Electrolyte replacement
Fulminant **(previously referred to as severe, complicated CDI)**	Characterized by one of the following: • Hypotension • Shock • Toxic Megacolon • Perforation • Ileus	Vancomycin 500 mg PO Q6H **OR** via NG tube[1] **AND** Metronidazole 500 mg IV Q8H **If ileus present:** Add vancomycin retention enema 500 mg in 100 mL NS Q6H[1,2] Treatment duration: 14 days	

CDI= Clostridium difficile Infection; H= hour(s); ID= Infectious Diseases; IV= intravenous; NG= nasogastric; NS= normal saline; PO= by mouth; PPI= proton pump inhibitor; Q= every; SCr= Serum Creatinine; WBC= white blood cell

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 for Healthcare Epidemiology of America (SHEA). Clin Infect Dis 2018.
2. Kim PK, et al. Intracolonic Vancomycin for severe clostridium difficile colitis. *Surg Infect (Larchmt).* 2013 Dec; 14(6):532-9.
3. Louie T, et al. Fidaxomicin versus Vancomycin for *Clostridium difficile* Infection. *N Engl J Med*. 2011 Feb 3;364(5):422-31.
4. Cornely OA, et al. Fidaxomicin versus vancomycin for infection with Clostridium difficile in Europe, Canada, and the USA: a double-blind, non-inferiority, randomised controlled trial. *Lancet Infect Dis* 2012; 12: 281–9.

Clostridium difficile Infection (CDI)

Recurrent Episodes

No. of Recurrences	Recommended Regimens	
1st Recurrence	Vancomycin 125 mg PO Q6H for 10-14 days	
	Vancomycin Pulsed-Taper Regimen: 125 mg PO Q6H for 10-14 days 125 mg PO Q12H for 7 days 125 mg PO once daily for 7 days 125 mg PO every 2-3 days for 2-8 weeks **OR** Fidaxomicin 200 mg PO Q12H for 10 days	
	If fidaxomicin was used for the initial episode:	Vancomycin 125 mg PO Q6H for 10-14 days
2nd Recurrence	Consult ID for tailoring antibiotic therapy. Vancomycin Pulsed-Taper Regimen (outlined above) **OR** Fidaxomicin 200 mg PO Q12H for 10 days **OR** Consult ID team for possible: • Vancomycin 125 mg PO Q6H for 10-14 days **then** rifaximin 400mgPO TID for 20 days[1,] • Referral for fecal microbiota replacement therapy[1,]	
≥ 3 recurrences	Consult ID team • Possible referral for fecal microbiota replacement therapy[1] • Consider restarting vancomycin taper **OR** fidaxomicin 200 mg PO Q12H **OR** vancomycin followed by rifaximin[1]	

Risk Factors For CDI

- ≥ 64 years of age
- Exposure to antibiotics in last 90 days
- Hospitalization in last 30 days
- Recent GI surgery
- Exposure to CDI (household family member with CDI)
- Long-term care facility or nursing home resident
- Gastric acid reducing agent (PPIs)
- Tube feedings

Infection Control

- Screening for *C. difficile* in hospitalized patients without diarrhea is not recommended
- Asymptomatic carriers should not be treated
- Patients should be placed in a private room or with other patients who have CDI
- Continue contact precautions for CDI patients until 48 hours from resolution of symptoms
  - Place contact precautions plus sign on patient's door
  - Hand hygiene and barrier precautions (gloves and gowns)
  - Place dedicated stethoscope in patient's room
- When patient discharged or symptoms resolve, room should be terminally cleaned

Miscellaneous

- Repeat CDI PCR testing not recommended due to the likelihood of false positives. Toxin A, B, and TC may remain positive for as long as 30 days in patient with symptom resolution.

CDI= Clostridium difficile infection; GI= gastrointestinal; H= hour(s); ID= Infectious Diseases; PCR= Polymerase Chain Reaction; PO= by mouth; Q= every; TC= Toxigenic Culture