



# C. difficile Management

Children's of Alabama

Updated: 8/30/2024



# Who to test?

- ▶ Risk Factors (priority to test) **WITH** clinical symptoms:
  - ▶ Recent antibiotic exposure
  - ▶ Immunocompromised
  - ▶ Inflammatory Bowel Disease
  - ▶ Prior history of confirmed CDI
- ▶ **Diarrhea** – at least  $\geq 3$  **liquid** stools in 24 hours
- ▶ **No other causes of diarrhea** (medications such as laxatives in the last 48 hours, change in enteral feedings or other bowel irritating medications)
- ▶ No retest within 30 days, unless clinical suspicion of recurrence (no “test of cure”)
- ▶ NO patient less than 12 months of age should be tested for Cdiff --- testing will be rejected by the lab (does not include GI panel, just the Cdiff NAAT)
- ▶ All patients **TESTED** for CDI should be placed on **contact isolation**

# C. difficile Diagnostics

**Table. Tests for *C. difficile* Infection**

Test	Sensitivity	Specificity	Substance Detected	Comments
Toxigenic culture (TC)	High	Low	<i>C. difficile</i> vegetative cells or spores	Must be combined with a toxin test
Nucleic acid amplification test (NAAT)	High	Low/moderate	<i>C. difficile</i> nucleic acid (toxin genes)	
Glutamate dehydrogenase (GDH)	High	Low	<i>C. difficile</i> common antigen	Must be combined with a toxin test
Cell cytotoxicity neutralization assay (CCNA)	High	High	Free toxins	
Toxin A and B enzyme immunoassays	Low	Moderate	Free toxins	

# *Clostridioides difficile*

Initial Disease

**Severe:** WBC  $\geq$  15K OR SCr  $>$  1.5

**Non-Severe:** WBC  $\leq$  15K AND SCr  $<$  1.5

Severe Disease

Non-Severe Disease

**Critical Illness:** hypotension, shock, ileus, toxic megacolon

Critical Illness

No critical Illness

VANCOMYCIN PO QID for 10 days (max: 125mg/dose)

**Critical Illness:** hypotension, shock, toxic megacolon

VANCOMYCIN PO QID for 10 days (max: 500mg/dose)  
AND METRONIDAZOLE IV TID (Max: 500mg/dose)

VANCOMYCIN PO QID for 10 days (max: 500mg/dose)

FIDAXOMICIN PO BID for 10 days (max: 200mg/dose)

• **Vancomycin Dosing:**  
Vancomycin PO 10mg/kg/dose QID

• **Metronidazole Dosing (for critical illness only):**  
Metronidazole IV 10mg/kg/dose TID

• **Fidaxomicin:** 16mg/kg/dose BID;

## Weight based

- ✓ 4-7kg: 80mg/dose;
- ✓ 7-<9kg: 120mg/dose;
- ✓ 9-<12.5kg: 160mg/dose;
- ✓  $\geq$ 12.5kg: 200mg

# C.diff Recurrence

Immunocompromised Patients (any age)

Recurrence = symptomatic disease w/in 28 days from clinical cure (Or 38 days from start of initial treatment)

First Recurrence

Second or Subsequent Recurrence

Preferred Regimens

FIDAXOMICIN PO BID for 10 days (max: 200mg)

FIDAXOMICIN PULSE & TAPER REGIMEN

VANCOMYCIN PULSE & TAPER regimen

Alternative Regimen

VANCOMYCIN PULSE & TAPER

FIDAXOMICIN PO BID for 10 days (max: 200mg)

VANCOMYCIN PO QID for 10 days, followed by Rifaximin TID for 20 days

Considerations:

CONSULTATION to ID for FMT (fecal microbiota transplant)

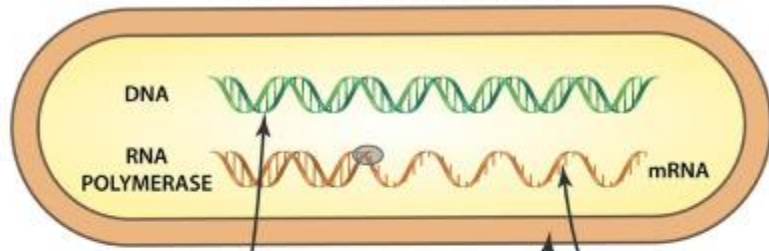
CONSULTATION to ID for Bezlotoxumab in conjunction with standard treatment

- **Fidaxomicin:** 16mg/kg/dose BID;
  - Weight based
    - ✓ 4-7kg: 80mg/dose;
    - ✓ 7-<9kg: 120mg/dose;
    - ✓ 9-<12.5kg: 160mg/dose;
    - ✓ >12.5kg: 200mg

- **Vancomycin Pulse & Taper:** Max dose: 125mg/dose – 10mg/kg/dose QID for 14 days, then BID for 7 days, then daily for 7 days, then ONCE every other day for 14-56 days

- **Fidaxomicin Pulse & Taper:** Max dose: 200mg/dose – see above dosing BID for 5 days, then ONCE every other day for 20 days

## CLOSTRIDIODES DIFFICILE



		METRONIDAZOLE	VANCOMYCIN	FIDAXOMICIN
	SYSTEMIC ABSORPTION	● HIGH	● LOW	● LOW
	STOOL CONCENTRATION	● LOW	● HIGH	● HIGH
	REDUCTION OF BIOACTIVITY BY FAECES	● HIGHEST	● LOWER	● LOWER
	EFFECT ON DIVERSITY OF MICROBIOTA	● REDUCTION	● REDUCTION	● PRESERVATION
	STOOL SHEDDING DECLINE	● SLOW	● RAPID	● RAPID
	ENVIRONMENTAL CONTAMINATION	● HIGHEST	● LOWER	● LOWER (STEEPER)
	SPOROCIDAL EFFECT	—	● NO	● YES
	INHIBITION OF SPORULATION	● NO	● NO	● YES

● SUPPORTIVE    ● LESS-SUPPORTIVE    ● NON-SUPPORTIVE    — NO DATA

Overview of pharmacodynamic, pharmacokinetic and microbiological properties for oral administration of metronidazole, vancomycin and fidaxomicin.