CLINICAL PATHWAY:

Suspected Clostridioides difficile (C. difficile) Infection Evaluation and Management

THIS PATHWAY SERVES AS A GUIDE AND DOES NOT REPLACE CLINICAL JUDGMENT.

Inclusion Criteria: Suspected Clostridioides difficile (C. difficile) infection due to:

(1) prolonged or worsening diarrhea (at least 3 liquid stools in 24 hours; see Appendix A) AND

(2) risk factors for *C. difficile* infection (antibiotics in prior 3 months, hospitalization in prior 3 months, immunocompromised patients due to chemotherapy/humoral immunodeficiency/solid organ transplant, chronic inflammatory bowel disease, G-tube or J-tube need, use of acid suppressive therapies – PPI or H2 blockers, prior *C. difficile* infection, or at the discretion of the provider)

Exclusion Criteria: Soft or formed stools (see Appendix A), <3 liquid stools in 24 hours (testing for C. difficile is NOT recommended in these cases; lab will reject stools that do not take shape of container)

Place on Contact Precautions. Only send C. difficile testing if criteria met (see below).

Clinical Evaluation:

- When evaluating for possible *C. difficile* infection, note the age of the patient, number of liquid stools in the last 24 hours, presence of risk factors for *C. difficile* infection, relevant symptoms (e.g., abdominal pain, cramps, fever), vitals, WBC, and presence of tube feedings
- Vomiting is not characteristic of C. difficile infection and may signify an alternative diagnosis (e.g., viral gastroenteritis)
- Studies have shown that there is no characteristic odor of stool from patients with C. difficile

Considerations for testing for C. difficile:

- <1 years of age: Represents colonization
 - DO NOT test; treating for C. difficile is not indicated
- 1-2 years of age: High likelihood of colonization; in rare circumstances, C. difficile infection may be possible consider consulting Infectious Diseases
 - Evaluate for other infectious/non-infectious causes before testing for C. difficile
 - Add fiber to the formula of tube-fed patients
 - Stop medications associated with diarrhea (see Appendix A): laxatives/stool softeners should be stopped at least 48 hours prior to testing

>2 years of age:

Test ONLY if patient has not received laxatives or other medications associated with diarrhea (or diarrhea persists after 48 hours of stopping the medication)

<u>AND</u> at least 3 liquid stools in 24 hours <u>AND</u> if no alternative reason for diarrhea exists (see <u>Appendix A</u> for examples of medications)

Confirmed C. difficile infection:

- Testing algorithms may differ by lab refer to the individual lab interpretation of results to determine if C. difficile infection exists [the
 test must include a positive toxin assay: PCR and/or enzyme assay (e.g., EIA)].
- Repeat testing during the same episode is NOT recommended. Test of cure is not indicated because C. difficile colonization may persist.



Treatment Options

Non-Severe Infection:

[diarrhea may contain some blood, WBC and SCr normal for age]

- <18 yrs old:</p>
 Vanco
 - o Vancomycin PO: 10 mg/kg/dose QID (max 125 mg/dose) or
 - o Metronidazole PO: 7.5 mg/kg/dose TID (max 500 mg/dose) x10 days
- ≥18 yrs old:
 - o Preferred: **Fidaxomicin** 200 mg/dose BID x10 days
 - o Alternatives:
 - Vancomycin PO: 10 mg/kg/dose QID (max 125 mg/dose) or
 - Metronidazole PO: 7.5 mg/kg/dose TID (max 500 mg/dose) x10 days
 - If no improvement within 5-7 days: considered treatment failure. Follow guidelines under "Recurrent Disease".

Severe Infection:

[ill-appearing, diarrhea usually bloody, elevated WBC likely due to C. difficile]

- If <18 years old: Vancomycin PO: 10 mg/kg/dose QID (max 125 mg/dose) x10 days
 - If ≥18 years old:
 - o Preferred: Fidaxomicin 200 mg/dose BID x10 days
 - o Alternative: Vancomycin PO: 10 mg/kg/dose QID (max 500 mg/dose) x10 days
- If no improvement within 5-7 days: consult GI and Infectious Diseases

Fulminant Infection

[hypotension/shock due to C. difficile, ileus, mega colon; adults with serum lactate \geq 5 mmol/L and peripheral WBC \geq 50,000 associated with higher rates of mortality]

- Metronidazole IV: 7.5 mg/kg/dose q8hr (max 500 mg/dose) and
- Vancomycin PO 10 mg/kg/dose QID (max 500 mg/dose) and/or

 $\mbox{{\bf Vancomycin PR}} \ 4x/day \ \mbox{{\bf via}} \ \ \mbox{{\bf retention enema}} \ \ (\mbox{{\bf through foley catheter clamped for 30-60 min retention time)}$

- o Do not use PR vancomycin if neutropenic
- o 1-4 yrs old: 250 mg in 50 mL normal saline
- o 4-11 yrs old: 375 mg in 75 mL normal saline
- Duration of treatment: 10 days
 - GI and Infectious Diseases
 - o Consider Surgery consultation as needed

(repeat episode ≤8 weeks from prior episode)

Recurrent Disease

<u>Treatment Options</u> [See disease severity under "Initial Disease" for clarification.]

1st recurrence:

- <18 yrs old:
 - Metronidazole PO 7.5 mg/kg/dose TID (max 500 mg/ dose) x10 days or
 - Vancomycin PO 10 mg/kg/dose QID (max 125 mg/dose for non-severe infection; max 500 mg/dose for severe and fulminant infection) x10 days
- If ≥18 years old:
 - Preferred: Fidaxomicin 200 mg/dose BID x10 days
- Alternative: Vancomycin PO (max 125 mg/dose for nonsevere infection; max 500 mg/dose for severe and fulminant infection) x10 days

If second or more recurrence:

- Consult GI and Infectious Diseases
- If <18 years old:
 - Begin Vancomycin with taper: Vancomycin PO 10 mg/kg/ dose QID (max 125 mg/dose for non-severe/severe infection, max 500 mg/dose for fulminant infection) x10 days <u>followed by taper</u>
 - Example of a vancomycin taper:
 - Vancomycin PO 10 mg/kg/dose (max 125 mg/ dose) BID x7 days followed by
 - Vancomycin PO 10 mg/kg/dose (max 125 mg/ dose) once daily for 7 days followed by
 - Vancomycin PO 10 mg/kg/dose (max 125 mg/ dose) every 2-3 days for 2-8 weeks as directed by GI
- If ≥18 years old:
 - Preferred: Fidaxomicin 200 mg/dose BID x10 days
 - If failure with above:
 - Consider options such as vancomycin + rifaximin, vancomycin + nitazoxanide, or fidaxomicin in consultation with GI and ID

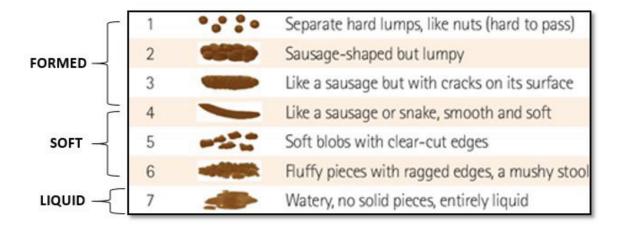
Discharge Criteria: clinically stable, cleared by GI (and surgery/Infectious Diseases, if involved), ensure availability and insurance coverage of medication prior to discharge

Discharge Instructions: follow up with PCP and/or GI (if involved in hospitalization)



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Bowel Consistency - Bristol Stool Chart



Examples of Medications That Can Cause Diarrhea

- Laxatives:
 - Lactulose, bisacodyl, magnesium citrate, docusate, Go-lytely, Senna, polyethylene glycol, sorbitol, etc.
- Enemas and suppositories
- Others:
 - Kayexalate
 - Colchicine
 - Octreotide
 - Metformin and other diabetic medications
 - Antibiotics
 - Antineoplastics
 - Magnesium containing antacids

