**EXCLUSION CRITERIA**
- 7 days since last positive C. difficile test
- Positive for any other etiology

**DO NOT RETEST WITHIN 7 DAYS**
(Order will be auto cancelled)

**GUIDEライン INCLUSION CRITERIA**

**Patient ≤ 1 year of age** with persistent diarrhea despite supportive care
OR
Diarrhea with concerning abdominal findings and the following:

- Antibiotic Exposure
- Other etiologies ruled out

- Consider other etiologies.
- Asymptomatic carriage is reported to be 30% – 70% in healthy infants as they are thought to have immature or diminished receptors sites for toxins.

- Collect Stool Specimen for testing

- Manage OFF-PATHWAY

**Step 1 Test:**
Glutamate Dehydrogenase (GDH) AND
Toxin A/B

- Step 1 Evaluation
  - Equivalical

- Step 2 Test:
  - PCR OR NAAT (Reflex)

- Step 2 Evaluation
  - Negative
  - Manage OFF-PATHWAY
  - Positive

- C. difficile Infection Treatment Pathway

**GUIDEライン INCLUSION CRITERIA**

**Patient > 1 year of age** with persistent diarrhea despite supportive care.

- The following may or may not be present:
  - Antibiotic Exposure
  - Other etiology ruled out

- Initiate contact precautions: 1
  - Wash hands with soap and water
  - Use bleach disinfectant wipes

- Specimen Collection Criteria:
  - Stool takes the shape of the container
  - Only use formed stool if there is suspicion of ileus

  Exceptions to the criteria require discussion of rationale with the laboratory and strongly consider ID consult.

Families of patients with *C. difficile* infection should wash hands with soap and water after contact with the patient or surfaces which may have become soiled with stool. Alcohol hand sanitizer may not be effective against *C. difficile* organisms. A 10% bleach solution should be used to clean and disinfect diaper changing tables and bathroom surfaces.
GUIDELINE INCLUSION CRITERIA
C. difficile infection diagnosed by GDH, Toxin A/B EIA, or PCR/NAAT

Determine Disease Severity:
C. difficile Disease Classification

Discontinue or shorten antibiotic course for non-C. difficile antibiotics if possible.
Special concern:
Clindamycin
Cephalosporins
Flouroquinolone

Stop or change PPI/acid-suppressants
Antiperistaltic medications should be avoided

C. difficile infection antimicrobial therapy complete AND Asymptomatic

End Contact Precautions
Manage Patient’s Underlying Condition

Families of patients with C. difficile infection should wash hands with soap and water after contact with the patient or surfaces which may have become soiled with stool. Alcohol hand sanitizer may not be effective against C. difficile organisms. A 10% bleach solution should be used to clean and disinfect diaper changing tables and bathroom surfaces.

For questions concerning this pathway, Click Here

Last Updated November 18, 2016
The 2 step testing algorithm includes a sensitive assay for glutamate dehydrogenase (GDH), produced by all C. difficile organisms, but not specific to A and B toxin-producing strains that cause C. difficile Infection (CDI). The enzyme immunoassay (EIA) is specific for the A and B toxin-producing strains. The polymerase chain reaction (PCR) or transcription-mediated amplification (TMA) detects genetic material from the A and B toxin-producing strains.
## Disease Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild or moderate</td>
<td>≥ 3 loose stools in 24 hours</td>
</tr>
<tr>
<td></td>
<td><strong>AND</strong></td>
</tr>
<tr>
<td></td>
<td>Feeding well</td>
</tr>
<tr>
<td>Severe</td>
<td>≥ 3 loose stools in 24 hours</td>
</tr>
<tr>
<td></td>
<td><strong>AND</strong></td>
</tr>
<tr>
<td></td>
<td>Two or more the following:</td>
</tr>
<tr>
<td></td>
<td>• Not feeding well</td>
</tr>
<tr>
<td></td>
<td>• Febrile</td>
</tr>
<tr>
<td></td>
<td>• Abdominal pain/tenderness</td>
</tr>
<tr>
<td></td>
<td>• Blood in stool</td>
</tr>
<tr>
<td></td>
<td>• Dehydration and/or electrolyte disturbances</td>
</tr>
<tr>
<td></td>
<td>• Elevated white blood cell count (&gt; 15,000 cells/microL)</td>
</tr>
<tr>
<td></td>
<td>• Elevated age-adjusted serum creatinine level</td>
</tr>
<tr>
<td></td>
<td>• Serum albumin level &lt; 2.5 g/dL</td>
</tr>
<tr>
<td></td>
<td>• Pseudomembranous colitis</td>
</tr>
<tr>
<td>Severe and complicated</td>
<td>Severe criteria met</td>
</tr>
<tr>
<td></td>
<td><strong>AND</strong></td>
</tr>
<tr>
<td></td>
<td>One or more of the following:</td>
</tr>
<tr>
<td></td>
<td>• Hypotension/shock</td>
</tr>
<tr>
<td></td>
<td>• Complete ileus</td>
</tr>
<tr>
<td></td>
<td>• Megacolon</td>
</tr>
<tr>
<td></td>
<td>• Ileitis, pancolitis, clinical or radiographic evidence of bowel perforation</td>
</tr>
<tr>
<td></td>
<td>• Critical care admit for CDI</td>
</tr>
</tbody>
</table>
# Pediatric C. difficile Infection
## Initial Episode Antibiotic Treatment
### Evidence Based Outcome Center

For questions concerning this pathway, [Click Here](#).

Last Updated November 18, 2016

### Treatment for initial episode of C. difficile Infection

<table>
<thead>
<tr>
<th>Classification</th>
<th>Antibiotic</th>
<th>Dose</th>
<th>Max dose</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild or moderate</td>
<td>Metronidazole PO</td>
<td>7.5 mg/kg every 6 hours</td>
<td>500 mg Q6 hours</td>
<td>10-14 days</td>
</tr>
<tr>
<td>Severe</td>
<td>Metronidazole PO</td>
<td>7.5 mg/kg every 6 hours</td>
<td>500 mg Q6 hours</td>
<td>10-14 days</td>
</tr>
<tr>
<td></td>
<td>Vancomycin PO</td>
<td>10 mg/kg every 6 hours</td>
<td>125 mg Q6 hours</td>
<td>10-14 days</td>
</tr>
<tr>
<td>Severe &amp; Complicated</td>
<td>Metronidazole IV</td>
<td>7.5 mg/kg every 6 hours</td>
<td>500 mg Q6 hours</td>
<td>10-14 days</td>
</tr>
<tr>
<td></td>
<td>Vancomycin PO</td>
<td>10 mg/kg every 6 hours</td>
<td>500 mg Q6 hours</td>
<td>10-14 days</td>
</tr>
<tr>
<td>Severe &amp; Complicated WITH complete ileus</td>
<td>Rectal vancomycin retention enema</td>
<td>Optimal dose and volume for rectal vancomycin have not been established, but some experts recommend 50 mL for ages 1–3 years, 75 mL for ages 4–9 years, and 100 mL for ages 10 years.</td>
<td>500 mg in 100 ml NS 4 times/day</td>
<td>10-14 days</td>
</tr>
</tbody>
</table>
### Treatment for recurrent C. difficile Infection

<table>
<thead>
<tr>
<th>Vancomycin PO pulsed-tapered regimen</th>
<th>Dose</th>
<th>Max dose</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>10 mg/kg four times daily</td>
<td>125 mg/dose</td>
<td>10-14 days</td>
</tr>
<tr>
<td>Step 2</td>
<td>10 mg/kg twice daily</td>
<td>125 mg/dose</td>
<td>7 days</td>
</tr>
<tr>
<td>Step 3</td>
<td>10 mg/kg once daily</td>
<td>125 mg/dose</td>
<td>7 days</td>
</tr>
<tr>
<td>Step 4</td>
<td>10 mg/kg every other day</td>
<td>125 mg/dose</td>
<td>7 days</td>
</tr>
<tr>
<td>Step 5</td>
<td>10 mg/kg every three days</td>
<td>125 mg/dose</td>
<td>14 days</td>
</tr>
</tbody>
</table>

### Alternative antimicrobial therapies

<table>
<thead>
<tr>
<th></th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fidaxomicin</strong></td>
<td>16 mg/kg twice daily</td>
</tr>
<tr>
<td><strong>Nitazoxanide</strong></td>
<td></td>
</tr>
<tr>
<td>1-3 years</td>
<td>100 mg twice daily</td>
</tr>
<tr>
<td>4-11 years</td>
<td>200 mg twice daily</td>
</tr>
<tr>
<td>≥ 12 years</td>
<td>500 mg twice daily</td>
</tr>
<tr>
<td><strong>Rifaximin</strong></td>
<td>400 mg three times daily</td>
</tr>
</tbody>
</table>

Subsequent Recurrences: Consider fecal transplant
Pediatric C. difficile Infection
Evidence Based Outcome Center

EBOC Project Owner: Ann Bailey, RNC-NIC, BSN, MBA, CIC

Approved by the C. Difficile Evidence-Based Outcomes Center Team

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Date Approved: November 18, 2016
Next Review Date: November 18, 2018

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For questions concerning this pathway, Click Here
Last Updated November 18, 2016
References

**Clostridium difficile Infection (CDI)**
Information for Patients and Families

**What is Clostridium difficile infection?**
*Clostridium difficile* (*C. diff*) is a bacterium, a germ that normally lives in the stomach and intestines. The bacteria can produce toxins that cause diarrhea. Some people have *C. diff* in their body, but are not made sick from it. Some people who get over the infection can continue to have the germ in their intestines for weeks to years.

**What are the symptoms of *C. diff* infection?**
- Watery and/or bloody diarrhea
- Abdominal pain/tenderness
- Fever
- Loss of appetite
- Nausea
- Dehydration

**What increases people’s chances of getting *C. diff***?
- Taking antibiotics
- Having surgery
- Being in a health care facility for an extended period of time
- Having serious underlying illness
- Contact from unwashed hands or with objects contaminated with *C. diff*

**Can my child’s *C. diff* be spread?**
Any surface that becomes contaminated with stool or with *C. diff* from the stool can spread the disease. It can be spread from unwashed hands or from unclean items that are shared. When someone touches the dirty item and then touches his or her mouth *C. diff* infection can happen.

**Is there treatment for *C. diff* infection?**
*C. diff* sometimes frequently clears up in two to three days after antibiotics are stopped. It can also be treated with special antibiotics. Hospitalized people with *C. diff* infection frequently need special antibiotics to get better.

**What should I expect if my child is in the hospital with *C. diff***?
At Dell Children’s Medical Center, your child will be placed on **Contact Precautions** in his or her room until the diarrhea has gone away. Healthcare workers will wear isolation gowns and gloves when providing care to ensure germs are not spread to the environment and other patients.

*C. diff* is different from other germs because it forms “spores” that cannot be removed with an alcohol rub. Hands must be washed with soap and water. Healthcare workers will wash their hands before entering and when leaving your child’s room.

**What can I do as a partner in my child’s care?**
As always, all family members should wash their hands well with soap and water after using the bathroom or handling diapers or clothing soiled with stool.

**What is important to prevent the spread of *C. diff* after my child goes home?**
- Continue good hand washing with soap and water.
- Regular bathing and clean clothing for your child.
- If clothes or bed linens become soiled with diarrhea, wash them separately in the washing machine with hot water, detergent, and bleach if fabric compatible. Machine dry if possible.
- If your child is having diarrhea, clean and disinfect the bathroom surfaces with a diluted bleach solution (1/2 cup bleach in 1 quart of water).
- Regularly clean and disinfect frequently touched surfaces in the bathroom and other places in your home, such as faucet handles, bedrails, door knobs etc.