Diagnosis of *C. difficile* Infection (CDI) at Duke Health

What test method does Duke use to diagnose CDI?
- Duke uses a PCR test that identifies the presence of toxigenic *C. difficile*.

What are potential pitfalls of PCR testing for CDI?
- A positive PCR test does not differentiate between patients who have CDI versus those who are colonized with *C. difficile* and have diarrhea for other reasons.

How common is asymptomatic colonization with *C. difficile*?
- Various studies have estimated that 7-18% of all patients admitted to acute care hospitals are colonized with *C. difficile* at the time of hospital admission.\(^1\)\(^-\)\(^6\)
- Asymptomatic colonization with *C. difficile* is 5 to 10 times more common than symptomatic CDI in hospitalized patients.\(^7\)

Do patients with asymptomatic colonization with *C. difficile* require treatment?
- No, patients with asymptomatic colonization with *C. difficile* do not require treatment.
  Paradoxically, many of the drugs prescribed to treat *C. difficile* actually perturb the GI tract flora and can make individuals at increased risk for diarrhea or symptomatic CDI in the future. In addition, CDI treatments can be expensive and have toxicities.

How can we improve the specificity of *C. difficile* diagnosis, to increase the likelihood that positive PCR tests indicate symptomatic infection requiring treatment?
- Verify the presence of clinically significant diarrhea, defined as 3 or more unformed stools within 24 hours.
- Use clinical judgment -- consider whether your patient has received laxative medications, recent initiation of tube feeds, or oral contrast AND whether there are features concerning for CDI (fever, leukocytosis, abdominal tenderness).
- Apply the following algorithm to help determine when it is appropriate to order *C. difficile* PCR testing for your patient.

References
3 or more unformed stools in 24 hours?

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<tr>
<th>YES</th>
<th>Order C. difficile PCR test</th>
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**Signs/symptoms of severe CDI?**

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<tr>
<th>YES</th>
<th>Discontinue laxatives, observe for 24-48 hours</th>
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<th>NOSigns/symptoms</th>
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**Receipt of laxatives within 24 hours?**

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<tr>
<th>YES</th>
<th>Place on contact enteric precautions</th>
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**C. difficile Testing Algorithm**

*If clinical concern for toxic megacolon, consider abdominal imaging/surgical consultation

**Septic shock, WBC > 15, and/or abdominal tenderness

C. difficile Testing Algorithm