Each year, billions of people worldwide are afflicted by infectious diarrhea, posing diagnostic and patient management challenges with its clinical presentation. IDSA Guidelines reinforce the importance of determining a specific diagnosis which can benefit a patient with infectious diarrhea by:

- Directing appropriate therapy
- Allowing the judicious use of antimicrobial agents
- Improving patient satisfaction and life planning

Our laboratory is introducing a new targeted testing methodology to decrease turnaround time plus increase accuracy and sensitivity in an effort to aid in both patient management and antimicrobial stewardship. Because not all patient needs are the same, this comprehensive testing method will allow you to test patients according to their individual histories and clinical presentations.

There will be no changes in sample type or collection requirements. Please read on for more information about the organisms and available testing panels.
**BD MAX™ Enteric Suite allows for testing of a specific class of enteric pathogens following IDSA-Guideline based patient exposure, risk factors and clinical presentations, providing the most appropriate and cost-effective diagnostic solution for patients.**

**IDSA-guideline based targeted testing with the BD MAX™ System for acute infectious diarrhea**

<table>
<thead>
<tr>
<th>Patient exposure</th>
<th>Clinical presentation</th>
<th>Foodborne or waterborne</th>
<th>Foodborne outbreak of diarrheal illness</th>
<th>Consumption of unpasteurized milk or dairy products</th>
<th>Consumption of raw or undercooked meat (pork/poultry) or seatings</th>
<th>Consumption of undercooked eggs</th>
<th>Consumption of raw shellfish</th>
<th>Seaweeding or drinking treated water or contaminated fresh water</th>
<th>Healthcare/long-term care facilities</th>
<th>Recent antimicrobial therapy</th>
<th>Travel to resource-challenged countries</th>
<th>Immunocompromised including AIDS</th>
<th>Certain sexual practices</th>
<th>Contact with animals</th>
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</thead>
<tbody>
<tr>
<td><strong>Enteric Bacterial Panel</strong></td>
<td>Persistent or chronic diarrhea</td>
<td>All 4 apply</td>
<td>BD MAX™ Enteric Bacterial Panel</td>
<td>BD MAX™ Extended Enteric Bacterial Panel</td>
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<tr>
<td><strong>Enteric Parasite Panel</strong></td>
<td>Persistent or chronic diarrhea testing 2-3 days or less</td>
<td>All 4 apply</td>
<td>BD MAX™ Enteric Parasite Panel</td>
<td>BD MAX™ Extended Enteric Parasite Panel</td>
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<td><strong>Enteric Viral Panel</strong></td>
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<td><strong>C. difficile</strong></td>
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</table>

**Enteric Bacterial Panel**

Among reported outbreaks of bacterial diarrhea, four of the major pathogens isolated are Campylobacter spp., Salmonella spp., Shigella spp., and Staphylococcus aureus. Of these, non-typhoidal Salmonella species are the leading cause of hospitalization and death among foodborne bacteria.6

**Enteric Parasite Panel**

The most common parasites in developed countries are Giardia lamblia, Cryptosporidium spp., and Entamoeba histolytica. Using microscopy, pathogenic E. histolytica cannot be differentiated from the non-pathogenic species Entamoeba dispar which is essential for treatment decisions and public health information.

**Enteric Viral Panel**

Globally, norovirus is estimated to be the most common cause of acute gastroenteritis. It is responsible for 685 million cases every year, 200 million of these cases are among children younger than 5 years old.4 For a nosocomial outbreak situation, we offer a targeted viral panel for both Norovirus and Rotavirus with extended coverage for Adenovirus, Sapovirus and Astrovirus.

**Extended Enteric Bacterial Panel**

Some pathogens are seasonally and regionally implicated in bacterial gastroenteritis. Therefore, an extended panel is also available which will include the above mentioned bacterial targets plus Vibrio, Yersinia, ETEC and Plesiomonas. This test should be ordered with Enteric Bacterial Panel when additional food or waterborne bacteria are suspected. Alternatively, this panel may be ordered for every stool specimen if extended coverage is desired.

**C. difficile**

Clostridium difficile is recognized as the primary pathogen responsible for antibiotic-associated colitis and for 10%–20% of cases of nosocomial antibiotic-associated diarrhea.8 These test results should be used in conjunction with clinical diagnosis.
<table>
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<tr>
<th>Test</th>
<th>Sample Type</th>
<th>Storage and Stability</th>
<th>Targets</th>
</tr>
</thead>
</table>
| **BD MAX™ Enteric Bacterial Panel**           | Unpreserved soft to diarrheal stool or Cary-Blair preserved stool | Specimens can be stored for up to 5 days at 2–8 °C or for up to 24 hours at 2–25 °C before testing.  
BD MAX Enteric Bacterial Panel components are stable at 2–25 °C through the stated expiration date.  
Do not use expired components. | • *Salmonella* spp.  
• *Campylobacter* spp.  
• *Shigella* spp. (including *EIEC*)  
• *Shiga* toxin (*E. coli* [STEIC]) |
| **BD MAX™ Extended Enteric Bacterial Panel**  | Unpreserved soft to diarrheal stool or Cary-Blair preserved stool | Specimen can be stored for up to 120 hours (5 days) at 2–8 °C or for up to 48 hours at 2–25 °C before testing.  
BD MAX Extended Enteric Bacterial Panel Master Mix is stable at 2–25 °C through the stated expiration date.  
Do not use expired components. | • *Plesiomonas shigelloides*  
• *Vibrio* (V. vulnificus, V. parahaemolyticus, and V. cholerae)  
• Enterotoxigenic *E. coli* (ETEC)  
• *Yersinia* enterocolitica |
| **BD MAX™ Enteric Parasite Panel**            | Unpreserved soft to diarrheal stool or 10% formalin-fixed stool | Specimens, either unpreserved or 10% formalin fixed stool, can be stored for up to 120 hours (5 days) at 2–8 °C or for a maximum of 48 hours at 2–25 °C before testing.  
BD MAX Enteric Parasite Panel components are stable at 2–25 °C through the stated expiration date.  
Do not use expired components. | • *Giardia* lamblia  
• *Cryptosporidium* (*C. hominis* and *C. parvum*)  
• Entamoeba histolytica |
| **BD MAX™ Enteric Viral Panel**               | Unpreserved soft to diarrheal stool or Cary-Blair preserved stool | Specimen can be stored for up to 120 hours (5 days) at 2–8 °C or for up to 48 hours at 2–25 °C before testing.  
BD MAX Enteric Viral Panel Master Mix is stable at 2–25 °C through the stated expiration date.  
Do not use expired components. | • Norovirus GI & GII  
• Rotavirus A  
• Adenovirus F40/41  
• Sapovirus (genogroups I, II, IV, V)  
• Human Astrovirus (hAstro) |
| **BD MAX™ Cdiff**                             | Unpreserved soft to diarrheal stool | Specimens can be stored for up to 5 days at 2–8 °C or for up to 48 hours at 2–25 °C before testing.  
BD MAX Cdiff assay components are stable at 2–25 °C through the stated expiration date.  
Do not use expired components. | • *Clostridium difficile* toxin B gene (tcdB) |

* A single unpreserved soft to diarrheal stool specimen can be used to test across the available molecular options our laboratory offers.

Common Storage and Stability of Specimens and Reagent Tubes

- Collected specimens should be kept between 2 °C and 25 °C during transport.
- Specimen can be stored for up to 120 hours (5 days) at 2–8 °C.
- Master mix tubes are provided in sealed pouches. To protect product from humidity, immediately re-seal after opening.
- Reagent tubes are stable for up to 14 days at 2–25 °C after initial opening and re-sealing of the pouch.

2. Anderson et al. Comparison of the BD MAX Enteric Bacterial Panel to routine culture methods for detection of Campylobacter, Enterohemorrhagic Escherichia coli (0157), *Salmonella* and *Shigella* isolates in preserved stool specimens; JCM 2014; 52:4
5. Fang, F and Patel, R. 2017 Infectious Diseases Society of America Infectious Diarrhea Guidelines: A View from the Clinical Laboratory. CID 2017:65 (15 December)

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