

# 10X Essentials

## Infectious Disease Diagnostics in the Geisinger Health System

### SUMMARY

Order STCOM for enteric bacterial pathogens

Order GEIA and CRYIA, NOT OAP

### Bacterial Pathogens (STCOM)

- Salmonella* spp.
- Shigella* spp.
- Campylobacter* spp.
- Enterohemorrhagic *E. coli* (EHEC or Shiga Toxin)
- Yersinia* spp.
- Aeromonas* spp.
- Plesiomonas* spp.
- Vibrio* spp.

### Relevant History Required for OAP

- \*Group Home
- \*Immunocompromised
- \*Poor Sanitary Conditions
- \*Recent Travel History with Exposure Risk
- \*Voluminous diarrhea with other enteric bacterial pathogens and *Giardia*/*Cryptosporidium* ruled out.
- \*Voluminous stool with diarrhea-causing medications ruled out.

If you have any questions, please contact the Doctoral Directors, Donna Wolk, Ph.D., D(ABMM) at 570-271-7467 or Raquel Martinez Ph.D., D(ABMM) at 570-214-6587.

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**10X Essentials:** GML typically experiences increases in foodborne and waterborne infections each summer. Refer to the GML stool testing guide on page two for system algorithms devised for testing accuracy and laboratory stewardship.

The STCOM will identify all enteric bacterial pathogens; use this test (STCOM) for your stool cultures from now on. The STCUL option will soon be discontinued in favor of the comprehensive STCOM, as clinical symptoms cannot reliably distinguish *Salmonella*, *Shigella*, and *Campylobacter* spp. from other enteric pathogens. GML laboratories routinely identify all enteric pathogens listed, including a recent case of cholera.

### Evidence-based Decision to Restrict Ova and Parasite Exams

**(OAP):** From 2011 to 2014, 15,154 Ova and Parasite Exams (OAP) costing \$516,992 were performed. Only 13 pathogenic parasites (0.01%) were identified, which would not have been identified by *Giardia* or *Cryptosporidium* EIA testing alone (ten were *Dientamoeba fragilis* from pediatric patients, two were *Strongyloides stercoralis* from a known transplant risk, and one was *Hymenolopsis nana* with a relevant travel history).

Based on current GHS patient population, parasite distribution, and widespread over-utilization of the OAP test, each pathogen identified costs nearly \$40,000. Under these circumstances, it is not prudent to continue OAP testing without some disease-specific restrictions. Therefore, please use *Giardia*/*Cryptosporidium* Antigen Tests (GEIA and CRYIA) as your test of choice for parasitology – within GML, this test has a higher positive prevalence (1.2% positive) and a lower cost. **GML encourages that you test OAP only after the following screening criteria are applied:** 1) Relevant history\*, 2) Soft-liquid stool. 3) Out-patient status or in hospital for < 3 days, 4) Negative bacterial stool culture (STCOM), and 5) Negative *Giardia*/*Cryptosporidium* Antigen Tests (GEIA and CRYIA) on record.



### **Campylobacter jejuni bloodstream infections:**

We've recently identified two *Campylobacter* infections that rapidly progressed to bacteremia. To alert you to the possibility of these rare bloodstream pathogens, we provide extra interpretation. **"Spiral Gram Negative Rods"** will be reported if our microbiologists suspect morphology consistent with *Campylobacter* spp. or *Helicobacter* spp.

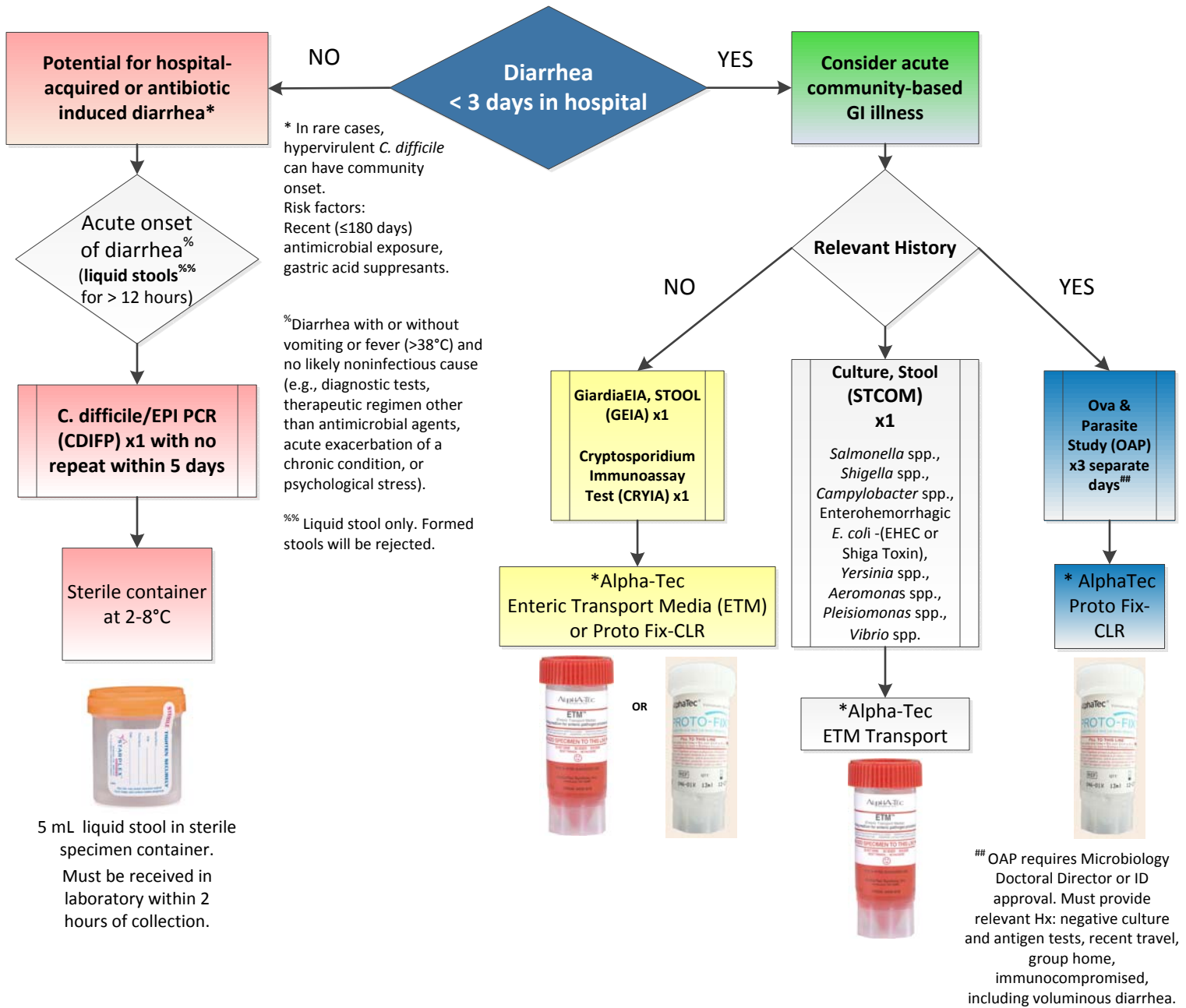


**LOW YIELD**  
In GHS region, Ova and Parasite Exams (OAP) have a 0.01% Positive Rate

**"Make it the best." - A. Geisinger**

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# Stool Testing: Microbiology Test Selection Algorithm



	Routine Stool Cultures, Giardia and Cryptosporidium EIA negative? Other Risk Factors?					
Risk	Foodborne exposure with negative cultures	Immunocompromised		Viral risk group		
Diagnostic Test	Cyclospora and Isospora Exam (CYISO) x 1-3 samples on separate days	Cyclospora and Isospora Exam (CYISO) x 1-3 samples on separate days	Microsporidia Detection (MSPORI) x1-3 samples on separate days	Recent group setting: Norovirus PCR	Pediatrics: Rotavirus Antigen (RVIR)	Immunocompromised: various agents, including Adenovirus 40/41 antigen
Collection Device*	Para-Pak 10% Buffered Neutral Formalin	Para-Pak 10% Buffered Neutral Formalin	10% Formalin	Sterile Container at 2-8°C		

\*Please refer to GML Test Catalog for specific collection device information

Call Geisinger Medical  
 Laboratories Client Services  
 Department:  
 1-800-695-6491 with  
 questions.

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For additional information, refer to GML Test Catalog  
 Click on address below to invoke hyperlink, and search on  
 keyword or (test code)

<http://www.geisingermedicallabs.com/catalog/index.cfm>

DMW;RMM: 6/19/2014  
 GML stool collection.vsd