
Lab Dept: Microbiology/Virology

Test Name: CRYPTOSPORIDIUM/GIARDIA FA

General Information

Lab Order Codes: CRID

Synonyms: *Giardia* Screen; *Giardia* Antigen Test; *Giardia* FA (fluorescent antibody); Stool for *Giardia* Only; Stool for *Cryptosporidium* detection; Ova and Parasite Exam, *Giardia* Only

CPT Codes: 87272 – Infectious agent antigen detection by immunofluorescent technique; cryptosporidium
87269 – *Giardia*, infectious agent detection by immunofluorescence
87015 – Concentration (any type), for infectious agents

Test Includes: Examination of stool for the presence of *Cryptosporidium* oocysts and *Giardia* cysts.

Logistics

Lab Testing Sections: Microbiology

Phone Numbers: MIN Lab: 612-813-5866

STP Lab: 651-220-6555

Test Availability: Daily, 24 hours; test performed 0700 – 1500

Turnaround Time: 1 - 2 days

Special Instructions:

- **Specimen site** and **date/time of collection** are required for processing.
- This test only detects the presence of *Cryptosporidium* oocysts and *Giardia* cysts. If other parasites are suspected. [Refer to Ova and Parasite Exam.](#)

Specimen

Specimen Type: Fresh random or aspirated stool; duodenal aspirate

Container: **Onsite collections:** Plastic, leakproof container

Offsite collections: O&P preservative kit (available from Materials, Storeroom Item# 14574))

Volume: 5 - 10 mL liquid stool or 5 – 10 grams of formed stool
Note: If O&P kit is used, make sure to add specimen to “fill” lines.

Collection:

Collection recommendations:

- Maximum of three specimens, collected on separate days within a 10 day time period.
- **Do not submit more than one specimen per day.** Many organisms do not appear in stool specimens in consistent numbers on a daily basis; few or no parasites may be passed on one day, with many passed the next day.
- **Parasite exams on patients hospitalized >3 days are not productive and should not be ordered unless special circumstances exist.**

Fresh Stool

Onsite collections:

1. Collect stool in a clean, dry bedpan or on a newspaper over the toilet. **Do not** contaminate specimen with urine, residual soap or disinfectants, which will destroy amoebae.
2. Transfer to a plastic, leakproof container.
3. If a delay >1 hour in transport is expected, place specimen in O&P preservative kit (10% Formalin). [Refer to Special Processing.](#)
4. Those portions of stool containing blood and mucous are especially significant and should be transferred into the container.
5. Specimens received in diapers are **not** acceptable. Pediatric patients with severe diarrhea may use a U bag collection system. Place the bag over the anal area in an attempt to retrieve the specimen before it soaks into the diaper. The diaper can also be reversed with the plastic side toward the skin to prevent the specimen from soaking into the diaper. Transfer specimen into a plastic, leakproof container.

Offsite collections: See [Special Processing](#) for O&P preservation

Duodenal aspirate

1. Specimen is obtained by use of a gastroduodenal tube or a fiberoptic endoscopy study, either by direct aspiration or into a trap.
2. Place aspirate into a sterile leakproof container.
3. Transport directly to the laboratory (≤ 15 min) since specimens must be examined within 1 hour of collection.

Sigmoidoscopy

1. Perform flexible or rigid sigmoidoscopy.
2. Aspirate liquid from the inflamed bowel with a pipette passed through the sigmoidoscope.
3. Place aspirate into a leakproof container.
4. Transport directly to the laboratory (≤ 15 min) since specimens must be examined within 1 hour of collection.

Special Processing: Instructions for O&P preservative kit: Collect in 10% formalin only (pink cap). If O&P Exam is also ordered, fill Zn-PVA (gray cap) vial also.

Caution: The liquid preservative in the vial is poisonous.

1. Fill the vial by using the spoon built into the lid of the vial and transferring small scoopfuls of stool from areas which appear bloody, slimy or watery until the contents rise to the "Fill Here" red line. **Do not** overfill.
2. If the stool is formed, sample small amounts from each end, sides and the middle.
3. Mix the contents of the vial with the spoon. Screw cap on **tightly** and shake the vial vigorously until the contents are well mixed. Make sure there is no leakage.
4. Label vial with patient's name, date and time of collection.
5. Store vial at room temperature.
6. Return collection kit to laboratory within 72 hours.

Transport/Storage: **Onsite collections:** Transport to the laboratory immediately.

Offsite collections: Do not refrigerate, store at room temperature. Specimens must be promptly transported to the laboratory, with the next available courier, not to exceed 24 hours from the time of collection. However, delayed transport causes a delay of test results.

Patient Preparation: **Do not** use antacids, barium, bismuth, antidiarrheal medication, antibiotics, or oily laxatives for 5-10 days prior to collection.

Sample Rejection: **No diapers accepted.** Unpreserved specimens (fresh) will be rejected with a transit time exceeding 1 hour after collection; specimens containing interfering substances (e.g. antidiarrheal compounds, antibiotics, antacids, oils, bismuth, or barium); more than one specimen per day; specimen not submitted in appropriate transport container; improperly labeled specimen; insufficient volume; specimen contaminated with toilet water or urine; external contamination. If an unacceptable specimen is received, the physician or nursing station will be notified and another specimen will be requested before the specimen is discarded.

Interpretive

Reference Range: No *Cryptosporidium* oocysts or *Giardia lamblia* cysts seen.

Limitations: This test only detects *Cryptosporidium* and *Giardia*. If other parasites are suspected, an Ova and Parasite Exam should be ordered. One negative result does not rule out the possibility of parasitic infestation.

Methodology: Fluorescent Antibody (FA)

Additional Information:

Cryptosporidium is a coccidian parasite of the intestines and respiratory tract of many animals including mice, sheep, snakes, turkeys, chickens, cows, monkeys, and domestic cats. It is a cause of severe and chronic diarrhea in patients with hypogammaglobulinemia and the acquired immune deficiency syndrome. HIV-infected patients with CD4 counts $50/\text{mm}^3$ are especially at risk when exposed to *Cryptosporidium*. Although the organism is widely recognized as a disease of the immunocompromised patient, it can also cause disease in immunocompetent subjects. Animal contact, travel to endemic areas, living in a rural environment, day care attendance by toddlers, and exposure to contaminated public water have been recognized as risk factors for the development of cryptosporidiosis. Children are more prone to develop infection than are adults. In these patients, the disease is a self-limited gastroenteritis, but in immunocompromised patients, a profound enteropathy results. A seasonal variation in incidence exists with the highest frequency reported in summer and autumn.

Giardiasis is one of the most common intestinal parasitic infections in the world. Contaminated food, untreated surface water polluted with cyst-containing animal feces in conjunction with inadequate filtration in water treatment facilities are the primary sources. In addition, public health authorities include giardiasis as a sexually transmitted disease.

References:

Cook, JH, and M Pezzlo (1992). Specimen receipt and accessioning. Section 1. Aerobic bacteriology, 1.2.1-4. In HD Isenberg (ed) Clinical Microbiology Procedures Handbook. American Society for Microbiology, Washington DC

Miller, J Michael (1999) A Guide To Specimen Management in Clinical Microbiology, American Society for Microbiology, Washington DC

Miller, J Michael, and HT Holmes (1999) Specimen Collection, Transport, and Storage In PR Murray et al, (ed), Manual of Clinical Microbiology, 7th edition, American Society for Microbiology, Washington DC, pp 33-104

Updates:

1/20/2009: Amended formed stool volume, previously listed as 1 gram.
11/11/2014: Offsite collection information added.