

Overview

Useful For

Detection and identification of parasitic protozoa and the eggs and larvae of parasitic helminths

Testing Algorithm

The following algorithms are available:

[-Parasitic Investigation of Stool Specimens Algorithm](#)

[-Laboratory Testing for Infectious Causes of Diarrhea](#)

Special Instructions

- [Parasitic Investigation of Stool Specimens Algorithm](#)
- [Laboratory Testing for Infectious Causes of Diarrhea](#)

Highlights

This test includes concentrated wet preparation and permanent (trichrome) stained preparation as well as an exam for fecal leukocytes.

Method Name

Microscopic

NY State Available

Yes

Specimen

Specimen Type

Fecal

Ordering Guidance

For non-stool sources for ova and parasitic examination, see OAPNS / Ova and Parasite, Microscopy, Varies.

If specific organisms or disease states are suspected, see below:

If *Acanthamoeba* is suspected, order ACARP / *Acanthamoeba* species Molecular Detection, PCR, Ocular.

If *Cryptosporidium* is suspected, order CRYPS / *Cryptosporidium* Antigen, Feces.

If *Cyclospora* is suspected, order CYCL / *Cyclospora* Stain, Feces.

If free-living amebae are suspected, order FLARP / Free-Living Amebae, Molecular Detection, PCR, Varies.

If *Giardia* is suspected, order GIAR / *Giardia* Antigen, Feces.

If microsporidia are suspected, order LCMSP / *Microsporidia* species, Molecular Detection, PCR, Varies.

If pinworm is suspected, order PINW / Pinworm Exam, Perianal.

If scabies is suspected, order PARID / Parasite Identification, Varies.

If *Schistosoma* is suspected, order SHUR / *Schistosoma* Exam, Random, Urine.

If *Trichomonas vaginalis* is suspected, order TVRNA / *Trichomonas vaginalis*, Nucleic Acid Amplification, Varies.

If worms or worm segments are submitted, order PARID / Parasite Identification, Varies.

Additional Testing Requirements

It is strongly recommended that multiple stool specimens be submitted for ova and parasite analysis. At least 3 specimens should be collected, 1 each day or on alternate days (over a maximum 10-day period).

Parasites are shed irregularly in stool and examination of a single specimen does not guarantee detection.

Specimen Required

Patient Preparation: Specimen collection should be delayed for 7 to 10 days after administration of barium, bismuth, kaolin, magnesia, castor oil or mineral oil, and 2 to 3 weeks after antibiotics have been given since these may interfere with identification of protozoa.

Specimen Type: Stool, duodenal aspirate, colonic washing

Supplies: ECOFIX Stool Transport Vial (Kit) (T219)

Preferred: ECOFIX preservative

Acceptable: 10% Buffered Formalin Stool Transport plus Zinc Polyvinyl Alcohol (Zn PVA) Stool Transport vials (one of each)

Specimen Volume: Portion of stool or entire collection of intestinal specimen

Collection Instructions:

1. Place specimen into preservative within 30 minutes of passage or collection.
2. Follow instructions on the container as follows:
 - a. Mix the contents of the tube with the spoon, twist the cap tightly closed, and shake vigorously until the contents are well mixed. Refer to the fill line on the Ecofix vial for stool specimens.
 - b. Do not fill above the line indicated on the container.
 - c. Duodenal aspirates, small bowel aspirates, or colonic washings should be placed in Ecofix in a ratio of 1:1

Additional Information: Stool placed in 10% buffered formalin can be accepted if accompanied by Zinc (Zn)

PVA-preserved specimen; **10% buffered formalin-preserved specimens submitted without an accompanying Zn**

PVA-preserved specimen will be canceled. Specimen submitted in **Low Viscosity (LV)-PVA**, Mercury PVA or Copper (Cu)-PVA will be **rejected**.

Forms

If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:

[-General Request \(T239\)](#)

[-Microbiology Test Request \(T244\)](#)

[-Gastroenterology and Hepatology Client Test Request \(T728\)](#)

Specimen Minimum Volume

5 mL

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Fecal	Ambient (preferred)	21 days	
	Refrigerated	21 days	

Clinical & Interpretive**Clinical Information**

A variety of different parasites may be found in stool specimens, duodenal aspirates, and other intestinal specimens. These parasites may include protozoa (microscopic unicellular eukaryotes) and helminths (aka worms). Infection is often asymptomatic, but symptoms range from diarrhea and malnutrition, intestinal obstruction, and rarely, death.

The most common intestinal reported parasites in stool specimens are *Giardia intestinalis* (aka *Giardia duodenalis*, *Giardia lamblia*) and *Cryptosporidium* species. Both parasites may cause watery diarrhea and are endemic in the United States. The best tests for these 2 common parasites are parasite-specific fecal antigen tests (GIAR / Giardia Antigen, Feces and CRYPS / *Cryptosporidium* Antigen, Feces).

Other parasites are less commonly seen in the United States, and the stool parasitic exam is the appropriate test for their detection.

For determining which test should be ordered based on the patient's exposure history and risk factors, see [Parasitic Investigation of Stool Specimens Algorithm](#).

If evaluating a patient for diarrhea, see [Laboratory Testing for Infectious Causes of Diarrhea Algorithm](#).

Reference Values

Negative

If positive, organism identified

Interpretation

A positive result indicates the presence of the parasite but does not necessarily indicate that it is the cause of any symptoms. Some strains of protozoa are nonpathogenic, and some helminths cause little or no illness.

Cautions

If possible adult worms or proglottids are identified in stool or the patient's undergarments, they should be placed in 70% alcohol and submitted for PARID / Parasite Identification, Varies.

This test is not the optimal method for detecting *Giardia*, *Cryptosporidium*, microsporidia, *Cyclospora*, or pinworm. For optimal results, the specific test should be ordered for detection of these parasites; see Ordering Guidance

Parasitic examination of a minimum of 3 stool specimens is indicated for detecting most intestinal protozoa and helminths with maximum sensitivity.

Parasitic infections are uncommonly acquired in the hospital setting. This test is not usually useful in patients

hospitalized for more than 3 days.

Clinical Reference

1. Garcia LS: Diagnostic Medical Parasitology. 6th ed. Wiley; 2016
2. Shane AL, Mody RK, Crump JA, et al: 2017 Infectious Diseases Society of America Clinical Practice Guidelines for the Diagnosis and Management of Infectious Diarrhea. Clin Infect Dis. 2017 Nov 29;65(12):e45-e80. doi: 10.1093/cid/cix669

Performance**Method Description**

A portion of the ECOFIX-preserved stool is concentrated and examined. A permanent trichrome-stained slide is prepared from the ECOFIX-preserved feces.(Package inserts: Mini Parasep Faecal Parasite Concentrator. Apacor; 02/2021; Para-Pak ECOSTAIN, Meridian Bioscience Inc; 08/2020; Para-Pak ULTRA EcoFix. Meridian Bioscience Inc; 04/2022)

PDF Report

No

Day(s) Performed

Monday through Saturday

Report Available

4 to 5 days

Specimen Retention Time

7 days

Performing Laboratory Location

Rochester

Fees & Codes**Fees**

- Authorized users can sign in to [Test Prices](#) for detailed fee information.
- Clients without access to Test Prices can contact [Customer Service](#) 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact [Customer Service](#).

Test Classification

This test has been cleared, approved, or is exempt by the US Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information

87177-Concentration (any type), for infectious agents

87209-Smear, primary source with interpretation; complex special stain (eg, trichrome, iron hematoxylin) for ova and parasites

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
OAP	Ova and Parasite, Microscopy, F	10704-5

Result ID	Test Result Name	Result LOINC® Value
OAP	Ova and Parasite, Microscopy, F	10704-5