Test Definition: OPE

Ova and Parasite, Travel History or Immunocompromised, Feces

Overview

Useful For
Detecting and identifying parasitic protozoa and eggs and larvae of parasitic helminths in stool specimens

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
This test should be ordered when suspicion of parasitic infection is based on travel history in endemic areas or when a patient is immunocompromised.

For non-fecal specimens, including duodenal aspirate and colonic washing, for ova and parasitic examination, order OAPNS / Ova and Parasite, Microscopy, Varies.

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.

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, 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.
If respiratory specimens or tissue are submitted, order OAPNS / Ova and Parasite, Microscopy, Varies.

Additional Testing Requirements

Parasites are shed irregularly in stool and examination of a single specimen does not guarantee detection. Therefore, it is strongly recommended that multiple stool specimens be submitted for ova and parasite analysis. At least 3 specimens should be collected. If multiple ova and parasite collections are requested, instruct patient to collect a specimen at least 12 hours after last collection.

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: Preserved feces (Unpreserved specimens are **not acceptable)**
Supplies: ECOFIX Stool Transport Vial (Kit) (T790)
Container/Tube:
Preferred: ECOFIX preservative
Acceptable: 10% Buffered formalin AND zinc polyvinyl alcohol (Zn PVA) (one vial of each)
Specimen Volume: Portion of stool: 2 g or 2 mL
Collection Instructions:
1. Follow instructions on the container as follows:
a. Place specimen into Ecofix preservative vial or one 10% formalin AND one Zn PVA preservative vial within 30 minutes of passage or collection. Refer to the fill line on the preservative vial. Do not fill above the line indicated on the container.
b. Mix the contents of the tube with the spoon, twist the cap to close tightly, and shake vigorously until the contents are well mixed.
Additional Information:
1. Stool placed in 10% buffered formalin can be accepted if accompanied by Zn PVA-preserved specimen; **10% buffered formalin-preserved specimens submitted without an accompanying Zn PVA-preserved specimen will be canceled**.
2. 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 with the specimen:
-Microbiology Test Request (T244)
-Gastroenterology and Hepatology Test Request (T728)

-General Test Request (T239)

Specimen Minimum Volume

5 mL

Reject Due To

Preservatives other than Ecofix or 10% buffered formalin and zinc polyvinyl alcohol (Zn-PVA)	Reject

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 fecal 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 fecal 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 this test is the appropriate test for their detection. See Parasitic Investigation of Stool Specimens Algorithm for determining which test should be ordered based on the patient's exposure history and risk factors. 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

For optimal results, the specific test should be ordered for detection of *Giardia, Cryptosporidium*, microsporidia, *Cyclospora*, or pinworm. This test is not the optimal method for detecting 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. AMS Press; 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;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; APA176-V3.3, 11/2019; Para-Pak ECOSTAIN Catalog No. 801400. Meridian Bioscience, Inc; SN10695, REV. 08/2020)

PDF Report

No

Day(s) Performed

Monday through Saturday

Report Available

4 to 6 days

Specimen Retention Time

7 days

Performing Laboratory Location

Mayo Clinic Laboratories - Rochester Main Campus

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
OPE	Ova and Parasite, Microscopy, F	10704-5

Result ID	Test Result Name	Result LOINC® Value
OPE	Ova and Parasite, Microscopy, F	In Process