
Lab Dept: Microbiology

Test Name: OVA AND PARASITE EXAMINATION, STOOL

General Information

Lab Order Codes: OAP

Synonyms: O & P Exam, stool; Stool for Ova and Parasites; Feces for Ova and Parasites; Parasitology examination

CPT Codes: 87177 – Ova and parasites, direct smears, concentration and identification
87209 – Smear, primary source with interpretation; complex special stain for ova and parasites

Test Includes: Examination of stool for intestinal parasites by direct/concentrated microscopic exam and trichrome stain. This test **does not** include: *Cryptosporidium*, *Cyclospora*, *Microsporidium* or Pinworm. If only *Cryptosporidium* or *Giardia* are requested, refer to specific listing for [Cryptosporidium/Giardia FA](#). If pinworm is requested, refer to [Pinworm Preparation](#).

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. Requests are limited to one specimen per day.

Turnaround Time: 1 - 2 days

Special Instructions:

- **Specimen site** and **date/time of collection** are required for specimen processing.
- Provide clinical diagnosis and travel history or suspected parasite on request form. If pinworm is requested, refer to [Pinworm Preparation](#).

Warning: Any stool collected from a patient infected with parasites is highly infectious. Use extreme caution when *Entamoeba histolytica*, *Hymenolepis nana*, and *Taenia* sp. are suspected.

Specimen

Specimen Type: Fresh random stool or aspirated stool; early morning sputum; mid-day urine

Container: **Onsite collections:** Plastic, leak-proof 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

100 mL urine – entire mid-day urine collection with last voided portion containing blood and mucous

1-3 mL sputum

Note: If O&P kit is used, make sure to add specimen to “fill” lines.

Collection: **Recommendations:**

- Maximum of 3 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 ONLY:

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, leak-proof container.
3. If a delay >1 hour in transport is expected, place specimen in O&P preservative kit. [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 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, leak-proof container.

Offsite collections:

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

Sputum (Expectorate):

Onsite collections ONLY:

1. Collect early morning specimen under the direct supervision of a nurse or physician.

2. Have patient rinse or gargle with water to remove superficial flora.
3. Instruct patient to cough deeply to produce a lower respiratory specimen.
4. Exam specimen to make sure it contains thick mucus. Do not submit saliva.
5. Transport directly to the laboratory (< or =15 min) since specimens must be examined with one hour of collection.

Urine:

Onsite collections ONLY:

1. Collect mid-day urine specimen in a sterile container. Peak egg excretion occurs between noon and 3 pm.
2. For patients with hematuria, eggs are associated with the terminal (last voided) portion of the specimen containing blood and mucus.
3. Transport directly to the laboratory (< or =15 minutes) since specimens must be examined within one hour of collection.

Special Processing:

Instructions for O&P preservative kit: 2 vials, one containing 10% formalin (pink) and one containing Zn-PVA (gray).

Caution: The liquid preservative in the vials is poisonous.

1. Fill each vial by using the spoon built into the lid of the vial and transferring small scoops 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 vials 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 vials with patient's name, date and time of collection.
5. Store vials at room temperature.
6. Return collection kit to laboratory within 72 hours.

Storage/Transport:

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.

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 ova or parasites seen

Limitations: One negative result does not rule out the possibility of parasitic infestation.

Methodology: Concentrated microscopic exam and trichrome stain

Additional Information: Amebae and other parasites cannot be seen in stool containing barium. Formed stool are more likely to contain amebic cysts and helminth eggs. Soft or liquid stools are more likely to contain trophozoites of the protozoa. Liquid stools must be examined within 30 minutes of passage, not 30 minutes from the time the specimen arrives in the laboratory. Soft (semi-formed) specimens should be examined within 1 hour of passage. If these time frames are not possible, the specimen should be preserved in 10% formalin and Zn-PVA. Formalin will preserve the protozoan cysts, larvae and eggs of the helminthes. Zn-PVA will preserve the trophozoite stage of the protozoa. Immediate examination of formed stools is not as critical as the protozoan cysts will remain intact generally up to 24 hours.

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

Garcia, LS, RY Shimizu and P Deplazes (2003) Specimen Collection, Transport, and Processing; Parasitology In PR Murray et al, (ed), Manual of Clinical Microbiology, 8th edition, American Society for Microbiology, Washington DC, p 1908

Updates:

1/20/2009: Amended formed stool volume, previously listed as 1 gram.

11/20/2014: Offsite information added.

2/23/2017: CPT update, stain method previously listed s 88312.

2/19/2020: Updated Storage/Transport.