

## Overview

### Useful For

Detection of the eggs of *Enterobius vermicularis* on the skin of the perianal folds

### Special Instructions

- [Pinworm Collection Instructions](#)

### Method Name

Microscopic

### NY State Available

Yes

## Specimen

### Specimen Type

Varies

### Specimen Required

**Supplies:** Swubes (T300)

**Specimen Type:** Perianal

**Container/Tube:** SWUBEdisposable paddle (Falcon) or similar method of collection

**Specimen Volume:** Entire specimen

**Collection Instructions:** See [Pinworm Collection Instructions](#) in Special Instructions.

### Forms

[If not ordering electronically, complete, print, and send 1 of the following forms with the specimen:](#)

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

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

### Reject Due To

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

### Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Varies	Ambient (preferred)	7 days	
	Refrigerated	7 days	

## Clinical & Interpretive

### Clinical Information

*Enterobius vermicularis*, also known as pinworm, is a common intestinal nematode with a worldwide distribution. In the

United States, pinworm infection is the most common helminth infection of humans and is most frequently found in young school-age children. Transmission is by the fecal-oral route. Individuals become infected when inadvertently ingesting pinworm eggs from the environment (eg, contaminated objects and surfaces). The eggs then hatch in the small intestine and the adults reside in the lumen of the cecum. Gravid adult females migrate to the perianal area during the night and deposit large numbers of eggs in the perianal area, using a glue-like substance to promote adherence anal skin folds.

Most infections are asymptomatic. When present, the most common symptom is nocturnal pruritus ani (nightly anal itching) from the host inflammatory reaction to the eggs and associated adhesion. With itching, the eggs contaminate the fingers of the host and then spread into the environment to infect others. Autoinoculation is also common. Heavy infections may be associated with irritability, difficulty sleeping, abdominal pain, nausea, and vomiting. Ectopic migration of the adult female worm may also lead to vulvovaginitis, salpingo-oophoritis, peritonitis, and, possibly, appendicitis.

Pinworm infection is best diagnosed through identification of eggs, and occasionally adults, obtained from the perianal skin folds. This is classically accomplished via collection with clear adhesive cellophane tape. The pinworm paddle (eg, Swube device) facilitates this collection and provides a safer and more reliable means of collection and examination. To collect eggs with the pinworm paddle, the adhesive side of the paddle is pressed firmly and repeatedly to the perianal region and then returned to its plastic tube for safe transportation to the laboratory. The specimen should be collected first thing in the morning, before the patient bathes or defecates. When the paddle arrives in the laboratory, it is placed on a glass slide and examined using a light microscope for eggs and adult worms. Care must be taken when collecting and examining the specimen, as pinworm eggs are infectious within 4 to 6 hours of being laid. Repeat testing may be recommended to increase the sensitivity of detection in cases of light infection.

Several agents are effective in treating pinworm infection (pyrantel pamoate, mebendazole), and good personal hygiene will prevent transmission of the eggs.

### Reference Values

Negative (reported as positive or negative)

### Interpretation

Positive results are provided indicating the presence of eggs of *Enterobius vermicularis*.

### Cautions

Although adult pinworms and eggs can occasionally be observed in stool specimens, examination of feces is not the optimum method for detecting those parasites.

### Clinical Reference

1. Global Health, Division of Parasitic Diseases: Parasites-Enterobiasis (also known as Pinworm Infection). Centers for Disease Control and Prevention; January 10, 2013. Accessed August 18, 2020. Available at [www.cdc.gov/parasites/pinworm/index.html](http://www.cdc.gov/parasites/pinworm/index.html)
2. Mayo Clinic: Pinworm infection. Mayo Clinic; June 16, 2020 Accessed August 18, 2020. Available at [www.mayoclinic.org/diseases-conditions/pinworm/symptoms-causes/syc-20376382](http://www.mayoclinic.org/diseases-conditions/pinworm/symptoms-causes/syc-20376382)

### Performance

### Method Description

The disposable paddle is firmly pressed against right and left perianal folds first thing in the morning. The paddle is

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examined microscopically for the presence of pinworms and eggs.(Garcia L: Diagnostic Medical Parasitology. 6th ed. ASM Press, 2016)

**PDF Report**

No

**Specimen Retention Time**

Until reported

**Performing Laboratory Location**

Rochester

**Fees & Codes****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**

87172