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Section: Parasitology Manual	Subject Title: Collection and Laboratory Procedures for Specimens Other Than Stool or Blood	
Issued by: LABORATORY MANAGER	Original Date: March 13, 2000	
Approved by: Laboratory Director	Revision Date:	

Anal Swabs for Pinworm Eggs

PRINCIPLE

Adult female pinworms migrate out of the anus and their deposit eggs in the perianal region of their host. The adult female (8 to 13mm long) can occasionally be found on the surface of a stool specimen or on the perianal skin. Since eggs are usually deposited around the anus, they are not commonly found in feces and must be detected using other diagnostic techniques. The most popular methods of detecting the eggs are to use a plastic paddle with an adhesive surface, or to use a piece of Scotch (TM) tape, which is then stuck to a slide and examined.

SPECIMEN

Specimens should be collected in the morning before the patient bathes or goes to the bathroom. The most widely used diagnostic procedure for pinworm is the cellulose tape method, however several commercial collection procedures are also available. It has been suggested that a swab coated with petroleum jelly is the most appropriate technique since this minimizes the possibility of laboratory workers becoming infected.

To collect a specimen:

1. If a commercial pinworm paddles is available follow the directions supplied with it. If a commercial paddle is not available use the following method.
2. Set up the sampling slide by producing a slide (or tongue depressor) with cellulose tape looped back such that the sticky surface is facing out. To do this place a strip of cellulose tape on a microscope slide, starting 1/2 inch from the unfrosted end of the slide and then run the tape to the unfrosted end of the slide. Loop the tape back (sticky side out) to the frosted end of the slide and then fold the sticky end underneath to secure the tape to the slide.
3. To obtain a sample from the perianal area, grip the frosted end of the slide and press the tape firmly against the right and left perianal folds.
4. Undo the tape at the frosted end of the slide and spread the tape back on the other side of the slide, adhesive side down.

Do not use Magic transparent tape; use regular cellulose tape. If Magic tape has been used a drop of immersion oil can be placed on top of it to facilitate clearing.

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SAFETY

Pinworm eggs are frequently plentiful and can be carried by air currents. Each egg will often contain a fully developed embryo and will be infective within a few hours after being deposited. Wear gloves and consider the use of a face mask if you suspect the sample will allow eggs to become airborne.

PROCEDURE

1. Remove the paddle and apply to a microscope slide, sticky side up. Add a drop of 0.85% NaCl saline and a cover glass for clearer viewing. If tape has been submitted lift one side of the tape and apply one small drop of toluene or xylene and press the tape down on the glass slide. The preparation will then be cleared and the eggs will be visible.
2. Examine for eggs under the low power objective of a microscope.

QUALITY CONTROL

- As it is not possible to have a positive control specimen to use with this procedure, the technologist should review the appearance and size of the organisms present to ensure that they match reference material (i.e. *Bench Aids for the Diagnosis of Intestinal Parasites* (WHO)).
- Ensure that the microscope has been calibrated in the last year or every time an optical element has been changed and that the results of the calibration are displayed on the microscope base.
- Eggs can be missed if too bright an illumination is used.

REPORT

The presence or absence of pinworm eggs and any other parasite seen.

LIMITATIONS OF PROCEDURE

- Swabs must be taken prior to the patient bathing—preferably first thing in the morning.

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