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| Pinworm Prep |
| **Purpose** | This procedure provides instructions for performing PINWORM EXAM.*Enterobius vermicularis* a roundworm parasite that has worldwide distribution. It is commonly found in children and is known as pinworm. The adult female migrates out of the anus, usually at night, and deposits her eggs on the perianal area. The adult female (8-13 mm long) is occasionally found on the surface of the stool or on the perianal skin. Since the eggs are not commonly found in feces, diagnosis of pinworm infection is based on the recovery of the eggs from the perianal skin by sticking to the surface of cellulose tape or a Swube® paddle. |
| **Policy Statements** | This procedure applies to Microbiologists who perform parasitology. |
| **Test Code** | PINW |
|  | **Supplies** | **Equipment** |
| **Materials** | * Swube® paddle or clear cellulose tape. Swube® paddles are considered a safer alternative over scotch tape.
* Glass slide
 | * Microscope
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|  |  | **Related document** |
| Specimen | 1. Acceptable specimens
	* Specimen is collected from the perianal skin first thing in the morning before bathing or going to the bathroom.
2. SDES codes/Specimen type
	* ANAL – anal, perianal
3. Special instructions
	* Do not use Magic tape for collection. Use clear cellulose tape.
 | [Lab Test Directory – Pinworm Preparation](http://www.childrensmn.org/Manuals/Lab/MicroBioViral/033254.asp)for Specimen Collection and Transport and Specimen Assessment |
| **Special Safety Precautions** | Microbiologists/virologists are subject to occupational risks associated with specimen handling. Refer to the safety policies:1. [Biohazard Containment](file:///G%3A%5CLab%20Procedures%5CMicrobiology%5C1NEW%20Micro%20Procedure%20Manual.%20%28same%20as%20in%20Starnet%29%5CMCVI%203%20Safety%5CMCVI%203.1%20Biohazard%20Containment.docx)
2. [Safety in the Microbiology/Virology Laboratory](file:///G%3A%5CLab%20Procedures%5CMicrobiology%5C1NEW%20Micro%20Procedure%20Manual.%20%28same%20as%20in%20Starnet%29%5CMCVI%203%20Safety%5CMCVI%203.2%20Safety%20in%20the%20Microbiology%20Lab.docx)
3. [Biohazardous Spills](file:///G%3A%5CLab%20Procedures%5CMicrobiology%5C1NEW%20Micro%20Procedure%20Manual.%20%28same%20as%20in%20Starnet%29%5CMCVI%203%20Safety%5CMCVI%203.4%20Biohazardous%20Spills.docx)

Pinworm eggs are highly infectious. Each egg will contain a fully developed embryo and will be infective within a few hours after it is deposited. Handle specimens with extreme care. **Wear gloves when performing these procedures and wash hands afterwards.** |
| **Quality Control** | 1. Microscope must be calibrated. Calibration factors may be found in the O & P procedure.
2. Performance validation: CAP Clinical Microscopy Survey (CM) is performed three times annually.
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| **Procedure** | Specimen examination1. Swube® paddle
2. Remove the cap from the tube.
3. Remove the paddle from the cap, gripping only the stem of the paddle.
4. Place the paddle STICKY SIDE UP on a microscope slide. Secure paddle by taping the stem to the slide.
5. Examine entire paddle under low power (10X) and low light.
6. When examination is completed, return paddle to tube, replace cap and dispose in biological waste container.
7. Clear cellulose tape
8. Place tape adhesive side down on a glass slide.
9. Examine slide directly under low power (10X) and low light.
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| **Interpretation/ Results/Critical Values** | 1. Typical pinworm eggs are thick-shelled, football-shaped eggs with one flattened side. They may contain a partially or fully developed larva.
2. Adult worms are occasionally seen on the scotch tape prep. The worms are approximately 1 mm in length, are white or cream colored, and have a pointed tail.
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| **Limitations** | 1. The female pinworm deposits eggs on the perianal skin only sporadically. At least 4-6 consecutive negative slides should be observed before a patient is considered free of infection.
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| **Method Performance Specifications** | 1. If opaque tape is submitted by mistake, a drop of immersion oil on top of the tape will clear it enough to proceed with the microscopic examination.
2. Occasionally a parent will bring in an adult worm collected from the perianal area or from the surface of the stool. The identification of the adult worm (usually female) confirms the infection.
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| **Result Reporting** | 1. TEST RESULTS: Record Test results in Sunquest MRE *Direct Exam* tab in Observations by using customized keyboards (F8) or by entering a code in the result box.
2. **Report the organism and stage**.
* **Positive:** POSITIVE: Enterobius vermicularis eggs seen code: **EVSN** (Key 6)
* **Positive:** POSITIVE: Enterobius vermicularis, ADULT WORMS seen code: **EVA**
* **Negative:** NEGATIVE: No Enterobius vermicularis EGGS seen code: **NEV** (Key 5)
* **Negative:** NEGATIVE: No Enterobius vermicularis ADULT WORMS seen code: **NEVA**

Observations: 1. EVSN POSITIVE: Enterobius vermicularis eggs seen (Key 6) 2. NEVA NEGATIVE: No Enterobius vermicularis ADULT WORMS seen  3. Final Report: /If additional information is available after the exam has been finalized, remove the final status and send out a supplementary report. The code **SRPT** (supplementary report) must be used in SREQ or *Culture Observations* as follows:Updated or new culture information: In the *Culture Entry* tab, enter SRPT on an observation line followed by new results.Requests for additional testing: In the *Misc. Updates* tab, enter SRPT in SREQ followed by the request.* Refinal the culture when identifications and/or testing are complete.
1. If a culture requires a correction, the code **CORR** (corrected report) must be reported on an observation line in the *Direct Exam* or *Culture Entry* tab. Refer to the procedure MCVI 5.1 *Labeling Errors/Specimen Mix-ups*
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| **References** | 1. Leber, A.L., Parasitology, 9.6.1.2 *Clinical Microbiology Procedures Handbook,* 2016 American Society for Microbiology, Washington, D.C.
2. Garcia, L.S., 2016, *Diagnostic Medical Guide to Parasitology*, 6th edition, ASM Press, American Society for Microbiology, Washington, D.C.
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| **Appendices** | WORKLABEL MEDIA-FORM DEFINITIONBATTERY: PINWSPEC MEDIA1. STPE (scotch tape)
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| **Training Plan/ Competency Assessment** | **Training Plan** | **Initial Competency Assessment** |
| 1. Employee must read the procedure
2. Employee will observe trainer performing the procedure.
3. Employee will demonstrate the ability to perform procedure, record results and document corrective action after instruction by the trainer.
 | 1. Direct observation
2. CAP Clinical Microscopy proficiency (CM)
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| **Historical Record** | **Version** | **Written/Revised by:** | **Effective Date:** | **Summary of Revisions** |
| 1.0 | Pat Ackerman | 1975 | Initial Version |
| 1.1 | Pat Ackerman | 01/1992 |  |
| 1.2 | Pat Ackerman | 09/19/2003 |  |
|  | 1.3 | Pat Ackerman | 08/17/2007 | Updated Sunquest 6.2 reporting information. Revised SRPT and CORR statements. Added worklabel information. |  |  |
| 1.4 | Jessica Craig | 06/28/2010 | Updated into online format. |
| 2 | Becky Carlson  | 4/26/2015 | Re-numbered from MC 505 for CMS load. |
| **3** | Susan DeMeyere | 8/5/2019 | Updated result codes including organism and stage.  |