

Guthrie Medical Group
POLICY & PROCEDURE

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| SECTION: Department | SUBJECT: PPM Procedure - Fern Test | DEPT. Point-of-Care Testing Regional Labs |
| EFFECTIVE: 7/27/2016 | | POLICY# GMG-700-2020 |
| SUPERCEDES: 7/11/2007 | | PAGE # 1 of 3 |
| DISTRIBUTION: All POCT Regional Lab PPM Testing Areas | | |

I. PRINCIPLE:

The Fern Test is used to detect amniotic fluid leakage from the membrane surrounding the fetus during pregnancy. If rupture of the membrane has occurred evidence of amniotic fluid will be present. Amniotic fluid will crystallize when dried on a glass slide forming a fern pattern due to relative concentrations of sodium chloride, proteins and carbohydrates in the fluid. Normal vaginal secretions that do not contain amniotic fluid will not show the ferning pattern, The Fern Test may also be used for monitoring fertility. Cervical mucus smears form a fern pattern when estrogen secretion is elevated.

II. SPECIMEN:

Cervical mucus or fluid is obtained by a provider during a routine gynecological examination. A sterile cotton-tipped applicator is gently inserted into the cervical canal and rotated. During pregnancy, a sample of vaginal secretion should be obtained from the posterior vaginal pool, being careful not to touch the mucus plug.

III. EQUIPMENT, REAGENTS and SUPPLIES:

| Product | Epro # | Vendor | Manufacturer |
|---------------------------------|---|-----------------|--------------|
| Glass Slides, Frosted | 11611 | Cardinal Health | Cardinal |
| Glass Coverslip (glasses) 22x22 | 12236 | Cardinal Health | Cardinal |
| Sterile Swabs, Culture Swab | 1395 | Cardinal Health | Cardinal |
| Gloves | | | |
| Sharps Container | | | |
| Microscope | Contact the Regional Office Lab Coordinator | | |

IV. QUALITY CONTROL:

Participation in proficiency testing allows the examiners to be challenged regularly and be exposed to current literature relevant to their specialty. All offices performing microscopy are enrolled in the appropriate testing module.

V. PROCEDURE:

1. Label a clean microscope slide with patient identification.
2. Roll the swab across the glass slide while applying pressure to express the fluid and creating a thin smear immediately after specimen collection. **Note: Cervical mucus specimen must be free of blood.**
3. Allow the slide to dry at room temperature.
4. Observe the dried spread of mucus under a low power lens of a microscope (10X) and low light.
5. Scan the entire slide.

6. Identify evidence of fernlike pattern.
7. Observe slide using high power (40X) to confirm ferning pattern.
8. After completing the observation, discard microscopic slide into the appropriate sharps container.



Typical pattern seen in
amniotic fluid



Typical fern pattern seen in
cervical mucus at mid-cycle

NOTES: This procedure is performed at mid-cycle to detect estrogen-induced ferning and is usually repeated approximately 7 days later to detect progesterone inhibition of ferning.

VI. INTERPRETATION AND RESULTS:

Normal Findings of a Positive Fern Test: Ferning of cervical mucus during mid-cycle or of amniotic fluid close to term.

VII. REPORTING RESULTS:

Record finding the patient's electronic medical record using the enter / edit Epic activity. Refer to procedure GMG-700-2030. The test should be reported as: Fern test positive or Fern test negative. Reporting should also be done in conjunction with pooling and nitrazine test.

VIII. REFERENCES:

1. Clinical Laboratory Methods, 8th edition, J.Bauer, P.Ackerman, and G. Toro
C.V. Mosby Company, 1974.
2. Mosby's Diagnostic and Laboratory test reference, Mosby Company, 1992.
3. CMS Resources, PPMP A Focus on Quality Practices, Fern Procedure, Feb. 2016.

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Key Contact: POCT Coordinator, Laboratory Medical Director

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*Original signed document is available in the Regional Laboratory Coordinator's Office