

**SUNY Downstate Medical Center -University Hospital  
of Brooklyn Network  
Department of Pathology Policy and Procedure**



**Subject: Point of Care Amniotic Fluid Crystallization LAB 23I**

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Supporting Documents:

Approval Workgroup: Point of Approval Care  
Group

Revision: 2

# SUNY DOWNSTATE MEDICAL CENTER

## UNIVERSITY HOSPITAL OF BROOKLYN POLICY AND PROCEDURE

<b>Subject:</b> <u>FERN TEST – AMNIOTIC FLUID CRYSTALLIZATION TEST</u>	<b>No.</b> <u>LAB-23I</u>
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<u>Ovadia Abulafia, M.D.</u>	<b>Supersedes:</b> <u>01/09</u>
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	<b>Issued by: Department of Laboratories</b>

### I. PURPOSE

The Fern Test detects the leakage of the amniotic fluid from the membranes surrounding the fetus during pregnancy. Premature rupture of the membranes may lead to fetal infection and subsequent mortality. The risk may be eliminated by induction of labor.

### II. PERSONNEL

- **Licensed Medical Doctor**
- **Licensed Health Practitioners**

All PPMP done at this hospital is the responsibility of the UHB Director of Clinical Laboratories.

### III. DEFINITIONS

Provider Performed microscopy Procedures (PPMP): Procedures that must be performed during the patient's visit by the provider or by a member of the group practice and can only be performed using Bright-field or phase contrast microscope. PPMP is a subcategory of moderately complex procedures.

## V. PROCEDURE / GUIDELINES

### REAGENTS, EQUIPMENT AND MATERIAL

- Microscope
- Sterile glass slide
- Sterile swab

#### **Specimen: Vaginal swab obtained from the posterior vaginal pool.**

- Avoid the use of any lubricants or antiseptics
- Use of a sterile swab and do *not* touch mucus plug
- After collection, immediately rub the swab against the glass slide, creating a very thin smear.
- Allow the slide to dry.
- Specimen not tested immediately, (by the person collecting the specimen) are labeled with two forms of patient identification.

#### **Testing:**

- Allow the slide to air dry – *do not apply heat and do not coverslip the slide.*
- Examine the fully-dried slide microscopically, using the 10X objective.
- Observe for “fern-like” crystals. Presence of crystals indicates that the fluid is amniotic fluid.
- If present, the amniotic fluid crystallizes to form a fern-like pattern due to the relative concentrations of sodium chloride, proteins, and carbohydrates in the fluid.
- If ferning is difficult to locate, examine all fields on the slide thoroughly.

#### **Quality Control**

N/A

## VI RESULTS AND REPORTING

- Record the presence of “ferning” or “no ferning” on the patient’s medical record chart.
- Include the date/time, and name of person performing the test.

#### **Interfering Substances / Limitations:**

- False positive results may occur from the specimens contaminated with blood, urine, or cervical mucus.
- False negative results may occur from prolonged rupture of the membranes (longer than 24 hours).
- False negative results may occur if only a small volume of fluid has leaked.

## PROCEDURE NOTES

- The Fern Test should be performed in conjunction with pH determination, using pH paper.
- If the pH determination and the Fern Test are positive, probable rupture has occurred.
- If the pH determination is negative, but the Fern Test is positive, there is probable rupture of the membranes due to the Fern Test's greater specificity.
- If the pH determination is positive, but the Fern Test is negative a second specimen should be collected and tested.

## VII. EMPLOYEE CERTIFICATION:

Physicians are credentialed for Fern Test testing as part of the physical examination by colleagues and associates in their department as part of their routine Professional Practice Evaluation.

## VIII. REFERENCE

A J Perinatol, 1994 Jan:11(1): 46-50

Value of the fern test to confirm or reject the diagnosis of ruptured membranes

Addison, Lois Anne, Laboratory Medicine, July 199.P.451

Date Reviewed	Revision Required		Responsible Staff Name and Title
10/07	Yes	No	Alix Laguerre, Lab Administrator
01/09	Yes	No	Alix Laguerre, Lab Administrator
02/10	Yes	No	Alix Laguerre, Lab Administrator
11/11	Yes	No	Alix Laguerre, Lab Administrator
04/14	Yes	No	Peter Howanitz, MD, Medical Director
12/14	Yes	No	Alejandro Zuretti, MD, Medical Director