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| **Title:** | Fern Test (Provider Performed) BUMC | | |
| **Department/Service Line:** | Laboratory | | |
| **Approver(s):** | CLIA Director | | |
| **Location/Region/Division:** | Baylor Scott & White Health | | |
| **Document Number:** | BUMC.LAB.POC.6004.R_V1 | | |
| **Last Review/Revision Date:** | See Signatures | **Origination Date:** | |

# SCOPE

This document applies to providers that perform Fern Testing within Baylor Scott & White Health.

# DEFINITIONS

*When used in this document with initial capital letter(s), the following word(s)/phrase(s) have the meaning(s) set forth below unless a different meaning is required by context. Additional defined terms may be found in the BSWH P&P Definitions document.*

**EHR** – Electronic Health Record

**ROM** – Rupture of the membranes

# METHOD/UTILITY

The Fern Test is used to detect the leakage of amniotic fluid from the membranes surrounding the fetus during pregnancy. Rupture of the membranes (ROM) can predispose the fetus to infection therefor increasing the perinatal mortality significantly in the 24-48 hours following ROM. Due to the protein and sodium chloride content, amniotic fluid crystallizes when allowed to air-dry on a microscope slide. This test is based on the ability of amniotic fluid to form a “fern” pattern.

# PROCEDURE

## Personal Protective Equipment

Appropriate personal protective equipment (gloves, gowns, masks, and eye protectors, etc.) is provided in work areas in which blood and body substances are handled and in circumstances during which exposure is likely to occur.

## Specimen

- Fluid obtained during the sterile speculum exam from the posterior vaginal fornix collected on a sterile, cotton-tipped swab. Alternately, vaginal secretions collected on a sterile, cotton-tipped swab.
- Avoid use of any lubricants or antiseptics because these may interfere with this test.
- Label specimen with two unique patient identifiers. Transport specimen immediately for examination as swab should not be allowed to dry out before slide is made.

## Reagents/Equipment

- Microscope (10x and 40x Objectives)
- Microscope Slide, glass
- Sterile Swabs
- Sterile Vaginal speculum

## Quality Control

There is no available Quality Control material. Pictorial examples of ferning are presented at the end of this written procedure.

## Testing Procedures

### Slide Preparation

1. Label microscopic slide with two patient identifiers.
2. Roll the saturated swab tip across the slide while applying slight pressure to express the fluid from the slide. Spread the specimen so that a thin smear is formed.
3. Place the slide on a flat surface.
4. Allow slide to dry 5-7 minutes. Do not blow air or heat slide.
5. Do not apply a coverslip.

### Microscopic Examination

On low power (10x and/or 40x objective), exam and scan entire slide for characteristic fern pattern.

### Results

- Positive– Any evidence of arborization or “ferning”.
- Negative – No detectable pattern of “ferning”.

#### *Examination and Procedural Notes:*

A positive fern test should be used in conjunction with the patient’s clinical history and presentation when deciding whether or not fetal membrane rupture has occurred.

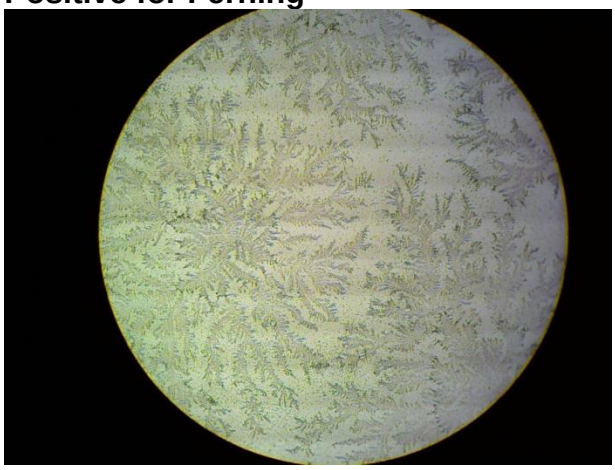
- False negatives can be produced by prolonged ROM (longer than 24 hours) or if only a small quantity of amniotic fluid has leaked.
- False positives can result from the collection of cervical mucus, which also “ferns”, but in a more coarse pattern.
- The presence of blood, urine, or cervical mucus may result in a false positive test.

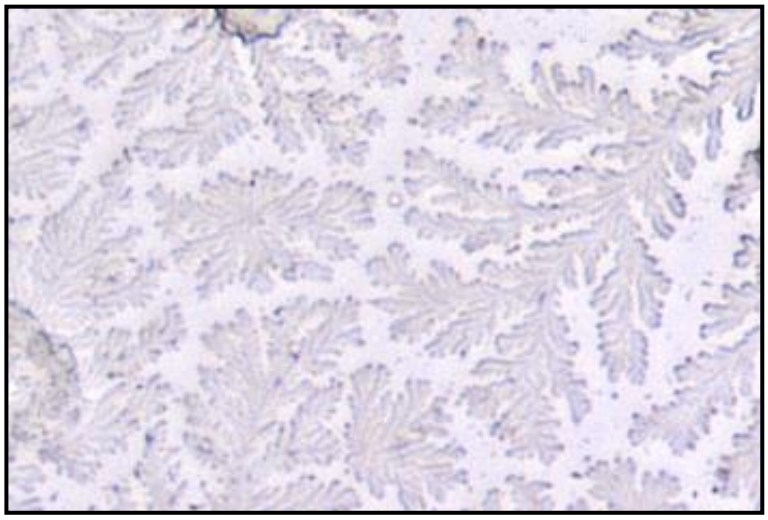
### Reporting Results

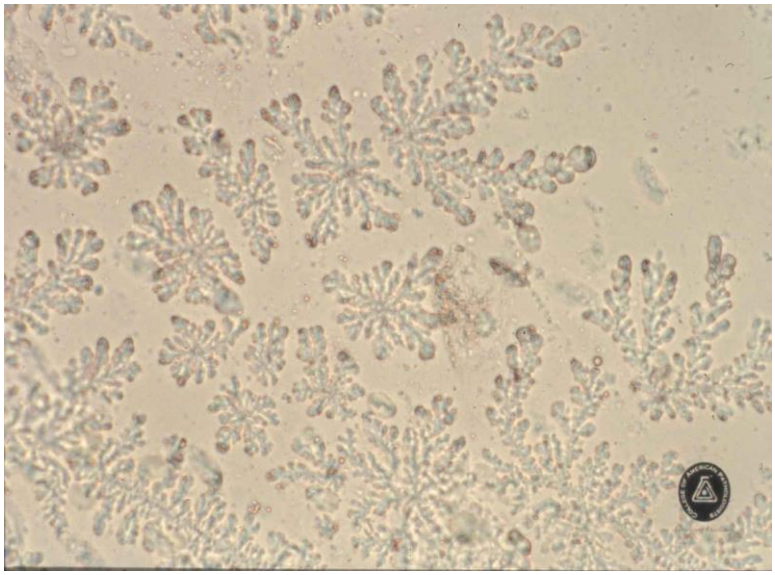
All testing and results should be documented in the EHR.

# Pictorial Examples

## Positive for Ferning

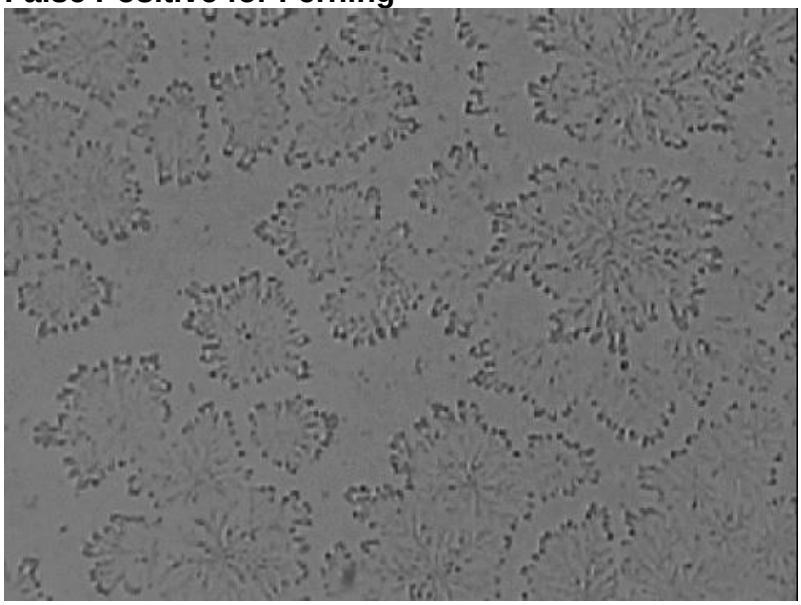






**Negative for Ferning**

**False Positive for Ferning**



## ATTACHMENTS

None

## RELATED DOCUMENTS

Provider Performed Testing Program BUMC (BUMC.LAB.POC.6001.P_V1)
Microscope Use in Provider Performed Testing (BSWH.LAB.PPT.002.R_V1)

## REFERENCES

1. CLSI. *Physician and Nonphysician Provider-Performed Microscopy Testing; Approved Guideline – Second Edition.* CLSI document POCT10-A2. Wayne, PA: Clinical and Laboratory Standards Institute; 2011.

## REVISION HISTORY

| Version # | Effective Date | Description of Change | Revised By | Removed Date |
|---|---|---|---|---|
| 1 | | New | | |
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