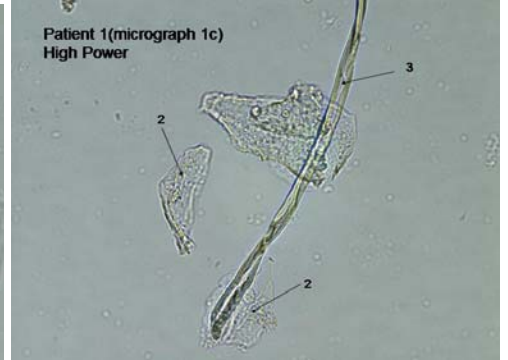
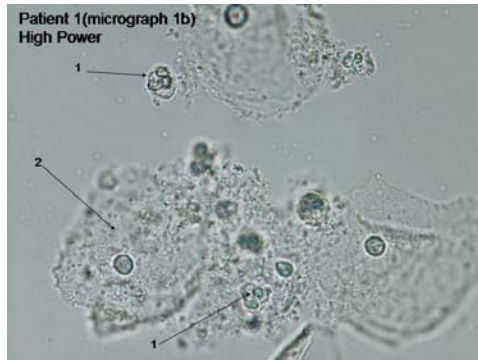
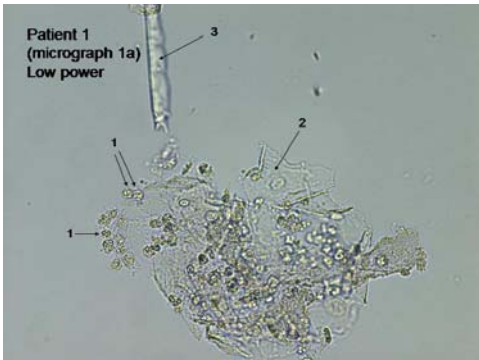


## Wet Mount Proficiency Test 2009A Critique

As reminder, you may use the nucleus of the squamous epithelial cell as a size marker when evaluating the sample:

- Nucleus = 15 microns      Yeast = 5-7 microns      RBC = 6-8 microns
- WBC = 15 microns      Trichomonas = 20 microns

\*\*\*\*\*



### Patient 1, Micrographs 1a, 1b, 1c

#### Expected Results

- Item #1. White blood cell(s)
- Item #2. Squamous epithelial cell(s) - not a clue cell
- Item #3. Artifact

\*\*\*\*\*

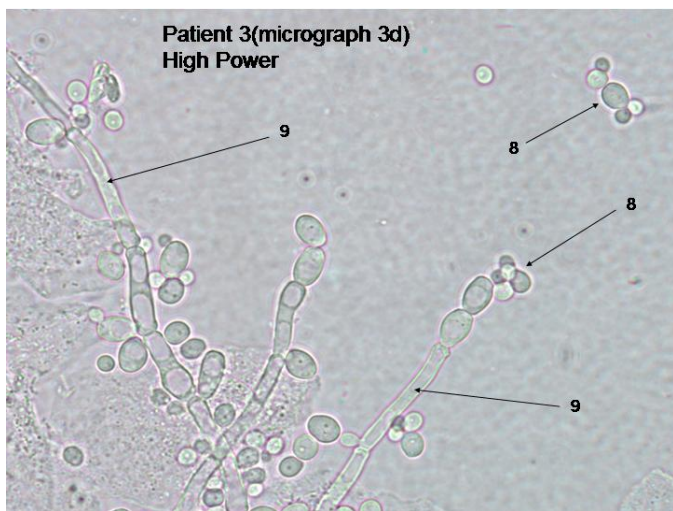
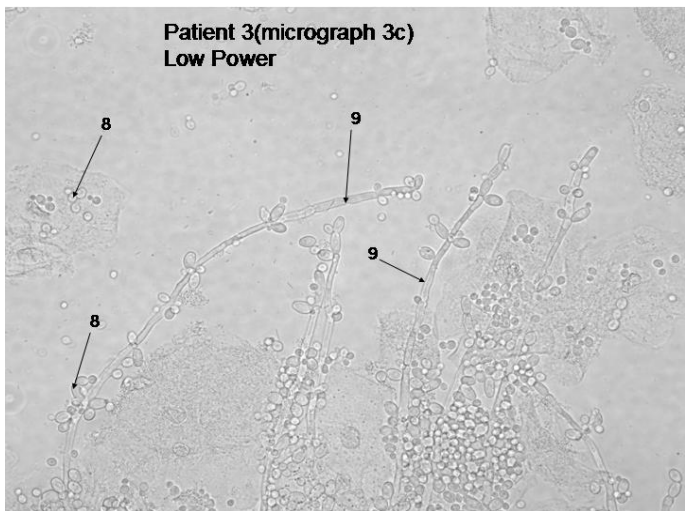
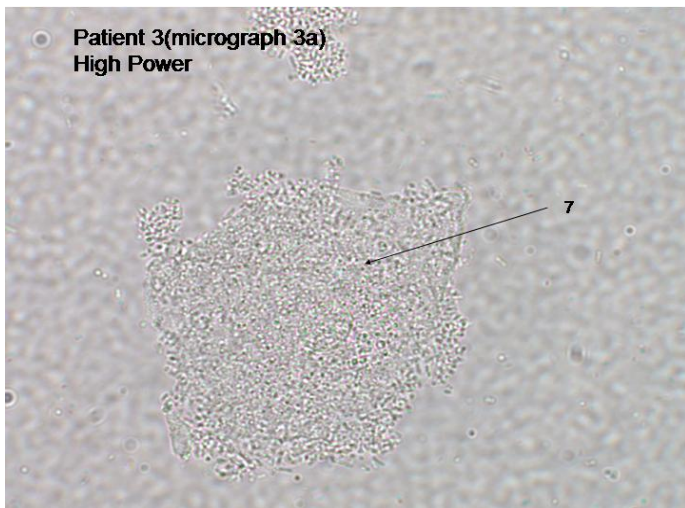


### Patient 2, Micrographs 2a, 2b, 2c

#### Expected Results

- Item #4: Yeast cell(s)
- Item #5: Red Blood cell(s)
- Item #6: Squamous epithelial cell(s) - not a clue cell

\*\*\*\*\*



### Patient 3, Micrographs 3a, 3b, 3c, 3d

#### Expected Results

Item #7: Squamous epithelial cell(s) - a clue cell

Item #8: Yeast

Item #9: Pseudohyphae

\*\*\*\*\*

**Item #1: White blood cell:** These cells are larger than Red Blood Cells and are approximately the same size as the nucleus of a squamous epithelial cell. You can most easily compare the relative size of the white blood cell with the size of the squamous epithelial cell nucleus by screening on low power. Switch to the high power objective, however, to make a definitive identification of White Blood Cells. Under high power, the nuclear detail of the WBC becomes apparent. The WBC is characterized by a multilobed nucleus (usually three distinct lobes can be identified).

**Items 2 & 6: Squamous epithelial cell – not a clue cell:** The examples shown here are typical of a normal squamous epithelial cell. The cell nucleus and the cell boundary are clearly observed.

**Item 3: Artifact:** A variety of artifacts may be observed which the analyst must be able to differentiate from actual cellular elements. Artifacts include pollen, oil droplets, starch crystals, and cotton fibers (just to name a few). The artifacts shown here must be differentiated from pseudohyphae.

1. Fibers are generally larger in size than pseudohyphae

2. Pseudohyphae have parallel sides with a consistent dimension between the sides while fibers show variable widths along the fiber.
3. Fibers tend to be birefringent. That is they change color when focusing up and down on the object. Colors are often gold or blue and result from the microscope light being refracted by the fiber.

**Item 4 & 8: Yeast Cell:** the cells vary in shape from circular to oval, they are smaller than a red blood cell usually up to 7.5 microns (µm) in diameter. In budding yeast cells, a single bud is observed.

**Items 5: Red Blood Cell:** RBC may be confused with yeast. They are approximately 8 microns in diameter (smaller than white blood cells by about half, but larger than yeast cells). RBC possess a cell membrane, while yeast have a thick cell wall. Red blood cells are slightly larger and more uniform in shape than yeast cells. In fresh samples, RBC will be round. Because of the biconcave nature of RBC, a dimple may be observed in the middle of the cell. After 5-10 minutes, the RBC will crenate and get a jagged appearance. It is therefore best to analyze the wet mount sample as quickly as possible. The longer you wait, the more likely it is that RBC will crenate and lose their characteristic appearance.

**Item 7: Clue cell:** Clue cells are squamous epithelial cells that are covered with a thick coating of bacterial cells and is associated with bacterial vaginosis. The traditional definition of a clue cell is that the bacterial overgrowth is so thick that all cell detail (such as the cell nucleus and the cellular edge) are totally obscured. It is possible, however, to detect the nucleus in a clue cell by using the fine focus to focus through several focal lengths.

**Item #9: Pseudohyphae:** These are fragile tube-like structures that arise through elongation of the yeast form of Candida. They are called pseudohyphae because they lack true branching as seen with mold like fungi. The side walls are parallel to each other which is an important characteristic that helps separate pseudohyphae from artifact whose side walls vary in width. Small oval structures called blastoconidia are often seen attached along the length of the pseudohyphae. The blastoconidia are smaller in size when compared to the yeast form of Candida.

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### Results Reviewed with Staff

To be completed after results have been received from the laboratory director or designee. Results must be shared with all staff performing wet mount analysis. By signing below, testing staff acknowledge that the results of the wet mount proficiency samples have been reviewed and when appropriate, corrective action has been documented.

Testing Person: \_\_\_\_\_

Date: \_\_\_\_\_

Testing Person: \_\_\_\_\_

Date: \_\_\_\_\_

Testing Person: \_\_\_\_\_

Date: \_\_\_\_\_

Testing Person: \_\_\_\_\_

Date: \_\_\_\_\_

Testing Person: \_\_\_\_\_

Date: \_\_\_\_\_