Training Instructions for Reading Vaginal Wet Mounts for Clue Cells

Evaluating Wet Mounts for the Presence of Clue Cells

- To clinically diagnose bacterial vaginosis (BV), Amsel's criteria is used.
- One of the four criteria, the presence of $\geq$ 20% clue cells per field can be difficult to determine.
- The following tips should be utilized to determine if an epithelial cell is a clue cell or not a clue cell and if there is $\geq$ 20% in the field:

  1. Count the number of distinguishable epithelial cells in your field of view. Distinguishable epithelial cells are whole cells that are visible with a nucleus present.

Evaluating Wet Mounts

2. To determine if any of the epithelial cells are clue cells, it is important to study ONLY THE BORDERS OF THE CELL. A cell is a clue cell if the borders of the cell are completely obscured with bacteria and have edges that look “grainy” or “fuzzy”. If any of the border is clear, it is not a clue cell.

Note: It is important to realize that the surfaces of epithelial cells can look “grainy” normally due to the cell membrane’s pores and this can be confused as bacteria when it is not.

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3. To determine the percentage of clue cells in your field:

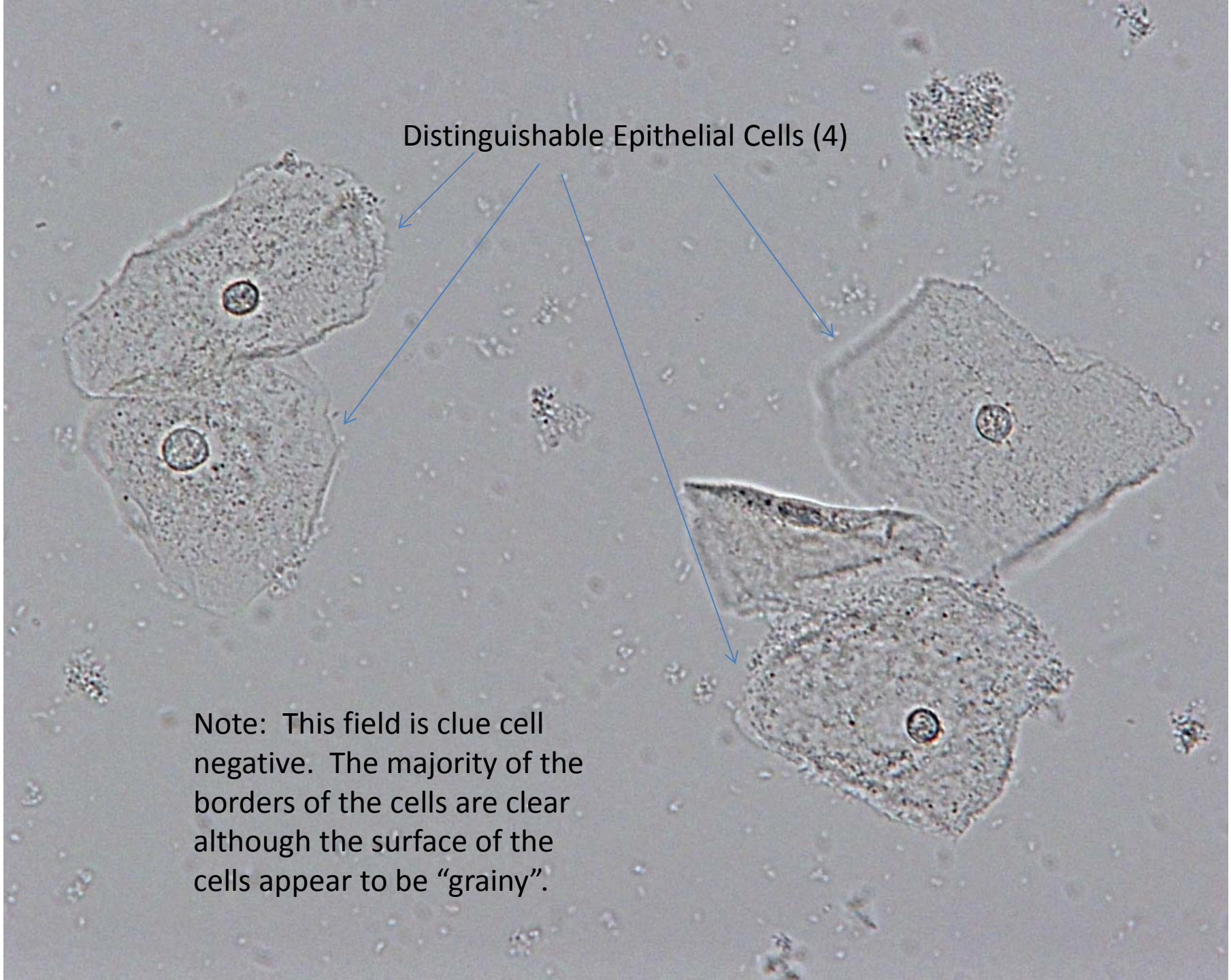
    a. Count the number of clue cells and divide that number by the total number of distinguishable epithelial cells.

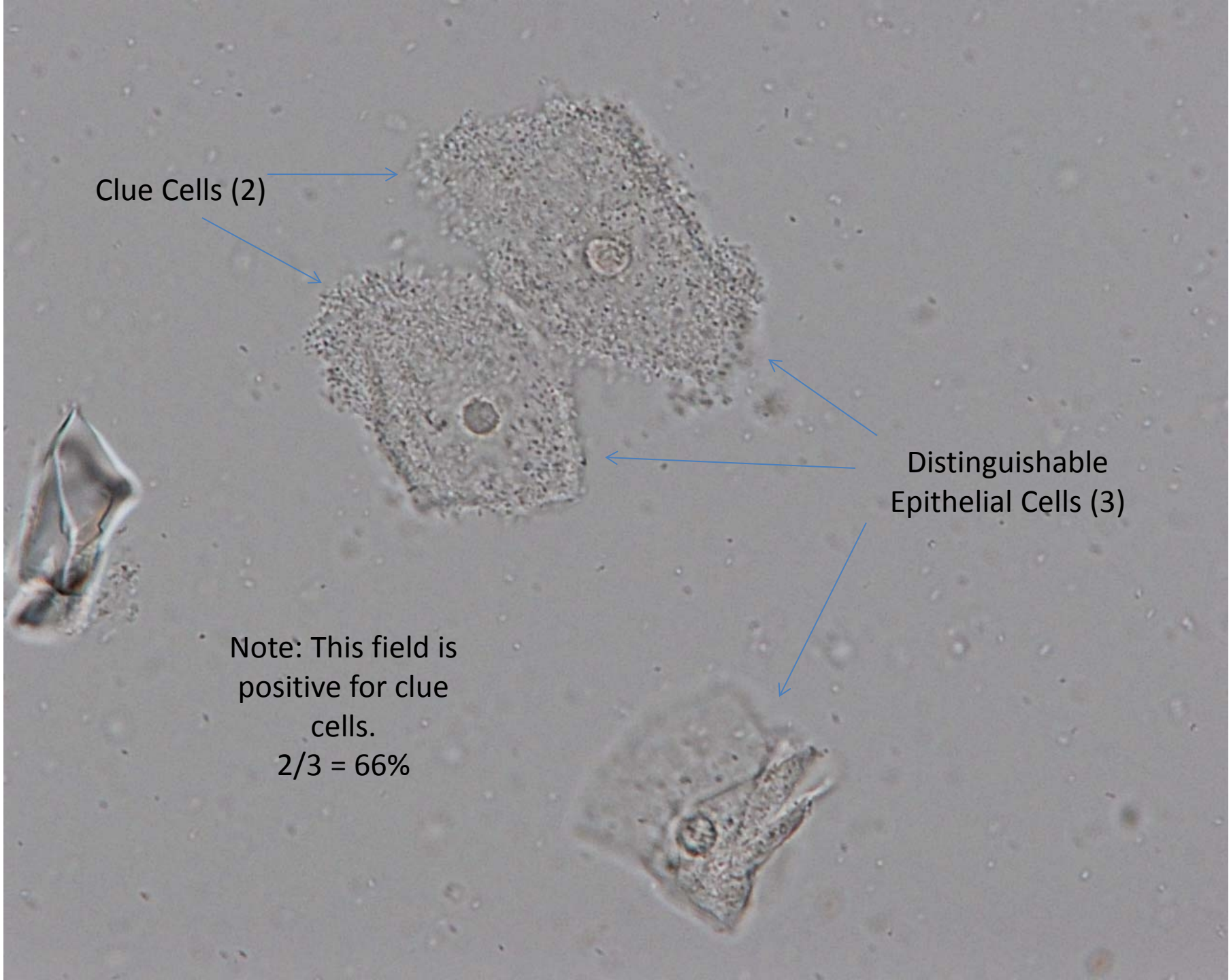
For example:

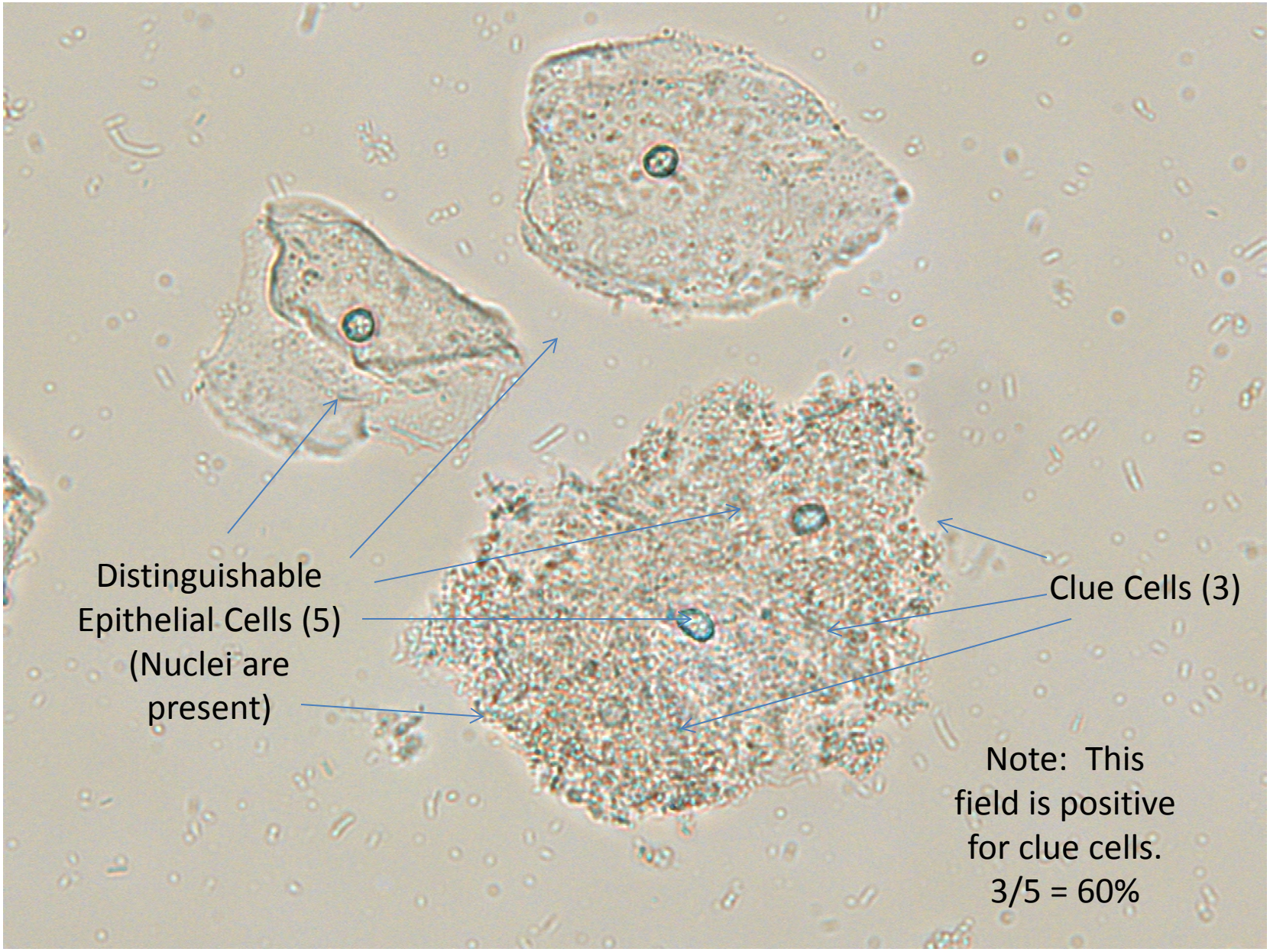
A field has 6 epithelial cells and 2 are clue cells. 2/6 = 33%. The field is positive for clue cells.

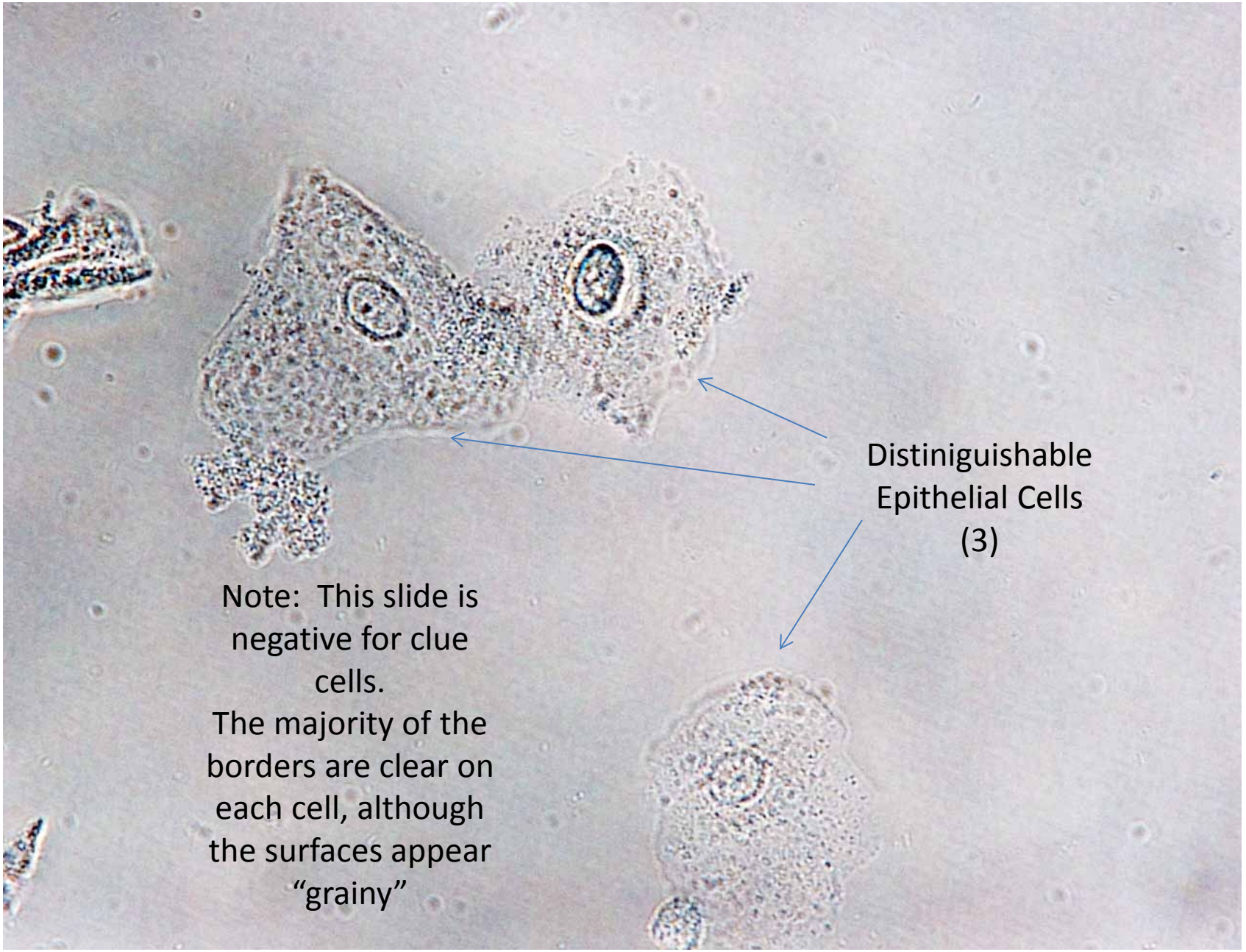
Evaluating Wet Mounts

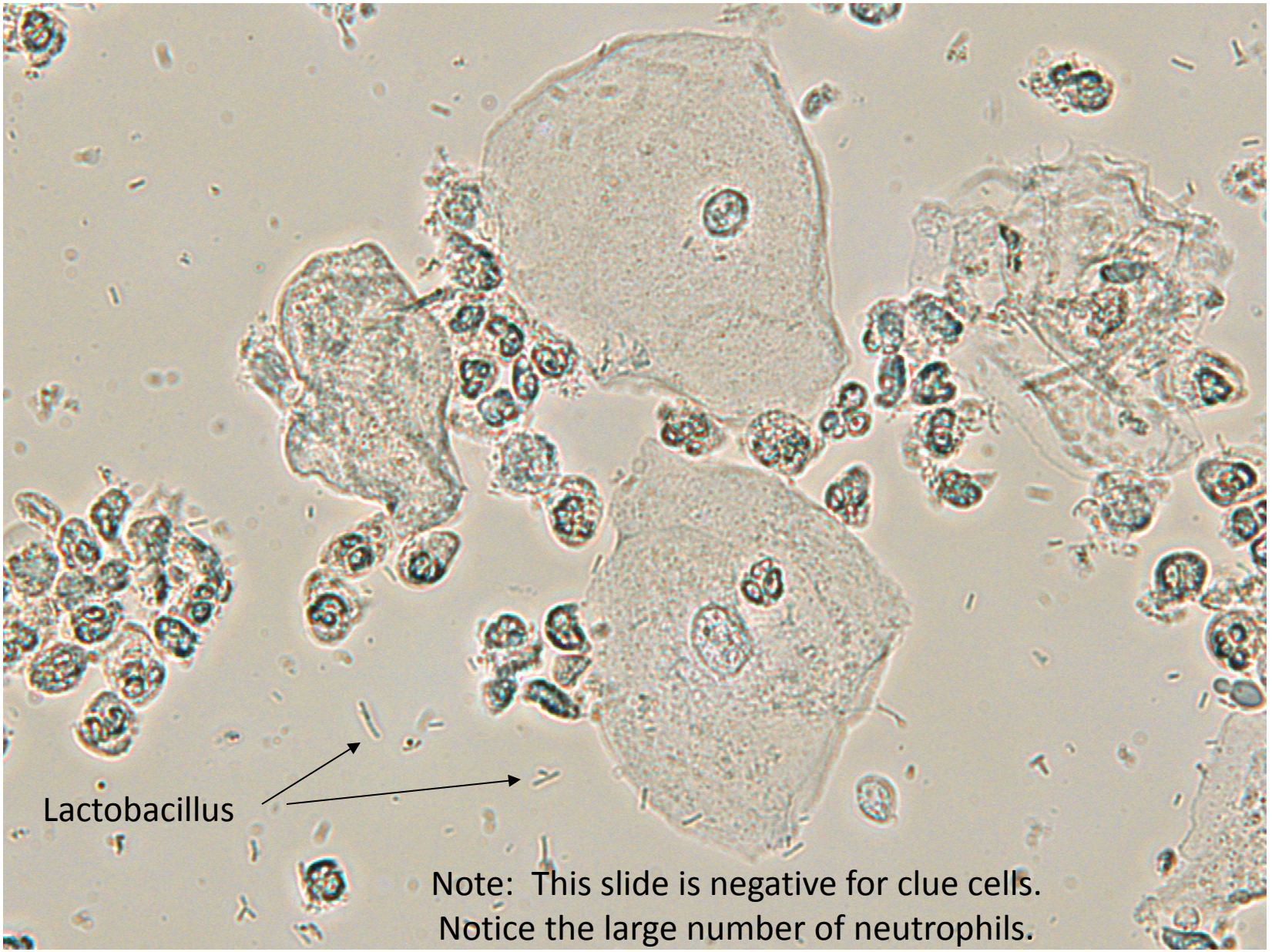
- View the following slides to see these tips utilized.

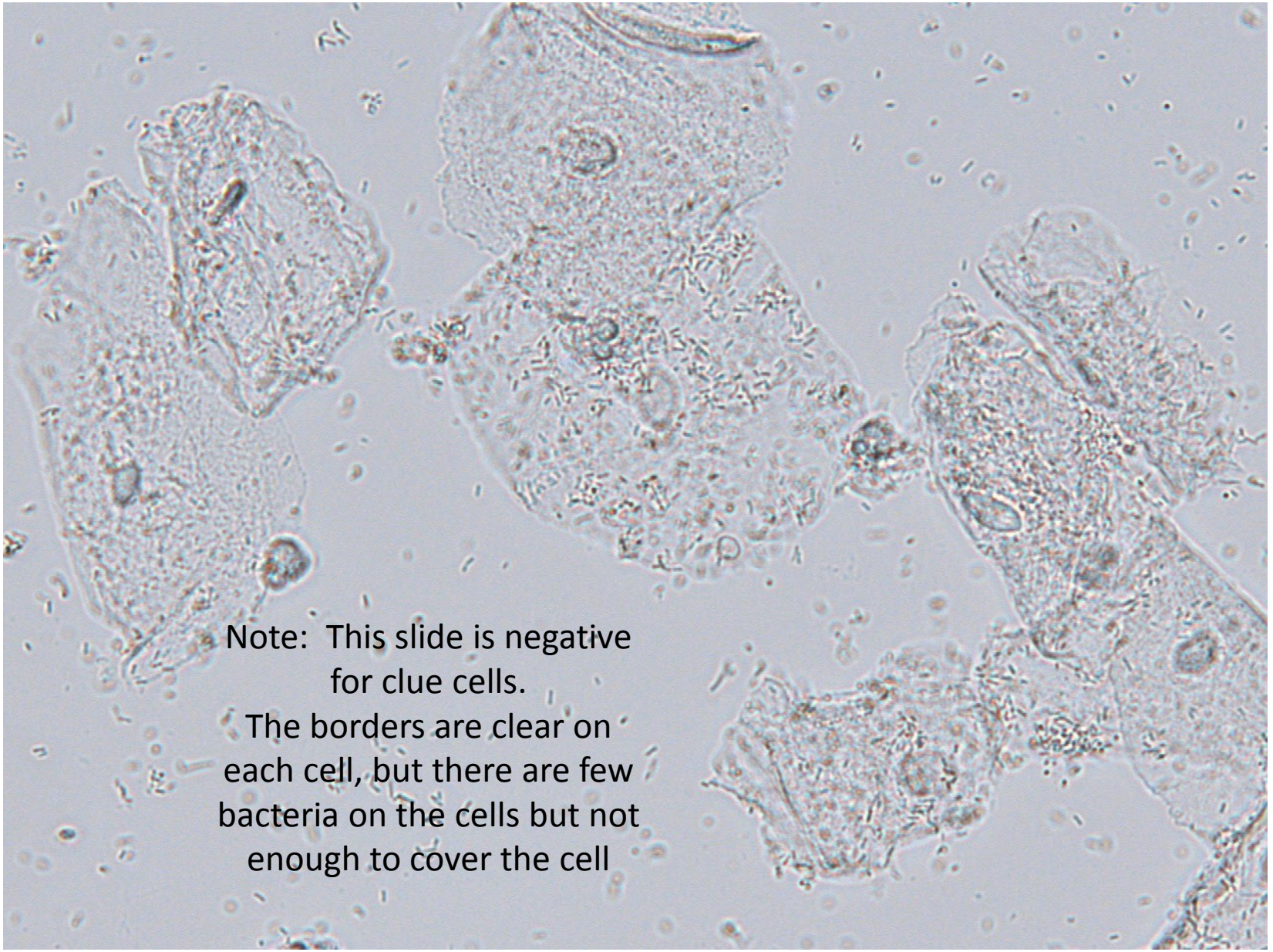

Distinguishable Epithelial Cells (4)
Note: This field is clue cell negative. The majority of the borders of the cells are clear although the surface of the cells appear to be “grainy”.


Clue Cells (2)
Distinguishable Epithelial Cells (3)
Note: This field is positive for clue cells.
2/3 = 66%

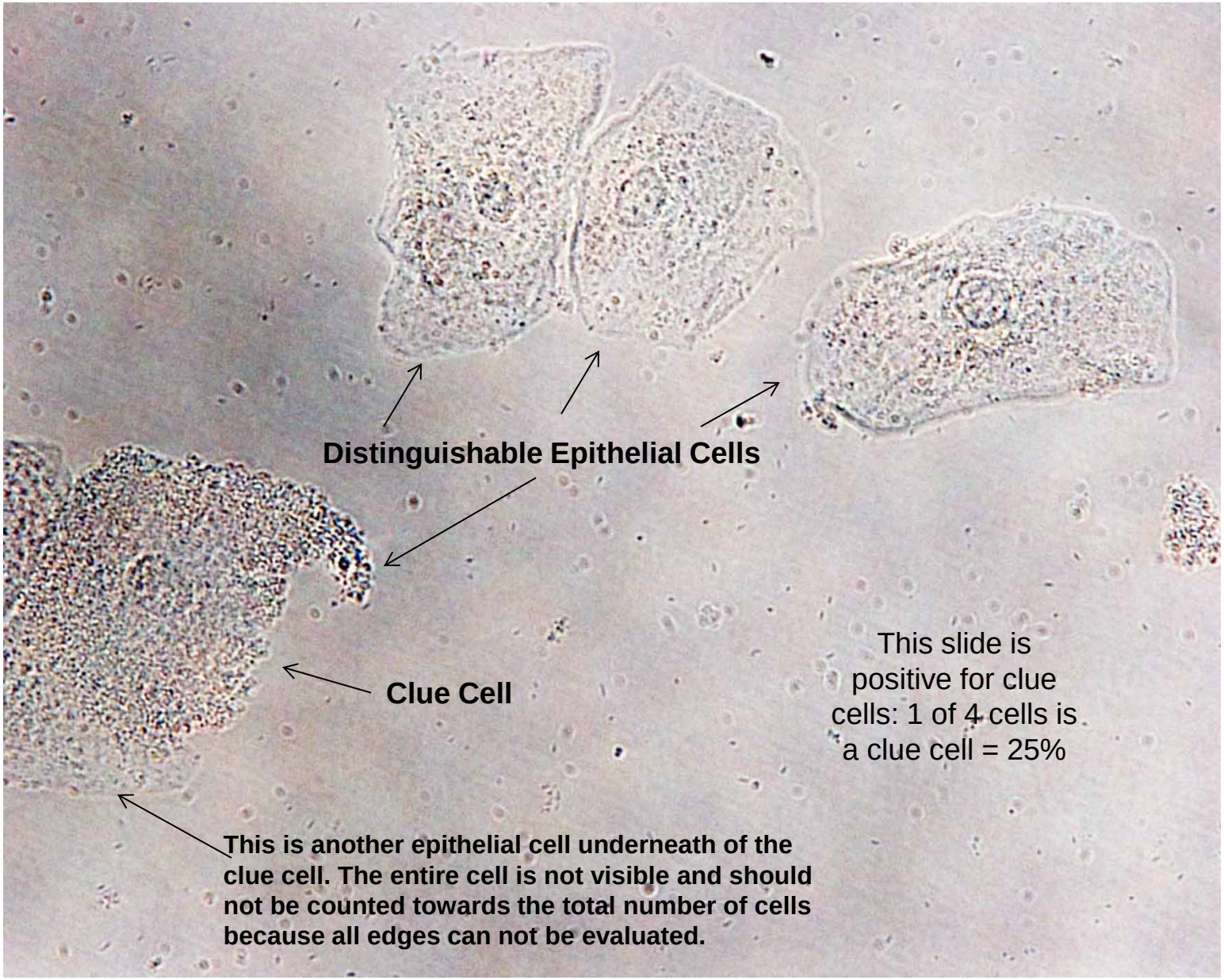

Distinguishable Epithelial Cells (5) (Nuclei are present)
Clue Cells (3)
Note: This field is positive for clue cells. 3/5 = 60%

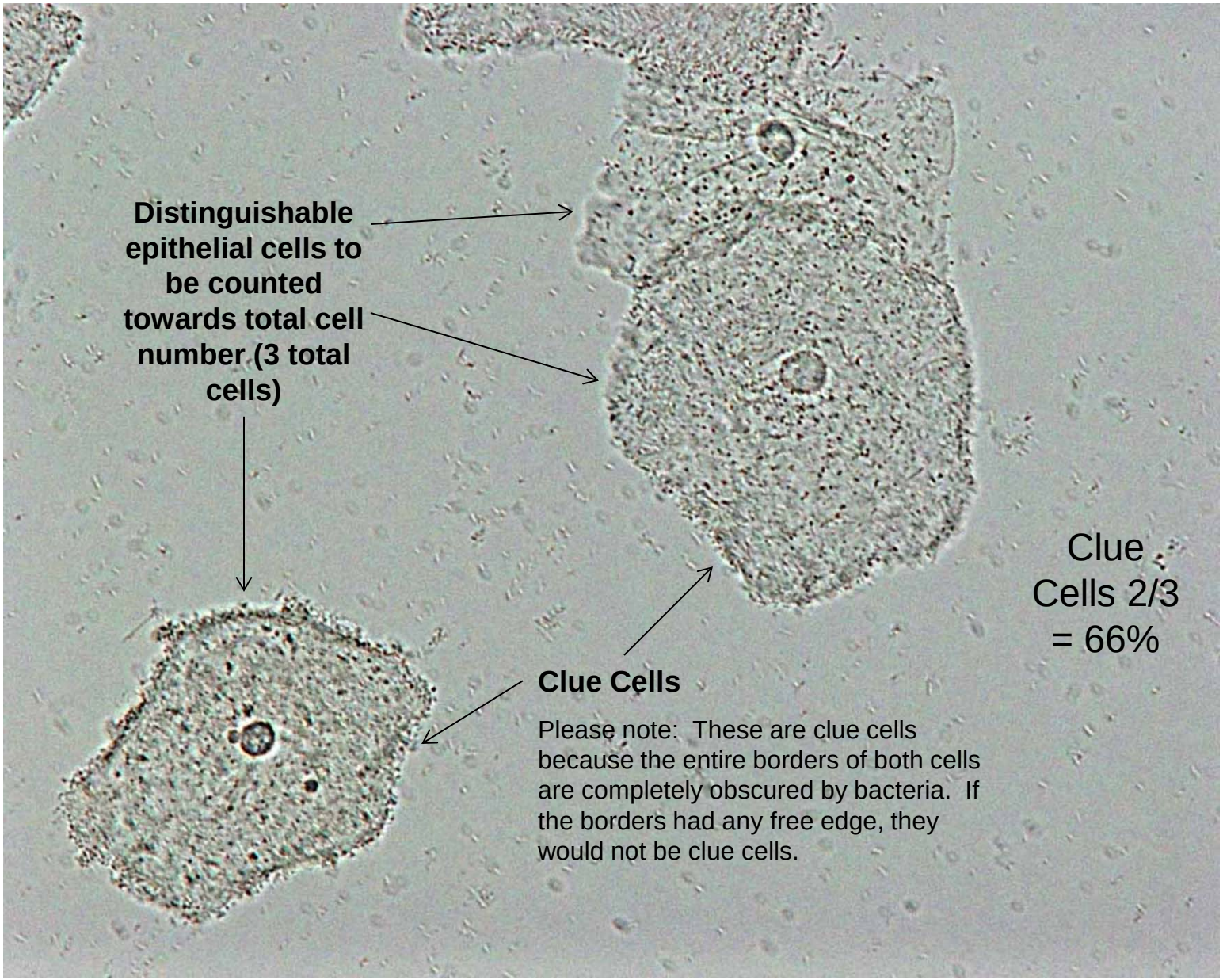

Distiniguishable
Epithelial Cells
(3)
Note: This slide is negative for clue cells.
The majority of the borders are clear on each cell, although the surfaces appear "grainy"


Lactobacillus
Note: This slide is negative for clue cells.
Notice the large number of neutrophils.

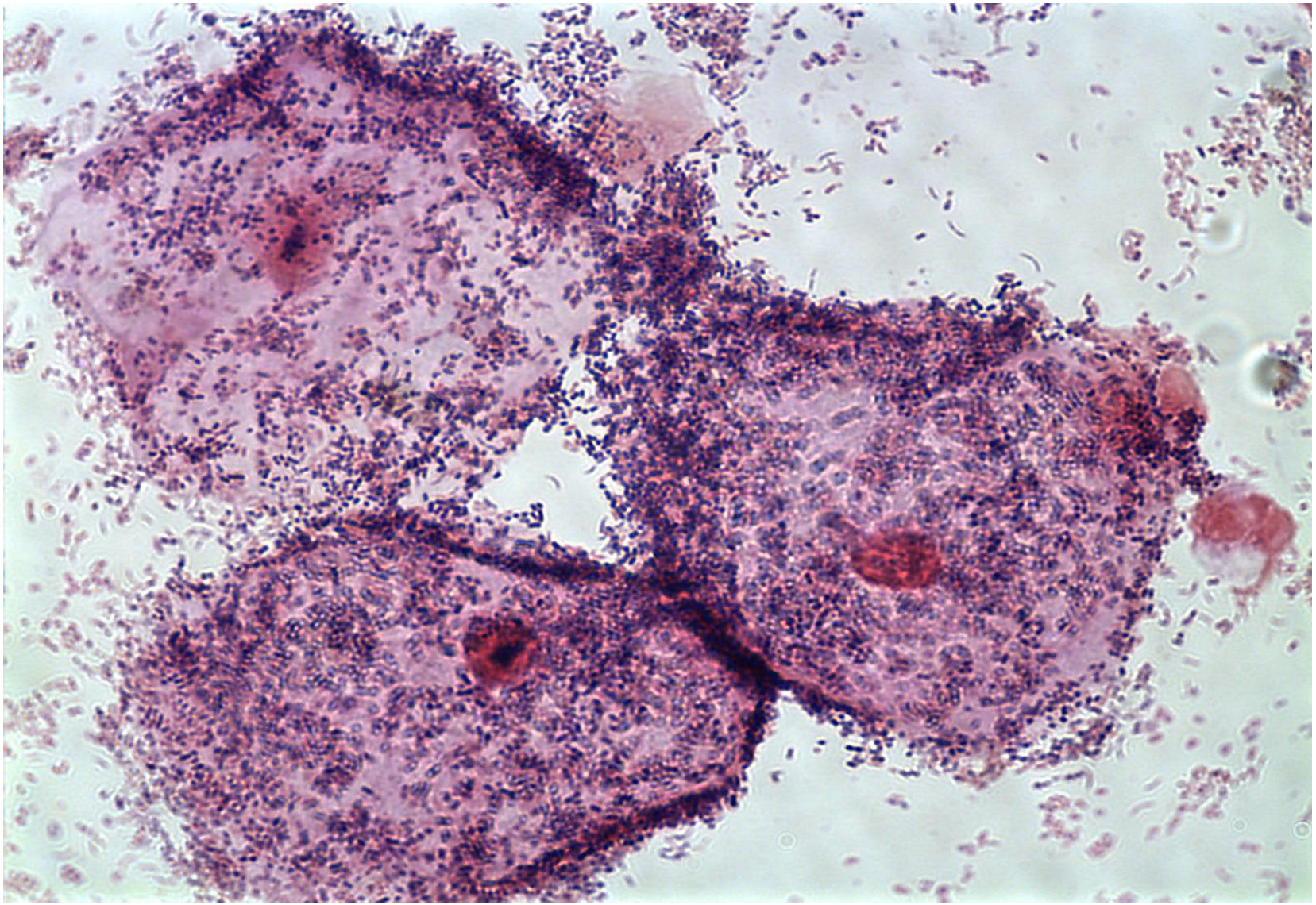

Note: This slide is negative for clue cells.
The borders are clear on each cell, but there are few bacteria on the cells but not enough to cover the cell


Note: This slide is negative for clue cells.
The borders are clear on each cell, although the surfaces appear “grainy”


Distinguishable Epithelial Cells
Clue Cell
This slide is positive for clue cells: 1 of 4 cells is a clue cell = 25%
This is another epithelial cell underneath of the clue cell. The entire cell is not visible and should not be counted towards the total number of cells because all edges can not be evaluated.


Distinguishable epithelial cells to be counted towards total cell number (3 total cells)
Clue Cells
Please note: These are clue cells because the entire borders of both cells are completely obscured by bacteria. If the borders had any free edge, they would not be clue cells.
Clue Cells 2/3 = 66%

Gram stain of clue cells



Gram stain of normal epithelial cells