



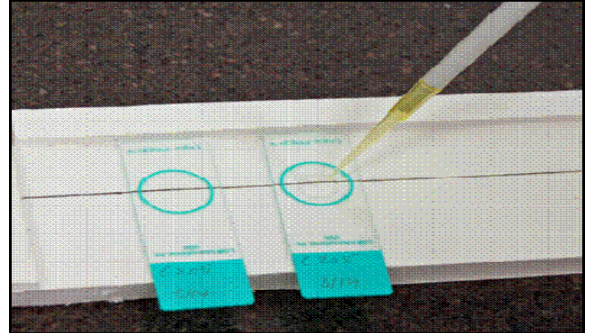
# Liqui-PREP™

## The Next Generation of Liquid Cytology

# Technical Tips

**Number:** 00016

**Date:** 06/28/06



**SUBJECT:** Optimizing urine cytology preparations with **Liqui-PREP™**.

**TECHNICAL TIP OVERVIEW:** Urine is considered to be a moderate to large volume specimen which must first be concentrated to maximize cell recovery. It is also ideal media for bacterial growth if left at room temperature so the specimens needs to be prepared or preserved immediately after collection.

### Specimen Preservation & transport:

To avoid bacterial over growth while in transit to the lab for processing, **Liqui-PREP™ Urine Preservative** should be added to the specimen. Preservative should be added in a 1:2 ratio, i.e. 100 mL urine: 50 mL of Preservative. For convenience, **Liqui-PREP™ Urine Preservative, Cat. No. 35-0300**, is available with a matching dispense pump (dispenser sold separately). Each dispense delivers 25 mL of Preservative. This will suppress bacterial over growth but is too dilute to properly “fix” cells for staining and interpretation. Therefore, these specimens should be delivered to the laboratory as soon as possible (in at least 7 days from collection) Upon receipt in the lab, concentration and fixation needs to be performed as follows..

### Specimen Concentration and Fixation:

Urine specimens generally contain few cells in a large volumes of urine. To maximize slide preparation, the cells must be concentrated into a cell pellet. It is suggested that two (2) or more, 50 mL centrifuge tube be used. Urine (~40 mL) should be mixed well, poured into the 50 mL tubes and centrifuged at 1,000g for 10 minutes. A series of concentration steps may needed depending on the volume of the initial collection. The preserved urine should be poured onto the previous concentrates until the urine is exhausted. Once all the urine has been concentrated, decant the supernatant and add 5-6 mL of Liqui-PREP Preservative. Mix well using a VORTEX mixer. Pour the contents into the plastic centrifuge tube. Allow the cells to **FIX** for **one (1) hour**.

### Slide Preparation:

After the fixation is complete, centrifuge the specimen at 1,000g for 10 minutes. Decant the supernatant. A cell pellet of relatively small volume may be present (~25-100 µl). With scant specimens to maximize the cell density for review, it is suggested a 1:1 ratio of cell pellet to cells for very scant pellets or 1: 2 ratio for larger volumes (generally 50 to 150µl: of Cell Base be used. As example for no pellet or very little pellet is observed add 50 µl of Cell Base. To optimize cell harvest, two (2) small circles (10 to 15mm each if possible) can be made on one slide.

If the cell recovery is fairly large (>200 µl cell pellet) a 1:3 dilution (cell pellet: Cell Base) should be used and a more standardized circle (20-25mm) may be made.

### Examples:

The following page contains examples of urine preparations.

Any Questions, Contact your local Liqui-PREP Representative or :

**LGM International, Inc.**  
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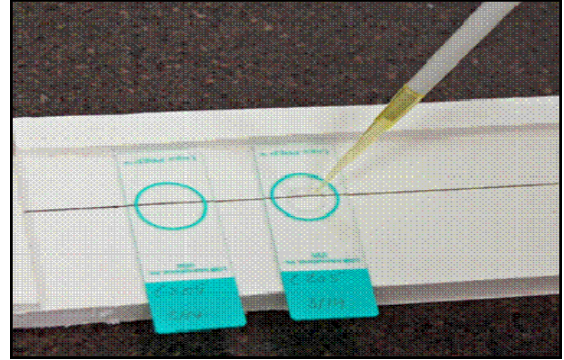
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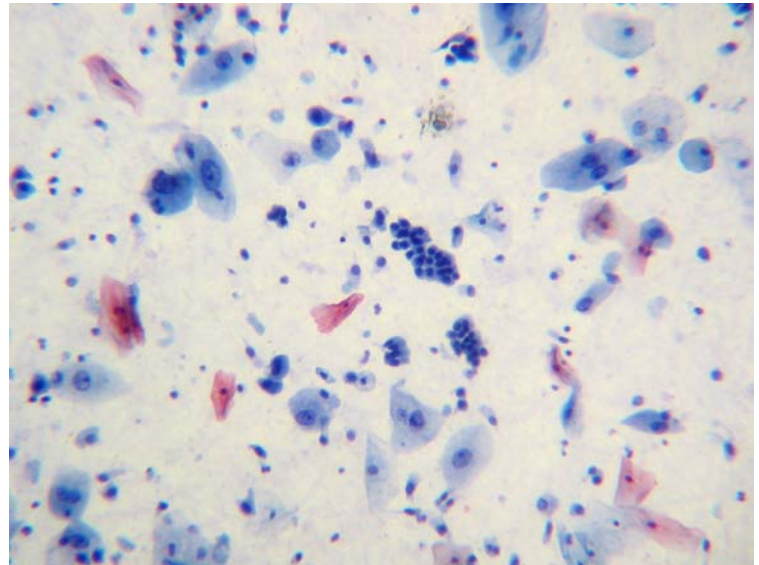
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### Liqui-PREP™ URINE SPECIMEN EXAMPLE

The picture to the Right shows 1 specimen with 2 circles on the slide from the same specimen. The top circle is 10 mm in diameter and the bottom circle is estimated to be 13 mm.



The above picture is 10x magnification. Notice there is good cellularity and cell distribution. The cells are well presented with good nuclear definition.

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