



Liqui-PREP™

*First **Second** Generation*

Liquid-based Cytology System

Making Cytology as Simple
as 1-2-3!

Evolution through Technology Innovation

Since the introduction of the PAP smear by the physician, Dr. Papanicolaou, in 1927, little had changed. This simple sample preparation method has saved millions of women's lives since its introduction. In the mid-1990's this method of cell preparation underwent its first significant change in almost 70 years. A new generation of products was developed to improve sample processing, a technology that enables laboratories to "clean the specimen". This technology went on to be referred to as liquid-based cytology (LBC). The result was obvious, you could now accurately read a slide.

"Old Classic" PAP smear



"New Liquid-based" PAP smear



However, this new LBC technology came with two challenges. One, was that it required an automated instrument and two, it was designed around vacuums, filters and plastic disposables. All of this resulted in both high complexity and a higher cost per test. While clearly superior to the conventional preparations; adoption was hindered by its high costs. And for many labs, the instrument didn't meet the

labs needs. A decade later, a new second-generation LBC technology is now available, called **Liqui-PREP**.

Better Solutions through Better Chemistry!

Liqui-PREP was designed with a combination of innovative chemistries designed to negate the need for vacuums, filters and plastic disposables. It utilizes a preservative for collection and transport., a cleaner to remove blood and debris and an adhesive to apply cells to a standard laboratory slide.

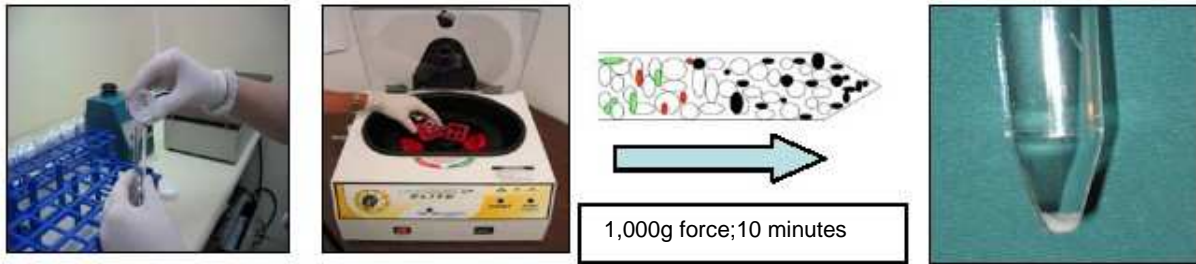
Liqui-PREP Specimen Preservative

Specifically designed to be:

- Molecular & immunochemistry friendly for follow-up testing
- Lytic for bloody specimens and the digestion of mucus
- Anti-bacterial to suppress growth while in transport
- Stable allowing specimens up to 90 days to get to the lab
- Transported and stored at room temperature (l-r) **Preservative, Cell Base, Cleaner**
- Non-disruptive of classic cell morphology while preserving cells
- Non-hazmat formulations for simple disposal and low cost shipping



Liqui-PREP Cleaning Solution



Through physical separation technology, cells are separated by density gradient technology which:

- Traps blood, mucus on the surface of the **Cleaning Solution**.
- Dense, clinically relevant cells travel through the **Cleaning Solution** and form a compact pellet in the bottom of the centrifuge tube.
- For problematic specimens with dense blood and mucus, **Liqui-PREP Lytic Reagent** can provide that extra cleaning power.
- Centrifugal forces allow **all cells collected** to settle in the pellet, whole cell clones descend intact.
- There are no filters to clog and the *whole* specimen is processed!

Liqui-PREP Cell Base- Permanent yet Permeable!

A very special “adhesive” that provides unique features only possible through second generation chemistry technology that:

- Provides adhesion to standard laboratory slides.
- Requires no chemical pre-treatment or expensive chemically charged slides!
- Cell concentration can be controlled through **Cell Base** addition for those specimens with various cellularity to ensure sufficient number of cells for a diagnosis. **Simply add 50 uL**
- Is compatible with broad range of pathology stains.
- Is permeable to molecular methods (i.e. HPV, Her2) and immuocytochemistry (i.e. CT, GC).
- For those specimens with small cell pellets, cells can be concentrated to reduce reading time.

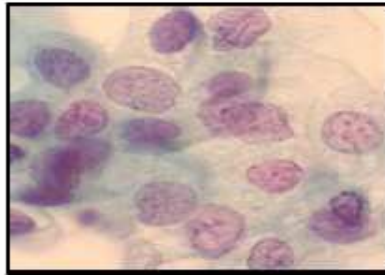


Stained slides, ready to be read.

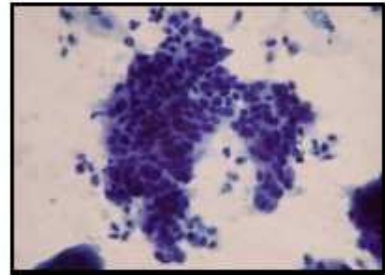
Examples of various diagnostic slides utilizing Liqui-PREP



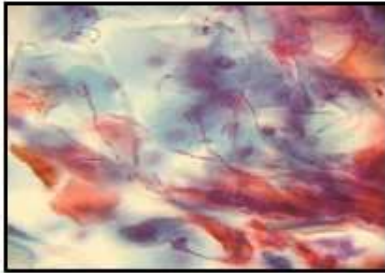
Squamous Cell Carcinoma



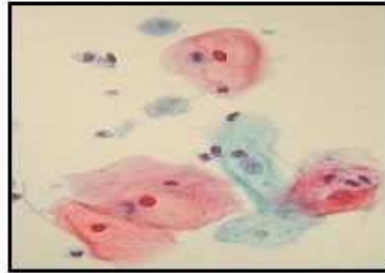
Moderate dysplasia



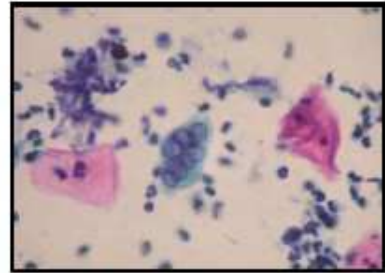
Adenocarcinoma



Candida



Trichomonas



Herpes Simplex

With Liqui-PREP You Decide!

- **To Clean or not to Clean, that is the question!**

By selecting what specimens require a “clean-up” you control your costs and reduce unnecessary work.

- **Not all specimens are the same!**

If cell density is light, concentrate slide density by adjusting **Cell Base** volume.

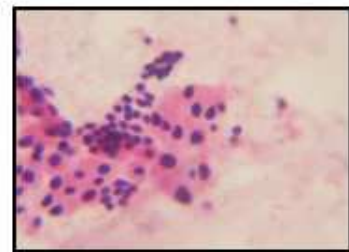
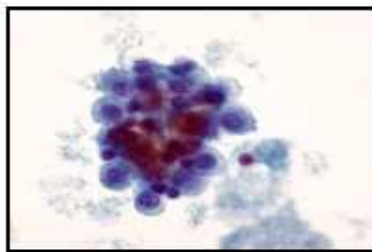
- **Want to review more fields?**

For most specimens, multiple circles can be placed onto a slide. By adding additional circles, extra fields can be stained and reviewed, if desired, at no extra costs.

- **Need a Complete Cytology System ?**

Liqui-PREP comes with procedures to process a wide array of clinical

- specimens. The **Liqui-PREP Lytic Reagent** allows you to clean up the bloodiest of specimens. It is also ideal for digestion of sputum.



As EASY as 1-2-3!

Step 1



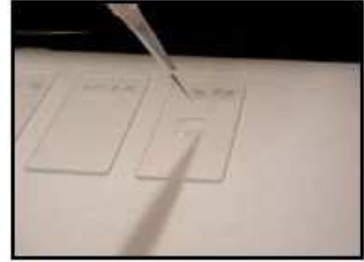
Pour the **WHOLE** specimen onto the **Liqui-PREP Cleaner**.

Step 2



Centrifuge, 10 minutes @ 1,000g, Decant

Step 3



Add **Liqui-PREP Cell Base**, ratio 1:3 based upon cell pellet size, vortex, place 50 uL onto a clean slide.

Instrumentation or Automation ?

The first generation LBC “instruments” were designed to perform a process. The automation and labor release touted by first generation platforms was never achieved due to several design issues. The first generation platforms required many *manual pre-steps* and the throughput and *one-sample at a time design* required that the technologist baby-sit the instrument.

Liqui-PREP was designed to be used with a standard swing-bucket centrifuge. By batch processing with different size rotor heads, low to high volumes can be achieved.

Centrifuge Size	1 Person Average Specimens per Day	1 Person Maximum Specimens per Day	2 Person Average Specimens per Day	2 Person Maximum Specimens per Day
6 - tube centrifuge	216	259	410	454
12 - tube centrifuge	324	389	616	680
24 - tube centrifuge	432	518	821	907
48 - tube centrifuge	720	864	1,368	1,512

Productivity Capabilities with **Liqui-PREP**

With the current first generation platforms you can spend a large amount of money for half the throughput and little labor release, not to mention the additional expense of service contract. Or, you can use a standard lab centrifuge, achieve the throughput you want, save capital and the service expense on an instrument which does not meet your needs. Our own customers have validated that our processing efficiency exceeds that of the most commonly used LBC instrument today!

Tomorrow's Technology at Yesterdays Prices!

Switch to **Liqui-PREP** today and start to reap the benefits tomorrow!

- Requires no capital investment.
- Lower cost less per test than first generation products.
- Cheaper to ship, less bulky and non-HAZMAT.
- Enviromentally friendly, no need for special chemical disposal.
- Molecular and immuno friendly.
- Flexible design to address specimen variation in ALL clinical specimens.

How's that possible!

Second Generation Technology— **Liqui-PREP**



Liqui-PREP The First **Second** Generation LBC System!

- **Looks too simple to believe!**
Most next generation technology is simpler and better designed.
- **Budget problems?**
Who doesn't these days! We can reduce shipping and disposal costs.
- **It's a Cytology System, not a PAP system designed for Cytology!**
Reagents are packaged specifically for non-gynecologic specimens.
- **Don't believe us?**

Seeing is believing! Contact us today to try
info@healthcaretechnologies.co.za

Liqui-PREP in your lab at

Liqui-PREP™ System is available in the South Africa and over 40 countries worldwide.



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