

## What are the advantages of using the eSwab® system for specimen collection in microbiology laboratories?

The eSwab® system offers several advantages for specimen collection in microbiology laboratories:

1. **Simplified and Streamlined Collection:** The eSwab® system simplifies and streamlines specimen collection, making it easier for medical or nursing staff to collect samples.
2. **Recovery of All Types of Bacteria:** The eSwab® system supports the recovery of all types of bacteria, including aerobic, anaerobic, and fastidious bacteria, making it versatile for a wide range of microbiological investigations.
3. **Preservation of Microorganisms:** The system allows for the preservation and maintenance of the viability of microorganisms, ensuring that the integrity of the sample is maintained during transport and storage.
4. **Compatibility with Various Tests:** eSwab® can be used for traditional culturing, Gram stain smear preparation, direct detection of bacterial antigens and toxins, as well as molecular assays, making it suitable for a variety of microbiological investigations.
5. **User-Friendly and Efficient:** The eSwab® system is designed to be user-friendly and efficient, enabling rapid and uniform fluidization without the need for pre-incubation, which can save time in the laboratory workflow.

These advantages contribute to the overall efficiency and effectiveness of specimen collection in microbiology laboratories, ultimately improving the quality of microbiological investigations and patient care.

## How does liquid-based microbiology streamline the workflow in the laboratory?

Liquid-based microbiology (LBM®) can streamline the workflow in the laboratory in several ways:

1. **Standardization of Procedures:** LBM® allows for the standardization of procedures, reducing the potential for errors and variability in the laboratory workflow.
2. **Reduction in Device Usage:** LBM® can reduce the number of different devices used for specimen collection, which can save costs and simplify the collection process.
3. **Time Savings:** LBM® can save time for medical or nursing staff by reducing confusion in device selection and the number of samples collected. It can also save time for laboratory staff by reducing the number of samples to access and handle for individual investigations.
4. **Improved Patient Comfort:** LBM® can improve patient comfort by avoiding the need for multiple sample collections.
5. **Automation:** LBM® allows for the introduction of true automation in the laboratory, either by using the Walk-Away Specimen Processor (WASP®) or other commercially available specimen processors that utilize LBM®. Automation can reduce labor demands for specimen processing, which is particularly important in an era of reduced funding for laboratories and growing shortages of trained microbiology technologists and technicians.

Overall, LBM® can improve the efficiency and effectiveness of the laboratory workflow, ultimately improving the quality of microbiological investigations and patient care.

## What are the potential benefits of introducing true automation in microbiology laboratories using the eSwab®?

The potential benefits of introducing true automation in microbiology laboratories using the eSwab® system include:

1. **Workflow Optimization:** Automation can optimize the laboratory workflow by reallocating staff to specialized sections of the laboratory, improving efficiency and resource utilization.
2. **Standardization and Quality Assurance:** Automation can contribute to the standardization of procedures, ensuring uniformity in sample processing and reducing the potential for errors.
3. **Cost Reduction:** Automation can lead to cost reduction by streamlining processes, reducing the need for manual labor, and minimizing the number of different devices used for specimen collection.
4. **Time Savings:** Automation can save time for laboratory staff by automating specimen processing and reducing the manual handling of samples.
5. **Improved Patient Care:** Automation can contribute to improved patient care by ensuring the quality and consistency of microbiological investigations, ultimately leading to better patient outcomes.

By introducing true automation using the eSwab® system, microbiology laboratories can enhance their operational efficiency, standardize procedures, and ultimately improve the quality of care provided to patients.

## How many collection devices can eSwab® substitute?

The eSwab® system can substitute for multiple collection devices. According to the article, the eSwab® system is used for the microbiological specimens usually collected with a swab, such as genital, nasal, oropharyngeal, ocular, ear, and wound specimens. It can also be used for fecal specimens, respiratory specimens, and recto-vaginal specimens. The use of a single collection device for multiple investigations can reduce confusion in device selection, simplify the collection process, and ultimately improve the quality of microbiological investigations.

## Is eSwab® good for molecular test?

Yes, the eSwab® system is suitable for molecular tests. The eSwab® system can be used for traditional culturing, Gram stain smear preparation, direct detection of bacterial antigens and toxins, as well as molecular assays. It has been used for PCR assays to detect pathogens such as *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Gardnerella vaginalis*, *Trichomonas vaginalis*, *Mycoplasma genitalium*, *Ureaplasma urealyticum*, and others. Additionally, the eSwab® system has been reported to preserve the viability of microorganisms and does not interfere with molecular assays, making it suitable for a wide range of molecular testing applications.

## Which kind of samples can be transported and processed with LBM®?

Liquid-based microbiology (LBM®) can be used for a variety of sample types. According to the article, the LBM® system can be used for the following types of samples:

1. Microbiological specimens usually collected with a swab, such as genital, nasal, oropharyngeal, ocular, ear, and wound specimens.
2. Fecal specimens (even if it is not ideal).
3. Respiratory specimens, such as bronchoalveolar lavage (BAL), bronchial aspirate (BAS), and sputum.
4. Recto-vaginal specimens for the detection of group B *Streptococcus* (GBS).

The LBM® system can be used for traditional culturing, Gram stain smear preparation, and many molecular assays. The use of a single collection device for multiple investigations can reduce confusion in device selection, simplify the collection process, and ultimately improve the quality of microbiological investigations.

## How LBM® is an improvement over the gel transport media?

Liquid-based microbiology (LBM®) offers several advantages over traditional gel transport media. Some of the key improvements include:

1. **Recovery of All Types of Bacteria:** LBM®, particularly the eSwab® system, supports the recovery of all types of bacteria, including aerobic, anaerobic, and fastidious bacteria. This is an improvement over traditional gel transport media, which may not support the recovery of all bacterial types.
2. **Efficiency of Microorganism Recovery:** LBM® offers improved efficiency in the recovery of microorganisms from specimens, leading to more reliable and comprehensive results.
3. **Ease of Sampling, Transport, and Storage:** LBM® simplifies and streamlines specimen collection, transport, and storage processes, making it more convenient and user-friendly compared to traditional gel transport media.
4. **Introduction of True Automation:** LBM® allows for the introduction of true automation in the laboratory, enabling processes such as specimen processing, culture, antigen/toxin detection, and molecular assays to be automated.
5. **Cost Reduction and Time Savings:** LBM® can lead to cost reduction due to the smaller number of different devices used, as well as time savings for medical, nursing, and laboratory staff.

Overall, LBM® represents a significant advancement in microbiology laboratories, offering improved recovery of microorganisms, streamlined processes, and the potential for true automation, ultimately leading to better workflow efficiency and patient care.



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