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Improving quality recommendations for UTI management

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Urinary tract infections (UTI) in the United States are the most common bacterial infection, and urine cultures often make up the largest portion of workload for hospital-based microbiology laboratories. Managing the factors that affect diagnosis and treatment of UTIs in patients, including selection, collection and transport of urine specimens, contributes to generating meaningful culture results. To determine how these factors impact the management of UTIs, the American Society for Microbiology and the Centers for Disease Control have together developed a an Evidence-Based Laboratory Medicine Practice Guideline (EBLMPG) to determine if optimizing the collection, preservation and transport of urine for microbiological culture improves the diagnosis and management of UTIs.

It has been thought and taught that urine culture contamination can be reduced with proper techniques for urine collection, preservation, storage and transport – the major factors affecting the pre-analytic phase of urine culture. Practices have been used for many years with varying degrees of success to address these important quality parameters.

This literature review identified and evaluated studies published between 1965 and 2014 of pre-analytic practices associated with urine specimens, and assessed their impact on the accuracy of urine culture microbiology. Results of the review were then translated into evidence-based practice guidelines, employing the CDC Laboratory Medicine Best Practices (LMBPTM) initiative's systematic review methods (A-6 Method) for assessment of quality improvement practices. Results indicate a strong

need for additional studies to provide good quality evidence in order to issue valid recommendations, as no recommendations for or against a number of practices evaluated by the review could be made due to insufficient evidence. "This is a great time to work on the LMBP topic and the hope is that it will generate renewed interest in modern laboratory settings to perform the research needed to make best practice recommendations," said Nancy Cornish, M.D., CDC Scientific Lead.

"The goal of EBLMPG is to apply the principles of evidence-based medicine to the process of guideline development for the clinical microbiology laboratory" says Mark LaRocco, Ph.D., D(ABMM), F(AAM) review coordinator for the urine pre-analytics project. "When evidence is used to define best practices rather than to support existing practices, clinical microbiologists can keep pace with the latest technological advances and take advantage of new knowledge developments", he added.

"ASM has begun to discuss how to engage the laboratory community to enlist their support in collecting gray data," said Alice Weissfeld, Ph.D., (ABMM), Chair of ASM's EBLMPG Committee. "With laboratories' support, evidence can be collated to improve the diagnosis and management of urinary tract infections in patients," remarked Dr. Weissfeld.

In order to assist laboratories in maintaining quality recommendations, a study template was also published in the review, including a data collection form. The form can be used for Quality Assurance studies and the data shared with other laboratories and with the ASM EBLMPG Team in order to build the evidence base needed to issue valid recommendations.

Provided by American Society for Microbiology

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