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Poster Session VI
Detection of MRSA and identification of staphylococci at species level

COMPARISON OF CULTURE FOR MRSA AND STAPHYLOCOCCUS AUREUS WITH COPAN MSWAB AND ESWAB SPECIMEN COLLECTION SYSTEMS

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Objectives: Clinical specimens are collected by a variety of methods for processing in diagnostic assays. A recently developed swab collection and transport system, called MSwab (COPAN Italia, Brescia Italy), has been introduced which contains a nylon-flocked collection swab and MSwab medium for transportation and preservation of specimen integrity. The purpose of the study is to compare the MSwab system to the widely used ESwab collection and transport system by comparing microbiologic culture results, considered the gold standard, for bacterial strains processed by the MSwab and ESwab systems.

Methods: FLOQ Swabs were inoculated with known titers of Methicillin-resistant *Staphylococcus aureus* (MRSA) and *Staphylococcus aureus* (SA) reference strains then introduced to MSwab and ESwab systems to emulate clinical sample collection, prior to plating on selective and differential CHROMagar medium. Varying concentrations of specimen samples (samples were generated and inoculated into each swab system at 100, 300, 1000, and 3000 CFU/swab), and storage conditions (post-inoculation, swab sample sets were stored at 4ºC) were evaluated over time by counting the number of colonies observed on plates. Data was recorded for select time points through a period of 14 days. Results were collected from triplicate plating to determine the number of viable organisms at various time points for comparison of the different swab systems.

Results: Samples processed by the MSwab and ESwab systems yielded positive growth results across several testing parameters. A modest declining trend in colony count observed as time increased across all titer levels (100, 300, 1000, and 3000 CFU/swab) of SA and MRSA samples was observed. Samples in Mswab and ESwab media stored at 4ºC over 14 days showed similar colony counts. All counts correlated to the different titers and dilution factors of each plated swab sample. Bacterial colony counts from samples in MSwab and ESwab at 4ºC did not vary between the systems. Overall, results remained consistent and similar between MSwab and ESwab samples.

Conclusion: We observed similar outcomes with specimen stability between the MSwab and ESwab collection and transport systems when evaluating contrived 'clinical samples' from reference strains of MRSA and *Staphylococcus aureus*. Overall, samples processed by the MSwab system performed as well as the ESwab system, suggesting this as a suitable alternative for specimen collection.