

ABSTRACT

Comparative Evaluation of Puritan and Copan Liquid Amies Transport System for the Recovery of *Streptococcus pneumoniae* against the CLSI M40A Standard

B. GANDHI*¹, T. MAZZULLI^{1, 2}

¹Department of Microbiology., Mt. Sinai Hospital and University Health Network, Toronto, Canada, and ² Department of Microbiology, Mt. Sinai Hospital and University Health Network, Toronto, Canada University of Toronto, Toronto, Canada

To assess the performance of two modified liquid Amies transport systems, Puritan Liquid Amies Transport System with a standard flocced swab (**P**) (Puritan Medical Products Company LLC) and Copan's E swab (Elution Swab) (**C**) (Copan Diagnostics Inc.) intended for processing using automated plating systems for the recovery of *Streptococcus pneumoniae* (SPN).

Method: The CLSI M40A Roll-Plate method at room temperature was followed to test the recovery rate and viability for up to 48 hours of 18 SPN strains acquired from the Toronto Invasive Bacterial Disease Network (TIBDN) stock and other medical laboratories in Ontario. As well, two ATCC reference strains (ATCC 6303 and ATCC 49619) were also tested. At time 0, 24, and 48 hours, the average colony counts were calculated based on triplicate swabs for each organism/dilution/time combination. Culture plates were read manually. Results were compared to control plates at time zero. For viability studies to be considered acceptable, there had to be an average of ≥ 5 colony forming units (CFU) following the specific holding time from the specific dilution that yielded zero-time plate counts closest to 300 CFU.

Results: Of the 21 SPN strains, **P** recovered 7 after 24 hours and an additional 14 after 48 hrs, whereas **E** recovered 9 strains at 0 hrs, an additional 8 strains after 24 hours and 4 strains (all mucoid strains including one ATCC strain which was repeated and 2 clinical isolates) after 48 hrs.

Conclusion: Our study suggests that based on the CLSI M40A standard roll plate protocol the Puritan system appears to outperform the E system. The mucoid strains appears not to be a problem with the E system. Further study is required to understand the inhibitory nature of the Copan transport system on SPN.