

# Evaluation of Three Flocked Swabs and Two Liquid Amies Transport Systems for the Recovery of Fastidious Bacteria.

B. GANDHI\*<sup>1</sup>, T. MAZZULLI<sup>1,2</sup>

<sup>1</sup>Department of Microbiology, Mt.Sinai Hospital and University Health Network, and

<sup>2</sup>University of Toronto, Toronto, Ontario, Canada

**Objective:** To compare the performance of Puritan's liquid Amies transport medium with HydraFlock® swab, non treated (**P**) ( Puritan Medical Products Company LLC), to Copan ESwab™ transport system containing a treated flocked swab and ESwab™ transport medium with COPAN standard FLOQSwab (**C**) (Copan Diagnostics Inc.). **Method:** Viability tests were performed using a modified Swab-Elution Method (CLSI M40-A) on swabs held at room temperature for 0, 24 and 48h incubation times. Eight ATCC strains were tested including *N.gonorrhoeae* ATCC 43069 , ATCC 19424, (NG) *N. meningitidis* ATCC 13077, (NM) *H.influenzae* ATCC 49247, ATCC 10211, (HIN) *H.parainfluenzae* ATCC 9796, ATCC 7901 (HPA) and *S.pneumoniae* ATCC 49619 (SPN). Nine swabs of each brand were inoculated by absorbing 100µL of a  $1.5 \times 10^7$  CFU/ml organism suspension and returned to their respective devices and incubated for 0, 24 and 48h. Following incubation, three swab/devices from each of the three swab types, 100µL from each was serially diluted 10-fold in 0.9ml sterile saline and four dilutions prepared. A 100µL of each dilution was pipetted on to chocolate agar or blood agar plates and incubated under optimal conditions for colony counts. After 48hrs incubation of all culture plates, countable colonies for each swab cultured at each point was recorded. An average CFU count was determined from each triplicate set of swabs and each incubation period. Product performance were compared for each swab transport with the zero time counts at the dilution that produced 30 to 300 -500 colonies. **Results:** All three swab types produced comparable CFUs at 0hr. **Three out of eight** strains were recovered from **Puritan system** after **48hrs** incubation **NM (1/1), HIN (1/2), and SPN (1)** and **7/9** strains including **NG (2/2)**, after **24 hrs**. **Five out of eight** strains were recovered from **COPAN ESwab system** with treated flocked swab after **48hrs** incubation **NM(1/1), HIN(1/2), HPA(2/2)** and **SPN(1)** and **5/8** strains after **24 hrs**. **Four out of eight** strains were recovered from **COPAN standard FLOQSwab** after **48 hrs** incubation **NM(1/1), HIN(1/2), HPA(2/2)** and **SPN(1/1)** and **4/8** strains after **24hrs**. **Conclusions:** Based on this limited study, all three flocked swabs treated and standard in their respective liquid Amies transport systems appear to be comparable in a broad sense. Treating the flocked swabs does not appear to influence the recovery of these fastidious organisms. Further study with more isolates and different strains may prove more favourable of one brand over the other. Only Puritan system recovered both strains of NG after 24 hrs an important pathogen, while both COPAN swabs failed to pass the CLSI M40A requirement.