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## Efficacy Of Novel Liquid Medium Swab Device For Faecal Pathogens

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## Introduction

In order to obtain accurate diagnostic results it is very important to transport faecal samples in proper transport systems.

Many intestinal bacteria are susceptible to desiccation and it is essential that the specimen does not dry. Also, low numbers of certain organisms may affect the recovery. Some pathogens require at least 0.5% NaCl, *Salmonella* and *Shigella* spp. may not survive pH changes in unbuffered stool as the temperature drops. *Campylobacter* may require a lower oxidation-reduction potential in the medium.

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## Objective

The aim of this study was to evaluate the Medical Wire & Equipment new liquid Fecal Transwab<sup>®</sup> system in maintaining the recovery of:

- *Salmonella typhimurium*
- *Shigella flexneri*
- *Clostridium difficile*
- *Campylobacter jejuni*

Fecal Transwab<sup>®</sup> system contains liquid Cary Blair inorganic medium which limits overgrowth of the many commensals in faecal specimens and allows good recoveries of enteric pathogens. The additional advantage of this transport swab is that it can be used in automated streaking systems.

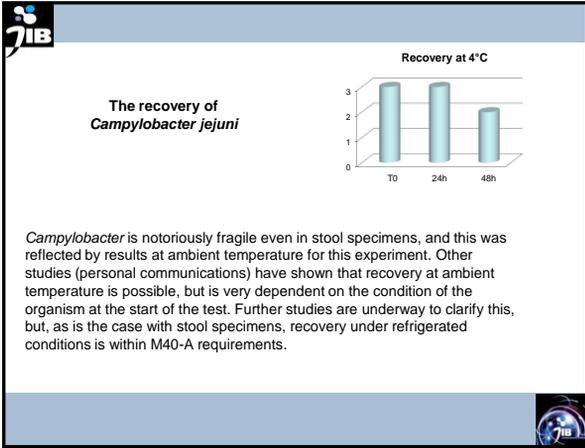
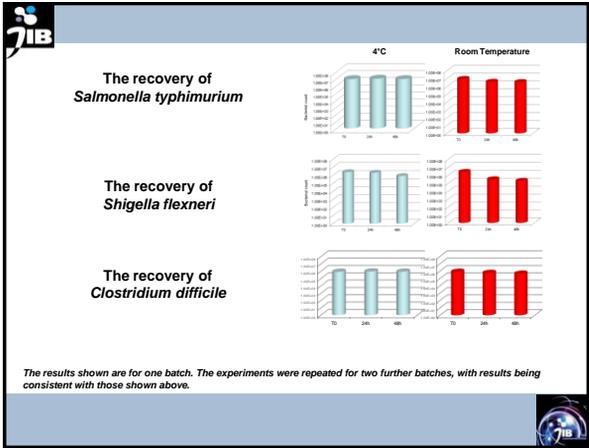
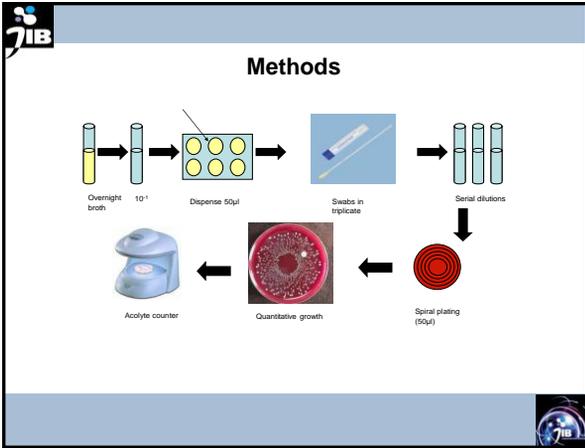
\* Formerly called Sigma Transwab<sup>®</sup> Cary Blair



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## Methods

- CLSI's M40-A describes methods for the evaluation of microbiological transport devices. For this study the method was modified by using a panel of enteric microorganisms to reflect the intended use of the device.
- **Fecal Transwabs<sup>®</sup>** were inoculated in triplicate with 50µl of inoculum suspension of each bacteria strain then inserted back into the transport device.
- Swabs were incubated at **room temperature** and at **4°C** for **0h, 24h and 48h** (as required for CLSI standard M40-A).
- After the appropriate incubation period each swab was vortexed and serial dilutions were prepared from the liquid transport medium.
- **Serial dilutions** were inoculated onto the appropriate agar using spiral plater
- All plates were incubated at **37°C** for 48h. After appropriate incubation, a quantitative count was performed using Acolyte counter.



### Conclusions

Medical Wire & Equipment **Fecal Transwab®** is a transport device for faecal pathogens and consistently met CLSI M40-A based acceptance criteria for the survival of enteric pathogens without overgrowth for 48 hours. These included *Clostridium difficile*, a significant cause of healthcare acquired infections. Satisfactory recoveries were also recorded for representative isolates of *Salmonella typhimurium*, *Shigella flexneri*, and *Campylobacter jejuni*.

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