6th INTERNATIONAL
Australasian College for Infection Prevention and Control
2017 CONFERENCE

Clinical trial of CATH TAG: an innovative new device to reduce infections associated with indwelling medical devices

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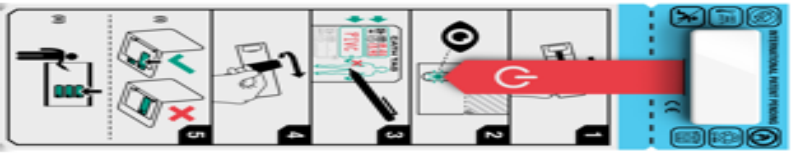
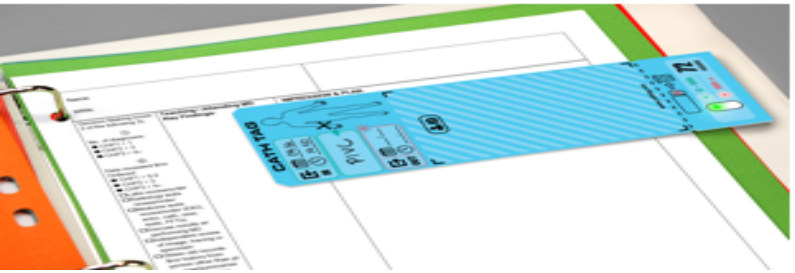
BACKGROUND

7% of hospital patients will develop an Hospital associated infection (HAI), many of these infections are associated with indwelling medical devices. To reduce the risk of infection, most hospitals have guidelines recommending removal of indwelling medical devices either at a specified time or as soon as the device is not required. However, complying with these guidelines remains a major challenge for many health care facilities.

Canberra Hospital is a tertiary referral hospital of over 600 beds. The hospital trialed an innovative new device (CATH TAG) that aimed to improve policy compliance with indwelling medical device guidelines. CATH TAG is a disposable electronic timer that can be placed in the patient's notes, on a whiteboard, or by the bedside to prompt clinical staff to remove or review an indwelling medical device after a set time. In 2016, Canberra Hospital performed a short trial to determine if using CATH TAGs would improve compliance with its 72-hour peripheral intravenous catheter (PIVC) removal policy.

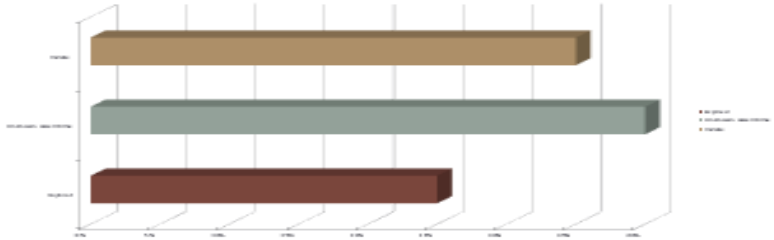




METHODS

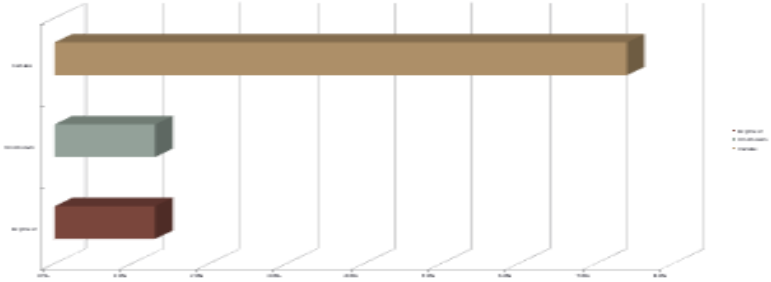
The trial was performed over four weeks in two wards (Ward A- medical and Ward B-surgical). Standard point prevalence studies were conducted at the start and the end of the trial period. During the trial, a CATH TAG was placed in the patient's notes whenever a PIVC was placed by staff in the two wards. PIVCs that had been placed in other parts of the hospital did not have a CATH TAG placed in the patient's notes. It was found, through a point-prevalence study prior to the trial, that:

- 25% of all PIVCs had expired with a dwell time of greater than 72 hours
- 40% of all PIVC had an unknown dwell time
- 35% of all PIVC had a dwell time of less than 72 hours

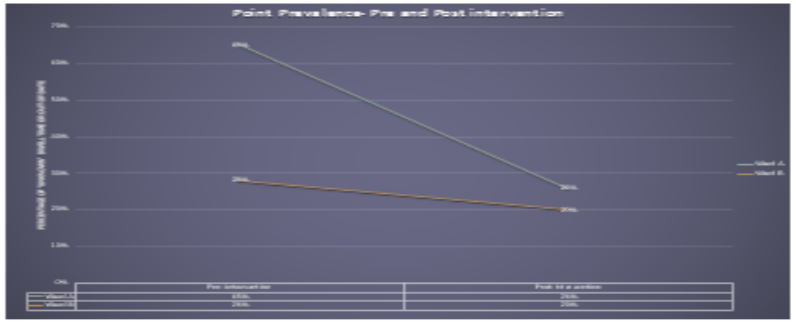


Once the trial concluded a repeat point prevalence study was again conducted. The results are as follows:

- 13% of all PIVCs had expired with a dwell time of greater than 72 hours
- 13% of all PIVC had an unknown dwell time
- 74% of all PIVC had a dwell time of less than 72 hours



RESULTS



RESULTS

At the start of the trial, 65% of PIVCs in Ward A and 28% of PIVCs in Ward B had unknown dwell times or dwell times greater than 72 hours. At the end of the trial, this was reduced to 26% in Ward A and 20% in Ward B. When comparing the pre and post trial data, it is evident that the cath tags had improved policy compliance. There was a decrease in both the 'expired' and 'unknown' categories as well as a significant increase in the 'in date' category. Due to the short trial period it was not possible to draw any conclusion in regards to PIVC infections.

Data were not collected from the wards in which the PIVC was initially placed; therefore, it is possible that the non-compliant PIVCs may have been inserted in other wards of the hospital.

CONCLUSIONS

Due to these promising results, Canberra Hospital is having further discussions with the manufacturer to commence larger trials that will measure clinical outcomes as well as policy compliance for both PIVCs and urinary catheters. A letter to the editor was recently published in the Infection, disease and health journal- volume 22 issue 2, outlining our results.

ACKNOWLEDGEMENTS

Canberra Hospital infection prevention and control, Ward A & Ward B at the Canberra hospital, Lisa Tozer and Senver.