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Protocol paper: Reducing catheter associated urinary tract infections in hospital, a multi-site randomised controlled study

Brett G Mitchell, Oyebola Fasugba, Victoria Gregory[1] Anne Gardner, Jane Koerner[2] Allen Cheng[3] Peter Collignon[4] Nicholas Graves[5]

[1] Avondale College, [2]Australian Catholic University, [3]Monash University & Alfred Health, [4]Australian National University & ACT Pathology, [5]QUT

Background

CAUTIs:

- Associated with increased morbidity, mortality and higher hospital costs
- 26% of patients admitted to a hospital in AUS will receive a urinary catheter and 1% will develop a CAUTI[1]
- 380,000 bed days lost each year due to health care UTIs
- Increases length of stay by up to four days [2]
- Associated with higher risk of antimicrobial resistance (AMR)[3]
- Reducing bacterial colonisation around the urethral area has the potential to reduce CAUTI risk[4]

Current Practice Evidence about the best antiseptic solutions for cleaning is mixed, there is conflicting recommendations in national and international practice, there is variation of practice within Australian hospitals and there is a lack of research in relation to the meatal cleaning solution used prior to catheter insertion.[5]

References

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Generation of evidence using a high-quality randomised trial at Canberra Hospital (ACT) (A), Lismore Hospital (NSW) (B) and Sydney Adventist Hospital (NSW) (C) will determine the efficacy and cost-effectiveness of using saline or chlorhexidine in meatal cleaning. The outcomes will inform clinical practice and policy in Australia and internationally.

Figure 1 Control Phase Saline (left). Figure 2 Intervention Phase Chlorhexidine (right).

Key Outcome Measures

OBJECTIVE 1: Chlorhexidine Effectiveness

1. A measure of catheter associated asymptomatic bacteriuria
2. The number of CAUTIs per 100 days
3. The number of blood stream infections associated with UTI

OBJECTIVE 2: Chlorhexidine Cost-Effectiveness

1. Changes in costs relative to health benefits
2. Changes in costs associated with Quality Adjusted Life Years

Study Design

Hospital	2 months	4 months	6 months	8 months
A				
B				
C				

Study Design: Stepped wedge randomised controlled trial in 3 large hospitals in Australia over a 32 week period.
Hospitals begin with **control phase** using saline for urethral cleaning before catheter insertion.
Every eight weeks each hospital switches to the **intervention phase, chlorhexidine**.

1. CANBERRA HOSPITAL ACT
2. LISMORE HOSPITAL NSW
3. SYDNEY ADVENTIST HOSPITAL NSW

HREC and SSA granted at 3 sites + Avondale College HREC approval
Study education days carried out at 3 sites with IPC staff.
Trial commenced 1st August 2017 for 32 weeks (until 12th March 2018).

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Lifestyle Research Centre
www.avondale.edu.au/cauti
Avondale College of Higher Education, NSW , Australia

Data Collection Procedure

- Participant receives catheter
- Hospital staff review wards
- Medical Notes Review and Microbiology results
- Data Collected by hospital staff
- Data de-identified
- Data provided to researchers

Hospital personnel collect data three days a week at each hospital during both control and intervention periods.

Patients who receive a urinary catheter are followed up during the trial period (for a period of 7 days post catheter insertion, discharge or 48 hours post catheter removal – whichever occurs first).

De-identified data submitted to Research Team weekly then monthly

brett.mitchell@avondale.edu.au
Chief Investigator, Avondale College | @1healthau
victoria.gregory@avondale.edu.au
Research Project Manager, Avondale College