

## Ambulatory pumps for continuous antibiotic infusion

### Abstract:

In the inpatient setting, antibiotics are generally administered via bedside pumps with multiple daily dosing. Utilisation of a continuous antibiotic infusion (CAI) instead might have patient and nursing satisfaction, workflow efficiencies and infection control benefits. We aimed to study the utilisation of CAI in the inpatient setting for routine antibiotic administration. Patients receiving a peripherally inserted central venous catheter (PICC) for antibiotic administration were screened for the study. The patients were randomised to either (1) standard pump and intermittent antibiotic administration (IAA) or (2) CAI via an ambulatory pump. An accelerometer placed on the ankle was used to assess patient activity. Nursing and patient satisfaction surveys were also carried out. Forty patients met the study criteria for enrolment with 21 patients being enrolled in the CAI arm of the study. One hundred and five days of accelerometer recordings were available for analysis. The geometric mean activity was 45 min/day in the standard arm and 64 min/day in the CAI arm. This represented a 42% (95% CI: -14 to 133%,  $p = 0.16$ ) difference in activity between the two groups. Nursing staff reported that they spent less time throughout their shift attending the antibiotic line or pump in patients who were in the CAI arm of the study ( $p < 0.001$ ). In addition, patients in this arm of the study were more likely to recommend this method of administration of antibiotics to a family member ( $p = 0.0001$ ). The MOBILISE study showed nursing and patient satisfaction when CAI were utilised in the inpatient setting. A statistically non-significant difference in mobility was seen. The trial was registered (28/03/2018) with the Australia New Zealand Clinical Trials Registry (ACTRN12618000452291).

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### Reference:

McCarthy KL, Harris-Brown T, Smits EJ, Legg A, Chatfield MD, Paterson DL. The MOBILISE study: utilisation of ambulatory pumps in the inpatient setting to administer continuous

antibiotic infusions-a randomised controlled trial. Eur J Clin Microbiol Infect Dis. 2021 Jul 13.  
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