



Alliance for Vascular Access Teaching and Research

STAR STUDY

Intravenous Care and Maintenance Observational Study

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- 20 million PIVCs used for Australian inpatients p.a
- 40% of PIVCs fail (occlusion, infiltration, dislodgement, phlebitis)
- \$550 million p.a. on PIVC failure
- CRBSI rate 0.01% in PIVCs



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Aim

The aim of this study was to gain a 'real world' overview of nurses' intravenous (IV) flushing and medication practice, and compare this to current practice recommendations

Method

- This was a single centre, prospective observational study of IV flush and medication administration by nurses
- Recruitment was conducted in surgical and medical wards of a tertiary metropolitan hospital (n=82)

Results -administration

- Most observations were for PIVCs (n = 77; 93%)
- Modes of delivery
 - IV bolus (n = 28; 34%)
 - IV medication in a single bag (n = 36; 44%)
 - IV burette (n = 18; 22%)
- Pre and post drug administration flushes were delivered in all cases of *bolus* delivery
- 91% (56/61) of flushes used 10 mL syringes with 0.9% sodium chloride.
- Cost of 100mL bag administration is approx \$10-12AUD per episode!
- Infection control implications with breaking of circuit



Results – infection control

- 68% (56/82) Hand Hygiene compliant*
- 67% (55/82) ANTT compliant*
- Needleless connector decontamination conducted in 99% of cases
- Decontamination solution 70% IPA
- Scrub time 3.00-4.50secs (median range)
- Drying time 3.00-4.00 secs (median range)
- 26% (21/82) experienced interruptions

**preparation phase*



Conclusion

- Mixed forms of drug delivery were observed
- Flushing practice was consistent for bolus delivery but inconsistent for bag and burette delivery.
- Adherence to hand hygiene and ANTT was suboptimal.
- The limited studies on flushing practices to date are inhibiting recognition of this important patient quality and safety issue.
- Practice and guidelines need to be consistent with current best practice recommendations.
- Future studies need to minimise practice variation in trial protocol and/or acknowledge and account for varied practice with analysis.