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
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 3.00-4.50 secs (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.