



To improve paediatric peripheral intravenous catheter (PIVC) care through the implementation of care bundles” Kleidon et al (2019).

Abstract:

AIM: To improve paediatric peripheral intravenous catheter (PIVC) care through the implementation of care bundles.

METHODS: A pre-post study using mixed methods (clinical audit, staff survey, parent interviews) in 2016 at a tertiary paediatric hospital in Brisbane was conducted to evaluate the effectiveness of a PIVC insertion and maintenance bundle to improve PIVC insertion, promote function and support practice. Participants included children with PIVC, parents and staff inserting and managing PIVCs. A mnemonic care bundle, SUCCESS PIVCS (At insertion: Skills, Understand and prepare, Consent, Clean site, Escalate, Secure, Sign and document. During management: Prompt removal, Inspect hourly, Vein patency, Clean hands and Scrub the hub), was developed and implemented via visual aids, workshops and change champions. During audit, PIVC first-attempt insertion success, PIVC failure, PIVC dwell, escalation to senior clinicians and insertion and management procedures were measured.

RESULTS: Pre-implementation audit (n = 102) and survey (n = 117) data described high rates of PIVC failure (n = 50; 49%), difficulty obtaining equipment (n = 64; 55%) and pressure to insert (n = 50; 43%). Parent interviews (n = 15) identified lack of communication, fear, appreciation of skilled technicians and technology and care giver roles as key to improving

the experience. After implementation first-attempt insertion success (45 vs. 62%; risk ratio 1.37, 95% confidence interval 1.05-1.78), first-attempt escalation to senior clinicians (junior doctor 72 vs. 41%; $P = <0.001$) and median PIVC dwell (40 vs. 52 h; $P = 0.021$) improved. CONCLUSION: This multi-level care bundle demonstrated improvements in the insertion and management of PIVCs; however, PIVC failure remained high.

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Reference:

Kleidon, T.M., Cattanach, P., Mihala, G. and Ullman, A.J. (2019) Implementation of a paediatric peripheral intravenous catheter care bundle: A quality improvement initiative. *Journal of Paediatrics and Child Health*. January 31st. .

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