



To determine the proportion of unused peripheral intravenous cannulas (PIVCs) inserted in a paediatric emergency department (PED) and to assess clinicians' abilities to predict future usage of PIVC" Hollaway et al (2017).

Abstract:

**OBJECTIVES:** To determine the proportion of unused peripheral intravenous cannulas (PIVCs) inserted in a paediatric emergency department (PED) and to assess clinicians' abilities to predict future usage of PIVC.

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**METHODS:** Prospective concealed observational study in a tertiary PED. Healthcare workers (HCWs) completed questionnaires upon insertion and removal of PIVC with review of patient notes if required. The primary outcome was the number of unused, unnecessary PIVCs. Secondary outcomes included demographic factors affecting unused cannulas, a clinician's ability to predict PIVC use and the incidence of complications from PIVC insertion.

**RESULTS:** From 806 returned questionnaires, 719 patients were recruited. Twenty-two per cent of PIVCs remained unused after initial insertion for all patients. There was no significant

difference in the rate of unused cannulas among any age or sex category, with the lowest rate of unused PIVCs in triage category 2 patients. HCW seniority when deciding to insert a PIVC did not affect usage rates. Likert scale analyses showed that HCWs could correctly predict ongoing use of PIVCs in 90% of cases. The overall rate of PIVCs removed for infected or inflamed insertion sites was low at 0.8%.

**CONCLUSION:** This study is consistent with the idle PIVC rates observed in PEDs but there is potential to further reduce this rate with targeted insertion. The paediatric clinicians' reliability in predicting PIVC use has been demonstrated for the first time and we have identified four groups where targeted phlebotomy rather than i.v. cannulation would reduce unused cannulas.

Reference:

Hollaway, W., Broeze, C. and Borland, M.L. (2017) Prospective observational study of predicted usage of intravenous cannulas inserted in a tertiary paediatric emergency department. *Emergency Medicine Australasia*. November 16th. .

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