

**The use of ultrasound guidance for peripheral intravenous catheter insertion by the after-hours clinical support team for patients with difficult venous access has been successful at our institution with 9 out of every 10 catheters inserted at first attempt with significantly lower recorded pain scores” Sou et al (2017).**

Abstract:

**BACKGROUND:** Many patients are admitted to hospital with non-visible or palpable veins, often resulting in multiple painful attempts at cannulation, anxiety and catheter failure. We developed a difficult intravenous pathway at our institution to reduce the burden of difficult access for patients by increasing first attempt success with ultrasound guidance. The emphasis was to provide a solution for hospitalised patients after business hours by training the after-hours clinical support team in ultrasound guided cannulation.

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**METHODS:** Inception cohort study of patients referred to the after-hours clinical support team including outcomes such as number of attempts at cannulation before and after referral, insertion site, type of device inserted and recorded pain score for attempts prior to referral and for attempts by the after-hours clinical support team.

**RESULTS:** Between January and December 2016, 379 patients were referred to the after-hours clinical support team for placement of a peripheral intravenous catheter under ultrasound guidance. The median number of unsuccessful attempts before referral was 2 (IQR 2, 4), this ranged between 1 attempt to 10 attempts compared to only 1 attempt (IQR 1, 1,  $p < 0.001$ ) with no more than 2 attempts in total by the after-hours clinical support team. The first time success rate by the after-hours clinical support team was 93% ( $n = 348$ ). The median pain score for attempts with ultrasound use was 2/10 (IQR 1-3) compared to 7/10 (IQR 5-9) for previous attempts without ultrasound ( $p < 0.001$ ).

CONCLUSION: The use of ultrasound guidance for peripheral intravenous catheter insertion by the after-hours clinical support team for patients with difficult venous access has been successful at our institution with 9 out of every 10 catheters inserted at first attempt with significantly lower recorded pain scores.

Full Text

Reference:

Sou, V., McManus, C., Mifflin, N., Frost, S.A., Ale, J. and Alexandrou, E. (2017) A clinical pathway for the management of difficult venous access. BMC Nursing. November 17th. eCollection 2017.

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