

A longer extended dwell catheter represents a viable and favorable alternative to the standard longer IVs used for US-guided cannulation of veins >1.20 cm in depth” Bahl et al (2018).

Abstract:

INTRODUCTION: Establishing peripheral intravenous (IV) access is a vital step in providing emergency care. Ten to 30% of Emergency Department (ED) patients have difficult vascular access (DVA). Even after cannulation, early failure of US-guided IV catheters is a common complication. The primary goal of this study was to compare survival of a standard long IV catheter to a longer extended dwell catheter.

METHODS: This study was a prospective, randomized comparative evaluation of catheter longevity. Two catheters were used in the comparison: [1] a standard long IV catheter, the 4.78 cm 20 gauge Becton Dickinson (BD); and [2] a 6 cm 3 French (19.5 gauge) Access Scientific POWERWAND™ extended dwell catheter (EDC). Adult DVA patients in the ED with vein depths of 1.20 cm-1.60 cm and expected hospital admissions of at least 24 h were recruited.

RESULTS: 120 patients were enrolled. Ultimately, 70 patients were included in the survival analysis, with 33 patients in the EDC group and 37 patients in the standard long IV group. EDC catheters had lower rates of failure ($p = 0.0016$). Time to median catheter survival was 4.04 days for EDC catheters versus 1.25 days for the standard long IV catheter. Multivariate survival analysis also showed a significant survival benefit for the EDC catheter ($p = 0.0360$).

CONCLUSION: A longer extended dwell catheter represents a viable and favorable alternative to the standard longer IVs used for US-guided cannulation of veins >1.20 cm in depth. These catheters have significantly improved survival rates with similar insertion success characteristics.

Reference:

Bahl, A., Hang, B., Brackney, A., Joseph, S., Karabon, P., Mohammad, A., Nnanabu, I. and Shotkin, P. (2018) Standard long IV catheters versus extended dwell catheters: A randomized comparison of ultrasound-guided catheter survival. *The American Journal of Emergency Medicine*. July 19th. .

doi: [10.1016/j.ajem.2018.07.031](https://doi.org/10.1016/j.ajem.2018.07.031).