

## **Ultrasound-guided peripheral intravenous line (USGPiV) placement is becoming an important tool in current clinical practice” Rice et al (2016).**

### Abstract:

Background: Ultrasound-guided peripheral intravenous line (USGPiV) placement is becoming an important tool in current clinical practice. Many residency programs utilize unstructured clinical observation to evaluate residents in this and other procedural skills. Simulation-based assessment permits educators to make objective, standardized observations, and may be ideal for assessment of important procedural competencies.

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Objective: We created a simulation-based assessment tool for the skill of USGPiV placement.

Methods: A checklist tool was developed by a review of relevant literature and an expert review in accordance with established guidelines. Emergency medicine residents were recruited and surveyed on previous experience with USGPiV placement. Blinded, independent reviewers then utilized the checklist to assess residents as they made up to 3 attempts at USGPiV placement on a simulated pediatric arm.

Results: Of the 26 residents enrolled in our study, 26 participated (100%). A best attempt checklist score greater than or equal to 9 out of 10 correlated with expert performance ( $P < .001$ ). Agreement between independent raters on first-attempt USGPiV placement score was determined by weighted kappa statistics to be 0.93 (95% CI 0.86-1.00).

Conclusions: The checklist assessment tool has acceptable interrater reliability and ability to distinguish performance at differing levels of competence. We propose this tool as a valuable component in the assessment of USGPiV access, and we hope this article serves as a roadmap for other educators to create similar assessment tools.

### Reference:



Rice, J., Crichlow, A., Baker, M., Regan, L., Dodson, A., Hsieh, Y.H. and Omron, R. (2016) An Assessment Tool for the Placement of Ultrasound-Guided Peripheral Intravenous Access. *Journal of Graduate Medical Education*. 8(2), p.202-7.

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