



The goal of this study was to create and demonstrate validity evidence for a direct observation tool for assessing CVC insertion” Fleming et al (2016).

Abstract:

BACKGROUND: Pediatric critical care medicine requires the acquisition of procedural skills, but to date no criteria exist for assessing trainee competence in central venous catheter (CVC) insertion.

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OBJECTIVE: The goal of this study was to create and demonstrate validity evidence for a direct observation tool for assessing CVC insertion.

METHODS: Ten experts used the modified Delphi technique to create a 15-item direct observation tool to assess 5 scripted and filmed simulated scenarios of CVC placement. The scenarios were hosted on a dedicated website from March to May 2013, and respondents recruited by e-mail completed the observation tool in real time while watching the scenarios. The goal was to obtain 50 respondents and a total of 250 scenario ratings.

RESULTS: A total of 49 pediatrics intensive care faculty physicians (6.3% of 780 potential subjects) responded and generated 188 scenario observations. Of these, 150 (79.8%) were recorded from participants who scored 4 or more on the 5 scenarios. The tool correctly identified the expected reference standard in 96.8% of assessments with an interrater agreement kappa (standard error) = 0.94 (0.07) and receiver operating characteristic = 0.97 (95% CI 0.94-0.99).

CONCLUSIONS: This direct observation assessment tool for central venous catheterization demonstrates excellent performance in identifying the reference standard with a high degree of interrater reliability. These assessments support a validity construct for a pediatric critical care medicine faculty member to assess a provider placing a CVC in a pediatrics patient.

Reference:

Fleming, G.M., Mink, R.B., Hornik, C., Emke, A.R., Green, M.L., Mason, K., Petrillo, T., Schuette, J., Tcharmtchi, M.H., Winkler, M. and Turner, D.A. (2016) Developing a Tool to Assess Placement of Central Venous Catheters in Pediatrics Patients. *Journal of Graduate Medical Education*. 8(3), p.346-52.

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