

"...eight-step tool derived from international vascular access guidelines into a structured mnemonic for device assessment and decision-making" Ray-Barruel et al (2020).



### Abstract:

**OBJECTIVE:** To describe the clinimetric validation of the I-DECIDED tool for peripheral intravenous catheter assessment and decision-making. **DESIGN AND SETTING:** I-DECIDED is an eight-step tool derived from international vascular access guidelines into a structured mnemonic for device assessment and decision-making. The clinimetric evaluation process was conducted in three distinct phases. **METHODS:** Initial face validity was confirmed with a vascular access working group. Next, content validity testing was conducted via online survey with vascular access experts and clinicians from Australia, the UK, the USA and Canada. Finally, inter-rater reliability was conducted between 34 pairs of assessors for a total of 68 peripheral intravenous catheter (PIVC) assessments. Assessments were timed to ensure feasibility, and the second rater was blinded to the first's findings. Content validity index (CVI), mean item-level CVI (I-CVI), internal consistency, mean proportion of agreement, observed and expected inter-rater agreements, and prevalence-adjusted bias-adjusted kappas (PABAK) were calculated. Ethics approvals were obtained from university and hospital ethics committees. **RESULTS:** The I-DECIDED tool demonstrated strong content validity among international vascular access experts (n=7; mean I-CVI=0.91; mean proportion of agreement=0.91) and clinicians (n=11; mean I-CVI=0.93; mean proportion of agreement=0.94), and high inter-rater reliability in seven adult medical-surgical wards of three Australian hospitals. Overall, inter-rater reliability was 87.13%, with PABAK for each

principle ranging from 0.5882 ('patient education') to 1.0000 ('document the decision'). Time to complete assessments averaged 2 min, and nurse-reported acceptability was high.

CONCLUSION: This is the first comprehensive, evidence-based, valid and reliable PIVC assessment and decision tool. We recommend studies to evaluate the outcome of implementing this tool in clinical practice. TRIAL REGISTRATION NUMBER: 12617000067370.

The future of peripheral intravenous catheter assessment

Peripheral intravenous catheter clinical decision-making aid

Bundles for peripheral intravenous catheter care

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**Reference:**

Ray-Barruel, G., Cooke, M., Chopra, V., Mitchell, M. and Rickard, C.M. (2020) The I-DECIDED clinical decision-making tool for peripheral intravenous catheter assessment and safe removal: a clinimetric evaluation. *BMJ Open*. 10(1), p.e035239. doi: 10.1136/bmjopen-2019-035239.

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