

Title: Implementing a modified Direct Observation of Procedural Skills (mDOPS)

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What problem was addressed: Medicine residents are required to be proficient in a number of procedures, including central venous catheterization (CVC). The educational strategy for developing procedural competence, “see one, do one” is becoming a less acceptable practice. Currently only a log book is used for assessing procedural competence in residencies throughout Pakistan¹, which records the quantity but not quality of performance and does not provide feedback. Introducing a content specific instrument and multiple, periodic formative assessments may help improve residents’ procedural competence and ultimately impact patient safety. Our objective was to develop an intervention and an instrument, to assess the performance of residents in CVC in order to credential them at a higher quality standard.

What was tried: CVC was used as the prototypical procedure to develop simulation based workshops for training and assessment of procedural skills in Medicine residents as it is critical for patient care and threatens patient safety. A modified DOPS instrument was developed by combining a standard DOPS with an OSATS (Objective structured assessment of technical skills), to combine the strengths of DOPS (actual work place performance and multiple observations) and OSATS (good inter-rater reliability and construct validity in operation-specific checklists and detailed global rating scales).

A 38 item, task specific instrument was developed based on literature and whetted by experts to ensure its content validity. Residents were trained in four simulation based workshops and assessed for knowledge and procedural skill, whilst being video-recorded for feedback and self-assessment. Residents’ satisfaction and feasibility of the process was evaluated via a questionnaire. Having assessed and certified residents’ core knowledge and procedural skill (in a simulated environment); next residents will be assessed on real patients using the same instrument with multiple raters.

What was learned: There was a significant difference in the residents pre (10.1 ± 4.2) and post (12.6 ± 3.1) workshop scores, $t(39) = -3.427$, $p = 0.001$, despite being given the material to study prior to the intervention. The skills assessment instrument was found to be reliable (Cronbach’s = 0.83, inter rater coefficient = 0.79). Participants were satisfied with the workshops (mean = 8.83, out of 10) and would commit over the next three years to improving and enhancing their CVC skills as a work place based assessment (mean = 4.52, out of 5). The development of a reliable and valid instrument for assessing workplace based performance of CVC and resident satisfaction along with their long term commitment is essential to ensure the continuity of the intervention and its health-care impact.

Resource limitation was a challenge, particularly when it came to the availability of mobile ultrasonography for CVC and the operational cost of simulators used in the workshops; the latter being addressed by institutional funding.

Based on the experience of this pilot study, we feel that further mDOPS instruments could be developed for other procedures performed by medicine residents.

Reference:

College of Physicians and Surgeons Pakistan (2011) *Notification of E-log for FCPS Residents*, Karachi: College of Physicians and Surgeons Pakistan.

Available at: http://elogbook.csp.edu.pk/notifications/elogbookfor_trainees.jpg