A New Instrument for Assessing Resident Competence in Surgical Clinic: The Ottawa Clinic Assessment Tool

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BACKGROUND: The shift toward competency-based medical education has created a demand for feasible workplace-based assessment tools. Perhaps, more important than competence to assess an individual patient is the ability to successfully manage a surgical clinic. Trainee performance in clinic is a critical component of learning to manage a surgical practice, yet no assessment tool currently exists to assess daily performance in outpatient clinics for surgery residents. The development of a competency-based assessment tool, the Ottawa Clinic Assessment Tool (OCAT), is described here to address this gap.

STUDY DESIGN: A consensus group of experts was gathered to generate dimensions of performance reflective of a competent "generalist" surgeon in clinic. A 6-month pilot study of the OCAT was conducted in orthopedics, general surgery, and obstetrics and gynecology with quantitative and qualitative evidence of validity collected. In all, 2 subsequent feedback sessions and a survey for staff and residents evaluated the OCAT for clarity and utility.

RESULTS: The OCAT is a 9-item tool, with a global assessment item and 2 short-answer questions. Among the 2 divisions, 44 staff surgeons completed 132 OCAT assessments of 79 residents. Psychometric data was collected as evidence of validity. Analysis of feedback indicated that the entrustability rating scale was useful for surgeons and residents and that the items could be correlated with individual competencies.

CONCLUSIONS: Multiple sources of validity evidence collected in this study demonstrate that the OCAT can measure resident clinic competency in a valid and feasible manner. (J Surg Ed 73:575-582. © 2016 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: postgraduate education, surgical competence, OCAT, surgical clinic, assessment, workplace-based assessment

COMPETENCIES: Patient Care, Medical Knowledge, Professionalism, Interpersonal and Communication Skills

INTRODUCTION

The ability to independently manage a clinic is a crucial skill for a practicing surgeon and therefore it is important that surgical education training programs teach and assess this skill. One of the most common strategies for teaching and assessing clinic management skills is to use workplace-based assessment (WBA).[1] The strength of using WBA is that trainees are directly observed performing a task and receives immediate feedback on their performance.[2,3] The most commonly used WBA tool is the mini-Clinical Evaluation Exercise (mini-CEX),[3] which has been modified specifically for the surgical environment as the Clinical Assessment and Management Evaluation—Outpatient. The Clinical Assessment and Management Evaluation—Outpatient has showed similar psychometric properties to the mini-CEX itself.[4]

Despite WBA tools like the mini-CEX being common, there are issues when applied to a surgical clinic setting. Direct observation of an entire patient encounter is often

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  1931-7204/$30.00 http://dx.doi.org/10.1016/j.jsurg.2016.02.003

difficult in a busy clinic. In addition, surgeons primarily function alongside their residents in clinic. In doing so, they develop an impression of a resident's performance over multiple patient encounters while reviewing assessments and plans together and while taking note of interactions with families and interdisciplinary staff. These impressions then influence objective assessments of individual elements of overall clinic management, such as the ability to triage patients quickly and to manage multiple demands at once. These observations cannot be captured by current WBA tools designed to assess individual patient encounters.[5]

Other WBA issues revolve around the activities being assessed. Some WBA tools were developed to assess performance in the clinical environment beyond a single patient encounter, including the daily encounter card (primarily used in Emergency Medicine),[6,7] case-based discussion, and a 360-degree assessment or multisource feedback,[8] but none of these tools were designed to assess and encourage feedback on a day of surgical clinic performance. As well, WBA requires expert raters who are subject to limitations such as time constraints and rater biases.[9,10]

Given these issues with other WBA tools, the goal of this project was to develop a succinct assessment tool, the Ottawa Clinic Assessment Tool (OCAT) to be used in surgical clinic to assess trainee performance over a day of clinic with respect to their readiness for independent practice. Modern validity theory was used to guide the development of the OCAT.[11,12]

In addition, recent studies have tried to lessen the effects of certain rater biases like the leniency bias (or "failure to fail")[13] by using narrative entrustability scales. These scales, which are designed to reflect the way physicians think in the workplace, have started to be used in some WBA tools.[14,15] The OCAT uses an entrustability rating scale modified from previous work.[16] Entrustment decisions evaluate a trainee against what they will actually do when practicing independently,[17,18] for example whether a staff surgeon feels they can leave their resident alone with a patient (real-world judgment).[2] This is in contrast to a typical norm-referenced scale that considers how residents compare to average residents from their cohort. In anesthesia, entrustability scales have been shown to decrease the number of assessments needed for consistent reliability.[19] Lessons learned from these studies will be applied to the development of the OCAT.

MATERIAL AND METHODS

Institutional Review Board approval was granted by the Ottawa Health Science Network Research Ethics Board.

Phase 1—Developing the OCAT

Preliminary test specifications were determined a priori.[20] The type of testing format to be used was a combination of selected response, using a rating scale and short-answer comments, to maximize feasibility. The construct was defined as "surgical resident competence across a day of clinic." Stakeholders were identified using purposive sampling,[21] with the goal of identifying at least 1 surgical educator from each of the divisions of surgery. This group was invited to participate in 1 of 2 consensus groups using a nominal group technique.[22] A total of 13 surgeons with varied experience (4-18 y), and 3 residents, from a variety of surgical specialties participated. The goal of the consensus groups was to generate a list of features they would like to see in a resident who is prepared to run a surgical clinic independently. Items would only stay on the list if there was 80% consensus in the group (defined a priori). Idea generation continued until ideas began overlapping. Voting was done by raising hands and therefore was not confidential. An e-mail survey of intentionally sampled surgical educators from across Canada was distributed to gather further content for the test items, using the same question asked in the consensus groups. This group did not have access to the consensus group results, but generated new ideas to add geographic generalizability. Survey responses that fell outside the responses already captured in consensus groups were listed and reviewed for potential inclusion in the initial version of the study tool.

The list of items collected from the consensus groups and national survey was used to develop the individual items on the assessment tool. An entrustability-aligned anchor scale was modified from previous work[15] to score each item. A global assessment item was added to encourage surgeons to make an overall competence decision based on performance in clinic that day. Brief instructions were written to orient the rater on how to use the scale. The consensus group members were asked to complete a 2-week pre–pilot study to ensure clarity. Revisions were made based on their feedback.

Phase 2—Data Collection and Analysis

A 6-month study (July 2014-Dec 2014) tested the psychometric and feasibility properties of the initial version of the OCAT in 3 surgical specialties at the University of Ottawa (orthopedics, general surgery, and obstetrics and gynecology). Staff surgeons and trainees were invited to participate in the study and informed consent was obtained. A presentation was made in each specialty to orient staff and residents to the project and to the OCAT during grand rounds or dedicated academic time. Trainees were advised that these assessments would be used for research purposes and that they would be confidential and blinded. Participation was voluntary. Following a clinic, they had the option to ask their supervising surgeon to fill out an OCAT. Residents received a small honorarium for the completed assessments returned.