

Surgical Education

Faculty evaluations of resident medical knowledge: can they be used to predict American Board of Surgery In-Training Examination performance?



Dawn M. Elfenbein, M.D., M.P.H.^{a,*}, Rebecca S. Sippel, M.D.^a,
Robert McDonald, Ph.D.^a, Tammy Watson, B.A.^b,
John E. Scarborough, M.D.^b, John Migaly, M.D.^b

^aDepartment of Surgery, University of Wisconsin, 600 Highland Ave, Madison WI 53792; ^bDepartment of Surgery, Duke University, 2301 Erwin Rd, Durham, NC 27710

KEYWORDS:

Medical knowledge;
Resident evaluation;
Resident assessment;
ABSITE

Abstract

BACKGROUND: The American Board of Surgery In-Training Examination (ABSITE) offers annual assessment of resident medical knowledge. We sought to determine if ongoing end-of-rotation evaluations by faculty of residents' medical knowledge correlate with ABSITE performance.

METHODS: Retrospective cross-sectional study was conducted over 3 years at 2 institutions. Faculty rated residents' clinical knowledge as part of a global summative evaluation. The intraclass correlation coefficient and convergent validity between faculty evaluations and ABSITE performance were assessed.

RESULTS: A total of 1,562 faculty evaluations were completed for about 147 residents. There was poor agreement among faculty for each resident, with intraclass correlation coefficients of less than 0.2. Spearman's correlation coefficient was calculated for evaluations and ABSITE scores and were found to be weakly correlative at one institution and not correlated at all at the other. Finally, evaluations across quartiles of resident ABSITE scores were examined and show no correlation.

CONCLUSION: Faculty evaluations of resident medical knowledge correlate poorly with resident ABSITE performance, and should not be used as an ongoing predictive tool.

© 2015 Elsevier Inc. All rights reserved.

No authors had any conflicts of interest or support from industry or organizations that might have influenced this work.

Presented at the Association for Surgical Education Annual Meeting, April 11, 2014.

* Corresponding author. Tel.: +1-608-263-1387; fax: +1-608-252-0912.

E-mail address: elfenbein@surgery.wisc.edu

Manuscript received May 28, 2014; revised manuscript August 18, 2014

The development of medical knowledge is one of the 6 core competencies of all residency training programs, and is an essential component of the general surgery residency common program requirements. The Accreditation Council for Graduate Medical Education (ACGME) Common Program Requirements for general surgery residency programs states that "residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the

application of this knowledge to patient care.” Programs are expected to provide evaluations of competency in all areas, including medical knowledge, but no gold standard for assessment of resident medical knowledge currently exists.

The American Board of Surgery In-Training Examination (ABSITE) is given once a year to every resident in a US general surgery training program. The ACGME common program requirements specify that “assessment should specifically monitor the resident’s knowledge by use of a formal exam such as the ABSITE or other cognitive exams. Test results should not be the sole criterion of resident knowledge, and should not be used as the sole criterion for promotion to subsequent PG level,” but most programs do use it in some fashion to evaluate residents and identify residents for remediation.^{1,2}

A common approach at many institutions is for surgical faculty to provide residents with end-of-rotation evaluations of their competence in each of the essential domains of patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice. These assessment tools are quite variable. They are often created individually by each program for internal use, are generally internet based, may or may not be mandatory, may or may not be anonymous, results may be accessible immediately by residents or after some delay, and are usually based on a Likert-type scale. Formal faculty training on the specific details of how to fill out the evaluation and providing faculty with a shared mental model of what exactly is being measured also varies considerably among institutions.

Rigorous validation of scores from faculty evaluations of residents at general surgery programs has not been conducted, although similar studies have been conducted using medical student populations and other residency programs and show mixed results.³⁻⁶ All general surgery programs use faculty evaluations in some form or fashion to get at least a picture of resident performance. Resident assessment tools should be valid and reliable. The ABSITE is arguably the most objective measure of a general surgery resident’s medical knowledge, or at least a resident’s ability to answer multiple choice questions about the core principles of general surgery, but this test is administered on an annual basis. Ideally, program directors would like to know if a resident is having difficulties with acquiring the required medical knowledge more often than once a year, and having reliable, ongoing assessment of a resident’s knowledge would be of value to both program directors and residents. Residents could potentially be identified early so that deficiencies could be addressed constructively in real time instead of after receiving a poor score in the ABSITE. Previous research has identified that residents who score less than the 35th percentile on the ABSITE at any time during residency have a higher risk of doing poorly on the ABS qualifying and/or certification examinations.^{7,8} Even the strongest supporters of standardized tests acknowledge that multiple choice questions do not measure

important dimensions such as reasoning and problem solving. Faculty evaluations hopefully capture some of the more nuanced components of a resident’s medical knowledge, but it is reasonable to assume that a well-designed and properly implemented evaluation question that purports to measure medical knowledge should have some correlation to a standardized test that is designed to measure the same thing. Such evaluations should also be reliable, in that multiple faculty members answering the same question about the same resident should come to roughly similar conclusions, at least averaged over several rotations in the long term.

This study was designed to investigate the reliability and validity of faculty evaluations of general surgery residents’ medical knowledge. Data were collected from 2 separate general surgery programs that used 2 different faculty evaluation tools. Reliability was determined by calculating how well independent faculty evaluations of a single resident’s medical knowledge correlated with one another, and validity was determined by the correlation between the mean faculty evaluation score for an individual resident and that resident’s score in the ABSITE. We hypothesized that the faculty evaluations would correlate with ABSITE scores, and could potentially be used as an early detection tool to identify poor performing residents for remediation before the examination.

Methods

This was a retrospective analysis of deidentified general surgery resident evaluations and ABSITE scores over a 3-year period (February 2010 to January 2013) from the University of Wisconsin and Duke Hospital General Surgery Residency programs. Both ABSITE percentage correct and ABSITE percentile scores were recorded, as well as each individual faculty evaluation of residents for the specific question on the end-of-rotation evaluation at each institution pertaining to medical knowledge.

Both institutions used the MedHub system (MedHub, Inc, Ann Arbor, MI), which is a web-based application that is used to integrate resident data related to graduate medical education activities and compliance. Institutions create their own evaluations and enter questions into the MedHub form. Residency coordinators input resident schedules into the system, and MedHub can then be programmed to automatically generate e-mail reminders to faculty when there is an evaluation form to be filled out, and these data can later be queried in a variety of ways. The ABSITE scores were gathered by the residency coordinators at each institution and linked to the faculty evaluation scores from MedHub, and subject identifying information was then stripped before giving the data over for analysis. IRB approval was obtained from both institutions, and informed consent was waived because the study was considered low risk.

At Institution “A,” 77 residents had 1,105 total evaluations completed and took the ABSITE in the academic

Download English Version:

<https://daneshyari.com/en/article/6250769>

Download Persian Version:

<https://daneshyari.com/article/6250769>

[Daneshyari.com](https://daneshyari.com)