

A Structured Educational Curriculum Including Online Training Positively Impacts American Board of Surgery In-Training Examination Scores

Dympna M. Kelly, MD, MCh, FRSC(I),^{*} Daniel A. London, MS,[†] Allan Siperstein, MD,[‡] John J. Fung, MD, PhD,[§] and Matthew R. Walsh, MD^{*}

^{*}Department of General Surgery, Cleveland Clinic Foundation, Cleveland, Ohio; [†]Cleveland Clinic Lerner College of Medicine of Case Western Reserve University, Cleveland, Ohio; [‡]Center for Endocrine Surgery, Cleveland Clinic Foundation, Cleveland, Ohio; and [§]Digestive Disease Institute, Cleveland Clinic Foundation, Cleveland, Ohio

OBJECTIVE: To assess the effect of a structured postgraduate year 1 educational curriculum, including online surgical training, on American Board of Surgery In-Training Examination (ABSITE) scores.

DESIGN: This was a retrospective cohort study.

SETTING: The study was performed in an academic surgical residency program in a tertiary care hospital, Cleveland Clinic Foundation, Cleveland, Ohio.

PARTICIPANTS: The participants were 140 surgical postgraduate year 1 residents from 2000 to 2009. Interns from 2000 to 2004 were grouped together and completed a self-directed learning curriculum. Interns from 2005 to 2009 participated in a structured educational curriculum that included lectures and the use of an online program. Lectures were based on the American College of Surgeons curriculum. The online program consisted of 8 to 12 hours of assigned tutorials and quizzes that corresponded to the lectures and 3 multiple-choice (MC) examinations.

RESULTS: Use of a structured educational curriculum led to improved ABSITE scores ($66 \pm 9\%$) compared with that of those who had no curriculum ($55 \pm 10\%$, $p < 0.001$). Several variables positively correlated with the ABSITE score: United States Medical Licensing Examination step 1 score ($p < 0.001$), monthly quiz scores ($p = 0.003$), average MC examination scores ($p = 0.005$), lecture attendance ($p = 0.02$), and time spent online ($p = 0.04$). Multivariable analysis demonstrated that the step 1 United

States Medical Licensing Examination score, time spent online, and MC examination score are predictive of total the ABSITE score. When ABSITE subscores (basic science and clinical science) were compared, the online curriculum had a greater effect on basic science subscores, whereas lectures had a greater effect on clinical science subscores.

CONCLUSIONS: Providing surgery residents a structured curriculum with lectures and an online component positively impacts ABSITE scores. (J Surg Ed 72:811-817. © 2015 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: ABSITE, curriculum, surgical education, intern

COMPETENCIES: Patient Care, Medical Knowledge, Practice-Based Learning and Improvement, Interpersonal and Communication Skills, Professionalism, Systems-Based Practice

INTRODUCTION

The multiple-choice (MC) American Board of Surgery In-Training Examination (ABSITE) was created by the American Board of Surgery (ABS) as a method to measure the progress attained by residents in their knowledge of basic science and the management of clinical problems related to general surgery. This 225-question, 5-hour examination is administered yearly in January to residents nationwide, and it serves as the only objective assessment of a resident's surgical knowledge. Furthermore, performance on the ABSITE has been positively correlated with success on the ABS qualifying examination.^{1,2} The significance of the

Correspondence: Inquiries to Dympna M. Kelly, MD, MCh, FRSC(I), Department of General Surgery, Cleveland Clinic Foundation, 9500 Euclid Ave., A-100, Cleveland, OH 44195; fax: (216) 444-9375; e-mail: kellyd@ccf.org

TABLE 1. Resident Characteristics

Variable	Group 1	Group 2
Study period	2000–2004	2005–2009
Structured curriculum	No	Yes
Total (male/female/unknown)	55–(43/7/5)	85–(56/29/0)
Program affiliation	18 General surgery 6 Preliminaries 11 Urology 10 Otolaryngology 8 Neurosurgery 2 Unknown affiliation	23 General surgery 23 Preliminaries 20 Urology 12 Otolaryngology 6 Neurosurgery 1 Vascular
USMLE step 1 score (mean \pm SD)	226 \pm 21	229 \pm 19

examination is perhaps even greater, as a resident's ABSITE scores during surgical training can be the third most important factor considered by fellowship programs.² From a surgical training program perspective, preparation of students for the ABS qualifying examination is now of added import, as board passage rates of graduates is used as a key indicator of a residency program's health under the ACGME's Next Accreditation System.³

Complicating matters, in 2003, the Accreditation Council for Graduate Medical Education introduced new resident duty-hour restrictions that limit residents to no more than an 80-hour workweek, and these limitations became even more stringent in 2011, with more explicit instructions on time off, home call, and duty periods.⁴ Because of these new policies, there is now less time for residency programs to dedicate to classroom learning; however, this is countered by residents now having more time for self-study. Overall, no firm conclusions have been made on the effect of the Accreditation Council for Graduate Medical Education restrictions on surgical resident education.⁵ There is some evidence that ABSITE scores have not changed and in some cases even improved.^{6–8} The challenge for all residency programs is providing a comprehensive curriculum that residents can participate in without the concern of duty-hour violations. In some instances, training programs have sought to revamp their basic science curriculum with the hope of improving ABSITE scores,⁹ whereas others have successfully implemented time-intensive problem-based learning curricula.¹⁰ The present study assesses the effect of a structured educational curriculum, which included a comprehensive online surgical training program, on ABSITE scores.

MATERIALS AND METHODS

First-year surgery residents from the departments of general surgery, urology, otolaryngology, neurosurgery, vascular surgery, and undesignated preliminaries who began their training at our institution from 2000 to 2009 were included in this study (institutional review board 06-409). These residents were divided into 2 groups. Group 1 ($n = 55$) included residents from 2000 to 2004 who did not participate in a structured

educational curriculum and instead engaged in self-directed learning to prepare for the ABSITE. This was supplemented by attendance at weekly morbidity and mortality conferences as well as grand rounds. Group 2 ($n = 85$) included residents from 2005 to 2009 who took part in a structured educational curriculum. The implementation of the structured curriculum was supported by an educational coordinator and dedicated time from a staff surgeon. Both groups of interns were instructed that their goal was to correctly answer at least 75% of ABSITE questions and score greater than the 50th percentile for the "body as a whole" subsection of the ABSITE. For all residents, general demographic data were obtained and included gender and program affiliation. United States Medical Licensing Examination (USMLE) step 1 scores were reviewed and statistically compared, and they did not differ between groups ($p > 0.05$). There was no change in the program's selection process for recruiting residents during the study period. Resident characteristics based on group assignment are listed in Table 1.

The curriculum for group 2 included the following:

- Weekly lectures based on guidelines from the American College of Surgeons postgraduate year (PGY) 1 curriculum: The lecture schedule was maintained throughout the academic year, and lectures were given by staff doctors: surgeons, medicine physicians, and intensive care physicians. Attendance at lectures and weekly morbidity and mortality conferences was monitored.
- Access to an online surgical training program (BeST Resident, www.intumed.com): The program was available to residents 24 hours a day, 7 days per week. Tutorials were assigned on a monthly basis (approximately 8–12 h/mo) to complement the aforementioned lecture schedule. Residents were expected to complete quizzes associated with the tutorials, and residents' first answers were recorded. Participants received instantaneous feedback on their quiz answers, and mean cumulative scores were reported to the program director at the end of each month. Residents' completion of the online assignments was monitored in addition to the amount of time they spent online.
- Access to a bank of MC questions modeled on ABSITE questions (Real Deal): Residents participated

Download English Version:

<https://daneshyari.com/en/article/4297549>

Download Persian Version:

<https://daneshyari.com/article/4297549>

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