

Association for Surgical Education

Cutting too deep? Assessing the impact of a shorter surgery clerkship on students' clinical skills and knowledge

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Abstract

BACKGROUND: The aim of this study was to compare the performance of students completing an 8-week versus a 6-week surgery clerkship on an objective structured clinical examination (OSCE) and the National Board of Medical Examiners (NBME) clinical science surgery examination.

METHODS: One hundred fifteen students from the 8-week clerkship and 99 from the 6-week clerkship were included. Performance on a summative OSCE was assessed using behaviorally anchored checklists. NBME exams were graded using the NBME's standard scaled scores. Results were compared using 2-tailed, independent-samples, unequal-variance *t* tests.

RESULTS: Mean OSCE scores for the 8-week and 6-week curricula were not statistically different. Mean NBME scores also did not statistically differ. Six-week students performed significantly better in the specific OSCE subdomains of blood pressure, orthostatic blood pressure, rectal exam, and fecal occult blood test.

CONCLUSIONS: Overall OSCE and NBME exam performance did not differ between 8-week and 6-week surgery clerkship students.

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In 2011, the New York University School of Medicine initiated the implementation of its new Curriculum for the 21st Century. The curricular changes emphasized earlier clinical exposure and a more integrated clinical experience overall. As part of the first stages of implementation, the duration of many core clerkships, including surgery, was shortened from 8 to 6 weeks. This permitted increased time during the clinical years for electives and research.

In its original 8-week structure, surgery students rotated through two 3-week blocks on general surgery, surgical oncology, or trauma, followed by a 2-week subspecialty elective. In the new 6-week format, the subspecialty elective is no longer offered. Students in the 6-week clerkship are no longer required to take evening call every 4th night, though they continue to take two 12-hour weekend trauma calls during the rotation. The weekly didactic lecture series was reduced by 25% in the 6-week clerkship. To preserve students' clinical exposure, no compensatory lectures were scheduled. No observable change was noted in faculty members' or residents' teaching styles during the shorter 6-week block. Although no formal faculty development program was implemented, the

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clerkship director did meet with surgical faculty members and residents to explain the curricular changes.

Student assessment remained consistent between the 8-week and 6-week clerkships. In both curricula, students participated in the same summative objective structured clinical examination (OSCE) and sat for the National Board of Medical Examiners (NBME) clinical science surgery examination. Students in the 6-week curriculum were repeatedly encouraged by the clerkship director to capitalize on study time outside of the hospital in light of the overall shorter exam preparation time.

The OSCE's unique role as an assessment tool to measure clinical competence among medical students, particularly in surgery, is long-standing and widespread.^{1,2} Its capacity to evaluate clinical ability in a standardized manner has been especially demonstrated.³ Moreover, recent studies have found utility in its replacing more traditional Likert-based assessments of general knowledge base and clinical performance.⁴

Studies examining the effect of reduced surgery clerkship length on student performance are scarce and provide conflicting results. Some have found that students enrolled in longer clerkships achieved higher OSCE and NBME exam results than those in shorter clerkships, whereas others have found no change in NBME exam scores between the 2 clerkships.⁵⁻⁷ The overall number of surgery-specific studies remains limited. Studies on reduced clerkship length in obstetrics and gynecology also prove conflicting and uniformly exclude OSCEs as a performance measure.⁸⁻¹⁰

We sought to evaluate the impact of a shorter surgery clerkship on our own medical students' performance, as measured by an end-of-clerkship OSCE and the NBME clinical science surgery examination.

Methods

A retrospective cohort study of medical students completing the surgery clerkship in 2010 and 2011 was conducted. All students who participated in a required summative OSCE and sat for the NBME clinical science surgery examination during this time period were included.

Prior clerkship experience was evenly matched between the 2 cohorts, as all students had completed the clerkship during the first 4 rotation blocks, beginning in July of the respective years.

The OSCE case involved workup of a patient with an acute gastrointestinal bleed. Participants were instructed to elicit a history and perform a focused physical exam, including a simulated rectal exam and fecal occult blood test on an adjacent model. Students were evaluated by standardized patients and surgical faculty members, using behaviorally anchored checklists. Performance was assessed across 8 subdomains: communication, chief complaint, history, blood pressure, orthostatic blood pressure, abdominal exam, rectal exam, and fecal occult blood test.

Response options for graders included "not done," "partially done," and "done." One point was awarded for each item completed as done, while .5 points were awarded for those partially done and 0 points for those not done. Scores were calculated as the mean of relevant items in each subdomain. NBME exams were graded according to the NBME standard scaled scores.

Results were analyzed using 2-tailed, independent-samples, unequal-variance *t* tests. Statistical significance was defined as a *P* value < .05.

Data were part of a medical student research registry, approved by the New York University Institutional Review Board, which contains deidentified educational data for all medical students who provided informed consent for such data to be used for medical education research purposes.

Results

OSCE and NBME exam results of the consenting 214 medical students (all but 2 provided consent to be part of the research registry) were included in the study, as summarized in Table 1. One hundred fifteen of these students had participated in an 8-week clerkship and 99 in a 6-week clerkship. Mean total OSCE scores of students in the 8-week (93.21 ± 5.64) and the 6-week (92.92 ± 6.01) clerkships were not found to be statistically different ($t = 37$, $P = .71$). Similarly, no significant difference was found between the mean NBME scores in the 8-week

Table 1 OSCE and NBME exam results

Variable	8-wk curriculum (n = 115)	6-wk curriculum (n = 99)	<i>P</i>
Total OSCE score (%)	93.21 \pm 5.64	92.92 \pm 6.01	.71
Communication (14 points)	12.56 \pm 1.85	12.94 \pm 1.14	.07
Exam presentation (3 points)	2.89 \pm .38	2.90 \pm .29	.94
History (9 points)	7.64 \pm 1.37	7.96 \pm 1.15	.06
Blood pressure (7 points)	6.48 \pm .84	6.73 \pm .49	.007
Orthostatic blood pressure (4 points)	3.17 \pm 1.14	3.54 \pm .86	.008
Abdominal exam (9 points)	8.39 \pm .95	8.40 \pm .90	.92
Rectal exam (6 points)	5.66 \pm .59	5.81 \pm .41	.03
Fecal occult blood exam (4 points)	3.35 \pm .86	3.76 \pm .49	.001
NBME exam score (%)	76.13 \pm 7.74	75.26 \pm 7.91	.42

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