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Effects of implementing a breast surgery rotation on ABSITE scores and surgical case volume



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ABSTRACT

Background: Little is known about general surgery trainees' education regarding management of breast problems. We sought to measure the impact of a dedicated breast surgery rotation on American Board of Surgery In-Service Examination (ABSITE) scores and operative volumes.

Methods: A breast surgery rotation was implemented at our program in July 2016. We obtained the January 2017 ABSITE scores for postgraduate year (PGY) 1-3 residents, and obtained the case volumes for PGY 1-3 residents during the years 2015-2016 and 2016-2017.

Results: We compared the performance on total questions and skin, soft tissue, and breast questions between the residents who had the breast rotation before the ABSITE to those that had it after. There was no difference in the average overall percentage (70.2% versus 71.7%, $P = 0.55$) or in the average skin, soft tissue, and breast percentage (70% versus 71.4%, $P = 0.72$). A postgraduate year-to-year comparison showed an increase in average total major cases among the PGY-1 residents (93.8 versus 166.8, $P = 0.02$), and an increase in average breast cases among the PGY-1 (17.8 versus 27 cases, $P < 0.01$) and PGY-2 (27.3 versus 47.7 cases, $P = 0.02$) years. There was an increase in the proportion of complex breast cases performed by PGY-3 residents (23.2% versus 33.1%, $P = 0.01$).

Conclusions: A dedicated breast surgery rotation did not detract from the nonbreast general surgery educational experience of junior residents (as measured by ABSITE scores), and it increased the case volume of breast as well as total major cases among junior residents. A breast surgery rotation is valuable for strengthening surgical case volumes.

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Introduction

Surgery is an essential component of multidisciplinary management in most breast cancer patients.¹ Breast surgery is therefore consistently emphasized on general surgery board exams. Currently, breast-focused questions constitute 4% of the American Board of Surgery In-Training Exam (ABSITE), and 7% of the American Board of Surgery qualifying

exam.² In addition, there has been a recent increase in the required breast cases required for graduation of general surgery residents, as well as a new requirement of 250 cases by the end of postgraduate year (PGY) 2. Furthermore, while the multidisciplinary approach to breast cancer treatment optimizes outcome (and is therefore relevant in general surgery training),³ it may be challenging to fully integrate this approach into residents' education given the current

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climate of duty hours restrictions and increasing case requirements.

A possible solution to fill this void in resident education is through the implementation of a dedicated breast surgery rotation, such as the one started at our institution. A dedicated breast rotation would potentially improve knowledge regarding management of benign and malignant breast disease while concomitantly increasing breast case surgical exposure. Conversely, however, this rotation could inadvertently detract from the nonbreast general surgery education. Data on the impact of a dedicated breast rotation on the overall general surgery training experience are limited. Our goal, therefore, was to measure the effects of a dedicated breast surgery rotation on academic performance and surgical exposure.

Methods

Before the implementation of a breast surgery rotation, residents at our institution obtained training in management of breast disease within their Surgical Oncology and General Surgery rotations. These services usually included both an intern and a senior (PGY 4-5) resident. The cases would be distributed at the discretion of the senior resident, and this senior resident typically performed the most complex cases. The attending surgeons on these services included predominantly board-certified general surgeons and a few fellowship-trained surgical oncologists, but no dedicated fellowship-trained breast surgeons. The role of the junior residents on these services usually consisted of patient management, seeing new consults, and minor cases. There was not a structured obligation or expectation for the residents to participate in multidisciplinary breast cancer case conferences or clinics, although they were not excluded. Finally, a significant number of breast surgery cases were performed at outpatient centers which were not routinely included in the residents' scheduled activities and responsibilities.

Our program initiated a dedicated breast surgery rotation in July 2016. Either one or two residents rotated on the service at a time, representing the PGY 1-3 levels of training. This rotation was 1 month long. Each PGY 1-3 resident was on the rotation for 1 month during the study period. No residents rotated on the service more than once during the study period. Five dedicated breast attending surgeons staffed this service: three breast surgery fellowship-trained and two surgical oncology fellowship-trained. The residents were responsible for only breast surgery cases and cases were distributed per the discretion of the senior most resident, usually a PGY 2 or 3. A typical week on the service involved 3 days of operating and 2 days of multidisciplinary clinic. This clinic includes tumor board discussion where the residents are expected to present patients.

Exam performance

We included PGY 1-3 residents at our institution during the academic year from July 1, 2016, to June 30, 2017. These residents were divided into two groups based on whether or not they had their breast surgery rotation before taking the

ABSITE exam in January 2017. They are labeled as Rotation or No Rotation (Fig. 1). After IRB approval, informed consent for the study was obtained from each participant. Resident ABSITE score reports were collected. We then calculated the percent of all questions correct and the percent of skin, soft tissue, and breast (SSB) category of questions correct. The scores were then compared between the two groups of residents using a student t-test.

Case volume and complexity

Using the ACGME case log website,⁴ we collected the case reports of residents that were in their PGY 1-3 during 2015-2016 and 2016-2017 academic years (Fig. 1). Because the breast surgery rotation was started in July 2016, PGY 1-3 residents during 2015-2016 were placed in the PRE group and PGY 1-3 residents during 2016-2017 were placed in the POST group. All of the residents in the POST group experienced the breast rotation during the academic year of 2016-2017. We then tabulated the number of total cases and total number of breast cases for each resident. The averages were compared between the two groups using the student t-test.

In addition, breast cases for each resident were further classified as simple, moderate, and complex. Simple cases comprised excisional biopsies, lumpectomies, and sentinel lymph node biopsies. Simple mastectomies were in the moderate group. Finally, the complex group consisted of modified radical mastectomies and axillary lymph node dissections. The distribution of the cases (whether simple or complex) was compared by PGY level between the PRE and POST group using chi-square analysis.

Results

The study outline is shown in Figure 1. Both the Rotation and No Rotation group had nine residents each. The PRE group, as defined by the PGY 1-3 residents during 2015-2016, had 19 residents. The POST group, as defined by the PGY 1-3 residents during 2016-2017, had 18 residents.

On the ABSITE examination, the average overall percent correct of the Rotation group was 70.2% and the No Rotation group was 71.7%. These were not significantly different ($P = 0.56$). The average SSB percent correct for the Rotation group was 70.0% and the No Rotation group was 71.4%. These were also not significantly different ($P = 0.73$). The overall and SSB average ABSITE scores stratified by class are shown in Table 1. Among PGY 1 residents, there was no significant difference between Rotation and No Rotation in the overall percent correct (67.2% versus 74.5%, $P = 0.31$) or SSB percent correct (72.5% versus 73.1%, $P = 0.94$). There was also no significant difference among PGY 2 residents in the overall percent correct (70.4% versus 68.9%, $P = 0.77$) and SSB percent correct (67.5% versus 67.5%, $P = 1.0$). PGY 3 residents also did not show a difference between Rotation and No Rotation in overall correct (71.5% versus 70.4%, $P = 0.70$) and SSB percent correct (70.6% versus 73.8%, $P = 0.77$). The results were similar if PGY 1-2 residents were compared as a group rather than individual classes.

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