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Association of VA Surgeons

# Veterans Affairs general surgery service: the last bastion of integrated specialty care

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## KEYWORDS:

General surgery;  
Veterans affairs;  
Resident;  
Surgical education

## Abstract

**BACKGROUND:** In a time of increasing specialization, academic training institutions provide a compartmentalized learning environment that often does not reflect the broad clinical experience of general surgery practice. This study aimed to evaluate the contribution of the Veterans Affairs (VA) general surgery surgical experience to both index Accreditation Council for Graduate Medical Education (ACGME) requirements and as a unique integrated model in which residents provide concurrent care of multiple specialty patients.

**METHODS:** Institutional review board approval was obtained for retrospective analysis of electronic medical records involving all surgical cases performed by the general surgery service from 2005 to 2009 at the Nashville VA. Over a 5-year span general surgery residents spent an average of 5 months on the VA general surgery service, which includes a postgraduate year (PGY)-5, PGY-3, and 2 PGY-1 residents. Surgeries involved the following specialties: surgical oncology, endocrine, colorectal, hepatobiliary, transplant, gastrointestinal laparoscopy, and elective and emergency general surgery. The surgeries were categorized according to ACGME index requirements.

**RESULTS:** A total of 2,956 surgeries were performed during the 5-year period from 2005 through 2009. Residents participated in an average of 246 surgeries during their experience at the VA; approximately 50 cases are completed during the chief year. On the VA surgery service alone, 100% of the ACGME requirement was met for the following categories: endocrine (8 cases); skin, soft tissue, and breast (33 cases); alimentary tract (78 cases); and abdominal (88 cases). Approximately 50% of the ACGME requirement was met for liver, pancreas, and basic laparoscopic categories.

**CONCLUSIONS:** The VA hospital provides an authentic, broad-based, general surgery training experience that integrates complex surgical patients simultaneously. Opportunities for this level of comprehensive care are decreasing or absent in many general surgery training programs. The increasing level of responsibility and simultaneous care of multiple specialty patients through the VA hospital systems offers a crucial experience for those pursuing a career in general surgery.

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Surgical training has become increasingly specialized, with recent data suggesting that more than 75% of US graduates pursue fellowship training.<sup>1</sup> Furthermore, academic institutions provide compartmentalized learning environments that often do not reflect the broad clinical experience of general surgery practice. However, the surgical experience within the Veterans Affairs (VA) medical system reflects integrated specialty care in this era of ultraspecialization. The core competency guidelines set forth by the Accreditation Council for Graduate Medical Education mandate that residents complete a defined number of procedures within 15 essential surgical categories. Compared with affiliated teaching institutions that compartmentalize surgical training, the VA provides an environment in which residents participate in procedures from numerous Accreditation Council for Graduate Medical Education (ACGME)-defined categories simultaneously.

Currently, the VA is affiliated with 81 of the 253 general surgery residency programs, representing the largest surgical education training institution in the United States.<sup>2,3</sup> The VA system uniquely supplements the experience of academic training institutions and its contribution to medical education is well recognized.

The purpose of this study was 2-fold, to evaluate the unique contribution of the VA general surgical experience as an integrated model in which residents provide concurrent care of multiple specialty patients, and, second, to examine the VA surgical experience with regard to fulfillment of index ACGME category requirements.

## Methods

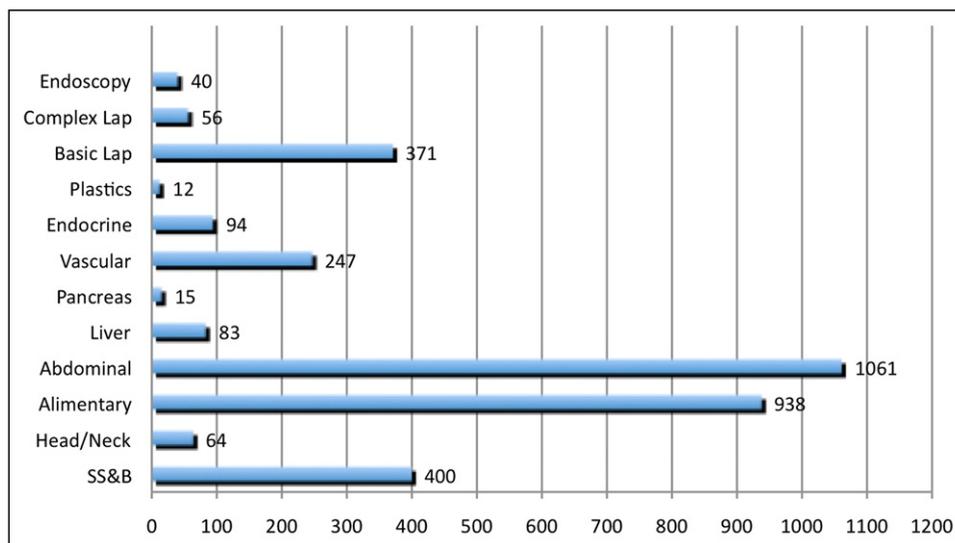
The Nashville VA general surgery service includes a postgraduate year (PGY)-5, PGY-3, and 2 PGY-1 residents during the academic year. Residents spend 1 month during

their PGY-1 year and 2 months during their PGY-3 and PGY-5 years for an average of 5 total months on the service. Institutional review board approval was obtained for a retrospective analysis of electronic medical records involving all surgeries performed by the Nashville general surgery service from 2005 to 2009. Surgeries were identified from an electronic database supported by the Veterans Health Information Systems and Technology Architecture program in Nashville. All inpatient and outpatient procedures were included; no specific exclusion criteria were used.

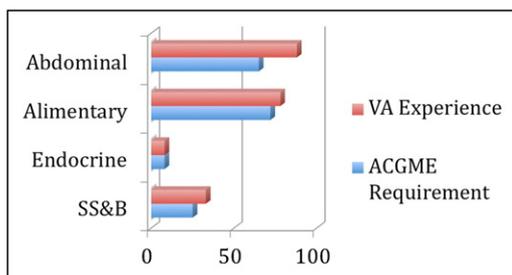
Surgical procedures performed by the general surgery service involved the following specialties: surgical oncology, endocrine, colorectal, hepatobiliary, transplant, gastrointestinal laparoscopy, and elective and emergency general surgery. Each surgery was categorized according to the defined guidelines set forth by the ACGME. The average number of procedures performed by each resident was calculated by multiplying the number of individual procedures performed monthly by the number of months each resident participated on the general surgery service.

## Results

Residents on the general surgery service performed a total of 2,956 surgeries from 2005 through 2009. According to defined ACGME guidelines, most surgical procedures involved the abdominal and alimentary tract categories. Abdominal procedures were the most common, comprising 36% of all surgeries, and included laparotomy, cholecystectomy, and hernia repairs (Fig. 1). Alimentary tract procedures (involving the esophagus, stomach, large and small intestines, anus, and rectum) comprised 32% of all surgeries. Skin, soft tissue, and breast (14%) and basic laparoscopy (13%) procedures were the next most common. Endocrine procedures comprised 3.2%; a total of 59 thyroidectomies, 41



**Figure 1** Surgeries performed by the general surgery service at the Nashville VA from 2005 to 2009.



**Figure 2** ACGME surgical categories fulfilled by the Nashville VA general surgery service alone.

parathyroidectomies, and 5 laparoscopic adrenal resections were performed during this 5-year span.

A total of 427 open colon resections were performed. Each resident participated in an average of 28 colon resections during their PGY-3 and PGY-5 rotations combined. A total of 56 complex laparoscopy procedures were performed including laparoscopic colectomy, Nissen fundoplication, paraesophageal hernia repair, and Heller myotomy. In addition, 46 upper-endoscopy procedures, 15 anatomic liver resections, 12 common bile duct explorations, and 16 pancreatic procedures were performed. Most vascular procedures included amputations or permanent-access catheter insertions; the majority of head and neck procedures included tracheostomies and resection of cutaneous malignancies.

During their 5-month experience at the VA Hospital in Nashville each resident participated in an average of 240 surgeries. In addition, each chief resident participated in approximately 50 index cases during their PGY-5 rotation. According to defined categories established by the ACGME, the average number of index cases was determined per resident during the 5-month clinical experience. On the VA surgery service alone, 100% of the index case requirement was met for the following categories per resident: endocrine (8 cases); skin, soft tissue, and breast (33 cases); alimentary tract (78 cases); and abdominal (88 cases) (Fig 2). Approximately 50% of the ACGME requirement was fulfilled for liver, pancreas, and basic laparoscopic categories.

## Comments

Historically, the breadth of surgical experience represented the hallmark of general surgical training and practice.<sup>4</sup> However, recent decades have shown a trend toward surgical specialization that has gained momentum along with technologic advancement, the increasing complexity of surgical procedures, and public demand for specialty-driven care.<sup>5</sup> Not surprisingly, academic training institutions have compartmentalized surgical education according to this paradigm. Most residents spend time on clinical rotations dedicated to particular specialties with an increasingly more narrow surgical focus. This phenomenon likely contributes to the increasing number (>75%) of general surgery residents who pursue fellowship training, although other rea-

sons exist.<sup>6</sup> Although this model of education has some advantages, it fails to expose general surgery residents to the integrated care of multiple specialty patients simultaneously, and therefore simulate general surgical practice.

The ACGME program requirements for graduate medical education in surgery mandate that residents “routinely care for patients with a broad spectrum of surgical diseases and conditions, including all of the essential content areas in surgical education.”<sup>7</sup> Within the core competency guidelines set forth by the ACGME there are 15 essential surgical categories that must be completed before graduation. Our results show the VA medical system’s unique contribution to general surgical education. The VA Hospital alone fulfilled 4 of the 15 essential categories during the 5-month VA experience. In addition, 50% of the surgical requirements were completed for an additional 3 of the remaining 15 categories. The significance of the VA experience is found in the realization that such requirements were met simultaneously within an integrated environment that more realistically represents the nature of general surgery practice outside academic training institutions.

In addition, the VA system offers a unique environment for general surgery residents to participate in the comprehensive care of surgical patients while developing increasing autonomy. The VA provides the resident with opportunity for “increasing accountability in decision making and delivery of care in the outpatient arena, the operating room, and the intensive care unit.”<sup>2</sup> Exposure to the complete spectrum of patient care prepares chief-level residents to make the transition into surgical practice.

We recognize limitations with this study, namely that the individual VA surgical experience of each resident often will vary from the average to a degree. Although defined index cases are performed consistently during the year, upper-level residents may participate in fewer procedures compared with other residents, depending on when such procedures are performed. Resident interest in particular procedures does not factor into overall experience given the leadership structure of the general surgery service. In conclusion, the VA Hospital provides an authentic, broad-based, general surgery training experience that integrates complex surgical patients simultaneously. Opportunities for this level of comprehensive care are decreasing or absent in many general surgery training programs. The increasing level of responsibility and simultaneous care of multiple specialty patients through the VA Hospital systems offers a crucial experience for those pursuing a career in general surgery.

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