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Enhancing Confidence in Graduating General Surgery Residents: Establishing a Chief Surgery Resident Service at an Independent Academic Medical Center

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OBJECTIVE: Providing opportunities for autonomy to enhance the development of independence and confidence during surgery residency remains among the greatest challenges of the current training paradigm. The objective of this study was to evaluate the implementation and outcomes of a chief resident service (CRS).

DESIGN: A CRS was designed with operative, call and office responsibilities. Supervision and evaluation were consistent with institutional guidelines. CRS operative logs from 2011 to 2014 were compared with logs from the participants' first year in practice. Select procedures were compared and evaluations were reviewed. Residency graduates' satisfaction with the CRS was evaluated.

SETTING: Independent academic medical center.

PARTICIPANTS: Nine general surgery residency graduates with one complete year in practice.

RESULTS: Nine residents completed CRS rotations and submitted case logs. Median total case volume was 1101 (994-1311) during the 5-year residency, 92 (20-149) during CRS and 299 (99-784) during the first year in practice. Median case volumes for selected procedures for the entire 5-year residency, CRS, and first year of practice were: 93 (66-97), 7 (3-16), and 9 (1-26) laparoscopic appendectomies; 146 (120-157), 24 (3-32), and 34 (15-112) laparoscopic cholecystectomies; 81 (51-94), 1 (1-4), and 3 (0-8) ileocolectomies; 57 (35-86), 4 (0-9), and 8 (2-34) ventral/incisional hernia repairs; 102 (87-137), 12 (3-16), and 13 (3-86) inguinal hernia repairs. Graduates reported that the CRS experience was very beneficial to their current practice. Annual program reviews emphasized the CRS as a major strength of our residency.

CONCLUSIONS: Creation of a CRS to increase resident autonomy and provide continuity of patient care with appropriate faculty supervision was successful. Case mix and volumes provided an opportunity for independent operative and clinical experience during residency which realistically paralleled graduates' first year of practice. (J Surg Ed ▮:▮▮▮-▮▮▮. © 2018 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: general surgery residency, resident clinic, residency autonomy, practice management, transition to practice

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

INTRODUCTION

Facilitating the maturation of a general surgery resident to the point of appropriate confidence and ability in managing each aspect of a patient's surgical care is perhaps the most rewarding aspect of resident education. The 5-year progression from a medical student with basic textbook knowledge and nascent technical ability to a general surgeon with

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thorough knowledge of preoperative preparation, surgical indications, clinical judgment, operative skill, and critical care management is one of the most dramatic and impressive transitions in any professional field. Expertise in end of life care discussions, critical review of the medical literature, participating in quality improvement and research projects, documenting awareness of one's surgical outcomes and maintaining professional integrity further define mature surgery residency graduates. How do educators accomplish these goals? How is this educational process best assessed?

In a time of increased scrutiny and accountability in residency training, it is essential that surgery programs develop environments in which residents demonstrate their ability to safely manage all aspects of patient care. Fifth year residents are in the unique position to provide this level of care with supervision which may or may not be available following their graduation. The provision of such an opportunity is optimal preparation for general surgery practice. Before 2011, our graduating surgery residents reported a lack of perceived autonomy during their training. They consistently felt confident with their abilities—but did not sense that they were routinely engaged and directing all phases of patient care. We implemented a formal chief surgery resident service (CRS) at our independent academic medical center to increase resident autonomy and to assess our chief residents' ability to provide total patient care. We hypothesized that the operative experience gained on the CRS would be similar to cases performed during the first year of practice. In addition, we queried chief residents' satisfaction with the CRS.

MATERIALS AND METHODS

Development of the CRS

The CRS was designed in January 2011 to provide a period of autonomous experience during the final year of training. Institutional support was sought and confirmed thorough the Executive Committee, the Graduate Medical Education Committee and the Department of General Surgery. Additional logistical and educational development with nursing teams, department heads, surgical assistants, clinical and clerical staff, residency coordinators, the Designated Institutional Officer and legal departments to onboard the CRS and prepare for this transition in our program were accomplished (Table 1). The model was developed with close attention to the Accreditation Council for Graduate Medical Education (ACGME) duty hour requirements with adjustments as necessary based on an initial pilot program (January 1, 2011—July 30, 2011). The CRS was then initiated as an independent clinical service with an aggressive schedule to ensure a broad based experience for the residents which included weekly endoscopy, office hours, operative block time, administrative time and call responsibilities (Table 2). This included office consultation, preoperative planning, insurance preauthorization, operation scheduling, office-based and procedure-based coding and postoperative inpatient and outpatient care.

Teaching faculty members were assigned to supervise and evaluate each aspect of patient care consistent with institutional and national guidelines.[1] Staff surgeons were encouraged to permit independent decision making and perform in the "supervisory role" as much as possible during operative cases. During the study, the "Zwisch Scale" became a widely accepted tool to define the degree of supervision provided by faculty during an operation.[2] For the procedures we focused on, it was uncommon for teaching faculty to have to serve in an "active help" role—more commonly, the passive help or supervisory role was fulfilled. Because a surgical staff member was present to supervise the chief resident for each step of care, billing for consultation, outpatient visits and procedures was submitted under the attending surgeon's name and identification number(s). However, coding for each incident of care was determined by the chief resident and reviewed by the attending surgeon. Evaluations at the end of the CRS rotation allowed faculty to assess resident performance across the continuum of patient care—a unique opportunity to determine the resident's ability to independently practice general surgery.

Each chief was assigned to the service for an equal period based on the number of chiefs in a given year. During the first 6 months of implementation, 3 chiefs were assigned to the service for 2 months each. The following 3 years, 2 chiefs each spent 6 months on the service. Patient selection for office consultations was inclusive of a broad based

TABLE 1. Chief Resident Service Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
Week 1					
AM	Office	Acute care call	Office	Endoscopy	OR—add on
PM	OR— add on cases	Acute care call	Administrative time/Conference	Research/OR	Administrative time
Night				Night call	
Week 2					
AM	Office	Acute care call	Office	OR block time	OR—add on
PM	Endoscopy	Acute care call	Administrative time/Conference	OR block time	Administrative time
Night				Night call	