Rural General Surgery Training: The Gundersen Lutheran Approach

The practice of general surgery in a rural location is alluring and challenging to interested individuals. The chance to perform a broad range of procedures, experience unparalleled independence, and immediately become a vital part of one’s hospital and community are very attractive attributes. However, these joys are offset by professional isolation, inability to find call coverage, and difficulty keeping up with technological and intellectual advances in surgery. Clearly, training residents to adequately prepare for rural general surgery practice requires unique and innovative methods for promoting success in these settings, through development of the necessary skill sets, lifelong learning, and practice management knowledge. At Gundersen Lutheran, there has been a longstanding interest in training the rural general surgeon. The surgical residency program has been designed to address many of these issues in response to the institution’s studies on the spectrum of procedures performed by rural surgeons,1 the role of rural general surgeons functioning within trauma systems,2,3 and the unique challenges of training rural surgeons.4 This background, in conjunction with the geography and structure of Gundersen Lutheran, has made it an excellent place to prepare residents for rural general surgery.

GUNDERSEN LUTHERAN SETTING

Gundersen Lutheran is a multispecialty group practice established by Adolf Gundersen in 1891. In 2009, this fully integrated, physician-led health care system includes 453 physicians and 6159 employees working at the main campus in La Crosse, Wisconsin.
(population 50,266) and at 25 regional sites in 19 agricultural counties of Wisconsin, Iowa, and Minnesota. The Department of Surgery includes 14 full-time teaching faculty members in La Crosse and 9 rural general surgeons at 7 regional locations.

**GUNDERSEN LUTHERAN SURGERY RESIDENCY**

Gundersen Lutheran Medical Foundation has sponsored a 5-year surgical residency since 1974. At the most recent Accreditation Committee on Graduate Medical Education review by the Residency Review Committee for Surgery, a 5-year approval with commendation was received. The residency currently offers 2 categorical positions. Since the inception of the program, there have been 46 graduates, all of whom have achieved certification by the American Board of Surgery. On residency completion, 11 (24%) graduates have chosen postgraduate fellowships (2 additional graduates entered fellowships several years after having been in general surgery practice), whereas 35 (76%) have directly entered the practice of general surgery. Of those practicing general surgery, 23 (66%) have chosen to practice in towns with populations less than 10,000. Eight graduates currently practice in a teaching hospital.

**STRONG CORE GENERAL SURGERY TRAINING**

Our residents participate in a high-volume practice of general and minimally invasive surgery (MIS) during all 5 years of training. The average graduate completes more than 1200 major operations, including 200 basic and 110 advanced laparoscopic procedures. To assist with the acquisition of surgical technique, the Gundersen Lutheran Medical Foundation opened a dedicated surgical skills laboratory in 1995. Each month, the residents participate in a mandatory 3-hour technical skills session. All surgical residents complete 2 months on a high-volume endoscopy rotation, finishing with 150 colonoscopy and 50 upper gastrointestinal endoscopy procedures. Trauma and critical care education is emphasized throughout all 5 years of residency. Residents are primarily responsible for their own patients, admitted to intensive care units on every clinical rotation. Postgraduate year (PGY) 1 and PGY3 residents are exclusively assigned to the intensive care unit for 1 month to learn ventilator management, nutritional assessment, and invasive monitoring procedures. All PGY4 and PGY5 residents are trauma team leaders for resuscitations in the American College of Surgeons (ACS)-verified level II trauma center. All senior surgery residents are active Advanced Trauma Life Support (ATLS) instructors.

**ADDITIONAL SKILL SETS**

General surgery is the only surgical specialty that sponsors a residency, and a 1-year bariatric/MIS fellowship is the only postgraduate fellowship offered at Gundersen Lutheran. Therefore, surgical residents work one-on-one with attending staff from orthopedic surgery, neurosurgery, otolaryngology, plastic surgery, cardiothoracic surgery, and urology, when assigned to these services. As a result, resident graduates garner significant operative experience as surgeons in each of these specialty areas. In addition, the residency requires 2 months of obstetrics and gynecology during the third year of residency. Graduates complete more than 25 cesarean sections, 20 hysterectomies, and many gynecologic oncology cases. Residents interested in rural practice are encouraged to complete electives in plastic surgery and otolaryngology. Finally, comprehensive preoperative risk assessment and postoperative care of surgical patients are taught in an environment in which patient ownership and continuity of care are fostered in favor of immediate consultation for every medical condition encountered.
RURAL SURGERY ELECTIVES

Residents who demonstrate or develop an interest in rural general surgery are encouraged to select 1-month electives during PGY4 with busy Gundersen Lutheran regional surgeons who practice broad spectrum general surgery in Prairie du Chien, Wisconsin (population 6047), and Decorah, Iowa (population 7944). During these months the residents live in the community and are on call with their attending surgeons at the rural hospitals. They are responsible for all surgical patients, including their critical care and nutritional needs. They experience trauma care from a different perspective and are made aware of the rural surgeon’s role in a small community hospital. Surgical volumes during these months include a large number of general surgery, obstetrics and gynecology, and endoscopic procedures. For residents who know in advance where they would like to practice rural surgery, electives have been arranged for several months at the rural hospital in which they intend to practice. This has allowed the resident to experience being fully immersed in rural surgery and to determine the additional skill sets that would be useful to acquire before joining that practice. Finally, an international elective rotation to a medically underserved nation has been established, in which residents perform a large number of common surgical procedures in an isolated setting.

PRACTICE-BASED LEARNING COMPONENTS

Academic excellence is paramount in the Gundersen Lutheran surgical residency. Attendance at weekly clinical conferences and basic science lectures and at monthly evidence-based journal clubs is mandatory. Before graduation, all residents are required to complete 2 publications in peer-reviewed journals and 2 presentations before learned societies. All these activities are focused on developing good habits for lifelong learning and professional poise for presentations. There is awareness that rural surgeons feel particularly vulnerable to “volume as a surrogate for quality” initiatives. The best defense for surgeons with low-to-moderate procedure volumes is ongoing knowledge of their own outcomes. All residents receive training in surgical case log analysis and are part of the institution’s National Surgical Quality Improvement Program process. With a background in clinical research and quality initiatives, residency graduates are well prepared to support their practices with the prospective collection of outcomes data.

PRACTICE MANAGEMENT ELEMENTS

To better prepare graduates for the business side of surgical practice, Gundersen Lutheran has developed a curriculum of system-based practice topics. Lectures and practical exercises in coding and reimbursement, malpractice protection and defense preparation, contracts, and practice administration are interspersed throughout the year. For the past 20 years, clinical ethics conferences, under the direction of a doctoral-level medical ethicist, have been given every other month. Financial planning seminars are offered for residents and their spouses on an annual basis. Others have emphasized the importance of these activities during residency.5

RESPONSIBILITY TO GRADUATES

In an effort to mitigate the effects of professional isolation felt by rural general surgeons, the Gundersen Lutheran surgical residency engenders ongoing relationships with its graduates. Faculty members act as friendly resources with whom graduates can discuss difficult patient and administrative problems. The Gundersen
Lutheran Medical Foundation offers periodic continuing medical education programs to which the graduates are invited as speakers and participants. Several rural graduates return to La Crosse annually to teach a portion of an ATLS course or surgical skills laboratory. Some of the graduates have served as teaching faculty and mentors for a rural surgery elective. Having a large number of practicing rural surgery graduates has also provided a rich opportunity for research in surgical education.

SUMMARY

Many surgical residency programs define their success by the number of graduates who pursue competitive postgraduate fellowships or join university departments of surgery. The practice of general surgery in a rural hospital has its own unique set of formidable challenges and rich rewards. Gundersen Lutheran graduates who are willing to make this commitment are a source of equal pride.

REFERENCES