Training for a rural surgical career:

The reflections of two Gundersen Lutheran graduates

by Karen Stein

Community Hospital

In 2000, when Census data were last tallied,* approximately 21 percent of the U.S. population—or 59,061,367 people—lived in a rural area of the country.[1] Since then, the number has dipped slightly, to just under 20 percent.[2]

Similarly, the number of surgeons who practice in rural areas has been dropping. In rural locations in 2005, there were 4.48 general surgeons per 100,000 population.[3] At this time, more than half of the practicing rural surgeons are older than 50 years, and as they retire, there is concern regarding who will replace them. Although "the federal government, through the Health Resources and Services Administration, offers various incentives to get primary-care physicians and dentists to work in places with 'unserved, underserved, vulnerable, and disadvantaged populations'…general surgeons aren't part of the program."[4] One indication of the seriousness of the situation: When the surgeons at Northern Cochise Community Hospital in Willcox, AZ, left the facility in 2004, emergency cases—which averaged to approximately 10 each month—had to be transported 82 miles by helicopter to Tucson, to the tune of $14,000 per flight.[4]

Preparing surgeons for rural practice

Gundersen Lutheran Medical Foundation in LaCrosse, WI, perseveres as a mainstay in the surgical training of residents who largely pursue careers in rural settings. Among the 46 graduates of the five-year surgical residency program since it began in 1974, 66 percent elected to practice in towns with a population of less than 10,000.[5] All 46 graduates have earned American Board of Surgery certification.

Because the only surgical specialty to sponsor a residency at Gundersen Lutheran is general surgery, residents are prepared for a full general surgical practice and competitive fellowships in various forms. In postgraduate years 1 and 3, residents spend one month exclusively in the intensive care unit to learn ventilator management, nutrition assessment, and invasive monitoring procedures.[5] Specific, unique qualities of the program also lend themselves to a full general surgical education[5,6]:

*At the time of this writing, the 2010 Census data had not yet been tallied.

- The Gundersen Lutheran Health System represents a multispecialty group practice with a 19-county referral area.
- Elective rotation in a medically underserved nation, in which the residents perform a high number of common surgical procedures in an isolated locale, has been added to the program.
- Surgical residents work with attending staff in the surgical specialties—including orthopaedics, neurosurgery, otolaryngology, plastic surgery, cardiothoracic surgery, and urology—in a one-on-one training setting when assigned to these sections.
- Graduates perform on average more than 1,200 major operations. Performance of specific procedures within specific specialty areas, such as the following, is required during the residency:

—Obstetrics and gynecology: Residents perform 25 cesarean sections and 20 hysterectomies, plus gynecologic oncology cases, over two months of the third year of residency

—Endoscopy: Residents complete a high-volume rotation over two months, including 150 colonoscopies and 50 upper gastrointestinal endoscopic procedures

—Trauma: Residents are trauma team leaders at a Level II ACS-verified trauma center in the fourth and fifth residency years, and all are active Advanced Trauma Life Support® instructors

—Minimally invasive surgery: The only sponsored surgical specialty fellowship at Gundersen Lutheran, residents perform 200 basic and 110 advanced laparoscopic procedures; surgical techniques can be honed at the facility's dedicated skills laboratory, established in 1995

—Rural surgery: One-month rotations are available in two towns—one in Wisconsin, one in Iowa, both with populations of less than 8,000—during the fourth postgraduate year

The residents who pursue these rural surgery electives live in the community they serve and take call with the attending surgeons at the local hospitals. These residents assume responsibility for the care of all surgical patients—including nutrition and critical care needs. In addition, for those residents who have already decided to pursue a rural surgical career and know where they want to practice, the program makes arrangements for electives to be performed over the course of several months at the chosen institution—a setup that

helps the individual to become fully immersed in rural practice and to determine if he or she would best be served by honing particular skill sets in advance of joining the practice.[6]

Gundersen Lutheran graduates in rural practice

Part of the challenge of attracting surgical residents to a rural practice is sociocultural: small communities cannot match the cultural and academic offerings afforded by larger metropolitan communities.[7] However, there are also substantial professional challenges in rural practice. These surgeons are expected to perform the operation that is needed at any given moment, but the "lower day-to-day volume" may lead to diminished confidence in the procedures that must be performed.[8] In fact, many of the procedures rural surgeons are expected to perform are considered outside the scope of the general surgeon[9]—training in these procedures is emphasized to near-exclusion in otolaryngology, urology, orthopaedic, and obstetrics/gynecology programs, but "these subspecialists are far too few to serve the emergency needs of small communities throughout the U.S."[7] Thus, whereas the pressures related to resident work hours have generally led to "graduating residents with little useful experience in subspecialty areas," compared with urban general surgeons, rural general surgeons have a broader scope of practice.[3]

For Kevin Riess, MD, a 2008 graduate, the decision to practice surgery in a rural setting was a foregone conclusion: Having grown up in Cloquet, a small Minnesota town, Dr. Riess had always had an interest in practicing in a similar type of community. Likewise, when Randel Stolee, MD, a 1992 graduate, was researching schools, he already wanted to pursue rural practice, and he believed that not all institutions offered a program that addressed this interest. Both Dr. Riess and Dr. Stolee note that the experience at Gundersen Lutheran is best encapsulated by the broad-based, hands-on learning experience in every subspecialty.

An important lesson in every case

Dr. Riess currently practices at the Duluth Clinic's facility in Virginia, MN, one and one-half hours from Duluth. The clinic is in a town of 10,000 people, but serves approximately 20,000 people—the service area encompasses residents who live up to two hours north to the Canadian border, one-half hour south, one hour to the east, and 20 minutes to the west.

He says the experience of shuttling among the various specialties during his residency was very rewarding, as it allowed him to develop a good working relationship with practitioners in these domains and provided him in-depth training and active participation in a wide range of procedures. He believes this experience strengthened his ability to provide patient care during his residency and after he had graduated, as it afforded him the knowledge base and skill set to confront myriad surgical challenges, including the issues that present with complex and trauma patients.

Furthermore, after specializing in laparoscopy/minimally invasive surgery during his training, Dr. Riess has found that his surgical colleagues are impressed with his knowledge of the procedures. The surgeons at Gundersen Lutheran are highly trained in minimally invasive surgery, be

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it laparoscopic, endoscopic, or endovascular, he notes, adding, "During this exposure, I learned the importance of providing safe and effective surgery. If we felt there was a potential for increased risk in an open approach, we were taught to always do the right thing for the patient and do the less, and potentially safer, minimally invasive approach."

However, Dr. Riess believes that every case was important to his education—even if the more complex cases afforded excitement and valuable teaching points, "even the smallest of cases, such as inguinal hernia surgery, could be a learning experience," he says.

Although Dr. Riess learned valuable lessons in the operating room, many of his important lessons occurred outside the immediate environment of surgical procedures. For example, in clinic and wards, he learned the method for determining who requires surgery, when, and which type, not to mention making use of all the resources that surround him, from the medical literature to the surgical specialists to the nursing staff. In fact, he was particularly struck by the camaraderie and open dialogue among staff, nurses, and residents during his training—as well as their approachability and receptiveness to questions and issues.

"I was still in training when I found out where I was going to be working," he notes, "and they still were responsive to my preparation for the future." He also believes that his exposure to the many different specialties helped to increase his skills as a team player.

But it was the hands-on, rural-based learning in his fourth postgraduate year that has instilled in him the confidence to provide high-quality surgical care in hospitals that don't have 24-hour access to subspecialty care. Because he is only one of a few surgeons in the area, he notes, "It has taught me how to balance my surgical practice with family life."

Not enough Gundersen grads to go around

Dr. Stolee's practice is at Sanford Meritcare Health System in Perham, MN—the town itself is populated by 3,000 people, but the facility's service area includes 5,000 people. Dr. Stolee's interest in rural practice was spawned from several factors: his desire to serve a population that is increasingly omitted from health care planning, to be able to perform the full breadth of a surgical practice, and to live in an environment that best accommodated the well-being of his family.

Training in rotations in the various subspecialties provides a tremendous benefit, Dr. Stolee says, because while working one-on-one with an attending with an interest in teaching, residents simultaneously gain academic knowledge and surgical skills. "We were welcomed and treated so well," he says, "and by the end of a rotation, we were able to perform a number of the operations: tonsillectomies, tracheotomies, facial plastic surgery, cesarean sections, hysterectomies, hip fractures, hemiarthroplasties, coronary artery bypass graft, thoracic procedures, burn wound procedures, vasectomies, nephrectomies, endoscopies, relief of epidural hematomas," among so many others.

"A broadly trained surgeon has many more options than the more narrowly trained surgical specialist," Dr. Stolee continues. "My practice has been varied, interesting, and stimulating as a result. For a rural surgeon to survive, it is mandatory to have that broad experience."

As noted earlier, because of the wide range of procedures coupled with the potentially long lapses between performing them, self-doubt is not uncommon among this group. But Gundersen Lutheran addresses these concerns in its program. "Although they taught me everything I would need to know to compete in an urban practice," Dr. Stolee says, "they also tailored the experience so I could be ready right away to practice independently." He notes that this tailoring included teaching critical thinking skills so he could analyze the problems he would encounter as well as his own approach and preparedness. In fact, toward that end, residents are trained in surgical case log analysis and participate in Gundersen Lutheran's National Surgical Quality Improvement Program process.[6]

"I was told that I would have to be my own worst critic and recognize when my skills or knowledge base would need to be amended," Dr. Stolee adds. "The self-doubt is the voice that keeps us in check. Yet, we were girded with the confidence that we had been completely trained to be excellent surgeons with the capacity to grow with new techniques and knowledge." Thomas H. Cogbill, MD, FACS, Gundersen Lutheran's general and vascular surgery program director, taught Dr. Stolee that in the rural setting, there is no one aside from him who would be knowledgeable enough to judge

how well he performs an operation or provides patient care. For Dr. Stolee, this idea helps him to ensure quality care to his patients.

Dr. Stolee himself is encountering one of the major challenges that are endemic to rural practice: He has attempted to find partners for his busy practice, but he says, "It is getting very difficult at this point, as there are not enough broadly trained surgeons to handle a rural practice. Most residents graduate without ever performing a cesarean section, let alone being competent at them. Most surgeons who would come to join me need additional training to meet competency requirements even in something as basic as endoscopy." He laments that "There aren't enough Gundersen graduates to go around."

One of the most important lessons Dr. Stolee learned at Gundersen Lutheran was that "A surgeon specializes in surgery, not operations." This idea prepared Dr. Stolee for his surgical practice, which he describes as being about the total care of the patient, "from diagnosis, to decision, to operation, recovery, and rehabilitation"—this model ensures that his patients "aren't just people with organs to be removed, but people with problems to be addressed" and that "they receive the quality and continuity of care that they deserve."

But, most importantly, he notes, the broad training within rural surgery provides for an interesting and unique outcome: "You can never say, 'It is not a surgical problem.' In my practice, I am potentially the general surgeon, the gynecologist, the urologist, and the gastroenterologist. I can't just punt the patient off to another specialist. I must work through the problem with a patient to find a solution as best it could be found." Ω

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