Cooperstown surgeons throw a pitch for rural surgery

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he growing crisis in rural general surgery in the U.S. is well documented, with articles addressing this problem having appeared sporadically in the surgical literature over the last 20 years. While some of the problems facing rural surgeons have been adequately described, general surgeons have not engaged in a concerted effort to find effective solutions. Surgical programs are of critical importance to the professional and financial viability of the hospitals and to the communities those institutions serve, not only because they provide medical care to the residents, but because they also are usually major local employers.

Recently, the surgical community has demonstrated renewed interest in seeking solutions to the problems besetting rural areas. One impediment to developing an appropriate response, however, is the lack of data regarding the state of rural surgery and the unique challenges surrounding rural surgical practice. Of the several hundred projects catalogued in the 2003 database of ongoing federally funded rural health research, only one study addressed general surgery.[1]

Nonetheless, we do know a few facts about rural surgery and the individuals who practice it. For example, we know that rural surgeons perform a larger number and a greater variety of procedures than their urban or academic counterparts.[2] We also know that rural Americans are older, poorer, and often medically underserved. It is estimated that only 15 percent of physicians and less than 10 percent of surgeons practice in these areas, while 25 percent of the U.S. population resides there.[3] The number of general surgeons needed to adequately care for the rural population is projected to be 19 percent of the total.[4]

This gap is increasingly difficult to close because rural surgeons are aging, and younger surgeons are often reluctant to take rural jobs. The average rural hospital medical staff member is 49 years old. Professional isolation and a diverse caseload add to the complexity of rural practice. Hence, this crisis requires a two-tiered response: (1) changes in residency training and education; and (2) improvements in practice environment.

A dedicated forum

As a rural teaching hospital in Cooperstown, NY, (pop. 2,100) the surgeons at Bassett Healthcare have become increasingly aware of the complex issues facing rural practices. As part of an effort to better tailor our residency program toward rural practice, we have come to recognize the multiple issues related to appropriate training, recruitment, and retention of rural surgeons. We have concluded that a dedicated forum is needed to address the issues facing rural surgeons and have, therefore, established a center for rural surgery. The Robert Keeler Foundation, learning of this proposed program, has provided a generous five-year grant to establish the Mithoefer Center for Rural Surgery (MCRS), memorializing James Mithoefer, MD, FACS. Dr. Mithoefer practiced surgery at Bassett Hospital from 1950 until his untimely death at the age of 47 in 1962. The goals of the MCRS fall into the broad categories of addressing training and educational requirements of rural surgeons, improving outcomes at rural practices, and raising national awareness in both the medical and political communities.

Bassett Hospital is a 184-bed acute-care hospital affiliated with Columbia University and located in rural central New York State. With the inclusion of its hospital and multiple outpatient facilities, Bassett spans nine counties and is the largest employer in one of them—Otsego County (population 60,000). In addition to health care, the main regional industries include farming, higher education, and tourism. Bassett Hospital was established in 1922 as a not-for-profit corporation and was planned as a model of academic health care delivered in a rural environment by employed physicians in a closed-staff group practice. The mission statement of Bassett includes patient care, medical research, and education.

Bassett currently has residency programs in general surgery, internal medicine, and primary care and a transitional internship. The general surgery residency program has two five-year categorical positions and two additional preliminary positions for two years. Third-year medical students from Dartmouth Medical College, Rochester University, and Columbia University College of Physicians and Surgeons are present throughout the year as well. We have a long tradition of training surgeons who practice in rural communities. Fifty-six residents

have graduated from the program in more than 50 years.

Our research

A recent survey of actively practicing surgeons who graduated from our program analyzed the influence that a rural-based training program had on their choice of practice location and on their preparation for practice.

Bassett's graduates practice in rural locations at a significantly higher percentage than national averages.[5] We and others have found that a rural upbringing is a significant predictor of choosing to practice in a rural location. Indeed, 80 percent of our graduates grew up in locations they described as rural. Of the 27 residents who practice general surgery, 18 (67%) currently practice in rural communities, while nationally only 10 percent of general surgeons practice in rural locations.[3] Of 21 residents who completed fellowship training, eight (38%) practice in rural locations. Seventy-three percent of graduates who chose rural practices were satisfied with that choice while 55 percent of urban practitioners were satisfied.[5] Of the 56 graduated surgeons, 85 percent raised in rural areas and 12 percent reared in urban environments chose to practice in rural communities.[5] Although residents with a rural background may preferentially choose a training program like Bassett's, it is also clear that this type of rural-based program produces a higher percentage of surgeons who will practice in more remote locations.

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Additionally, we examined the common concerns among rural surgeons. They are as follows:

1. *Inadequate training in subspecialties.* The practice of general surgery in a rural community differs significantly from urban practice. Rural surgeons spend 27 percent of their time performing endoscopic, gynecologic, orthopaedic, urologic, and otolaryngology procedures, in contrast to the 5 percent of their time that urban or academic surgeons devote to operations outside of the classic realm of general surgery.[4] Current general surgery residency training often provides residents with inadequate grounding in the necessary subspecialty skills, offering only basic exposure to these disciplines. As our volume in general surgery at Bassett has grown and our resident hours have been limited, we have found ourselves reducing exposure to orthopaedics, gynecology, hand surgery, otolaryngology, and urology to the basic minimums required. In essence, we are moving away from one of our strengths: the ability to provide a structured, graduated experience in those subspecialty areas needed for a rural practice.

2. *Isolation and heavy caseloads.* Many factors affect the level of satisfaction for general surgeons in rural communities. Rural surgeons have larger, more diverse caseloads than their urban counterparts. Isolation is often an issue, and access to continuing education, consultants, and quality improvement programs is limited. Frequent call, inadequate assistance, and difficulty in obtaining coverage for vacation time are other problems that must be addressed to increase job satisfaction and, thereby, improve retention.

3. *Lack of outcome studies.* Outcome studies are becoming increasingly important nationally, par-

ticularly for high-risk, low-volume surgical procedures. Major private sector groups, such as Leapfrog, have suggested regionalization of complex cases to improve outcomes and assure patient safety. Which of these procedures rural surgeons are performing and the associated outcomes are unknown.

4. *Financial viability of hospitals.* Although significant focus has been placed on the availability and importance of primary care in rural communities, less attention has been given to the critical importance of a surgical program on small rural hospitals. It is estimated that surgical programs represent at least 40 percent of hospital admissions and account for more than 50 percent of hospital revenue. Often the fate of rural hospitals depends on a viable surgical program, the mainstay of which is usually general surgery. The loss of the general surgeon(s) will produce significant financial distress, which may well lead to hospital failure. Given the importance of surgery to rural hospitals, it is interesting that no surgical topics were on the agenda of the recent annual meeting of the National Rural Health Association.

Rural surgery curriculum

We recognize that multiple aspects of our training program allow us to attract and train surgeons for rural locations. Because we have a closed-staff group practice with subspecialists interested in teaching, we are able to develop a rural-track, categorical residency that provides a graduated experience in subspecialty skills needed in rural practice, while still fulfilling the requirements for categorical general surgery. A proposed curriculum has been developed.

While controversy exists regarding the wisdom of offering a rural-specific curriculum instead of standard residency rotations, there is no doubt that surgical residents graduating today are only partially equipped for practice in small hospitals in rural communities. Indeed, in his presidential address to the Southern Surgical Association in 1994, Richard J. Field, Jr., MD, FACS, presented a strong case for implementing such a curriculum and reported that both he and his son, who joined his practice in rural Mississippi, completed an additional postresidency year of training to obtain more experience in orthopaedics, urology, and ob/gyn.[6]

Our goal is to develop a program that initiates subspecialty surgical education at the PGY-1 year, then builds on this as a continuing process over the next four years. The rural track residents, at senior levels, will be involved in decisions and procedures in needed subspecialties. During rotations with the subspecialty faculty, the residents will have a direct training experience and increasing responsibility. At the PGY-4 level, the resident will join a general surgery graduate of our program in a small rural community hospital. This will provide a varied, senior-level experience with limited access to subspecialists. Because rural surgeons often provide the only endoscopy at rural hospitals, endoscopic experience will be emphasized throughout the five years of residency. A two-month elective to further develop specific needed skills for his or her chosen rural practice will be provided at the PGY-5 level. An additional educational component is the development of the Mithoefer Rural Surgery

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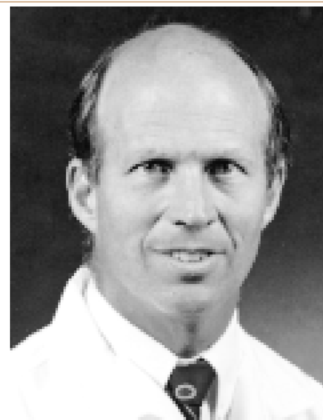

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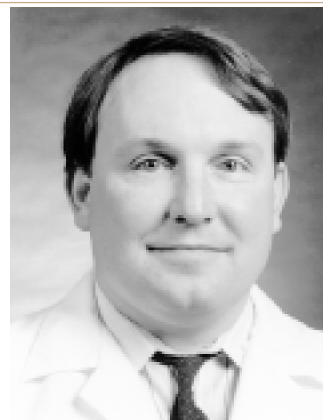


First Annual
Rural Surgery Symposium

May 22-23, 2005
Cooperstown, NY

Save the date!

Fellowship. Trained general surgery graduates who plan to practice in rural areas will have access to individually designed experiences for three to six months in subspecialties that are in demand in their communities.

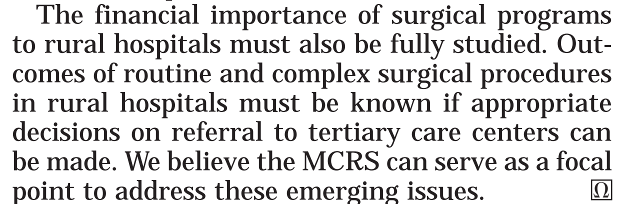
Upcoming efforts

We are conducting two nationwide surveys, one of general surgeons and the other of rural hospitals. The study of general surgeons looks at lifestyle issues, professional isolation, educational needs, surgical care provided, and recruitment issues. The resulting data will be used to: (1) create programs that address the specific concerns of rural surgeons; (2) develop a repository of information; (3) guide policymakers in developing programs; and (4) promote opportunities in rural surgery. The hospital survey will determine the financial effects of the surgical program on rural hospitals. Additionally, we will ascertain which issues and difficulties impede recruitment of general surgeons for rural practices. The MCRS is partnering with Dartmouth Medical College and Rochester University to clarify surgical outcomes in rural hospitals and to further assess the financial impact of surgical programs on hospital revenue.

Plans also are under way to host a national conference next spring focusing on the issues of rural surgery. Leaders in this field will be invited to present information on the current status of rural issues with an emphasis on rural surgery. Our goal is to bring to the forefront the issues facing rural surgeons in light of what we believe is an impending crisis in rural health care in the U.S. We have established a Web site, *www.centerforrural surgery.org,* which will be used as a resource for rural surgeons. The results of our surveys will be posted on the site.

National attention needed

The issue of rural general surgery warrants national attention. To avert further deterioration in the availability of surgical care in rural America, we need to understand and address the complex factors related to appropriate preparation of surgeons who can comfortably practice in rural communities and will choose a rural lifestyle. Only with a full comprehension of these complex factors can we arrive at possible solutions.



The financial importance of surgical programs to rural hospitals must also be fully studied. Outcomes of routine and complex surgical procedures in rural hospitals must be known if appropriate decisions on referral to tertiary care centers can be made. We believe the MCRS can serve as a focal point to address these emerging issues. Ω

Acknowledgement

The authors want to thank Seymour I. Schwartz, MD, FACS, for his support and review of this article.

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sity, I departed to Tokyo to visit Juntendo University, one of the premier sites for pediatric surgery in Japan (Figures 4 and 5, page 49 and this page). I received a tour of the hospital, with a particular focus on the children's hospital component, and I observed several surgical procedures being performed in the operating rooms, which were equipped with state-of-the-art technology for laparoscopic pediatric surgery. My capable hosts during this segment of the trip were two pediatric surgeons, Dr. Atsuyuki Yamataka and Dr. Hiroyuki Kobayashi. As a result of my visit, Dr. Kobayashi and I have elected to co-author an upcoming biliary atresia chapter in the Blumgart text on *Surgery of the Liver, Biliary Tract, and Pancreas*.

In addition, I have since happily helped in the preparation of many of the abstracts from Juntendo University for submission to American pediatric surgical meetings. While at Juntendo University I presented a campus-wide seminar related to pancreatic development and differentiation, with many elite Japanese basic scientists and endocrinologists in attendance.

Figure 5: Juntendo University, attending a meeting with Dr. Takeshi Miyano, (to the author's right), Dr. Atsuyuki Yamataka (directly behind and to the right of the author), and Dr. Hiroyuki Kobayashi (directly behind Dr. Miyano).

As another indicator of the good will this experience imbued, a surgical research fellow who had been sent from Juntendo University to work at another laboratory in this country has recently moved to my laboratory for two-and-one-half more years. We agreed to bring her into our lab due to an unexpected shake-up at the other laboratory.

On my day of departure from Tokyo, I was able to have a breakfast meeting with Dr. Yawakama. We had a wonderful meeting, which represented a great send-off from what was a fantastic educational and life experience for me. I wish to thank the American College of Surgeons for affording me the opportunity to experience this fellowship.

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