

John G Hinter; MD FACS, and Karen E. Deverey, MD FACS, Rortland, CR

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eral surgery residency in a large urban medical center, you have decided to practice genleral surgery in a rural setting, seeking a simpler life and a protected environment for raising a family. You have pored through hundreds of "surgeon wanted" ads and settled on the lure of the wide-open spaces of the western U.S. In the shadow of snow-capped mountains, with wheat fields stretching to the horizon, you think you have found a home in one of the last unspoiled portions of America's frontier. The town is inhabited by 500 cattle ranchers and wheat farmers, one family practitioner, and not one surgeon for 150 miles.

After a month in this community—seeing cuts, bruises, lumps, and minor trauma—your evenings are eerily quiet. Finally the first night call comes in. A planned home delivery appears to be a breach, and the baby is stuck. The seasoned family practitioner is nowhere to be found, so it's your turn. When you arrive at the ranch, instead of being escorted into the house, the concerned rancher takes you to the barn. Much to your surprise, your first patient is a 700-pound heifer struggling to give birth to a calf. The legs are hanging out of the birth canal and progress is nil. Somewhat comforted that a human life is not at stake, you breathe a sigh of relief. Then the pertinent question hits you: "Where in my surgical residency should I have learned how to deliver a breach heifer?"

Such was the first experience of a young surgeon when he "hung up his shingle" in a small town in Wyoming not so many years ago. Over the years, he learned on the job. He learned many procedures and acquired skills not taught in surgical residency: how to deliver breach infants (humans, too); how to drain peritonsillar abscesses; how to pin a hip fracture; how to perform carpal tunnel release; and a host of other skills.

Training in general surgery formerly provided the training necessary to perform many of these procedures. Now, however, training in many frequently performed surgical procedures falls exclusively to otolaryngologists, urologists, orthopedists, and obstetrician/gynecologists, but these subspecialists are far too few to serve the emergency needs of small communities throughout the U.S.

Over the past 10 years, a small segment of the surgical literature has addressed the need for rural general surgeons. Questionnaires sent from sites throughout the country have demonstrated the desirability of special training opportunities for rural general surgeons. Each survey has identified a corpus of information and procedural skills that are readily obtainable but have never been packaged together for the resident interested in pursuing a career in rural surgery. The data from these questionnaires also demonstrate the importance of the general surgeon not only to the health of his/her community, but also to the economic viability of the rural hospital. One study showed one in seven rural hospitals closing in the last decade. Other studies from the State of Washington have demonstrated the tremendous economic importance of surgical procedures to keep rural hospitals off life support.<sup>2,3</sup> State governments, in Oregon and elsewhere, have created the designation of critical access hospitals to provide state funding to isolated rural hospitals where a surgical base cannot be maintained.

## **Organissituation**

Oregon is the ninth largest state in the union and one of the most scenic, from the dramatic Oregon coast, to the glaciers of Mt. Hood, to the windsurfing and fruit growing of Hood River, to booming areas of central and southern Oregon, where retirees and others flock to enjoy Oregon's green mountains and salmon fishing without having to put up with Portland's rain. Beyond these tourist havens, one is left with a sparsely populated agricultural state to the east and a struggling seacoast economy to the west. In many of these communities, general surgeons are in short supply, and, despite the pristine beauty, it is difficult to attract surgeons to such underpopulated environments (see photo, p. 15).

In making a commitment to these communities, physicians face two major hurdles. First, small towns frequently lack the range and quality of schools, shopping, and cultural opportunities that physicians and their families desire. Second, many general surgeons leave their residency feeling untrained to negotiate the variety



Rogue River Valley, OR.

of problems that the rural general surgeon encounters. Success in a rural setting requires that both obstacles be conquered. It has been demonstrated previously that individuals raised in small towns are most likely to enjoy returning to that environment. This reality is particularly true of the physician's spouse, who must be willing to forego the offerings of the city in favor of small-town life.

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To address the problem of inadequate training for rural practice in our general surgical residencies, we have developed a rural surgery training track at Oregon Health & Science University. Our program in rural surgery has the core philosophy that rural surgeons need a broad

variety of skills and disciplines not traditionally taught in general surgery. They should be able to perform the basic, common procedures performed by obstetricians/gynecologists, otolaryngologists, orthopaedists, and urologists. Because general surgeons serve as the primary gastrointestinal endoscopists in most small communities, this skill must also be included in that training. A needs assessment survey performed by Dr. Deveney at our institution several years ago demonstrated the corpus of procedures performed by rural surgeons in Oregon (see table, p. 16). From the outset, we identified that the major challenge was to offer complete training in the wide range of procedures performed by rural surgeons during their career and to provide that training in one year. Clearly, this goal could not be accomplished in a very small community where "common" procedures may be

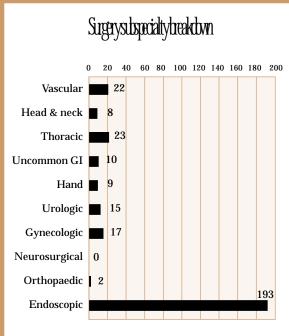
performed infrequently. Instead, we looked for a moderate-size rural community (15,000-30,000), where specialists were available to provide high-quality training, but the individual would begin to get the feel of small-town life, become an integral part of the community, and not suffer competition from specialty trainees. In Oregon, we define a rural community as one with a population of less than 30,000 and located more than 50 miles from a community of more than 50,000 people.

Grants Pass, OR, was chosen as the first site for our rural residency training program for several reasons. It is the right size (population 23,000) and is in the right location (250 miles from Portland and 50 miles from Medford). Further, it has a strong core group of general surgeons, a supportive hospital administration, and a faculty in the surgical subspecialties who are anxious to participate.

While one might argue that suburban community hospitals could offer identical training, the latter experience does not offer the external environment so critical to understanding the nature of practice in a small community. A legitimate criticism of this curriculum is that a community of 30,000 is not truly rural, and the trainee won't get a real sense of what it means to live in a town of less than 2,000 residents, a long way from anywhere. To address this issue, we intend that the final two months of the one-year experience will be spent in a very rural location, one with a well-seasoned older general surgeon—ideally someone anticipating retire-



**Dr. Hunter** is chairman, department of surgery, Oregon Health & Science University, Portland.



This chart represents the number of cases performed by the average rural general surgeon in Oregon during a two-year period. These are self-reported numbers with respect to specific surgery subtypes.

ment. This way our trainee will have an opportunity to get to know the town, and the town will get to know the trainee before a commitment is made. Alternatively, this two-month rotation could take place in the practice of a well-established, well-respected, small-town surgeon who has no intention of retiring. In this case, the experience would not involve courtship with a particular community, but with the culture and reality of rural practice to which the individual might eventually return.

Currently, the rural residency program occurs in place of our laboratory year, traditionally done in the fourth year of residency in Oregon, and does not count toward the five years of general surgery training. If the general surgical residency is restructured to allow earlier specialization, we see rural surgery as one of the



Mark Foreman, MD (right), instructs Dr. Vangelisti in the operative repair of a hip fracture.

available options for advanced training. This program might follow three to four years of general surgery training, allowing an individual to sit for the general surgery boards and obtain an additional certificate for rural surgery training.

## Fuueposibilities

It is possible that a rural surgery specialty society or specialty interest group within the ACS will emerge to become the mouthpiece for the rural surgeon of the future. Such groups are already present in South Africa and Australia. For such a special program to be successful, its graduates must feel they possess skills and an identity that sets them apart from their peers who are not so broadly trained and who practice in larger communities.

Despite broad-based training, rural surgeons doubtless will occasionally find themselves desiring the consultation of a specialist. To augment this "connectedness" of our rural training program to the University Medical Center we have developed the capacity, and are modeling the economics, of "on demand" two-way video teleconferencing. Currently, systems using two ISDN lines are adequate to accurately convey surgical details to the consulting surgeon. With or without video conferencing, we hope to improve the quality of rural surgery by providing quality general surgical training in a wide variety of common surgical procedures that might be performed with confidence and competence by a surgeon in a small community.

For a firsthand account of the experiences of the first resident to go through this program, see the article by Garrett R. Vangelisti, MD, on page 18.  $\Omega$ 

## References

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**Dr. Deveney** is vicechair, surgical education, Oregon Health & Science University, Portland.

