



10,000 OPERATIONS:

MUSINGS OF A GENERAL SURGEON

BY JON C. WHITE, MD, FACS

Recently, I tallied my operative cases for the past calendar year as part of the application process for my second recertification exam for the American Board of Surgery (ABS). The list was just shy of 400 operations. It was neither the busiest nor the slowest year of my surgical career, which started with my training in 1980. Over the course of my career, I've worked on cases ranging from hemorrhoids to liver transplantation and—although the majority were done at three teaching hospitals—for a few years as a transplant surgeon, I did organ procurement in a variety of hospitals all over the country. For four months, as a Project Hope volunteer, I operated in Grenada, West Indies, in an open-air hospital, which means there were open windows in the operating room. I estimate that my combined operative experience must be around 10,000 operations. I realize that many surgeons have reached, and far surpassed, this point, but it seems to be a good, round number and a good time to reflect on the lessons I've learned to date. I have an academic appointment with a university that mandates a 360-degree evaluation of every student and instructor, and I consider these musings to be an important part of my self-evaluation.

ENHANCED JUDGMENT SKILLS

It's often stated that it takes 15 years to become a surgeon—five to learn how to operate, five to learn when to operate, and five to learn when not to operate. I can't vouch for this precise time frame but the sentiment is, in my estimation, essentially correct. I learned most of the basics such as suturing, handling tissue, traction/counter-traction methods, developing tissue planes, and so forth, as a trainee. I started to focus more on when to operate once I had finished training and was on my own. Early in my career, I was more likely to be unsure of what was wrong with a patient and would operate much more readily. I seemed to live by the flippant, but not entirely facetious, dictum, "never let the skin stand between you and the diagnosis." It is only with time and experience that I feel secure enough not to go directly to the operating room. Learning when *not* to operate is an ongoing process for me.

Many of the operations that I perform are ones that I have done countless times before. Nonetheless, I learn something new with every case

and I like to think that my surgical judgment is continually improving. It is also said that good judgment comes from experience, which usually comes from bad judgment. Over the years I've tried to minimize my poor judgment by continuing my experiential learning through reading or attendance of morbidity and mortality conferences, which often highlight other surgeons' mistakes. Although I can make an argument that my knowledge increases with every operation performed or conference attended, I can't say the same about my surgical skills. My eyesight, hand-eye coordination, ability to stand for hours, and ability to go without sleep for long periods of time are not what they used to be. For the present, I am confident that my heightened judgment skills outweigh my decreasing physical abilities. I feel like an aging baseball pitcher who relies more on his experience and knowledge to outsmart batters rather than his power to overwhelm them with fastballs. When my loss of physical ability exceeds my gains in surgical judgment, then I'll know it's time to retire from the operating room.

CONSIDER THE COSTS

During my medical education, I was encouraged to keep an open mind and consider all etiologies for every set of symptoms. The brightest and most compulsive students in my class came up with the longest and most esoteric lists of differential diagnoses. This is an approach that is still celebrated by the currently popular Fox Network series *House*, which presents a patient with an unusual diagnosis each week, motivating a whole team of physicians and researchers to order every diagnostic modality at their disposal to determine the final diagnosis. The message here seems to be that every workup should be exhaustive. For example, these days even mundane diagnoses undergoing radiographic evaluation seem to progress rapidly from plain X rays, to computerized axial tomography (CAT) scans, to magnetic resonance imaging scans, to positron emission tomography scans, and, finally, to interventional radiology.

There is no doubt that this approach is appropriate in some circumstances, but I would submit that usually it is not. It is rarely mentioned that these diagnoses are made at great expense. There are, of course, complications to the patients that must be considered, too, and there is also an enor-

mous drain on resources. Many of us who were schooled during the halcyon days of unlimited resources are now the teachers. We have to train younger doctors to do something that we were never taught to do, and that is, to consider the expense of everything that we order. It seems I am constantly telling the residents not to get an abdominal CAT scan on a patient who develops a fever two days after an exploratory laparotomy, and most likely has atelectasis. Unfortunately, our system of medical insurance has uncoupled the mounting cost of medical care from the consumers' desire to purchase cost-effective treatment. It is left to us as providers to watch what we spend. We should teach our students to use the most economical diagnostic tests, to order the least expensive (but effective) therapies, and to try and imagine the costs for the care that they order.

BALANCING CAREER AND PERSONAL LIFE

I often say that I have been able to define my career so that it fits comfortably into my life. It's more likely that my career has changed my life so that it fits within the profession's somewhat demanding parameters. Over the years I have missed countless dinners, performances, parties, and visits from out-of-town friends due to my work, and as a result, many of my life experiences are actually linked to my job. Not only do I remember the small pleasant episodes like the birthday cake that my wife brought to the hospital cafeteria on a night when I was in the operating room, I have memories of events such as being an intern in the emergency room at George Washington University Hospital when President Reagan came in after being shot in the chest. I also remember 20 years later, when I was an associate examiner for the American Board of Surgery and one of the applicants came in the room and asked us to turn on the television. The ABS board member and I sat speechless as we watched planes flying into the World Trade Center.

Medical students and residents can have different values than ours and may seem more dedicated to pursuits outside of their careers. I would guess that not as many of their memories will be linked to their lives as physicians and surgeons. Sometimes I find myself being critical of what they do or, more often, what they don't do. I have to remind myself of stories I heard as a resident from those

surgeons who came before us. They were mainly white males who lived in quarters next to the hospitals and sometimes were not even allowed to marry as house officers. These older surgeons may have looked upon us as slackers because we went home to our families every other night or, in especially deplorable cases, two nights out of three. Values are changing and we don't have to like them, but we can't resist them. If we do, we will create a profession which nobody will choose to pursue and, rather than attracting the best and the brightest, we may end up with what's left over.

THE CHANGING BUSINESS OF MEDICINE

As a resident, I always found it interesting to hang around the surgeon's lounge in one of the local private hospitals. The private surgeons were all fee-for-service practitioners and would talk about the changing business of medicine. At the time of my residency, they were wrestling with the new concept of managed care and the new terminology of health maintenance organizations, preferred provider organizations, and independent provider organizations. Many of the surgeons had been practicing before Medicare and Medicaid were established and few of the older ones even remembered practicing before private health insurance had become widespread. It was clear to me in the early 1980s that times were changing and nobody knew exactly how things would develop. As it has turned out, the surgeons at that particular hospital were making more money 20 years ago than their replacements do today, and this amount is not adjusted for inflation. I'm not sure that this is as true all over the country, but many physicians, and especially surgeons, find that their incomes have been in decline for several decades.

While money spent on health care nationally seems to be spinning out of control, more consumers are underinsured or uninsured and health care professionals are seeing a decline in income. It's a difficult situation that is often attributed to capitalism run amok. Many of the commonly suggested solutions suggest adopting—or at least adding—elements of socialism to the health care system. The issue is extremely complex and does not lend itself to a one-paragraph solution, but I must say that I have spent most of my career at a Veterans Affairs (VA) hospital, which is pure socialized medicine, and I love many aspects of

it. My hospital is a wonderful teaching facility that provides instruction for three university and two military programs, produces high-quality research, and provides superb care to its veterans. However, I am also close enough to see the warts in the system. Although we are quick to judge the failure of the market to control costs in private practice, at the VA I see inefficiencies and misplaced incentives due to the lack of these same market forces. When the profit motive is gone, there is little incentive for providers to work at peak efficiency and, when the patients don't share the cost of treatment, there is little incentive to consume health care responsibly. I'm not a medical economist so I don't know what combination of capitalism, socialism, managed care, value-based purchasing, or government regulation or deregulation is necessary to rein in expenses, but I hope we come up with a plan soon. The precipice yawns before us.

THE FUTURE IS NOW

I have been chastened by an experience I had approximately 20 years ago. At the time, some of the forward-thinking people in my department started talking about investing in laparoscopic equipment. I confidently predicted that there was no future in minimally invasive surgery and announced that I would remain a maximally invasive surgeon for the remainder of my career. Of course, within two years I was doing laparoscopic cholecystectomies, and in the intervening years have continued to add to my laparoscopic arsenal. Now, I am having a *déjà vu* experience and find myself making the same confidently negative predictions about robotic surgery. Only this time I am keeping my opinions to myself.

I asked one of our urologists, who has a private practice outside of our department, about his experience with the robot. He told me that he could perform an open prostatectomy twice as fast as he could do with the robot. He also said that the robot his hospital had purchased cost \$1.5 million dollars, with an additional \$100,000 more each year in maintenance and consumables. The operative skills required to utilize the robot have a steep learning curve and the oncologic cure rates and retention of sexual function were similar, in his hands, to an open repair. The one advantage with the robot was that his patients spend, on average,

one day less in the hospital. When I asked him why he was doing robotic surgery he said simply, "Market forces. The robot is being aggressively marketed and I have to use it to maintain my practice." I wonder how this aspect of the market forces is going to fit into a new health care paradigm, which might adopt some elements of socialized financing. This time, I really will keep my opinion to myself.

AN EXTRAORDINARY PROFESSION

The other morning, as I was backing out of my driveway, I saw a neighbor leaving his house for an early morning walk. When I put down my window to exchange pleasantries with him, he told me about an unusual experience he had only one week earlier. He had been out jogging with his daughter, experienced chest pain, and decided to go to the local hospital. His electrocardiogram in the emergency room suggested ischemia and he was sent for a cardiac catheterization. Twenty-four hours later he was in the surgical intensive care unit recovering from quadruple bypass. He was now starting his exercise program and looked almost the same as he had the last time I saw him. The only scar visible to me was on his leg where a saphenous vein had been removed through several 1 cm incisions. He spent the next 15 minutes telling me what an extraordinary profession I had chosen. He didn't have to tell me. It's something I've been telling myself for the last 28 years. [Q](#)

Dr. White is professor of surgery, George Washington University, and chief of general surgery, Veterans Affairs Hospital, Washington, DC. He is a Governor of the ACS Metropolitan Washington Chapter.

