

# From my perspective

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**A**lmost all surgeons, regardless of specialty, agree that the competitive surgeon of the next 10 to 20 years will need to possess a different set of skills than we have needed in the past. Therefore, it is important that organizations like the College identify the characteristics of the twenty-first century surgeon and that we pattern today's programs on the anticipated needs of the near future.

In this column, I identify what I think will be the essential attributes of surgery and surgeons of the future. It is perhaps presumptuous of me to attempt to predict the future, and you may agree or disagree with my theories. In either case, I would appreciate hearing your ideas and receiving your feedback.

## *Early exposure*

As we all know quite well, a major problem facing the future of this profession is the declining interest in surgical training among individuals in medical school. So, first of all, we will have to make the surgical specialties attractive to medical students and introduce them to the joy of a career in surgery during their formative years.

One way in which we already are piquing medical students' interest in surgery is by introducing them to some of the technical aspects of practice while they are still in medical school. For example, medical students at some schools are using simulators to assess their cognitive and technical skills. Such exercises should be more enjoyable for young, technologically adept people than is standing in operating rooms for lengthy periods of time holding retractors.

Students and residents who do identify surgery as an option must be exposed during medical school or the early years of residency to the core curriculum that all surgeons or interventionists will need in the future. Issues such as wound healing, infection, fluids and electrolytes, and blood management are important core areas of understanding, regardless of whether someone has identified neurosurgery or ophthalmology as his or her chosen specialty. Furthermore, training in the basic knowledge of physiology, which all surgeons need to possess, will be key subjects to be covered in the early stages



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of training as more and more specialists become involved in interventionist care and claim to be “surgeons.”

## *Core competencies*

The American Board of Medical Specialties and the Accreditation Council for Graduate Medical Education have developed a list of core competencies for all physicians, based on the realization that modern medical professionals need to be not only capable of providing scientifically sound services, but also able to perform successfully in other areas as well. Surgeons must be trained in these core competencies and must embrace and maintain these skills throughout their entire professional careers. As noted in several columns in the past, in addition to medical knowledge and patient care the competencies that must be introduced to residents and sustained throughout their professional lifetimes include interpersonal and communications skills, professionalism, practice-based learning and improvement, and systems-based practice. These competencies identify the future.

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To maintain their commitment to lifelong learning, surgeons must be computer literate because much of the continuing medical education (or continued professional development, to use perhaps a better phrase) will be Web-based in the coming years. Additionally, resident education will involve the use of simulators and experiences outside the operating room as the learning process moves away from the traditional approach of “see one, do one, teach one” to “see one, practice many, and do one.”

### **Guidelines and outcomes**

As residents are now working under defined work-hour limitations, it will become important to begin incorporating best processes of care into training and for use throughout one’s full career. Clearly, some of these guidelines have already been developed, but they will need to be further refined, applied, and modified as time goes by. I believe the surgeon of the future will definitely be comfortable using standards of care to define decision making and remain within accepted practice specifications. All will be working as team members.

The surgeon of the future will also need to be aware of accurate outcomes data that demonstrate the short- and long-term effects of operative procedures. As a result, surgeons will need to analyze not only morbidity and mortality, as we do today, but also the long-term functional results of an operative procedure.

Clearly, surgeons will have to document their outcomes and share this information not only with their respective patients, but with payors and the credentialing and privileging bodies of their hospitals as well. The public is expected to become progressively more sophisticated in their selection of providers, and, again, the competitive surgeon will need to be able to readily supply outcomes on specific procedures.

### **Maintenance of certification**

The maintenance of a surgeon’s certification will come under increased scrutiny and will be a more timely and rigorous process. Surgeons must accept this reality and anticipate having periodic cognitive testing in areas of their specialty every few years and of their technological skills with the use of simulators as they progress in their professional careers. Furthermore, it is not inconceivable that

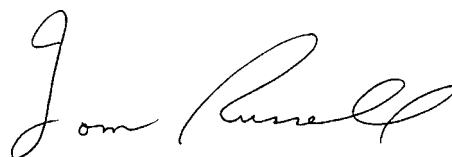
surgeons will be required to undergo periodic physical examinations and other evaluations, such as drug and alcohol screening. Also, it is certainly possible that work-hour restrictions will be imposed upon surgeons in practice, just as they recently have been imposed on surgeons in training.

Again, with patient safety being our paramount concern and goal, the acquisition of new surgical skills for individuals in practice will be much more structured in the future. Going to weekend courses supported by industry and then performing a newly learned procedure on patients the following week will not be acceptable. Surgeons will be required to undergo retraining in centers that are geographically distributed throughout the U.S. and that have restricted affiliations with industry. New skills will need to be acquired not only through a didactic process, but also through hands-on training courses that are properly proctored and monitored once these services are introduced in local hospitals.

### **Other skills**

Surgeons of the future will also need to have more sophisticated leadership, business, and negotiation skills. Having these capabilities will become more necessary as our health care system continues to change and as payment and regulatory constraints intensify.

Some surgeons may believe that all of these activities will ultimately result in a ban on clinical autonomy. That perspective may have some validity, but, hopefully, these changes will lead to more standardized and provable ways of practicing surgery. In turn, our practices will be safer for our patients and driven by education, outcomes analysis, and continued improvements.



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If you have comments or suggestions about this or other issues, please send them to Dr. Russell at [fmp@facs.org](mailto:fmp@facs.org).