



## **The globalization of surgery:**

### *Surpassing the frontiers*

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*Our loyalties must transcend our race, our tribe, our class, and our nation; and this means we must develop a world perspective.*

—Martin Luther King, Jr.<sup>1</sup>

**R**egardless of the motivations that bring one to become a surgeon, at the end of the day, there is one thing in common among all of us, the young and old warriors. It is not the color of our scrubs, the white coat, or the blood spatter on our surgical shoes. Behind each surgical mask, irrespective of the language spoken, a silent light shines through the surgeon's eyes, reflecting the long journey of a soul that carries with it the responsibility for the life of the unconscious human on the table, at the mercy of his or her hands.

Knowledge and skills would be empty without the love and passion for surgery. The high expectations and demands of our profession obligate no less than a true passion for learning. A mere fondness for surgery without appropriate and dedicated training will not suffice. These core values are shared by surgeons across the globe, motivating the exchange of ideas, knowledge, technology, and advanced surgical skills.

## **Global educational exchange**

A professor of one of the authors once said, "You are a surgeon in training since the first day of your residency until the day you are taken to the grave." One way a surgeon may expand on training is through travel to foreign universities. Seeking additional surgical training abroad seems to be pursued by individuals from all countries.<sup>2</sup> Medical education in general has maintained its international scope. In the 18th, 19th, and early 20th centuries, U.S. medical students opted for higher education in London, Germany, and Paris.<sup>3</sup> Nowadays, talented students and surgeons around the world admire and respect the U.S. surgical residency system. It may not be perfect, but its high standards for surgical proficiency and ethics make it desirable for domestic and international students to fulfill their dreams and to become the best surgeons possible.<sup>4</sup>

International medical graduates (IMGs) comprise 14 percent of current practicing surgeons

in the U.S.<sup>5</sup> The Educational Commission for Foreign Medical Graduates currently hosts a formal program of classes to teach new IMGs American-style medicine. There are residencies seeking ways to ease the transition of these individuals.<sup>5</sup> In fact, Memorial Sloan-Kettering Cancer Center in New York, NY, has an international fellowship program that allows physicians to participate in a three- or four-week observership rotation.<sup>4</sup> The American College of Surgeons has long recognized the importance of the academic contributions of surgeons from other countries in research and clinical practice. The College has international chapters in 32 countries around the world, including North and South America, Europe, Asia, and Australia and has been sponsoring International Guest Scholarships since 1968. Since then, surgeons from 64 countries have come to the U.S. to augment their knowledge in varied surgical disciplines. Some of the IMG surgeons return to practice to their home country, whereas others become liaisons with their former medical schools and professors, expanding the principles of surgery learned in the U.S.

Collaborations among universities have made it possible for surgeons to visit and learn new emerging surgical technologies and concepts. The International Society of Surgery hosts its annual World Congress of Surgery in August. Here, acclaimed surgeons and leaders in their field share their latest research results and discoveries on issues we all face in our daily practices.

U.S. surgeons and surgical trainees are also traveling abroad for clinical experiences. The College also awards funding for American surgeons to travel to surgical institutions in Germany, Japan, Australia, and New Zealand, and the Society for Surgery of the Alimentary Tract has a Traveling Fellowship Award for Surgeons in Academic Practice.

The increased access to air travel has shortened the distances for physicians to attend conferences and meetings around the world. Similarly, patients are able to look for surgical care far beyond their home countries and continents.

In a recent article published in the *Journal of the American College of Surgeons*, Dr. Itani and

colleagues summarize the exchange of ideas and experiences expressed by a panel of experts from diverse educational and social systems invited by the International Relations Committee of the American College of Surgeons.<sup>2</sup> Underscored in Dr. Itani's report and in a recent article by Dr. Galandiuk et al is that surgeons in today's world share similar educational issues and social challenges irrespective of where they live and work.<sup>6</sup>

## The pursuit of global health

The University of California, San Francisco (UCSF), has already implemented a pilot program for surgery residents to be exposed to the multifaceted disparities of global health in countries with fewer resources than the U.S. This interaction has created reciprocally beneficial opportunities for educational programs.<sup>7</sup> The new generation of surgeons understands that professional growth is impaired if we ignore and maintain a distance from the changes occurring in the international medical community. A fine example is that of surgery residents at the New York Hospital Queens, who learn to interact with a highly diverse cultural population (see sidebar, this page).

The Pan American Health Organization (PAHO) has recognized the political, social, economic, and cultural changes that have taken place during the last decades at an accelerated rate. These changes have intensified the process of globalization in a society where the access to



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## Preparation for global surgery: *A case study*

The New York Hospital Queens (NYHQ) is a strong training ground for the global surgeon. The hospital is located in Flushing, Queens, which is 11 miles from Midtown Manhattan. Of the five New York City boroughs, Queens is known for having the most ethnically diverse communities. According to the New York state comptroller, 138 languages are spoken in Queens.

With each patient encounter, language and cultural issues must be considered. Although there are robust translation services, many residents learn to accommodate language differences. They learn enough of the languages to communicate effectively with patients for brief encounters that augment the more comprehensive interview with translators. Skills are honed in communicating with family and extended family while still respecting the guidelines of the Health Insurance Portability and Accountability Act. In fact, many of the residents and attending staff are bilingual. Health care proxies have a greater importance since the decision maker may be the one person in the patient's support system who speaks English but is not necessarily related to the patient.

James Turner, MD, FACS, is the chair of the NYHQ department of surgery and President of the Brooklyn-Long Island Chapter of the American College of Surgeons. He makes an annual sojourn to India to act as a visiting professor. The trip immerses him in a different culture and allows him to interact with a world population in their community of origin. Residents are encouraged to participate in similar pursuits and there is elective time in the postgraduate year two to accommodate such an interest.

NYHQ is a 457-bed facility and level I trauma center serving the 2 million individuals living in Queens as well as a subset of individuals living in Manhattan and Long Island. Surgical services include general, cardiac, thoracic, otolaryngology, neurosurgery, plastic and reconstructive, endocrine, orthopaedic, colorectal, and minimally invasive surgery. Residents in training rotate through all these departments and, through NYHQ affiliations, rotate through hospitals in the New York-Presbyterian Healthcare System.

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information continues to escalate. These trends present new challenges from an international medical perspective. To address these challenges, PAHO has created a training program in international health to facilitate the collaboration among nations.<sup>8</sup>

Other organizations—such as the Foundation for Advancement of International Medical Education and Research, the Association of American Medical Colleges (AAMC), and the Global Health Education Consortium—provide scholarships for physicians and students interested in pursuing research or postgraduate training abroad. These opportunities are available to the upcoming generation of surgeons. Trainees become leaders in the expansion of surgical knowledge while serving a vital role in the international medical and surgical community.

### **Missionary and academic traveling surgeons**

U.S. academic and missionary surgeons travel to other countries to share their knowledge and skills while learning from invaluable experiences about the surgical lifestyle and how surgery is practiced by colleagues around the globe. The strong ties they build with other institutions and surgeons have become a legacy for the coming generation of surgeons in the U.S. and abroad.

With recent technological advances and the availability of the Internet, the borders between surgeons across the world have faded and the distances have been minimized. We all belong to the same group—surgeons—regardless of where we live, and we all face the same challenges in treating diseases. We have come to realize this connection by visiting different countries and creating links with our colleagues across the world. We learn and expand our vision by doing so and we benefit by seeing how surgery is practiced in places where the system is not burdened as much by all the medico-legal restraints we face in the U.S.

International missions and volunteer work are other ways to become more versatile and expand our horizons. This work also serves a noble goal that binds all surgeons across the world to help our people in need.

The subject of volunteer and missionary surgeons is addressed at greater length in the ar-

title, “New ways of practicing surgery: Alternatives and challenges,” on page 51 of this issue.

### **Global technology revolution**

Eric Muhe, MD, performed the first laparoscopic cholecystectomy 21 years ago in Germany, using the “galloscope.” This technique spread rapidly among surgeons interested in innovation, and, 10 years after its introduction, most elective cholecystectomies were already performed using laparoscopy in the U.S.<sup>9</sup>

Nevertheless, new technologies have not only affected the operating room but have also changed the way surgical residents learn, research, and communicate with staff and patients. Computer simulations allow global education in surgery without the need for travel. Teleconferencing and e-mail allow surgeons in different locations throughout the world to share, discuss, and challenge current knowledge and opinions. Robots, personal digital assistants, and discussion forums (for example, *www.e-facs.org*) facilitate communication with patients and colleagues around the globe.

Advances in technology and educational tools have radically changed the expectations of educators, trainees, patients, and society in general.<sup>10</sup> Medical Web sites, such as the ACS Web portal, not only provide a space for information sharing and discussion but also provide access to books, journals, and videos that can be instantly downloaded worldwide. In addition, physicians now have remote access to patient medical records,


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laboratory results, and imaging studies wherever the Internet is available. This type of technology allows international consultations on clinical decision making.

In some U.S. hospitals, a Web camera and laptop computer can be connected to an electronic stethoscope, electrocardiogram, and sphygmomanometer, thus becoming the eyes and ears of physicians who cannot be readily available to a patient's bedside to give a diagnosis. This possibility is of particular importance to patients in rural or remote areas when a consultation is required and tests need to be ordered for the workup of a patient. Telemonitoring, wherein a robot accompanied by a nurse allows the surgeon to see patients from a remote location, is now available.<sup>11</sup> Early studies suggest that patients have adapted well to this modality since surgeons spend more time with the patient and eye contact is improved.

As the well-known aphorism says, "The only thing constant is change." This statement conveys accurately the reality of surgery, and we have been privileged to witness its evolution in the globalization of surgery. Now, more than ever, surgeons are called on to be generous in their interactions with international colleagues and open to participating in the emerging global environment. By participating in this revolution, we will become part of an important part of the evolving history of our profession. 

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