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**PRESIDENTIAL ADDRESS:  
*"Education, Economics and Excellence"***

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## EDUCATION, ECONOMICS, AND EXCELLENCE

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### **Richard A. Prinz, MD**

I would like to thank all of the members of the Western Surgical Association for the special privilege and honor of being your president. Members of this organization have been my teachers in medical school, mentors in residency, role models in my early academic career, and now valued colleagues and warm friends. I attended my first meeting of the Western Surgical Association 26 years ago in Las Vegas and had the opportunity to present one of my first papers to a major surgical organization. I became a member in 1987 at the meeting in Dallas. Like all initiates, I was told that new members were the lifeblood of the association and that good things would happen to those who took part in its activities. I certainly can vouch for the veracity of these words, since I have gotten back much more than I have given to this, the oldest of the regional surgical organizations.

### **EDUCATION**

In searching for a topic worthy of a presidential address, I have chosen the one thing in which I have spent more years of my life than any other— education. It was more than 50 years ago that I was reluctantly left by my mother at the door to kindergarten. Ever since, I have been a student, trainee, or teacher, and hopefully through it all a lifelong learner. This is an interesting and challenging time in surgical education. The confluence of a number of intrinsic and extrinsic factors are shaking the underlying principles and formal structure of surgical residency. A century ago, William Stewart Halsted put together the building blocks of our current system. The unregulated apprenticeships of that time lacked structure, uniformity, graded responsibility, oversight, and quality control. Surgical education was ripe for the

reforms instituted by Halsted and spread by his trainees, who assumed leadership roles throughout American surgery. The system has served most of its stakeholders reasonably well for the ensuing 100 years. Academic medical centers have gotten high-quality professional service at bargain basement prices, and attending surgeons have shared this benefit. Residents knew that their hard work or pound of flesh would be rewarded with adequate training to allow them to practice surgery. Patients could count that a surgeon, albeit one in training, would always be available for their care. The system brought American surgery and American surgical education to its leading position.

## **RESIDENCY**

Despite its success, one can ask if a system devised a century ago is right for today. The late Alexander Walt, who was president of this organization when I became a member, said, "Our immersion during residency training has the most enduring influence on the way we practice over the next 25 years."<sup>1</sup> It is when we develop our clinical knowledge and technical skills and, maybe even more importantly, our philosophy of surgical education and patient care. But is this 100-year-old system the best way to train surgeons to take care of patients in the 21st century?

Residency has served as a rite of passage in which the culture of surgery is transferred and inculcated into future generations of surgeons. It has left an indelible mark on all who have experienced it. When practicing surgeons reminisce about their residency, military terms abound, and training seems to refer to preparation for a grueling triathlon rather than a learned and skilled profession. Typical quotes include: "I survived my residency." "It toughened me and steeled me for the demands of practice." "I worked over 120 to 130 hours per week." "I took call every other night and the only problem was I missed half of the possible emergency operations." Their teachers sound more like marine drill

sergeants or martinets than educators or role models for a healing profession.

Residency changes us all. It is more effective than religion or ethnic motherhood at instilling guilt among its trainees about not working hard enough. Surgical residents are transformed into compulsive workaholics who are addicted to their job much like an alcoholic is to alcohol. Some surgeons are never able to recover from the grueling and demanding aspects of residency and become victims of *karoshi*. As reported by Pories,<sup>2</sup> this is a socioeconomic term used in Japan to describe premature death from overwork. The act of work completely overtakes our lives and totally defines who we are.

Residency also affects how others both in and out of the medical profession view surgery and surgeons. While riding in the Chicago Boulevard and Lakefront Bike Tour this summer, I noticed a T-shirt with the saying "the flogging will continue until the morale improves." Most of the medical students with whom I shared this statement thought I was summarizing surgical residency, but obviously not the Rush surgical residency. Certainly, the work demands and duress of surgical residency have played a role in diminishing interest in our field among medical students. In 2001, general surgery ranked fifth among the specialty fields chosen by graduating medical students. Even psychiatry ranked higher. Yogi Berra, baseball's man of words, said, "If people don't want to come out to the park, nobody's going to stop them." As a profession, we don't have the option of accepting this state of affairs but must be proactive to ensure that future patients will have a competent surgeon available. Inevitably, this will affect us all when we are in need of surgical care. Nevertheless, there is a reluctance on the part of surgeons to admit there is something wrong with surgical residency. If they had to go through this draconian ordeal, why shouldn't today's residents do the

same? I had to do it and I survived, so they can do it too.

Some 25 years ago, Dr Walt noted that many residents spent more than 100 hours per week in servitude.<sup>3</sup> He was a native South African who started his medical education abroad in the British system but ended as a leading American surgical educator. Having the benefit of observing residency as both an outsider and an insider, Dr Walt concluded that “as an educational device this extended academic boot camp has serious limitations.”<sup>3</sup>

## **WORK RULES**

This brings us to the work rules that the Accreditation Council of Graduate Medical Education and the Residency Review Committee for Surgery mandated be implemented on July 1, 2003. The 80-hour workweek is just one aspect of the new regulations but is probably the one most discussed. Some have said that 80 hours per week is not long enough to train surgeons and that a whole year may have to be added to residency to make up for the in-hospital hours lost under the new rules. By correlating hospital hours with quality of education, they conclude that an 80-hour workweek for surgical residents can only lead to less well-trained surgeons and ultimately to compromised care for our patients.

Again, it is important to ask what we are doing and how it is viewed by the rest of our society. My hometown, Chicago, played a seminal role in how the rest of America works. The 8-hour workday grew out of the Haymarket riots that took place there in 1886. A monument now marks the site where workers clashed with police over this issue. Several people were killed on both sides, illustrating the intensity of opinion on work hours. Still, it took more than 50 years for the 8-hour workday to become the national benchmark with the passage of the Fair Labor Standards Act of 1938, which

required overtime pay for most employees working past 40 hours per week.

The average American continues to work more hours than the people of any other industrialized country. Americans work hard and average 43 hours of work per week.<sup>4</sup> But only 1 in 5 Americans works more than 50 hours per week. The total of 1979 hours worked annually by an average American compares with 1842 annual hours in Japan and 1604 annual hours in France. The expectation of the 80-hour workweek is that a surgical resident should work from 3840 to 4000 hours per year. So both in terms of hours per week and total hours per year, surgical residents continue to work approximately twice as much as the average American. This is significantly beyond the mean in each category and beyond what almost all Americans would view as a reasonable amount of work. None of my neighbors who are dentists, lawyers, business owners, accountants, salesmen, and so forth work anywhere near 80 hours per week.

Work-hour limits for residents and physicians are not just a North American issue. It is a topic that has been resonating internationally for some time. In Europe, many countries already have laws that require work-hour limitations that range from 40 hours in Sweden<sup>5</sup> to 58 hours in Britain.<sup>6</sup> The European Union has legislation that sets the maximum at 48 hours for all of its member countries.<sup>7,8</sup> The laws governing this matter in Australia have been legislated by its various states and are not yet coordinated.<sup>9</sup> Still, the ones that are in place are quite similar to those in Europe. Although work limits for residents and physicians may be a small component of labor legislation in general in these countries, it is just as likely that world opinion holds that excessively long working periods have an adverse effect on resident education, clinical performance, and quality of patient care.

In the global economy, what you produce is much more important than how hard you work. Although Americans work longer hours, our productivity is less than that of workers in France, Belgium, and Norway. In the United States, the output of a worker averages \$32 per hour vs \$34 per hour in Belgium, \$35 per hour in France, and \$38 per hour in Norway.<sup>10</sup> Working longer and harder has been integral to surgical residency, but isn't it more important to learn to work smarter and more efficiently? Shouldn't our efforts be focused on making our surgical education system the most productive possible? Our profession, unlike others, has not been and should not be defined by the hours we work but by the things we accomplish, both in taking care of our patients and in educating our residents.

Another mandated rule is that 1 day in 7 be free from all patient care and educational obligations. Why are we as surgeons so astounded by our residents having a day off when this is so ingrained in our larger culture? Within the Judeo-Christian tradition, there is an imperative to set aside work on the Sabbath for purposes of celebration, recreation, and religious festivity. The notion of "a day free from labor" is a cross-cultural historical constant that can be found in numerous ethnic and religious groups—Greeks, Romans, Chinese, Hindus, Buddhists, Taoists, Muslims, and even Marxists.<sup>11</sup> I know that there is a superhuman element in each surgeon's personality, but even God had to have a day off after completing the creation. Surgeons and surgical residents are no exception and must have some time off or breathing space to function at their best. All work and no break or rest can't be good for resident education, let alone for patient care.

## **REGULATION AND PUBLIC SAFETY**

I know many feel these rules and regulations are being foisted on us by a misguided overreaction to the Libby Zion incident in New York City or by a profession preserving attempt to prevent federal regulation of

postgraduate medical education. The transportation industry is certainly heavily regulated in the interest of public safety, and work-hour limitations are placed on pilots, rail workers, and truckers. The reason is that sleep deprivation can have disastrous and deadly results in these fields. Bad things happen at night for a reason. The Three Mile Island disaster occurred at 4 AM on March 28, 1979. The Union Carbide plant exploded in Bhopal, India, at 12:40 AM, December 12, 1984. The space shuttle *Challenger* decision to proceed with launch despite violation of ambient temperature regulations occurred late at night on January 28, 1986. The Chernobyl nuclear reactor meltdown started after midnight on January 26, 1986. The Exxon Valdez tanker ran aground at 12:04 AM on March 24, 1989. This list of nighttime disasters goes on and on.

Surgeons often claim that they are immune or resistant to sleep deprivation. Supposedly our decisions are so important and our catecholamine rush is so great that we can go from REM sleep, which was first described 50 years ago in Chicago, to a clear mind in a split second.<sup>12</sup> But is this claim of exceptionalism really well founded? Who among us has not suffered from sleep deprivation during residency and even after entering practice? Who did not fall asleep during conferences or when retracting on a long case or, even worse, when driving home from the hospital? I am sure you all know of a resident who was in a motor vehicle accident after leaving the hospital after an extended call. Hopefully no one was injured or killed, but unfortunately both of these outcomes have occurred. If we teach that trauma is a preventable disease, isn't our profession obliged to do everything reasonable to prevent it, especially when we could be a cause?

Surgeons have many personality traits in common with pilots, and there are remarkable similarities in their jobs. Both groups are responsible for the health and well being of others, have physically and mentally demanding tasks, and have to make split-second

decisions, sometimes with incomplete data. Surgeons have been likened to fighter pilots who decisively act without any fear of failure to rescue their patients from the clutches of death. Airline pilots are often compared to surgeons, especially when discussing sleep deprivation. The data from the airline industry clearly indicate that sleep deprivation affects performance. During transoceanic flights, 747 pilots who were not allowed to sleep had substantial episodes of involuntary microsleep.<sup>13</sup> If you don't know what microsleep is, all you have to do is look at your audience when you are lecturing to surgical residents. Those whose heads nod forward and then suddenly jerk back are having microsleep. The airline industry study showed that the eyelids of these pilots would droop and close even during the critical 10 minutes before landing. This can be significantly decreased or even eliminated if the pilots are given a 40-minute in-flight rest or nap period.

But does this type of information apply to the clinical performance of surgical residents or a practicing surgeon? After all, doesn't the surgical ethos demand that we take complete responsibility for our patients and not share it with a copilot? Whang and coworkers<sup>14</sup> reported a regionwide survey of New England surgical residents. The 186 junior residents who responded felt sleep deprived 60% of the time they were at the hospital, and 79% of them felt sleep deprivation had adversely affected their work. The results were similar for the 140 senior residents who responded. They felt sleep deprived 53% of the time while at the hospital, and 83% admitted that sleep deprivation adversely affected their performance at work. Eastridge and coworkers<sup>15</sup> showed that sleep-deprived surgical residents made more errors during laparoscopic training exercises. The residents in their study didn't slow down to prevent errors and in fact didn't recognize they were making errors. They continued at the same speed as their rested peers despite being impaired. They didn't have the judgment to admit they were sleepy or drowsy but continued to proceed full speed ahead. Other studies

have also shown that laparoscopic skills are diminished after a night on call and that sleep-deprived residents require more time and are more prone to error, especially for routine and repetitive tasks.<sup>16,17</sup> Medicine and surgery are much more complex, and our patients' expectations are much higher than when the concept of the surgeon as a captain of the ship was initiated. The growth in medical knowledge and the application of technological advancements are occurring with exponentially increasing speed. This complexity makes errors more likely and potentially more costly, especially when one considers the illness acuity of today's patients.

We can't ignore society's views on sleep deprivation. A bill was introduced in the House of Representatives in February 2003 to provide incentives for states to develop traffic safety programs to reduce crashes related to driver fatigue and sleep deprivation. In New Jersey, "Maggie's Law," named after a 20-year-old woman who was killed in a motor crash, was passed in June 2003. This law allows prosecutors to charge a sleep-deprived driver with vehicular homicide, a second-degree crime punishable by up to 10 years in prison. How ironic it would be if a New Jersey surgical resident, an individual dedicated to helping the sick, would be charged by such a law. Clearly, society sees sleep deprivation as a preventable impairment just like alcohol and will increasingly hold sleep-deprived individuals responsible for their actions.

Why have surgeons been so steadfast and resolute in supporting the old system and resisting change? Our usual argument is that it is required for continuity of patient care, a core value of our profession. Yet, the fact that we are here at this meeting speaks loudly that our patients can receive good and ongoing care even in our absence. Our patients want us to provide dedicated, skilled, and compassionate care for them, but they also expect us to be at our best. My patients regularly tell me to get a good night's sleep before I perform their operation. I am sure they would have second thoughts

about going ahead if they knew I was up all night before.

## **ECONOMICS**

Chicago has been the home of many Nobel Prize-winning economists. These by and large conservative theorists believe that market forces play the deciding role in almost all human endeavors. The economics of practicing surgeons have deteriorated during the past decades. Flat or decreasing reimbursement and rising overhead, especially malpractice premiums, can have only one effect on surgeon income whether working at an academic center or in private practice. Students who are making their career choice know that if they go to medical school they can expect to graduate with a 6-figure debt (Richard M. Knapp, PhD, unpublished data, 2003).<sup>18</sup> They will have to spend 3 to 8 years as an underpaid and overworked resident, and their economic prospects on reaching practice are not very bright. Meanwhile, their college classmates will have been in the workforce for approximately 10 years, during which time they will have accumulated substantial equity in their salary, possessions, and pension plan. Is it any wonder that the number of applicants to US medical schools has fallen each of the past 7 years? Some would claim that we have eliminated those who were going into medicine for the wrong reasons and are selecting out those who have a real calling and commitment. Maybe so, but even with God calling, religious vocations are down. The religious life is having even greater difficulty attracting competent people to dedicate their lives to helping mankind, and they don't have to work as hard as surgeons.

Indebtedness has become an important factor that medical students consider when choosing a specialty in which to do their residency. All too frequently, bright, talented students tell me they cannot afford to go into surgery because of the financial pressures they have to support their family. They or their spouse cannot afford

to ignore economic reality and delay their gratification when they are carrying such a heavy debt. Economic prospects do play a role in specialty choice. Weeks and Wallace<sup>19</sup> reported that the annual yield a medical student can expect from their educational investment in a surgical specialty fell an average of from 36% to 19% for surgical specialties between 1992 and 1998. The difference in the average future hourly income between general surgery and general practice decreased from \$12.03 in 1992 to \$9.89 in 1998. Many alternative specialties with better lifestyle and financial prospects now offer the same procedural gratification that has traditionally attracted medical students to general surgery. Again, I believe that these economic factors partially explain why interest in general surgery has fallen among medical students. General surgery now ranks fifth on the list of specialties chosen by graduating male medical students and tenth on the list of graduating female medical students. There has been a 25% drop in applicants to surgery residency programs in the past 10 years, and the number of US graduates matching in surgery continues to decrease. Improvements in our recent match results are somewhat misleading since the decrease in unmatched positions has been achieved by selecting more international medical graduates.

Any educational endeavor is only as good as the teachers within it. The training of the next generation of surgeons is dependent on the presence of qualified surgeons committed to the educational process. Most surgeons relish the opportunity to interact with medical students and surgical trainees. They enjoy sharing their accumulated experience, dispensing clinical pearls, and demonstrating technical skills. But these activities take time and are poorly compensated. Financial pressures have increasingly forced even full-time academic surgeons to focus on clinical practice, making it ever more difficult to learn and develop educational skills and to spend the requisite time using them with our trainees. Medical students and residents slow us down.

The old adage that time is money is negatively impacting today's surgical education.

## CHANGE

Among today's college and medical students, the general public, and the hierarchy of medical education, there is a sense that surgical education must change and adapt to the 21st century. But change is difficult, especially for individuals who are as certain as surgeons that what they are doing is right. We have been taught not to step out in front of the pack and take a leadership role when it comes to change. Didn't our teachers warn us not to be first to use a new drug or try a new procedure? Machiavelli summarized the perils of change in *The Prince* almost 500 years ago:

*There is no more delicate matter to take in hand, nor more dangerous to conduct, nor more doubtful of success than to step up as a leader in the introduction of change. For he who innovates will have for his enemies those who are well off under the existing order of things, and only lukewarm support in those who might be better off under the new.*

Despite this admonishment, we surgeons must take on the inevitable challenge of change and direct it for the betterment of our profession. If we don't promote and guide the inexorable changes that will affect our educational programs, they will still occur. Having lost the opportunity for self-control, we will be trampled as these alterations speed on over us.

Almost two thirds of the things I do in my clinical practice are things I never did or was trained to do differently during my residency. This is not unique, and the majority of what most surgeons do in practice was not learned in residency. There is no reason to believe that change will not continue to be part and parcel of

our careers and that of our trainees. In fact, if anything, change will become even more rapid and more dramatic. Wayne Gretsky explained his success by saying he skates not where the puck is but where it is going to be. We have to be open to change and demonstrate to our residents that change is inevitable. It should not be resisted but should be evaluated, managed, and directed. When you are in charge or in control of change it can be exciting or reinvigorating. We have to show our trainees that it is better to be on the train of lifelong learning than to be left at the station as the world passes us by.

With regard to surgical education, change must first begin with an understanding and acceptance that the new work-hour regulations are the right thing for training. By emphasizing education and not dwelling on service, the task becomes how to use the allotted time in the best possible manner. Our goal should be to make the amount of time our residents spend in the hospital more meaningful and beneficial to their education. American industry has used technology to become more efficient. We have to do the same in surgical education. Information technology systems in our hospitals now make laboratory results and radiology, pathology, and operative reports widely and rapidly available. Imaging studies can be viewed on PACS—picture archiving and communications systems—that can be positioned in each unit or even at the bedside. This improved information transfer should eliminate time-wasting telephone calls or unnecessary trips to these departments. Surgeons have to see the current benefits and future possibilities of these systems and push their hospitals to expand their use. Many residencies are already providing their trainees with handheld devices or laptop computers to use for both clinical data management and access to medical literature and other learning resources. As these devices become smaller and more powerful they will be the rule rather than the exception in our training programs.

The see one, do one, teach one method has never been an acceptable educational process, but there are some tried-and-true methods of teaching surgical anatomy that are still useful. We instituted a cadaver dissection course as part of our basic science curriculum at Rush. The program was initiated by a junior faculty member and our educational specialist. Residents used operative approaches to see pertinent anatomy for vascular, head and neck, endocrine, and abdominal surgery under the direction of a faculty member. This received one of the highest reviews for educational benefit by residents at all levels. The financial outlay for this has been small because the cadaver cost was shared by other departments that used them for different purposes.

A substantial amount of time residents spend in the hospital involves repetitive noneducational activities they call "scut." We have to educate our administrators that this is no longer acceptable and that appropriate ancillary staff must be hired so residents are not drawing routine blood, transporting patients for testing procedures, or performing other inappropriate tasks. Abuse of these types of activities can jeopardize all of the educational programs at an institution. Some programs have added physician assistants or nurse clinicians to assist residents and decrease their work hours. We have some at our integrated institution, Cook County Hospital, and have applied for some at Rush. Several programs, including that of our immediate past president, Dr Organ, have shown that physician assistants can have a positive influence on surgical education.<sup>20,21</sup> They decrease work hours and improve morale. More important, this type of interaction enhances a team concept where the surgeon is working and managing ancillary staff to provide more effective patient care. These types of physician extenders are being used more and more by practicing surgeons to increase their efficiency, so residents should have exposure to them during their training.

Being prepared to do an operation no longer simply means reading the appropriate pages of a surgical atlas. The costs of operating room time and the technical complexity of many modern procedures demand training. Before entering the operating room, the skills for open and for minimally invasive procedures must be developed. This can be accomplished in many ways, and both high-tech and low-tech means are available. Skills laboratories and courses, minimally invasive trainers, simulators, virtual reality, CD-ROMs, and videos all have a role and can be complementary. At Rush, we have a basic surgical skills course as part of our new resident orientation. We also have a laparoscopic simulator and several trainers in a minimally invasive laboratory. The costs of these have been nominal and have been the focus of philanthropic and industrial support. The late George Block, who was also a president of the Western Surgical Association, told me when I was a student on his service that “books don’t bleed.” His message was that you have to be in the operating room to learn surgery. Even though this remains true today, it doesn’t mean that our training methods cannot help our residents to avoid bleeding and more deftly control it when they are in the operating room.

## **EXCELLENCE**

Surgery must adopt the approaches used in the military and in industry to improve performance and outcomes. We must seek ways to improve training so residents are truly prepared to do a procedure before they enter the operating room. The incredibly small number of errors that have been achieved in night bombing raids and other military actions comes from an unyielding emphasis on preparation. The military mnemonic of the 6 *p*’s—perfect practice prevents piss-poor performance—has to be incorporated into surgical education. The random opportunities of our current system must be replaced by a curriculum or learning system that meets the needs of our residents and our patients.

Surgical residency has been a one-size-fits-all type of endeavor. The 9 primary components of surgery, all of which are essential to the education of a broadly based surgeon, are defined by the American Board of Surgery as (1) alimentary tract; (2) abdomen and its contents; (3) breast, skin, and soft tissue; (4) head and neck; (5) vascular system, excluding intracranial vessels and the heart; (6) endocrine; (7) surgical oncology; (8) comprehensive management of trauma; and (9) complete care of critically ill patients. Furthermore, general surgery residents are expected to have "significant preoperative and postoperative experience in pediatric, plastic, general, thoracic and transplant surgery." The growth of knowledge and the integration of technology in all of these diverse areas make it harder to master as a resident, to stay current as a practicing surgeon, and to provide the full range of the discipline as a residency program. Few if any residencies are strong in all of the primary and secondary components of surgery, and few if any of our residents are competent in all of these areas when they enter practice. Nevertheless, the RRC [Residency Review Committee for Surgery] has emphasized the importance of uniformity in our training programs and used a single yardstick to measure their quality. Greater flexibility is needed in evaluating residency programs. The different emphasis and expertise of training programs must be understood as a strength, for this diversity can better meet the needs of our trainees and our patients.

Each year of residency training must be a valuable educational experience. The American Board of Surgery recognizes and is trying to codify it by developing a curriculum for the first 3 years of training. They are also evaluating a modular approach to further focused training in the primary components. This modular approach is one attempt to adjust to a changing environment that requires more and specialty care. It should not be the only alternative to our current system if we are truly looking at ways of improving surgical residency. Rather, many more options need to be put

forth on a trial basis. These should come not just from the American Board of Surgery and the Residency Review Committee for Surgery but should also emanate from other interested organizations, such as the Association for Surgical Education and the Association for Program Directors of Surgery, and even from individual residency programs. Winston Churchill said that “the American people can be counted upon to do the right thing but only after they have exhausted all other possibilities.” We need to see and try those possibilities if we are going to pick the right ones.

More and more of our trainees do not feel they are ready to enter practice or that they can have the type of practice they want after completing surgical residency. Seventy percent of males and 40% of females graduating from surgical residency now do fellowships. These numbers are on the upswing. I had my first fellow in endocrine surgery last year. He was funded by his home institution, so there were no financial constraints in developing a program for him. Funding is a real issue for advanced training since there are limited or no Medicare dollars to subsidize the individual’s salary for this type of advanced fellowship. Minimally invasive fellowships have burgeoned not only because this is a rapidly developing field but more importantly because there is industrial support for this type of advanced training. Surgical device and equipment companies see the value of these programs for their bottom lines. We must find ways to fund other types of fellowships so that our trainees will have the skills needed to provide the very best care when they enter practice. Allowing fellows to take on the role of an attending surgeon with credentialing and appointment as an active member of the medical staff is one way of generating salary dollars for these trainees. This has been used in a number of programs, including the University of Pennsylvania Trauma Fellowship.<sup>22</sup>

Surgical education has fostered a belief among our residents that they should become like us, their

teachers. Education is really about giving students the tools and desire to go beyond what their instructors have accomplished. None of us want the care that was provided by our predecessors even though it was the very best for their time. We want to practice, and our patients demand, what is currently the very best care. We must teach our residents not to be satisfied with what we are currently teaching them. They must strive to go beyond us because improved care for tomorrow's patients must come from their creativity and innovation.

Surgeons have always tried to excel in the things they undertake. We have passion about what we do and want to be the best at it. Surgical education needs our passion and desire for excellence now just as those qualities were needed from Halsted at the start of the past century. I am sure we are up to this challenge and that we will all strive to keep American surgical education in its preeminent position.

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