

What Is Our Identity? What Is Our Destiny?

I THANK YOU FOR THE HONOR of serving as your president for the past year. I would like to acknowledge the support, assistance, and advice of my fellow council members, as well as Mark Anderson and the hard-working, exceptional staff of the American Society for Surgery of the Hand (ASSH).

I would like to recognize and thank a number of important people in my life. First and foremost, I thank my wife, Mary, for her love and unselfish support, which was in disproportion to what she received back from me this year. Thanks also to my sister Susanne and her charming and very talented daughter Anjette who, together with Mary, are the only close family I have. I also wish to recognize and thank those people who have served as my mentors. Richard H. Gelberman has been my role model as a surgeon, scientist, and educator. Andrew Weiland has been a friend and advisor and, as a staunch supporter, had the courage to trust me to be his program chairman for this annual meeting 14 years ago. And thanks to Julio Taleisnik for his sage advice over the years. I would like to thank Martin Posner and Steven Green, who nurtured my interests in hand surgery while I was in residency in New York City, and Richard Braun, who taught me that it is okay to speak my mind, regardless of the consequences. Finally, I wish to thank my colleagues, fellows, and residents for making it exciting and fun to come to work every day.

Now I am going to share my thoughts with you on how hand surgery has matured and how I see our specialty of upper limb surgery benefiting from certain autonomies from our parent boards of orthopedic, plastic, and general surgery. Despite the sweeping changes in the social and economic practice of medicine over the last 100 years and our angst about the future as it relates to President Obama's health care bill, our specialty has grown and prospered, and we will continue to provide new and better care and increased function to our patients. Many perceive change as an unwanted threat to our profession. Rather, change brings promise for a better future. During my tenure as president, I have become convinced that where hand surgery needs to be is under a conjoint board to maintain its integrity, serve the changing population of patients, and effectively train practitioners. In a nutshell, this will consolidate training time effectively, avoid the practical pitfalls and territorial wars that becoming an independent board would entail, and provide support to each of our current constituent specialists. Over the course of this year, the ASSH Council has made some movement toward this goal. We defined what constitutes our specialty as unique, with all 6 competency components as outlined by the Accreditation Council for Graduate Medical Education, and we have produced a curriculum document that defines the scope of our practice. Today, I will examine the need for change, the steps we have taken to advance change, and the reasons for supporting the conjoint board¹ as a solution. Consider, what is our identity and what is our destiny?

I want you to imagine that it is 1950 and you have numbness and tingling in your thumb, index, and long fingers that wake you up at night. You go to

see your family doctor, who sends you to a general surgeon who diagnoses you with thoracic outlet syndrome and removes your first rib. You get out of the hospital 7 days later, and you go home with your carpal tunnel syndrome symptoms unresolved. Fast forward 60 years to the confidence that your hand surgeon is well trained, knowledgeable, and capable of resolving your specialized problem. As we all know, there are various practice differences among the people in this room. However, whether your practice concentrates on wrist disorders, pediatric hand surgery, brachial plexus surgery, microsurgery, or shoulder and elbow surgery, you share with one another a common identity: hand surgeon. We are the masters of the upper limb, and we are all concerned with our education and abilities to give the best care to our patients. We all face the same problems: health care reform, diminishing reimbursements, government interference, and generational changes in our residents, fellows, and young partners who will eventually replace us. How best are we going to meet the future challenges of our profession? There is an old Chinese proverb, "Consider the past and you shall know the future." Where we came from, how we got there, and where we are going is what I would like to discuss next.

HISTORICAL PERSPECTIVE

In the early 19th century, surgery was dreaded. Patients avoided surgery because it was painful. Wound treatment consisted primarily of lancing boils, draining abscesses, and suturing lacerated structures. Before 1850, the amputation rate was 19%. Nineteenth-century surgery was often performed at home in street clothes with bare hands and with unclean and reused instruments. Mortality was 3 to 5 times higher in hospitals. Hospitals were reserved for charity cases and were a social stigma.

In Paris, up to the early 19th century, there were 3 groups of medical care providers: physicians, surgeons, and apothecaries. Outside the medical mainstream, at the margins of surgery, were the experts who were specialist healers who performed particular surgeries on specific parts of the body. Experts mastered specific manual techniques. Their procedures were often secrets; they were treated as charlatans by surgeons. Surgeons raised their own status by introducing formal teaching and promoting research. Understanding and embracing the study of anatomy became the key requirement. Advancing medical knowledge demanded limiting practice to a specific domain. The question of what legitimately constituted a specialty surfaced. To some, it was the specific population treated, such as children. To others, specialization was defined by specific organs, hard-to-master technologies, specific therapeutic modalities, laboratory procedures, or social needs. Those responsible for rapidly setting up medical services for huge numbers of military personnel particularly favored specialization. Specific military manpower needs provided support for the development of specialties such as cardiology, psychiatry, orthopedics, and, after World War II, hand surgery.

Specialist training continued to evolve. The increasing volume of knowledge led to more effective, more intense, and longer training. There were pressures to standardize, as variations in training became increasingly unacceptable. Standardization led to formal clinical guidelines, and a driving force was reducing cost. Money could be saved if variation and bad practice were eliminated.

In the United States, the system of certification by specialty boards started in 1913 and became established during the interwar years. It has remained

unchanged for nearly 100 years. As a result, specialties dominate the medical landscape today. Every physician has become a specialist of one sort or another.

The growing requirements for certification and maintenance of certification (MOC) are driven by many leaders in the profession, supporting the view that physicians should demonstrate to the public that they are skilled and knowledgeable. Historically, board certification was granted after a proctored examination was passed. The first specialty board, ophthalmology, was founded in 1917. Other specialties followed, and in 1933 they organized as a federation called the Advisory Board for Medical Specialists, renamed in 1970 to the American Board of Medical Specialties (ABMS). For initial certification, each board requires between 3 and 6 years of training in an accredited training program and passing a comprehensive cognitive examination. To assess clinical competence, some boards require satisfactory program director evaluations on 6 competencies (patient care, medical knowledge, practice-based learning and improvement, interpersonal and communications skills, professionalism, and systems-based practice), whereas others require oral examinations, audits of medical records, review of case logs, or observed performance on real or standardized patients. Taking the position that satisfactory performance on a single examination does not ensure that physicians remain competent throughout their careers, the ABMS insists that all member boards' MOC programs include the 6 certification competencies, organized into a 4-part framework. The ABMS MOC initiative calls for evidence of the following: (1) professional standing, (2) lifelong learning and periodic self-assessment, (3) cognitive expertise as demonstrated by a secure examination, and (4) performance in practice. Although each board can design its own methods for compliance, an ABMS Oversight and Monitoring Committee has been established to guarantee adherence to the principles.² If standards are to be set and competence examined, should we do this as an organization, or should others continue to do this for us? One of you expressed frustrations with the MOC on our listserv by remarking: "I am flabbergasted at the prospect of the MOC. It does not make any sense, at least not for the American Society for Surgery of the Hand. Maybe for the American Society of Surgeons Who Also Do Hand Surgery. How does knowing the issues relating to a Garden III femoral neck fracture or a Rose-Thompson cleft lip repair diminish the likelihood of my making errors in practice? My own CAQ certificate is from the American Board of Surgery. Does that mean I can expect to see questions comparing splenorenal versus portocaval shunts on my own personalized CAQ [(Certificate of Added Qualification)] 20 to 30 years out of training in that specialty?"

In the United States, almost any would-be specialist group can introduce a certification board, even if it is not officially recognized. Take, for example, the American Board of Facial Plastic and Reconstructive Surgery, which is not recognized by the ABMS and was actually chartered by ear, nose, and throat surgeons. In 2000, there were 137, and now there are 186 self-designated boards not officially recognized by the ABMS. The ABMS has tried to curb unbridled specialization by pushing new groups into subspecialty categories. The number of subspecialties has exploded in a burst of new fields cutting across established categories and boards.

INTEGRITY AND IDENTITY OF THE SPECIALTY

As orthopedics grew to be a specialty separate from general surgery, there was considerable discussion about fragmentation and turf. This trend toward

specialization and subspecialization continues because of our field's growth. The structure of our postgraduate education programs has not changed for more than 20 years. Does every hand surgeon trained by the orthopedic pathway need to spend months on a service performing scoliosis surgery or pelvic osteotomies? Does every hand surgeon trained by the plastic surgery pathway need to be skilled at cleft lip and palate surgery? Specialist certification is a process that is led by organized medical professions and should reflect their belief and values. Do our training programs, certification, and MOC processes meet these goals?

Our role as leaders in hand surgery is to advance our training programs to meet the future. We must have consensus about our destiny. This is too important to remain neutral. "Standing in the middle of the road is very dangerous; you get knocked down by the traffic from both sides."—Margaret Thatcher.

The subspecialty of hand surgery developed in the last 65 years, as an offshoot of general surgery. Its development exemplifies evolution by concentration, as well as by specialization of knowledge. It has drawn heavily from the classical bases of surgery: anatomy, biomechanics, pathology, molecular biology, and physiology. It has used techniques from the armamentarium of general surgery, orthopedic surgery, plastic surgery, neurosurgery, and vascular surgery. It has also relied heavily on both the basic science laboratory and the clinic.

Think of the fantastic explosion of medical science and technology that is going on around us. The strain on residency and fellowship training is increasing as the 80-hour work weeks are enforced and additional learning objectives are created in the educational curriculum.³ The resident's and fellow's roles are more directed to sharpening surgical skills and less focused on service tasks such as patient care. As attending physicians are scrutinized to be more efficient with surgical times and generate better outcomes, the effects of decreased resident and fellow participation in surgery is an increasing concern. Autonomy for our trainees in the operating room is becoming nonexistent. Medicare's antifraud and abuse programs have put an end to any idea of independence for fellows and senior residents. The new rules require attending physicians to actively participate in examining patients and doing procedures. The Institute of Medicine proclaims that the 80-hour work week improves patient safety and provides greater resident safety and enhanced educational outcomes for residency training.⁴ The decreased autonomy of our fellows in the operating room has changed the paradigm from "See one, do one, teach one" to "See one, see another, watch as one is taught." There is a price to pay for all this efficiency, and I am afraid that our fellows bear the brunt of that cost. Residents are faced with the highest average amount of loans ever, and participating in research and pursuing academic medicine correlates to a longer delay to substantial compensation and loan payoff. Therefore, it is of great concern that our future potential research portfolio will suffer. Upper extremity training needs to become efficient, focused, and innovative, if we are to keep up with new knowledge.

Kevin Chung's 2004 survey results reveal that enjoyment of the intellectual issues involved in hand surgery is the most important factor in pursuing a career in this field. He also reported that, although there is no deficiency in the number of available hand surgery fellowship pro-

grams, the number of fellows within these programs is decreasing, which poses the question of which factors are driving eligible candidates into other subspecialties. His results reflect the need to re-evaluate hand surgery education in both orthopedic surgery and plastic surgery training programs to ensure that all aspects of the field are represented adequately.⁵

COST CONTROL ON RESIDENT AND FELLOW TRAINING

One might consider how orthopedic or plastic or general surgery residents choose their career options. Most have finished medical school with enormous debt and are in the process of completing 6 years of house staff training—including fellowships, which most of them feel compelled to pursue. If they spend time in laboratory research, an additional year is required. Marriage and children make a great incentive to choose a specialty other than upper extremity surgery.

The impact that financial incentives have on fellowship choice cannot be ignored. Accumulated educational debt is growing more rapidly than the consumer price index, inflation, and even health care costs. The current model of upper extremity training is exceedingly costly for trainees, payers, and society. Medical school graduates now carry 4.5 times the educational debt of those graduating 20 years ago, and that debt can be in excess of \$350,000.⁶ Gaskill and co-authors determined the return on investment by calculating an opportunity cost of pursuing an additional year of orthopedic fellowship training and found the breakeven payback interval to be 7 years for hand and 8 years for shoulder surgery training.⁶ Considering the decreases in Medicare fee schedules and greater managed-care penetration, the implications of time in training might become ever more financially based. This might alter the supply and demand of our subspecialty and impact patient access to care.⁶ From the financial perspective, 5 years of total training affords much greater value than 6 or 7 years, provided that the educational quality is equal to or better than that of our current model.

EFFECTIVENESS OF RESIDENT AND FELLOW TRAINING

Our current model of training hand surgeons relies on progressive specialization. We start out in 1 of 3 surgical specialty residencies, followed by an additional year of fellowship training. Educators in other fields are challenging this model in favor of early specialization. Remarketing on general surgery residency training, Longo said, “There are many arguments for early specialization. These include the need to match training as best as possible to eventual practice, eliminate irrelevant and redundant training experiences, and attract prospective trainees to meet workforce demands.”⁷

Early specialization is attractive for the aforementioned economic reasons. It decreases the duration of training, dealing with rising medical school debt. It is also more realistic, recognizing that most residents who receive fellowship training will limit the scope of their practice.

Historically, the American College of Surgeons was the umbrella organization for all surgical specialties. With evolution, orthopedics broke away, and now the American Academy of Orthopaedic Surgery is the umbrella organization for orthopedic specialties. Referring to the American College of Surgeons, in 1978 Hanlon noted that the role of the

umbrella organization “is difficult to delineate precisely, because of evolving changes in its constituencies, inevitable alteration in the national milieu, and a gradual evolution of the umbrella organization’s own idea of its mission and programs.”⁸

Hand surgery emerged as a subdivision of special interests among the continually increasing fragmentation of surgical skills and practice. Although Sterling Bunnell, a general surgeon in the true sense, had many achievements, he is credited with being the father of hand surgery because he saw a place for the convergence of skills from several areas of expertise. He emphasized the need for surgeons with several skills rather than a random selection of surgeons with specific skills related to neurosurgery, orthopedics, plastic, general, or vascular surgery.⁹ He promoted this merger of interests and, thus, the basis for a new generation of hand surgeons. In 1944, Bunnell convinced the American wartime Surgeon General Kirk to establish special centers for the care of hand injuries. Nine centers were designated in the United States, and Bunnell was made a consultant. As a teacher, he became an example of this new generation of hand surgeons and promoted the field in both research and clinical applications. Advances from the general scientific community were quickly applied to hand surgery. Material science led to joint replacements. The operating microscope led to the continuously expanding field of microsurgery, with replantation and free tissue transfers and now transplantation.

With the proliferation of hand surgeons, so began the proliferation of upper limb surgery organizations. In 1946, the ASSH began with 35 members. We now have 3003 members and 81 active committees. There now exist the American Association for Hand Surgery, the American Society for Reconstructive Microsurgery, the American Society for Peripheral Nerve, the American Shoulder and Elbow Surgeons, and a host of other upper limb societies worldwide, such as the British Society for Surgery of the Hand, the Japanese Society for Surgery of the Hand, the Federation of European Societies for Surgery of the Hand, and the International Federation of Societies for Surgery of the Hand, just to name a few. With so many individuals applying the advances of medical science to the upper extremity, we have established our own new subspecialties and new standards and expectations of care. It is time for us to accept responsibility to ensure a robust educational curriculum to train the upcoming members of all of our societies.

Residency and fellowship education affects good clinical practice. This education is influenced by the quality of the curriculum to which a future hand surgeon is exposed. In 2004, Kragh and his coauthors measured teaching and learning in orthopedics residencies and identified areas in need of redress.¹⁰ Surgeons’ interests were not guided by students’ needs. Surgeons taught subjects of their own interest, disregarding resident needs, and taught little outside of their own interests. A central issue was that a better balance of subspecialty teaching quality was needed.¹⁰ This is particularly important when one notes that, during a 5-year orthopedic residency, less than 15% of the teaching hours are devoted to hand surgery. Residents more than 10 years ago worked on average 90 to 100 hours per week, so over a 5-year residency, they spent 3000 to 5000 additional hours in training compared to present-day residents. According to Ericsson, 10,000 deliberate hours of practice are required to make an expert.¹¹ The impact of this massive reduction in time on the breadth of a resident’s experience and overall competence has not been assessed. Education is a complex topic,

requiring the study of many variables. A well-defined, standardized curriculum is one of these essential variables.

A priority for our training programs is the need for the development of fellows' competence in practice so that they are prepared for all contingencies after completion of fellowship. We must address the curriculum needed to train our future hand surgeons. It is with this in mind that I assigned 2 task forces this year: 1 headed by James Chang to develop the ideal rotations to train a complete upper extremity surgeon and 1 by Martin Boyer to develop the curriculum content for these rotations. Many of you were called on to provide your thoughtful input. We partnered with a task force from the American Shoulder and Elbow Society, which developed the content for shoulder and elbow education. The end product of this combined effort is a comprehensive Surgery of the Hand and Upper Extremity Curriculum document. It has been reviewed and approved by Council. It outlines competency-based goals and objectives and contains the comprehensive content-based curriculum that will serve as the ASSH's initial attempt at codifying and systematizing our specialty. From this enormous body of work, we have begun to construct a new Hand Society publication, a comprehensive textbook of hand and upper extremity core knowledge that will help guide the education of our future surgeons. In his role as our education director, Edward Akelman laid the groundwork to make this book possible. Peter Weiss is the managing editor who will bring this book to fruition.

THE VASCULAR SURGERY STORY

A cardiothoracic surgeon, Timothy Gardner, remarked that 2 basic principles "of human enterprise have been firmly established by repeated lessons of history: *progress is inevitable, and challenges are overcome*, either creatively or by adaptation and evolution."¹² With this in mind, I would like to tell you the story told by James Stanley of how vascular surgery dealt with evolution in its discipline.¹³ Dr. Stanley is the Handleman Professor of Surgery at the University of Michigan and served as the president of the Society for Vascular Surgery in 1996 to 1997. Over time, the vascular surgery field evolved, overlapping to compete with interventional radiology, interventional cardiology, and even cardiac surgery. Competency in all of general surgery as a path to vascular surgery, including a test and recertification in general surgery, made less and less sense, as vascular surgeons needed to concentrate on developing new skills. In addition, vascular surgeons did not believe that it was in the patients' interest to have general surgeons performing vascular surgical techniques. They increased training programs to either 3 years of vascular surgery coupled with 2 years of core general surgery residency first, or 5 years of general surgery with an additional 2 years of vascular surgery. They defined their specialty, defining both the 24- and 36-month core curricula, and thereby identified what they believed to be their discrete body of knowledge. After they had expanded their training programs and increased the amount of training required to become a vascular surgeon, they initiated discussions with the American Board of Surgery (ABS) to establish a sub-board of the ABS that would have board position requirements established by a board of vascular surgeons; both the board and recertification examinations would deal only with questions related to vascular surgery.

James Valentine said, in his address to the Southern Association for Vascular Surgery in 2007, "Vascular surgery has been reinvented, and we are a truly independent specialty responsible for our own destiny. We have a dedicated

Vascular Surgery Board within the American Board of Surgery that allows our appointed members to write questions and independently determine thresholds for certification and recertification. We have won approval to train our residents in completely new pathways that shorten the length of training by 1 or 2 years. We are able to offer our patients every conceivable therapy for vascular disease, including medical treatment, endovascular procedures, and open surgeries. General surgeons are no longer being trained to perform index vascular procedures, meaning that peripheral vascular disease has become the domain of the certified specialist in vascular surgery. This successful movement to independence from the traditional specialty of general surgery has been the envy of other surgical specialties attempting reinvigoration.”¹⁴

EVOLUTION

Sterling Bunnell, the key person in the founding of the specialty of hand surgery in the United States, was clear about determining our identity when he said, “The surgeon responsible for the hand should control the composite situation unhampered by *anatomical* limitations, so that he might approach the problem from the functional standpoint.”¹⁵ Unfortunately, he then missed the boat by limiting our scope, declaring that “The hand surgeon must work from the *elbow down* in 3 overlapping specialties: plastic, orthopedic and neurosurgery.”¹⁵ His first edition of *Surgery of the Hand* was written in 1944 and covered what was then our specialty in only 734 pages. When I last checked PubMed, there were at least 561,000 scientific articles cited on the upper extremity.

There were no formal postgraduate training programs in hand surgery when the ASSH was formed in 1946. By 1950, there were 12 hand surgery services in the United States and Canada. Preceptorships developed gradually, and hand surgery growth led to its inclusion in the American Medical Association’s expanded list of designated specialties in 1975.¹⁶

In 1974, the Forward Planning Committee of the ASSH was turned down by all of the 3 primary boards to endorse the request for a certificate of special competence in hand surgery.¹⁶

From 1974 to 1978, the ASSH Council formed committees to advance and evaluate postgraduate educational training. Under the leadership of President George Omer, the ASSH began to develop quality controls for fellowships and started the process of voluntary onsite reviews to establish accreditation. Thirty-seven directors of hand surgery fellowships voluntarily initiated continuing onsite program evaluations in 1978.¹⁷

In 1977, the year I graduated medical school, Harold Kleinert, in his presidential address, posed the question: “What is the desired amount of initial training for a hand surgeon?” He responded that “for surgeons who principally practice hand surgery, one year of training after residency would be ideal. For the surgeon in a medical center performing highly specialized procedures, 2 years is more appropriate.”¹⁸

In 1981, the 3 primary boards—the American Board of Orthopaedic Surgery, American Board of Plastic Surgery, and ABS—began to collaborate with the ASSH and the American Association for Hand Surgery to revisit the process of certification. After initial discussions, all parties signed a formal agreement in 1984 to form the Joint Committee on Surgery of the Hand, which then began working with the Residency Review Committee to evaluate postresidency fellowships. By 1986, the Residency Review Committees from the 3 primary boards agreed to identical special requirements

in hand surgery, and the ABMS approved their joint application for the Certificate of Added Qualifications in Surgery of the Hand.

The Certificate of Added Qualifications process has been deemed both reliable and valid, as the pass rate has a positive correlation with hand surgery fellowship training, practice caseload, and percentage of practice in hand surgery.¹⁹ The process, however, is designed only to evaluate and provide a common standard of quality to our patients for disorders *distal* to the elbow requiring subspecialty care.

The transition of hand surgery training as a subspecialty parallels the historical trend throughout medicine toward specialization. Training programs ranged from limited periods of observation, to preceptorships, to formal fellowships hosted by an academic institution. The first funded, 12-month fellowship program in hand surgery was established by Robert E. Carroll, MD, at the New York Orthopaedic Hospital/Columbia-Presbyterian Medical Center in 1958. It is appropriate that our Founder's Lecture as of this year bears his name.

Sweden is our guest international society this year. Their road to hand surgery specialization took a different pathway than ours and is worth examining. In 1947, Erik Moberg spent several months in America with Bunnell and Howard in San Francisco and with Koch, Mason, and Allen in Chicago. In 1949, Moberg established the first hand surgery ward in Scandinavia at the Sahlgren Hospital. In 1969, due to the support of Nils Carstam, the National Board of Health and Welfare recognized hand surgery for accreditation as an independent discipline. Sweden was the first country in the world to accomplish this; it was considered a great victory for the specialty. According to Carl Hagert, it created a "countrywide fellowship and a pioneering spirit that knew no limits."²⁰ Without first specializing in orthopedic or plastic surgery, doctors could train in a hand surgery postgraduate training program, which after 5 years led to a diploma qualification in hand surgery.²⁰ Currently in Sweden, about two thirds of the hand surgeons are also general, plastic, or orthopedic surgeons, whereas about one third have approached hand surgery directly from residency.

Sidney Halpern said, "Specialties are dynamic and constantly changing, recasting their activities and identities at regular intervals."²¹ Is it not time to recast our identity? Is it not time to take charge of our destiny? The times have changed, and we have changed. If we attempt to ensure sufficient numbers of physicians to provide quality care of patients with upper limb disease, we must understand workforce needs and recognize limitations of our current training programs. This issue is particularly pertinent due to the entrance of 75 million baby boomers into our patient pool and a resultant 73% increase in individuals older than 65 years from 2010 to 2030.¹³

It seems critical to examine surgical training from the point of view of surgical practice. In 1986, the American Society for Surgery of the Hand and the American Association for Hand Surgery jointly sponsored a role delineation study of hand surgery, the purpose of which was to define the knowledge and skills necessary for competent hand surgery practice and to determine the responsibilities and activities of hand surgeons.²² The study was published in 1990, 20 years ago. A lot has changed since then, when 25% of our members replied that they never learned before, during, or after their fellowship how to treat a distal radius fracture. Therefore,

Council this year has approved funding a grant to re-examine the questions asked 20 years ago; we are currently seeking proposals. We hope to identify changing manpower needs, regional variations, and changes in practice patterns, as well as the educational needs of our profession.

THE PRACTICAL DIFFICULTIES OF COMPLETE INDEPENDENCE

From our weekly member update surveys, we learned that more than half our members expressed the opinion that hand surgery should become its own board. I can assure you that will not happen in the near future. In order to form an independent, primary board of hand and upper extremity surgery, the ABS, the American Board of Orthopaedic Surgery, and the American Board of Plastic Surgery would all have to agree to abrogate their Certificates of Added Qualifications and vote “yes” to support our application to the ABMS. Under the mandate of the ABMS, no 2 primary boards can have separate certifying examinations for the same specialty.

But I have a good alternative that would solve many of our problems. We should strongly consider establishing a conjoint board rather than a primary board. From an operational viewpoint, a conjoint board is similar to a primary board in that it defines criteria for individuals to sit for examinations, and it certifies those who pass these examinations. A conjoint board might request development of a Residency Review Committee for its specialty. Appointment of directors to the American Board of Upper Extremity Surgery as a conjoint board would come from nominations from one or all of the sponsoring ABMS boards and societies such as ours, program directors, and other societies and organizations with direct interests in the treatment of upper limb disease. The policies of a conjoint board must be in conformity with those of the sponsoring boards, but the day-to-day operations would not be affected by the problems that have existed with those presently responsible for controlling our training programs, our certification and recertification, and now with MOC. Being a conjoint board would give us the opportunity to function more efficiently and independently.

IF IT'S NOT BROKEN, DON'T FIX IT

I know there are questions about what it is we need to fix. This year, we surveyed hand fellowship directors to determine the shortcomings of our current training programs. We got back comments that there was limited experience in care of patients with congenital anomalies, rheumatoid arthritis, soft tissue reconstruction, and replantation, and there were mixed experiences in arthroscopic surgery, elbow, and shoulder procedures. One of you expressed the opinion that training in microvascular surgery, congenital surgery, and brachial plexus were totally inadequate. There was a sense that the current training might be insufficient and that training could be more comprehensive. It is time to admit that the current educational process is in need of restructuring.

To my plastic surgery colleagues, let me alert you to some facts. According to the 2007 Accreditation Council for Graduate Medical Education data, there were 152 orthopedic surgery residency programs with 617 graduates per year, compared to 89 plastic surgery programs with 193 graduates per year. The number of new plastic surgery diplomats obtaining a Certificate of Added Qualifications in Surgery of the Hand decreased from 28 to 8 from 1997 to 2007. The percentage of active plastic surgery diplomats holding a Certificate of Added Qualifications in Surgery of the Hand has decreased to 10%. Your

presence in the field of hand surgery is losing ground, and that was not our founding fathers' vision. We need to restore the balance. Early exposure to medical students in a hand residency setting would increase your visibility.

To my orthopedic colleagues, we should also be concerned. Our residents are increasingly migrating to sports medicine and spine surgery rather than hand surgery. The reasons are obvious. Herndon advises us that the most notable barrier is the financial one, which is beginning to influence the individual's choice of specialization.²³ Poor reimbursement is currently discouraging residents to go into hand surgery, and if it were to become extreme, it might be enough of a barrier to cause our specialty not to grow or even to cease to exist.²³ There would be clear benefits from early exposure of medical students to hand surgery, and this would be enhanced if there were departments of hand surgery and hand surgery residencies staffed by orthopedic and plastic surgeons working side by side. According to Dr. Stanley, who headed the vascular surgery service at the University of Michigan for 28 years, the vascular surgery training programs are now getting more and better applicants, which they attribute to the development of vascular surgery residencies and early exposure to medical students.

To encourage greater entry into hand surgery, we should continue, for the time being, to have multiple pathways from orthopedics, plastic, and general surgery. But with dedicated hand surgery faculty in our own residency, we would have more focused hand surgery rotations, longer duration of exposure and a greater volume of cases that pertain to our specialty, more experience with elective hand surgery, and more of an opportunity to develop super-specialties such as congenital, brachial plexus, microsurgery, and oncology. We would have better support for career development with federal funding for our programs, similar to other specialty residencies. Although not every hand surgeon wants or needs to do tertiary hand surgery, every hand surgeon should have exposure and training in these tertiary areas.

At some point, we should expand to a 2-year fellowship, because 1 year is not adequate to give the experience in microsurgery, shoulder, congenital, and complex hand surgery. Jim Chang's task force report concluded that there is greater interest in comprehensive training, including shoulder and elbow and free flap surgery; currently, there is no time to develop academic hand surgeons to accomplish meaningful research and develop specific clinical expertise; transitioning to a 2-year fellowship is easier and sets the stage for us to develop integrated programs. Dr. Chang's task force created the ideal rotations for a 2-year fellowship. Although some of you predicted that we would be tilting at windmills, I am happy to report that, with the cooperation of the American Shoulder and Elbow Society under the leadership of Gerald Williams, we have an agreement to move forward with a trial of 2-year combined pilot fellowships. Past president Steven Glickel chaired a committee charged with examining the process for implementation of these pilot fellowships, and William Seitz, as chair of our Corporate Advisory Council, worked on solutions to funding these fellowships through our foundation with new grants from our industry partners.

The next step for us would be to develop a 6-year integrated program, which would give us greater ability to control all aspects of our training. This pathway would allow us to define our specialty as a true upper extremity specialty. We might actually be able to condense this integrated pathway to 5 years, which is consistent with the national trend to shorten training and

would clearly make it more attractive for those entering the field from medical school.

Accreditation of physician education programs and certification of physicians have facilitated the evolution from apprenticeships to standardized training, with measurable outcomes of graduates' competence. We should embrace expanding our education and training of more competent hand surgeons to care for our patients with hand disorders. We need to provide better access to this care and ensure that we have enough properly trained hand surgeons for the future. Increased training for the upper extremity will mean that there will be more surgeons qualified to cover a wider range of trauma, and it could translate into better care for patients. We should control our training programs' development and governance to define their educational content and determine what constitutes core knowledge for certification. Having a primary pathway to becoming a hand surgeon will provide an opportunity for those who prefer not to have to participate in MOC of their parent boards.

Can we do it? The last independent board created under the ABMS was emergency medicine, which formed as a conjoint board in 1979, making it the 23rd recognized medical specialty. If we want to achieve greater specialty independence from the current tri-board structure, the best way to do this is by becoming a conjoint board under orthopedic and plastic surgery. The ASSH, in terms of members, budget, and staff, is slightly larger than the Society for Vascular Surgery. If, during a period of 8 to 10 years, the vascular surgeons were able to increase their training programs, provide different pathways to become a vascular surgeon, end the requirement of recertifying in general surgery, alleviate the concerns of their program directors, and negotiate with the ABS to establish a sub-board with independence from the ABS, then the Hand Society, with a larger budget, engaged and committed members, and an energetic staff, is well positioned to accomplish the same goal. We also have the advantage of learning from the vascular surgery experience what the likely path to success would be.

The upper extremity surgery community is no longer in its adolescence. We have evolved to a mature specialty where a greater degree of independence as a conjoint board deserves support. As Arnold Glasow said, "The trouble with the future is that it usually arrives before we're ready for it."

Let's get ready for our future. "You and I have a rendezvous with destiny." (Ronald Reagan, 1964). Thank you.

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