Presidential Address

Connect! Science Education Collegiality

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Welcome everyone. I had second thoughts about coming to New York City this week and I know that many of you did too. I am so glad I came and I hope you are too. Just look at us. Let's see a show of hands. Who are the residents and fellows? Hand therapists? Members of the military, past and present? First time visitors to New York? Those who are within 50 miles of home? Just look at us. We are one of the largest groups of hand professionals ever assembled and in one of the greatest cities in the world. Let's congratulate ourselves just for being here, with our hands of course. Al Qaeda, go to hell.

During the past year I have had the pleasure of attending 18 hand-related meetings and talking directly with a number of you. We have also communicated by phone and e-mail and I have tried to read widely to monitor the trends that affect us. Surprise! There is a veil of dissatisfaction and unrest over medicine. Most of us are working harder and longer yet for less. Many are cautious about advising young people to follow in our footsteps. We are getting kicked in the R-R-E-R-R. Risk, regulation, and, expenses are up. Reimbursement and respect are down. Maybe I can relate a couple of experiences to make you feel better.

A state inspector came to my office wanting to make sure my employees were making minimum wage.

"Tell me about the people who work here."

"Janet's the nurse. She makes $30 an hour. Gets health insurance and retirement benefits."

"Who else?"

"Julie's the receptionist. She gets $16 an hour plus health and retirement."

"Who else?"

"Well, there's Half Wit who works in the back."

"Tell me about him."

"He makes about $4 an hour and gets free parking."

"That's the one. I want to talk to him."

"Mister, you are talking to him."

Then there is reimbursement. I called Blue Cross: "I'm surprised that I haven't received payment for the carpal tunnel release I did 6 months ago."

"Don't be surprised you haven't received it. We haven't sent it!" She continued, "Looking over the claim now, I see that your fee is rather pricey. How do you calculate your fee for carpal tunnel release?"

"Before health care finance reform, I just took the CPT number and put a dollar sign on it [Fig. 1]. Since healthcare finance reform, I take the CPT code and multiply it by the ICD-9 code and put a dollar sign on it. So pay me."

"Well, we have a slightly different formula. Before reform, we took the ICD-9 code and put a dollar sign on it. Now we take the ICD-9 code and divide it by the CPT code. I'll mail your check today."

Well, even if laughing relieves the pains in the R-R-E-R-R momentarily, we are still having problems. But if Hillary, Blue Cross, Medicare, and the trial lawyers can't solve our problems, can I today? No. But what I can do is put our present state in

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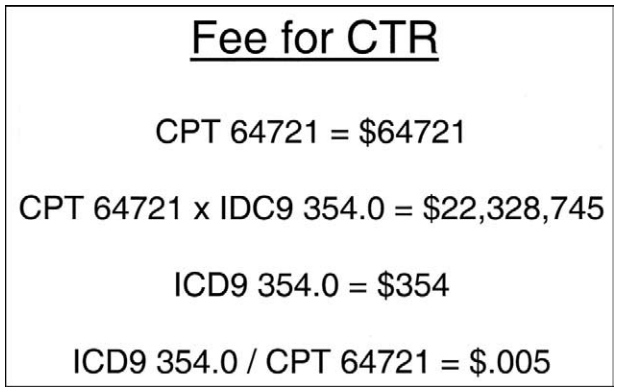

Figure 1. Alternate methods for calculating fees.

perspective and help us see a bigger reality and a vision. You know, we are among the most privileged people in the history of the world—fed, clothed, educated, affluent, healthy, free, and blessed with meaningful work. Yet there is real unhappiness in our group. Let's have a look back at our professional roots. That may help us see our future more clearly.

This is a picture of the organizational meeting of the American Society for Surgery of the Hand held in 1946 [Fig. 2]. Of the 35 founding members, only 3 are still alive, and Dr Littler is the only one who still attends our meetings. Bill, please wave so everybody can say hello. These men are smiling. They may be smiling because it was finally peace time, but more to the point, this group shared a unique and common bond—inventing the specialty of hand surgery. And inventing a new surgical specialty should make anybody smile. Think for a minute. Soldiers and sailors were, for the first time in the history of war, surviving major limb injuries without immediate amputations, and these doctors were treating these injuries from a regional perspective. The same surgeon was treating all the injured tissues in concert—devastating burns, crushes, and blasts. We take it for granted now. It was a novel concept at the time. This generated an excitement and *esprit de corps* that still echoes in our presence today. These men advanced the science. They grew the field from nothing. They began holding annual meetings to discuss and disseminate the science. They spread the word. And through their shared work, they became lifelong friends and extended their friendship to us. They shared the fun. What an amazing legacy is preserved in these smiles.

Admittedly, they did not have the pains in the R-R-E-R-R we are experiencing. Nor did they have to concern themselves with SARS, AIDS, or Al Qaeda, but we have some things they did not have that in fact make our lives and the lives of our patients better than the founders could have ever imagined: communication aids (cell phones, e-mail, list servs), conveniences (surgery centers, electronic billing), credentials (Certificate for Added Qualifications in Surgery of the Hand, Certified Hand Therapists), amazing hardware (headless screws, fixed-angle plates, external fixators), advanced imaging (microscopes, arthroscopes, CT, and MRI), learning tools (DVDs, skills labs), medications (short-acting anesthetics, long-acting analgesics), and power (power tools and PowerPoint). With tissue engineering, genetic engineering, nanotechnology, and limb transplantation on the horizon hand surgery's future is even brighter.

Not only has our world and medicine changed since that first organizational meeting, the Hand Society has changed too. We have gone from 35 members to nearly 2300. The Central Office has gone from a couple of folders in the secretary's desk to a fulltime professional staff of 14. The Hand Society

Figure 2. Organizational meeting of the American Society for Surgery of the Hand, January 20, 1946, Chicago.

interacts with a myriad of health care organizations. We have a public relations campaign, a charitable foundation, and an annual budget approaching 6 million dollars. The Hand Society is now big business. The point I want to make is this: the world has changed, medicine has changed, the Hand Society has changed, but the core values of science, education, and collegiality to which the Founders were committed have not changed. The major thrust of my year as President and my key point today is answering this question: How can we best take advantage of the incredible privilege that we share as hand professionals—privilege that we may not regularly acknowledge but that is the legacy of these smiling Founders? Science, education, and collegiality got the Founders going, and directly or indirectly these gentlemen got us excited about hands. This is what we are—science, education, collegiality.

Let's connect science, education, and collegiality together in a 21st century context, and then let's connect ourselves to these core values. Here is my call to action: Science—grow the field. Education—spread the word. Collegiality—share the fun. If you have trouble remembering these values, think of them as S, E, C: SEC. It is easy this week. It is SEC and the City.

Science

Let's start with our core value of science. All of us are scientists. We approach the world rationally. We do not choose treatments based on hearsay or feng shui. I am now going to demonstrate that our work is based in science. Several hundred of you have these audience response key pads. Show them to us. Now push A, B, C, D, or E to show us what the right surgical treatment is for previously unoperated, McGowan II cubital tunnel syndrome. [Audience response (N = 193): *in situ* decompression, 20%; subcutaneous transposition, 34%; intramuscular transposition, 11%; submuscular transposition, 27%; medial epicondylectomy, 8%.] Oops, not everybody agrees with me. Let's try another question. In what percentage of hand cases is it appropriate to use perioperative antibiotics? [Audience response (N = 205): up to one quarter of cases, 40%; one quarter to half of cases, 14%; half to three quarter of cases, 11%; three quarter to all of cases, 35%.] More difference of opinion. How can this be? Remember, we are scientists. Aren't there right answers to these questions? There probably are. But the sad truth is that we don't know.

We need better science. We need to climb the

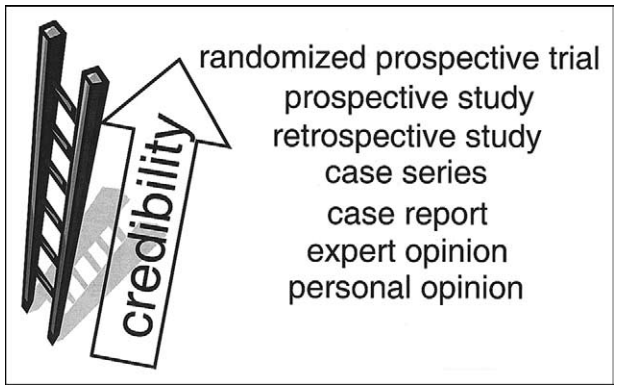

Figure 3. Ladder of scientific validity.

ladder of scientific validity [Fig. 3]. Science starts with personal observation and opinion, but that can be problematic. For example, I saw a man on the sidewalk yesterday with a doughnut on his head. "Hey, what's with the doughnut?" "To keep the tigers away." "Tigers? There aren't any tigers around here." "Yes, it's working!"

Well, personal opinion gets trumped by expert opinion, so if the doughnut man is an expert he becomes more believable. Then if his observations get peer reviewed and published, they become an even closer approximation of the truth, especially if the observations are consecutive and are reviewed systematically. This would be a retrospective study, but retrospective studies can be problematic. They can contain valid but unsettling conclusions. Here's an example. "Of the patients returning for follow-up evaluation, survival was 100%."

We snicker at the faulty logic in these examples. Why then don't we equally deride commonly heard statements among surgeons such as, "I do it this way because that is the way I was taught," or "I tried it the other way once and the patient got infected, so I stopped"? Doctors have the best education and training the world has to offer, yet we don't know when to use antibiotics or how to treat the ulnar nerve. Aren't there best answers for these questions, at least for most surgeons and most patients most of the time? Wouldn't our credibility be enhanced with patients, payers, and policy makers if we could provide them with immensely valid scientific answers? Of course it would.

I am so pleased that this year under the able leadership of Michael Keith, the Hand Society is taking the first steps toward establishing multicenter clinical trials. Within the next year we will have an electronic framework on which to enter clinical and outcome data on a common and debilitating condi-

tion, for instance basal joint arthritis. You enter the clinical data and your patients enter their own outcome data. When each surgeon here enrolls just one patient for a specific disease, we will have a powerful landmark study suitable for publication in the *Journal of the American Medical Association* or the *New England Journal of Medicine*. It will allow us to practice the best medicine possible. It will also give us enhanced visibility and credibility in the medical community and beyond. Other multicenter clinical trials will logically follow on the same electronic framework. I see this endeavor as hand surgery's equivalent to a manned mission to Mars—bold, expensive, difficult, yet an achievement that is monumentally uplifting and valuable. The American Foundation for Surgery of the Hand agrees to help fund multicenter clinical trials, and with this in mind it is initiating a major planned giving campaign to significantly increase its endowment. I hope you share my excitement about multicenter clinical trials. Together we support them financially, contribute patient data, and benefit from the scientifically valid results.

So core value number one is science. Grow the field. We used our hands earlier to celebrate our gathering here, let's again express ourselves with our hands—show our interest in growing the field for better science. Show a big thumbs up. Did you notice that while you were thinking about science, something we control, you forgot about the pains in the R-R-E-R-R?

Education

The next core value is something else we control: education. Education is so important because even the very best science is wasted if it is not disseminated and used. From its germinal days the Hand Society has been an education machine. If we are going to continue to spread the word, let us take a few minutes to consider what works best, beginning in the exam room where every one of us teaches and learns. And teaching and learning are a single, inseparable concept. Each of us should teach, learn, teach, learn *ad infinitum*. Here is what can happen when the 2 get separated. A cardiac surgeon told me, "I taught my dog how to do hand surgery." "Well then, have him show me." "Uhh, I said I taught him how to do hand surgery. I didn't say he learned."

But just for a minute, let's keep teaching and learning artificially separated and dissect them to see what works best. Good teaching starts with good content. The best content is accurate, current, and clear to each learner, who has immediate use for the material. The worst content is just the opposite [Fig. 4].

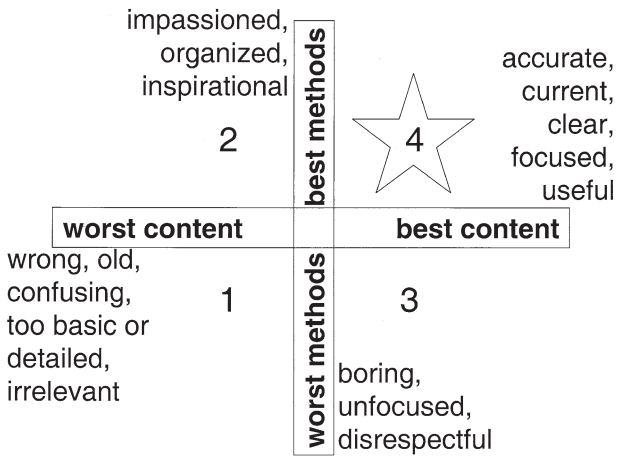

Figure 4. Four types of teaching.

Before you doze off, let me ask you this. When you discuss trigger finger with patients, do you use the word "pulley"? Those patients must think, "There aren't any pulleys in my hand! Get out of here!" and you have lost them. Simon and Garfunkel expressed their disdain with confusing and irrelevant content by singing, "When I think back on all the crap I learned in high school, it's a wonder I can think at all." We need good content. We also need good teaching methods—impassioned, organized, and at least worthy of respect if not inspirational. The worst methods are just the opposite. Mark Twain hit this nail on the head. He observed white man trying to civilize the American Indians. Twain said, "Soap and education may not be as sudden as a massacre, but they are more deadly in the long run."

When we put content and methods together into a Cartesian coordinate system we see that there are 4 ways to teach. (1) One who uses ineffective methods to impart faulty material is not a teacher at all, perhaps an old goat. Surgical pimping comes to mind—irrelevant material, demeaning attitude. (2) A teacher who is friendly and amusing but who does not convey useful information is merely an entertainer. (3) Somebody who conveys useful information by ineffective methods is a bore. We all have had some of these 3 types. Unfortunately, we tend to teach the way we were usually taught and thereby perpetuate ineffective methods and worthless content. The abused becomes the abuser.

This is where we want to be: (4) useful methods and relevant material. I'll give you 3 stellar examples. David Green, this year's Founders' Lecturer and consummate lifetime educator, is going to elab-

orate on the teacher in all of us at 11 AM tomorrow. Then at 3 PM, James Burke, my Presidential Guest Lecturer, will show us how a professional educates. I want to take a minute to honor Tom Trumble's and my mentor in hand surgery and a man who was also a friend to many of us here, Richard Smith. He graced everyone with his keen intellect, quick wit, gift of eloquence, and infectious smile. He brought out the best in everybody. Dr Smith, we miss you. We thank you for all that you taught us.

So this is how we should best teach: relevant content, effective methods. How do we best learn? Adult education hardly needs a teacher in the classic sense—each of us needs to be learner and teacher. I picked this up at the first Hand Society meeting I attended—1978, Dallas. The meetings were not nearly as multifaceted or interactive back then as they are now. I was sitting in a huge dark ballroom for several days listening to paper after paper. It was getting rather tedious. I kept telling myself, "This is the way hand surgeons keep up, Roy; so pay attention." Finally, I had to take a break. I walked out into the lobby, and much to my surprise, there were several hundred surgeons huddled around in small groups. They were listening, speaking, gesturing on their hands, nodding in agreement, shaking their heads in disagreement, asking questions, arguing themselves clearheaded. This is where the true formation and dissemination of knowledge was occurring. All were contributing. All were learning. I had been in the dark. I wasn't connecting.

Another principle of adult learning is that we seek information of immediate relevance. Yes, we can learn the names of the states' capitals and the value of pi to 15 decimal places as well as children. We just forget the information when we don't have immediate need for it. As adults, we want to apply material immediately, next week at the latest, to improve our performance and satisfaction.

Furthermore, most surgeons and therapists are visual-manual learners. Yes, we can learn by reading and hearing, but we tend to learn best when we can manipulate the material. In this regard, an ideal learning environment is a surgical residency program. The problems to solve are immediate and real, the learner is motivated and can manipulate the materials being studied, and the responsibilities are graded. Probably nobody wants to repeat residency or fellowship, but we can simulate those powerful learning environments in a surgical skills lab.

Well, a big meeting like this can't be a re-enactment of our fellowship or a continuous coffee break. For one thing most of us can't drink that much coffee. But don't just sit passively in the dark for the next several days like I did in Dallas. Customize the experience for you. The program committee is offering many choices to fit your needs. Take the material you learn in here and discuss it with the speakers, poster presenters, fellow registrants, technical exhibitors, and me. Connect.

What about education during the rest of the year? I want to emphasize 3 valuable interactive opportunities. Remember those groups in the lobby that I described at my first Hand Society meeting? These informal learning encounters take place every month in living rooms and restaurants around the country. Journal club is an entirely pleasant way to keep up with our literature, exchange opinions on clinical problems, and connect with area colleagues. How many people attend a hand journal club? In the *Journal of Hand Surgery,* 70 journal clubs are listed. Join one. If there is not one near you, start one and list it, and involve the hand therapists. They are incredibly enthusiastic and energetic learners.

The second highly recommended educational opportunity is the travel club. How many people belong to a travel club? The one I belong to has 30-some members roughly the same age, from all across the country and from different practice settings. We meet annually for a long weekend in a resort area. In the mornings and among trusted friends, our discussions are frank, freewheeling and wide ranging. In the afternoons, our families join us for recreation. The members have become my best friends. My wife, Susan, loves it too. It is a meeting where she gets to see her friends and me. The Hand Society wants to ensure that everyone has the opportunity to connect with kindred souls in a travel club. To inform you about travel clubs, there is a lunchtime session tomorrow and there is also information on the Hand Society's website, including the names of about 300 people who want to get involved. You might consider an affinity group of those who joined the Hand Society the same year you did or those sharing an avocational interest—maybe fishing or wine.

Thirdly, do you remember the Regional Review Courses from the '80s and '90s? Concurrently in multiple cities, hand surgeons taught the same core information to local audiences. This entailed tens of thousands of 35-mm slides being produced, sorted, distributed, and updated. The program finally imploded on the shaky finances of moving those slides around the country, but Richard Smith's concept was

extraordinary. The courses not only widely disseminated the core knowledge of our specialty, they also engendered collegiality among the faculty, who volunteered to work toward a common goal in their community.

Debuting today, the Regional Review Course concept is here in a 21st century format. John Seiler and his committee have done a stupendous job of assembling a DVD with 59 state-of-the-art talks on the crucial elements of hand surgery. We see 3 immediate uses for Crucial Elements. Beginning today, it is on the Hand Society's website for self study, with an examination and 40 continuing medical education credits at the end. Beginning this winter, you will have an opportunity to bring Crucial Elements to your community as a face-to-face program. It will provide core education and serve as a fundraiser and collegiality builder for the local hosting organizations. All of us can use Crucial Elements for teaching responsibilities at home, internationally, and everywhere in between, without having to spend precious time to assemble basic talks. Have a look at it in the bookstore here at the meeting.

Education is our second core value. We previously used our hands to congratulate ourselves for being here and then to show our interest in better science. Let's again express ourselves with our hands—show our commitment to spreading the word—a high five to your neighbor for education.

Collegiality

Several times today, I have mentioned collegiality, a signature characteristic of the Hand Society. Collegiality comes easily when a group shares time together striving for a common goal—such as inventing hand surgery. When a group embraces the same values and goals, they develop respect and trust for each other. And when they respect and trust each other, they can share their most heartfelt values and goals. They can then pursue these goals together enthusiastically. This ever-tightening spiral—shared goals, trust, and respect—happens all the time—it's called a good marriage. In our professional lives, it's collegiality. The antithesis of collegiality, of course, would be Dilbert—no shared goals or values, no trust, no respect. How can we engender collegiality?

Think of collegiality as a spiral [Fig. 5] At the fringe is recognition: attaching names to faces, getting to know one another, feeling comfortable. Let's start people into the collegiality vortex.

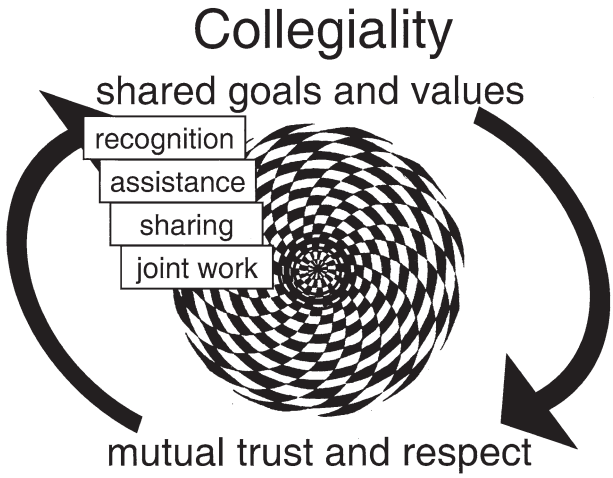

Figure 5. Collegiality spiral.

When you registered for the meeting, you were asked to list, in 3 words or less, an avocational interest that you would like to talk to a stranger about. Let's see how many people have "Ask me about . . . " activities on their name badges that they do inside: for instance, fine arts, food, books, antiques, politics? How many people have "Ask me about . . . " activities that they do on the ground: tennis, golf, team sports, gardening, bicycles, cars? In or on the water: skiing, swimming, fishing, sailing? Who has the "Ask me about . . . " statement that says belly dancing? Home brew? Blueberry farming? I see people looking around. Everyone seems to be interested in learning more about who is here. That is the idea of the "Ask me about. . ." statements, to catalyze new friendships and deepen existing ones. Like it or not, you are being drawn into the collegiality spiral.

The next phase of collegiality is simple assistance—acknowledging that those around you may have a commonality of purpose: offering directions, answering a logistical question, holding the door open, sharing a cab or a table. Closer to the vortex is sharing of ideas and dreams. Every time you discuss a problem case or a surgical technique you are sharing.

The vortex of collegiality is joint work. Nothing has been professionally more meaningful for me than volunteering for Hand Society activities. Get involved for the betterment of our profession. The personal and societal benefits are immense.

Collegiality is the third core value brought to us by our founders and is another useful antidote to pains in the R-R-E-R-R. Let's share the fun of

collegiality, once again expressing ourselves with our hands. Ladies and gentlemen, start the wave.

Connect!

I now come back to my original question. How can we best take advantage of the incredible privilege that we enjoy as hand professionals? Well, it's not only a privilege, it's a responsibility to sustain and enhance our great legacy of science, education, and collegiality and take advantage of the opportunities this century affords to move our profession forward. What's it going to be, a few pains in the R-R-E-R-R, or SEC? If you choose science, education, and collegiality, then let's literally connect in the world's largest hand-team handshake. Connect with Bill Littler and the founders. Connect with the residents and fellows who want to share the richness of our specialty. Connect with all hand care professionals this afternoon and for the rest of our lives. While we are connected, let's give a shout so that Simon and Garfunkel, the doughnut man, Mark Twain, and all the Founders can hear us. On the count of 3 and at the top of our lungs: "S-E-C, SEC."