Neurosurgery: A Culture of Excellence
Congress of Neurological Surgeons Presidential Address, 2009

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Thank you, Doug Kondziolka, and thank you all. First, I want to welcome all of you, members and guests, here to New Orleans for the 59th Annual Meeting of the Congress of Neurological Surgeons (CNS). It has truly been an honor and privilege serving on the Executive Committee of the CNS for the past 11 years and now as your President. Since 1951, the Congress' mission has been ''to enhance health and improve lives worldwide through the advancement of education and scientific exchange.'' I believe that this exchange is as important as ever, and it is quite evident here today that we need to look beyond the walls of our own institutions, cities, states, and even the borders of our respective countries because there is so much out there for us to learn, especially from each other. This has been the ''CNS Way'' as well, and I have learned how much can be achieved through dedication and volunteerism both here and abroad, if we so desire.

I want to first thank Drs Nathan Selden, Ali Rezai, and Russell Lonser for taking my vision and making it a reality at this year's Annual Meeting (Figure 1). If not for this year's CNS Executive Committee and staff and their time, hard work, creativity, and dedication, this organization would not be the organization it is today (Figure 2). I want to thank Drs Basant Misra and V.K. Khosla and all of the members of the Neurological Society of India in attendance who, in the spirit of volunteerism, contributed so much of their time and money to be a part of this wonderful meeting. I must also thank my friends and colleagues, first at the University of Pittsburgh where I began after training and now, more recently, at the Phoenix Children's Hospital, who provided the support so I could serve you this year. Similarly, I need to thank my family, who have traveled here to share this moment with me: my sister and brother-in-law (Nancy and Martin Hauser); my nephews, Ricky and Brian; my parents, mother, Jean Adelson, here, and father, Richard Adelson, in spirit; and my children, Casey, Brittany, David, Sam, and Richard, who provided the love and support that made it possible for me to fulfill this privilege (Figure 3). Lastly and most importantly, I need to thank and acknowledge, my wife, Barbara, who throughout the years, especially this year, has provided me with so much, making the difficult times not so difficult and the good times great. She has truly been the heart and the foundation of our family who has stood beside me through it all. Barb, thank you and I love you.

Pearl S. Buck, the Pulitzer and Nobel Prize winning author, once wrote that ''The secret of joy in work is contained in one word - *Excellence*. To know how to do something well is to enjoy it.'' Over the past year, many of you have heard me talk about this concept of ''*excellence*.'' It has been the theme for my presidency and this meeting, and a theme held dear by the Congress of Neurological Surgeons (CNS).(Figure 4). What then do we mean by ''Neurosurgery: A Culture of *Excellence*''? Matthew Arnold, 19th century poet and cultural critic, once said that ''Culture is properly described as the love of perfection.'' Can we say that neurosurgical culture is the ''love of perfection''? Is it the complex accomplishments that we strive for and achieve such as the optimal clip placement on an aneurysm? Or is it the child who goes home headache free after an endoscopic third ventriculostomy? Or is it just being able to restore the quality of life and dreams of a young woman who runs her first marathon 4 months after a temporal lobectomy for intractable seizures and remains seizure free? As neurosurgeons, is it truly perfection that we expect? If it is, is it a realistic goal? While I have often said to my residents and probably unfortunately to my children that ''perfection is the goal, *excellence* will be tolerated.'' Sometimes the enemy of ''good or excellent'' may be ''better'' or even ''perfect.'' But I would argue that at a minimum, *excellence* can be achieved. It is how we as professionals and individuals define that term that defines us.

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BUILDING ON THE PAST

Sir Isaac Newton reflected in a letter to Robert Hooke, ''If I have seen further, it is only by standing on the shoulders of giants.'' I recently heard my residency chairman from UCLA, Donald Becker, when introduced as one of the fathers of modern neurotrauma, emphatically state that he could not have achieved what he did without standing on the shoulders of others. All of us here in this room could easily say that as well, that without Cushing, Dandy, Rhoton, or Becker here in the United States or internationally, Tandon in India, Yasargil first in Switzerland and then here, Saitoh and Nakata in Japan, and MacKenzie in Canada, to name but a few, there would be

no neurosurgery as we know it. These phenomenal technical and intellectual neurosurgeons, giants in our field, left their impression and their vision of *excellence* not only in the minds of other neurosurgeons but also in those of other health professionals and the general public worldwide. One could easily argue that their own high expectations and those around them, raised the bar. They were not content with mediocrity because anything less than *excellence* for the patient or for the profession was unacceptable. They provided the path for those who followed, a path of identification of problems, investigation, refinement of surgical practice, continuous improvement—a path of *excellence*.

My father once said to me, ''No one strives to be mediocre, sometimes though they just need to be shown the way towards *excellence*.'' To indeed achieve *excellence* in the present day, I believe we need to develop our own paths to *excellence*. To begin, we should first examine and understand where we came from, a time when neurosurgery was extolled as the ultimate in professional achievement and self-sacrifice, and then we should examine where we are now. For some, our profession has devolved to a job, a profession under attack in today's media, the information-now environment, with increased oversight and regulation, funding restrictions, and professional liability crises. Yet in contrast to what the public often hears, we can do the most remarkable things with advanced technologies, neuromonitoring, and minimally invasive techniques that were not even dreamed about as recently as 15 years ago when I finished my training. We need to take a moment to be introspective, to identify the problems that face not only neurosurgery but medicine as a whole, and then need to forge ahead, be the next leaders of change as examples of *excellence*, not followers.

There are many who question whether these ideals are achievable. As President of the CNS, I have received numerous emails regarding our role, for example, in the healthcare debate, whether our small specialty can have any impact on the practice of medicine today or even whether we should be involved in the debate at all. At a minimum, the challenge is that each of us has to feel empowered to provide a voice of what ails our society's healthcare system and advocate for our patients. There are many other challenges from which we can learn and be stronger in the end.

In addition to *excellence*, we chose as the symbol of this meeting the phoenix because it, like ''*excellence*,'' can have many meanings. For this Congress and because of the venue, we sought to highlight 2 (well for me personally, maybe 3) meanings. The first is one of rising from the ashes. After Hurricane Katrina, there were many who doubted whether we would actually hold this annual meeting in this city. New Orleans has truly risen from the ashes, providing us once again with not only a wonderful venue but a tangible example of hope and new beginnings. The second meaning is one of ''ascendancy,'' rising above, gaining new height, soaring above all others. Our Annual Meeting remains our professional and international celebration. The best and brightest from around the world have gathered to interact, to collaborate, and to exchange the latest in scientific discovery. And it truly is a celebration to come here, to be able to hold our meeting in this city, and to have a chance to partner with the people of New Orleans to bring neurosurgery's latest science and technology together in such a forum. This is truly our forum as a profession to soar, to gain new heights, new knowledge, and new paths to *excellence*. I would like to take a moment today and throughout this meeting to explore with you this concept of *excellence*. We need to understand where we came from, on the shoulders of our own giants, in the hope that each of you will walk away reinvigorated with a better understanding of the basis of how one defines, pursues, and measures *excellence*, not only in your professional lives but possibly in your personal lives as well. My hope is that all of us, each in our own way, provide the foundation, the shoulders that future neurosurgeons will recall as being instrumental in their lives and on which they stand.

FIGURE 1. The ''Dream Team'': Nathan Selden, MD, PhD, FACS, FAAP, Annual Meeting Chairman; Ali Rezai, MD, Scientific Program Chairman; and Russ Lonser, MD PhD, Scientific Program Vice Chairman.

FIGURE 2. The Congress of Neurological Surgeons Executive Committee, 2008 to 2009.

DEFINING EXCELLENCE

The term ''*excellence*'' as it has been frequently used has different meanings to different individuals, to different groups, and to different professions. In the dictionary, *excellence* can mean ''the fact or state of excelling, achieving superiority, mastery, or eminence.'' Other definitions include ''doing the mundane extremely well,'' ''unusual goodness or worth,'' or ''possessing good qualities in a high degree.'' Synonyms include preeminence, transcendence, distinction, and merit. We can all identify with these words and meanings; indeed, it is the individual meaning that is the most important both professionally and personally.

Every day outside neurosurgery, we have many examples of those who would meet our definition of *excellence*. We know what *excellence* is in golf if we say ''Tiger Woods'' and in investing if we mention ''Warren Buffet,'' and if we say someone is a Nobel prize winner in science or medicine such as Peter Agre. These are determined individuals who are at the top of their fields or the top of their game; individuals consumed with an area of expertise that allows them to make a difference, to elevate performance, to push a field forward, to set new standards, to ''raise the bar,'' and then to teach and instruct those around them either through words or example. They strive not only to practice but to master.

FIGURE 3. The Adelson family.

So how then can we define *excellence* in neurosurgery in today's environment? You have already heard this morning from a number of our present-day ''giants in neurosurgery'' and what they see as the definition of *excellence* in each of their subspecialties. One of our past ''giants,'' Walter Dandy in his day was celebrated for the fact that he was a ''neurosurgeon'' and exemplified the best and the brightest, dedicated almost to a fault as someone who strove to create an atmosphere of *excellence* through his meticulous adherence to detail, taking control over what seemed to be insurmountable disease and health issues (Figure 5). He had an attitude for forging ahead, trying to improve the health and lives of those around him, both patient and healthcare worker, by the sheer force of his will in the burgeoning area of surgery and particularly in neurosurgery. In Dandy's day, he was portrayed as a hero, someone above the fray, ethical, moral, and with integrity that was unquestioned by all (well, maybe all except Harvey Cushing). Even with high mortality and morbidity, there was no question about motives and decision making. He was front-page news for new boundaries and new breakthroughs in medicine and neurosurgery, celebrated both here and abroad for his ''*excellence*.'' Although Walter Dandy, Harvey Cushing, and others were celebrated leaders and fathers of neurosurgery, they were just the first in a long line of neurosurgical giants who have defined *excellence* for our field and who have allowed us to build on their foundation, achieving greater heights, minimizing mortality to almost zero in most instances, and minimizing morbidity to levels unheard of even just 10 years ago.

FIGURE 4. Annual Meeting logo and theme, ''Neurosurgery: A Culture of Excellence.''

FIGURE 5. Walter E. Dandy (1886-1946) (reprinted with permission from Mary Ellen Dandy Marmaduke).

Recognizing this, we have to realize that it has not always been a completely smooth ride, with an ever-upward trajectory. You heard here 2 years ago from our John Thompson Lecturer, Jack El-Hai, author of *The Lobotomist,*[1] of one of these instances that occurred during the mid-20th century. Psychosurgery was initially based on preclinical studies in nonhuman primates with neurotic symptoms. Called a leucotomy, it consisted of severing the fiber tracts between frontal cortex and the rest of the brain, and for which Moniz eventually was awarded the Nobel Prize in 1949 for this procedure. Because other therapies and drugs were not yet available, the results were considered excellent, but only for institutionalized patients, as a radical, last-ditch attempt at reducing psychosis and severe depression or violent behavior. Later, the psychiatrist Walter Freeman and the neurosurgeon James Watts adopted Moniz' s procedure, developing a quicker, easier, more minimally invasive approach called the ''transorbital leucotomy,'' which could be done in a few minutes under local anesthesia in a medical office. Unfortunately, it became quite popular as a tool to control a whole gamut of ''undesirable'' behaviors across the nation's insane asylums, hospitals, and psychiatric clinics. Throughout the 1940s and 1950s, more than 50 000 persons underwent the procedure, which was widely abused for a whole series of ''indications,'' including problem children, rebel adolescents, women's problems, and in some parts of the world, political opponents, based on little science and poor evidence of efficacy. Fortunately, through the development of effective nonsurgical therapies and drugs and because of the widespread abuse and collateral effects of this procedure, the lobotomy, as it was later called, was abandoned and no longer performed. However, at the time, it was considered state of the art and the best available therapy for the patient.

More recently, despite years of improved drugs and therapies, there has been a resurgence of ''psychosurgery.'' Now under the rubric of ''behavioral neurosurgery,'' the scientific and technological advances, as well as the lack of alternatives for many patients over the past 10 to 20 years, have led to the translation of modern techniques that precisely delineate and stereotactically lesion through radiosurgery the very tracts originally described by Moniz, safely and without impact to frontal lobe function (Figure 6). Even more recently, with advancements in neuromodulation using deep brain stimulation (Figure 7), destructive lesioning can be avoided and potentially positively affect behaviors such as severe anxiety, obsessive compulsive disorders, or depression. All of these disorders are now being rigorously tested in a much

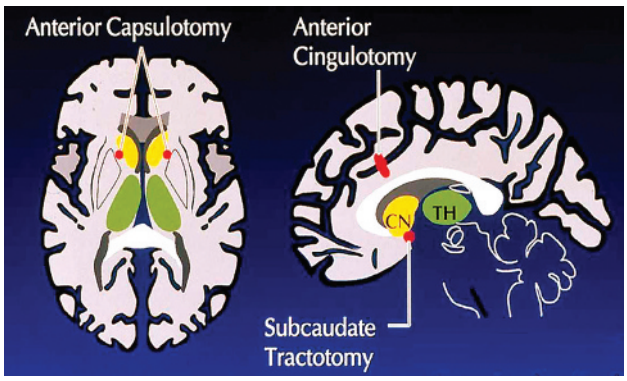

FIGURE 6. Gamma Knife radiosurgical targeting for obsessive compulsive disorder (courtesy of Douglas Kondziolka, MD). CN, caudate nucleus; TH, thalamus.

more measured and meticulous approach, directed at specific problems built on improved physiological and pathophysiological understanding, high-quality science, with defined metrics for success and outcome. In these and many other instances, when our profession applies itself in pursuit of a higher, more rigorous standard, we have come out stronger, all of us benefit, and as a profession defines excellence for us all.

PURSUING EXCELLENCE

Today, we can cite many examples in which our profession shines. There are many neurosurgeons whom we can all greatly admire because of their sacrifices—whether fixing a shunt at 2 AM, decompressing a spine as a result of tumor or infection, going in to operate for the gunshot wound Saturday night instead of going out to dinner with the family, or in the case of some of our friends and colleagues, spending countless months or years overseas, away from family, in difficult conditions, to improve outcomes by reducing mortality and morbidity for our brave soldiers in harm's way. Unfortunately, we also now commonly see attacks on the profession of medicine and neurosurgery from a multitude of directions: from the public, the legislature, the insurance companies, and even those within our own health profession. We are often portrayed in the *New York Times*, *Wall Street Journal*, and even in the *Journal of the American College of Surgeons* as money-grabbing, mistake-prone, conflicted individuals who care only about our quality of life, who have sold our souls to instrument manufacturers and pharmaceutical companies, creating neurosurgical spinal treatment factories while deferring involvement in cranial surgery and emergency neurosurgical care of adults and children because of reimbursement or professional liability concerns. Are these attacks justified? Although the media can sensationalize the minority, we should not minimize the basis of truth in these stories. We as professionals must look ahead, continue to take the high road, and extract the lessons to be learned so that we all can continue to pursue and achieve *excellence*.

What then is the problem? It may have been more difficult in today's environment for Walter Dandy to be the neurosurgeon he was. He was working in an era when he could improvise new diagnostic or therapeutic approaches such as the pneumoencephalogram (Figure 8A), developing new surgical interventions to try to improve the daily lives of his patients during a time when there was more ''art'' than ''science.'' He also did not have to worry about whether a lawyer or risk manager was lurking to stifle his innovation and creativity and his ability to develop and introduce new technologies to improve practice. Imagine him today trying to use a cystoscope (Figure 8B) to visualize the inside of the ventricular system. You could imagine hearing, ''So Dr Dandy, please tell the court, you put what, where?'' Despite the issues we face today, he still serves as a model of *excellence* who I believe adapted to the environment because of his drive and pursuit of *excellence*. The reality is that we all need to be able to innovate within today's environment, introduce new approaches, and pursue new technologies in a reasoned, rational approach and not be afraid. There will always be a learning curve, but it is incumbent on all of us to have the highest standard in which we pursue our novel therapeutic interventions of the future.

Neurosurgery has always been a technology-heavy specialty that has necessitated a partnership with industry for better implants, improved imaging, and minimally invasive instrumentation, to name only a few. Tools that we have used throughout the years, the Sugita Clip, Malis Bipolar, Leksell Frame, Rhoton dissectors, and Cyberknife, were all developed by neurosurgeons working with industry to improve our capabilities for operating on the brain and spine. Given the environment with reduced National Institutes of Health (NIH) funding, the vast intellectual property that originates from neurosurgery needs to be expressed to continue to innovate and achieve *excellence*. Clinical trials are not an inexpensive endeavor. As a principal investigator on a multicenter clinical trial, I can attest that the NIH has been very supportive in bringing to fruition the study of an ''orphan'' therapy, hypothermia. But the NIH cannot be depended on to bring to fruition all of the ideas, all of the innovations, all of the creativity that I believe exist in neurosurgery and in the neurosciences, now and in the future. I believe the culture of fear that pervades our society is killing innovation. Because of concerns about conflicts of interest or liability, even universities are shunning any interaction with industry, limiting new therapeutic development and new technologies. If we are to avoid proverbially ''throwing the baby out with the bath water,'' industry and neurosurgery need to be able to partner to improve the lives and health of our patients. We as neurosurgeons, however, need to be the leaders in this; we need to ensure that the development, testing, and introduction to clinical practice of new technology and new science are done properly, with the highest scientifically rigorous and

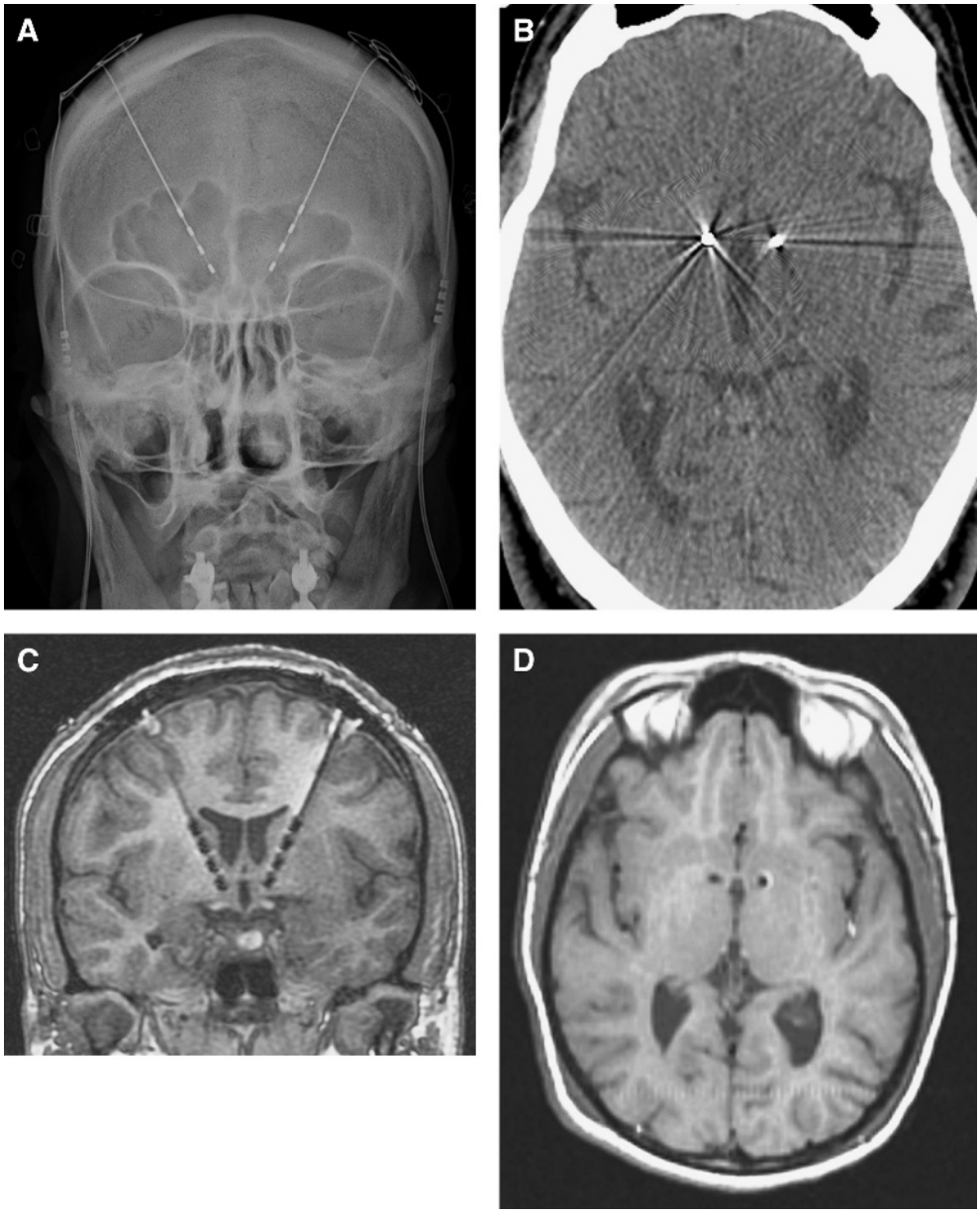

FIGURE 7. Targeting of ventral striatum for major depression using deep brain stimulation. A, Anteroposterior skull film; B, axial computed tomography; C and D, coronal and axial magnetic resonance T1 sequences (courtesy of Ali R. Rezai, MD).

ethical methodology and without conflict of interest, providing exemplary evidence of improved care. If we are to achieve *excellence* today, we have to recognize that the practice environments of Cushing, Dandy, or even the most recent generation of neurosurgeons are much different than the environment in which you or I practice. The problem in the context of today is that the methods and our approach need to be adapted to the changing environment and pursued in a new definition of *excellence* for our profession and science.

According to sports psychologist turned executive coach Graham Jones, who wrote in the *Harvard Business Review* an article entitled, ''How the Best Get Better and Better,''[2] ''People who become champions aren't necessarily more gifted than others; they're just masters at managing pressure, meticulously tackling goals, and driving themselves to stay ahead of the competition.'' He goes on to say, ''One of the keys to their success is a relentless focus on the long-term and the careful planning of short-term goals that will help them attain major milestones.'' Although the principles for pursuing *excellence* may be the same, the playing field in any profession, particularly neurosurgery, is different. Indeed, to pursue *excellence*, we need to manage the pressure, tackle new goals, and stay ahead of the competition, whether it be the disease or disorder that we are treating or external forces that

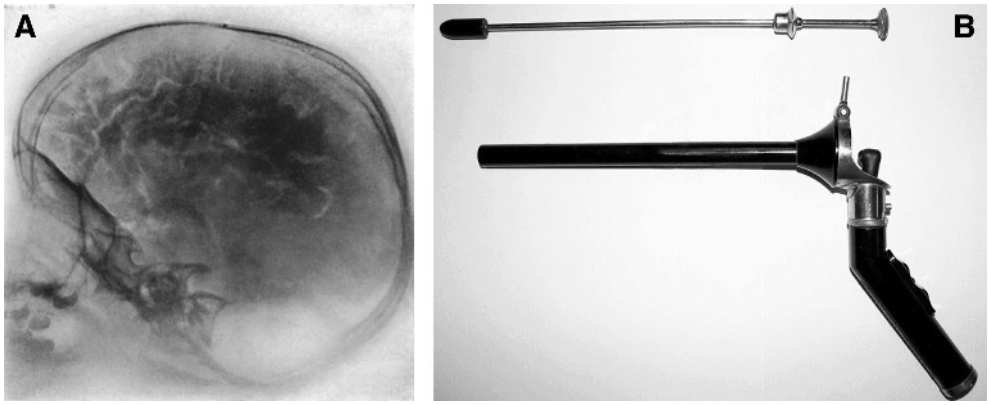

FIGURE 8. Innovative contributions to early neurosurgery by Walter E. Dandy. A, Pneumoencephalography; B, ventriculoscopy (reprinted with permission from Mary Ellen Dandy Marmaduke).

are attempting to stifle this pursuit. If we as a profession and as individuals truly want to make a difference in our lives and the lives of others, we need to have that relentless focus on the long term and begin to discover and live our true capabilities every day through our actions and our words. This is pursuing *excellence* in our lives and in neurosurgery.

To build on this, Terry Orlick, the author of *In Pursuit of Excellence*,[3] talks about the 7 critical components that are the essence of pursuing and achieving personal *excellence*. He summarizes this concept diagrammatically in his ''Wheel of Excellence'' (Figure 9) that he believes allows one to excel or become the best in one's chosen pursuit, whether in life or in neurosurgery. The first 2 elements that together form the hub or heart of human *excellence* are commitment and belief. These 2 elements encompass one's overall perspective or orientation toward *excellence*; they are critical components in that they are one's commitment or passion for one's pursuit, the desire to become the best. Basically, they are your willingness to work hard and persist in the face of challenges and obstacles and the extent to which you grow to believe in yourself. The 5 remaining elements he discusses, presented as spokes on the wheel, include full focus, positive images, mental readiness, distraction control, and constructive evaluation.

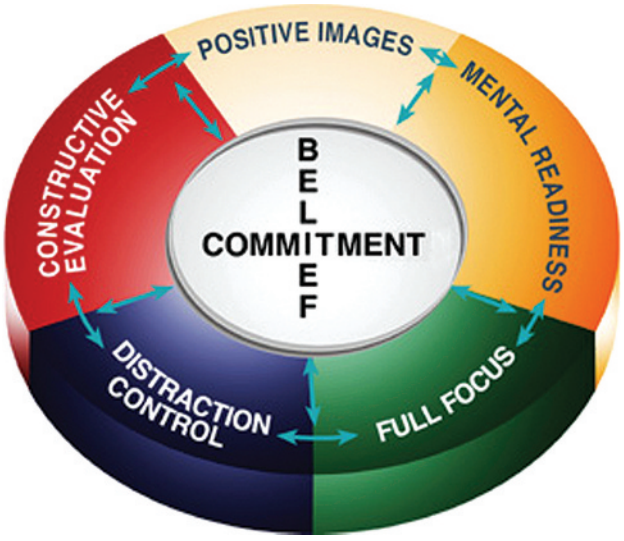

FIGURE 9. Orlick's wheel of excellence (reprinted with permission from In Pursuit of Excellence: How to Win in Sport and Life Through Mental Training. Champaign, Illinois: Human Kinetics Publishers; 1990).

MEASURING AND ACHIEVING EXCELLENCE

It is the last of these elements, constructive evaluation, that I would like to expand on because it provides us with a framework for measuring and ultimately achieving *excellence* in neurosurgery today. In the late 19th century, when Harvey Cushing was a young physician providing anesthesia support for senior surgeons, it troubled him that occasionally patients died of too much ether because of the inconsistent and variable response of each patient. To bring some semblance of order and understanding to each patient's individual response, he merely began to record such simple things as vital signs, pulse, respirations, and blood pressure in what would become the standard of the anesthesia record of today. This meticulous adherence to detail was instrumental in improving the ability for patients to tolerate the anesthetic and the surgical procedures. This meticulousness for which he and others in this era were known elevated our understanding of neurosurgical anatomy and neurophysiology. Later, as a practicing surgeon in the burgeoning field of neurosurgery, Harvey Cushing and many of the neurosurgeons who followed in that era kept meticulous, detailed records of each and every one of their procedures, often drawing the anatomy and the technique used to detail how they approached a particular problem, tracking the intraoperative and extraoperative complications and then recording the patient's final outcomes. This record keeping and constructive evaluation led to what we would now call a continuous quality improvement program, reducing mortality and morbidity by continuously evaluating, defining, measuring, and then achieving improved outcomes.

Despite computers, software, and advanced bioinformatics, modern medicine and neurosurgeons have fallen away

from this type of meticulous outcomes recording in real time, most often studying surgical outcomes in retrospective studies, often times many years after the fact, or worse relying on anecdotal evidence of the success of ''their'' approach to a problem. Some would argue that this is partly because we have moved away from the concept of the neurosurgeon as a clinician and scientist, where each of us uniquely study problems and challenges that arise for each patient, each disease, and each surgical procedure, and rather have become expert technicians, focused more on how we do the procedure than on the effect on the patient.

Unfortunately, I, along with many others, see the clinician-scientist as a dying breed with science and investigation deemphasized if not eliminated from today's neurosurgical training. We need to reinstill this attitude and approach in ourselves and in our trainees. If we no longer train residents for or guide them toward a career in science and neuroscience, if the relative value unit (RVU) and restricted work hours for training become the forefront of our discussions, we have lost the most valuable opportunity to develop and encourage our trainees toward the scientific basis of neurosurgery and professional *excellence*. This change in residency training will have a long-lasting and likely evolutionary impact on neurosurgery that I believe is bad for us, bad for our profession, and bad for our patients. We cannot just train neurosurgical residents to enter a ''culture of practice *excellence*.'' Neurosurgery is so much more than that. It is scientific *excellence*; it is investigative, collaborative, speaking, and writing *excellence*. Residency training must be focused on ensuring that we nurture and develop investigative minds, minds of innovation and of continuous improvement that are poised to embrace a culture of *excellence*.

It has been said that you should ''identify a cause greater than yourself and learn to serve it as you would yourself. Take only what is given and you will not want.'' In fact, we need to take a look at ourselves and simply ask, ''Why did we become neurosurgeons?'' Although medicine, neurosurgery in particular, can be lucrative, service to our patients is and should be the highest calling. It is the one that takes us from our families and affects our sleep and health through the relentless training and stress. But if each of us genuinely tries to pursue a life of *excellence* in neurosurgery, we must understand that it carries with it a considerable responsibility. It is our duty and our obligation to make sure that those around us, those we train and choose to train, and those outside neurosurgery appreciate and embrace both the sacrifices and the rewards that come with making that journey.

Lao Tzu (~600-470 BC) said that ''The journey of a thousand miles begins with one step.'' The reality is that the journey is a continuous one that does not stop with completing neurosurgical training, that one successful tumor excision, that one clipping of an aneurysm, the save from a traumatic brain injury, or the relief of devastating back pain and resumption of a normal life. When we were in school, it was our ongoing pursuit of excellent grades that provided a benchmark of whether we had achieved *excellence*. To get into neurosurgery, we wanted to be part of the best and brightest, and the knowledge and recognition of the achievement of that knowledge—those were the goals. Similarly, now as neurosurgeons, conceptually we ''know'' what an excellent outcome is. If we are to achieve *excellence*, we need to define for the field of medicine the benchmarks by which we measure ''success'' for our procedures, proactively and prospectively. Unless done soon, we may find that a government bureaucracy will mandate untested, ill-informed outcome measures that are economically driven rather than scientifically derived. We as a profession need to be at the forefront of the development of appropriate, high-quality clinical studies by using state-of-the-art methodology, collecting the best data, synthesizing all of that into the best available evidence for an optimal clinical approach, and then expeditiously changing our practices through the implementation of these evidence-based recommendations.

We need to realize that with the explosion of neuroscience, each of us cannot know all the new literature that comes out in our particular subspecialties, for example neurotrauma, in addition to all neurosurgery, particularly with the limited time we have for review and study of these articles (Figure 10). We need to be participatory and instrumental in the development of evidence-based medicine documents, recommendations, and guidelines, and we should define the optimal metrics for success that synthesize for us the optimal approach and optimal therapy. In addition, we need to be meticulous but not inflexible in our adherence to these recommendations and the measures of outcome so that we indeed can alter our approaches and techniques in real time, knowing full well that these changes and these modifications will have the best long-term outcome for our patients. We know that it is not acceptable to leave behind an instrument or to operate on the wrong side of the head—these are easy. We also cannot take short cuts for new therapeutic

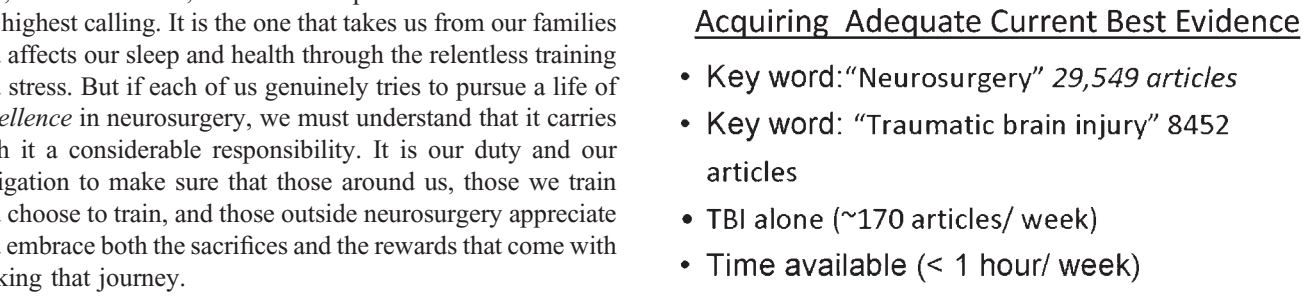

FIGURE 10. Acquiring and synthesizing all the best medical evidence with limited time availability for neurosurgery and for a subspecialty interest, eg, traumatic brain injury (TBI), is impossible for the individual neurosurgeon, as evidenced by this PubMed search from October 1, 2009 (http://www.ncbi.nlm.nih.gov/sites/entrez?holding=azpchlib), using the keywords ''neurosurgery'' and ''traumatic brain injury.''

approaches that compromise quality or increase the risk to patients without justification. We have to accept the change in the knowledge base of our profession and be able to redefine our own current acceptable ''*excellence*'' and not have the ''free form, anarchy of interpretation of the data'' like in the early days of psychosurgery. Being at the forefront of these efforts and investing in the development of evidence-based recommendations, collectively and individually, can only assist us in our quality assurance and medical liability efforts. It is all about defining, pursuing, and then achieving *excellence*, not being apart from it.

CONCLUSION

I have read that in a presidential message my remarks should be ''inspirational and upbeat''. One quotation that I keep taped to my computer is from Teddy Roosevelt (1899), who once said, ''Far better it is to dare mighty things, to win glorious triumphs, even though checkered by failure, than to take rank with those poor spirits who neither enjoy much nor suffer much, because they live in the great twilight that knows neither victory nor defeat.''

Today, I have put before you a challenge. This is no small challenge but one that I believe, despite the occasional failure, keeps us on a path toward ''glorious triumphs.'' All of us who have dedicated our lives to serving our patients and our profession know that progress can be slow and often frustrating, checkered by failure such as neurologic morbidity or, worse, death and that progress may not even occur during our own professional careers. It is often difficult to see the tangible impact one is hoping to have, especially when one is looking from one day to the next. Again, I believe what we need going forward is a reinvigorated approach, recognizing that this is indeed the ultimate professional achievement, to be a neurosurgeon. It is an approach in which we as the practitioners of our profession can be a prominent force in moving the field and the whole of medicine forward. We can and should never be happy if we just try to maintain the status quo, whether it be the science or the sociopolitical forces that we face.

I would like to close by quoting Aristotle, who said ''Moral excellence comes about as a result of habit. We become just, by doing just acts, temperate, by doing temperate acts, brave, by doing brave acts. We are what we repeatedly do. *Excellence*, then, is not an act, but a habit. We can become 'excellent' by striving for *excellence* in our acts, in our everyday life.'' If we as a profession and as individuals truly want to make a difference, we need to begin to discover and live up to our true capabilities every day through our actions and our words, as owners of our destiny and of our profession, and continue to strive for *excellence* in all that we do. It must indeed be a way of life. We have to define *excellence*, not be separate from it. We need to be examples to all those around us of what it means to pursue *excellence* in our everyday lives both professionally and personally. Talking with patients, managing them meticulously in every aspect of their care, and providing communication, leadership, and mentorship for those around us whether they be other medical specialists, residents in training, nursing staff, secretarial staff, employees, or workers in the hospital, we need to learn from each so that the care for the next patient will be that much better.

Lastly, I once heard that our motto should be ''We are neurosurgeons.'' We as neurosurgeons need to be and provide the model for *excellence* for all to behold, providing the foundation, the shoulders for all others to build on. If all of us can strive for that, everyone around us, both within and outside medicine, will know that the term ''neurosurgeon'' defines ''*excellence*.''

Thank you.

Disclosure

The author has no personal financial or institutional interest in any of the drugs, materials, or devices described in this article.

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