



NEUROSURGERY

THE OFFICIAL NEWSMAGAZINE OF THE CONGRESS OF NEUROLOGICAL SURGEONS

NEWS

President's Message: Our Mission is *Education*

Issam A. Awad, MD

President, CNS



A Mission Statement articulates the foremost priorities of an organization or group to motivate their implementation. It aims to avoid distraction and

other forces diluting effort from those cardinal aims. The mission of the Congress of Neurological Surgeons is, and has always been, *EDUCATION*. Education has remained the cardinal aim of the CNS for more than half a century because it shapes our career development, enhances our competence and credibility, allows us to broaden our horizons, and improves the outcome of our patients. Neurosurgical education in its various facets benefits patients and physicians and enhances the relevance and impact of neurosurgery on humanity.

Dimensions of Neurosurgical Education

There are numerous dimensions of neurosurgical education. We must educate ourselves at every stage of our careers, educate our patients and the public, and also educate colleagues in other fields. The CNS has embraced the mission of neurosurgical education in all its breadth and has supported projects and initiatives enhancing each of these dimensions. In discussing these ongoing educational initiatives, I hope to inform neurosurgeons and invite them to partake in these activities and also illustrate a central element of neurosurgical values as well as CNS values. These educational initiatives mobilize an extraordinary pool of volunteer talent, which donates countless hours to these educational projects, leveraging what remains an incredibly low CNS dues structure into splendid educational benefits to members and nonmembers alike.

Neurosurgeons in Training

The CNS is heavily engaged in educational activities aimed toward residents in neurosurgical training. After a one-time nominal application fee, residents receive the journal *NEUROSURGERY* free of charge as well as all other neurosurgical publications throughout their training. Residents can attend the Annual Meeting of the CNS at minimal fees, and, in recent years, the CNS has provided free housing to residents at the meeting. Special educational activities aimed toward residents are included in the Scientific Program each year, including the special Honored Guest Luncheon and other career development forums.

The Education Committee of the CNS has spearheaded an ambitious project

articulating curriculum guidelines for each level of neurosurgical residency training, including cognitive, knowledge, and technical objectives in the various fields of neurosurgery (*Clinical Neurosurgery* 47(Chapter 34):589-681, 2000). These will serve as templates for residency program curriculum development as well as resident evaluation,

and at the same time allow self-evaluation by residents at various stages of their training.

The CNS has also supported the development of Fellowship Training Standards and Guidelines in conjunction with the various AANS/CNS Joint Sections. The CNS provides funding of numerous CNS fellowships for residents and fellows, including clinical, clinical science, research and specialty

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The 2001 CNS Annual Meeting

Douglas Kondziolka, M.D.

Annual Meeting Chairman



Reinventing... Redefining... Reassessing... Reinventing Neurosurgery. That is the theme for the upcoming 2001 Congress of Neurological Surgeons

meeting in San Diego this September 29 through October 4. This year's meeting will build on the excitement gen-

erated last fall in San Antonio, Texas, considered to be one of the best neurosurgical meetings ever. This year's meeting in San Diego should prove to be even more exciting. With the backdrop of San Diego, one of the most pleasant tourist destinations in the United States, framed by sunshine and warm breezes, this year's meeting will challenge all of us to evaluate what we do as neurosurgeons, how we do it, and whether we can do it better! Abstract submissions can be accessed through *Neurosurgery-On Call* (www.neurosurgery.org). Please note the abstract

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Douglas Kondziolka, Francis Crick, Issam Awad, Richard Ellenbogen, and Michael Levy, Editor of *Neurosurgery News*.

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President's Message

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training, international, and public policy fellowships. These represent a splendid investment in the future leadership of our field.

Residents are tapped early for volunteer tasks in the educational activities of the CNS. Their contributions are tracked throughout their careers in a merit system through the Leadership Development Committee database to nurture talents, tap leadership skills, and maintain contributions in the service of their specialty.

Continuing Neurosurgical Education

The "buzz word" is maintenance of competence. The intent is to provide tools for self-improvement, expansion of knowledge and skills, and acquisition of new knowledge in order to substitute mature competence for jaded credibility during various phases of a neurosurgeon's career. Much of what most of us practice today was not available during our residency training; we learned it ourselves. The CNS is committed to a broad program of continuing education.

The journal *NEUROSURGERY* alone provides a wonderful medium for new knowledge and critical analysis of neurosurgical diseases and practice. Its thoughtful editorial comments with every article aim to challenge as they teach. The volume *Clinical Neurosurgery* and other CNS books, video techniques, and the informative *Neurosurgery News* are loaded with educational material for neurosurgeons at all levels of training and expertise.

And then there is the splendid extravaganza celebrating neurosurgical education in grand form and style at the CNS Annual Meeting each fall. Hints about what is planned for the San Diego meeting, September 29–October 4, 2001, can only wet each neurosurgeon's appetite toward "Reinventing Neuro-

surgery." In countless Practical Courses, Luncheon Seminars, Plenary Sessions, Specialty Section Sessions, and Special Courses, we visit each year the scientific and technical underpinnings of every facet of our specialty. Special speakers and the Dandy Oration help place our field in social and philosophical perspective. This commitment to educational excellence helped earn the CNS the highest commendation during our most recent accreditation last year by the Accreditation Committee for Continuing Medical Education (ACCME). And to add style and convenience, the whole Annual Meeting program is easily downloadable onto a palm pilot device, compliments of the innovation and ingenuity of the CNS Communications and Technology Committee.

Neurosurgical education has embraced the Internet. Through the AANS/CNS jointly operated award winning Web site *Neurosurgery://On Call* (www.neurosurgery.org), neurosurgeons have access to all educational offerings, including registration, abstract submission, and online links to countless educational materials and publications. The CNS Education Committee is currently developing a library of radiographs of neurosurgical pathology downloadable from *N://OC* to assist neurosurgeons' own educational activities. Another educational project involves the publication of a practical abstract review and expert comments on recently published articles in the increasingly vast body of relevant literature.

The CNS supports a CNS Speaker Program, involving leading teachers and academicians in our field who visit state and regional neurosurgical societies to participate in local educational programs.

Neurosurgical Education of Non-Neurosurgeons

We recognize the importance of teaching other physicians about neurosurgery. The CNS Education Committee has developed and is currently revising and expanding *Medical Student Curriculum Objectives in Neurosurgery*, out-

lining the knowledge base about neurosurgical diseases that should be taught to every medical student (and known by every graduating physician). This document is used by neurosurgeon educators involved in curriculum committees and in overseeing clerkship rotations by medical students on neurosurgical services.

It is also critical to teach physician colleagues about neurosurgery's role and contributions. Neurosurgical educational materials are distributed at CNS-sponsored booths at large medical meetings. We maintain active liaisons with neurologists and surgeons through national organizations and specialty societies.

Public education about neurosurgery is equally important to our specialty. The CNS engages each year in a comprehensive public education campaign in conjunction with the Annual Meeting, reaching millions of persons through the local and national press and focused mailings. It hosts a Neurosurgical Open House for the public to meet and interact with neurosurgeons, at which patient education materials are distributed and the public is informed of the contributions of neurosurgeons to disease prevention and treatment.

Neurosurgery is much influenced by the careful shaping of public health policy and legislative agenda. In concerted efforts through the AANS/CNS Joint Washington Committee and the Joint Council of State Neurosurgical Societies, we pursue an attentive and ambitious agenda on behalf of our guild. The results of these efforts not only enhance the status of neurosurgeons, but also their stature, and raise awareness about the relevance of our specialty to society as well as enhance our impact on public health at large.

International Dimensions

The generalizability of neurosurgical innovations and contributions to humanity in a global sense best insures the impact and relevance of our discipline. The CNS is committed to this global perspective through an energetic international membership, the numerous educational and development initiatives of the CNS International Committee, the CNS Ambassador Program, *The World Directory of Neurosurgeons*, consistent and substantive international contributions to the Annual Meeting, close collaborations with the Foundation for International Education in Neurosurgery, and formal liaisons with several neurosurgical organizations.

Education: Our Neurosurgical Value

Indeed, a bright future for neurosurgery depends on our educational activities in all their dimensions. There is much room for contributions by neurosurgeon volunteers to every facet of this mission. Please engage and take part in one or more of these projects, for the benefit of neurosurgeons, neurosurgery, our patients, and mankind at large. □

RUNN 2001

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2001 CNS Annual Meeting

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deadline date of March 16, 2001. Again, meeting and hotel registration can all be performed online. In following the CNS tradition, resident housing will be offered free to those who register early.

In San Antonio, the CNS program committee embarked on an ambitious strategy to enhance neurosurgical meetings by inviting special lecturers. These speakers may live



Michael Apuzzo

and work outside of neurosurgery, but the lessons they can teach us are appropriate to our practice and lives. Senator John Glenn, the first Walter Dandy Orator, Fran Tarkenton, and Michael J. Fox helped to create a meeting that was not only solid in neurosurgical science, but helped to "lift the human spirit." The positive feedback we obtained from the San Antonio meeting was tremendous. This year's scientific program committee under Dr. Richard Ellenbogen has worked to create an innovative and exciting program that will feature our honored guest, Dr. Michael Apuzzo.



Issam Awad

CNS President Issam Awad will preside over a meeting that will be filled with numerous special events. The weekend will begin with innovative practical courses,

including practice management, advanced computer skills, and the most up-to-date in validated surgical techniques. The Monday session will begin with presentations on "Surgical Approaches to the Cerebrum." This session will include presentations with 3-D video to highlight the macroscopic, microscopic, and endoscopic anatomy of our surgeries. Special speakers will include Nobel Laureate Professor Francis Crick, the codiscoverer of DNA who



Francis Crick

has worked in the field of neuroscience as well as cognition and the defining of the human identity. His presentation will be entitled "Consciousness and Neurosurgery." In parallel with our

neurosurgical discussion of exploring the brain, noted scientist and astronomer Allan Dressler will speak on "Human Exploration of the Universe" and the use of imaging tools in exploration. Monday afternoon will continue with a special course on "The Cerebellum and Brainstem," including anatomy, surgical techniques, radiosurgery, and complication avoidance.

The Tuesday session will focus on "Technologic Advances for the 21st

Century." An analysis of creativity will provide the background for this element of neurosurgical reinvention. Topics will include surgical guidance, endovascular tools for the neurosurgeon, robotics, scoliosis and deformity surgery, spinal reconstruction, and biomaterials and implants. Academy Award winning film and sound editor Walter Murch, one of the most recognized people in the film industry, will speak on the "The Reinvention of Cinema through Creativity." Acclaimed author and presidential historian Pro-

fessor Stephen Ambrose will give the 2nd Walter Dandy Oration entitled "The Essentials of Courage and Perseverance," so necessary in the practice of neurosurgery. The afternoon special course will be entitled "Operative Nuances" and will address plastic surgical techniques for neurosurgery, intraoperative hemorrhage management, shunt surgery, endoscopy, screw placement, topography, fixing dural leaks, and re-operations.

The Wednesday session will focus on "The Future of Neurovascular Surgery."



Sir George Martin

Dr. Mark Tuszynski of the University of California, San Diego will speak on basic and clinical research that takes human genomic neuroscience research to patients. The session will also address future endovascular horizons, bypass surgery, and vasospasm management. Music producer Sir George Martin will con-

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Reaching for Utopia and Slouching Towards Gomorrah: 2000 CNS Presidential Address

Daniel L. Barrow, M.D.

CNS Past President



It is a unique privilege to address the 50th annual meeting of the Congress of Neurological Surgeons during this first year of a new century and millen-

nium. I owe recognition and thanks to many people for their overwhelming support. I would like to thank my parents, Dr. and Mrs. Warren Barrow, and my grandmother, Mrs. Emma Pessina, who are here in the audience, for providing me with a nurturing environment, an education, and encouragement to pursue my career and life goals. I owe a great debt to my many mentors, particularly Drs. George Tindall, John Jane, Thor Sundt, David Piegras and Robert Spetzler, who all offered sound advice and numerous opportunities during my career. I thank all the members of the dozen Executive Committees, with whom I have had the privilege to work, and past CNS Presidents Mike McWhorter, Mike Salmann, and Bill Chandler for taking a chance and entrusting me with the most important jobs in the CNS. I want to personally thank my partners in the Department of Neurosurgery at Emory for their collegial support and tolerance during this past year. Most importantly, I want to express my heartfelt thanks, admiration, and love for my wife and best friend, Mollie, and our three children, Emily, Jack and Tom. Your patience and support throughout has been uncompromising and greatly appreciated.

A golden anniversary, the end of a century, or the beginning of a new millennium are tricks of the calendar, arbitrary calls to reflect upon our past accomplishments and failures and to predict our future courses. Fifty years is a short interval in the context of recorded history. Consider that there have been only 85 generations since the time of Jesus, only 18 since Gutenberg invented the printing press, a mere seven sets of grandparents since the American Revolution, and fewer than three from Kitty Hawk to space walks. Centuries of change now occur in one lifetime. The past 50 years has witnessed some of the most astounding advances in science of any previous period of similar length. Our specialty has benefited immensely from this scientific renaissance and has been transformed from a fledgling subspecialty of general surgery into a complex and rewarding discipline that neurosurgeons of 1951 would have difficulty recognizing.

One of the primary endeavors of civilized man has been the pursuit of utopia, a state of an impossible ideal (1). Plato was the first to systematically analyze the concept of utopia in *The Republic* (25) and greatly influenced Sir Thomas More, who published *Utopia* and coined the term in 1516 (18). This extraordinary work introduced the promise of "science as liberator and universal benefactor," a view also championed by Francis Bacon in his *New Atlantis* in 1627 (2). While envisioning landmark scientific advances, Bacon postulated that, through skillful research and subsequent discovery, society would have the means to harness nature, achieving both panacea and ultimate liberation. The staggering scientific progress achieved over the past half century has supported the belief that we can accomplish everything in this generation, particularly if we are able to apply the proper technology. Indeed, medical research and discovery during the past 50 years have made the age-old dream of a disease-free world no longer seem foolish and unattainable (29). Within the next 50 years, aging itself may prove to be simply another disease to be treated. Some experts believe that the human life span should not encounter any theoretical natural limits before 120 years, and with continuing advances in molecular biology and a growing understanding of the aging process, that limit could rise to 130 years or more (32). There has already been an explosion in the population of centenarians, with the result that survival to the age of 100 is no longer the newsworthy feat it was when my great-grandmother turned 100 (Fig. 1). There were approximately 40,000 centenarians in the United States when she died in 1997 at the age of 110.



Figure 1. Elvira Amado (Mama Vera), my 110-year-old great-grandmother.

Unfortunately, the marvelous accomplishments in science over the past half century that have provided a surge

towards a medical utopia contrast with a simultaneous decline in our nation's character and a crisis of our cultural values. The past 50 years has been characterized by a collapse of our popular culture, a weakening of the intellect, the growth of an intrusive government guided by irrational incentives, and a transformation of the federal courts into cultural institutions promoting a politically correct agenda. Robert H. Bork has described this culture in decline in his book, *Slouching Towards Gomorrah*, a reference to the biblical city burned to the ground for the sinfulness of its people (5). He attributes our decline to the "rise of modern liberalism, which stresses the dual forces of radical egalitarianism (the equality of outcome rather than the equality of opportunity) and radical individualism (the drastic reduction of limits to personal gratification)" (5). Let us explore the changes that have occurred in our society over the past half-century and compare and contrast those changes with the transfiguration of medicine over the past half-century. In doing so, I would submit that, as we have been reaching for Utopia in science and medicine, we are slouching towards Gomorrah in our cultural values and national character.

Much in this country and in the world was different 50 years ago. In 1951, the population of the United States was 155 million, an increase of more than 3 million from 1950. This was the peak year in population growth after World War II, giving rise to the term "baby boom" (33). The presidency of Harry Truman was nearing its conclusion and Dwight Eisenhower would begin his administration in 1952. Politics was characterized by the Cold War and the containment of communism. Fifty years ago this past June, North Korean troops invaded South Korea, marking the beginning of a 3-year war that left nearly 37,000 Americans dead and thousands more captured or missing in an effort to stand up against communist expansion. In 1951, the United States economy consisted of 48 billion dollars in receipts and 44 billion dollars in expenditures (10). The average per capita income was \$1,436. Prime television shows in 1951 included "Your Show of Shows" starring Sid Caesar and Imogene Coca, and "You Bet Your Life" starring Groucho Marx. The "Roy Rogers Show" debuted in 1951. Major films in the year of the first meeting of the CNS included *An American In Paris* with Gene Kelly, *A Streetcar Named Desire* with Marlon Brando and Vivian Leigh, and Walt Disney's *Alice in Wonderland*. Popular books in 1951 included *The Caine Mutiny* by Herman Wouk, *From Here to Eternity* by James Jones, and *The Sea Around Us* by Rachel Carson. Joe DiMaggio retired from baseball in 1951, and Ben Hogan won the Masters. In 1951, the comic strip kid "Dennis the Menace" first began annoying Mr. Wilson. In the 1951 music scene, Pete Seeger released "On Top of Old Smokey" and Cleveland disc jockey Allen Freed coined the term

"rock and roll." In the area of science and technology, 1951 saw the explosion of the first hydrogen bomb, the introduction of power steering by Chrysler and the availability of "Super Glue." The world's first electronic digital computer for commercial use was unveiled in 1951. The Universal Automatic Computer, or UNIVAC, weighed 8 tons, consumed 100 kilowatts of power, and performed 2000 calculations per second.

In 1951, health care costs were relatively low because there was little doctors could do for a large percentage of patients. A physical examination, simple blood tests, and x-rays of the chest, bowel, and bone, could identify a few treatable disorders; however, many afflictions that are readily controlled by modern medicine led to incapacitation and early mortality in those days (29). "Patients with severe congestive heart failure spent their days in padded chairs designed to keep the edema from settling in their lungs. Patients with medically-refractory angina pectoris were effectively disabled. Those with malignant hypertension suffered severe headaches, loss of vision, and anticipated kidney failure and stroke in their futures" (29).

Much was different in neurosurgery in 1951. The specialty was guided by indirect and often inaccurate imaging studies, lack of magnification and good illumination in the operating room, marginal neuroanesthetic techniques, and a more primitive understanding of neuropathology. The field was fraught with excessive morbidity and poor outcomes, thus attracting a special breed of physicians.

In 1951 there were approximately 400 neurosurgeons practicing in the United States, 1 for every 387,000 people (10). The majority of neurosurgeons were clustered in major metropolitan areas, most in close proximity to a medical school. The average physician income in 1949 was \$11,053, led by neurosurgeons with an average of \$28,628. In California in the early 1950s, the annual premium for \$10,000 of malpractice coverage was \$50 (10).

In 1951, the evaluation of a patient suspected to have an intracranial mass would include a medical history, physical, neurological and funduscopic examinations, x-ray films of the skull and chest, and perimetry. Pneumoencephalography and ventriculography were the principle procedures used to confirm or rule out mass lesions, although angiography was being introduced in large medical centers. All contrast studies were done by neurosurgeons, and they accounted for about 50% of the neurosurgeon's work and income (36). Other common procedures in 1951 included sympathectomy for hypertension, discectomy, exploratory craniotomy, and tracheostomy, since common endotracheal intubation was still 5 years away.

For decades, neurosurgeons had

depended on local anesthesia with the airway kept clear for spontaneous breathing. Devices for head fixation were not in general use in 1951, and combinations of straps and adhesive tape were used to stabilize the head. Neurosurgeons scrubbed their hands with bar soap timed by a 10-minute hourglass. The forearms were then immersed in cylinders of alcohol, followed by immersion in bichloride of mercury that turned the fingernails brown. The hands were then dusted with a packet of talc and were gloved.

Osteoplastic craniotomy was performed with hand-operated instruments—burrs, the Gigh saw and guide, and the Stille double-action rongeur. Adequate illumination in a deep exposure was as much a problem in 1951 as it had been in 1907, when Herman Schloffer described how he moved an operating table to a window so that his mirror could direct reflected light into the cavity leading to the patient's sella (28).

Hemostasis was obtained with cotton pledgets, bits of crushed temporal muscle, gel foam, and bone wax. Bipolar coagulation was not available in 1951, although James Greenwood had been experimenting with the technique since 1940.

Management of intracranial hypertension was primitive by today's standards. Medical management with hyperventilation, urea, and mannitol came in the decade after 1951, and the reality was stark. A patient was nursed in a ward close to the nurse's station as there were no intensive care units. The hyperosmolar agent in use was 50% dextrose and ventricular tapping was the principle measure for reducing intracranial pressure. Surgical management of uncal herniation, introduced in the 1930s and still in use in 1951, consisted of resection of the uncus and division of the tentorium.

My mentor and teacher, George Tindall, used to tell "war stories" of neurosurgery in the 1950s at Duke University, where he trained under Guy Odom and Barnes Woodhall and took his first academic position. He told of patients becoming so ill from pneumoencephalography that they would routinely be whisked from the pneumo chair directly to surgery. If they had time to reconsider their limited options after pneumoencephalography, many patients would simply refuse further treatment. He told stories of "woodpecker surgery": multiple burr holes placed bilaterally to search for treatable, extra-axial hematomas in trauma patients. As a resident I remember asking Dr. Tindall, "Whatever possessed you and your colleagues to enter a field with such poor outcomes and so little to offer?" He responded, "We all knew it had to get better." And better it got!

The major thrust towards a medical utopia can be traced to the same period of history in which the CNS was established. As the United States emerged victorious from World War II, scientists

and government leaders believed that the success of research efforts like the Manhattan Project could be emulated in the area of medical research with aggressive governmental support (29). As a result, the National Institutes of Health (NIH) began its reinvention from a small agency with a budget of \$26 million in 1948. By 1950, Congress had provided the NIH with an impressive new building in Bethesda, Maryland, along with expanded resources that transformed it into the Goliath of today, with an estimated budget of nearly \$18 billion (Fig. 2) (5).

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Figure 2. Aerial view of the National Institutes of Health.

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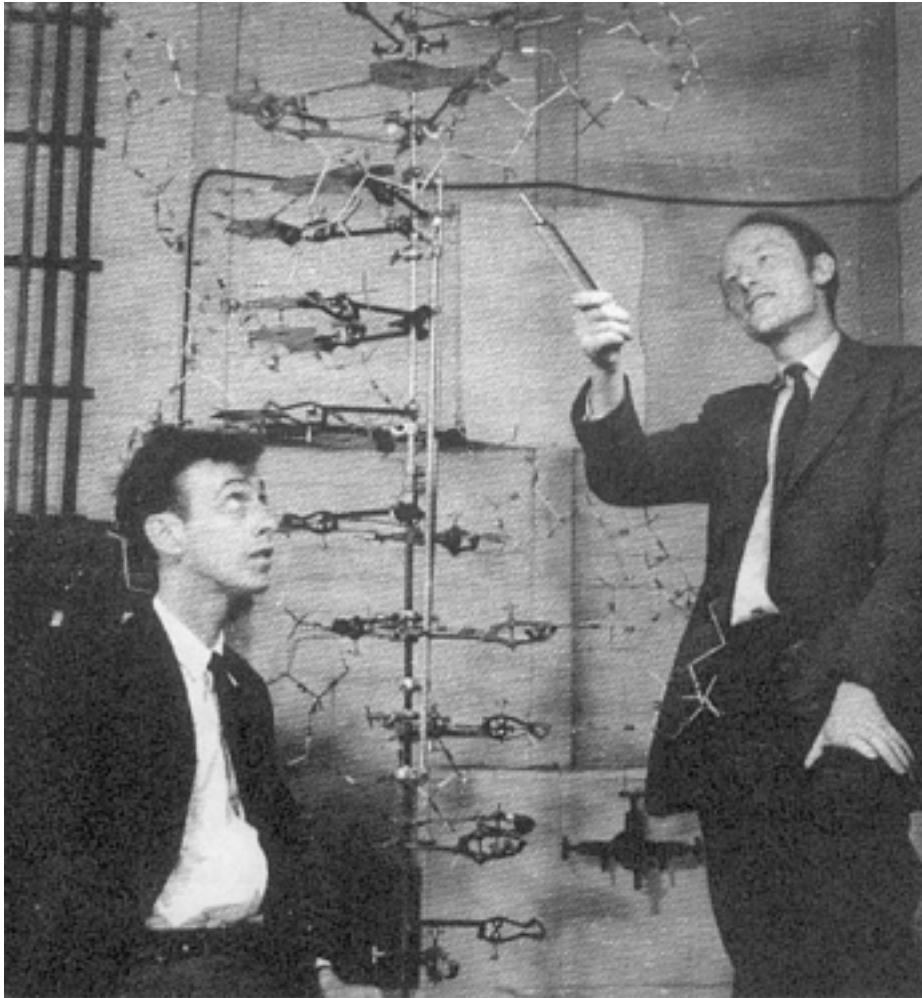


Figure 3. James Watson and Francis Crick with a model of the molecular structure of DNA. (Reprinted with permission from Crick JD: *The Double Helix*. New York, MacMillan Publishing Co.).

Utopia

Continued from page 5

These leaders could not have anticipated the magnitude of the success of the technological revolution they were about to unleash. Consider that in 1951 it would still be 2 years before James Watson and Frederick Crick published their seminal report on the molecular structure of DNA (Fig. 3) (34). This paper, published in *Nature*, contained only 128 lines but would impact science and medicine as profoundly as Darwin's *On the Origin of Species* or Einstein's *Special Theory of Relativity* (27). Less than 50 years later, the progress that has been made in the field of molecular biology is bewildering. Earlier this year, two independent groups simultaneously announced completion of mapping the human genome—nature's instructions for making and maintaining human beings.

Some important foundations for the current state of neurosurgery had their genesis in this same era in which the CNS was established. Carrea and coworkers performed the first carotid reconstruction in Buenos Aires on October 20, 1951 (8). In 1951, Lars Leksell first described and invented the technique for radiosurgery of the brain, and it was the year Hassler and Riechart successfully treated Parkinson's disease with stereotactic lesions in the ventrolateral thalamus (13, 15). Matson introduced ventriculoureterostomy, and Nulsen and Spitz described valve-regulated ventriculovenous shunting in 1951 (16,

24). This was the same year that first saw the therapeutic use of hypophysectomy for breast and prostate cancer (26). In 1951, Sweet proposed the possible use of neutron-capturing isotopes such as boron-10 in the treatment of brain neoplasms. Sydney Sunderland provided his five-grade classification of peripheral nerve injury (30), and Mulder discussed the causative mechanism for Morton's metatarsalgia in the year of the inaugural CNS meeting (20). In 1951, continuous monitoring of intracranial pressure was first described by Guillaume and Janny, and the strain gauge was used experimentally by Eli Goldensohn to establish that hypercarbia raises intracranial pressure (11, 12). These advances were the key to an explosion of laboratory and clinical work during the following decades that changed the field of neurosurgery forever.

Neurosurgeons depending on pneumoencephalography to peer into the human brain would be astonished by the elegance and accuracy of magnetic resonance imaging (MRI) in detailing the elusive anatomy of the central nervous system. Neurosurgeons of the early 1950s would be shocked by today's routine microsurgical treatment of arteriovenous malformations (AVMs) and aneurysms with little morbidity. Obliteration of deep-seated AVMs by radiosurgical devices or elimination of inoperable aneurysms by electrolytic coils under fluoroscopic guidance would seem unreal. The use of an operating microscope maneuvered by frameless stereotactic MRI guidance would seem like science fiction.

A half-century of unprecedented sci-

entific discovery, however, has not resulted in a social panacea. I believe it is essential to periodically survey and critique the health of our culture and speak out in opposition to trends that may jeopardize our future generations. "This century's battles have, above all, involved ideas, particularly about liberty and equality. Those ideas remain at the center of our debates and anxieties: about globalization, about the balance between governments and markets, the environment, the status of women, the rights of minorities, the fate of the poor, the virtues and vices of capitalism. Liberty and equality are such simple and seemingly virtuous words that it is hard to believe they have caused so much trouble..." (31). They have done so for many reasons. One reason is, simply, due to linguistic abuse. Consider the Democratic People's Republic of Korea (aka North Korea) or the People's Republic of China, both founded a half century ago supposedly in the name of freedom and equality. There has also been a long dispute over what liberty actually means and the fact that liberty and equality do not sit happily side-by-side. "Indeed, in many respects they are in conflict. The conflict arises whenever equality is taken to mean equality of outcomes. For to achieve that, it is necessary to take, by force, from some people to give to others. This is also true of the more realistic meaning of equality, namely equality of opportunity. But the sacrifice of liberty required to invest in mass public education or to forbid discrimination in jobs or elsewhere on irrelevant grounds such as race or sex, is one that people, in general, have been willing to make voluntarily. During the past 50 years they have done so with spectacular results. The dispute has been over whether true freedom requires guidance or other intervention from another authority..." (31). A rise in contemporary liberalism over the past 50 years has led to a redefinition of liberty and equality, resulting in a crisis in our cultural values, a weakening of our collective intellect, and a decline in our national character. Liberty and equality, promoted by traditional liberalism, is what America is all about. Thomas Jefferson, in drafting the Declaration of Independence, stated, "We hold these truths to be self-evident, that all men are created equal, that they are endowed...with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness." What distinguishes traditional liberalism from contemporary liberalism is not a difference in the central role of liberty and equality, but a difference in the influence of the other forces that modify or constrain radical forms of equality and liberty—the forces of law, religion, family, community, and morality. "American conservatism is simply liberalism that accepts the constraints that must necessarily be placed upon the main thrusts of liberalism—liberty and equality. Thomas Jefferson and the signers of the Declaration of Independence understood this. Once they won

their independence and got down to the business of running a nation, the Founders were not so lyrical. "Unalienable rights" of the Declaration frequently became alienable. For example, the Fifth Amendment of the Constitution explicitly assumes that a criminal may be punished by depriving him of life or liberty, which has a tendency to interfere with one's pursuit of happiness (5). Over the past 50 years, the constraints that moderate the drive toward radical egalitarianism and radical liberty are evaporating.

There are many examples of our "slouch towards Gomorrah," including a collapse of popular culture, a decline in our educational system, the atrocious condition of our inner cities, particularly the scourge of illegitimacy, the redefinition of our legal system, and the failure of a social welfare system promulgated by a government with misguided compassion and irrational incentives.

Popular culture provides a reflection of the attitudes and mores of the society. In that arena we have declined precipitously in the past half-century. In 1951, one of the most popular songs in this country was Irving Gordon's "Unforgettable," a beautiful and melodious love song: "Unforgettable, in every way / And for evermore, that's how you'll stay / That's why darling, it's incredible / That someone so unforgettable / Thinks that I am unforgettable too..."

In our time, a liberal definition must be applied to the word "music" if it is to describe such modern classics as Nine Inch Nails' "Big Man With a Gun": "I am a big man / (Yes I am) / And I have a big gun / Got me a big old dick and I / I like to have fun / Held against your forehead / I'll make you suck it / Maybe I'll put a hole in your head / You know, just for the fuck of it..."

Michael Bywater writes that "the music industry has somehow reduced humanity's greatest achievement—the near universal language of pure transcendence into a knuckle-dragging sub-pidgin of grunts and snarls, capable of fully expressing only the more pointless forms of violence and the more brutal forms of sex" (7).

The popular TV show, "I Love Lucy," debuted in 1951 and provided decent and principled humor and entertainment. Today, television talk shows provide an astonishing example of our ethical and moral deterioration. There are nearly 25 hosts competing for audiences that generate about 100 hours of programs weekly. The question is often asked, "Where do these shows find people willing to appear and reveal their most vulgar intimacies?" A better question might be, "Where do the networks find an estimated audience of 50 million people who want to watch such things as women who marry their rapists or mothers and daughters having affairs with the same man?" "Popular culture is popular because an American public consumes it. The demand for vulgarity and decadence

exists without the music, television, and movie industries forcing it on a reluctant public. This fact, however, does not excuse the industries of fault any more than an addict's demand for heroin excuses the actions of the drug dealer..." (5).

The title of a recent book by William Bennett, *The Death of Outrage*, describes our situation (3). Our culture is attacked by delivering shocks to its moral standards. When that culture keeps revising its standards by accumulating each new outrage, it is necessary to keep upping the ante by being ever more shocking. Large sections of our society, like drug-resistant bacteria, are approaching the state of being unshockable. As Pat Moynihan has stated, "we have, as a society, defined deviancy down" (19). We have argued that if something is prevalent it must be normal, and if it is normal, then it must be acceptable.

This decline in our popular cultural can be traced to a modern emphasis on radical individualism or unrestrained personal gratification. To propose a ban on anything that can be called "expression" is an attempt to "take away our constitutional rights." "Such reactions," says Robert Bork, an expert in constitutional law, "reveal a profound ignorance of the history of the First Amendment. Until quite recently, nobody even raised the question of that amendment in prosecutions of pornographers; it was not thought relevant even by the pornographers...First Amendment jurisprudence has shifted from the protection of the exposition of ideas towards the protection of self-expression however lewd, obscene, or profane..." (5).

How could I discuss a decline in morality at this time without mentioning our current Commander-in-Chief? In 1951, the stage was set for Dwight Eisenhower, a war hero and virtuous family man, to become the next President of the United States. In contrast, I quote Senator Joe Lieberman, now the Democratic Vice Presidential candidate, on the subject of William Jefferson Clinton's publicly displayed extramarital affair in the vicinity of the Oval Office with an employee half his age: "... such behavior is not just inappropriate. It is immoral. And it is harmful, for it sends a message of what is acceptable behavior to the larger American family, particularly to our children, which is as influential as the negative messages communicated by the entertainment culture..." (16).

There are other examples of our cultural descent. The past 50 years has witnessed a worrisome decline of intellect and a collapse of our educational system. Today our schools are graduating the first generation in American history that is less well educated than the prior generation. "Every employer recognizes that it is perfectly possible for an individual to graduate from an American high school and be functionally illiterate, incapable of writing or reading a

complicated paragraph..." (35). The explanation for this decline is also rooted in behavior and ideas. Richard Hofstadter wrote in 1962, "It has been noticed that intellect in America is resented as a kind of excellence, as a claim to distinction, as a challenge to egalitarianism...anti-intellectualism made its way into our politics because it became associated with our passion for equality..." (14). Again, the problem can be traced to one of the products of modern liberalism, the promotion of radical egalitarianism, the equality of outcomes rather than opportunities. Egalitarianism was a positive force in gradually extending education to all children and adolescents, but egalitarianism also led to the concept that education must be largely the same for all levels of ability. An egalitarian educational system opposes meritocracy and reward for achievement. Those with greater academic potential were no longer encouraged to achieve as they once were. The result has been declining SAT scores (22), American students falling well behind the students of many other nations on international science and mathematics tests, and even college students frequently lacking basic historical and geographical knowledge.

The National Association of Scholars (NAS) conducted a systematic survey of the evolution of university education in 50 highly selective institutions over a period of 80 years. The result was a scathing report card on American higher education, characterized by the dissolution of structure, the evaporation of content, and the decline of rigor. General education requirements have been abandoned, producing students who have information about small niches of a subject but no conception of the larger context that alone can give the niches meaning. The percentage of institutions with requirements in literature, philosophy, religion, social science, natural science, and mathematics has plummeted. The NAS report paints "a discouraging portrait of diminishing rigor at the most prestigious colleges and universities in our land. Thus, by 1993, students graduating from these elite schools not only had fewer assignments to complete but were asked to do considerably less to complete them." In 1914, 98% of the surveyed schools had Saturday classes. By 1993, only 6% had Saturday classes and there was "a widespread impression within academe that even Friday classes are becoming a rarity..." (22).

Over the past 50 years it has been assumed that the best predictor of a school's success was the amount of money spent on the school. More recent objective analysis has demonstrated that the best predictor of a school's performance is the quality of the families from which the school children come (9). The most important variables can explain approximately 90% of the difference in school performances: 1) the number of parents in the home; 2) the quantity and quality of reading material in the home; 3) the

amount of homework done in the home; and 4) the amount of television watched in the home (35).

The decline in education, therefore, is related to another major concern on the minds of the American public at the beginning of the 21st century, namely the condition of our cities and its underclass and its effect on families. As George Will has stated, "We are evolving in America today a kind of civilization that never existed before and should not exist here—one in which the cities are important not as centers of cultural and commercial vitality, but are important, rather, only as burdens. We are experiencing something without precedent in urban history—broad scale social regression in the midst of rising prosperity. The principle correlate of this is family disintegration, the principle consequence is the intergenerational transmission of poverty and the sound effect is gunfire..." (35).

The advances that have occurred in medicine in the past 50 years are taken for granted and the role these advances have played in driving up costs is generally forgotten.

Charles Murray, a political scientist, contends that "illegitimacy is the single most important social problem of our time—more important than crime, drugs, poverty, illiteracy, welfare, or homelessness, because it drives everything else..." (21). In 1965, Pat Moynihan, then a young social scientist in the government, published a famous report on the crisis in the black family. He declared that our country was in the midst of a crisis because 26% of all children born to black mothers were born out of wedlock. At the end of the 20th century, the number was 68% and still rising. Twenty-four percent of white children are born out of wedlock today, just 2% below what it was in black America when Moynihan rightly declared a crisis, rising faster in white America than in black America. The frightening fact is that no one truly understands how this happened, the collapse of a timeless, ancient norm. "It was a mark of disgrace, a stigma, to be associated with the cruel and reckless act of bringing a child into the world for whom you had neither the will nor the capacity to properly parent. This revolution in values has occurred, not in a nation ravaged by war, famine and pestilence, but in the United States of America during peace and prosperity..." (35).

If a rise in modern liberalism is a driving force behind our decline, a bloated and intrusive federal government, guided by irrational incentives, is the engine behind that rise, and the federal

courts have become the vehicle for that rise. In 1950, the average American family of four sent 2% of its income to the federal government. Today it sends 24%, 12 times the amount. Not many Americans are convinced they are getting 12 times better government. It is likely that our liberal social policies of the past 50 years have been fundamentally incorrect. "The politicians responsible for designing and implementing our social welfare state were from a generation influenced by the hardening experience of unemployment in the Depression. This era of politicians believed that social problems and dysfunctional behavior have material bases and, therefore, have material solutions. Our social welfare system has blundered under the assumption that what the poor really need are goods and services that only the government can deliver to them..." (35). Most of the social welfare programs instated over the past 50 years began as morally sound ideas but suffer from misguided compassion and irrational incentives. As an example, consider the program for Aid to Dependent Children. This well-intentioned program provided federal funding to unwed mothers to assist in the responsibility of raising their illegitimate children. The program, however, became nothing more than government-paid prostitution, as it provided a disincentive to marriage and increased funding for the addition of more children born out of wedlock.

At the end of this last century, the future of our welfare system is in jeopardy due to a paradox articulated by George Will. "The great achievement of 20th century liberalism is the welfare state. That great achievement now makes liberal governance impossible. It makes it impossible because the welfare state has swallowed the federal budget—the great consumers of welfare state transfer payments are the elderly, pension and medical care. And we are an aging population. Demography is destiny and that is the great demographic fact..." (35). Medical science has already made the very old the fastest growing segment of our population. Since 1960, the American population has grown 30%, but the American population age group 85 or older has grown 230%, and it will continue (32). Currently, 50% of the federal budget is earmarked for entitlement programs. Another 14% is used to pay interest on the national debt, leaving one third of the budget for all domestic discretionary spending and all defense spending.

It is a fact that our medical successes have created some new social challenges. One of the most pressing fiscal issues is the increasing cost of health care and the means to pay for the delivery of the many products of our medical successes. The advances that have occurred in medicine in the past 50 years are taken for granted and the role these advances have played in driving

Utopia

Continued from page 7

up costs is generally forgotten. There has been a tendency, particularly among politicians, to blame inefficiency and greed in the health care system rather than facing the paramount issue that advancing technology continually opens up new therapeutic and diagnostic opportunities that must be paid for. During the past 2 decades, new technology has been responsible for approximately half of the 6% (inflation-adjusted) annual rise in expenditures on medical care (29). The rest is due to rising costs of wages and supplies. This issue was notably absent from the debate that surrounded the most recent attempt to expand government control of our economy. That occurred in 1994 when the Democratic Party put forth a health care plan that would be the "social security of the nineties," in an effort to again convince the middle class of the central role of government in our society. Allow me to rehearse that debate in the style of George Will (35). The Clinton administration stated that we were having a health care crisis because we were spending 14% of GDP on health care, and that's too much. Critics asked, "How do you know that's too much?" And they said, "Well, it's more than Austria spends." And the critics asked, "Well, since when did Austria become an American aspiration?" And they said, "Well, its more than we spent in 1960. In 1960 we spent only 6% of GDP on health care." And the critics said, "Well, good, all in favor of going back to 1960s medicine, say you're in favor of giving up MRIs, lasers, and molecular biology." As recently as the mid 1970s, there were only 10,000 coronary bypass operations performed in America in a year. This year, there will be about 600,000. Is that too many? About 600,000 Americans think that's exactly the right number. Then they said, "Well, we have a crisis in health care because infant mortality rates are scandalously high." Indeed they are. In some of our central cities they are at third-world levels. But that, ladies and gentlemen, is because of children having babies, low-birthweight babies born to young women out of wedlock. That is not an inefficiency in the health care system, it is a crisis of cultural values. They say, "Well, the life expectancy in Japan is longer than here in the United States." Quite right. Of course, we have an AIDS rate 200 times that of Japan and more handguns in private ownership in this city than in all of the Japanese islands. Not an inefficiency of the health care system, a crisis in cultural values.

Today, the courts view themselves as political and cultural institutions. The Supreme Court, without authorization from the law, is taking out of the hands of the American people the most basic and moral cultural decisions. In his First

Inaugural Address, Abraham Lincoln asserted, "The candid citizen must confess that if the policy of the Government upon vital questions affecting the whole people is to be irrevocably fixed by decision of the Supreme Court...the people will have ceased to be their own rulers, having to that extent practically resigned their Government into the hands of that eminent tribunal." President Lincoln was referring to the Dred Scott decision, the infamous decision that created a constitutional right to own slaves. Lincoln's words were a harbinger of things to come, and we have not heeded his warning. Into the hands of the federal judiciary we have resigned ever more vital questions affecting our nation. Modern Supreme Court decisions have repeatedly maximized individual rights at the expense of corporate rights of what sociologists call "intermediate institutions," families, schools, business organizations, private associations, and local and state governments (4, 23).

With a change in the role of the courts from judiciary to political institutions have come the gradual elimination of personal accountability and the extortion of legitimate business. The government has promoted and made lucrative the idea that most Americans are victims of American society. Americans are encouraged to organize into grievance groups and petition the government for entitlements and reparations for the wickedness done to them by American society.

Notwithstanding the concerns I have expressed about our society's slouch, I remain optimistic that we can avoid Gomorrah. Unlike like early Utopian authors who placed their ultimate faith in "science as liberator and universal benefactor," I am optimistic because of my faith in the ability of the American people to achieve and succeed once a challenge is identified and a goal is established. Larger segments of our society are recognizing the decline I speak of. If a consensus cries out for a restoration of our national character and an enhancement of our cultural values, the challenge will be identified. If we devote our inner resources to these social goals today as we did our scientific goals over the past half-century, I am confident we can avoid Gomorrah and benefit from a cultural and ethical renaissance. Ultimately, we are responsible for the world we create and no generation gets a free pass. Right now, we need the willingness and emotional courage to restore ethical and moral behavior into our culture, to bring the Supreme Court back to its constitutional legitimacy, to restore American education to its former level of rigor and substance, and to eliminate the perverted and illogical government incentives that reward deviant and risky behavior. The only impediment is the will of the people. That will begins with people like you and me. Through our positions as professionals, physicians, surgeons, educators, philanthropists,

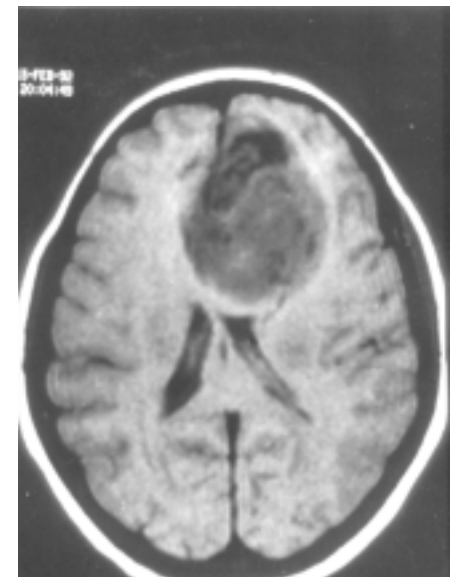


Figure 4. Left: Photograph of my younger sister, Kris Barrow. Right: Axial MRI demonstrating her glioblastoma.

and parents, we have the ability and duty to influence positive change in our culture and national character.

Despite my criticisms of our society and culture, the past 50 years has witnessed many social and cultural triumphs. The staggering progress of the past half-century in science and technology has been created and funded by this society. Great strides have been made in civil rights over the past 5 decades. The cold war was won, and the threat of war casts its dark shadow over a smaller proportion of the world's population than before. Fewer people live in constant fear of arbitrary arrest and torture, and political, economic, and personal liberty has become a widespread fact for the first time.

As we focus our attention on improving our moral and ethical health, we must not forget that much remains undone in our specialty. In our field, more reliable therapeutic options are needed for the management of cerebral ischemia, chronic pain, and neurodegenerative diseases. Spinal cord injury remains a devastating problem and the management of head injury remains suboptimal. Figure 4 is a picture of my younger sister and an MRI revealing her glioblastoma. At the time of her diagnosis in 1992, her outlook was, for practical purposes, no better than that of a similar patient in 1951. We have much yet to accomplish. We must not only elude Gomorrah, but also continue to reach for Utopia.

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Title is taken from Utopia by Sir Thomas More and Slouching Towards Gomorrah by R. H. Bork

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will share his personal experiences with sports injury, concussion, and career decision-making in his address, "The Players Perspective." Dr. Robert Watkins, one of the leading spinal surgeons for athletes and coauthor of the book, *The Spine in Sports*, will also speak on "Spinal Surgery for the Athlete." The session will also address guidelines for athletes and concussion, kids and sports, boxing, "stingers," cervical stenosis and participation in activities, spondylolisthesis and athletes, and return to activities.

Throughout the week, luncheon seminar topics will cover the spectrum of

modern neurosurgery. These seminars, so popular over the years, have been reworked to maximize audience interaction and discussion with the guest speakers. Together with a wonderful array of informative and updated practical courses, challenging luncheon seminar topics, Joint Section Symposia, and world class exhibits, should make the 2001 CNS meeting the best ever!

San Diego venues will frame the meeting. Our local hosts, Howard and Rachel Tung have opened their magnificent city to us, and have assured that the warmth and charm of San Diego will be available to us all. From world

class golf and beaches to the San Diego Zoo and Aquarium, the closeness of Mexico, the naval base (soon to feature the aircraft carrier USS Midway which will be open to the public), the myriad of restaurants in San Diego and La Jolla, there will be no shortage of things to do. An energetic and informative scientific program, a wonderful array of special lecturers, a fantastic honored guest, and one of the premier meeting sites in North America will ensure a productive and enjoyable 51st Annual Meeting of the Congress of Neurological Surgeons.

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NEW

2001 CNS Annual Meeting

Continued from page 3

tinue the theme of reinvention and creativity with his presentation, "The Reinvention of Popular Music." His work with the Beatles and other artists should serve as a fascinating template for our own creative efforts in neurosurgery. In an afternoon special course on "Inventions and Inventors," the session will address instruments, spine inventions, regulatory issues, patents and intellectual property, and new discoveries. Dr. Randi Wesson from the NASA Jet Propulsion Laboratory will speak on "Exploration of the Solar System: The Mission to Mars."

On Thursday, October 4, an exciting program on "Sports and Spinal Neurosurgery" will feature record-setting and two-time most valuable player, NFL quarterback Steve Young. Steve

CSNS NEWS

Chairman's Corner

Lyal G. Leibrock, M.D.
Chairman, CSNS



The Council of State Neurosurgical Societies Chairman extends greetings to the readers of Neurosurgery News and hopes to inform them on the activities of the Council after the assembly in San Antonio. The Council has four current major projects.

The first project the Council will bring to conclusion was based on a resolution passed by the CSNS in San Francisco requesting the Council to survey all active and candidate members of the CNS and AANS asking them about the infrastructure organization of the two national organizations. The initial response was a total merger of the infrastructure, the second choice was some combined infrastructure effort between the two national organizations but keeping the administrative structure separate, and the final choice was to continue the way the organizations are at this point in time. The survey was forwarded to slightly under 6,000 individuals, and the response was much higher than anticipated by the Council. There were at least 1,800 responses returned. They have been collected and are being collated by a statistician, so that the information will be as useful as possible on a statistical basis. The Council will have preliminary results by the Executive Committee Meeting in March 2001. The Medical Practices Committee of the CSNS will report the fully analyzed data at the assembly in Toronto at the AANS meeting. The data will be presented by the Chairman of the Medical Practices Committee, Dr. Gary Bloomgarden from Connecticut. All those interested in the results are invited to attend as guests of the Council for the report, which will be given on Saturday morning.

The next initiative of the Council is an effort to provide information to practicing neurosurgeons on trauma coverage and the reimbursement for trauma coverage at various institutions and geographic sites. There was a preliminary report given in San Antonio on an Internet survey conducted by the Trauma Section and by the Trauma Committee of the CSNS. This information is being further analyzed and will be published in *Neurosurgery News* and the *Bulletin* of the AANS. This will allow disseminations as widely as possible and provide supportive information to neurosurgeons who are working with their hospitals on trauma coverage reimbursement, trauma coverage in general, and how neurosurgery trauma coverage should be delivered in various communities.

The final message from the Chairman is the ongoing development and planning for the National Neurosurgery Development Conference that will take place in Washington, D.C., in July 2001. This meeting has been approved by both of the parent organizations and has their full and vigorous support. The conference will take place on July 22, 23, and 24th, with people arriving July 21st. The Washington Court Hotel in Washington, D.C., will be the site of the meeting. The Steering Committee members are as follows: Dr. Adam Lewis, Jackson, MS, Chair; Dr. Gene Barnett, Cleveland, OH, program Co-Chair; Dr. David Jimenez, Columbia, MO, Socioeconomic Program Chair; Katie Orrico, Director of the Washing-

tion to neurosurgeons who are working with their hospitals on trauma coverage reimbursement, trauma coverage in general, and how neurosurgery trauma coverage should be delivered in various communities.

The next initiative of the Council is an effort to include risk behavior management and the principles of the Think First program into the educational curriculum of schools in the various states. This was initially attempted in California and passed the legislature, but was vetoed by the governor. The Neurotrauma Committee of the CSNS has put together a packet of information, including the laws written in California, that individual neurosurgeons interested in this issue can obtain. The Council thinks, after debate, that the materials are best used in providing information to the education departments of the various states or to teachers' groups to try and get them interested in having risk-taking behavior management education as a part of the core curriculum of the educational process in elementary school, middle school (junior high), and high school. This is a great social effort for neurosurgery in general and is consistent with the Council's support of the Think First initiative that was begun in Florida and then disseminated through all of neurosurgery. Through the good efforts of the Think First Foundation and the leadership of the CNS, AANS, and the CSNS, Think First is becoming an increasingly significant social effort undertaken by all of organized neurosurgery. The risk-taking behavior education in the core curriculum in the schools is another extension of that social effort.

The final message from the Chairman is the ongoing development and planning for the National Neurosurgery Development Conference that will take place in Washington, D.C., in July 2001. This meeting has been approved by both of the parent organizations and has their full and vigorous support. The conference will take place on July 22, 23, and 24th, with people arriving July 21st. The Washington Court Hotel in Washington, D.C., will be the site of the meeting. The Steering Committee members are as follows: Dr. Adam Lewis, Jackson, MS, Chair; Dr. Gene Barnett, Cleveland, OH, program Co-Chair; Dr. David Jimenez, Columbia, MO, Socioeconomic Program Chair; Katie Orrico, Director of the Washing-

NEUROSURGICAL LEADERSHIP DEVELOPMENT CONFERENCE (NLDC)

JULY 20-24, 2001
WASHINGTON COURT HOTEL

TENTATIVE AGENDA

Date	Time	Meeting	
Thursday, July 19	7:30 PM - 9:30 PM	Washington Committee Dinner	
	Friday, July 20	7:00 AM - 2:00 PM	Washington Committee Meeting
Friday, July 20	2:00 PM - 6:00 PM	AANS Executive Committee Meeting	
	Saturday, July 21	8:00 AM - 2:00 PM	AANS Executive Committee Meeting
	10:00 AM - 12:00 Noon	CSNS CEC Meeting	
	12:00 PM - 5:00 PM	CSNS Executive Committee Meeting	
Saturday, July 21	2:00 PM - 5:00 PM	Joint Officers Meeting	
	Sunday, July 22	8:00 AM - 5:00 PM	Education and Practice Management Course
	8:00 AM - 8:15 AM	Introduction & Welcome David F. Jimenez, M.D.	
Sunday, July 22	8:15 AM - 9:00 AM	How & Why You Should Build Your Own Specialty Hospital Stan Pelofsky, M.D.	
	9:00 AM - 10:15 AM	Compliance: Protect Yourself and Your Practice John A. Kusske, M.D.	
	10:15 AM - 10:30 AM	Break	
	10:30 AM - 12:00 Noon	Current E&M Documentation Requirements Gregory Przybylski, M.D.	
	12:00 PM - 1:00 PM	Lunch	
	1:00 PM - 1:30 PM	PATH/Practice Audit Factors Samuel Hassenbusch, M.D., Gregory Przybylski, M.D.	
	1:30 PM - 3:00 PM	Implementing/Maintaining a Compliance Plan Samuel Hassenbusch, M.D., Pollock	
	3:00 PM - 3:30 PM	Development of RBRVS Gregory Przybylski, M.D.	
	3:30 PM - 4:00 PM	Break	
	Sunday, July 22	8:00 AM - 5:00 PM	Education and Practice Management Course (cont'd)
	4:00 PM - 4:30 PM	Create Fee Schedule/Determine Costs Pollock	
	4:30 PM - 5:00 PM	Financial Benchmarks Pollock	
	6:00 PM - 8:00 PM	NLDC Opening Reception	
	Monday, July 23	7:30 AM - 5:30 PM	NLDC Conference
7:30 AM - 8:30 AM		Continental Breakfast with Exhibitors	
7:30 AM - 11:30 AM		Exhibits Open	
8:30 AM - 8:45 AM		Welcoming Remarks Lyal Leibrock, M.D.	
8:45 AM - 12:30 PM		Grassroots Advocacy Training: Politics, Power and You Michael E. Dunn	
10:45 AM - 11:15 PM		Beverage Break with Exhibitors	
12:30 PM - 2:00 PM		Luncheon with Guest Speaker Member of Congress TBA	
2:00 PM - 4:00 PM		Public Speaking Training Melinda Ferris	
4:00 PM - 5:00 PM		Effective Communication with Congressional Offices Panel of Congressional Staff TBA	
5:00 PM - 5:30 PM		Update on What's Happening on the Hill and Preparation for Hill Visits Katie O. Orrico	
6:00 PM - 7:00 PM	Wine and Cheese Reception		
Tuesday, July 24	8:00 AM - 12:00 PM	NLDC Conference	
	8:00 AM - 9:00 AM	Hill Visit Rally with Continental Breakfast	
	9:00 AM - 12:00 PM	Congressional Visits	

ton Office, Legislative and Political Program Chair; Dr. Anthony Caputy, Washington, D.C., Local Arrangements Chair; Dr. Stan Pelofsky, Oklahoma City, OK, AANS Representative; Dr. Gerald Rodts, Atlanta, GA, CNS Representative; Dr. Patrick Jacobs, Gainesville, FL, Exhibitors Director; Thomas Marshall, AANS office, Administrative Director; Lisa Sykes, AANS office, Director of Meetings; and Linda Juhant, AANS office, Director of Education and Practice Management. The program for the Neurosurgical Leadership Development Conference (NLDC) has been finalized. The practice management education effort will take place on Sunday, with a reception in the early evening. Participants will dine where they choose in the attractive locale. The following day, there will be education sessions regarding political activism for neurosurgery. The last day of the conference on Tuesday morning, participants who have received this training regarding issues important to neurosurgery and how to communicate them to staff, congressmen, senators, governors, and state legislators back in their own states will make visits to carry the message of neurosurgery to their counterparts in Washington, D.C. The Council thinks that this is an ongoing, vital effort by organized neurosurgery to get the attention needed to put our issues clearly in the eyes of the individuals making the decisions.

CSNS Resident Delegate Program Successful

Randall Smith, M.D.

The resident delegate program of the CSNS continues to attract a full complement of attendees for each of the two CSNS meetings each year.

The program, begun by CSNS Vice-Chair Dr. David Jimenez with the assistance of a very generous educational grant from Sofamor Danek in 1999, has been very well received by the resident neurosurgical community, with more than double the applicants for each of the 12 positions available. The program underwrites travel and lodging expenses for the delegates for the biannual 2-day meeting of the Council.

The goal of the program is to involve and interest resident neurosurgeons in the activities of the Council by attending two meetings and allows full participation at the meetings, including voting. Each resident delegate participates in the plenary sessions, attends committee meetings of his or her choice as well as the quadrant meetings. The residents seem to be particularly inter-

ested in the Young Neurosurgeons Committee of the CSNS.

Residents are nominated by residency program directors, and three from each of the CSNS four national quadrants are elected by that quadrant's CSNS delegates.

Funding for the program in 2000 was sparse but was kept alive by a generous grant from Codman and additional grants from Cook and Boston Scientific, as well as utilization of voluntary contributions from many of the state neurosurgical societies.

This year's program for the Toronto

meeting of the CSNS has once again been supported by a Sofamor Danek educational grant.

"I wasn't sure if the residents would be interested in this program, but there has been no question about interest since the very beginning," said Dr. Jimenez. "Just as resident attendance at the annual AANS and CNS meetings kindles resident interest in learning and the many activities of those organizations, so too does resident involvement in the CSNS kindle interest in what we do and how we do it," he added.

Resident delegates attending the Toronto

meeting of the Council include Eric Arkin, University of Mississippi; Lisa Guyot, Wayne State; Paul Duic, UC Davis; Frank Hsu, University of Oregon; John Jane, Jr., University of Virginia; Paul Larson, University of Louisville; Geoffrey Manley, UC San Francisco; William Mitchell, Thomas Jefferson University; Atul Patel, University of Pittsburgh; Patrick Pritchard, Albany Medical College; William Thorell, University of Nebraska; and Geoffrey Zubay, Barrow Neurological Institute.

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NEW

CSNS NEWS

Continued from page 11

HCFA Makes Further CCI Corrections for Neurosurgery Codes

Just before the New Year, the Health Care Financing Administration (HCFA) informed the AANS-CNS Washington Office of further changes to current Correct Coding Initiative (CCI) edits based on discussions with Joint Coding and Reimbursement Committee members. Effective January 1, 2001, the edits denying usage of 64553 or 64573 (incision and percutaneous implantation of neurostimulator electrodes; cranial nerve) with component code 61885 (incision and implantation of the pulse generator with single electrode array) or 61886 (two arrays) have been eliminated. As of now, any previously denied claims

with any of these code pairs should be resubmitted to local Medicare carriers for retroactive payment.

HCFA has also agreed to reverse the order of edits that currently exist for nerve block procedures 64405 (greater occipital nerve) and 64450 (other peripheral nerve or branch), when billed in conjunction with another injection code 20550 (tendon, sheath, ligament, trigger points, or ganglion cysts). Currently, only the 20550 injections are allowed if these injections occur on the same day and then only if using the -59 modifier. Effective in version 7.1 (April 1, 2001) of the CCI edit software,

the higher paying nerve block codes will be paid by use of the same -59 modifier on the nerve block code instead of the lesser 20550 code. The nerve block code and the 20550 injection must be two separate injections, performed at two separate and distinct anatomic sites in order to receive payment. With this news also comes notification that additional nerve block codes will also now be edited from 20550, they include 64412-430, 64445, 64475, 64479, and 64483. Again, these edits will allow use of the -59 modifier with the nerve block.

Reminder: Code edits that were inappropriately made with 61795 (stereotactic computer-assisted volumetric procedure, intracranial, extracranial, or spinal) were previously rescinded as of January 1, 2001 by HCFA. Again, any claims for procedures that were denied last year in conjunction with stereotactic guidance can be resubmitted to your Medicare carrier for retroactive payment.

State Neurosurgical Societies Contribute 60K

Randall Smith, M.D.

Over \$60,000 has been voluntarily contributed by state neurosurgical societies to help support issues important to national neurosurgery during the past 5 years.

The voluntary contribution program was initiated to assist in accomplishing the goals of the CSNS, whose biannual sessions were held just before the AANS and CNS meetings. The CSNS meetings frequently resulted in recommendations for actions also supported by the AANS and CNS, the parent bodies of the Council, but were unable to be funded from their budgets.

The program has been successful in supporting annual awards for socioeconomic presentations at the CNS meeting, resident attendance at the CSNS meetings, the Think First Foundation, and various surveys, the most recent of which was regarding the future direction of our two national organizations' operating structure, circulated to all neurosurgeons late in 2000. The funds also go to pay for neurosurgery to have a member on the Board of the American Tort Reform Association

Not every state neurosurgical organization is able to contribute to the program, but those that can generally do and have put the CSNS in a position to accomplish more than it otherwise could. Each state society is asked to contribute \$250 per year for each CSNS delegate from that state to the twice yearly meetings.

Continued on page 14

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NEW

JOINT SECTION ON DISORDERS OF THE SPINE AND PERIPHERAL NERVES

Human Bone Allograft: The FDA's Final Word

The Food and Drug Administration has issued their final rule on Human Cells, Tissues and Cellular and Tissue-based Products; Establishment of Registration and Listing. It was the 1997 proposed Registration and Listing rule that first defined the terms "minimally manipulated" and "homologous" and then a subsequent September 1999 proposed Donor Suitability rule that sought to change the proposed definitions in a manner that was extremely detrimental to the manufacturing and processing of bone allograft tissue. This new final rule combines aspects of both the Registration and Listing and the Donor Suitability rule and deals definitively with the issue of bone allograft tissue. This new rule is final and takes effect on April 1, 2001.

The FDA clearly states that they wish to clarify any misunderstandings and to revise language that unintentionally appeared to place structural tissue at risk for further classification beyond a biological product. As outlined in the September 1999 rule, four criteria must be met for human cells or tissue-based products be considered a biological and regulated under Section 361 of the Public Health Services Act: homologous use, minimally manipulated, have a nonsystemic effect and not combined with a drug or device except for sterilizing, preserving, or storing.

The FDA does not change these criteria or the definition of minimally manipulated from the 1999 proposed donor suitability rule. However, the FDA clearly states, "we consider examples of human cellular tissue-based products (HCT/P) that are included in the definition of minimally manipulated to be those that have been subjected to the following procedures: ...cutting, grinding, soaking in antibiotic solution; sterilization by ethylene oxide treatment or irradiation..." They go on to say that the regulation of bone allograft as a medical device was not their intention and they consider cutting, shaping, grinding, threading, and other machined procedures that create bone dowels, screws, and pins to also be considered minimally manipulated. These clear-cut examples had been in the previous 1997 proposed rule but were not included in the 1999 rule. By restating these examples, bone dowels and other machined bone products are again clearly considered minimally manipulated.

Another concern raised in the 1999 Donor Suitability rule was the revised definition of homologous use. As proposed, any tissue that did not perform the same function in the same location of the recipient then that of where it was taken from the donor would have been considered nonhomologous use. The FDA admits that that was a mistake and contrary to their actual inten-

tions. The final new wording does not include the statement that for structural tissues, homologous use occurs "in a location where such structural function normally occurs." They use as an example the use of bone for repair, replacement, or reconstruction anywhere in the skeleton of the recipient (including the vertebral column) to considered homologous use as long as it performs the same basic function. However, they add that the use of structural tissue in a location where it does not perform the same basic function as it did in the donor would not be homologous.

Another important activity that the FDA takes with this rule is to bring the regulation of hematopoietic stem cells into line with the regulation of other human cellular tissue-based products, including the regulation of such cells under this rule.

Cherie L. McNett

Senior Manager, Regulatory Affairs
AANS-CNS Washington Office
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Fax: 202/628-5264
Email: CMcNett@neurosurgery.org

Continued on page 14

Florida Brace

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P/up February

Joint Section on Disorders of the Spine

Continued from page 13

Awards

Research Funding: The AANS/CNS Joint Section on Disorders of the Spine and Peripheral Nerves has established two Research Grants: the Larson Award and the Sonntag Award. They are intended to establish funding for clinical projects related to the spine and peripheral nerves, and to provide a means of peer review for clinical research projects to help improve the quality of the proposal and therefore, enhance competitiveness for National Institutes of Health (NIH) funding. The awards are also meant to provide continued funding on an annual basis to establish the AANS/CNS Spine Section as a known source for quality clinical research aimed at answering questions pertaining to the treatment of disorders of the spine and peripheral nerves.

The awards range from \$15,000 to \$30,000 and are intended for primary investigators of planned clinical studies requiring national level funding to support the preparation of grant proposals and external consultations and to assist in the development of the proposal, planning meetings, and the collection of pilot data. Work that can be completed without such support (such as literature review and preliminary protocol design) should be completed before applying for the Larson or the Sonntag Awards.

The format of the proposal should follow that of the NIH grant package. Specifically, applications should not exceed five single-spaced pages. The applicants should address their specific aims, pertinent literature review and previous studies review, include a brief summary of the proposed study, and a plan for utilization of the funds, as well as a detailed budget and budget justification. The budget should not include salary support for the primary investigator or co-investigators.

Application details for research grants are available from Michael G. Fehlings, M.D., Ph.D., The Toronto Hospital, 399 Bathurst St., Suite 2-417, Toronto, Ontario M5T 2S8, Canada (phone 416-603-5627), or check out our Web site at www.neurosurgery.org. The application deadline for grants to be awarded for 2002 is December 1, 2001.

Fellowship Funding: The Cloward Fellowship Award is sponsored by Medtronic/Sofamore Danek and is awarded annually to one or two U.S. or Canadian trained neurosurgical residents to provide supplemental funds for advanced education and research in disorders of the spine or peripheral nerves in the form of fellowship training. The amount of the award is \$30,000.

Application information for the Cloward Fellowship Award can be acquired from Ziya Gokaslan, M.D., MD Anderson Cancer Center, 1515 Holcombe Blvd., Houston, Texas 77030-4095 (phone 713-792-2400) or check out our Web site at www.neurosurgery.org. The application dead-

line for the 2002 Cloward Fellowship Award is September 14, 2001.

Resident Awards: The Mayfield Award is presented annually by the Joint Section on Disorders of the Spine and Peripheral Nerves to the neurosurgical resident who authors an outstanding research manuscript detailing a laboratory or clinical investigation in the area of spinal or peripheral nerve disorders. Two awards are available, one for clinical research and one for basic science research. Each award is valued at \$500.

For further information and submission forms, please contact Keith R. Kuhlengel, M.D., 1671 Crooked Oak Dr., P.O. Box 10247, Lancaster, PA 17605-4207; phone 717-569-5331; e-mail: kkuhleng@redrose.net, or check out our Web site at www.neurosurgery.org.

Deadlines

September 14, 2001: Cloward Fellowship Award

September 14, 2001: Mayfield Awards

December 1, 2001: Sonntag and Larson Clinical Research Grants 2002

Comments, Submissions, or Suggestions for the Spine Section?

Please e-mail John Hurlbert at jhurlber@ucalgary.ca or contact through

surface mail: Dr. R. J. Hurlbert, University of Calgary Spine Program, Foothills Hospital and Medical Centre, 1403-29th St. N.W., Calgary, AB Canada T2N 2T9. □

CSNS NEWS

Continued from page 12

"The AANS and CNS already support the activities of the CSNS to the tune of \$100,000 a year, and their already stretched budgets aren't always able to fund activities suggested by the CSNS," said Lyal Leibrock, Chairman of the CSNS. "The voluntary contribution program allows us to do that much more for neurosurgery at a time of severe fiscal constraint in almost every source of organized neurosurgical funding."

The CSNS adopted a resolution procedure under the guidance of former chairman Jim Bean that requires a fiscal impact statement to be included with each proposed resolution. "Those fiscal impact statements go a long way toward separating what is practical from what just sounds like a good idea. The voluntary contribution program puts more ideas within the realm of attainability than we could otherwise expect," said Leibrock.

The states contributing for the 2000-2001 fiscal year are California, Colorado, Connecticut, Delaware, Georgia, Michigan, Missouri, New York, Ohio, Pennsylvania, Tennessee, Texas, Virginia, and Washington. □

NEW PRODUCTS

Integra NeuroSciences Introduces the LICOX® Brain Tissue Oxygen Monitoring System

Integra LifeSciences Holdings Corporation (Nasdaq: IART) and GMSmbH have announced that Integra NeuroSciences has received 510(k) clearance from the United States Food and Drug Administration (FDA) to market the LICOX® Brain Tissue

Oxygen Monitoring System in the United States.

The LICOX® system, which is manufactured by Germany-based GMSmbH, is a system for continuous quantitative regional monitoring of dissolved oxy-



gen and temperature in brain tissue. These measurements are valuable diagnostic and prognostic indicators with important clinical and research applications. The LICOX® system is the culmination of over 10 years of developmental refinement. According to the manufacturer, system calibration is fast and simple, electrode accuracy is excellent, and readings are corrected for temperature fluctuations every 2 seconds. The small size and long-term stability of the sensors make the system useful for critical care and intraoperative monitoring. The LICOX® IMC bolt system allows monitoring of single or multiple parameters through one burr hole, with reliable, reproducible probe positioning.

The LICOX® system is a universal clinical tissue oxygen and temperature monitor. Its oxygen and temperature

microcatheter probes are precalibrated and are supplied with their individual calibration data electronically stored on a smart card. According to the manufacturer, the accuracy of the LICOX® system at low critical thresholds of brain tissue oxygenation is essential for reliable diagnosis and treatment of brain tissue hypoxia and ischemia.

The LICOX® products have CE Mark Certification and are approved for clinical use in Europe, Australia, and New Zealand. In the European Community, the LICOX® Brain Oxygen Monitoring System has proven useful in monitoring cerebral tissue oxygen in neurotrauma, subarachnoid hemorrhage, stroke, and vascular compromise.

For more information, please contact Tom McCann, Senior Product Manager, Integra NeuroSciences, e-mail: TmcCann@intgra-nc.com. □

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MEETING HIGHLIGHTS

SCIENTIFIC SESSIONS:

- I. Surgery of the Cerebrum • 3D Presentation
- II. Technical and Scientific Advances for the 21st Century
- III. The Future of Neurovascular Surgery
- IV. Sports and the Craniospinal Axis

SPECIAL COURSES:

- I. Surgery of the Cerebellum and Brainstem
- II. Operative Nuances
- III. Invention and Inventors in Neurosurgery

43 PRACTICAL COURSES AND 80 LUNCHEON SEMINARS



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HONORED GUEST PRESENTATIONS

- Surgery of the Human Cerebrum: A Collective Modernity
- Quid Novi? In the Realm of Ideas: The Neurosurgical Dialectic
- A Vision of the Neurosurgical Operating Room for the 21st Century
- Brave New World: The Dawn of Neurorestoration and The Emergence of Molecular and Cellular Neurosurgery
- Reinventing Neurosurgery
- The Neurosurgeon in the Arena of Sport

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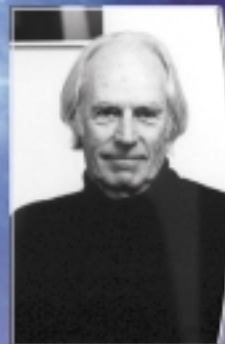
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Regarded as one of the greatest athletes in the history of the National Football League, two-time National Football League Most Valuable Player, record setting quarterback of the San Francisco 49ers, Super Bowl champion and Super Bowl Most Valuable Player.

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- **Professor Francis Crick**
Nobel Laureate, Co-discoverer of DNA, researcher and author
"Consciousness and Neurosurgery"
- **Alan Dressler, PhD**
Distinguished Astronomer and Astrophysicist, Carnegie Observatory
"Human Exploration of the Universe"
- **Sir George Martin**
Acclaimed producer of the Beatles and other musical artists
"The Reinvention of Popular Music"
- **Walter Murch**
Renowned Academy Award winning film editor and sound designer
"Creative Forces in the Reinvention of Cinema"
- **Robert Watkins, MD**
Professional Sport's Leading Spinal Surgeon
"Spinal Surgery for the Athlete"
- **Randall B. Wesson, PhD**
Manager, Telecommunications and Mission Services for Mars, Jet Propulsion Laboratory, California Institute of Technology
"Exploration of the Solar System: The Mission to Mars"
- **Steve Young**
Extraordinary National Football League Quarterback
"Cerebral Concussion: The Athlete's Perspective"

For further information, or to obtain abstract forms, contact the CNS Headquarters;
Phone: (630) 323-5144; Fax: (630) 323-6989; E-mail: info@1cns.org

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