

Congress of Neurological Surgeons

2006 Annual Meeting

Chicago, Illinois
October 7 – 12



Transcendent
Leadership

SCIENTIFIC INQUIRY • PATIENT ADVOCACY • SURGICAL MENTORSHIP

Preliminary Program



Education and Innovation

	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9
SATURDAY															
Afternoon Practical Courses (PC01 – PC09)															
SUNDAY															
Full Day Practical Courses (PC10 – PC17)															
Morning Practical Courses (PC18 – PC24)															
Afternoon Practical Courses (PC25 – PC32)															
Opening Reception															
MONDAY															
General Scientific Session I: Transcendent Leadership: Advocacy and Mentorship through Clinical Practice															
Exhibits Open															
Richard G. Ellenbogen: Presidential Address															
Coffee with Exhibitors															
Peter M. Black: Honored Guest Presentation															
David McCullough: Seventh Annual Walter E. Dandy Orator															
Luncheon Seminars															
Live 3-D Demonstrations and Special Courses															
Neurosurgical Forum and Select Abstract Session															
Refreshments with Exhibitors															
TUESDAY															
General Scientific Session II: Transcendent Leadership: Advocacy through Innovative and Critical Review of Treatment Options															
Exhibits Open															
Peter M. Black: Honored Guest Presentation															
Coffee with Exhibitors															
Michael Bliss, PhD: First Annual John Thompson History of Medicine Lecturer															
George Lucas: CNS Michael L.J. Apuzzo Lecturer on Creativity and Innovation															
Luncheon Seminars															
Special Courses, Sections*															
Refreshments with Exhibitors															
Annual Business Meeting															
WEDNESDAY															
General Scientific Session III: Transcendent Leadership: Scientific Inquiry and Surgical Practice															
Peter M. Black: Honored Guest Presentation															
Exhibits Open															
Judah Folkman: Special Lecture															
Coffee with Exhibitors															
Donald C. Johanson, PhD: Special Lecture															
Luncheon Seminars															
Special Courses, Sections**															
Refreshments with Exhibitors															
THURSDAY – SHERATON CHICAGO HOTEL AND TOWERS															
General Scientific Session IV: Transcendent Leadership: On Surgery and Society – The Challenges of Contemporary Healthcare															
Coffee Break															
Celia Sandys: WINS Special Lecture															
Peter M. Black: Honored Guest Presentation															

* Section on Cerebrovascular Surgery I
 Section on Stereotactic and Functional Neurosurgery I
 Council of State Neurosurgical Societies
 Section on Tumors I
 Section on Disorders of the Spine and Peripheral Nerves I
 Section on Pain I
 Section on Neurotrauma and Critical Care I
 Section on Pediatric Neurological Surgery I

** Digital Masters Video Symposium
 Section on Disorders of the Spine and Peripheral Nerves II
 Section on Neurotrauma and Critical Care II
 Section on Pediatric Neurological Surgery II
 Section on Tumors II
 Section on Cerebrovascular Surgery II
 Section on Stereotactic and Functional Neurosurgery II

Mission Statement

The Congress of Neurological Surgeons exists for the purpose of promoting the public welfare through the advancement of neurosurgery, by a commitment to excellence in education, and by dedication to research and scientific knowledge. The Congress of Neurological Surgeons maintains the vitality of our learned profession through the altruistic volunteer efforts of our members and the development of leadership in service to the public, to our colleagues in other disciplines, and to the special needs of our fellow neurosurgeons throughout the world and at every stage of their professional lives.

Meeting Purpose

The purpose of the 2006 Congress of Neurological Surgeons Annual Meeting is to provide continuing medical education for practicing neurosurgeons, neurosurgical residents in training, and post-graduate neurosurgical fellows, as well as allied health professionals including nurses, nurse practitioners, physician assistants and clinical specialists.

This education is provided in many forms:

- didactic lectures
- practical (hands-on) courses demonstrating neurosurgical techniques
- small group sessions to provide in-depth coverage of selected topics
- exhibits demonstrating the newest instruments and information known to the neurosurgical community
- digital posters to provide the latest information regarding clinical and laboratory advances in neurosurgical surgery.

Disclaimer

The material presented at the 2006 CNS Annual Meeting has been made available by the Congress of Neurological Surgeons for educational purposes only. The material is not intended to represent the only, nor necessarily the best, method or procedure appropriate for the medical situations discussed, but rather is intended to present an approach, view, statement, or opinion of the faculty which may be helpful to others who face similar situations.

Neither the content (whether written or oral) of any course, seminar, or other presentation in the program, nor the use of a specific product in conjunction therewith, nor the exhibition of any materials by any parties coincident with the program, should be construed as indicating endorsement or approval of the views presented, the products used, or the materials exhibited by the CNS or by its Committees or Affiliates.

The CNS disclaims any and all liability for injury or other damages resulting to any individual attending the Annual Meeting, and for all claims which may arise out of the use of the techniques demonstrated therein by such individuals, whether these claims shall be asserted by physicians or any other person.

No reproductions of any kind, including audiotapes and videotape, may be made of the presentations at the CNS Annual Meeting. The CNS reserves all of its rights to such material, and commercial reproduction is specifically prohibited.

Table of Contents

President's Message	3
Meeting Highlights	4
Committees	11
Annual Meeting Leadership	12
CNS Membership Information	16
Resident Program	18
General Information	20
Registration Information	23
Hotel Information	24
Registration Fees	27
Exhibitions	28
Scientific Program	
Saturday Practical Courses	31
Sunday Practical Courses	33
Monday	39
Neurosurgical Forum and Select Abstracts	43
Tuesday	53
Wednesday	63
Thursday	71
Auxiliary Program	72



Education and Innovation

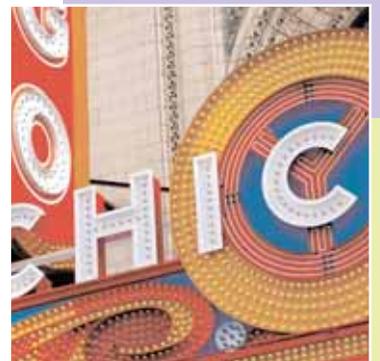
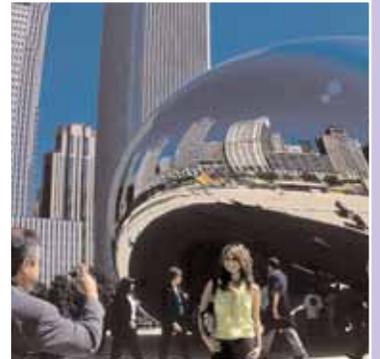
Welcome to Chicago

Chicago is a bustling, energetic city that never stops no matter the season. It's a destination with culture that is exciting, fast-paced, diverse and architecturally amazing. Chicago is known for critically acclaimed restaurants, world-famous museums, first-class shopping, adventurous nightlife, action-packed sporting events and a thriving theatrical scene. Chicago's theatrical groups push the envelope with cutting-edge performances in historic and state-of-the-art stages. Once in Chicago, visitors never have to worry about finding a place to eat. Chicago features thousands of restaurants that offer culinary favorites to suit every taste, budget, and mood.

Chicago is world-renowned for its diverse collection of museums, which explore a variety of subjects including Chicago history, art, African-American culture, astronomy, natural history and much more. In addition to world-renowned museums, Chicago is home to a variety of spectacular attractions. The Chicago Cultural Center is described as a "neo-classical masterpiece". Navy Pier is the city's lakefront playground and the state's most popular attraction, and Chicago's newest showcase, Millennium Park, which opened in 2004 instantly became a world-class attraction and a Chicago landmark. Other attractions not to miss include Buckingham Fountain at Grant Park, the Hancock Observatory, and the Sears Tower Skydeck.

Visitors from around the world come to Chicago, the birthplace of the modern building, to admire its architectural marvels. From historic landmark buildings to contemporary technological masterpieces, Chicago is built of the unique and innovative designs that have shaped American architecture. The city is a living museum of architecture thanks to the work of such greats as Daniel Burnham, Louis Sullivan, Frank Lloyd Wright, Ludwig Mies van der Rohe, Helmut Jahn and hundreds of others.

A city of life, beauty and spirit, Chicago exemplifies work and play coming together. Please join us there for the 2006 Congress of Neurological Surgeons Annual Meeting.



2006 CNS Annual Meeting Highlights

Joint Meeting with the German Society of Neurosurgery and the German Academy of Neurosurgery!



- > **NEW! Neurosurgical Forum**
Presenting the most compelling, novel and high impact clinical and basic science in a concentrated neurosurgical symposium.
- > **NEW! Select Abstract Session**
Ask questions, talk through techniques and listen to poster presentations live.
- > **NEW! CNS Resident SANS Challenge**
A game show style competition for resident training programs.
- > **NEW! Live 3-D Cadaveric Demonstration of Surgical Approaches**
- > **Interactive Afternoon Sessions**
Participate in select afternoon Section Sessions via handheld devices!
- > **Digital Poster Center**
See hundreds of scientific posters in this state-of-the-art digital format with expanded and enhanced options.
- > **24 Category 1 CME credit hours (and up to 16.5 optional Category 1 CME credit hours).**



Richard G. Ellenbogen, MD

Dear Colleagues:

The 2006 Congress of Neurological Surgeons Annual Meeting in Chicago will be a stimulating convergence of Science, Surgery and Special Lectures. The Meeting theme is “**Transcendent Leadership**” through **Scientific Inquiry, Patient Advocacy and Surgical Mentorship**. I realize that Neurological Surgery is faced with tremendous challenges, in a multitude of arenas. However, I feel that we are fortunate in that we have chosen a field replete with innovative and talented people, who study a fascinating substrate, the brain, spine and peripheral nerves. By adhering to our principals of advancing our field through scientific inquiry, patient advocacy and surgical mentorship, we will continue to elevate our chosen profession and provide important contributions to our society. This meeting will focus on those principals of Transcendent Leadership in Neurological Surgery.

The CNS has listened carefully to its diverse members call for change, to address their evolving educational needs. The Annual Meeting continues to be transformed and remain pertinent by employing a multitude of interactive formats that will hopefully appeal to your expanding educational appetite. Christopher Getch (Annual Meeting Chairman) and Anthony Asher (Scientific Meeting Chairman), and their expansive teams comprised of a diverse set of volunteers in our membership, have provided unparalleled, insightful leadership. As a direct result, there are a host of original ideas coming your way. I am excited about all of them. They include the **CNS Neurosurgical Forum** which will be a compelling forum to present high impact, contemporary clinical and basic science in a physically contiguous space so that our members can bounce from session to session to hear and interact with a wide variety of presenters and cover many subjects. There is a new **Live 3-D Cadaveric Demonstration** of Surgical Approaches by Technical Masters in our field in the Arie Crown Theater on Monday afternoon. There are exciting Interactive sessions, on Tuesday and Wednesday, in which you will be able to send written questions during the presentation and receive real time answers. There are **Enhanced Digital Posters** and select abstracts in which there will be opportunities to have a meaningful exchange with the authors in an electronic and/or a live format. All practical course participants will now receive comprehensive course handouts; and we have created many important, new Practical Courses and Luncheon Seminars. We have added a new feature called the **CNS Resident SANS Challenge** which will be a game show style competition open to all Residents and Residencies; it will feature education, entertainment and rewards for our future stars. We will end with excitement and controversy on Thursday when we meet with the American College of Surgeons’ (the ACS is meeting concurrently in Chicago) Trauma Surgeons to discuss the future of Neuro-Trauma in America.

Our Annual Meeting Featured Speakers will enhance the Scientific Program with relevant insights into their respective fields. David McCullough, two-time Pulitzer Prize winning Historian, is the 2006 Walter E. Dandy Orator. As a master of the art of narrative history, and a gifted speaker, McCullough will inspire us by examining the characteristics that have propelled leaders to greatness. George Lucas, as the CNS Michael L.J. Apuzzo Lecturer on Creativity and Innovation, is an entertainment giant and artistic genius will regale us with his perspective on the creative spirit. Professor Judah Folkman, a brilliant scientist and accomplished surgeon, who pioneered the field of angiogenesis in cancer, and Professor Michael Bliss, a widely respected medical historian will engage our curiosity with their discoveries. Donald C. Johanson, a renowned paleoanthropologist whose discovery of the world’s best-known fossil, “Lucy,” brought him the kind of attention usually reserved for rock stars will share his understanding of our human origins. Celia Sandys, the granddaughter of the revered leader Winston Churchill, as well as his personal Biographer, will offer stimulating and unique insights on Leadership as the WINS (Women In Neurosurgery) Lecturer.

This year’s Honored Guest is Peter M. Black, one of the most scholarly and highly accomplished Neurosurgeon/Educators in our field. He will address us in the General Scientific Sessions on several of his areas of expertise to include the pearls he has gained from operating on thousands of patients with brain tumors and educating trainees from around the world.

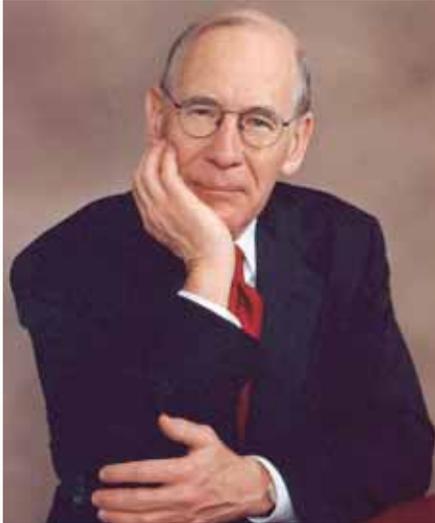
We are also fortunate to join with the two major German Neurosurgical Groups: The Deutsche Gesellschaft für Neurochirurgie and the German Academy of Neurosurgery. Our surgically sophisticated brethren from Germany will join in the Scientific and International Activities to broaden our social and intellectual horizons.

Chicago has it all! It is a breathtaking city with the busiest airport, the best entertainment, from comedy to jazz, and the best shopping, to engage any palate from “down to earth” to the sophisticated and sublime. The venues and social programs promise to elevate you from the Opening Reception replete with a Chicago Jazz and Blues theme on Sunday, to the International Reception on Wednesday Night at the Field Museum with the King Tut exhibit .

Sandy and I enthusiastically invite you to join us in Chicago for what promises to be a blockbuster meeting!

Honored Guest

Peter M. Black, MD, PhD, FACS



Peter M. Black, MD, PhD, FACS

Dr. Peter Black was born in Canada and grew up in Northern Ontario. While in high school, he became an Associate of the Royal

Conservatory of Toronto as a solo performer in piano. He attended Harvard College, graduating with honors. He returned to Canada for medical school at McGill University. He entered surgical and then neurosurgical residency at the Massachusetts General Hospital. During this period, he served two years in the United States Navy, mostly at the U.S. Capitol as a physician to Congress and the Supreme Court. He earned a PhD in philosophy from Georgetown University. In 1980 he joined the staff at the MGH.

In 1987 he became a Professor and Chief of Neurosurgery at the Brigham and Women's and Children's Hospitals. He is presently Chair of the Departments of Neurosurgery at Brigham and Women's Hospital and Children's Hospital; Neurosurgeon-in-chief at Brigham and Women's Hospital; Chief of Neurosurgical Oncology at Dana Farber Cancer Institute; and Franc D. Ingraham Professor of Neurosurgery at Harvard Medical School.

Dr. Black is a respected clinical neurosurgeon with a busy neurosurgical oncology practice that includes many international referrals. He directs the brain tumor program at Dana-Farber Brigham and Women's Cancer Center. He is consistently listed in Best Doctors in America and Top Doctors with special interest in surgery for meningiomas, pituitary adenomas, and low grade gliomas; image-guided minimally invasive neurosurgery; skull base surgery; and brain mapping. He helped to develop the first intraoperative MRI and has used this device extensively to improve brain tumor treatment. He also has extensive experience in epilepsy surgery in children and hydrocephalus in adults. He has been an active member of the Congress of Neurological Surgeons since 1982, serving on numerous CNS committees including the

Executive Committee. He edited several editions of SANS and Clinical Neurosurgery and is now Chair of the Editorial Board of Neurosurgery and the senior representative of the CNS to the World Federation of Neurosurgical Societies. His laboratory has had ongoing funding since 1980 including present RO1 funding. It investigates growth and invasion in brain tumors, especially innovative methods of blocking these with emphasis on local delivery systems. His bibliography includes ten books and five hundred papers, most involving brain tumor management, brain imaging and image-guided surgery, medical ethics, and molecular neurosurgery.

Dr. Black is deeply committed to neurosurgical education around the world. He has a great interest in the work of the World Federation of Neurosurgical Societies and chairs its Bylaws committee, also sitting on the Education and Ethics committees. He has mentored students, residents, young faculty, and graduate neurosurgeons from more than thirty countries and has given invited lectures in forty. He is very proud of the productivity of his former trainees, many holding prominent academic positions; Dr. Richard Ellenbogen, the current CNS President, is a spectacular example.

Dr. Black has always had the good fortune to work with wonderfully talented and capable people. Chief among these are his family, the most important people in his life. His five grown children live in four cities and three countries. With his wife Katharine, an Episcopal priest, he welcomes Dia, Libby, Katy, P. T., Chris, and their friends home as often as possible, always ready with pizza, movies, and good conversation.

Dr. Black will give the following presentations:

GENERAL SCIENTIFIC SESSIONS

Monday, October 9, 10:32 am – 10:52 am
Meningiomas, Science and Surgery

Tuesday, October 10, 8:35 am – 8:55 am
The Emerging Field of Neurosurgical Oncology: Using Novel Technologies to Optimize Outcomes and Minimize Mishaps

Wednesday, October 11, 8:45 am – 9:05 am
The Emerging Field of Third Circulation Research

Thursday, October 12, 11:20 am – 11:35 am
The Future of Neurosurgery: A Call to Leadership

PRACTICAL COURSES

Sunday, October 8, 1:00 pm – 5:00 pm
PC25 Operative Colloquium: Masters of Neurological Surgery
PC32 Neurosurgery: 2006 Literature in Review

LUNCHEON SEMINAR

Monday, October 9, 12:30 pm – 2:00 pm
M01 Resident/Honored Guest Luncheon
Complimentary to the CNS Resident Members

Seventh Annual Walter E. Dandy Orator

David McCullough

Monday, October 9, 2006, 10:55 am – 11:30 am

Leadership and the History You Don't Know

David McCullough, author of the bestseller *1776*, is twice winner of the National Book Award and twice winner of the Pulitzer Prize. He has been called a “master of the art of narrative history.” His books have been praised for their exceptional narrative sweep, their scholarship and insight into American life, and for their literary distinction.

His latest book, *1776*, has been called “brilliant,” “lucid,” “gripping,” “a masterpiece,” “a classic,” and has been a continuing national triumph from the time of publication last June when it came on the New York Times bestseller list at number one. Mr. McCullough’s previous work, *John Adams*, remains one of the most critically acclaimed and widely read American biographies of all time. To date more than two million copies have been sold.

Gordon Wood, writing in the New York Review of Books, said of John Adams, “McCullough’s special gift as an artist is his ability to recreate past human beings in all their fullness and all their humanity.”

In the words of the citation accompanying his honorary degree from Yale, “As an historian, he paints with words, giving us pictures of the American people that live, breath, and above all, confront the fundamental issues of courage, achievement, and moral character.”

Marie Arana, writing in the Washington Post, has said, “McCullough is one of our most gifted writers.”

His other books include *The Johnstown Flood*, *The Great Bridge*, *The Path between the Seas*, *Mornings on Horseback*, *Brave Companions*, and *Truman*. As may be said of few writers, none of his books has ever been out of print.

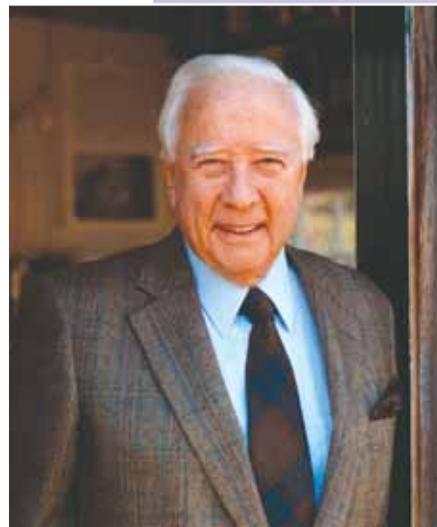
David McCullough is as well twice winner of the prestigious Francis Parkman Prize. For his work overall he has been honored by the National Book Foundation Distinguished Contribution to American Letters Award, the National Humanities Medal, and the New York Public Library’s Literary Lion Award. He

is past president of the Society of American Historians. He has been elected to the American Academy of Arts and Sciences. He has received 38 honorary degrees.

In a crowded, productive career, he has been an editor, essayist, teacher, lecturer, and familiar presence on public television -- as host of Smithsonian World, The American Experience, and narrator of numerous documentaries including The Civil War. His is also the narrator’s voice in *Seabiscuit*.

A gifted speaker, Mr. McCullough has lectured in all parts of the country and abroad, as well as at the White House. He is also one of the few private citizens to speak before a joint session of Congress.

Born in Pittsburgh, Mr. McCullough was educated there and at Yale, where he was graduated with honors in English literature. He is an avid reader, traveler, and has enjoyed a lifelong interest in art and architecture. He is as well a landscape painter. Mr. McCullough and his wife Rosalee Barnes McCullough have five children and seventeen grandchildren.



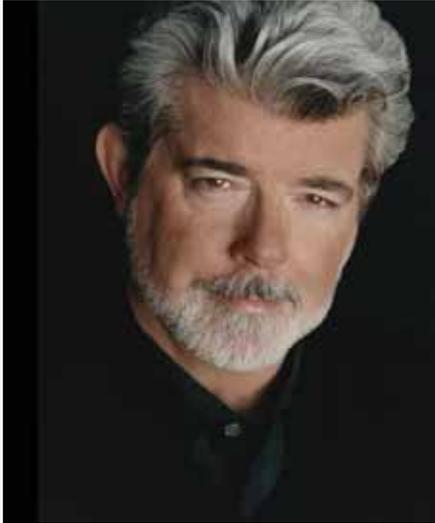
David McCullough

**Join us in the CNS
Member Services
Booth #345 for book
signings by the CNS
Dandy Orator.**

The CNS Michael L.J. Apuzzo Lecturer on Creativity and Innovation

George Lucas

Tuesday, October 10, 2006, 11:00 am – 11:30 am



George Lucas

George Lucas's devotion to timeless storytelling and cutting-edge innovation has resulted in some of the most successful and beloved films of all time.

His films celebrate the boundless potential of the individual to overcome any limitations – something he firmly believes. This theme is strong in the early movies that marked the start of his professional career.

It was Lucas' third film, 1977's *Star Wars*, that changed everything. A deceptively simple morality tale of good versus evil told across a fantastic landscape of exotic planets and bizarre creatures, *Star Wars* became an

international phenomenon, despite the fact that few saw its potential during production. Refusing to accept the limitations of filmmaking at the time, Lucas created his own visual effects company, Industrial Light & Magic, to deliver the hundreds of shots that were required to make his vision a reality. *Star Wars* broke all box-office records, set new standards for sophistication in film visuals and sound, garnered eight Academy Awards, and inspired a generation of young people to follow their imagination and dreams.

Lucas has been the storywriter and executive producer of a series of box-office hits beginning with the continuation of the *Star Wars* saga: *The Empire Strikes Back* in 1980 and *Return of the Jedi* in 1983. In 1981, he created the classic adventurer *Indiana Jones*, and co-wrote and executive-produced the successful series consisting of *Raiders of the Lost Ark* (1981), *Indiana Jones and the Temple of Doom* (1984) and *Indiana Jones and the Last Crusade* (1989), a trilogy that won eight Academy Awards. Later, a television series, *The Young Indiana Jones Chronicles*, won 12 Emmy Awards.

Lucas returned to directing in 1999 with the first of three new episodes of the *Star Wars* saga: *Star Wars: Episode I The Phantom*

Menace, the year's top box-office hit, which was also the first major live-action film to be projected digitally. Three years later, *Episode II Attack of the Clones* broke new ground as the first major movie shot using entirely digital media. In 2005, *Star Wars: Episode III Revenge of the Sith*, the final movie in the epic saga, was the top-grossing film worldwide of 2005.

Industrial Light & Magic continues forging new paths. Since its inception, it has won 14 Academy Awards and has created visual effects for some of the most popular movies ever made.

Skywalker Sound, meanwhile, has applied its own brand of perfection and devotion to the crafting of a film's soundtrack and post-production editing. Together, Skywalker Sound, ILM and Lucasfilm have been nominated for more than 100 Academy Awards and received 40 Oscars and special achievement awards.

He is chairman of the board of the George Lucas Educational Foundation and also serves on the board of the Film Foundation and is a member of the USC School of Cinema-Television Advisory Board.

Over the years, Lucas has received some of the entertainment industry's highest honors, including the Irving G. Thalberg Memorial Award from the Academy of Motion Picture Arts and Sciences; the American Film Institute's Lifetime Achievement Award; and the Lifetime Achievement Award from the Visual Effects Society. He has also received the nation's highest award for technological achievement, the National Medal of Technology, presented by the President of the United States for 30 years of innovation at Industrial Light & Magic.

First Annual John Thompson History of Medicine Lecturer

Professor Michael Bliss, PhD

Tuesday, October 10, 2006, 10:33 am – 10:53 am

Harvey Cushing and the Emergence of American Neurosurgery

Professor Michael Bliss is one of Canada's most distinguished historians. He has produced a series of significant books in three different subfields, the histories of business, medicine and politics in Canada, and established himself as a leading authority in all three realms.

Professor Bliss' scholarship in medical biography and history of medicine has been extraordinary. He is recognized as the pre-eminent medical historian of his generation. His definitive account of the discovery of insulin not only brought new insights to an important chapter in the history of medical science, it also was accessible to a broad audience, and therefore gave thousands of readers world-wide a better understanding of the world of biomedical research. The *Discovery of Insulin* (1982) was followed by *Banting: A Biography* (1984), by *Plague: A Story of Smallpox in Montreal* (1991) and most recently by *William Osler: A Life in Medicine* (1999). The *Discovery of Insulin* was awarded the William A. Welch Medal of the American Association for the History of Medicine in 1984 and the City of Toronto Book Award in 1983. *Plague* was short-listed for the governor-general's Award/Non-Fiction in 1992 and *William Osler: a Life in Medicine* was again short-listed for the governor-general's Award/Non-Fiction in 1999; it won the Canadian Historical Association's Ferguson Prize for the best book of the year in a field of history other than Canadian, and for it Professor Bliss won his second Jason Hannah Medical from the Royal Society of Canada. Professor Bliss was also the inaugural winner of the Oswald T. Avery Medal (1998), awarded by the Dalhousie History of Medicine Society for outstanding work in the history of medicine.

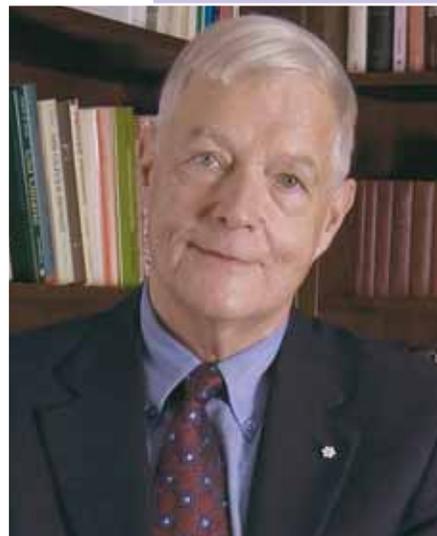
Professor Bliss has not confined his writing only to medical history. His scholarly analyses of Prime Ministers and the evolution of Canadian business have been widely acclaimed. *A Canadian Millionaire: The Life and Business Times for Sir Joseph Flavelle* (1978), was awarded the Canadian Historical Association's Sir John A. Macdonald Prize for the book deemed to have made the most

significant contribution to understanding the Canadian past in a given year and the Association's F-X. Garneau Medal for the book judged to have made the most significant contribution to history in Canada for a five-year period (1978-1982). *Northern Enterprise: Five Centuries of Canadian Business* (1987) received the National Business Book Award for the best book about business published in Canada and the Award of Merit of the Association for Canadian Studies.

Professor Bliss has been one of the leading public intellectuals in English Canada, especially in the past two decades. He has written for magazines and newspapers, often as a columnist and appeared regularly on both radio and television, adding to the public policy debate and contributing extensively to the understanding of our rich heritage. He is a member of the Order of Canada, a Fellow of the Royal Society of Canada and recipient of the Royal Society's Tyrrell Medal (1987) for his outstanding work in the history of Canada. In 2001 he received an honorary Doctor of Letters degree from McGill University.

A member of the University of Toronto faculty for thirty-eight years, and distinguished teacher as well as scholar, Professor Bliss holds an appointment in the Department of History, Faculty of Arts and Science, with cross-appointment to the Faculty of Medicine. He is a Senior Fellow of Massey College. His university service included a term as a member of Governing Council during which he chaired the University's Academic Affairs Committee.

Professor Bliss's most recent book is *Harvey Cushing: A Life in Surgery* (2005). As a companion to *William Osler: A Life in Medicine* it completes a two-volume biographical study of the rise of North American medicine.



Michael Bliss, PhD

Join us in the CNS Member Services Booth #345 for book signings by Professor Michael Bliss.

Distinguished Special Lecturer

Judah Folkman

Wednesday, October 11, 2006, 9:05 am – 9:30 am

Angiogenesis and the Role of Surgeons as Scientists



Judah Folkman

Professor Judah Folkman is the founder of the field of angiogenesis research. He has made seminal discoveries on the mechanism of

angiogenesis, which have opened a field of investigation now pursued worldwide. Dr. Folkman's hypothesis (1971) that solid tumors are angiogenesis-dependent initiated studies of angiogenesis in tumor biology and in disciplines as diverse as developmental biology, ophthalmology and dermatology.

His laboratory reported the first purified angiogenesis molecule, the first angiogenesis inhibitor and proposed the concept of angiogenic disease. All of these discoveries have been translated

into numerous clinical trials. Angiogenesis inhibitors are now approved by the FDA in the U.S., and in 28 other countries. Largely because of Dr. Folkman's research, the possibility of antiangiogenic therapy is now on a firm scientific foundation, not only in the treatment of cancer, but of many non-neoplastic diseases as well.

Dr. Folkman's exceptional achievements have been recognized by many national and international awards. In 1990, he was elected

to the National Academy of Sciences. He is also a member of the American Academy of Arts and Sciences, the American Philosophical Society and the Institute of Medicine.

In addition to his distinguished accomplishments in research, Dr. Folkman has served as a surgeon and teacher. He began his career as an Instructor in Surgery for Harvard's Surgical Service at Boston City Hospital, was promoted to Professor of Surgery at Harvard Medical School, and became the Julia Dyckman Andrus Professor of Pediatric Surgery in 1968. From 1967 he served as Surgeon-in-Chief at Children's Hospital Boston for 14 years. Dr. Folkman is also a Professor of Cell Biology at Harvard Medical School and is currently the Director of the Vascular Biology Program in the Department of Surgery at Children's Hospital. He holds honorary degrees from 16 universities and is the author of 406 original peer-reviewed papers and 109 book chapters and monographs.



Special Lecturer

Donald C. Johanson, PhD

Wednesday, October 11, 2006, 11:05 am – 11:30 am

The Origins of Humankind: The View from Africa

Many consider Donald Johanson to be among the most important and accomplished paleoanthropologists of our time. Over the course of his illustrious career he has produced some of the field's groundbreaking discoveries, including the most widely known and thoroughly studied fossil find of the 20th century—the Lucy skeleton.

Since Charles Darwin posed the theory of evolution in his 1859 publication, *On the Origin of Species by Means of Natural Selection*, scientists have speculated about humankind's place in nature. Darwin postulated that not only was the human species a product of the evolutionary process, but deep in the prehistoric past, we actually shared a common ancestor with the African apes. Although the 20th century has been peppered with important fossil hominid finds from both eastern and southern Africa, it was Dr. Johanson's 1974 discovery of a 3.2-million-year-old hominid fossil in Ethiopia that added a crucial link. Lucy, as the skeleton was called, prompted on-going debate and major revisions in our knowledge and understanding of the human evolutionary past. The skeleton possessed an intriguing mixture of ape-like features such as a projecting face and

small brain, but also characters we consider human such as upright walking. Lucy continues to be a diadem in the crown of hominid fossils and serves as an important touchstone for all subsequent discoveries.

In the 30 years since Dr. Johanson earned his Ph.D. at the University of Chicago, he has led field explorations in Ethiopia, Tanzania, and the Middle East, and effectively reached across multiple media platforms—hosting and narrating the Emmy nominated PBS/NOVA series *In Search of Human Origins*, authoring six books, and lecturing at universities, corporations, and public forums—to share his findings and stimulate healthy debate. Driven by a notion that we cannot fully grasp who we are and where we are headed as a species until we have a more complete knowledge of our evolutionary roots, Johanson founded and directs the Institute of Human Origins, a human-evolution think tank. An honorary board member of the Explorers Club and a fellow of the Royal Geographical Society, he also serves as the Virginia M. Ullman Chair in Human Origins at Arizona State University, where he teaches.



Special Lecturer: WINS Special Lecture

Celia Sandys

Thursday, October 12, 2006, 10:00 am – 10:20 am

The Inspiring Leadership of Winston Churchill: As Relevant Today as in World War II



Celia Sandys combines unparalleled knowledge on certain aspects of Winston Churchill's life with intimate recollections and anecdotes. She was twenty-one when he died, spent many of her school holidays with her grandparents and was her grandfather's travelling companion on a number of his later journeys.

As a leading author and international lecturer, she has built up a reputation as an expert on the life of her grandfather, Sir Winston Churchill, meeting many of the political leaders who knew him throughout his long career. Originally to promote her books but now because of great demand she speaks on Churchillian subjects in America, Britain, Canada, Japan and South Africa.

Celia Sandys has contributed articles to newspapers on Churchill in particular and politics in general. During the 1997 election in Britain she had her own column. She has appeared many times on television, most recently on C-Span, with Chris Matthews on *Hardball* and on the *Charlie Rose Show*.

Celia Sandys has spent the past ten years researching and writing about the life of her grandfather, particularly the lesser-known aspects. *From Winston With Love and Kisses* established her as the authority on his early life, while *Churchill Wanted Dead or Alive*, his adventures during the Anglo-Boer War, uncovered much that hitherto had gone unrecorded. *Chasing Churchill*, covers her grandfather's political and private travels in general and those journeys on which she accompanied him in particular. A combination of travel, art and history, it is now being filmed as a major television series. During her research for this and her previous books she has travelled extensively with all doors being opened to facilitate her search. CHURCHILL is the official book for the new Churchill Museum. Sandys' most recent book, *We Shall Not Fail – The Inspiring Leadership of Winston Churchill*, inspired her to found Churchill Leadership, a training development program for all who aspire to lead.

WILLKOMMEN

The Congress of Neurological Surgeons extends a special welcome to our colleagues from the German Society of Neurosurgery and the German Academy of Neurosurgery.



*In Honor of
our International Colleagues,
the CNS invites all International Attendees to
the CNS International Reception at
the Field Museum of Chicago on
Wednesday, October 11, 2006.*

OBSERVANTIA



Annual Meeting Committee

Annual Meeting Chair
Christopher C. Getch

Scientific Program Chair
Anthony L. Asher

Vice Scientific Program Chair
Russell R. Lonser

Local Arrangements Chair
Richard W. Byrne

Public Relations Chair
Mark E. Linskey

Registration Co-chairs
Aruna Ganju
Shekar N. Kurpad

Sergeant-at-Arms Co-chairs
George I. Jallo
Judy Huang
Jack Jallo
Rene Garcia

Honored Guest Liaison
Arthur James Dipatri, Jr.

Past Presidents Liaison
Issam A. Awad

Information and Technology
Ashwini Dayal Sharan

German Neurosurgical Societies Liaison
Roger Hartl

Joint Section Liaison
Anthony L. Asher

International Liaison
Gail Rosseau

WINS Liaison
Jamie Sue Ullman

Auxiliary Program Chair
Sandy Ellenbogen

Annual Meeting Chair
Christopher C. Getch



Scientific Program Committee

Scientific Program Chair
Anthony L. Asher

General Scientific Session Chair
Guy M. McKhann, II

General Scientific Session I
E. Sander Connolly, Jr.
Oren Sagher

General Scientific Session II
Jack Jallo
Mark R. Proctor

General Scientific Session III
Nathan R. Selden
Nicholas Theodore

General Scientific Session IV
Mitesh Vipin Shah
Ron L. Alterman
C. Michael Cawley, III

Interactive Sessions
Gerald E. Rodts Jr.
Praveen V. Mummaneni
Adam S. Arthur

Original Science Chair
Russell R. Lonser

Abstracts
Timothy Harris Lucas, II
Lynda Jun-San Yang
Richard E. Clatterbuck
Judy Huang
Ann-Christine Duhaime
Jeffrey G. Ojemann
Hugh Garton
Gavin W. Britz
Mark D. Smith

Neurosurgical Forum
Nicholas M. Boulis
Charles Kuntz, IV
Bruce E. Pollock
Frederick G. Barker

Section Open Papers
Charles S. Cobbs

Technical Section Chair
Saleem I. Abdulrauf

3-D Dissection Course
Ganesh Rao

Digital Masters
Brian T. Ragel
Hugh Garton

Special Courses/Elective Courses Chair
Mark E. Linskey

Special Courses
Michael A. Vogelbaum
Kimberly Ann Page
Jason P. Sheehan
Mark M. Souweidane

Practical Courses Chair
Mark Edwin Shaffrey

Practical Courses Co-Chair
Karin M. Muraszko

Practical Courses Committee
Leon E. Moores
Mick J. Perez-Cruet
Tim E. Adamson
Mark H. Bilsky
Gavin W. Britz

Luncheon Seminars Chair
Jaimie M. Henderson

Luncheon Seminars Committee
Daniel L. Silbergeld
Anthony Avellino
Trent Lane Tredway
C. Michael Cawley, III

IT Advisory
Joel D. MacDonald
Ashwini Dayal Sharan

Resident SANS Challenge
Leon E. Moores

CME Liaison
Daniel K. Resnick
CSNS Liaison
William E. Bingaman

Resident
Patrik Gabikian

Affiliates Liaison
Michael W. Groff

Scientific Program Chair
Anthony L. Asher



Dedicated to Neurosurgical Education

Our sincere thanks and appreciation go out to each committee for their dedication in organizing the 2006 CNS Annual Meeting. It is due to each member's never-ending commitment to serve the CNS that we are able to provide excellence in education.



Education and Innovation

Sandy and Richard G. Ellenbogen President



Richard G. Ellenbogen is Professor and Chairman of Neurological Surgery at the University of Washington School of Medicine. He holds the Theodore S. Roberts Endowed Chair in Neurological Surgery, is the Chief of Neurological Surgery at Harborview Medical Center, and Chief of Pediatric Neurological Surgery at Children's Hospital and Regional Medical Center in Seattle, Washington. He is currently the President of the Congress of Neurological Surgeons. Rich has enjoyed nearly every job on the Scientific Committee or Annual Meeting Committee for the CNS, since 1989.

Dr. Ellenbogen was born and raised in New York, where he attended public school. He received his college degree in biochemistry at Brown University in 1980 and his medical degree from Brown in 1983. After completing a residency in 1989 at Children's Hospital, Brigham & Women's Hospital in Boston, Harvard Medical School, Dr. Ellenbogen became a staff Neurosurgeon at Walter Reed Army Medical Center in Washington, D.C. He was deployed in support of Operation Desert Storm as Commander of the 252nd Medical Detachment with the XVIII Airborne Corp. He was awarded a Bronze Star during that deployment. After he returned to Walter Reed, he became the Neurosurgical Director of the

DOD/VA Head Injury Project. Subsequently, he became the Chief of Neurosurgery and Residency Program Director at Walter Reed Army Medical Center, and Chairman of the National Capital Area Neurosurgery Residency Consortium, prior to joining the UW Department of Neurological Surgery in November of 1997.

Dr. Ellenbogen's clinical practice focuses on Pediatric and Adult Brain Tumors, Craniofacial/Congenital Anomalies, Trauma, and Neuro-endoscopy. Dr. Ellenbogen's current extramural funded research (NIH/NCI) is in the field of hindbrain abnormalities/CSF physiology, and Brain Tumors. He is using MR to study the anatomic and physiological (CSF) properties of patients with Chiari malformations. In addition, his UW Nanotechnology research group (MINDD) is studying techniques to improve molecular imaging of brain tumors in situ, and in the operating room. However, Dr. Ellenbogen's most proud academic accomplishment has been the mentorship of wonderful Neurological Surgery Residents in the military at Walter Reed and Bethesda, and at the University of Washington, during the past 17 years. He has equally enjoyed his personal education by superbly talented, and entertaining colleagues at those same institutions during that time.

Rich and Sandy Ellenbogen have been together for 23 years, and married for 20 years. Sandy, who was raised in South Dakota, is an ICU nurse and works at the University of Washington Medical Center. They have 3 children: Rachel (17) who goes to high school and rows for the Pocock Crew Team in Seattle, Paul (15) who is a self-acclaimed computer addict and fraconophile who loves fencing, and the high spirited Zach (13) who plays every sport imaginable from football to baseball. Rich's hobbies include fly fishing, hunting and cooking. The Ellenbogens enjoy swimming and skiing together, watching movies and traveling as a family.

Susan and Douglas S. Kondziolka

President-Elect

Douglas Kondziolka is proud to serve the Congress of Neurological Surgeons as President-Elect. He is the Peter J. Jannetta Professor and Vice-Chairman of Neurological Surgery at the University of Pittsburgh. He is also a Professor of Radiation Oncology. Dr. Kondziolka received his medical degree from the University of Toronto and graduated from the Toronto neurosurgery residency program in 1991. From 1989 to 1991 at the University of Pittsburgh, he completed a master of science program in the Department of Behavioral Neuroscience and a fellowship in stereotactic surgery and radiosurgery. His clinical practice is focused on neuro-oncology, functional neurosurgery, and stereotactic radiosurgery.

He joined the faculty of the Department of Neurological Surgery at the University of Pittsburgh in January 1992. He is the neuroscience task force leader for the McGowan Institute for Regenerative Medicine. Since that time his laboratory has studied the radiobiological effects of radiosurgery on normal brain and brain tumor models, and has evaluated the effects of radiosurgery as a novel treatment for epilepsy. His work in stereotactic radiosurgery spans the breadth of that field including studies in cerebral vascular malformations, benign and malignant brain tumors, trigeminal neuralgia, epilepsy, and movement disorders. Dr. Kondziolka served as principal investigator of the first two clinical neurotransplantation trials for the care of patients with stroke.

Dr. Kondziolka has published 282 articles in refereed journals, 154 book chapters and/or invited publications, and has edited 8 books. He has completed four randomized controlled trials. He is a two-time recipient of the Stephen Mahaley Award for brain tumor clinical research from the Joint Section on Tumors of the AANS/CNS. He received the Lars Leksell Award from the World Federation of Neurosurgical Societies. In 2004, he was honored as the Penfield Lecturer of the



Canadian Neurosurgical Society. He is a Past-President of the American Society for Stereotactic and Functional Neurosurgery, Past-Chairman of the Joint Section on Stereotactic and Functional Neurosurgery of the AANS/CNS, and Past-President of the International Stereotactic Radiosurgery Society. He has served on the Executive Committee of the CNS in numerous roles over the past nine years including Chair of the Fellowships and Publications Committees, Scientific Program Chair (2000), Annual Meeting Chair (2001), Treasurer (2002-2005), and Strategic Planning committee. He serves on the editorial board of numerous journals and is a principal editor for Neurosurgery. He serves on the medical staff of the Pittsburgh Penguins. Dr. Kondziolka's hobbies include polar exploration history and winter sports. Susan and Doug have been married for 16 years, and are extremely proud of their sons Alex (14), and Max (12).

Gale England-Getch and Christopher C. Getch Annual Meeting Chair



Christopher Caldwell Getch is honored to serve the Congress of Neurological Surgeons as the Annual Meeting Chair. Dr. Getch joined Dr. H. Hunt Batjer on the Northwestern University faculty in 1996 in the Division of Cerebrovascular Neurosurgery. Prior to arriving in Chicago, Dr. Getch completed fellowships in Microsurgery with Dr. Jannetta and Stereotactic Radiosurgery with Dr. Lunsford and Dr. Kondziolka at the University of Pittsburgh. Dr. Getch received his BA degree from Princeton University in 1984, his MD degree from Tufts University School of Medicine in 1989, and graduated from neurosurgical residency at Thomas Jefferson University under the chairmanship of Dr. William Buchheit. Since joining the faculty at Northwestern, Dr. Getch has been active in organized neurosurgery, serving the Congress

of Neurological Surgery in numerous roles, most recently as Scientific Program Chairman in Boston in 2005. He has served as the Northwestern Neurosurgery Department's Clinical Practice Director since joining the group in 1996 and is currently Secretary of the Illinois State Neurosurgical Society. Dr. Getch has been active in resident education as well as clinical research in subarachnoid hemorrhage, cerebrovascular imaging, and the genetics of intracranial aneurysms. He has authored several manuscripts and book chapters on intracranial aneurysm surgery.

Dr. Getch is married to Gale and they live in Hinsdale. They enjoy traveling and running, having completed two marathons together. They are most active looking after their two boys, Christopher, Jr. (13) and Oliver (11), who have reintroduced them to numerous activities including baseball, soccer, football, lacrosse, camping, and skiing.

Jill and Anthony L. Asher

Scientific Program Chair

Dr. Tony Asher is honored to serve the Congress of Neurological Surgeons as Scientific Program Chairman. Dr. Asher received his BA degree in Religion and Biology from Kalamazoo College in 1982. He graduated from Wayne State University Medical School in 1987 and while there was named to the original class of Howard Hughes Medical Institute-NIH Scholars. Dr. Asher returned to the NIH in 1989-91 as a staff fellow under Dr. Steven Rosenberg at the Surgery Branch of the National Cancer Institute. He completed his training in neurological surgery in 1995 under the chairmanship of Dr. Julian Hoff at the University of Michigan.

Dr. Asher joined the Charlotte-based Carolina Neurosurgery and Spine Associates in 1995, where he maintains a very active community-based practice with primary clinical interests in neuro-oncology and functional neurosurgery. He presently serves as the Director of Neurooncology at the Blumenthal Cancer Center of the Carolinas Medical Center, as Chairman of the Department of Neurosurgery at Presbyterian Hospital and as Adjunct Professor of Biology at the University of North Carolina, Charlotte (UNCC). Dr. Asher has previously served the Congress of Neurological Surgeons as Vice President, Editor-in-Chief of SANSwired, and as a member of the Strategic Planning, Scientific Program, Education and Information Technology Committees. He has also been a member of the Executive Committee of the Section on Tumors since 1998 and presently serves as Chairman of the Community Initiatives Subcommittee.

Dr. Asher's basic research has focused on tumor immunobiology. He is currently involved in brain tumor clinical research, including establishing cooperative cancer research



programs with laboratory scientists at UNCC. He presently serves as Co-Director of the Carolina Center for Translational Neuroscience and Co-Chairman of the Brain Tumor Foundation for the Carolinas. Dr. Asher has a special interest in promoting community involvement in clinical research and presently serves as an RTOG principal investigator and as a member of that organization's brain tumor committee. He is the recent past chairman of the Central Nervous System Organ Site Committee of the American College of Surgeons Oncology Group.

Tony and Jill Asher were both born and raised in Michigan and met in Ann Arbor while Dr. Asher was a resident neurosurgeon. They have been married for 15 years. Jill previously worked as an ICU nurse at the University of Michigan and attained her DDS degree from that institution in 1995. Tony and Jill live in Charlotte with their three spirited children Tony (12), Kyle (10), and Dayna (6). The entire Asher family enjoys travel and a wide variety of outdoor sports including tennis, swimming, lacrosse and cycling.

Armita and Richard Byrne

Local Arrangements Chairman

Richard William Byrne is honored to serve the Congress of Neurological Surgeons as the Local Arrangements Chairman. Dr. Byrne is Associate Professor and Acting Chairman in the Department of Neurosurgery at Rush University Medical Center. He completed his undergraduate studies at The University of Illinois in 1987 and his M.D. degree from Northwestern University Medical School in 1991. Dr. Byrne graduated from the neurosurgical residency training program at Rush University Medical Center in 1997 and joined the faculty after additional training in epilepsy and brain tumor surgery. Dr. Byrne has been actively involved in a number of epilepsy and brain tumor surgery trials, basic science research in epileptogenesis and brain tumor genetics, and has authored many manuscripts and book chapters on these subjects.

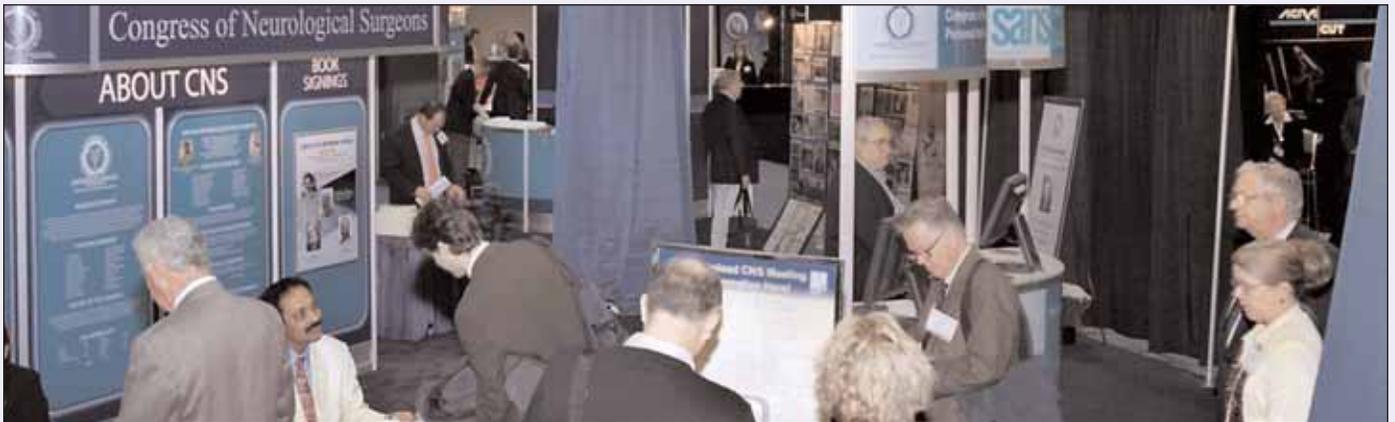
Dr. Byrne has been active in organized neurosurgery serving on CNS committees, JCSNS, The Neurosurgical Society of



America, the FDA Neurosurgery Devices panel, and the Illinois State Neurosurgical Society executive committee. He is currently President-elect of The Rush Surgical Society.

Dr. Byrne enjoys history, fishing with his daughters, and triathlons. His wife Armita is a neurologist, and they live in Oak Brook with their two beautiful daughters Nika (6) and Kayla (5).

WE'RE HERE TO HELP YOU! CNS MEMBERSHIP SERVICES!!!



Booth # 345

Visit the CNS at booth #345. We'd be happy to help you with any membership inquiries and introduce you to our many exciting membership benefits

Membership

The CNS Staff is available to answer any questions regarding individual membership status, dues balances, new membership questions and member benefits.

Stop by and take care of all of your needs at once!

- Check or change your mailing/email address.
- Pick-up Fellowship information.
- Purchase a 2006 CNS Annual Meeting T-shirt or an official CNS tie.
- Find out more on Future CNS Annual Meetings.
- View a live demo of SANS or the CNS Personal Assistant Service (the CNS PA).
- Forgot your CNS PA password? We can help you.
- Pay your 2006 membership dues on-line ~ New in 2006!
- Print your CME certificates from past meetings.
- Review the CNS Archives and the CNS Committee Exhibit.

Neurosurgery[®], the official journal of CNS

- Missing a **Neurosurgery[®]** journal? Stop by and request a back issue.
- Talk with **Neurosurgery[®]** staff.
- Review sample journals.
- View *Operative Neurosurgery* – a supplement to **Neurosurgery[®]**.
- *Neurosurgery News*, the official bi-monthly news magazine of the CNS – pick up a copy today!

www.cns.org

Browse through the new and improved CNS website. Talk with staff on all of the products and services available through the website. Here are just a few:

CNS Personal Assistant Service (CNS PA)

CNS Members can access the NEW CNS PA Service and pay their dues on-line, view or print past CME records, view their personal information, view previously submitted abstracts, view or print you personal Curriculum Vitae, and much more...

SANS (Just Released!)

Access the newly released SANS, an on-line self assessment tool for CME certification or re-certification.

And Much More!

Job Placement Service on-line Access, World Directory of Neurological Surgeons on-line Access, TalkNet Speakers Bureau.

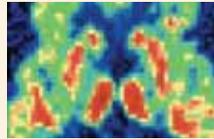
Become a CNS Member! Receive these benefits...



Global Access

Access a global network of neurosurgical colleagues and information.

- **The CNS Member Contact Guide**
- **World Directory of Neurological Surgeons**
- **www.cns.org**
- **The CNS Personal Assistant Service (the CNS PA) providing personalized on-line CME certificates and on-line dues payment!**



Scientific Knowledge

The CNS brings you the latest scientific knowledge and solutions.

- **The CNS Annual Meeting**
 - Save \$100 on registration fees.
 - Earn valuable CME credits.
- **Complimentary subscriptions to leading neurosurgical publications.**
 - **NEUROSURGERY®**—the official journal of the CNS (over a \$300 value).
 - *Operative Neurosurgery*—a new supplement to **NEUROSURGERY®**.
 - *Neurosurgery News*—the official news magazine of the CNS.
 - *Clinical Neurosurgery*—published annually for the CNS Members.
- **SANS (Just Released!)**
 - Prepare for your certification or re-certification.
 - Save almost 35% off the regular subscription price.
 - Earn up to 24 CME credits.



Professional Growth

For every stage of your career.

- **Leadership Opportunities**
 - Enhance your leadership skills through service on the CNS Committees.
- **Job Placement Service**

Apply Today On-line at www.cns.org!

Congress of Neurological Surgeons

10 N. Martingale Road, Suite 190 Schaumburg, IL 60173

Phone: 847-240-2500 Toll-free: 877-517-1CNS Fax: 847-240-0804



Education and Innovation



Dear Residents:

What an opportunity for all neurosurgical residents! Do not let this opportunity pass you by – register for the 2006 Congress of Neurological Surgeons Annual Meeting today! The comprehensive Scientific Program that is offered, as well as the extraordinary invited speakers, will educate and inspire you. As an

added bonus, CNS resident members receive reduced registration fees and complimentary housing (provided on a first come, first served basis).

At the CNS Annual Meeting, you will find the latest information on current breakthroughs in research and treatment options, exceptional programs for continuing education, plus invaluable opportunities to develop relationships with other up and coming neurosurgical leaders.

I feel strongly that this is an organization you need to be a member of so I would like to take the opportunity to invite you to become a member of the Congress of Neurological Surgeons. The application process is simple and can be an important part of your ongoing professional development. CNS Resident members are afforded a plethora of outstanding benefits (see this page for details) and we hope you will take full advantage of each one of them. Outstanding achievement in the field of neurosurgery begins with a strong foundation. That is why we are inviting you to join the Congress of Neurological Surgeons today!

If you have any questions or would like to apply for membership, please contact the CNS Member Services toll free at 877-517-1CNS or via e-mail at info@1cns.org or visit our website www.cns.org for an on-line application.

On behalf of the Congress of Neurological Surgeons, I look forward to helping you succeed in the growing field of neurosurgery.

Sincerely,

Michael Steinmetz
Chair, Resident Committee

Sergeant-at-Arms Program

What better way to become part of the Congress of Neurological Surgeons volunteer-based organization than to participate in the Sergeant-at-Arms Program!

The Sergeant-at-Arms volunteers contribute to the overall success of the Annual Meeting. Volunteer for these simple but vital organizational tasks and the CNS will cover your fee for the course to which you are assigned!

Why become a CNS Resident Member?

When neurosurgical residents need the most current information about breakthroughs in research and treatment options, continuing education opportunities and networking with peers, they turn to the CNS. The CNS proudly offers its resident members exceptional benefits and the best educational opportunities.

In keeping with our dedication to neurosurgical education, the CNS continues to offer special programs to assist and encourage resident members to attend the Annual Meeting by providing:

- Reduced Annual Meeting registration fee – *a savings of \$100!*
- Complimentary housing (Limited availability – apply now!). If you are not currently a CNS Resident Member, your membership application must be received by August 1st for resident housing consideration.
- Complimentary ticket to Opening Reception – *valued at \$100!*
- The CNS funded Resident Award.
- Complimentary Residents/Honored Guest Luncheon (limited capacity – register early!)
- Reduced fees for Luncheon Seminars.
- Resident Recruitment Social (Outstanding opportunity for career advancement!)

For a one-time membership fee of \$25, Resident Members are also entitled to the following benefits:

- Complimentary subscriptions to leading neurosurgical publications including:
 - **NEUROSURGERY**[®], the official journal of the CNS – Includes Operative Neurosurgery the new quarterly supplement (*A \$180+ Value!*)
 - *Clinical Neurosurgery* (*A \$100+ Value!*)
 - *Neurosurgery News*, the official bi-monthly CNS newsmagazine.
 - *SANS (Just Released!)* – *only \$150 for Residents!*
- Multiple Educational CNS Fellowships.
- Receive the Young Neurosurgeons' Directory.
- Access to www.cns.org.
- Outstanding Educational products:
 - Core Curriculum in Neurological Surgery.
 - Image Library.
 - Resident Curriculum Guidelines for Neurosurgery.
- On-line Job Placement Services.
- Access to the CNS Personal Assistant Service (the CNS PA).

Attention Residents:

Compete in the CNS Resident SANS Challenge at the 2006 CNS Annual Meeting in Chicago!

- Qualify on-line to play a game show style competition at the 2006 CNS Annual Meeting on Sunday, October 8 and Tuesday, October 10 and you could win bragging rights, trophies, and a cash prize for your program. (All residents from North America, including Mexico and Canada are eligible).
- Take the on-line quiz at www.cns.org! The nine highest-scoring training programs will each send their top two players to live rounds at the 2006 CNS Annual Meeting. (Travel Expenses to the CNS Annual Meeting must be covered by program or individual).
- The winning programs at the 2006 CNS Annual Meeting will receive:

1st Place Team	\$2,500
2nd Place Team	\$1,500
3rd Place Team	\$1,000

All scores are confidential.



Log on to play:
July 15, 2006 – July 31, 2006
www.cns.org

GENERAL INFORMATION

Accessibility

The McCormick Place Convention Center is fully accessible. Inside, meeting rooms, exhibit halls and public areas are all served by conveniently located elevators. Telephones, drinking fountains and restrooms located throughout the facility are also wheelchair accessible.

Scooter and wheelchair rentals are available by contacting Scootaround Inc. at their toll-free hotline: 888-441-7575. You can also submit a rental inquiry on the web at www.scootaround.com or by fax at 204-478-1172.

Air Travel Information

Take advantage of one-stop shopping for all your air travel, registration and housing needs. See page 24 for details.

Americans with Disabilities Act

Please indicate on your registration form if, under the Americans with Disabilities Act, you may require special accommodations or services in order to attend the 2006 CNS Annual Meeting. We want to ensure that no individual with a disability is excluded because of the absence of auxiliary aids and services.

Auxiliary Tours, Optional Evening Events and CNS Social Activities

Auxiliary Tours are optional activities and programs available to spouses and guests. Physicians and Allied Health Professionals may not register for daytime activities and programs because they run simultaneously with our Scientific Program. These activities and programs are selected to provide an opportunity to explore the more interesting attractions in the Chicago area.

All tours will depart from the CNS headquarters hotel, the Sheraton Chicago Hotel and Towers (convention entrance). Please arrive 15 minutes prior to the scheduled departure time.

All registered CNS Annual Meeting spouses and guests are invited to use the Spouse Hospitality Suite, Monday through Wednesday, including daily continental breakfast from 7:00 am – 10:30 am. Please note that admittance to the Spouse Hospitality Suite is by Spouse/Guest or Nurse/Spouse badge only. The Spouse Hospitality Suite is located at the Sheraton Chicago Hotel and Towers.

Optional Evening Events are available to all registered attendees and our exhibit partners. Complete details and fees for all planned Optional Activities can be found on pages 74 - 79. We encourage you to share this information with your spouse or guest for their convenience when registering for the week's extensive programming.

The CNS Social Activities are also open to all registered attendees and are included with each registration. The Opening Reception on Sunday, October 8 is open to all registered attendees and one complimentary ticket is included with each registration. See page 38 for more details.

Children

Children over the age of 12 may register as a guest at the Guest Registration fee. This will allow full participation in Auxiliary Program activities. Please note that children under the age of 18 are not allowed in the Exhibit Hall.

Should you desire Babysitting services, please contact the concierge desk at your hotel or call:

American Child Care Service
445 E. Ohio Street, Suite 306
Chicago, IL 60611
312 644 7300

The CNS has no control over and assumes no responsibility for the care that is provided through hotels or these services. This information is provided solely to assist participants in identifying possible sources for childcare.

Climate

October in Chicago usually brings an average temperature of 52 degrees. While Chicago is a relatively casual city, people will dress up a bit more in the evening if they are dining out at an upscale restaurant or attending the theatre.

CME Accreditation

The Congress of Neurological Surgeons is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians.

The CNS designates this continuing medical activity for a maximum of 24 credit hours in category 1 credit toward the American Medical Association's Physician's Recognition Award. An additional 16.5 hours of credit may be earned by attending optional educational programs such as Practical Courses and Luncheon Seminars. Each physician should claim only those hours of credit that he/she actually spent in the educational activity. A CME Tracking Form will be enclosed in your registration packet and will be posted online at www.cns.org after the 2006 CNS Annual Meeting.

Presenters of scientific posters can claim up to 10 category 2 credits for designing a poster and can also claim 1 category 2 credit for teaching; attendees can claim 1 category 2 credit for each hour spent viewing posters.

The same number of category 1 credits awarded will be applied toward the Continuing Education Award in Neurosurgery.

GENERAL INFORMATION

The CNS cannot designate its Annual Meeting as meeting the criteria for credit for nurses and other allied health professionals. For credit that may be acceptable to state medical associations, specialty societies, or state boards for medical licensure, please contact those organizations directly.

Certificates are mailed approximately six weeks after the meeting. On-line CME Certificates will be available to CNS Members on the CNS PA at www.cns.org in December 2006.

Course Agendas and Faculty

Agendas are occasionally subject to change. As we continue to strive to improve the quality of your educational experience, the CNS may substitute faculty with comparable expertise where necessary.

Disclosures

Before the program, all speakers will disclose the existence of any financial interest and/or other relationship they might have with the manufacturer(s) of any commercial product(s) to be discussed during their presentation. It is also each speaker's responsibility to include the FDA clearance status of any device or drug requiring FDA approval discussed or described in their presentation or to describe the lack of FDA clearance for any "off label" uses discussed. Speakers from the audience are also required, therefore, to indicate any relevant personal/professional relationships as they discuss a given topic.

Handout materials are prepared and submitted for distribution by the presenters who are solely responsible for their content.

Disclosures will be published in the Scientific Program Book and the Scientific Abstract/Digital Poster CD that will be distributed at the Annual Meeting.

E-mail Cafés

You will be able to check your e-mail messages from the E-mail Cafés in the CNS Member Services Center (Booth #345 in the Exhibition Hall). Please be sure to have your e-mail account username, password and the mail server name.

Exhibition

The CNS Exhibition will be located in Hall C1 of the McCormick Place Convention Center.

Hours are:

Monday, October 9	9:00 am – 4:30 pm
Tuesday, October 10	9:00 am – 4:30 pm
Wednesday, October 11	9:00 am – 4:00 pm

Admittance to the Exhibit Hall is by CNS name badge only. Please note that children under the age of 18 are not allowed in the CNS Exhibit Hall.

Evaluations

The evaluation process is a key component in our continuous strive for excellence in neurosurgical education. Feedback from registrants helps to determine programming at future Annual Meetings. As a result of your input, our programming will continue to improve. Please complete your evaluation forms and deposit them in the drop boxes located throughout the McCormick Place Convention Center. The CNS is dedicated to neurosurgical education . . . your opinions are important to us!

Future Meetings

San Diego	September 15 – 20, 2007
Orlando, FL	September 20 – 25, 2008
New Orleans, LA	October 24 – 29, 2009

Housing Information

See pages 23 - 25.

Member Services Center - Booth #345

Designed to increase the visibility of the CNS Secretary, the CNS Membership Department and **Neurosurgery**® as well as the Residents' and Placement Offices, the CNS Member Services Center is located in Exhibit Hall C1, Booth #345. Staff members will be available to assist you and answer any questions you may have about the CNS and its member services. You can also check your e-mail at the E-mail Cafés.

Message Center

The Message Center will be located in the CNS Registration Area during registration hours.

GENERAL INFORMATION

Press Room

Press activities will take place at the McCormick Place Convention Center. Please stop by the Registration area for details.

Registration Information

Registration Hours:

McCormick Place Convention Center	
Saturday, October 7	7:00 am – 5:30 pm
Sunday, October 8	7:00 am – 5:30 pm
Monday, October 9	6:30 am – 5:30 pm
Tuesday, October 10	6:30 am – 5:30 pm
Wednesday, October 11	6:30 am – 5:30 pm
Sheraton Chicago Hotel & Towers	
Thursday, October 12	7:00 am – 11:00 am

For additional information see page 27.

Shuttle Services

Shuttle services will be available to all official CNS hotels. A shuttle schedule will be posted at the hotels and at the Convention Center and will be printed in the Scientific Program Book. Shuttle hours are as follows:

Saturday, October 7	7:00 am – 5:30 pm
Sunday, October 8	7:00 am – 5:30 pm
Monday, October 9	6:00 am – 6:00 pm
Tuesday, October 10	6:00 am – 6:30 pm
Wednesday, October 11	6:00 am – 6:00 pm

Shuttles will also be available from official hotels to the Sheraton Chicago on Sunday, October 8, from 6:15 pm to 8:45 pm for the CNS Opening Reception and from 6:30 am to 12:00 pm on Thursday, October 12 for General Scientific Session IV held at the Sheraton Chicago Hotel and Towers.

Speaker Ready Room

The Speaker Ready Room will be available Saturday, October 7 through Wednesday, October 11, from 6:30 am – 6:00 pm at McCormick Place Convention Center and Thursday, October 12 from 6:30 am – Noon at the Sheraton Chicago Hotel & Towers. All speakers and Open Paper presenters should visit the Speaker Ready Room prior to their presentations.

Smoking

McCormick Place is a smoke-free environment. Smoking is also prohibited within 15 feet of all entrances. There are designated outdoor smoking areas. Violations are subject to fines issued by the City of Chicago.

Transportation Information from Chicago O'Hare International Airport and Midway Airport

Located just 17 miles northwest of downtown Chicago, O'Hare International Airport is accessible via local mass transit lines, regional trains and buses, downtown and suburban shuttles and interstate highways. Most ground transportation access areas are located at the main entrance for each terminal. Taxicabs are available from the lower level curbs of all terminals. The Chicago Transit Authority (CTA) Blue Line train operates 24 hours a day to downtown Chicago.

Midway International Airport is located on the Southwest Side of Chicago and is served by bus and taxi pick-up areas on the lower level in front of the terminal building. The CTA Orange Line train connects Midway International Airport to downtown Chicago.

Who Should Attend

Neurological surgeons, neurosurgery nurses, nurse practitioners, physician assistants, orthopedic surgeons, primary care physicians, gerontologists, radiologists, hospital administrators, oncologists, neurologists, pediatricians, physiatrists, and infectious disease specialists are welcome and encouraged to attend the 2006 CNS Annual Meeting.



Don't miss these enhancements to the CNS Scientific Program.

- Neurosurgical Forum, Monday, October 9**
 Presenting the most compelling, novel and high impact clinical and basic science in a concentrated neurosurgical symposium. The Forum will enhance the presentation of original science and foster scientific exchange.
- Select Abstract Session, Monday, October 9**
 Ask questions, talk through techniques and listen to poster presentations live.
- Live 3-D Cadaveric Demonstration of Surgical Approaches, Monday, October 9**
 See six different approaches performed by masters in a live 3-D format.
- 
Interactive Section Sessions, Tuesday, October 10 and Wednesday, October 11
 Take this opportunity to provide feedback during the Interactive session.

CNS HOUSING, REGISTRATION, AND TRAVEL SERVICE/ITS

The CNS, in conjunction with ITS, offers you one-stop services for all your hotel, registration, and air travel needs.

FOR YOUR CONVENIENCE, you can register for courses, select your flights, reserve your hotel room and more via these four methods:

On-line: www.cns.org
Internet booking is available 24 hours a day, seven days a week.
 Credit card only
 Not available for Residents or Fellows
 Receive *immediate confirmation* of Registration Confirmation Notification.

Phone: **800/424-5249 U.S. & Canada**
 847/940-2155 International
 Credit card only
 Not available for Residents or Fellows
 Not available for Ticketed Events
 Allow *two business days* for Registration Confirmation Notification.

Fax: **800/521-6017 U.S. & Canada**
 847/940-2386 International
 Credit card only
 Allow *seven business days* for Registration Confirmation Notification.

Mail: **CNS Annual Meeting/ITS**
 108 Wilmot Road, Suite 400
 Deerfield, IL 60015-5124
 Credit card or check (no wire transfers)
 Allow *two business days* for Registration Confirmation Notification.

IMPORTANT Dates to Remember

September 7, 2006

Advance Registration Discount and Housing Deadline.

September 14, 2006 Cancellation Deadline

No refunds given after September 14, 2006. \$100 Processing fee will be charged for written cancellation requests received prior to September 14, 2006.

September 14, 2006

Course and event tickets will be refunded in full until this date. No refunds after this date.

September 8 to September 18, 2006

Contact ITS for any Housing questions.

September 25, 2006

Any changes to hotel reservations must be made directly with hotel from this date on.

Fax & Mail

- Type or print all information on the registration / housing form in black ink. Do not use a cover sheet.
- CNS / ITS is not responsible for faxes not received due to mechanical failure or circumstances beyond our control.
- Due to the high volume of forms received, ITS cannot confirm receipt of faxed or mailed forms.

Phone

- Have your completed registration / housing form and credit card information in front of you when placing your call.

Credit Card Payments

- For Advance Registration
 Visa, MasterCard, American Express, Diners Club, Discover
- Accepted On-Site Only
 Visa, MasterCard, American Express

Payment by Check

- Checks must be drawn on a U.S. bank in U.S. dollars. Make checks payable to: CNS Annual Meeting / ITS
- Include \$250 per unit hotel deposit plus appropriate fees for registration and any optional items purchased.

CNS HOTEL RESERVATIONS

Contact ITS, the official CNS Housing and Registration Service, to reserve your guest rooms.

Hotels will not accept reservations from CNS meeting attendees directly.

Reservations can be made On-line or via Fax, Phone or Mail. See page 23.

Be sure to complete the entire housing section of the registration form.

Hotel Reservation Information and Deadlines

Hotel reservations are only available to registered CNS attendees.

You must first register for the CNS Annual Meeting before making your hotel arrangements – see page 26.

Don't wait. Rooms are limited and fill up quickly.

Reserve your room by September 7, 2006.

Deposits

A deposit is required and due at the time your hotel reservation is made.

This payment must be submitted with your registration fees. Credit cards will be charged immediately.

A small portion of your room rate will be used to help defray the cost of registration and housing services.

Deposits: Standard Room = \$250

All rooms are subject to applicable tax, currently at 15.4% for hotel tax.

Hotel Confirmations, Cancellations or Changes

NOTE: *When canceling a reservation by phone, record the date, cancellation number, and name of the person accepting the cancellation.*

Through September 14, 2006, 5:00 pm CST

- All changes and cancellations must be made through ITS
- Rooms are not transferable
- Refunds for deposits will be issued by ITS

Between September 8 and September 18, 2006

- Contact ITS for any Housing questions.

Beginning September 25, 2006

- All changes and cancellations must be made directly with the hotel.
- If cancellation notice is not received according to the hotel policy, the deposit may be forfeited.
- Check your hotel confirmation and contact the hotel directly for information.

Complimentary Housing for CNS Resident Attendees

Complimentary housing at the CNS Annual Meeting is available to CNS Resident Members on a first-come, first-served basis.

To be considered for this program, CNS Resident Members must:

- Complete a separate CNS Resident Housing Form (Included with Resident Member registration materials). This form is to be send directly to the CNS via fax to 847 240 0804 or mail to 10 N. Martingale Road, Suite 190, Schaumburg, IL 60173.
- Register for the 2006 CNS Annual Meeting by August 31, 2006.
- Become a member by August 1, 2006.

NOTE: *All Resident attendees must register and make housing arrangements via Fax or Mail. On-line and Phone registration is not permitted.*

Air Travel



The Congress of Neurological Surgeons has secured a special discount agreement with United Airlines. The discount is offered exclusively to 2006 CNS Annual Meeting attendees and is not available to the general public.

Choose Your Savings & Book Early

Save 5% off the lowest available fare by calling United at 1-800-521-4041 – refer to **Meeting ID #523LG**

Save 10% off the unrestricted coach fare when purchased 7 days in advance.

Save an additional 5% when you purchase your tickets at least 30 days in advance.

Discounts apply on United, United Express, Ted, and code share flights operated by US Airways, US Airways Express and Air Canada.

Reservations are accepted through: United 7 days a week from 8:00 am – 10:00 pm EST or at www.united.com, ITS – (the CNS Housing, Registration, and Travel Service) at 1-800-424-5249 or 847-940-2155, or through your travel agent.

Mileage Plus members receive full credit for all miles flown to this meeting.

We Appreciate Your Continued Support of the CNS!

The CNS thanks you for your support of reserving your guest room through the official CNS Housing, Registration and Travel Service – ITS. The CNS, in negotiating contracts with convention centers and hotels, must commit to a minimum number of guest rooms. This commitment helps guarantee the meeting space and helps control the cost of the meeting. When the CNS fails to anticipate the number of attendees reserving rooms through our housing block, we are held liable for the unoccupied contracted rooms. This financial penalty may impact future member services and programs. A history of high utilization of our room block enables the CNS to negotiate better room rates for future meetings.

Hotel Room Rates:	Single	Double
Sheraton Chicago Hotel & Towers (CNS Headquarter Hotel)	\$259	\$279
Hyatt Regency Chicago	\$249	\$249
Hyatt Regency McCormick Place	\$261	\$261
The Peninsula Chicago	\$390	\$390

*All rates are subject to 15.4% occupancy tax.
A small portion of your room rate will be used to help defray the cost of housing and registration services.
Contact ITS directly for suite rates and availability.*



Sheraton Chicago Hotel and Towers

The Sheraton Chicago Hotel is the official CNS Headquarter Hotel

The Sheraton Chicago Hotel & Towers is one of the premier convention and business hotels in the Midwest. The hotel is located on the banks of the

Chicago River and within walking distance of the Magnificent Mile, Navy Pier, Millennium Park, and much more.

Each guest room features the Sheraton's Sweet Sleeper Beds and a spectacular view of the Chicago River, Lake Michigan or the city skyline.

The Sheraton Chicago also offers numerous restaurants including Shula's Steak House, Riverside Café, Java Bar, Esplanade Express, and the new Chi Bar.

- | | | |
|----------------------|------------------------|-------------------------------------|
| > Fitness Center | > 24 Hour Room Service | > Wireless Internet in Public Areas |
| > Indoor Heated Pool | > Five restaurants | |



Hyatt Regency Chicago

Just off Michigan Avenue, in the heart of the Magnificent Mile, the Hyatt Regency Chicago connects you to the best music, art and entertainment in Chicago. The Hyatt is connected underground to many shops, restaurants, and other hotels in the immediate area.

The hotel features Spa Di La Fronza and access to the Lakeshore Athletic Club, Wireless High Speed Internet in Public Areas and Computer Rentals through the full service business center. For your dining experiences, the hotel offers Stetson's Chop House, Networks Bar & Grill and Connie's Ristorante n'Pub.

- | | | |
|-------------------|------------------------|-------------------------------------|
| > Business Center | > Four Restaurants | > Wireless Internet in Public Areas |
| > Fitness Center | > 24 hour Room Service | |



Hyatt Regency McCormick Place

Just steps away from McCormick Place Convention Center, the Hyatt Regency McCormick Place has sweeping views of the Chicago's spectacular downtown, lakefront parks and recreational areas from their modern new renovated

guestrooms featuring new "Hyatt Grand Beds". Wireless High Speed Internet is available in the Hotel Lobby Concourse or Links Lounge near NetWorks Restaurant located on the first floor.

- | | |
|--|-------------------------------------|
| > Indoor Heated Pool | > Wireless Internet in Public Areas |
| > Complimentary Shuttle Transportation | > Fitness Center |



Peninsula Chicago

Since its grand opening in 2001, The Peninsula Chicago has been awarded numerous accolades including the prestigious Mobil Five-Star and the AAA Five-Diamond awards for the last three consecutive years. Located in the heart of Chicago's "Magnificent Mile," The Peninsula Chicago is the city's most luxurious and

sophisticated hotel offering guests all possible amenities and services.

With four distinctive restaurants and a bar, guest can choose from a diverse array of superb dining options, including the legendary Peninsula Afternoon Tea, served in The Lobby.

- | | | |
|--------------------------------------|----------------------|------------------------|
| > The Peninsula Spa & Fitness Center | > Indoor Heated Pool | > 24 Hour Room Service |
| | > Daycare Services | > Four Restaurants |

INSTRUCTIONS (How to fill out your enclosed registration form)

B1-B2

Advanced Registration and Housing Form

PRINT or TYPE your personal information. Your name and address, as entered here, will be used on your CME certificate, if applicable. Please include phone, fax, and email. If international, please include country code for phone and fax.

PRINT or TYPE any spouse, guest or children's badge information.

Hotel Reservations: Indicate your hotel choices. List your arrival and departure days and dates. Check your room preference. Indicate with whom and where you will be staying if you are not making a hotel reservation. Should your room preference not be available you will automatically be placed in the room type most similar to your requested room type. All requests will be handled first come first served. Reserve Early!

Check the box that corresponds to your registration status. Residents and Fellows (domestic and international) must have registration form signed by Program Director. (Residents and Fellows may only register via fax or mail.)

Add the \$250 Hotel Deposit to the cost of your registration – this is the balance due for Annual Meeting Registration and Housing Deposit. Registrations received without deposit payment cannot be processed.

Payment: If paying by check, please make check payable to CNS Annual Meeting / ITS Any checks received on an overseas bank will be returned. Any checks returned for insufficient funds are subject to additional charges. If you are paying by credit card, write the full credit card number; print the cardholder name, expiration date and signature.

B3-B4

Practical Course and Luncheon Seminar Ticket Forms

Due to the popularity and limited space in many sessions, please indicate several choices where applicable.

Practical Courses and Luncheon Seminars are optional and each has a separate fee. If the Practical Course and/or Luncheon Seminar you list is open, your credit card will be charged accordingly. You may pay and register via the methods outlined on page 23.

Practical Course Registration (B3)

Saturday, October 7

Afternoon Practical Courses are available.

Sunday, October 8

Full day, morning and afternoon Practical Courses are available.

Luncheon Seminar Tickets (B4)

You may attend one Luncheon Seminar per day. Fee includes a seated lunch served in the seminar room.

Luncheon Seminars are offered:

Monday, October 9

Tuesday, October 10

Wednesday, October 11

B5

Optional / Evening / Auxiliary Tour Registration Form

(See pages 74 - 79 for details about these programs)

Please check the event you would like to purchase, indicate quantity and total your purchase.

This form may be used to purchase additional tickets and order your Annual Meeting T-shirts.

PURCHASE TICKETED EVENTS ON-LINE OR VIA FAX OR MAIL.

Phone orders will not be accepted.

Please print clearly to avoid registration delays!

CNS MEETING REGISTRATION

Category	Discounted Fees On or before September 7, 2006 at 5:00pm CST Register via: Internet, Fax, Phone, Mail (see page 23 for details).	Full Price Fees After September 7, 2006
Member and Transitional Member	\$575	\$675
Non-Member Neurosurgeon	\$675	\$775
Non-Member Physician	\$675	\$775
Non-Member / Non-Physician	\$675	\$775
Member of the Armed Forces	\$475	\$575
Resident Member*	\$150	\$250
Resident Non-Member*	\$250	\$350
Fellow Member**	\$150	\$250
Fellow Non-Member	\$250	\$350
Retired Senior Member	\$250	\$350
Medical Student	\$250	\$350
Allied Health	\$400	\$500
Physician Assistant	\$400	\$500
Nurse	\$400	\$500
Nurse Practitioner	\$400	\$500
Spouse / Guest / Child (13 & over)	\$115	\$115
Resident Spouse	\$75	\$75
<i>* All domestic and international Residents must have their Program Director sign registration form.</i>		
<i>**All domestic and international Fellows must attach letter from Program Coordinator verifying Fellow status.</i>		

Registration Materials Pick Up

All materials should be picked up on-site at McCormick Place.

Items included in Registration Fee

- One ticket to the Opening Reception on Sunday, October 8
- Admission Monday – Thursday General Scientific Sessions
- Admission Monday - Wednesday Special Courses Section Sessions
- Morning Coffee and Afternoon Beverage Breaks in Exhibit Hall: Monday – Wednesday
- Thursday Morning Coffee Break

REGISTRATION CANCELLATION POLICY

All refund requests must be received in writing by September 14, 2006.

\$100 processing fee will be charged for all registration written cancellations received prior to September 14, 2006. No refunds will be issued after this date, regardless of cause.

Requests accepted via:

Email: cns@itsmeetings.com
 Fax: 847-940-2386
 Mail: CNS Annual Meeting / ITS
 108 Wilmot Road, Suite 400
 Deerfield, IL 60015-5124

CANCELLATION DATE SCHEDULE

September 14, 2006

Registration and Course & Event Tickets = Full Refund, less \$100 processing fee

After September 14, 2006 and no show

Registration and Course & Event Tickets. Absolutely no refunds will be issued after this date, regardless of cause.

2006 EXHIBITORS

- 4-D Neuroimaging
Abbott Spine
Accuray, Inc.
Acra-Cut, Inc.
Ad-Tech Medical Medical
Advanced Neuromodulation
Systems
Aesculap, Inc.
Allard USA, Inc.
Allen Medical Systems
AlloSource
Aloka
American Association of
Neurological Surgeons
American Surgical Sponges
Anspach Companies
Anulex Technologies, Inc.
AOSpine North America
Apatech, Inc.
Apex Medical, Inc.
Applied Spine Technologies
Aspen Medical Products, Inc.
Axiom Worldwide
Axon Systems, Inc.
- Baptist Health
Baxter
BFW, Inc.
Blackstone Medical, Inc.
Boston Scientific
BrainLAB
Buxton BioMedical, Inc.
- Cardinal Health, V. Mueller
Neuro/Spine Products
Carilion Health System
Carl Zeiss Surgical, Inc.
Ceremed, Inc.
Cervitech, Inc.
CLOWARD Instrument Corp.
Codman, a Johnson &
Johnson Company
Confluent Surgical Inc.
Congress of Neurological
Surgeons, Booth #345
Cordis Neurovascular, Inc.
Cosman Medical, Inc.
Cyberonics, Inc.
Cytoc Surgical Products
- Dell & Schaefer, Chartered
DePuy Spine, Inc.
a Johnson & Johnson
Company
Designs For Vision, Inc.
dj Orthopedics
- EBI Spine
Elekta Instruments, Inc.
Ellman Innovations
Endius Incorporated
Endure Medical, Inc.
ERBE USA, Inc.
- Fehling Surgical
Instruments, Inc.
Fisher Instruments, Inc.
FHC, Inc.
Flowtronics, Inc.
Fonar Corporation
- GE Healthcare
Globus Medical
Gore & Associates
- Hemedex, Inc.
Hospira Worldwide, Inc.
HRA Research
- Image Stream Medical
IMRIS
Integra
- Johnson & Johnson Wound
Management, a division of
ETHICON
Journal of Neurosurgery
- Karger Publishers, Inc.
Karl Storz Endoscopy-
America, Inc.
Kilgore International, Inc.
Kinamed, Inc.
Kirwan Surgical
Products, Inc.
KLS - MARTIN L.P.
Koros USA, Inc.
Kyphon Inc.
- Leica Microsystems, Inc.
Life Instrument Corp.
**Lippincott, Williams &
Wilkins**
- Market Access Partners
MD Logic, Inc.
Medical Designs, LLC
Medical Doctor Associates
Medical Justice
Medtronic
MGI PHARMA, Inc.
MGI PHARMA, Inc. -
Medical Communications
Minrad International Inc.
Mizuho America, Inc.
Möller-Wedel GmbH
Myelotec, Inc.
- Nadia International, Inc.
NeoPharm, Inc.
NeoSpine, LLC
Neurognostics, Inc.
NeuroLogica Corporation
Neurosurgery®
Novo Nordisk
NuVasive
- Olsen Medical
Ortho Development
Corporation
Orthofix, Inc.
OSI
OsteoMed L.P.
- PhysIOM
Pikeville Medical Center
Pioneer Surgical Technology
PMT® Corp.
Porex Surgical, Inc.
Priority Consult
- Regent Surgical Health
Richard Wolf Medical
Instrument Corp.
RosmanSearch, Inc.
- Saunders/Mosby - Elsevier
Scanlan International, Inc.
Schering-Plough
- SeaSpine
Signus Medical, LLC
SILVERGlide Surgical
Technologies, Inc.
Smith & Nephew, Inc.
Söring, Inc.
Spine Surgical Innovation
Spine Wave, Inc.
SpineMark Corporation
Spineology, Inc.
SSI Ultra Instruments
St. Francis Medical
Technologies, Inc.
Stealth Surgical LLC
Stryker
SurgiTel/General
Scientific Corp
Synergetics, Inc.
Synthes, Inc.
- TeDan Surgical Innovations,
LLC
Thieme Medical Publishers
Thompson Surgical
Instruments
TomoTherapy Incorporated
United Educators
- Varian Medical Systems**
Viasys Healthcare
VisionTree Inc.
Volume Interactions
VSM Medtech / CTF Systems
Vygon Neuro
- W. Lorenz Surgical
Wiggins Medical
- X-Spine Systems
XLTEK
Xoran Technologies, Inc.
- Zeiss Certified
Zimmer Spine

*As of April 7, 2006. CNS Sponsors
are indicated in bold.*

THE CNS PROUDLY PRESENTS... ITS 2006 EXHIBITION!

Featuring the latest most innovative products and services from around the world.

The CNS Digital Poster Center

Newly enhanced features!

- View the latest research in neurosurgery via this new, state-of-the art digital format
- Over 500 Oral Posters & Poster Presentations.
- Make instant printouts of the scientific information most important to you on-site.
- Posters include color photos and/or short videos.
- Wireless search feature makes finding posters faster and easier than ever!



More in the Exhibit Hall

- Check or Send E-mails from the E-mail Cafés located throughout the Exhibit Hall.
- Stop by Publishers Row.
- Enjoy a Complimentary Beverage:
Monday – Wednesday
9:30 am – 10:30 am
3:30 pm – 4:00 pm



The CNS Member Services Center Booth #345

- On-line Demonstrations
- The CNS Personal Assistant Service (CNS PA).
- The CNS Job Placement Service
- The CNS Video Theater (view neurosurgical techniques by master neurosurgeons).
- E-mail Café – Check or send e-mails.
- The CNS Member Services – Get answers to your membership questions.
- **Neurosurgery®**, the official journal of the CNS. Pick up your copy and talk to staff.

On-line Exhibitor and Product Locator

Save time! Retrieve exhibitor and product information on-line before attending the meeting. Visit www.cns.org for more information.

The CNS Exhibition Hours

Monday	9:00 am – 4:30 pm
Tuesday	9:00 am – 4:30 pm
Wednesday	9:00 am – 4:00 pm

NOTE: Admittance to the Exhibit Hall is by the CNS name badge only. Children under 18 years old are not permitted inside the Exhibit Hall.



American
Association of
Neurological
Surgeons

The Congress of Neurological Surgeons Welcomes the Council of State Neurosurgical Societies!

Friday, October 6 – Saturday, October 7, 2006
Sheraton Chicago Hotel and Towers

You're Invited! Guests, resident delegates, selected state delegates, and appointees from the American Association of Neurological Surgeons and the Congress of Neurological Surgeons are encouraged to attend this year's Council of State Neurosurgical Societies meeting. Hotel room reservations should be made through the official CNS Registration and Housing Service/ITS at www.cns.org or at 1-800-424-5249.

Preliminary Agenda

Friday, October 6

8:00 am - 8:00 pm
CSNS Meetings

10:00 am – 11:00 am
Informational Conference

All new delegates, alternate delegates, guests and new residents are encouraged to attend this introductory informational conference for an overview of the CSNS.

1:45 pm – 5:00 pm
CSNS Plenary Session/Reference Hearings

Saturday, October 7

7:00 am - 2:00 pm
CSNS Meetings

8:15 am – 12:30 pm
CSNS Plenary Session

12:30 pm – 2:00 pm
CSNS Luncheon with AANS & CNS Leaders



Ms. Pat Clark, Guest Speaker
Plan on joining Ms. Clark for a presentation on media training and how to communicate with the press and public.

Get Involved with CSNS!

The CSNS is a grassroots socioeconomic organization made up of selected delegates from each state and additional appointees from its parent organizations, the AANS and the CNS. The CSNS is concerned with all socioeconomic issues pertinent to neurosurgery and sub-serves both its parent organizations accordingly.

Afternoon Practical Courses (PC01 – PC09)

1:00 pm – 5:00 pm

PC01 \$375

CPT Coding: What's New

Course Director: Gregory J. Przybylski

Faculty: Robert R. Johnson, William Mitchell, John Allen Wilson, Jr., Mina Foroohar, Alexander Mason

Learning Objective: This course provides a summary of the CPT 2006 coding changes and reviews the 2005 coding changes as well. Subspecialty areas of spine, intracranial, functional/pain and vascular surgery will be highlighted. Upon completion of this course, participants will have gained exposure to coding changes, their proper applications and compliance issues with regard to new regulations upon completion of this course.

PC02 \$300

Applied Spinal Biomechanics

Course Director: Edward C. Benzel

Faculty: James Harrop, Richard P. Schlenk, Praveen V. Mummaneni

Learning Objective: This course presents the physical principles and biomechanical foundations of spinal surgery and stabilization via a didactic and interactive case discussion format. Upon completion of this course, participants will be able to discuss biomechanical principles and strategies to address clinical problems.

PC03 \$300

Three Dimensional Neurosurgical Anatomy: Supratentorial and Anterior Skull Base

Course Director: Albert L. Rhoton, Jr.

Learning Objective: This course will provide three-dimensional microsurgical instruction on routes through the anterior and posterior cerebrum and temporal lobe; anatomy and approaches to the lateral and third ventricles and pineal region; anterior skull base and cavernous sinus; and transsphenoidal, transmaxillary and transoral approaches. Upon completion of this course, participants will be able to describe the anatomy of these areas and develop an appreciation for the three-dimensional neurovascular relationships of each region.

PC04 \$300

Operating in the Eloquent Cortex

Course Director: Jeffrey P. Blount

Faculty: Michael M. Haglund, Webster H. Pilcher, Walter A. Hall, Matthew D. Smyth

Learning Objective: This course will provide an in-depth review of techniques and technologies that can be applied to identify and work within eloquent regions of the cerebral hemispheres. Upon completion of this course, participants will be able to discuss the available technologies for performing safer and more effective procedures within and around the eloquent cortex.

PC05 \$425

Surgical Arthrodesis of the Cervical Spine

Course Director: Daniel K. Resnick

Faculty: Michael P. Steinmetz, Praveen V. Mummaneni, Michael Y. Wang, Neill Marshall Wright, Langston Holly

Learning Objective: The indications, techniques, and complications of arthrodesis and instrumentation of the cervical spine, including the craniovertebral junction, will be reviewed using lectures, case presentation, and hands-on study using anatomical models. Upon completion of this course, participants will be able to discuss the indications for cervical and craniovertebral junction arthrodesis and instrumentation, and will also be able to describe the technical application of these procedures.

Hands-on Courses

Look for this symbol () throughout the Practical Course listing to find interactive, hands-on courses designed to help you refine your surgical technique.

October 7 Practical Courses

PC06 \$425

Spinal Radiosurgery

Course Director: Peter C. Gerszten

Faculty: Mark H. Bilsky, Steven D. Chang, Jack P. Rock, Jason P. Sheehan

Learning Objective: This course will provide the attendee with an exposure to the background of spinal radiosurgery, including radiobiological principles of hypofractionated radiotherapy. An emphasis will be placed on the indications and limitations of spinal radiosurgery. The various technologies available to perform spinal radiosurgery will also be described and compared. The attendee will be able to 1) Discuss indications for spinal radiosurgery, 2) Describe the limitations of spinal radiosurgery, 3) Describe the different technologies available to perform spinal radiosurgery and, 4) Describe what clinical outcomes are available regarding spinal radiosurgery.

PC07 \$425

Introduction to Endovascular Neurosurgery with Hands-on Simulation

Course Directors: Lee R. Guterman, Bernard R. Bendok, Elad I. Levy

Faculty: Erol Veznedaroglu, L. Nelson Hopkins, III, Felipe Albuquerque, Howard A. Riina, Richard J. Parkinson

Learning Objective: At the completion of this course, the participants will have hands-on experience with realistic simulators of carotid stenting, aneurysm coiling, and stroke thrombolysis, be exposed to basic concepts and techniques in endovascular neurosurgery, and be able to discuss endovascular device capabilities.



PC08 \$425

Surgical Approaches to the Ventricular System

Course Director: Mark M. Souweidane

Faculty: Alan Cohen, Joseph M. Piepmeier, Henry W.S. Schroeder, Gazi Yasargil

Learning Objective: The course will be case-intensive and involve didactic demonstrations of open surgical and endoscopic cases supplemented with intraoperative video. The course would conclude with frank discussions of pearls, pitfalls, complication avoidance and management, and determination of when endoscopic or open surgical approaches are best utilized. At the completion of the course, the attendee will 1) be able to discuss the best treatment alternative for intraventricular tumors within the lateral, third and fourth ventricles, 2) describe the pertinent neuroanatomy associated with each surgical procedure, 3) discuss potential complications with various surgical routes to the ventricular system, and 4) outline the limitations of endoscopic approaches and recognize when to consider an alternative surgical option.



PC09 \$425

Comprehensive Management of the Pediatric Trauma Patient

Course Directors: John Ragheb, Arthur James DiPatri, Jr.

Faculty: Douglas L. Brockmeyer, Michael D. Partington, Mark R. Proctor, Tord Alden

Learning Objective: This course focuses on current management concepts, surgical techniques, pearls and practical solutions for common pediatric traumatic injuries, with an emphasis on initial management, temporizing strategies and methods of avoiding and treating complications. Upon completion of this course, participants should be able to discuss the management of pediatric patients with polytrauma and describe a treatment plan.

New this year!

All Practical Courses at the 2006 CNS Annual Meeting will include course handouts to take back to your department or practice.

October 8 Practical Courses

At-a-Glance

8:00 am – 5:00 pm

- Full Day Practical Courses (PC10 – PC17)

8:00 am – 12:00 pm

- Morning Practical Courses (PC18 – PC24)

1:00 pm – 5:00 pm

- Afternoon Practical Courses (PC25 – PC32)

6:30 pm – 8:30 pm

- Opening Reception

All Day Practical Courses (PC10 – PC17)

8:00 am – 5:00 pm

PC10 \$375

Neurosurgical Practice Development, Negotiation and Professional Liability: What the Neurosurgeon Needs to Know

Course Directors: Michael P. Steinmetz, William E. Bingaman, Alan Scarrow

Faculty: Victoria Vance, JD, James R. Bean, Fernando Diaz, Deborah Benzil, Mark Mason, Jeffrey W. Cozzens, Mark E. Linsky, Edie E. Zusman, Ralph G. Dacey, Katie O. Orrico, JD, Alexander Mason, Mick J. Perez-Cruet, Robert E. Harbaugh, C. Martin Harris, Gary M. Bloomgarden, Robert D. Gillen, JD

Learning Objective: Techniques to effectively build and develop a neurosurgical practice will be presented. The mechanics of operating a practice will be explored. Key aspects of medical liability will be discussed. Participants will be able to describe the neurosurgical political process and how to get involved.



PC11 \$650

Cerebral Revascularization Surgery: A Hands-On Course

Course Director: Fady T. Charbel

Faculty: Saleem I. Abdulrauf, Daniel L. Barrow, David J. Langer, Fredric B. Meyer, Jacques J. Morcos, Ketan R. Bulsara, Gregory T. Zipfel

Learning Objective: This course will review the indications for cerebral revascularization in the setting of cerebral ischemia and aneurysm/skull base tumor surgery. Extracranial-intracranial bypass procedures for revascularization in the anterior and posterior circulation will be demonstrated. Participants will have the opportunity to practice micro-suturing and anastomosis skills. Upon completion of this course, participants will have gained hands-on experience with micro-suturing and anastomosis techniques, be able to discuss the indications for cerebral revascularization in ischemia and aneurysm/skull base tumor surgery and describe the different bypass procedures for revascularization of the anterior and posterior circulation.

PC12 \$800

Surgical Principles of Peripheral Nerve Surgery

Course Directors: David G. Kline, Allan H. Friedman

Faculty: Eric L. Zager, Robert J. Spinner, Allan J. Belzberg, Rajiv Midha, Allen H. Maniker

Learning Objective: This course will include a hands-on dissection lab with cadavers. Upon completion of this course, participants will be able to identify the appropriate exposures for specific nerve injuries and entrapment syndromes, perform the anatomical exposure for peripheral nerves in the cadaver, and describe the indications and contraindications for surgical treatment of peripheral nerve disorders.

PC13 \$375

Inpatient and Outpatient Management Dilemmas: For Nurses and Physician Assistants

Course Directors: Mark Edwin Shaffrey, Andrea Strayer, MS, APNP, CNRN

Faculty: Anthony L. Asher, Michael F. Nido, PA-C, Michael W. Groff, Ellen Dooling, NP, Gregory R. Trost, Michael P. Steinmetz, John Jane, Jr., Christopher I. Shaffrey

Learning Objective: Upon completion of this course, participants will be able to discuss clinical management for a variety of cranial and spinal conditions. Topics include new indications for DBS, brain tumor primer, cervical disc arthroplasty, surgical management of spine metastasis, endoscopic approach to the skull base and ventricles, radiology for the spine evidence based practice in the neurosurgical ICU, and upper cervical spine injury. These topics as well as extensive time devoted to case studies will illustrate the required clinical decision making for allied health professionals in outpatient and inpatient settings.

Physician attendees will not be awarded CME credit for this course. Nursing contact hours will be provided through AANN. The American Association of Neuroscience Nurses is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation. Physician assistants will receive credit for attendance. Physician assistants will receive credit for attendance. Each physician assistant will need to contact his or her individual membership association and certification board to determine the requirements for accepting credits. All attendees will receive a confirmation of attendance.

PC14 \$475

Traumatic Brain Injury

Course Directors: Raj K. Narayan, Geoffrey T. Manley, Lori Anne Shutter

Faculty: Shelly D. Timmons, Dominic P. Esposito, Guy Rosenthal, Michael G. Fehlings, David Okonkwo, Anthony Marmarou, PhD, William M. Coplin

Learning Objective: This course focuses on current thinking regarding the non-surgical and surgical treatment of traumatic brain injury. Newer monitoring techniques, as well as promising new therapies, will be discussed. Upon completion of this course, participants will have gained exposure to current management strategies which incorporate appropriate management guidelines.

PC15 \$850

👏 Thoracic and Lumbar Fusion: Emerging Technologies

Course Directors: Michael K. Rosner, Gregory R. Trost

Faculty: Tyler R. Koski, Richard P. Schlenk, Michael Steinmetz, Richard G. Fessler, Stephen L. Ondra, Michael Y. Wang, Praveen V. Mummaneni, William Charles Welch

Learning Objective: This course provides hands-on experience with exposure, decompression, and reconstruction of the thoracic and lumbar spine from the cervical-thoracic junction to the sacrum. The course will include an in-depth review of current and future technologies applicable to arthrodesis of the thoracolumbar spine. Upon completion of this course, participants will be able to describe anterior, posterior, and posterior-lateral approaches to these regions along with the appropriate instrumentation systems and describe technologies appropriate for specific clinical conditions.

PC16 \$475

Practical Update on Brain Tumors

Course Directors: Jeffrey Bruce, Frederick F. Lang

Faculty: Frederick G. Barker, II, Gene H. Barnett, Ennio Antonio Chiocca, Franco DeMonte, Nalin Gupta, Mark E. Linskey, Michael William McDermott, Andrew T. Parsa, Ian F. Pollack, Andrew E. Sloan

Learning Objective: This course will provide the practicing clinician with an up-to-date overview of current management strategies for major types of benign and malignant brain tumors. The seminar includes current research topics but emphasizes practical management issues. Upon completion of this course, participants will be able to discuss the state-of-the-art management of benign and malignant brain tumors including glial tumors, meningiomas, acoustic neuromas, skull base tumors, pediatric tumors and metastases and discuss current concepts in glioma management including surgical techniques, adjuvant treatments, tumor biology and practical clinical management decisions and apply current knowledge about brain tumors to daily clinical practice decision making.

PC17 \$800

👏 Basic Skull Base Surgery: Applications for Tumor and Vascular Surgery

Course Directors: Saleem I. Abdulrauf, Harry R. Van Loveren

Faculty: Siviero Agazzi, E. Sander Connolly, Jr., Johnny B. Delashaw, Steven L. Giannotta, Carl B. Heilman, Jacques J. Morcos, H. Maximilian Mehdorn, Chandra N. Sen, Mitesh Vipin Shah

Learning Objective: The course will consist of two components, a hands-on practical part and a didactic part. The practical portion will consist of a hands-on cadaveric dissection and instruction of skull base (cranio-orbital-zygomatic, petrosal, and trans-condylar) approaches for cerebral aneurysms and skull base tumors. The potential for increased access using these approaches for the microsurgical treatment of complex aneurysms and skull base tumors will be demonstrated. The didactic portion of the course will also provide an in-depth review of microsurgical techniques necessary for clip reconstruction of cerebral aneurysms as well as techniques for tumor resection. Upon completion of this course, participants will have gained an exposure to intra-operative decision making strategies for complication avoidance and the potential practical applicability of skull base approaches for cerebral aneurysms and skull base tumors.

Morning Practical Courses (PC18 – PC24)

8:00 am – 12:00 pm

PC18 \$300

Three Dimensional Neurosurgical Anatomy – Infratentorial and Posterior Skull Base

Course Director: Albert L. Rhoton, Jr.

Learning Objective: This course will provide three-dimensional microsurgical instruction on anatomy and approaches through the temporal bone; cerebellum and fourth ventricle; far lateral and transcondylar approaches; approaches to the cerebellopontine angle; and anatomy and approaches to the jugular foramen. Upon completion of this course, participants will be able to describe the anatomy of these areas and develop an appreciation for the three-dimensional neurovascular relationships of each region.

PC19 \$375

Endovascular Aneurysm Therapy: Intra- and Peri-Procedural Management

Course Directors: C. Michael Cawley, III, Henry H. Woo

Faculty: David Fiorella, Peter Kim Nelson

Learning Objective: This course will discuss new literature and potential future technology in the endovascular treatment of intracranial aneurysms. Upon completion of this course, participants will have gained exposure to newly developed coil and stent technology in the treatment of wide-necked aneurysms and will observe hands-on delivery of these devices in flow models.

PC20 \$375

Adult and Pediatric Spinal Trauma Surgery

Course Directors: Dachling Pang, Ashwini Dayal Sharan

Faculty: Douglas L. Brockmeyer, Christopher I. Shaffrey, James Harrop, R. John Hurlbert, Eric M. Massicotte

Learning Objective: This course focuses on the non-surgical and surgical treatment of spinal trauma in adults and children. Indications for decompression, arthrodesis, instrumentation, and bracing will be discussed. The differences between the management of adult and pediatric patients with spinal injuries will be emphasized. Upon completion of this course, participants will have gained exposure to current management strategies which incorporate appropriate management guidelines.

PC21 \$425

Spinal Arthroplasty

Course Directors: Regis William Haid, Jr., Praveen V. Mummaneni

Faculty: Vincent C. Traynelis, Robert J. Hacker, Brian Subach, Richard G. Fessler

Learning Objective: This course will provide a detailed discussion of the current status of arthroplasty. Upon completion of this course, participants will have gained exposure to the indications, instrumentation, and techniques involved in this procedure.



PC22 \$425

Functional Neurosurgery: Movement Disorder, Psychiatric, and other Emerging Applications

Course Directors: Ali R. Rezai, Alim L. Benabid

Faculty: Robert M. Levy, Philip A. Starr, Brian H. Kopell, Volker Sturm, Giovanni Broggi, Robert E. Gross

Learning Objective: Faculty will discuss indications, planning and early results for newer applications of surgical ablation, DBS and radiosurgery in the context of psychosurgery, epilepsy and unique movement disorders such as Tourette's syndrome. Surgical planning will be a major focus and work stations will be provided for DBS and radiosurgical applications. Pearls, pitfalls, complication avoidance and management will be discussed. Following completion of this course, the participant will be able to discuss the roles and efficacy of surgical techniques in the management of these functional disorders.



PC23 \$425

Challenges in Anterior Spinal Access

Course Director: John C. Liu

Faculty: Arnold H. Menezes, Stephen L. Ondra, Mark E. Eichler, Michael K. Rosner, Robert F. Heary

Learning Objective: Surgical corridors to the cervical, thoracic and lumbar spine would be presented in detail. Rationale, limitations and details of approaches could include transoral, thoracotomy, anterolateral thoracolumbar, retroperitoneal, and transperitoneal routes. Concepts will be solidified by surgical video. The presentations will be case-intensive to include considerations for optimizing approach. Following completion of this course, participants will be able to discuss and describe the common routes of access to the anterior spine.



PC24 \$425

Evidence-Based Neurosurgery Update

Course Directors: Daniel K. Resnick, Mark E. Linskey

Faculty: Timothy Ryken, Bruce E. Pollock, Frederick G. Barker, II, P. David Adelson, Paul G. Matz

Learning Objective: Following a brief introduction/refresher on the techniques of developing evidence-based conclusions, this course will review “hot” topics which are common to neurosurgical practice. Topics will cover broad areas of neurosurgical subspecialties including spinal surgery, trauma neurosurgery, neuro-oncology, and stereotactic radiosurgery. The medicolegal and practical implications of guidelines publication will be discussed. Following completion of this course, participants will be able to describe the process by which evidence based treatment guidelines are produced and will be able to describe their strengths and limitations.



Things NOT to miss in Chicago:

- Visit Millennium Park – see the Cloud Gate sculpture and the Crown Fountain.
- Spend some time at the Art Institute and Chicago's fabulous museums.
- Take a ride on the Ferris Wheel at Navy Pier.
- See Buckingham Fountain.
- Walk along the lakefront.
- Eat a Chicago hot dog.
- Shop the Magnificent Mile.
- Experience Chicago-style deep-dish pizza.
- See a play, listen to jazz or the blues.
- Sample Chicago's outstanding restaurants.
- See the City from the top of Sears Tower.



Afternoon Practical Courses (PC25 – PC32)

1:00 pm – 5:00 pm

PC25 \$375

Operative Colloquium: Masters of Neurological Surgery

Course Director: Peter M. Black

Faculty: Edward R. Laws, Rudolph Fahlbusch, Armando Basso, Takeshi Kawase, Johannes Schramm, Madjid Samii, Nabuo Hashimoto, Jacques Brotchi, Athos A. de Sousa, Ossama Al-Mefty, Alim L. Benabid, Necmettin Pamir

Learning Objective: Using lecture, demonstration and question-and-answer sessions, this unique course will provide participants insight into the techniques of international neurosurgical masters in dealing with complex and common neurosurgical problems. The speakers are virtuosos in their particular fields, and state-of-the-art technology will be used to display refinements in operative techniques, complication avoidance, and resident education. Upon completion of this course, participants should be able to describe novel and useful techniques for the management and surgical options involved in the care of common and complex neurosurgical problems.

PC26 \$500

Mastering Spinal Disorders: Dealing with Complexities

Course Directors: Christopher I. Shaffrey, Charles Kuntz, IV
Faculty: Praveen V. Mummaneni, Robert J. Bohinski, Richard G. Fessler, Laurence D. Rhines, Iain H. Kalfas

Learning Objective: Using lecture, question-and-answer and practical sessions, this unique course will provide participants insight into the mastery of complex spinal disorders, including the role of minimal access techniques and the artificial disc. Upon completion of this course, participants will be able to describe novel and useful surgical techniques for handling cases such as occipitocervical fusions, thoracic pedicle screws, spinal tumors and deformity, including strategies for complication avoidance and management.

PC27 \$375

Neurosurgical Critical Care

Course Director: E. Sander Connolly, Jr.

Faculty: Owen Samuels, David Palestrant, Andrew Mark Naidech, William M. Coplin, Vivek A. Rao, Chad Miller

Learning Objective: This course will discuss diagnostic and therapeutic options, as well as perioperative management in the following conditions: ischemic stroke, intracerebral hemorrhage, subarachnoid hemorrhage and vasospasm. Upon completion of this course, participants will be able to describe the diagnosis and treatment of ischemic stroke, including the use of tissue plasminogen activator and decompressive craniectomy, describe the pathophysiology and treatment of subarachnoid hemorrhage, including prevention of early rebleeding and treatment of vasospasm; and discuss treatment options for intraparenchymal hemorrhage.

PC28 \$375

Contracting and Financial Management: What You Must Know

Course Director: Karen Zupko, President, Karen Zupko & Associates

Learning Objective: Developing a strong financial foundation for your practice and using financial reports to make better business decisions is the focus of this course. This course is designed for neurological surgeons who want a firmer hold on the financial issues and contracting strategies in their practice. Following completion of the course, participants will be able to describe how to make their P & L a more informative and useful tool; setup key financial benchmarks; design a monthly reporting system that can be easily monitored; prevent or limit embezzlement; create an RBRVS-based fee schedule that allows the measurement of health plan performance; build the file architecture within a computer system to provide for optimal reporting; and develop a negotiating strategy with health plans that results in bureaucratic reductions and better payments. Practical examples serve as illustration of “how to” do this back in your practice.



**Resident SANS
Challenge**

Preliminary Round! Sunday, October 8 from 4:30 pm to 6:30 pm at the Sheraton Chicago Hotel and Towers. Visit www.cns.org for more information!

October 8 Practical Courses

PC29 \$875

👉 Minimally Invasive Spinal Surgery: Nuances, Complication Avoidance and Management

Course Directors: Maurice M. Smith, Noel I. Perin

Faculty: Kevin T. Foley, Richard G. Fessler, Seong-Hoon Oh, Ignacio J. Barrenechea, Bruce M. McCormack, Mick J. Perez-Cruet

Learning Objective: After attending this course, participants will be able to recognize the indications and limitations of minimally invasive techniques in the lumbar spine. Following completion of this course, participants will be able to compare different techniques and systems for use in minimally invasive surgery.

PC30 \$350

Pain of Spinal Origin: A Comprehensive Approach

Course Directors: Edward C. Benzel, Jaimie M. Henderson

Faculty: John C. Oakley, Christopher I. Shaffrey

Learning Objective: This course reviews the practical aspects of pain physiology through a discussion of the anatomical structures that have the potential to be painful. Participants will be exposed to the skills necessary to make an accurate structural diagnosis using the history, physical examination, radiological findings, and confirmatory diagnostic injections. Upon completion of this course, participants will be able to describe therapeutic options for spinal pain management, including the use of rehabilitation techniques, medications, radiofrequency neurotomy, spinal cord stimulation, and surgery.

PC31 \$800

👉 Cranial Endoscopic Procedures in Neurosurgery

Course Directors: David F. Jimenez, Mark G. Luciano

Faculty: John G. Frazee, Paolo Cappabianca, Paul A. Grabb, Michael Gaab

Learning Objective: Upon completion of this course, through didactic and hands-on instruction, participants will have gained exposure to the use of endoscopy for intracranial applications, including management of hydrocephalus, intraventricular tumors, microneurosurgery, and transsphenoidal procedures. Participants will have gained exposure to the latest endoscopic instrumentation available.

PC32 \$375

Neurosurgery: 2006 Literature in Review

Course Directors: Peter M. Black, Issam A. Awad

Faculty: Ivan S. Ciric, Michael L.J. Apuzzo, H. Hunt Batjer, Richard K. Osenbach, Robert C. Cantu, Robert M. Friedlander, Alex B. Valadka, Philip H. Gutin, Amin Kassam, Douglas S. Kondziolka, J. Gordon McComb, Joseph M. Piepmeier, Robert H. Rosenwasser, Volker K. Sonntag

Learning Objective: Upon completion of this course, participants will have gained exposure to relevant advances in each of the neurosurgical subspecialties as published in the literature during the past year and will have had an opportunity to discuss and summarize novel basic science concepts applicable to neurosurgery. Upon completion of this course, participants should be able to articulate current controversies reflecting bias and conflict of interest in the published literature.

CHICAGO JAZZ AND BLUES OPENING RECEPTION:

6:30 pm – 8:30 pm; Hosted by the CNS

The Congress of Neurological Surgeons invites you to relax, enjoy, and listen to the sweet sounds of Chicago Jazz and Blues. You will be entertained by a variety of sights and sounds as you and your colleagues enjoy an assortment of sumptuous hors d'oeuvres and beverages.

Chicago has been a sweet home to Jazz and Blues musicians for years and this soulful music still shapes cultural and social practice throughout the Windy City. So, join your colleagues for the CNS Chicago Jazz and Blues Opening Reception on Sunday, October 8 from 6:30 pm – 8:30 pm in the Ballroom of the Sheraton Chicago Hotel & Towers, and build a lifetime of memories and camaraderie as you are enticed by the musical language of the Second City.

Each Annual Meeting registrant will receive one complimentary ticket to the Opening Reception.



October 9 General Scientific Session

At-a-Glance

7:00 am – 11:30 am

- General Scientific Session I

9:00 am – 4:30 pm

- Exhibits Open

9:05 am – 9:30 am

- Richard G. Ellenbogen
Presidential Address

9:30 am – 10:30 am

- Coffee with Exhibitors

10:32 am – 10:52 am

- Peter M. Black
Honored Guest Presentation

10:55 am – 11:30 am

- David McCullough
Seventh Annual Walter E. Dandy
Orator

12:30 pm – 2:00 pm

- Luncheon Seminars

2:00 pm – 5:30 pm

- NEW!** Live 3-D Demonstrations and
Special Courses

2:00 pm – 5:45 pm

- NEW!** Neurosurgical Forum and Select
Abstract Session

3:30 pm – 4:00 pm

- Refreshments with Exhibitors

General Scientific Session I

Transcendent Leadership: Advocacy and Mentorship through Clinical Practice

7:00 am – 11:30 am

Moderators: Guy M. McKhann, II,
Russell R. Lonser

Presiding Officer: Douglas S. Kondziolka

Learning Objectives: After completing this general scientific session, participants will be able to discuss the most current and relevant novel developments in each of the major neurosurgical subspecialties. Participants will be able to apply this information to improve clinical outcomes, safety and resource utilization in their own neurosurgical practices.

Neurosurgery in Review, 2006: Essential Knowledge Every Neurosurgeon Should Possess

7:00 – 7:12

Pain
John Loeser

7:12 – 7:24

Socioeconomic
Troy M. Tippet

7:24 – 7:36

Trauma Neurotrauma and Critical Care
Geoffrey T. Manley

7:36 – 7:48

Vascular
Jacques J. Marcos

7:48 – 8:00

Tumor
James T. Rutka

8:00 – 8:12

Spine/and Peripheral Nerves
Christopher I. Shaffrey

8:12 – 8:24

Pediatrics
R. Michael Scott

8:24 – 8:36

Functional/Stereotactic
Douglas S. Kondziolka

8:36 – 8:38

Welcome
Richard G. Ellenbogen

8:38 – 8:50

The German Perspective on Essential
Neurosurgical Knowledge in 2006
Hans-Peter Richter

8:50 – 8:55

Distinguished Service Award
Presentation

8:55 – 9:05

Introduction of President
Richard G. Ellenbogen
Leon E. Moores



9:05 - 9:30
Richard G. Ellenbogen
Presidential Address

9:30 – 10:30

Coffee with Exhibitors

10:30 – 10:32

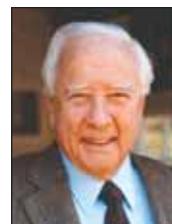
Introduction of Honored Guest –
Peter M. Black
Richard G. Ellenbogen



10:32 - 10:52
Peter M. Black
Honored Guest
Presentation
Meningiomas, Science
and Surgery

10:52 – 10:55

Introduction of Seventh Annual Walter
E. Dandy Orator – David McCullough
Richard G. Ellenbogen



10:55 - 11:30
David McCullough
Seventh Annual
Walter E. Dandy Orator
Leadership and the History
You Don't Know

October 9 Luncheon Seminars 12:30 pm – 2:00 pm

MONDAY, OCTOBER 9

SCIENTIFIC PROGRAM / LUNCHEON SEMINARS

*All Luncheon Seminars include a seated lunch served in the seminar room.
Luncheon Seminar fees are \$60 each (\$45 Residents/Fellows/Nurses).*

M01

Resident/Honored Guest Luncheon COMPLIMENTARY TO CNS RESIDENT MEMBERS!

Moderator: Michael P. Steinmetz

Honored Guest: Peter M. Black

Learning Objectives: Participants and our Honored Guest will review and discuss the Honored Guest's thoughts on neurosurgical education, career development, and life-long learning. At the conclusion of this seminar, participants will have a greater exposure to aspects of neurosurgical education, career development, and life-long learning from the perspective of an experienced and honored neurosurgical educator.

M02

Disk Arthroplasty of the Cervical and Lumbar Spine

Moderator: Stephen M. Papadopoulos

Faculty: Domagoj Coric, Raimund Firsching, Robert J. Hacker, Bruce E. Mathern

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss the state of the art in cervical and lumbar disc arthroplasty technology and to be able to discuss the indications and relevant applications for this technology.

M03

Minimally Invasive Spine Surgery

Moderator: Richard G. Fessler

Faculty: Tim E. Adamson, Iain H. Kalfas, Daniel Rosenthal, Trent Lane Treadway

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss the current indications and techniques appropriate for minimally invasive spinal surgery and be able to describe the expected outcomes and complications associated with these techniques.

M04

Anterior Skull Base Approaches: What, When and How?

Moderator: Anil Nanda

Faculty: Franco DeMonte, Mitesh Vipin Shah, Rafael J. Tamargo, Marcos Tatagiba

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss the techniques available in anterior skull base surgery including endoscopic techniques and be able to discuss when these techniques are appropriate to use. Participants will be able to discuss the key steps in the successful execution of a particular anterior skull base approach.

M05

Acoustic Schwannomas: Options, Approaches and Results

Moderator: Madjid Samii

Faculty: Frederick Barker, L. Dade Lunsford, Robert C. Rostomily

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss treatment options for acoustic schwannomas, be able to discuss the surgical approaches, and be able to discuss treatment results of acoustic schwannomas, including surgical and radiosurgical techniques.

M06

State of the Art Management of Brain Metastases

Moderator: Raymond Sawaya

Faculty: Linda M. Liau, Bruce E. Pollock, Gabriel Schackert, Michael A. Vogelbaum

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss the current status of research pertaining to the treatment of brain metastases and describe surgical and radiosurgical treatment options appropriate for treating intracranial metastases, their complications and results.

M07

Malignant Gliomas: Current Surgical and Adjuvant Strategies

Moderator: Henry Brem

Faculty: Antonio Chiocca, Andrew H. Kaye, James M. Markert, Ennio Manfred Westphal

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss current and emerging techniques in the treatment of malignant gliomas. Participants will also be able to discuss the role of these techniques in the development and implementation of new therapies for malignant glioma tumor patients.

M08

Intraventricular Endoscopy

Moderator: Alan Cohen

Faculty: Anthony M. Avellino, Henry W.S. Schroeder, Charles Teo, Benjamin Warf

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss the available techniques relevant to minimally invasive intraventricular neuroendoscopy in adults and pediatrics and discuss the key technical steps and outcomes for a variety of minimally invasive intraventricular procedures.

M09

Modern Management of Posterior Circulation Aneurysms

Moderator: Phillip E. Steig

Faculty: Helmut Bertalanffy, Richard E. Clatterbuck, Michael T. Lawton, Robert H. Rosenwasser

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss the natural history, surgical and endovascular treatment of anterior circulation aneurysms. Participants will be able to choose appropriate treatment strategies and discuss the advantages and risks associated with each.

M10

Cerebral Revascularization in Symptomatic Patients: Current and Future Treatments

Moderator: Laligam N. Sekhar

Faculty: Saleem I. Abdulrauf, E. Sepideh Amin-Hanjani, David J. Langer, Peter Vajkoczy

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss the role of cerebral revascularization in symptomatic patients. Participants will be able to discuss the specific techniques best suited for revascularization, as well as emerging treatments for patients needing revascularization procedures.

M11

Carotid Disease: Surgical and Endovascular Treatment

Moderator: Byron Gregory Thompson, Jr.

Faculty: Bernard R. Bendok, Frank Culicchia, Andrew J. Ringer, Hans-Jakob Steiger

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss the evidence-based indications for surgical and endovascular management of carotid artery disease and be able to discuss the limitations and complications associated with both the surgical and endovascular management of carotid disease.

M12

Craniosynostosis

Moderator: James T. Goodrich

Faculty: Tord Alden, Maurice Choux, David F. Jimenez, Michael L. Levy, Mark R. Proctor

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss the craniosynostosis syndromes and discuss the appropriate indications for microsurgical management for each type and comprehend the management of syndromic craniosynostosis. Participants will be exposed to new techniques relevant in the management of craniosynostosis including endoscopic approaches.

October 9 Luncheon Seminars

12:30 pm – 2:00 pm

MONDAY, OCTOBER 9

SCIENTIFIC PROGRAM / LUNCHEON SEMINARS

M13

Surgery for Psychiatric Disorders: Current Treatments and Emerging Applications

Moderator: Ali R. Rezai

Faculty: Alim L. Benabid, Rees Cosgrove, Volker Sturm

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss current surgical treatments for obsessive-compulsive disorder, major depression, and other psychiatric disorders, as well as potential future applications of neuromodulatory techniques for these disorders.

M14

Pituitary Surgery: Fundamentals and Nuances

Moderator: Nelson M. Oyesiku

Faculty: William T. Couldwell, Daniel F. Kelly, Edward R. Laws, Edward H. Oldfield

Learning Objective: At the conclusion of this seminar, participants will gain exposure to the fundamentals and nuances in performing pituitary surgery and be able to discuss new techniques and advances in treatment.

M15

Enhancing Your Neurosurgery Practice Profile

Moderator: Gregory J. Przybylski

Faculty: E. Hunter Dyer, Mark E. Linskey, Richard A. Roski, Richard N. Wohns

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss various techniques that can enhance neurosurgical practice, discuss topics relevant to the business of neurosurgery and be aware of various tools helpful in the development of a neurosurgical practice.

M16

Neurosurgical Management of Difficult Pediatric Problems: Case Studies

Moderator: R. Michael Scott

Faculty: Rick Abbott, A. Leland Albright, Tae Sung Park, Harold L. Rekate, Ashwini Dayal Sharan

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the surgical management of challenging problems in children including difficult shunts, pediatric stroke, spasticity, deep seated tumors and challenging congenital anomalies. Participants will be exposed to information about complication avoidance and outcomes in the treatment of spasticity.

M17

Neuromodulation for Pain, Movement Disorders and Stroke Rehabilitation

Moderator: Jaimie M. Henderson

Faculty: Giovanni Broggi, Jeffrey A. Brown, Robert M. Levy

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the use of motor cortex stimulation for pain, movement disorders, and stroke. Participants will become more familiar with the current literature on motor cortex stimulation, as well as ongoing studies.



Neurosurgical Forum and Select Abstract Session

2:00 – 5:45

A new and exciting focus for education and scientific exchange: The CNS Neurosurgical Forum will present the most compelling, novel and high impact clinical and basic science in a concentrated neurosurgical symposium. An interactive, multi-subspecialty assembly presented in simultaneous and physically contiguous sessions. An outstanding opportunity for interactive science! The CNS Select Abstracts will provide you an opportunity to talk direct to the author of the abstract that interests you most. Ask questions, talk through techniques, and listen to poster presentations live. Authors of Select Abstracts will be

asked to present their work during a multi-disciplinary open poster session at the CNS Neurosurgical Forum that will be conducted between Open Paper programs. Posters will be displayed in a printed poster format in the CNS Neurosurgical Forum arena.

Learning Objective: At the conclusion of this interactive educational session, participants will be able to discuss the current basic and clinical scientific data relevant to the major subspecialties of neurosurgery. They will also become familiar with those areas in neuroscience where the present knowledge base is incomplete and will be better able to help define priorities for future research efforts.

2:00 pm – 5:45 pm

The CNS Neurosurgical Forum – Section on Cerebrovascular Surgery

2:00 pm – 2:11 pm

800

Galbraith Award

Difference in Risk of Cerebral Aneurysm Recurrence after Surgical Treatment between Ruptured and Unruptured Patients
Motoshi Sawada; Hiromu Hadeishi; Akifumi Suzuki; Nobuyuki Yasui

2:11 pm – 2:22 pm

801

Prevention of Cerebral Vasospasm after Aneurysmal Subarachnoid Hemorrhage with Clazosentan, an Endothelin Receptor Antagonist
Robert L. MacDonald; A. Kakarieka; Stephan A. Mayer; Alberto Pasqualin; D. Ruefenacht; Peter Schmiedek; Neal F. Kassell

2:22 pm – 2:33 pm

802

Experience in the Endovascular Management of 76 Patients with Middle Cerebral Artery Aneurysms
Ketan R. Bulsara; Marshall E. Tolbert; Michael J. Alexander

2:33 pm – 2:44 pm

803

Hyperglycemia Independently Increases the Risk of Perioperative Stroke, Myocardial Infarction, and Death after Carotid Endarterectomy
Matthew McGirt; Graeme F Woodworth; Alexander L. Coon; Donald Buck; Judy Huang; Richard E. Clatterbuck; Bruce Perler; Rafael J. Tamargo

2:44 pm – 2:55 pm

804

Deployment of Self-Expanding Stents for Recanalization of Acute Cerebrovascular Occlusions
Elad I. Levy; Ricky Mehta; Rishi Gupta; Ricardo A. Hanel; Andrea J. Chamczuk; David Fiorella; Henry H. Woo; Felipe Albuquerque; L. Nelson Hopkins, III

2:55 pm – 3:06 pm

805

Impact of Basilar Artery Vasospasm on Outcome in Patients with Severe Cerebral Vasospasm after Aneurysmal Subarachnoid Hemorrhage
Gill E. Sviri; David W. Newell; Gavin W. Britz

3:06 pm – 3:17 pm

806

Short Term Phenytoin Use (3 Days) following SAH is Adequate for Seizure Prophylaxis and Decreases Adverse Events
Sorayouth Chumnanvej; Ian F. Dunn; Dong H. Kim

3:17 pm – 3:28 pm

807

Clinical Utility and Safety of Routine Intraoperative Angiography for Patients and Personnel
Kim A. Lopez; Allen E. Waziri; Philip M. Meyers; E. Sander Connolly, Jr.; Robert A. Solomon; Sean D. Lavine

3:30 pm – 4:15 pm

Select Abstract Session

October 9 Neurosurgical Forum

The CNS Neurosurgical Forum – Section on Cerebrovascular Surgery

4:15 pm – 4:26 pm

808

Wartime Neurovascular Injuries: Review of the Effectiveness of Early, Aggressive, Endovascular Management in the Setting of Blast-Related Cerebral Vasospasm

Randy Scott Bell; Alexander H. Vo; Casey Porter; Ben Crandall; Tom Degraba; James M. Ecklund; Rocco Armonda

4:26 pm – 4:37 pm

809

Comparison of CT Angiography and Digital Subtraction Angiography in the Initial Management of Patients with SAH

Ian F. Dunn; Sorayouth Chumnanvej; William B. Gormley; Robert M. Friedlander; Christos Gkogkas; Kai U. Frerichs; Arthur L. Day; Dong H. Kim

4:37 pm – 4:48 pm

810

Effects of Acute Treatment with Pravastatin on Cerebral Autoregulation in Patients after Aneurysmal Subarachnoid Hemorrhage

Ming-Yuan Tseng; Marek Czosnyka; John Douglas Pickard; Peter J. Kirkpatrick

4:48 pm – 4:59 pm

811

Therapeutic Strategies of Stem Cells for Stroke

Shinn-Zong (John) Lin

4:59 pm – 5:10 pm

812

From Bench to Bedside: Dimethylarginine Dimethylaminohydrolase (DDAH) Regulates Nitric Oxide Synthase and Cerebral Circulation

Hayan Dayoub; Patrik Gabikian; John Cooke; Steven Lentz; Frank Faraci

5:10 pm – 5:21 pm

813

The Use of Stent and Coil Technique to Repair Wide Neck Cerebral Aneurysms

Demetrius K. Lopes; Sepehr B. Sani

5:21 pm – 5:32 pm

814

Prospective Comparison of Bare Platinum and Bioactive Micrus Cerecyte™ Coil Embolization for Ruptured and Unruptured Intracranial Aneurysms at Jefferson Hospital for Neuroscience

Adnan H. Siddiqui; Peng R. Chen; Erol Veznedaroglu

5:32 pm – 5:43 pm

815

Revascularization Surgery in Moyamoya Disease Improves Clinical Disability and Reduces the Incidence of New TIA or Stroke

Raphael Guzman; Michael E. Kelly; Teresa Bell-Stephens; Gary K. Steinberg

2:00 pm – 5:45 pm

The CNS Neurosurgical Forum – Section on Disorders of the Spine and Peripheral Nerves

2:00 pm – 2:11 pm

816

X STOP Interspinous Process Decompression Versus Laminectomy for Treatment of Lumbar Spinal Stenosis: Economic Analysis

Dimitriy Kondrashov; Matthew Hannibal; Ken Hsu; James Zucherman

2:11 pm – 2:22 pm

817

Cervical Disc Arthroplasty with the Prestige ST Cervical Disc: One and Two Year Results from a Multicenter Randomized Controlled Trial

Praveen V. Mummaneni; Regis W. Haid Jr.; Paul D. Sawin; Thomas A. Zdeblick; Joseph Stachniak; Wade Ceola

2:22 pm – 2:33 pm

818

Evaluation of an rhBMP-2/Ceramic Matrix as an Iliac Crest Bone Graft Replacement in Posterolateral Fusion: A Multicenter, Level I Clinical Study

John R. Dimar; Steven D. Glassman; J. Kenneth Burkus; Philip W. Pryor; James W. Hardacker; Scott D. Boden

2:33 pm – 2:44 pm

819

The First Year Following FDA Approval of the CHARITÉ Artificial Disc: “Real World” Adverse Events Outside an IDE Study Environment

Scott L. Blumenthal; Richard D. Guyer; Fred H. Geisler; Paul C. McAfee; John J. Regan

2:44 pm – 2:55 pm

820

Predicted 5-year Survivorship of the CHARITÉ Artificial Disc vs. Anterior Lumbar Interbody Fusion: A Kaplan-Meier Analysis

Paul C. McAfee; Fred H. Geisler; Scott L. Blumenthal; Richard D. Guyer; John J. Regan; Noam Stadlan; Mike Dabbah; Farhan Siddiqi; Victor Hayes; Donna Ohnmeiss

2:55 pm – 3:06 pm

821

Prospective Randomized Controlled Study of the Bryan Cervical Disc: Intermediate Results from a Single Investigational Site

Domagoj Coric; Frederick E. Finger; Peggy Boltes

3:06 pm – 3:17 pm

822

Revision and Retrieval Lumbar Total Disc Replacement: Prospective 4 Years Follow-up Study Using the CHARITE TDR

Luiz Pimenta; Roberto C. Diaz; Hazem Nicola; Luis E. Guerrero

October 9 Neurosurgical Forum

3:17 pm – 3:28 pm

823

MR Imaging Clarity of the Bryan, Prodisc-c, Prestige LP and PCM Cervical Arthroplasty Devices

Lali H.S. Sekhon; Paul Anderson; Neil Duggal; James Lynch; John Heller; Dan K. Riew; Regis W. Haid Jr.; K. Seex

3:30 pm – 4:15 pm

Select Abstract Session

The CNS Neurosurgical Forum - Section on Disorders of the Spine and Peripheral Nerves

4:15 pm – 4:26 pm

824

Decompressive Peripheral Nerve Surgery for the Relief of Neuropathic Symptoms of Diabetics

Bryan Michael Pereira

4:26 pm – 4:37 pm

825

Sciatic Benign and Malignant Non-nerve and Nerve Sheath Tumors: a Series of 50 LSUHSC Patients

Judith A. Murovic; Daniel H. Kim; David G. Kline

4:37 pm – 4:48 pm

826

Functional Recovery in T13 SCI Rats Resulting from Peripheral Nerve Rerouting: Role of the CNS Neuroplasticity

Deniz Konya; Wei Lee Liao; Howard Choi; Dou Yu; Kimberly M. Newton; King M Allyson; Necmettin Pamir; Peter McL. Black; Yang D. Teng

4:48 pm – 4:59 pm

827

Preliminary Results of Schwann Cell Transplantation for Chronic Spinal Cord Injuries

Hooshang Saberi; Maasoome Firoozi; Pooria Moshayedi

4:59 pm – 5:10 pm

828

One-Level Lumbar Arthroplasty in Patients 18-45 Years of Age vs. Patients 46-60 Years of Age: Is There a Difference in Clinical Outcome?

Bradford Mullin; Fred H. Geisler; Scott L. Blumenthal; Richard D. Guyer; Paul C. McAfee

5:10 pm – 5:21 pm

829

Minimal Invasive Percutaneous Presacral Axial Lumbar Fusion (AxiaLIF). Prospective Clinical and Radiographic Results after 30 Months Follow-up

Luiiz Pimenta; Roberto C. Diaz; Andrew Cragg; Luis E. Guerrero; Hazem Nicola

5:21 pm – 5:32 pm

830

Dynamic Stabilization of the Lumbar Spine Using the Dynesys Spinal System: Early Results of the Multicenter Trial

Reginald J. Davis; James Maxwell; Rick Delamarter; Jeffrey Wingate; John Sherman; William C. Welch

5:32 pm – 5:43 pm

831

Dynamic vs. Constrained Anterior Cervical Plating: 6 Months Results of a Multi-centric, Prospective, Randomized, Controlled Study

Tobias Pitzen; Jan Stulik; Tomas Vyskocil; Jiri Chrobok; Roman Kucera; Laurentius Sova; Joerg Drumm; Sabine Ruffing; Wolfgang Reith; Wolf Ingo Steudel

2:00 pm – 5:54 pm

The CNS Neurosurgical Forum – Section on Neurotrauma and Critical Care

2:00 pm – 2:17 pm

832

Synthes Award for Resident Research on Spinal Cord and Spinal Column Injury

The Autonomic and Somatic Effect of Hypertonic Saline Administration in SCI in a Murine Model as a Function of Administration Time.

Howard B. Levene; Carolyn J. Erb; John P. Gaughan; Christopher M. Loftus; Jack Jallo; Ronald F. Tuma

2:17 pm – 2:34 pm

833

Synthes Award for Resident Research on Brain and Craniofacial Injury

Regulation of Brain Aquaporin-1 mRNA and Protein Expression following Traumatic Brain Injury

Stefan S. Kim; M. Ross Bullock; Harold F. Young; Nam Duy Tran

2:34 pm – 2:45 pm

834

Neurocognitive Testing in Athletic Cerebral Concussion

Joseph C. Maroon; Mark R. Lovell; Michael W. Collins; John Norwig

2:45 pm – 2:56 pm

835

Early Morphologic and Spectroscopic MR in Severe Traumatic Brain Injuries Can Detect “Invisible Brain Stem Damages” and Predict “Vegetative States”

Alexandre C. Carpentier; Damien Galanaud; Louis Puybasset; Remy Van Effenterre

2:56 pm – 3:07 pm

836

Antiplatelet Therapy as a Risk Rate Factor in Hemorrhagic Complications of Head Injuries: Preliminary Study

Antonio De Tommasi; Sabino Luzzi; Pietro D’Urso; Claudio De Tommasi; Pasqualino Ciappetta

October 9 Neurosurgical Forum

3:07 pm – 3:18 pm 837
Characterization of Cerebral Oxygenation in Patients with Traumatic Brain Injury before and after Brain Tissue Oxygen Guided Therapy
Jeffrey V. Rosenfeld; Alexios A. Adamide; D. James Cooper; Naomi Pratt; Nicholas Tippett; Philip Lewis; Franklin Rosenfeldt; Thomas Kossmann

3:18 pm – 3:29 pm 838
Effect of LF 16-0687, a Specific Bradykinin B2 Receptor Antagonist, on ICP and Contusion Volume after Controlled Cortical Impact Injury in Mice
Klaus Zweckberger; Nikolaus Plesnila

3:30 pm – 4:15 pm
Select Abstract Session

The CNS Neurosurgical Forum - Section on Neurotrauma and Critical Care

4:15 pm – 4:26 pm 839
Exclusion of Cervical Spine Instability in Patients with Blunt Trauma with Normal Multislice Helical CT and Radiography
Raymond F. Sekula Jr.; Matthew R. Quigley; Richard H. Daffner; Jack Protetch; Christine S. McCrady; A. Rodriguez

4:26 pm – 4:37 pm 840
Blast Concussive Disorder at a U.S. Military Field Hospital in Iraq: A Neuro-Otologic Analysis
Michael S. Xydakis; Vikhyat Bebartha; Corey Harrison; Jonathan Conner; Gerald A. Grant

4:37 pm – 4:48 pm 841
Predictive Values of Age and the Glasgow Coma Scale in Traumatic Brain Injury Patients Treated with Decompressive Craniectomy
John Chi; Matt Potts; Michelle Meeker; Martin C. Holland; J. Claude Hemphill; Geoffrey T. Manley

4:48 pm – 4:59 pm 842
A Multi-centre Prospective Randomised Trial of Early Decompressive Craniectomy in Patients with Severe Traumatic Brain Injury
Jeffrey V. Rosenfeld; D. James Cooper; Lynne J. Murray; Wolfe Rory; Jennie L. Ponsford; Peter Reilly; Paul S. D'Urso; Andrew Davies; Ian Seppelt; Maureen Mead; Michael Schwartz; Alexios A. Adamides; Thomas Kossman

4:59 pm – 5:10 pm 843
Association between INR Value and Intracerebral Hemorrhage Complicated from External Ventricular Catheter Placement
Dennis Cramer; Daniel S. Hutton; Nguyen T. Do; Nicholas A. Qandah; Javed Siddiqi

5:10 pm – 5:21 pm 844
Brain Extracellular Fluid Nitrite/Nitrate Levels after Traumatic Brain Injury are Related to Survival
Martin M. Tisdall; Axel Petzold; Konrad Rejdak; Neil Kitchen; Martin Smith

5:21 pm – 5:32 pm 845
35°C Hypothermia can Reduce Increased Intracranial Pressure as well as 33°C Hypothermia in Patients with Severe Traumatic Brain Injury
Takashi Tokutomi; Tomoya Miyagi; Kazuya Morimoto; Minoru Shigemori

5:32 pm – 5:43 pm 846
Collagen Scaffolds Populated with Human Marrow Stromal Cells Reduce Lesion Volume and Improve Functional Outcome After Traumatic Brain Injury
Asim Mahmood; Dunyue Lu; Changsheng Qu; Michael Chopp

2:00 pm – 3:30 pm The CNS Neurosurgical Forum – Section on Pain

2:00 pm – 2:17 pm 847
Ronald Tasker Award
Intrathecal Transplantation of a Human Neuronal Cell Line for the Treatment of Neuropathic Pain in a Spinal Cord Injury Model
Stacey C. Quintero Wolfe; Nadia Cumberbatch; Miguel Martinez; Mary Eaton

2:17 pm – 2:28 pm 848
Constitutive GABA Expression via a Recombinant Adeno-associated Virus Consistently Attenuates Neuropathic Pain
Jin-Woo Chang; Jaehyung Kim, BA; Boyoung Lee; Huiran Lee

2:28 pm – 2:39 pm 849
Motor Cortex Stimulation for Chronic Intractable Deafferentation Pain
Richard K. Osenbach

2:39 pm – 2:50 pm 850
Three Column Contact Patterns for Spinal Cord Stimulation Offer Selective Dorsal Column Fiber Activation
Wilbert Wesselink; Richard B. North

October 9 Neurosurgical Forum

2:50 pm – 3:01 pm

851

Results of Repeat Posterior Fossa Exploration for Patients with Medically Intractable Trigeminal Neuralgia
Nelly Amador; Deborah A Gorman; Bruce E. Pollock

3:01 pm – 3:12 pm

852

Long-term Outcomes for Trigeminal Neuralgia after Gamma Knife Radiosurgery
Ron Irving Riesenburger; Vasilios A. Zerris; Kevin C. Yao

3:12 pm – 3:23 pm

853

Post-operative Continuous Paravertebral Anesthetic Infusion for Pain Control in Lumbar Spinal Fusion Surgery: A Case-Control Study
James B. Elder; Michael Y. Wang

3:30 pm – 4:15 pm

Select Abstract Session

4:15 pm – 5:54 pm

**The CNS Neurosurgical Forum –
Council of State Neurosurgical Societies**

4:15 pm – 4:32 pm

854

CSNS Resident Award

Optimizing Surgical Exposure for Neurosurgical Trainees with Limited Working Hours
Lewis Thorne; Simon Shaw; Sasha Burns; R. Bradford; Joan P. Grieve

4:32 pm – 4:43 pm

855

Is Screening for Deep Venous Thrombosis in Aneurysmal Subarachnoid Hemorrhage Patients Cost Effective?
William J. Mack; Zachary L. Hickman; E. Sander Connolly, Jr.; Peter D. Angevine

4:43 pm – 4:54 pm

856

Prospective, Multicenter Evaluation of Neurosurgical Emergency Transfers in Cook County
Richard W. Byrne; Bradley T. Bagan; Konstantin Slavin; Daniel Curry; Tyler R. Koski; Thomas C. Oritano

4:54 pm – 5:05 pm

857

First to Worst: Does DRG Assessment of Hospital Mortality Indicate Quality?
Carl B. Heilman; Steve Hwang

5:05 pm – 5:16 pm

858

Racial and Socioeconomic Disparities in the Surgical Treatment of Parkinson Disease (PD) in the United States, 1997-2003
Ziv Williams; William T. Curry, Jr.; Emad N. Eskandar; Frederick G. Barker

5:16 pm – 5:27 pm

859

Is the Current Model of "Academic" Neurosurgery Sustainable?
Dongwoo John Chang

5:27 pm – 5:38 pm

860

Effects of Socio-Economic and Geographic Variations on Survival for Adult Glioma in England and Wales: A Population-based Study
Ming-Yuan Tseng; Jen Ho Tseng; Edwin Merchant

2:00 pm – 5:45 pm

**The CNS Neurosurgical Forum – Section
on Pediatric Neurological Surgery**

2:00 pm – 2:11 pm

861

Pediatric Back and Neck Pain: Pathology, Treatment, and the Role of the Pediatric Neurosurgeon
Kevin L. Stevenson; Gina D. Mangin; Keith C. Raziano; Selene White; Durga Shah

2:11 pm – 2:22 pm

862

Thoracolumbar and Sacral Spine Injuries in Children and Adolescents: A Review of 89 Cases
Seref Dogan; Sam Safavi-Abbasi; Nicholas Theodore; Nitin R. Mariwalla, BA; Eric M. Horn; Volker K. Sonntag

2:22 pm – 2:33 pm

863

Is Multifocal Seizure Resection in Children Reasonable?
David M. Frim; Kurt Hecox; Michael Kohrman; Charles Marcucilli; Michael Turner

2:33 pm – 2:44 pm

864

Medulloblastoma Subtypes Defined by Gene Expression Analysis
Manuel Ferreira; Scott L Pomeroy

2:44 pm – 2:55 pm

865

Transphenoidal Surgery in the Treatment of Pediatric Craniopharyngiomas
Daniel Monte Serrat Prevedello; Jay Jagannathan; John Anthony Jane Jr., BA; Edward R. Laws

MONDAY, OCTOBER 9

NEUROSURGICAL FORUM AND SELECT ABSTRACT SESSION

October 9 Neurosurgical Forum

2:55 pm – 3:06 pm

866

Surgical Targeting and Focal Implantation of Gene Therapy for Global Neurologic Disease: Operative Technique and Nuances

Justin F. Fraser; Mark M. Souweidane; Michael Gordon Kaplitt; Dimitris Placantonakis; Linda Heier; Stephen Kaminsky; Lisa Arkin; Dolan Sondhi; Neil Hackett; Barry Kosofsky; Ronald Crystal

3:06 pm – 3:17 pm

867

Restoration of Impaired Neurodevelopment after Systemic Prenatal Brain Injury in Rats

Shenandoah Robinson

3:17 pm – 3:28 pm

868

Pediatric Cerebral Aneurysms: Characteristics, Pathogenesis, Surgical and Endovascular Management, and Outcome

Paul Kim; Michael Raber; Alexander K. Powers; Pearse Morris; Steven S. Glazier

3:30 pm – 4:15 pm

Select Abstract Session

The CNS Neurosurgical Forum – Section on Pediatric Neurological Surgery

4:15 pm – 4:26 pm

869

Recovery, Improvement and Complication following Endoscopic versus Conventional Open Chiari Decompression

Xiao Di; Mahamoud G Ammar; Mark G. Luciano

4:26 pm – 4:37 pm

870

Multiloculated Hydrocephalus: A Study Of Twenty Four Cases Operated by Endoscopic Cyst Fenestration

Nasser M.F El-ghandour

4:37 pm – 4:48 pm

871

Shunting vs. ETV: Long-term Cognitive Outcome

Maureen Lacy; Benjamin Pyykkonen; Dawn Mottlow; Tien Do; Scott Hunter; David M. Frim

4:48 pm – 4:59 pm

872

Antimicrobial Suture Use Associated with Decreased Incidence of Cerebrospinal Fluid Shunt Infections

Jody Leonardo; Curtis J. Rozzelle

4:59 pm – 5:10 pm

873

Prolonged Exposure to Antibiotic-Impregnated Shunt Catheters Does Not Increase Incidence of Late Shunt Infections

Daniel M Sciubba; Matthew McGirt; Graeme F. Woodworth; Benjamin S. Carson; George I. Jallo

5:10 pm – 5:21 pm

874

Noninvasive Measurement of ICP and CBF in Patients with Hydrocephalus: A Clinical Predictive Tool

Roberta P. Glick; Terry Lichtor; Osbert Egibor; Sang H. Lee; Josh Niebrugge; Noam Alperin

5:21 pm – 5:32 pm

875

Pediatric Infratentorial Subdural Empyemas: A Series of 14 Patients

Paritosh P. Pandey

5:32 pm – 5:43 pm

876

Recurrence of Synostosis following Surgical Repair of Craniosynostosis

Kimberly A. Foster; McKay McKinnon; David M. Frim

2:00 pm – 5:45 pm

The CNS Neurosurgical Forum – Section on Stereotactic and Functional Neurosurgery

2:00 pm – 2:17 pm

877

Stereotactic and Functional Neurosurgery Resident Award

Psycho-behavioral Effects of Chronic Subthalamic Stimulation and The Topography of Subthalamic Nucleus

Sheng-Tzung Tsai; Shin-Yuan Chen

2:17 pm – 2:28 pm

878

Cortical Stimulation for Motor Recovery Following Stroke – Impact on Neuropsychological Performance and Functional Imaging.

Robert M. Levy; Amity Ruth; Mark E. Huang; Richard L. Harvey; Sean Ruland; Rima Dafer; David Lowry; Martin E. Weinand

2:28 pm – 2:39 pm

879

Therapeutic Cloning in Mice

Viviane S. Tabar; Teru Wakayama; Georgia Panagiotakos; Bill Chan; Mark Tomishima; Lorenz Studer

2:39 pm – 2:50 pm

880

Pediatric Language Mapping: Sensitivity of Neurostimulation and Wada Testing in Epilepsy Surgery

Howard L. Weiner; Catherine Schevon; Chad Carlson; Werner Doyle; Daniel Miles; Josiane LaJoie; Ruben Kuzniecky; Orrin Devinsky

2:50 pm – 3:01 pm

881

Initial Surgical Experience with an Intracortical Microelectrode Array for Brain-Computer Interface Applications

Gerhard Friehs; Richard D. Penn; Michael C. Park; Marc Goldman; Vasilios A. Zerris; Leigh R. Hochberg; David Chen; Jon Mukand; John D. Donoghue

3:01 pm – 3:12 pm

882

Tailored Temporal Lobectomy for Medically Intractable Epilepsy. Long-term Outcomes in a Series of 140 Consecutive Patients

Richard W. Byrne; Kirk W. Jobe; Nimesh H. Patel; Michael C. Smith; Andres M. Kanner; Matthew Morrin

3:12 pm – 3:23 pm

883

Lentiviral Delivery OF GDNF IN Aged MPTP-treated Rhesus Monkeys.

Marina E. Emborg; Ben Z. Roitberg; Jeffrey Moirano; Romaine Zufferey; Allison D. Ebert; Valerie Joers; James Holden; Alexander K. Converse; James B. Koprach; Jeffrey H. Kordower; Patrick Aebischer

3:30 pm – 4:15 pm

Select Abstract Session

The CNS Neurosurgical Forum - Section on Stereotactic and Functional Neurosurgery

4:15 pm – 4:26 pm

884

Safety and Preliminary Efficacy of a Responsive Neurostimulator (RNS™) for the Treatment of Intractable Epilepsy in Adults.

Robert R. Goodman; Guy M. McKhann, II; Dennis Spencer; Kenneth P. Vives; Ryder Gwinn; W. R. Marsh; Robert E. Wharen; Richard S. Zimmerman; Theodore H. Schwartz; Joseph R. Smith; George I. Jallo

4:26 pm – 4:37 pm

885

A Prospective Randomized Double-Blind Trial of Bilateral Thalamic Deep Brain Stimulation in Adults with Tourette Syndrome

Robert J. Maciunas; Brian Maddux; David E. Riley; Christina M. Whitney; Michael R. Schoenberg; Paula J. Ogrocki; Jeffrey M. Albert; Deborah J. Gould

4:37 pm – 4:48 pm

886

Late Seizures in Patients Initially Seizure-free after Epilepsy Surgery

Theodore H. Schwartz; William E. Bingaman; Lara Jeha; Adriana Tanner; Michael Sperling

4:48 pm – 4:59 pm

887

Grafts of Neural Precursors Derived from the Basal Forebrain Improve Motor Function in Experimental Stroke

Marcel M. Daadi; Tonya Bliss; Sang-Hyung Lee; Theo D. Palmer; Gary K. Steinberg

4:59 pm – 5:10 pm

888

A Multitarget GABAergic Basal Ganglia Transplantation Strategy Enhances Complex Sensorimotor Behavioral Recovery in Hemiparkinsonian Rodents

Karim Mukhida; Murray Hong; Ivar Mendez

5:10 pm – 5:21 pm

889

Continuous Intrathecal Baclofen Infusion in the Treatment of Spastic Cerebral Palsy: A Prospective Multicenter Study

Yves R. Lazorthes

5:21 pm – 5:32 pm

890

Deep Brain Stimulation for the Enhancement of Learning

Emad N. Eskandar; Ziv Williams; Ramin Amirnovin; Kendall H. Lee; Charles Blaha

5:32 pm – 5:43 pm

891

Dynamic Encoding of Reward Prediction and Movement in the Subthalamic Nucleus of Parkinson's Patients and Normal Monkey

Felipe A. Jain; Emad N. Eskandar

2:00 pm – 5:45 pm

The CNS Neurosurgical Forum – Section on Tumors

2:00 pm – 2:17 pm

892

Synthes Skull Base Award

Endoscopic, Endonasal Extended Transsphenoidal Transplanum Transtuberculum Approach for Resection of Suprasellar Lesions

Theodore H. Schwartz; Vijay K. Anand

October 9 Neurosurgical Forum

2:17 pm – 2:34 pm 893

Tumor Young Investigator Award

An siRNA Based Approach to Characterize Brain Tumor Resistance to Radiation Therapy

Clark C. Chen

2:34 pm – 2:45 pm 894

A Phase I Trial of Intracranial Dendritic Cell Immunotherapy for Patients with Malignant Glioma

John S. Yu; Gentao Liu; Hiushan Ng; Mia Wagenberg; Anne Luptrawan; Elina Mindlin; Christopher J. Wheeler; Keith L. Black

2:45 pm – 2:56 pm 895

Chimeric T-cell Receptor Therapy for Glioblastoma Multiforme

Szofia S. Bullain; Oszkar Szentirmai; Ning Lin; Carlos E. Sanchez; Richard C. Mulligan; Bob Carter

2:56 pm – 3:07 pm 896

Factors Affecting Endocrine Cure after Radiosurgery in Patients with Acromegaly

Jeffrey T. Jacob; Paul D. Brown; Bruce E. Pollock

3:07 pm – 3:18 pm 897

Awake Craniotomy for Intraoperative Cortical Stimulation of Language Relevant Areas: Clinical and Neurolinguistic Results of a Prospective, Longitudinal Evaluation of 153 Cases

Maximilian I. Ruge

3:18 pm – 3:29 pm 898

Analysis of 445 Patients with Cushing's Disease Treated by Transsphenoidal Surgery.

Daniel Monte Serrat Prevedello; Nader Pouratian; Jonathan H. Sherman; John Anthony Jane Jr.; M. Beatriz Lopes; Mary Lee Vance; Edward R. Laws

3:30 pm – 4:15 pm
Select Abstract Session

The CNS Neurosurgical Forum - Section on Tumors

4:15 pm – 4:26 pm 899

BrainLab Community Neurosurgery Award

High Frequency, Low Temperature Radiosurgery: Adjunct for Brain Tumor Resections

Alfred P. Bowles, Jr.

4:26 pm – 4:37 pm 900

Integra Foundation Award

High Incidence of Obesity and Obesity-Related Postoperative Complications in Male Meningioma Patients

Manish K. Aghi; William T. Curry, Jr.; Bob Carter; Frederick G. Barker

4:37 pm – 4:48 pm 901

Intraoperative MRI Experience on 700 Patients

Garnette R. Sutherland; Isabelle Latour; Alexander Greer; John K. Saunders

4:48 pm – 4:59 pm 902

Intraoperative Subcortical Language Tracts Mapping Guides Surgical Removal of Gliomas Involving Speech Areas

Lorenzo Bello; Marica Fava; Marcello Gallucci; Carlo Giussani; Giorgio Carrabba; Francesco Acerbi; Valeria Songa; Valeria Conte; Pietro Baratta; Nino Stocchetti; Costanza Papagno; Sergio Gaini

4:59 pm – 5:10 pm 903

Fiber Tract Navigation in Glioma Surgery

Christopher Nimsky; Oliver Ganslandt; Daniel Weigel; Michael Buchfelder

5:10 pm – 5:21 pm 904

The Brain Stem: A 3-D Overview of the Superficial Microsurgical Anatomy, Surgical Entry Points, and 4.7 Tesla MRI Reconstruction of the Intra-parenchymal Surgical Corridors. A Cadaveric Database for Future Robotic Surgery and Intraoperative MRI Application

Ernesto Coscarella; Mustafa Kemal Baskaya; Jacques J. Morcos

5:21 pm – 5:32 pm 905

Patients' Outcome at Long-term Follow-up after Aggressive Microsurgical Resection of Petroclival Meningiomas

Sabareesh Kumar Natarajan; Lalgam N. Sekhar; Donald C. Wright; Farrokh Farrokhi; David Schessel

5:32 pm – 5:43 pm 906

Surgical Management of Primary and Metastatic Sarcoma of the Mobile Spine

Ganesh Rao; Iman Feiz-Erfan; Indro Chakrabarti; Milan G. Mody; Ian E. McCutcheon; Laurence D. Rhines

October 9 Live 3-D Demonstrations



2:00 pm – 5:30 pm

Live 3-D Cadaveric Demonstration

Moderator: Saleem I. Abdulrauf

Learning Objective: This course will provide a review of the microsurgical principles of the trajectories for lesions involving the basal cisterns; review of the microsurgical principles of the trajectories for lesions involving the third ventricle, review of the microsurgical principles for the resection of a tumor involving the basal cistern, review of the microsurgical principles for the clipping of a basilar apex aneurysm, review of the anatomic landmarks for the navigation within the lateral and third ventricles and demonstration of complication avoidance principles during skull base surgery. Following completion of the course, participants should be able to discuss the anatomical constraints and microsurgical principles operant in treating these lesions.

2:00 – 2:25

Basilar Apex Aneurysm: The Transsylvian Approach to the Basal Cisterns

H. Hunt Batjer

2:25 – 2:30

Discussion

2:30 – 2:55

Brainstem Cavernoma: The Anterior Petrosal Approach to the Perimesencephalic Region

Evandro de Oliveira

2:55 – 3:00

Discussion

3:00 – 3:25

Third Ventricular Colloid Cyst: Endoscopic Approach

Alan Cohen

3:25 – 3:30

Discussion

3:30 – 4:00

Refreshments with Exhibitors

4:00 – 4:25

Third Ventricular Tumor: The Interhemispheric Transcollosal Approach

Albert L. Rhoton, Jr.

4:25 – 4:30

Discussion

4:30 – 4:55

Petroclival Meningioma: The Transcondylar Approach to the Clival Region

Laligam N. Sekhar

4:55 – 5:00

Discussion

5:00 – 5:25

C1-C2 Lesion: The Transoral Approach

Arnold H. Menezes

5:25 – 5:30

Discussion



From the stage of the Arie Crown Theater, the CNS brings you...

Live 3-D Cadaveric Demonstrations

Technical Neurosurgical Masters will demonstrate live 3-D Surgical Approaches

Followed by cutting-edge videos.

Special Course I

Mesial Temporal Lobe Epilepsy (MTLE): How Much Lobectomy Is Really Necessary?

2:00 pm – 3:30 pm

Course Directors: William E. Bingaman, Nicholas M. Barbaro

Learning Objective: Following participation in this course, participants will be able to discuss the assimilation of pre-operative data to define surgical plan for the patient with mesial temporal lobe epilepsy, describe basic surgical approaches to treat mesial temporal lobe epilepsy, discuss intraoperative techniques useful in defining extent of neocortical resection in temporal lobe epilepsy and explore functional consequences of dominant temporal lobectomy including variances on neurophysiological function based on operative technique.

2:00 – 2:15

Trans-sylvian Selective Amygdalohippocampectomy for MTLE
Johannes Schramm

2:15 – 2:20

Discussion

2:20 – 2:35

Trans-cortical Selective Amygdalohippocampectomy for MTLE
Andre Olivier

2:35 – 2:40

Discussion

2:40 – 2:55

The Role of Depth and Surface Electrodes for Pre-operative Selection in Patients with MTLE
Steven N. Roper

2:55 – 3:00

Discussion

3:00 – 3:15

Traditional Electrocorticography-Guided Temporal Lobectomy for MTLE
George A. Ojemann

3:15 – 3:20

Discussion

3:20 – 3:30

Panel Case Presentation and Discussion

3:30 – 4:00

Refreshments with Exhibitors

Special Course II

Multimodality Treatment of Cancer Involvement of the Spine

4:00 – 5:30

Course Directors: Ziya L. Gokaslan, Ehud Mendel

Learning Objective: Following participation in this special course, participants should be able to discuss the surgical management of primary and metastatic tumors of the spine including indications and techniques available for resection, indications and techniques available for vertebral augmentation, and indications for palliative care.

4:00 – 4:20

Management of Primary Spinal Tumors
Ziya L. Gokaslan

4:20 – 4:25

Discussion

4:25 – 4:45

Management of Tumors Metastatic to the Spine
Timothy Ryken

4:45 – 4:50

Discussion

4:50 – 5:10

The Role of Vertebroplasty and Kyphoplasty in the Management of Spinal Column Tumors
Ehud Mendel

5:10 – 5:15

Discussion

5:15 – 5:30

Case Presentations to Panel/Moderators

October 10 General Scientific Session

At-a-Glance

7:00 am – 11:30 am

- General Scientific Session II

8:35 am – 8:55 am

- Peter M. Black
Honored Guest Presentation

9:00 am – 4:30 pm

- Exhibits Open

9:30 am – 10:30 am

- Coffee with Exhibitors

10:33 am – 10:53 am

- Michael Bliss, PhD
First Annual John Thompson History
of Medicine Lecturer

11:00 am – 11:30 am

- George Lucas
CNS Michael L.J. Apuzzo Lecturer
on Creativity and Innovation

12:30 pm – 2:00 pm

- Luncheon Seminars

2:00 pm – 5:30 pm

- Special Courses, Sections

3:30 pm – 4:00 pm

- Refreshments with Exhibitors

5:30 pm – 6:30 pm

- Annual Business Meeting

General Scientific Session II

Transcendent Leadership: Advocacy through Innovation and Critical Review of Treatment Options

7:00 am – 11:30 am

Moderators: Leon E. Moores,
E. Sander Connolly, Jr.

Presiding Officer: Richard G. Ellenbogen

Learning Objectives: Following participation in this seminar, the participant should be able to discuss the potential impact of emerging innovative technologies. The participant should also be able to describe the evidence available supporting or not supporting the utilization of such new technologies.

The Application of New Techniques and Technologies: When Does the Data Justify Widespread Application?

7:00 – 7:12

Endoscopic Cranial Surgery for Tumor:
Ready for Prime Time?

Amin Kassam

7:12 – 7:24

Cerebral Oximetry in the Head Injured
Patient: Is it Time for Widespread
Application?

P. David Adelson

7:24 – 7:36

Stent Coiling for Aneurysms

Sean D. Lavine

7:36 – 7:48

Motor Cortex Stimulation for Refractory
Pain Disorders: Does it Work?

Ali R. Rezai

7:48 – 8:00

Endoscopic Third Ventriculostomy with
Choroid Plexus Coagulation Instead of
Shunting: Do Lessons from the
Developing World Apply More Broadly
to the Developed World?

Benjamin Warf

8:00 – 8:12

Spine Arthroplasty: Who Benefits?

Daniel K. Resnick

8:12 – 8:24

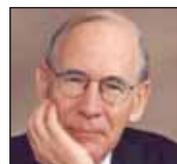
Vagal Nerve Stimulation vs. DBS for
Treatment-Resistant Depression: Show
Me the Data

Jaimie M. Henderson

8:24 – 8:35

The CNS Fellowship Presentation

Linda M. Liau



8:35 - 8:55

Peter M. Black
Honored Guest
Presentation

The Emerging Field of
Neurosurgical Oncology:

Using Novel Technologies to Optimize
Outcomes and Minimize Mishaps

*Application of Advanced Imaging
Techniques: A Review and
Critical Analysis*

8:55 – 9:07

A Review of Cranial Imaging
Techniques: Potential and Limitations

Rudolf Falbusch

9:07 – 9:19

Intraoperative Imaging and Spine
Surgery

Stephen M. Papadopoulos

9:19 – 9:30

Synthesis: The Application New
Technologies and Medical
Reimbursement – Who Should Get
Paid? Who Will Get Paid?

John A. Wilson

9:30 – 10:30

Coffee with Exhibitors

10:30 – 10:33

Introduction of the First Annual John
Thompson History of Medicine
Lecturer Michael Bliss, PhD

Frederick G. Barker



10:33 - 10:53

Michael Bliss, PhD
Harvey Cushing and the
Birth of Neurosurgery

10:53 – 11:00

Introduction of the CNS Michael L.J.
Apuzzo Lecturer on Creativity and
Innovation George Lucas



11:00 - 11:30

George Lucas
CNS Michael L.J.
Apuzzo Lecture on
Creativity and
Innovation

Congratulations to the CNS Abstract Award Winners!

The CNS Resident Award

John A. Cowan, Jr., MD

“Changing Trends in the Utilization and Costs of Procedures Performed by Neurosurgeons in the United States”

Galbraith Award (Resident Award - Section on Cerebrovascular Surgery)

Motoshi Sawada, MD

“Difference in Risk of Cerebral Aneurysm Recurrence After Surgical Treatment Between Ruptured and Unruptured Patients”

Synthes Award for Resident Research on Spinal Cord and Spinal Column Injury

Howard B. Levene, MD, PhD

“The Autonomic and Somatic Effect of Hypertonic Saline Administration in SCI in a Murine Model as a Function of Administration Time”

Synthes Award for Resident Research on Brain and Craniofacial Injury

Stefan S. Kim, MD

“Regulation of Brain Aquaporin-1 mRNA and Protein Expression following Traumatic Brain Injury”

Ronald Tasker Award

Stacey C. Quintero Wolfe, MD

“Intrathecal Transplantation of a Human Neuronal Cell Line for the Treatment of Neuropathic Pain in a Spinal Cord Injury Model”

CSNS Resident Award

Lewis Thorne, FRCS

“Optimizing Surgical Exposure for Neurosurgical Trainees with Limited Working Hours”

Stereotactic and Functional Neurosurgery Resident Award

Sheng-Tzung Tsai, MD

“Psycho-behavioral Effects of Chronic Subthalamic Stimulation and The Topography of Subthalamic Nucleus”

Synthes Skull Base Surgery Award

Theodore H. Schwartz, MD, FACS

“Endoscopic, Endonasal Extended Transsphenoidal Transplanum Transtuberculum Approach for Resection of Suprasellar Lesions”

Tumor Young Investigator Award

Clark C. Chen, MD, PhD

“An siRNA Based Approach to Characterize Brain Tumor Resistance to Radiation Therapy”

BrainLab Community Neurosurgery Award

Alfred P. Bowles, Jr., MD

“High Frequency, Low Temperature Radio-surgery:Adjunct for Brain Tumor Resections”

Integra Foundation Award

Manish K. Agbi, MD, PhD

“High Incidence of Obesity and Obesity-Related Postoperative Complications in Male Meningioma Patients”

Mahaley Clinical Research Award

David Mathieu, MD, FRCS(C)

Gamma Knife Radiosurgery for Malignant Melanoma Brain Metastases

Preuss Award

James Waldron, MD

Akt/PKB Activation Facilitates Immune Escape in Glioma Patients

Book Signing



Monday October 9

The CNS Member Services Booth

David McCullough, Seventh Annual Walter E. Dandy Orator

Tuesday October 10

The CNS Member Services Booth

Michael Bliss, First Annual John Thompson History of Medicine Lecturer

NEW! Interactive Sessions! Look for the (handheld) icon indicating the new CNS Interactive Sessions. An outstanding opportunity to participate in the afternoon Section Sessions on Tuesday and Wednesday via handheld devices! The CNS will distribute handheld devices at select Section Sessions to allow audience participation. You will be able to send written questions to speakers during their presentation and receive real time answers.



October 10 Luncheon Seminars 12:30 pm – 2:00 pm

*All Luncheon Seminars include a seated lunch served in the seminar room.
Luncheon Seminar fees are \$60 each (\$45 Residents/Fellows/Nurses).*

T18

Lumbar Spine Treatment: What the Literature Supports

Moderator: Charles L. Branch, Jr.

Faculty: Richard A. Deyo, Ashwini Dayal Sharan, Beverly C. Walters

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the current literature on surgical treatment of degenerative lumbar spine disease. Participants will be able to discuss the indications and expected outcomes for various lumbar spine surgical procedures.

T19

Cervical Spondylotic Myelopathy

Moderator: Paul K. Maurer

Faculty: Ronald I. Apfelbaum, Paul R. Cooper, Frank La Marca, H. Maximilian Mehdorn

Learning Objective: At the conclusion of this seminar, participants will be able to discuss how to diagnose the syndrome of cervical spondylotic myelopathy and evaluate the treatment options available. Participants will be able to discuss outcomes of treatment in patients with cervical spondylotic myelopathy.

T20

Motion-Preserving Spinal Surgery: Indications and Outcomes

Moderator: Vincent C. Traynelis

Faculty: Edward C. Benzel, Raimund Firsching, Roger Hartl, Robert F. Heary

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the current status of motion preservation surgery of the cervical and lumbar spine, with emphasis on indications for motion-preservation techniques as well as outcomes.

T21

Intraoperative Salvage Techniques: "Getting Out of Trouble in Spinal Surgery"

Moderator: Stephen L. Ondra

Faculty: Regis W. Haid, Jr., Arnold H. Menezes, Volker K. Sonntag, Sagun Tuli

Learning Objective: At the conclusion of this seminar, participants will have been exposed to situations when intraoperative salvage techniques are necessary in spinal surgery and be able to discuss the steps and techniques necessary to rectify intraoperative difficulties.

T22

Treatment of Peripheral Nerve Entrapment

Moderator: Michel Kliot

Faculty: Hans-Peter Richter, Robert J. Spinner, Robert L. Tiel, Lynda Jun-San Yang

Learning Objective: At the conclusion of this seminar, participants will be able to discuss basic nerve entrapment syndromes and their medical and surgical management, and will have been exposed to the indications and techniques associated with peripheral nerve surgery. Participants will be able to describe techniques to augment or include peripheral nerve surgery in their practices.

T23

radiosurgery: What the Literature Supports

Moderator: Bruce E. Pollock

Faculty: John Adler, L. Dade Lunsford, Gail Rousseau

Learning Objective: At the conclusion of this seminar, participants will be able to describe the evidence in the medical literature supporting the use of radiosurgery for neurosurgical disorders including tumors, vascular lesions, and functional applications.

October 10 Luncheon Seminars 12:30 pm – 2:00 pm

TUESDAY, OCTOBER 10

SCIENTIFIC PROGRAM / LUNCHEON SEMINARS

T24

Management of Low Grade Gliomas: Current Strategies and Dilemmas

Moderator: John Park

Faculty: Michael William McDermott, Daniel L. Silbergeld, Andrew E. Sloan, Jorg-Christian Tonn

Learning Objective: At the conclusion of this seminar, participants will gain exposure to the various surgical and medical modalities appropriate for the treatment of low grade gliomas and be able to discuss current research pertaining to the management of these tumors. Participants will be able to discuss various medical and surgical strategies used to manage low grade gliomas.

T25

Does Intraoperative Imaging Impact Outcome?

Moderator: Ralph G. Dacey, Jr.

Faculty: Kevin T. Foley, Russell R. Lonser, Christopher Nimsky, Garnette R. Sutherland

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the role of intraoperative imaging in neuro-oncology, spine surgery, neurovascular surgery, and functional neurosurgery. Participants will be able to critically assess the impact of intraoperative imaging on patient outcomes.

T26

Hydrocephalus: Current and Emerging Therapies

Moderator: James M. Drake

Faculty: Marvin Bergsneider, Michael J. Fritsch, Mark G. Luciano, Joseph R. Madsen, Marion L. Walker

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss the available and emerging technologies relevant to the treatment of hydrocephalus. Participants will be knowledgeable about complication avoidance and outcomes in the treatment of hydrocephalus.

T27

Modern Management of Anterior Circulation and Giant Aneurysms

Moderator: Robert M. Friedlander

Faculty: Daniel L. Barrow, E. Sander Connelly, Jr., Guiseppe Lanzino, Volker Seifert

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the natural history, surgical and endovascular treatment of anterior circulation aneurysms. Participants will be able to describe appropriate treatment strategies and discuss the advantages and risks associated with each.

T28

Surgical Treatment of Movement Disorders

Moderator: Alim L. Benabid

Faculty: Rees Cosgrove, Jaimie M. Henderson, Joachim K. Krauss, Andres M. Lozano

Learning Objective: At the conclusion of this seminar, participants will be able to describe the major movement disorders amenable to surgical treatment, will be able to discuss the surgical techniques, indications, and outcomes for treating specific movement disorders.

T29

Modern Management of Cranial AVMs

Moderator: Robert F. Spetzler

Faculty: William A. Friedman, Neil A. Martin, Johannes Schramm, Craig A. Van Der Veer

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the various treatment modalities available for the treatment of intracranial arteriovenous malformations, be able to discuss multimodality management strategies, and be able to discuss the risks and complications associated with each treatment modality.

October 10 Luncheon Seminars 12:30 pm – 2:00 pm

T30

Traumatic Brain Injury: Lessons Learned and Future Directions

Moderator: P. David Adelson

Faculty: Geoffrey T. Manley, John Douglas Pickard, Andreas Unterberg, Alex B. Valadka

Learning Objective: At the conclusion of this seminar, participants will have been exposed to research advances in traumatic brain injury and be able to discuss various medical and surgical treatment options associated with traumatic brain injury.

T31

Neurosurgical ICD-9 and CPT Coding

Moderator: John Allen Wilson, Jr.

Faculty: Frederick A. Boop, Jeffrey W. Cozzens, Robert R. Johnson, William Mitchell

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss complex neurosurgical coding problems in both spinal and cranial surgery and will have been exposed to various strategies for improving neurosurgical coding procedures in one's own practice.

T32

Overview of Common Clinical Problems for Allied Health Providers in Neurosurgery

Moderator: Michael W. Groff

Faculty: Michael Nido, PA-C, Mark Edwin Shaffrey, Mark D. Smith, Andrea Strayer, MS, APNP, CNRN

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss treatment algorithms for common neurosurgical problems, and will have a better understanding of how allied healthcare professionals can optimize their clinical practice.

Physician attendees will not be awarded CME credit for this course. Nursing contact hours will be provided through AANN. The American Association of Neuroscience Nurses is accredited as a provider of continuing nursing education by the American Nurses Credentialing Center's Commission on Accreditation. Physician assistants will receive credit for attendance. Each physician assistant will need to contact his or her individual membership association and certification board to determine the requirements for accepting credits. All attendees will receive a confirmation of attendance.

T33

Management of Neurosurgical Infections

Moderator: Richard K. Osenbach

Faculty: Bernhard Meyer, G. Alexander West, Seth M. Zeidman

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss the etiology of common and unusual neurosurgical infections, along with diagnostic and treatment algorithms for those disorders.

T34

Pediatric Brain Tumors

Moderator: Mark M. Souweidane

Faculty: Liliana Goumnerova, Robert F. Keating, Ian F. Pollack

Learning Objective: At the conclusion of this seminar, participants will be familiar with the various types of pediatric brain tumors and will be able to discuss the current modalities appropriate for the treatment of brain tumors in the pediatric population.

T35

International Luncheon Seminar: Meningiomas – An International Perspective on Management of the World's Most Difficult Tumors

Moderator: Gail Rosseau

Faculty: Miguel Arraez, Kazadi K.N. Kalangu, Takeshi Kawase, Michael William McDermott, Basant Kumar Misra, Madjid Samii, Charles Teo

Learning Objective: After completing this educational activity, participants should be able to describe the hallmarks of particularly difficult meningiomas, based on patient history, physical exam and imaging studies, describe a method for choosing the optimal management strategy for a given tumor and describe complication avoidance for particularly difficult meningiomas.

Special Course III

Intraventricular Endoscopy

2:00 pm – 3:30 pm

Course Director: Mark M. Souweidane

Learning Objective: This course will provide a critical overview of endoscopic techniques that are widely accepted as a valid therapeutic option. The course will outline each surgical procedure including indications, technical adjuncts, potential complications, and limitations. In addition, the course will include challenging case presentations with expert opinions regarding management. At the completion of the course the participant is expected to be able to describe 1) for which surgical techniques intracranial endoscopy is well suited, 2) the conventional surgical description for each technique, and 3) the current limitations for each endoscopic procedure.

2:00 – 2:15

Endoscopic Third Ventriculostomy and Aqueductoplasty for Hydrocephalus
Henry W.S. Schroeder

2:15 – 2:20

Discussion

2:20 – 2:35

Endoscopic Resection of Pineal Region Tumors
Alan Cohen

2:35 – 2:40

Discussion

2:40 – 2:55

Endoscopic Management of Ventricular Tumors
Charles Teo

2:55 – 3:00

Discussion

3:00 – 3:15

Endoscopic Management of Colloid Cysts
Wesley A. King

3:15 – 3:20

Discussion

3:20 – 3:30

Panel Case Presentation and Discussion

3:30 – 4:00

Refreshments with Exhibitors

Special Course IV

Endoscopic Approaches to Cranial Base Tumors

4:00 – 5:30

Course Directors: Edward R. Laws, Amin Kassam

Learning Objective: At the conclusion of this special course, participants will have gained exposure to the use of endoscopy for skull base applications, including transsphenoidal procedures, chordoma surgery, extradural surgery of nasopharyngeal malignancies, and intradural tumor resection. Upon completion of this course, participants should be able to articulate the advantages and disadvantages of these emerging techniques for managing

each of the conditions listed as well as the current controversies surrounding these developing techniques and approaches.

4:00 – 4:15

Robotic-Assisted Endoscopic Transsphenoidal Surgery
Christopher Nimsky

4:15 – 4:20

Discussion

4:20 – 4:35

Endoscopic Resection of Cranial Base Squamous Cell Carcinoma and Nasopharyngeal Carcinoma
Thomas C. Origitano

4:35 – 4:40

Discussion

4:40 – 4:55

Endoscopic Resection of Intradural Skull Base Tumors
Helmut Wiedemayer

4:55 – 5:00

Discussion

5:00 – 5:15

Endoscopic Resection of Cranial Base Chordomas
Carl B. Heilman

5:15 – 5:20

Discussion

5:20 – 5:30

Panel Case Presentation and Discussion

2:00 – 3:30

Section on Cerebrovascular Surgery I
Transcendent Technology for the Treatment of Cerebrovascular Disease

Moderators: Byron Gregory Thompson, Jr., John Allen Wilson, Jr.

Learning Objectives: At the completion of this session, participants will have an increased exposure to the technologic advances relating to endovascular treatment of aneurysms, become more familiar with the results of the WSAID study relating to the medical treatment of intracranial vascular disease and be able to discuss the options and indications for endovascular treatment of stroke secondary to intracranial vascular disease.

2:00 – 2:05

Introduction of the Charles Drake Lecturer
Byron Gregory Thompson, Jr.

2:05 – 2:40

The Charles Drake Lecture
H. Hunt Batjer

2:40 – 2:45

Presentation of the Galbraith Award

2:45 – 3:05

Advances in the Endovascular Treatment of Aneurysms
Cameron G. McDougall

3:05 – 3:25

Treatment of Ischemic Stroke Secondary to Intracranial Vascular Disease
Elad I. Levy

3:25 – 3:30

Discussion and Closing Remarks

3:30 – 4:00

Refreshments with Exhibitors

2:00 – 3:30

Section on Stereotactic and Functional Neurosurgery I
To Frame or Not To Frame: Image Guidance for Stereotactic Neurosurgery

Moderator: Philip A. Starr

Learning Objectives: At the conclusion of this session, participants will be able to describe the current available technology for stereotactic biopsy, craniotomy, lesion creation, and electrode placement; discuss the relative advantages of stereotactic frames, surgical navigation systems, and intraoperative MRI; and be able to describe cost-effective decisions in stereotactic surgery.

2:00 – 2:20

The Stereotactic Frame in the 21st Century
Erik Parker

2:20 – 2:40

Computerized Surgical Navigation
Jaimie M. Henderson

2:40 – 3:00

Intraoperative MRI
Michael Schulder

3:00 – 3:30

Panel Discussion/Case Analyses with Audience Participation

3:30 – 4:00

Refreshments with Exhibitors



2:00 – 3:30

Interactive Session
Council of State Neurosurgical Societies



Moderators: Joshua M. Rosenow, Satish Krishnamurthy

Learning Objectives: At the conclusion of this session, participants should be able to describe the conflicts of interest that may arise in physician relationships with industry, describe strategies for avoiding conflicts of interest that may arise in physician relationships with industry and describe strategies for avoiding conflicts of interest that may arise in CME programming.

2:00 – 2:20

Maintaining Ethical, Mutually Beneficial Relationships with Industry
Stephen L. Ondra

2:20 – 2:40

Importance of Ethical Business Practices
Hank Pellegrin

2:40 – 3:00

CME Conference Planning, Commercial Support and Conflict of Interest
Peter Coggan

3:00 – 3:30

Discussion

3:30 – 4:00

Refreshments with Exhibitors



2:00 – 3:30

Interactive Session

Section on Tumors I



Special Symposium: Update on Radiotherapeutic Techniques

Moderators: Douglas S. Kondziolka, Michael William McDermott

Learning Objectives: At the conclusion of this course, participants will be able to discuss the rationale and application of radiosurgery to recurrent and low grade glioma, single brain metastases, and spinal metastases.

2:00 – 2:05

Awards Summary

Jeffrey Bruce

2:05 – 2:15

Mahaley Clinical Research Award Presentation

Gamma Knife Radiosurgery for Malignant Melanoma Brain Metastases
David Mathieu; Douglas S. Kondziolka; Patrick Cooper; John C. Flickinger; Ajay Niranjani; Sanjiv Agarwala; John Kirkwood; L. Dade Lunsford

2:15 – 2:20

Discussion

2:20 – 2:30

Surgery versus Radiosurgery for Recurrent Malignant Glioma

Joseph M. Piepmeier versus Douglas S. Kondziolka

2:30 – 2:40

Discussion, Questions, Case Presentations, Audience Interaction

2:40 – 2:50

Microsurgery versus Radiosurgery for Single Brain Metastases

Raymond Sawaya versus Douglas S. Kondziolka

2:50 – 3:00

Discussion, Questions, Case Presentations, Audience Interaction

3:00 – 3:10

Surgery versus Radiosurgery for Spinal Metastases

Ziya L. Gokaslan versus John Adler

3:10 – 3:20

Discussion, Questions, Case Presentations, Audience Interaction

3:20 – 3:30

Summary with Audience Interaction

3:30 – 4:00

Refreshments with Exhibitors

4:00 – 5:30

Section on Disorders of the Spine and Peripheral Nerves I

Patient Evaluation and Selection, Complications and Adjuvant Options in the Treatment of Spine Tumors

Moderator: Ehud Mendel

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss details related to the adjuvant care of patients with tumors of the spine including diagnosis, complication avoidance and management and chemotherapy/radiation options.

4:00 – 4:05

Introduction

4:02 – 4:25

Patient Evaluation and Selection

Ziya L. Gokaslan

4:25 – 4:45

Complication Avoidance and Management

Laurence D. Rhines

4:45 – 5:05

Adjuvant Therapies: The Role of Chemotherapy and Focused Radiation

Mark H. Bilsky

5:05 – 5:30

Panel Discussion/Case Review/Audience Feedback

4:00 – 5:30

Section on Pain I

Intrathecal Drug Delivery for Chronic Intractable Pain: Management Strategies for Long-Term Success

Moderator: Richard K. Osenbach

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss the treatment options for patients with chronic intractable pain related to intrathecal drug delivery. Limitations/advantages of various approaches along with complication avoidance and management will also be reviewed.

4:00 – 4:25

The Rationale for Ultra-Low Dose Therapy with Morphine

William Witt

4:25 – 4:50

The Polyanalgesic Approach to Intrathecal Drug Delivery

Samuel Hassenbusch

4:50 – 5:30

Panel Discussion/Case Review/Question and Answer Session



Resident SANS Challenge

Championship Round!
Tuesday, October 10 from 6:30 pm to 8:30 pm at the Sheraton Chicago Hotel and Towers. Visit www.cns.org for more information!



4:00 – 5:30
Interactive Session
Section on Neurotrauma and Critical Care I



Moderators: Geoffrey T. Manley, Jamie Sue Ullman

Learning Objectives: Upon completion of this course, participants will be able to discuss the current Guidelines for the Management of Severe Head Injury and assess appropriate standards for ICP and head injury management.

4:00 – 4:15
Guideline Development and Compliance
Jamshid Ghajar

4:15 – 4:30
ICP Monitoring: Standards and Controversies
Donald W. Marion

4:30 – 4:45
Lessons from the Guidelines – Success Stories and Failures
Randall M. Chesnut

4:45 – 5:30
Audience Interactive Session with Panel: Case Review and Synthesis

4:00 – 5:30
Section on Pediatric Neurological Surgery I
When the Pediatric Patient Becomes an Adult

Moderator: Sarah J. Gaskill
Learning Objectives: At the conclusion of this symposium, participants should be able to discuss the differences between complications of hydrocephalus seen in adult-onset hydrocephalus and adults with congenital hydrocephalus, outline the socioeconomic issues and coverage problems unique to adults with congenital neurosurgical problems and describe the stresses these cause to the patient and their family, and describe strategies to avoid having patients “fall through the cracks.”

4:00 – 4:20
Highlights of Congenital Neurosurgical Problems: Diverting Disaster in Adulthood
Sarah J. Gaskill

4:20 – 4:40
The Economics of Congenital Neurosurgery in Adulthood: Who Is to Care, and Who Is to Pay?
Katie O. Orrico, JD

4:40 – 5:00
Transitional Issues in Pediatric Neurosurgery: Our Children Grow Up
David G. McLone

5:00 – 5:30
Panel Discussion

5:30 - 6:30
The CNS Annual Business Meeting

You're Invited!

The CNS Resident Recruitment Social

Tuesday, October 10, 2006
Sheraton Chicago Hotel and Towers



Residents

If you are within 2-3 years of completing your residency, you won't want to miss this important and complimentary networking event. This is your opportunity to meet exhibiting recruiters and/or practicing physicians who are looking to add partners/colleagues to their practice.

Recruiters

If you are an official exhibitor of the CNS Annual Meeting and are looking to fill positions, this is your opportunity to meet young neurosurgeons who may fit your requirements.

Come build relationships in a relaxed and informal environment. The Resident Recruitment Social is coordinated in close conjunction with the CNS Job Placement Service.

Make Your Reservation Today!

info@1cns.org or call 877 517 1CNS
Reservations accepted through September 15, 2006.

Tuesday Evening Resident Activites!

6:00 pm – 7:00 pm The CNS Resident Recruitment Social
6:30 pm – 8:30 pm The CNS Resident SANS Challenge

In Honor of
our International Colleagues,
the CNS invites all International Attendees to
the CNS International Reception at
the CNS International Reception at
The Field Museum of Chicago on
Wednesday, October 11, 2006.

The Field Museum Presents the exhibition
Tutankhamun and the Golden Age of the Pharaohs

This is a once in a lifetime viewing.

The King Tut Exhibition has been exclusively reserved for the
CNS International Reception.

ERUDITIO

SOCIETAS

More than 3,000 years after his reign, King Tutankhamun, the celebrated “boy king,” became a cultural phenomenon in the United States and around the world. See 130 dazzling Egyptian treasures from the tombs of Tut and his royal relatives, many of which have never before traveled outside Egypt! This NEW Exhibition is twice the size of the original 1977 exhibition and will view stunning artifacts that portray the splendors of life and death in the 18th Dynasty, the era in which King Tutankhamun and his family ruled. Called the “Golden Age of the Pharaohs,” this period produced some of Egypt’s most famous rulers and most exquisite works of art.



Tutankhamun as King of Upper Egypt © Andreas F. Voegelin
Inlaid Diadem © Andreas F. Voegelin
Canopic Coffinette of Tutankhamun © Andreas F. Voegelin
Mirror Case in the Shape of an Ankh © Andreas F. Voegelin

An exhibition from National Geographic. Organized by Arts and Exhibitions International and AEG Exhibitions in association with The Supreme Council of Antiquities of Egypt and The Field Museum.

Tour Sponsor: Northern Trust
Chicago Sponsor: Exelon, Proud Parent of ComEd

October 11 General Scientific Session

At-a-Glance

7:00 am – 11:30 am

- General Scientific Session III

8:45 am – 9:05 am

- Peter M. Black
Honored Guest Presentation

9:00 am – 4:00 pm

- Exhibits Open

9:05 am – 9:30 am

- Judah Folkman
Distinguished Special Lecture

9:30 am – 10:30 am

- Coffee with Exhibitors

11:05 am – 11:30 am

- Donald C. Johanson, PhD
Special Lecture

12:30 pm – 2:00 pm

- Luncheon Seminars

2:00 pm – 5:30 pm

- Special Courses, Sections

3:30 pm – 4:00 pm

- Refreshments with Exhibitors

General Scientific Session III

Transcendent Leadership: Scientific Inquiry and Surgical Practice

7:00 am – 11:30 am

Moderators: Oren Sagher,
Nicholas M. Boulis

Presiding Officer: Gerald E. Rodts, Jr.

Learning Objectives: After completing this general scientific session, participants will be able to describe and discuss recent scientific advances that present opportunities for expanded treatment of neurologic diseases by neurosurgeons. Participants will be able to identify and describe those translational scientific advances most likely to yield effective surgical interventions for nervous system disease and the challenges to their adoption in general practice.

Neurosurgical Frontiers: The Development of Novel Techniques

7:00 – 7:12

Strategies for Developing Novel Surgical Techniques and Bringing Them to Clinical Practice
M. Sean Grady



7:12 – 7:24
David Sretavan
Microscale Neurosurgery:
The Promise of
Nanotechnology

© 2006 Chris T. Anderson

7:24 – 7:36

The Relevance of Molecular Targeting and Therapeutics to Neurosurgical Practice (siRNA)
Nicholas M. Boulis

7:36 – 7:48

The Future of Intracranial Stents: Evolving Endovascular Techniques
L. Nelson Hopkins, III

7:48 – 8:00

Intervertebral Disc Regeneration: Reversing the Biology of Aging
Jeffrey C. Wang



8:00 - 8:12
Richard G. Ellenbogen
Molecular Imaging: The
Future of Neurosurgical
Navigation

8:12 – 8:22

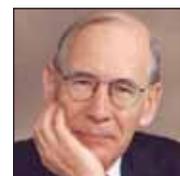
Founders' Laurel Presentation
Albert L. Rhoton, Jr.

8:22 – 8:35

The CNS Resident Award
Changing Trends in the Utilization and Costs of Procedures Performed by Neurosurgeons in the United States.
John A. Cowan, Jr.

8:35 – 8:45

Presidential Acknowledgement
Richard G. Ellenbogen



8:45 - 9:05
Peter M. Black
Honored Guest
Presentation
The Emerging Field of
Third Circulation Research



9:05 - 9:30
Judah Folkman
Distinguished Special
Lecture
Angiogenesis and the Role
of Surgeons as Scientists

9:30 – 10:30

Coffee with Exhibitors

*NeuroRestoration: Altering the
Nervous System for Therapeutic
Benefit. Cellular and
Macrobiologic Approaches*



10:30 - 10:50
Ron McKay, PhD
Stem Cells and the Coming
Revolution in Neurobiology:
From Brain Tumors to
Parkinson's Disease

10:50 – 11:05

Brain-Machine Interface: Restoring
Neurological Function through
Bioengineering
Jeffrey G. Ojemann



11:05 - 11:30
Donald C. Johanson, PhD
Special Lecture
The Origins of Humankind:
The View from Africa

October 11 Luncheon Seminars 12:30 pm – 2:00 pm

WEDNESDAY

WEDNESDAY, OCTOBER 11

SCIENTIFIC PROGRAM / LUNCHEON SEMINARS

*All Luncheon Seminars include a seated lunch served in the seminar room.
Luncheon Seminar fees are \$60 each (\$45 Residents/Fellows/Nurses).*

W36

Kyphoplasty and Vertebroplasty

Moderator: Lee R. Guterman

Faculty: Arun P. Amar, Bernard R. Bendok, Richard D. Fessler, Hans Jaksche

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss appropriate indications and surgical techniques for kyphoplasty and vertebroplasty, as well as the complications and outcomes associated with these procedures.

W37

Spine Trauma and Spinal Cord Injury: Advances in Medical and Surgical Management

Moderator: Christopher I. Shaffrey

Faculty: Douglas L. Brockmeyer, Barth A. Green, Scott Shapiro, Andreas Weidner

Learning Objective: At the conclusion of this seminar, participants will be able to discuss advances in the medical treatment of traumatic spinal cord injury and be able to discuss state of the art surgical management of cervical spine trauma and spinal cord injury. Participants will also become more familiar with procedures for ruling out cervical spine injury in the comatose patient.

W38

Enhancing Spinal Fusion: Biomechanical and Biochemical Approaches

Moderator: Ronald I. Apfelbaum

Faculty: Darryl J. Dirisio, Praveen V. Mummaneni, Robert Schonmayr

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss biochemical means for enhancing spinal fusion and discuss the biomechanics relevant to spinal fusions in the cervical, thoracic, and lumbar spine.

W39

Metastatic Spinal Disease: The Role of Surgery and Radiation Therapy

Moderator: Ziya L. Gokaslan

Faculty: John R. Adler, Mark H. Bilsky, Daryl R. Fourney, Peter C. Gerszten

Learning Objective: At the conclusion of this seminar, participants will be able to discuss current diagnostic and treatment strategies for metastatic tumors of the spine. Participants will be provided with a conceptual framework to make decisions about surgery, conventional radiation, radiosurgery, and vertebral augmentation.

W40

Intraoperative Salvage Techniques: "Getting Out of Trouble in Cranial Surgery"

Moderator: Laligam N. Sekhar

Faculty: Ossama Al-Mefty, Jon H. Robertson, Chandra N. Sen, Jorg-Christian Tonn

Learning Objective: At the conclusion of this seminar, participants will be able to describe indications for intraoperative salvage techniques in cranial surgery and be able to discuss indications for specific techniques for rectifying difficulties in cranial surgery.

W41

Practical Management of Peripheral Nerve and Brachial Plexus Injury

Moderator: David G. Kline

Faculty: Allan J. Belzberg, Allan H. Friedman, Thomas Kretschmer, Eric L. Zager

Learning Objective: At the conclusion of this seminar, participants will be able to discuss practical strategies for the management of various peripheral nerve injuries. Participants will be able to discuss various diagnostic paradigms, treatment indications and timing, as well as surgical techniques used in the management of different kinds of injury.

W42

Spinal Cord Tumors

Moderator: Paul C. McCormick

Faculty: Saadi Ghatan, George I. Jallo, Russell R. Lonser, Ehud Mendel

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss the major types of spinal cord tumors, diagnostic and therapeutic alternatives, and complication management/avoidance related to surgical treatment of these lesions.

W43

Endovascular Management of Intracranial Aneurysms: Indications, Techniques and Results

Moderator: Gavin W. Britz

Faculty: Joe D. Bernard, Jr., Rocco Armonda, C. Michael Cawley, III

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the indications for endovascular management of intracranial aneurysms and be able to discuss various endovascular techniques available for aneurysm treatment. Participants will be able to discuss the results of endovascular vs. open management of intracranial aneurysms.

W44

Management of Unruptured Intracranial Aneurysms: Understanding and Developing Treatment Options

Moderator: Joel D. MacDonald

Faculty: Bob Carter, Robert L. MacDonald, Cameron G. McDougall, Hans-Jakob Steiger

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss the epidemiology and natural history of unruptured intracranial aneurysms and will be able to describe with appropriate treatment algorithms for these lesions.

W45

Controversies in the Management of Chiari I Malformations

Moderator: Karin M. Murazsko

Faculty: Ulrich Batzdorf, John D. Heiss, Thomas H. Milhorat, W.J. Oakes

Learning Objective: At the conclusion of this seminar, participants will be able to discuss various medical and surgical treatment options in the management of Chiari I malformations, their controversies, and the differences in management of pediatric vs. adult Chiari I malformations. Participants will be able to discuss new research relevant to the treatment of Chiari I malformations and syringomyelia.

W46

Trigeminal Neuralgia: Current Management Options

Moderator: Kim J. Burchiel

Faculty: Nicholas M. Boulis, Jeffrey A. Brown, John Loeser

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss various surgical and radiosurgical treatment options in the management of trigeminal neuralgia, as well as their associated complications and outcomes.

W47

Clinical Trials and Randomized Studies: What Every Neurosurgeon Should Know

Moderator: Michael A. Vogelbaum

Faculty: Anthony L. Asher, Frederick G. Barker, Stephen J. Haines, John Kestle, Manfred Westphal

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss the design and implementation of clinical research protocols, including how to collect and analyze data so that meaningful conclusions can be drawn. Participants will be able to compare and contrast clinical research with other types of practice data collection, and will be able to apply this knowledge to improve their own research.

October 11 Luncheon Seminars 12:30 pm – 2:00 pm

WEDNESDAY, OCTOBER 11

SCIENTIFIC PROGRAM / LUNCHEON SEMINARS

W48

Current Concepts in the Neurosurgical Treatment of Epilepsy

Moderator: Johannes Schramm

Faculty: Nicholas M. Barbaro, Guy M. McKhann, II, Jeffrey G. Ojemann, Falk Oppel, Webster H. Pilcher

Learning Objectives: At the conclusion of this seminar, participants will be able to describe the clinical features of seizure disorders and be able to discuss various techniques in the preoperative, intra-operative, and postoperative management of patients with epilepsy.

W49

Current Management of Meningiomas: Benign and Malignant

Moderator: Michael William McDermott

Faculty: Jeffrey Bruce, Ivan S. Ciric, Ali F. Krisht, H. Maximilian Mehdorn, Wolf Ingo Steudel

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss the various modalities appropriate for the treatment of benign and malignant meningiomas, as well as current research on topics related to meningiomas and their treatment.

W50

Changing Economics of Neurosurgical Health Care

Moderator: Fernando G. Diaz

Faculty: Robert E. Harbaugh, Katie O. Orrico, JD, Alan M. Scarrow, Edie E. Zusman

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the important issues facing neurosurgical health care including quality care, patient satisfaction, pay-for-performance, reimbursement issues, and the ever-changing governmental regulations.

W51

Anterior vs. Posterior Approaches for Cervical Radiculopathy

Moderator: Gerald E. Rodts, Jr.

Faculty: Tim E. Adamson, Fraser C. Henderson, Charles Kuntz IV, John C. Liu, Dietmar Stolke

Learning Objectives: At the conclusion of this seminar, participants will have been exposed to the advantages and disadvantages of the various surgical approaches for cervical disc herniations with radiculopathy. Participants will be able to discuss the anterior foraminotomy approach, as well as more traditional approaches.

W52

Sports Neurosurgery

Moderator: Joseph C. Maroon

Faculty: George R. Cybulski, Arthur L. Day, Stanley A. Herring

Learning Objectives: At the conclusion of this seminar, participants will be able to describe the most common sports related neurosurgical injuries along with their etiologies. Diagnostic and therapeutic options for patients sustaining head and/or spine injuries in athletic contests, along with algorithms for determining when athletes can return to competition, will be reviewed.

Special Course V

The Looming Spectre of Pay for Performance (P4P)

2:00 pm – 3:30 pm

Course Directors: Troy M. Tippet, Mark E. Linskey

Learning Objective: At the conclusion of this seminar, participants will be able to discuss the roles of the National Quality Forum (NQF), the AMA physician consortium, the Ambulatory Quality Alliance (AQA), the ACS National Surgical Quality Improvement Program (NSQIP) and Surgical Quality Alliance (SQA) in developing and approving process quality measures for neurosurgery as part of the pay-for-performance movement. At the conclusion of this special course, participants will be able to discuss the efforts being made by the AANS-CNS Washington Committee to effectively position neurosurgery within the pay-for-performance movement. Upon

completion of this course, participants should be able to articulate the current controversies surrounding this emerging effort, discuss the strengths and limitations of current efforts and outline the potential future implications for their neurosurgical practice.

2:00 – 2:15

Introducing the National Quality Forum (NQF) and Outlining Implications for Neurosurgery
Nancy H. Nielsen, MD, PhD, AMA Board of Trustees, AMA Liaison to NQF

2:15 – 2:20

Discussion

2:20 – 2:35

Introducing the ACS National Surgical Quality Improvement Program (NSQIP) and Outlining Implications for Neurosurgery
R. Scott Jones, MD, FACS, Division of Research & Optimal Care, ACS

2:35 – 2:40

Discussion

2:40 – 2:55

Introducing the AMA Physician Consortium, the Ambulatory Quality Alliance (AQA), the Surgical Quality Alliance (SQA) and Outlining Implications for Neurosurgery
Daniel K. Resnick

2:55 – 3:00

Discussion

3:00 – 3:15

Neurosurgery Quality Improvement Workgroup (QIW) Outcomes Analysis Efforts
Robert E. Harbaugh

3:15 – 3:30

General Panel Discussion

3:30 – 4:00

Refreshments with Exhibitors

Special Course VI

Motion Preservation Alternatives to Fusion in Spine Surgery

4:00 pm – 5:30 pm

Course Directors: Christopher E. Wolfla, John C. Liu

Learning Objective: Following participation in this special course, participants should be able to discuss the potential benefits and drawbacks to motion preservation technologies when applied to the cervical and lumbar spine.

4:00 – 4:20

Lumbar Artificial Discs: A Real Step Forward or a Flash in the Pan?
Regis W. Haid, Jr.

4:20 – 4:25

Discussion

4:25 – 4:45

Cervical Artificial Discs: How Good Do They Have To Be To Be Worthwhile?
Volker K. Sonntag

4:45 – 4:50

Discussion

4:50 – 5:10

Posterior Approaches to Motion Preservation: When Is Rigid Fixation not Desirable?
Edward C. Benzel

5:10 – 5:15

Discussion

5:15 – 5:30

Case Presentations to Panel/Moderators

2:00 – 5:30

Digital Masters Video Symposium

Moderators: Brian T. Ragel, Hugh Garton
Learning Objectives: After completing this educational activity, participants should be able to discuss new methods of intervention for cerebral aneurysms, describe new methods for treatment of complex skull base lesions, and articulate new methods for treatment of complex spine disorders.

Faculty: Ronald I. Apfelbaum, Roy A.E. Bakay, John D. Barr, H. Hunt Batjer, Mario Brock, Kim J. Burchiel, William T. Couldwell, Evandro De Oliveira, Rudolf Fahlbusch, Michael G. Fehlings, Richard G. Fessler, Ziya L. Gokaslan, James T. Goodrich, L. Nelson Hopkins, III, David G. Kline, Elad I. Levy, Paul C. McCormick, Jacques J. Morcos, Edward H. Oldfield, Axel Perneczky, Laurence D. Rhines, Madjid Samii, Laligam N. Sekhar, Robert F. Spetzler



2:00 – 3:30

Interactive Session



Section on Disorders of the Spine and Peripheral Nerves II

Case Presentations and Discussion

Moderators: Ehud Mendel, Michael W. Groff

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss the different therapeutic options for clinical problems encountered in daily practice.

2:00 – 2:15

Degenerative Lumbar Spondylosis
Richard G. Fessler

2:15 – 2:30

Cervical Spinal Cord Injury
Bernard Guiot

2:30 – 2:45

Cervical Radiculo-myelopathy
Anthony Fremong-Boadu

2:45 – 3:00

Degenerative Lumbar Sciolosis
Christopher I. Shaffrey

3:00 – 3:15

Spinal Column Metastasis
Mark H. Bilsky

3:15 – 3:30

Peripheral Nerve
Eric L. Zager

3:30 – 4:00

Refreshments with Exhibitors

2:00 – 3:30

Section on Neurotrauma and Critical Care II

Moderator: Guy L. Clifton

Learning Objectives: Upon completion of this course, participants will be able to discuss past lessons in head injury management and articulate the application of knowledge of head injury management to present and future innovations in neurotrauma.

2:00 – 2:30

Second Annual Integra Lecture
Clinical Neurotrauma Research in Europe: Lessons and Examples
Franco Servadei

2:30 – 2:40

Opportunities: The Promise of Neurotrauma Research
Raj K. Narayan

2:40 – 2:50

Challenges: Barriers to Clinician Participation in Clinical Research
M. Ross Bullock

2:50 – 3:30

Open Discussion with Panel: Setting Research Priorities, Overcoming Obstacles to Research, Funding, The Evaluation and Introduction of New Technologies

3:30 – 4:00

Refreshments with Exhibitors

2:00 – 3:30

Section on Pediatric Neurological Surgery II

Moderator: Joseph R. Madsen

Learning Objectives: At the conclusion of this symposium, participants should be able to summarize genetic abnormalities which relate to neural tube defects in rodents and lambs, discuss the mechanism of action of folate prophylaxis and the effect this has had on clinical practice and outline the major theoretical advances which have unexpectedly resulted from the fetal myelomeningocele closure experience.

2:00 – 2:20

Neurobiology of Chiari Spina Bifida Complex

David G. McLone

2:20 – 2:40

An Ovine Mutation of Spina Bifida: Up in the Lab, Down on the Farm

Timothy M. George

2:40 – 3:00

What Fetal Surgery Has Taught us About Spina Bifida

Leslie N. Sutton

3:00 – 3:30

Panel Discussion

3:30 – 4:00

Refreshments with Exhibitors

4:00 – 5:30

Section on Tumors II Special Symposium: Convention-enhanced Delivery

Moderators: Michael A. Vogelbaum, Sandeep Kunwar

Learning Objectives: At the conclusion of this session, participants will be able to describe the basic physiology behind drug delivery, recognize the obstacles to adequate catheter placement and be familiar with the current applications.

4:00 – 4:10

Preuss Resident Research Award Presentation

Akt/PKB Activation Facilitates Immune Escape in Glioma Patients
James Waldron; Andrew T. Parsa; Isaac Yang

4:10 – 4:15

Discussion

4:15 – 4:25

Basic Science Behind CED
Edward H. Oldfield

4:25 – 4:30

Questions and Discussion

4:30 – 4:40

Imaging of CED
Russell R. Lonser

4:40 – 4:45

Questions and Discussion

4:45 – 4:55

Summary of Clinical Trials with CED
Manfred Westphal

4:55 – 5:00

Questions and Discussion

5:00 – 5:10

Summary
Michael A. Vogelbaum

5:10 – 5:30

Questions, Discussion and Audience Participation



4:00 – 5:30

Interactive Session

Section on Cerebrovascular Surgery II



Transcendent Treatment of Intracerebral Hemorrhage

Moderators: Sean D. Lavine, Robert M. Friedlander

Learning Objectives: At the completion of this session, participants will be able to describe the role of surgery in the treatment of intracerebral hemorrhage (ICH), become more familiar with preliminary results of Recombinant Factor VIIa in the treatment of ICH and the ongoing randomized trial, discuss the options for minimally invasive surgery in the management of ICH and describe the options for combined endovascular and surgical treatment of ICH related to cerebral aneurysms.

4:00 – 4:25

Advanced in Medical Treatment of Intracerebral Hemorrhage: Trial of Recombinant Factor VIIa to Prevent Hemorrhage Growth
Byron Gregory Thompson, Jr.

4:25 – 4:50

Surgical Treatment of ICH in the Post STICH Era: What Is the Role for Minimally Invasive Surgery?
Peter Rasmussen

4:50 – 5:15

Combined Endovascular and Surgical Treatment in the Management of Intracerebral Hemorrhage Related to Cerebral Aneurysms
Erol Veznedaroglu

5:15 – 5:30

Panel Discussion and Case Presentation

October 11 Section Sessions

4:00 – 5:30

Section on Stereotactic and Functional Neurosurgery II Neuroprostheses

Moderator: Michael Schulder

Learning Objectives: At the conclusion of this seminar, participants will be able to discuss the scientific basis for neuroprosthetics and discuss the engineering requirements for these systems.

4:00 – 4:20

The Science and Engineering of
Neuroprostheses
Allan H. Friedman

4:20 – 4:40

Implanted Cortical Arrays for Mind-
Machine Interface
Roy A.E. Bakay

4:40 – 5:00

Clinical Experience with a Cortical
Neuroprosthesis
Gerhard Friehs

5:00 – 5:30

Panel Discussion/Case Analyses with
Audience Participation

October 12 General Scientific Session

At-a-Glance

7:15 am – 11:35 am

- General Scientific Session IV

9:35 am – 10:00 am

- Coffee Break

10:00 am – 10:20 am

- Celia Sandys
WINS Special Lecture

11:20 am – 11:35 am

- Peter M. Black
Honored Guest Presentation

General Scientific Session IV – *Sheraton Chicago Hotel and Towers*

Transcendent Leadership: On Surgery and Society – The Challenges of Contemporary Healthcare

7:15 am – 11:35 am

Moderators: Nathan R. Selden,
Mark E. Linskey

Presiding Officer: Joel D. MacDonald

Learning Objectives: After completing this general scientific session, participants will be able to describe healthcare system and delivery issues pertinent to practicing neurosurgeons and their patients. Specifically, participants will be able to describe current challenges to neurotrauma care, healthcare policy, and neurosurgical patient safety. Participants will gain greater awareness of the critical issues that are affecting neurosurgical practice at local, regional and national levels.

*On Surgery and Society:
The Growing Challenge of
Neurotrauma Care in America.
A Roundtable Discussion
Co-sponsored by the American
College of Surgeons*

Moderator: Edward R. Laws, Past
President, American College of
Surgeons

7:15 – 7:35

The Emerging Crisis in Trauma Care: A
History of Emergency Surgical Care in
the United States

Donald D. Trunkey

7:35 – 7:45

Barriers to Effective Surgical Emergency
Care: Socioeconomic/Medico-legal,
Regulatory Challenges

James R. Bean

7:45 – 7:55

The Challenge of Emergency Surgery:
Meeting the Needs of All Americans

David B. Hoyt

7:55 – 8:05

The Fact and Fiction of Emergency
Surgical Care in America: A
Neurosurgical Perspective

Alex B. Valadka

8:05 – 8:15

Trauma Care in Germany: A European
Perspective

Andreas Unterberg

8:15 – 8:25

Access and Quality in Emergency Care:
The Institute of Medicine Perspective

A. Brent Eastman

8:25 – 9:00

Roundtable Discussion

Moderator: *Edward R. Laws*

9:00 – 9:05

Synthesis and Suggestions

Edward R. Laws

Update on Neurosurgery and Healthcare Policy

9:05 – 9:20

Coding and Reimbursement Update

Gregory J. Przybylski

9:20 – 9:35

Pay for Performance, and Guidelines
and Outcomes Research

Mark E. Linskey

9:35 – 10:00

Coffee Break



10:00 - 10:20

Celia Sandys

WINS Special Lecture
The Inspiring Leadership
of Winston Churchill: As
Relevant Today as In
World War II

Patient Safety in Neurosurgery: Individual and Systems Approaches

10:20 – 10:35

Computer Assisted Surgery and
Surgical Simulators: Their Potential
Role in Patient Care and Surgical
Education

Alan Cohen

10:35 – 10:50

Error Reduction through Team
Leadership: What Surgeons Can Learn
from the Airline Industry

Jack Barker, PhD

10:50 – 11:05

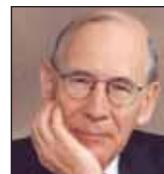
The Non-Clinical Core Competencies:
Their Relevance to Patient Safety

Nathan R. Selden

11:05 – 11:20

Joint Commission on Accreditation of
Healthcare Organizations and the
National Patient Safety Initiative

Peter Angood



11:20 - 11:35

Peter M. Black

*Honored Guest
Presentation*
The Future of Neurosurgery:
A Call to Leadership

Auxiliary Message

Dear Auxiliary Member:

We warmly welcome you to Chicago, a vibrant city known by many nicknames. However, Chicago is “second” to none when it comes to **Hospitality**. Located in America’s heartland, on the shores of beautiful Lake Michigan, Chicago is a city of diverse cultures and abundant entertainment opportunities. As America’s third largest city, Chicago is rich in culture, cuisine, and nightlife. It offers the finest of everything to include hotels, theaters, comedy clubs, music events, restaurants, museums and parks. Strolling the streets of the city, during the traditionally mild autumn climate, you will appreciate Chicago’s commitment to its livability represented by fabulous parks, renowned architecture and impressive outdoor sculptures and art. The opening of Millennium Park, designed by Frank Gehry, in July 2004 broadened Chicago’s contributions to architecture and urban design.

The museums in Chicago are world class and will appeal to a broad range of tastes. A few museums of note are The Art Institute of Chicago, which has the largest collection of impressionist paintings in the world outside of Paris, The Field Museum, which will be hosting the King Tut Exhibit at the time of your visit, the Museum of Science and Industry, the Shedd Aquarium, Adler Planetarium and Frank Lloyd Wright’s Home and Studio.

There are many attractions within walking distance of the Sheraton Chicago Hotel and Towers. The Navy Pier, on the waterfront, contains the Chicago Children’s Museum, an IMAX theater, Crystal Gardens (an indoor botanical garden), the Shakespeare Theater and the Smith Museum of Stained Glass Windows. The famous Magnificent Mile is precisely that, a magnificent collection of shopping along Michigan Avenue, to include department stores such as Saks, Marshall Fields, Neiman Marcus, Bloomingdale’s and Nordstrom’s in addition to its unique boutiques. If you are the parent or grandparent of a young girl your visit may not be complete without visiting American Girl Place, where can plan ahead to have brunch, lunch or tea.

As you plan your time in Chicago, there are some CNS events you may want to keep in mind and plan into your schedule. The tours are exciting and are designed specifically for the CNS members. They fill up fast, so plan ahead and sign-up for your favorites when you register.

The festivities start on Sunday, October 8, 6:30 pm – 8:30 pm with the Opening Reception, which is conveniently located at The Sheraton Chicago Hotel and Towers and showcases a Chicago Jazz and Blues theme. On Monday, October 9 at 10:55 am at the McCormick Place Convention Center, the Pulitzer Prize winning historian and author, David McCullough will deliver the Dandy Oration on *Leadership and the History You Don’t Know*. Please join us following that fascinating talk at the CNS Auxiliary Luncheon and Program. This will be held on Monday, October 9 at 12:30 pm at the Five Star Peninsula Hotel’s Chicago Avenues Restaurant. Our featured speaker will be Celia Sandys, granddaughter and biographer of Sir Winston Churchill, who will discuss her experiences growing up with her famous grandfather. On Tuesday, October 10 at 11:00 am George Lucas, creative legend and iconoclastic Hollywood Movie Producer will give the CNS Michael L.J. Apuzzo Lectureship on Creativity and Innovation.



The CNS Hospitality Center at the Sheraton will be open Monday through Wednesday from 7:00 am to 10:30 am. We encourage you to visit us. You can come to relax or simply enjoy a continental breakfast before you head out to explore the excitement that the CNS has prepared for you in Chicago. A representative from the Chicago area will be available to answer any questions you might have about Chicago or the CNS’ abundant offerings.

Please bring your family and join us this fall at the 2006 CNS Annual Meeting, October 7 – 12. We look forward to hosting you for what promises to be a outstanding Chicago experience.



Sandy Ellenbogen
CNS Auxiliary President

Gale England-Getch
CNS Auxiliary Chairperson



Auxiliary Program

Saturday, October 7

AT01	12:30 pm - 5:30 pm	Field Museum: King Tut Exhibit	Adults \$ 59, Children \$ 48
OE01	7:30 pm	The 25th Annual Putnam County Spelling Bee (Tickets only)	\$78
OE02	7:30 pm	An Evening at the Symphony (Tickets only)	\$103

Sunday, October 8

AT02	7:00 am - 8:00 am	Yoga at the Sheraton Chicago Hotel & Towers	\$20
AT03	8:30 am - 11:15 am	Chicago City Highlights Tour	\$41
AT04	11:30 am - 12:15 pm	Welcome to Chicago: Get into the Loop	Complimentary
AT05	12:30 pm - 5:30 pm	Field Museum: King Tut Exhibit	Adults \$ 59, Children \$ 48
AT06	1:30 pm - 5:30 pm	Architectural Cruise & Tour of Millennium Park	\$68
Open	6:30 pm - 8:30 pm	CNS Opening Reception	Hosted by the CNS

Monday, October 9

AT07	7:00 am - 8:00 am	Pilates at the Sheraton Chicago Hotel & Towers	\$20
Open	7:00 am - 10:30 am	CNS Spouse Hospitality Center	Hosted by the CNS
AT08	9:00 am - Noon	Chicago City Highlights Tour	\$41
AT09	9:00 am - 1:00 pm	Field Museum: King Tut Exhibit	Adults \$ 59, Children \$ 48
AT10	12:15 pm - 3:00 pm	CNS Auxiliary Luncheon & Program	Hosted in part by the CNS, \$45
AT11	1:30 pm - 3:30 pm	Architectural Walking City Tour	\$33
OE03	5:30 pm - 10:30 pm	Adobo Grill and Second City	\$128
OE04	7:30 pm - midnight	The Blues Chicago	\$83

Tuesday, October 10

AT12	7:00 am - 8:00 am	Yoga at the Sheraton Chicago Hotel & Towers	\$20
Open	7:00 am - 10:30 am	CNS Spouse Hospitality Center	Hosted by the CNS
AT13	8:30 am - 11:00 am	Cycling Along the Lakefront	\$65
AT14	11:45 am - 5:30 pm	Frank Lloyd Wright Home & Studio, Unity Temple & Lunch at Cucina Paradiso	\$98
AT15	12:30 pm - 3:30 pm	Tiffany Glass Loop Walking Tour	\$48
AT16	1:00 pm - 4:30 pm	Chicago Neighborhoods Tour	\$51
OE05	6:15 pm - 10:30 pm	Dinner Cruise Aboard the Odyssey	\$188
OE06	7:30 pm	Wicked (Tickets Only)	\$103

Wednesday, October 11

Open	7:00 am - 10:30 am	CNS Spouse Hospitality Center	Hosted by the CNS
AT17	8:00 am - 9:00 am	Pilates at the Sheraton Chicago Hotel & Towers	\$20
AT18	9:00 am - Noon	Architectural Walking Tour	\$33
AT19	1:00 pm - 4:00 pm	River North Gallery Tour	\$48

Auxiliary Tours, Optional Events, Social Program

Saturday, October 7, 2006

AT01 12:30 pm – 5:30 pm, \$59 adult, \$48 child

Field Museum: King Tut Exhibit



Canopic Coffinette of Tutankhamun
© Andreas F. Voegelin

More than 3,000 years after his reign, King Tutankhamun, the celebrated “boy king,” became a cultural phenomenon in the United States and around the world. See nearly 130 dazzling Egyptian treasures from the tombs of Tut and his royal relatives, many of which have never before traveled outside Egypt! This NEW Exhibition is twice the size of the original 1977 exhibition and will view stunning artifacts that portray the splendors of life and death in the 18th Dynasty, the era in which King Tutankhamun and his family ruled. Called the “Golden Age of the Pharaohs,” this period produced some of Egypt’s most famous rulers and most exquisite works of art.

An exhibition from National Geographic. Organized by Arts and Exhibitions International and AEG Exhibites in association with The Supreme Council of Antiquities of Egypt and The Field Museum.
Tour Sponsor: Northern Trust
Chicago Sponsor: Exelon, Proud Parent of ComEd

OE01 7:30 pm (8:00 Performance), \$78 per person

The 25th Annual Putnam County Spelling Bee (tickets only)

In the Tony Award-winning new musical comedy THE 25TH ANNUAL PUTNAM COUNTY SPELLING BEE, six young people in the throes of puberty, overseen by grown-ups who barely managed to escape childhood themselves, learn that winning isn’t everything and that losing doesn’t necessarily make you a loser. “Can you spell i-r-r-e-s-i-s-t-i-b-l-e? ‘Spelling Bee’ is riotously funny and remarkable ingenious.

In 2005 this show broke Second Stage records and moved to Broadway’s Circle in the Square, received critical acclaim both on and off-Broadway, winning 2005 Tony Awards for Best Book of a Musical and Best Featured Actor.

OE02 7:30 pm (8:00 Concert Time), \$103 per person

An Evening at the Symphony (tickets only)

Chicago’s Symphony Center is a musical crossroad for international artists and the musical gathering place for Chicagoans who love classical, jazz, world music and more.

The music never ends in this magnificent, historical jewel on south Michigan Avenue. The fabulously refurbished and expanded Symphony Center opened in 1997. Originally built in 1904, Daniel Burnham’s 2,500-seat beaux-arts hall was the hub of classical music in the city as the home of the Chicago Symphony Orchestra. On this October evening, Paavo Jarvi conducts acclaimed baritone Matthias Goerne in Mahler’s Des Knaben Wunderhorn, a beautiful collection of German folk songs. Penned in 1953 following the death of Joseph Stalin, Shostakovich’s Tenth Symphony is an intensely personal and defiant work with moments of both utter desolation and outright optimism. (Main floor seats.)

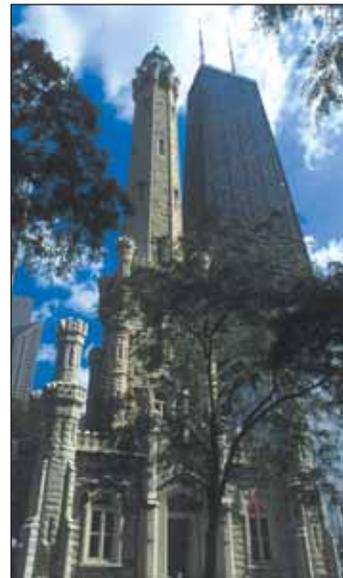
Sunday, October 8, 2006

AT02 7:00 am – 8:00 am, \$20 per person

Yoga (at the Sheraton Chicago Hotel & Towers)

Take pleasure in a one hour Yoga session. A collection of techniques and practices geared at integrating mind, body and spirit and achieving a state of enlightenment of oneself. Your instructor will bend and twist you to retrieve the sense of relaxation you are looking for in your busy day to day.

AT03 8:30 am – 11:15 am, \$41 per person



Chicago City Highlights Tour

Chicago is a city of surprises, from the glimmering lakefront to its outdoor museum of architecture. Sample the strength and beauty of this great city. An expert guide will point out the towering buildings of downtown and the upscale residences of the Gold Coast. Pause for a photo at the museum campus, home to the Shedd Aquarium, Adler Planetarium, and Field Museum. This stop is truly one of the most beautiful

portraits of the lakefront. Cruise down Michigan Avenue, glimpse at the Merchandise Mart and other architectural marvels, a unique collection that rivals any city in the country. See Harpo Studio, where Oprah Winfrey tapes her show! Along the way you’ll see some of the ethnic enclaves that make Chicago a “city of neighborhoods,” such as Little Italy. Upon your return home, you can truly say that you saw Chicago!

Auxiliary Tours, Optional Events, Social Program

AT04 11:30 am – 12:15 pm, Complimentary

Welcome to Chicago: Get in the Loop



What is there to know about Chicago? Everything! Come learn the ins and outs of Chicago in an “At a Glance” presentation of the Windy City. See where to shop, eat, drink and be merry. Where can you find the best view of the city? Were roller skates really invented in Chicago? Come find out at the complimentary presentation on SWEET HOME CHICAGO! We’re Glad You’re Here!

AT05 12:30 pm – 5:30 pm, \$59 adult, \$48 child

Field Museum: King Tut Exhibit

More than 3,000 years after his reign, King Tutankhamun, the celebrated “boy king,” became a cultural phenomenon in the United States and around the world. See nearly 130 dazzling Egyptian treasures from the tombs of Tut and his royal relatives, many of which have never before traveled outside Egypt! This NEW Exhibition is twice the size of the original 1977 exhibition and will view stunning artifacts that portray the splendors of life and death in the 18th Dynasty, the era in which King Tutankhamun and his family ruled. Called the “Golden Age of the Pharaohs,” this period produced some of Egypt’s most famous rulers and most exquisite works of art.



An exhibition from National Geographic. Organized by Arts and Exhibitions International and AEG Exhibitions in association with The Supreme Council of Antiquities of Egypt and The Field Museum.
Tour Sponsor: Northern Trust.
Chicago Sponsor: Exelon, Proud Parent of ConEd
Inlaid Pectoral with a Winged Scarab
© Andreas F. Voegelien

AT06 1:30 pm – 5:30 pm, \$68 per person

Architectural Cruise and Tour of Millennium Park



Discover the beauty and rich architectural history of world-famous buildings with a cruise down the Chicago River! You will see it all, from the gothic greatness of the Tribune Tower to the Sears Tower.

Admire the innovative IBM Building, the last major Chicago design by the great Mies van der Rohe. Gaze at Marina city, the five-building complex that includes two sixty-story apartment towers, offices, restaurants, garages, hotels and a marina. The NBC Tower will draw your eyes up to the tip-top of this stunning structure that was modeled after New York’s RCA Building. Before you know it, you will have viewed a total of 40 breathtaking buildings and gained knowledge about the revolutionary styles of celebrated architects!

Your lesson in architecture is not over when you step off the Boat! Your expert tour guide will take you to discover how Chicago has jumped into the Millennium...Park! This 24.5-acre park is an unprecedented center for world-class art, music, architecture and landscape design, where you can experience everything from interactive public art to free classical music presentations by the Grant Park Orchestra and Chorus. Explore the park’s most prominent feature: the dazzling Jay Pritzker Pavillion, and Cloud Gate usually referred to as “The Bean”, one of the world’s largest outdoor sculptures.

CHICAGO JAZZ AND BLUES OPENING RECEPTION:

6:30 pm – 8:30 pm; Hosted by the CNS

The Congress of Neurological Surgeons invites you to relax, enjoy, and listen to the sweet sounds of Chicago Jazz and Blues. You will be entertained by a variety of sights and sounds as you and your colleagues enjoy an assortment of sumptuous hors d’oeuvres and beverages.

Chicago has been a sweet home to Jazz and Blues musicians for years and this soulful music still shapes cultural and social practice throughout the Windy City. So, join your colleagues for the CNS Chicago Jazz and Blues Opening Reception on Sunday, October 8 from 6:30 pm – 8:30 pm in the Ballroom of the Sheraton Chicago Hotel & Towers, and build a lifetime of memories and camaraderie as you are enticed by the musical language of the Second City.

Each Annual Meeting registrant will receive one complimentary ticket to the Opening Reception.



Auxiliary Tours, Optional Events, Social Program

Monday, October 9, 2006

AT07 7:00 am – 8:00 am, \$20 per person
Pilates (at the Sheraton Chicago Hotel & Towers)

Enjoy one hour of a balanced body Pilates experience. A safe, sensible, exercise method of working out that will help you look and feel your very best and improve your core strength, flexibility, agility and economy of motion.

THE CNS SPOUSE HOSPITALITY CENTER
7:00 am – 10:30 am, Hosted by the CNS

Continental breakfast and beverages will be served this morning in the CNS Spouse Hospitality Center at the Sheraton Chicago Hotel & Towers.

AT08 9:00 am – Noon, \$41 per person
Chicago City Highlights Tour



Chicago is a city of surprises, from the glimmering lakefront to its outdoor museum of architecture. Sample the strength and beauty of this great city. An expert guide will point out the towering buildings of downtown and the upscale residences of the Gold Coast. Pause for a photo at the museum campus, home to the Shedd Aquarium, Adler Planetarium, and Field Museum. This stop is truly one of the most beautiful portraits of the lakefront. Cruise down Michigan Avenue, glimpse at the Merchandise Mart and other architectural marvels, a unique collection that rivals any city in the country. See Harpo Studio, where Oprah Winfrey tapes her show! Along the way you'll see some of the ethnic enclaves that make Chicago a "city of neighborhoods," such as Little Italy. Upon your return home, you can truly say that you saw Chicago!

AT09 9:00 am – 1:00 pm, \$59 adult, \$48 child
Field Museum: King Tut Exhibit



Tutankhamun as King of Lower Egypt
 © Andreas F. Voegelin

More than 3,000 years after his reign, King Tutankhamun, the celebrated "boy king," became a cultural phenomenon in the United States and around the world. See nearly 130 dazzling Egyptian treasures from the tombs of Tut and his royal relatives, many of which have never before traveled outside Egypt! This NEW Exhibition is twice the size of the original 1977 exhibition and will view stunning artifacts that portray the splendors of life and death in the 18th Dynasty, the era in which King Tutankhamun and his family ruled. Called the "Golden Age of the Pharaohs," this period produced some of Egypt's most famous rulers and most exquisite works of art.

An exhibition from National Geographic. Organized by Arts and Exhibitions International and AEG Exhibitions in association with The Supreme Council of Antiquities of Egypt and The Field Museum.
 Tour Sponsor: Northern Trust
 Chicago Sponsor: Exelon, Proud Parent of ComEd



**MONDAY,
 OCTOBER 9
 9:05 am**
Richard G. Ellenbogen

Presidential Address



**MONDAY,
 OCTOBER 9
 10:55 am**
David McCullough

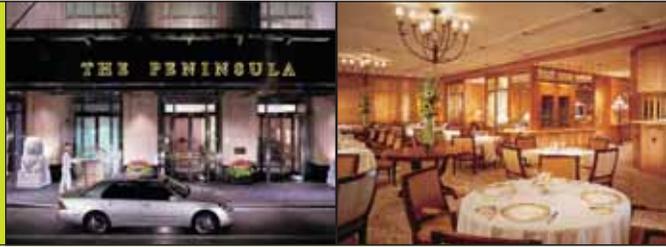
**Seventh Annual Walter E. Dandy Orator
 Leadership and the History You Don't Know**

Auxiliary Tours, Optional Events, Social Program

AT10 12:15 pm – 3:00 pm

The CNS Auxiliary Luncheon and Program

\$45 Hosted in part by the CNS.



Join us Monday, October 19 at The Peninsula Chicago Hotel's Avenues Restaurant for a culinary experience and an enticing presentation.

We will begin the afternoon with contemporary cuisine at its finest. Avenues, fine dining restaurant will entice you with ambiance and delight you with exceptional cuisine. Avenues, recently received Four Stars from Chicago Tribune, Chicago Sun-Times and Chicago magazine. The renowned chef, Graham Elliott Bowles, has been noted in Food & Wines magazines as one of the "Best New Chefs" and one of "The 10

Most Outstanding Talents in America Today"! Graham Elliott Bowles will guide you through an unforgettable culinary experience.

Next we will hear a presentation by Celia Sandys, noted historian and granddaughter of Sir Winston Churchill, one of the greatest leaders of the 20th century. His legacy remains an inspiration for our times as well. Ms. Sandys has appeared many times on television, most recently on C-Span, with Chris Matthews on Hardball and on the Charlie Rose Show. She is the author of five books, trustee of the Churchill Center, an international lecturer and founder of Churchill Leadership, Inc.

Please join us on Monday afternoon for an exceptional experience, exquisite luncheon, and a lasting memory as you learn what it was like growing up with Winston Churchill.

AT11 1:30 pm – 3:30 pm, \$33 per person

Architectural Walking City Tour

Are you tired of seeing Chicago through the windows of buses, trains and boats? Then it's time to stretch your legs, grab a camera, and set off by foot to experience Chicago's greatest landmarks! Your guide will cut this magnificent city down to size and keep you on your toes during an exciting walk through Chicago's Loop district.

See the generous array of outdoor and lobby sculptures that adorn Chicago's Loop district, including pieces by Picasso, Chagall, Moor, Dubuffet and Nevelson. Noteworthy structures by William LeBaron Jenney, Louis Sullivan, Daniel Burnham and Harry Weese will be discussed, as well as Frank Lloyd Wright's Rookery lobby, and the magnificent Harold Washington Library. You will learn fascinating tidbits about the showcased art and architecture, from its history to its funding, and will quickly discover that Chicago's Loop is truly a feast for the eyes!

OE03 5:30 pm – 10:30 pm, \$128 per person

Adobo Grill and Second City Comedy



Begin your evening with a little taste of Mexico. Dine in Chicago's Old Town's exciting Adobo Grill which combines warm southwestern ambiance with inventive cuisine. Located right next door to The Second City, the Adobo Grill serves up authentic, regional Mexican cuisine in a rustic, casual setting.

Following a three-course dinner, you will be escorted

to experience the ultimate comedic performance at The Second City! This comedy club is a famous North American institution for stand-up comedy. Legendary alumni who began their careers in Chicago at The Second City include Dan Aykroyd, John Belushi, and Gilda Radner. This is a great casual evening for you to enjoy a Chicago icon. Be on the look out, you may even see a performance from the next comedic legend to be.

Your evening ends with a Souvenir of a Second City Coffee Table Book with CD. (Main stage seating.)

Auxiliary Tours, Optional Events, Social Program

OE04 7:30 – Midnight, \$83 per person

The Blues Chicago



Chicago Blues still captures the spirit of Chicagoans today and Blue Chicago is the preeminent place to hear the Chicago Blues. With two locations, Blue Chicago offers excellent venues to hear the best Blues on the Chicago scene. The clean and

spacious venues are complete with dance floors, full service bars, great music and the opportunity to sit right on top of the stage. Tickets include transportation, two premium cocktails at Blue Chicago, premium seating, and a Blue Chicago CD; featuring artists who have performed at Blue Chicago.

This ride includes it all – nature, adventure, history, and beauty. Lincoln Park is Chicago’s green haven with 1,200 acres of wonderful parks, beaches, serene lagoons and glorious nature attractions such as Lincoln Park Zoo, The Conservatory and The Peggy Notebaert Nature Museum. This is truly Chicago’s most popular ride.

	<p>TUESDAY, OCTOBER 10 11:00 am George Lucas</p>
<p>The CNS Michael L.J. Apuzzo Lecturer on Creativity and Innovation</p>	

Tuesday, October 10, 2006

AT12 7:00 am – 8:00 am, \$20 per person

Yoga (at the Sheraton Chicago Hotel & Towers)

Take pleasure in a one hour Yoga session. A collection of techniques and practices geared at integrating mind, body and spirit and achieving a state of enlightenment of oneself. Your instructor will bend and twist you to retrieve the sense of relaxation you are looking for in your busy day to day.

THE CNS SPOUSE HOSPITALITY CENTER

7:00 am – 10:30 am, Hosted by the CNS

Continental breakfast and beverages will be served this morning in the CNS Spouse Hospitality Center at the Sheraton Chicago Hotel & Towers.

AT13 8:30 am – 11:00 am, \$65 per person

Cycling Along the Lakefront



Biking in Chicago is really easy, lots of fun, and very safe thanks to Chicago’s magnificent lakefront with 18 miles of designated bike paths. It is the perfect way to tour the city, exercise and get

some fresh air. The group will have its own professional Bike Navigator to guide them on a trip from Navy Pier to Lincoln Park – approximately 4 miles.

AT14 11:45 am – 5:30 pm, \$98 per person

Frank Lloyd Wright Home & Studio and Unity Temple and Lunch at Cucina Paradiso

You will journey to the nearby suburban neighborhood of Oak Park, where Frank Lloyd Wright’s legend began. Visit Unity Temple, the first public space created by Wright in 1908. The U.S. Department of the Interior gave Unity Temple its highest historical and architectural honor in 1971, designating it a National Historic Landmark. Unity Temple is the last remaining public building of Wright’s “golden period,” the era when he founded The Prairie School of Architecture.

Before continuing your tour, you will enjoy a three-course lunch at a favorite neighborhood Oak Park restaurant.

After lunch you will continue the hour with a 45-minute tour through his Home and Studio, an expert docent will recount the story of Wright’s work and life in Oak Park, the location where he and his family spent the first 20 years of his career, from 1889-1908. You will have the chance to learn more about Wright’s famous “Prairie style” architecture and the meaning behind it. After leaving the artist’s home and studio, your docent will take you on a relaxing stroll through the neighborhood’s Historic District. The district boasts 25 other Wright buildings.

Auxiliary Tours, Optional Events, Social Program

AT15 12:30 pm – 3:30 pm, \$48 per person

Tiffany Glass Loop Walking Tour



Louis Comfort Tiffany and his contemporaries designed, crafted, or installed a surprising collection of Tiffany glass – mosaics, light fixtures, vaults and domes – in four late-19th century landmark buildings in a few square blocks of the Loop. The tour describes the history behind this

dramatic decorative art form and the Tiffany Glass and Decorating Company, as well as the buildings themselves and recent restoration efforts. Guest will visit the Art Institute of Chicago, the Chicago Cultural Center, the Marquette Building and Marshall Fields.

AT16 1:00 pm – 4:30 pm, \$51 per person



Chicago Neighborhoods

Did you know that Chicago is represented by more than 40 ethnic groups? In fact, less than a century ago the city boasted that nearly three out of four residents were immigrants of first generation Americans, giving proof to the claim that our city is the great

melting pot of nationalities. With a tour through Chicago's most diverse neighborhoods, discover for yourself the rich heritage and old world traditions of its residents.

Kick off your day with a brief trip through Chicago's Little Italy district, before moving on to the Asian themed boulevards of Chinatown, Stroll through the Mexican community in Pilsen, where the sight of brightly colored murals and the sounds of salsa music surround you.

By exploring these diverse neighborhoods, you will witness the Chicago that exists beyond Michigan Avenue. Experience the customs that have shaped Chicago into the culturally rich city that it is today.

OE05 6:15 pm – 10:30 pm, \$188 per person

Set Sail! Dinner Cruise aboard The Odyssey



Sail into the sunset aboard the Odyssey, the largest fine-dining cruise ship on the Great Lakes. As soon as you depart from Chicago's famed Navy Pier, your magical evening of fine cuisine, excellent wind and spectacular entertainment will begin. Enjoy one of three decks of the massive ship, each of which has a distinct atmosphere reminiscent of

the classic ocean liners. You will be wowed by the artfully chosen décor, spacious dance floors and captivating view of the Chicago skyline.

Enjoy a four-course dinner while cruising beautiful Lake Michigan.

OE06 7:30 pm, \$103 per person

WICKED (tickets only)

Long before Dorothy drops in, two other girls meet in the Land of Oz. One, born with emerald-green skin, is smart, fiery and misunderstood. The other is beautiful, ambitious and very popular. How these two unlikely friends end up as the Wicked Witch of the West and Glinda, the Good Witch makes for the most spellbinding new musical in years.

WICKED, the untold story of the witches of OZ, features music and lyrics by Stephen Schwartz, and is based on the best-selling novel by Gregory Maguire. WICKED is a theatre performance that touches everyone. (Preferred seating in the Orchestra Section.)

Wednesday, October 11, 2006

THE CNS SPOUSE HOSPITALITY CENTER

7:00 am – 10:30 am, Hosted by the CNS

Continental breakfast and beverages will be served this morning in the CNS Spouse Hospitality Center at the Sheraton Chicago Hotel & Towers.

AT17 8:00 am – 9:00 am, \$20 per person

Pilates (at the Sheraton Chicago Hotel & Towers)

Enjoy one hour of a balanced body Pilates experience. A safe, sensible, exercise method of working out that will help you look and feel your very best and improve your core strength, flexibility, agility and economy of motion.

Auxiliary Tours, Optional Events, Social Program

AT18 9:00 am – Noon, \$33 per person
Architectural City Walking Tour



Are you tired of seeing Chicago through the windows of buses, trains and boats? Then it's time to stretch your legs, grab a camera, and set off by foot to experience Chicago's greatest landmarks! Your guide will cut this magnificent city down to size and keep you on your toes during an exciting walk through Chicago's Loop district.

See the generous array of outdoor and lobby sculptures that adorn Chicago's Loop district, including

pieces by Picasso, Chagall, Moor, Dubuffet and Nevelson. Noteworthy structures by William LeBaron Jenney, Louis Sullivan, Daniel Burnham and Harry Weese will be discussed, as well as Frank Lloyd Wright's Rookery lobby, and the magnificent Harold Washington Library. You will learn fascinating tidbits about the showcased art and architecture, from its history to its funding, and will quickly discover that Chicago's Loop is truly a feast for the eyes!

AT19 1:00 pm – 4:00 pm, \$48 per person
River North Galleries Tour

A guide will take you through several of River North's finest galleries, each exhibiting a diverse range of objects and styles. Once an old manufacturing and warehouse district, this trendy area just west of the Gold Coast is now home to the largest concentration of art galleries outside of Manhattan! During your tour, learn about the innovative style seen in contemporary paintings, marvel at creative use of everyday objects as art medium, and gaze at the twists and turns of colorful glass that are artfully shaped into eye-catching designs. Hear about the fascinating lives of the featured artists, including Lino, a Venetian glass artist who blows his glass stateside in order to use American apprentices. Also learn about the intricacies of galleries and the culture of hospitality and "open doors" this district is striving to communicate to the public.

Thursday, October 12, 2006

	THURSDAY OCTOBER 12 10:00 am	
	Celia Sandys	

WINS Special Lecture
**The Inspiring Leadership of Winston Churchill:
 As Relevant Today as In World War II**

Save the Dates!

Future CNS Annual Meetings

San Diego, California

September 15 – 20, 2007

Orlando, Florida

September 20 – 25, 2008

New Orleans, Louisiana

October 24 – 29, 2009

2006 CNS Annual Meeting Sponsors

The Congress of Neurological Surgeons expresses its sincere appreciation to its Sponsors for providing educational grants in support of the 2006 CNS Annual Meeting.

Gold Level



Silver Level



LIPPINCOTT
WILLIAMS & WILKINS



zimmer
Confidence in your hands™
spine

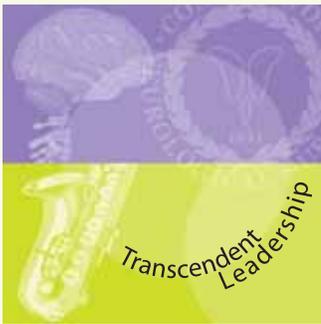


Medtronic

Bronze Level



VARIAN
medical systems



2006 Congress of Neurological Surgeons Annual Meeting

Chicago, Illinois • October 7 – 12

Join the CNS in Chicago and explore this year's theme "Transcendent Leadership".



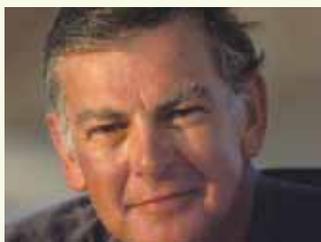
Judah Folkman, MD
DISTINGUISHED SPECIAL LECTURER



Michael Bliss, PhD
FIRST ANNUAL JOHN THOMPSON
HISTORY OF MEDICINE LECTURER



Celia Sandys
WINS SPECIAL LECTURER



Donald C. Johanson, PhD
SPECIAL LECTURER



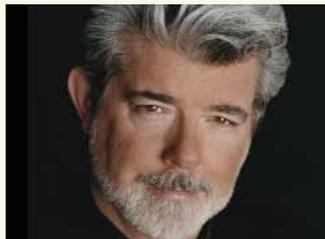
Richard G. Ellenbogen
2006 PRESIDENT

Come to Chicago to experience and learn! Enjoy outstanding speakers and learn with a **new** and exciting focus for education and scientific exchange.

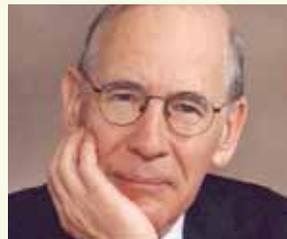
2006 CNS Annual Meeting Highlights:

- **NEW!** CNS Resident SANS Challenge.
- **NEW!** Live 3D Cadaveric Demonstration of Surgical Approaches.
- **NEW!** CNS Neurosurgical Forum.
- **NEW!** Interactive Sessions.
- 24 hours of CME (and up to 16.5 optional credit hours).
- Exclusive Benefits for CNS Resident Member Attendees.

Outstanding Speakers...



George Lucas
THE CNS MICHAEL L.J. APUZZO
LECTURESHIP ON CREATIVITY
AND INNOVATION



Peter M. Black
2006 HONORED GUEST



David McCullough
2006 WALTER E. DANDY ORATOR

Register On-line Today at www.cns.org/



Joint meeting with the German Society of Neurosurgery and the German Academy of Neurosurgery!

For More Information:
info@1cns.org
www.cns.org
Toll Free: 877 517 1CNS
Phone: 847 240 2500



Education and Innovation