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2008 RECOGNITION

DOUGLAS BRINKLEY, PHD
Cushing Orator
Plenary Session I
Monday, April 28

MARCUS E. RAICHLE, MD
Hunt-Wilson Lecturer
Plenary Session I
Monday, April 28

CHARLES B. WILSON, MD
Cushing Medalist
Plenary Session I
Monday, April 28

A. JOHN POPP, MD
Richard C. Schneider Lecturer
Plenary Session I
Monday, April 28

ERIC C. HOLLAND, MD
Ronald L. Bittner Lecturer
Scientific Session I
Monday, April 28

PETER W. CARMEI, MD
Distinguished Service Award
Plenary Session II
Tuesday, April 29

MARCIA ANGELL, MD
Louise Eisenhardt Lecturer
Plenary Session II
Tuesday, April 29

MICHAEL L. J. APUZZO, MD
Theodore Kurze Lecturer
Plenary Session III
Wednesday, April 30

RODOLFO LLINAS, MD, PHD
Van Wagenen Lecturer
Plenary Session III
Wednesday, April 30

MRS. LEE WOODRUFF
Rhoton Family Lecturer
Plenary Session III
Wednesday, April 30

ROBERT J. DEMPSEY, MD
Humanitarian Recipient
Plenary Session III
Wednesday, April 30
ABOUT AANS
Founded in 1931 as the Harvey Cushing Society, the American Association of Neurological Surgeons (AANS) is a scientific and educational association with over 7,200 members worldwide. The AANS is dedicated to advancing the specialty of neurological surgery in order to provide the highest quality of neurological care to the public. All Active members of the AANS are board certified by the American Board of Neurological Surgery, the Royal College of Physicians and Surgeons of Canada, or the Mexican Council of Neurological Surgery, A.C.

Neurosurgery is the medical specialty concerned with the prevention, diagnosis, treatment and rehabilitation of disorders that affect the spinal column, spinal cord, brain, nervous system and peripheral nerves. For more information on what neurosurgeons do, visit our public pages at www.NeurosurgeryToday.org.

AANS PRESIDENT

Jon H. Robertson, MD

Jon H. Robertson, MD, was named president of the AANS at the AANS Annual Meeting – Celebrating AANS’ Diamond Jubilee – in Washington, D.C., April 16-19, 2007. A member of the AANS since 1983, he has served on the AANS Board of Directors since 1999, most recently finishing a one-year term as president-elect and three-year term as secretary. He is chair of the Development Committee, and a member of the following committees: Executive, Finance, Long-Range Planning, Neuro-Knowledge™ Advisory Task Force, and the NeurosurgeryPAC Board of Directors.

He served as chair of the Annual Meeting Committee in 1994.

Dr. Robertson was named professor and chair of the Department of Neurosurgery at the University of Tennessee Health Science Center in Memphis in 1997. He has been a practicing member of the Semmes-Murphey Neurologic and Spine Institute since 1979.

After receiving his bachelor’s degree from Southwestern College in Memphis and a medical degree from the University of Tennessee Medical School, Dr. Robertson completed his internship and a year of general surgery at the City of Memphis Hospitals. He finished his neurosurgery residency in 1979 at the University of Tennessee Center for Health Sciences. Dr. Robertson was certified by the American Board of Neurological Surgery in 1982.

Active in many professional organizations, Dr. Robertson has served as a member of the American Board of Neurological Surgery, American Academy of Neurological Surgery, Society of Neurological Surgeons, Society of University Neurosurgeons, North American Skull Base Society, the Southern Neurosurgical Society, and is a Board member of the Medical Education & Research Institute in Memphis.

Dr. Robertson is a published author, including the two books, *Lasers in Neurosurgery* and *Cranial Base Surgery*. He has co-authored 53 publications and 25 book chapters as co-author, and given approximately 200 presentations at meetings worldwide.

CUSHING CIGARETTE BOX

Each year at the Annual Meeting of the American Association of Neurological Surgeons (AANS), the outgoing president is presented with a special momento of his year in office—the “Cushing Cigarette Box”—representing more than a half century of neurosurgical tradition. The sterling silver Cushing Cigarette Box was originally presented to Harvey Cushing, MD, by the surgical staff at Peter Bent Brigham Hospital on April 14, 1931, commemorating Dr. Cushing’s 2,000th verified intracranial tumor operation. Beginning with this cherished tradition back in 1959, Dr. Cushing’s nephew, E. H. Cushing, MD, presented the cigarette box to the AANS president and asked that it be passed on to each succeeding president as a symbol of the Association’s highest office.

AANS PRESIDENTS

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<td>2005-06</td>
<td>Fremont P. Wirth, MD</td>
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<td>2004-05</td>
<td>Robert A. Ratcheson, MD</td>
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<td>2003-04</td>
<td>A. John Popp, MD</td>
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<td>2002-03</td>
<td>Robert C. Heros, MD</td>
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<td>2001-02</td>
<td>Stan Pelofsky, MD</td>
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<td>2000-01</td>
<td>Stewart B. Dunsker, MD</td>
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<td>1999-00</td>
<td>Martin H. Weiss, MD</td>
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<td>1998-99</td>
<td>Russell L. Travis, MD, FACS</td>
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<td>J. Charles Rich, MD</td>
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<td>Sidney Tolchin, MD</td>
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<td>1994-95</td>
<td>Edward L. Seljeskog, MD</td>
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<td>1993-94</td>
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<td>James T. Robertson, MD</td>
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<td>David L. Kelly, Jr., MD</td>
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<td>Albert L. Rhoton, Jr., MD</td>
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<td>W. Kamp Clark, MD</td>
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<td>1980-81</td>
<td>Robert B. King, MD</td>
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<td>1979-80</td>
<td>W. Eugene Stern, MD</td>
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<td>1978-79</td>
<td>Donald F. Dohn, MD</td>
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Dr. Harvey Cushing, whose own “wide range of interests went far beyond the operating suite,” and is regarded as the highest honor the organization can bestow.

**2008 Cushing Orator**

Douglass Brinkley, PhD

Douglass Brinkley, PhD, is director of the Theodore Roosevelt Center for American Civilization and professor of history at Tulane University. He received his bachelor’s degree from Ohio State University, followed by his doctorate in U.S. diplomatic history from Georgetown University in 1989. He then spent a year teaching history at the U.S. Naval Academy and Princeton University.


Before coming to Tulane, Dr. Brinkley served as Stephen E. Ambrose Professor of History and Director of the Eisenhower Center for American Studies at the University of New Orleans. During his tenure there he wrote two books with the late Professor Ambrose: *Rise to Globalism: American Foreign Policy Since 1938* (1997) and *The Mississippi and the Making of a Nation: From the Louisiana Purchase to Today* (2002). On the literary front, Dr. Brinkley has edited Jack Kerouac’s diaries, Hunter S. Thompson’s letters and Theodore Dreiser’s travelogue. His work on civil rights includes *Rosa Parks* (2000) and the forthcoming *Portable Civil Rights Reader.*

He won the Benjamin Franklin Award for *The American Heritage History of the United States* (1998) and the Theodore and Franklin Roosevelt Naval History Prize for *Driven Patriot* (1993). He was awarded the *Business Week* Book of the Year Award for *Wheels for the World* and was also named 2004 Humanist of the Year by the Louisiana Endowment for the Humanities.

Dr. Brinkley is contributing editor for *Vanity Fair*, *Los Angeles Times Book Review* and *American Heritage*, and a frequent contributor to the *New York Times*, *The New Yorker*, and *The Atlantic Monthly.*

**Past Cushing Orators**

2007  Thomas Friedman
2006  George F. Will
2005  Edmund Morris
2004  Ken Burns
2003  Henry A. Kissinger, PhD
2002  Benazir Bhutto
2001  Tom Brokaw
2000  Doris Kearns Goodwin
1999  President George Herbert Walker Bush
1998  Eric Wieschaus, PhD
1997  William J. Bennett, PhD
1996  William F. Buckley, Jr.
1995  General Colin L. Powell
1994  Beverly Sills
1992  Susan Eisenhower
1992  Ronald Z. Sagdeev, PhD
1991  Yevgeny Yevtushenko
1990  President James Earl Carter, Jr.
1989  Theodore Cooper, MD, PhD
1988  The Hon. Brian Dickson
1987  H. Ross Perot
1986  The Hon. Richard D. Lamm
1985  Raymond E. Arvidson, PhD
1984  Robert M. Rosenzweig, PhD
1983  Edmund D. Pellegrino, MD
1982  Mortimer J. Adler, PhD
1981  Julius Axelrod, PhD
1980  Yevgeny Yevtushenko
1979  The Hon. Paul Rogers
1978  C. Rollins Hanlon, MD
1977  Eli Ginzberg, PhD
1976  Robert O. Egeberg, MD
1975  Paul W. McCracken, MD
1974  Malcolm Moos, PhD
1973  Wernher von Braun, PhD
Richard C. Schneider Lecture

The Richard C. Schneider Lecture is made possible, thanks to an endowment established by the University of Michigan and Dr. Julian T. “Buz” Hoff.

A. John Popp, MD

A. John Popp, MD is director of the Neurosciences Institute, head of the Division of Neurosurgery, and Neurosurgery Residency Training Director at Albany Medical Center. Dr. Popp received his medical degree from Albany Medical College. During medical school, he was awarded a fellowship that allowed him to spend three months in the Philippines studying parasitic illnesses and the delivery of medical care to the indigent. Thereafter, he completed his internship at The Queen’s Hospital (Honolulu). In 1969, he was commissioned as Captain in the U.S. Air Force and served as a surgeon at the Tachikawa Air Force Hospital in Japan until 1971. Following his military service, Dr. Popp returned to Albany Medical Center Hospital to undertake his neurosurgical residency training. In 1986, he was named head of the Division of Neurosurgery and was appointed as the chairman of the Department of Surgery at Albany Medical College leading the department during a time of unprecedented growth [1986-2004]. In 1986, the Schaeffer Foundation endowed the Henry and Sally Schaeffer Chair of Surgery, a position that Dr. Popp has occupied since that time. In 2004, he turned his attention, full time, to leading the Neurosciences Institute at Albany Medical Center that includes the Departments of Neurology, Neurosurgery, Psychiatry, PM&R and the basic scientists in the Center for Neuropharmacology and Neurosciences. In 2005 the Schaeffer Foundation endowed the A. John Popp Chair in Neurosurgery.

A member of numerous professional organizations, Dr. Popp served as president of the AANS [2003-2004] and president of the Society of Neurological Surgeons [2006-2007]. In addition to his leadership positions, Dr. Popp has had a life long interest in education serving as a director of the American Board of Neurological Surgery. He will begin his term on the RRC for neurosurgery this year. His educational interests are reflected by other activities including his service as editor of the AANS Bulletin and as editor of the Public Pages of Neurosurgery-On-Call. He authored the textbook “A Guide to the Primary Care of Neurological Disorders,” now in its 2nd edition to instruct primary care physicians in the management and appropriate referral of patients with neurological disorders. During his tenure as President of the SNS he conceptualized and implemented the Neurosurgery Resident Education Summit engaging the leadership of organized neurosurgery in review of the current process of residency training.

The Rhoton Family Lecture

The Rhoton Family Lecture is made possible thanks to an endowment established by Dr. Albert L. Rhoton Jr. in honor of his family.

Lee Woodruff

As co-author of the best-selling In an Instant, Lee Woodruff garnered critical acclaim for the compelling and humorous chronicle of her family’s journey to recovery following her husband Bob’s roadside bomb injury in Iraq. Appearing together on national television and radio since the February 2007 publication of their book, the couple has helped put a face on the serious issue of traumatic brain injury among returning Iraq war veterans, as well as the millions of Americans who live with this often invisible, but life-changing affliction.

They founded the Bob Woodruff Family Fund for Traumatic Brain Injury, to assist wounded servicemen and their families in receiving the long-term care that they need and help them successfully reintegrate into their communities.

Mrs. Woodruff is a contributing editor on ABC’s Good Morning America, reporting on a variety of home and family related topics. A freelance writer, Mrs. Woodruff has published numerous personal articles about her family and parenting in such high-profile magazines as Health, Redbook, Country Living, and Family Fun. She also works as a contributing editor of the latter publication and is working on a second book.

In addition to freelance writing, Mrs. Woodruff ran her own public relations and marketing consulting business for 16 years. Prior to that, she was senior vice president of public relations firm Porter Novelli, and spent a year in Beijing, China, working for communications company Hill & Knowlton.

Mrs. Woodruff currently lives in Westchester County, N.Y. with her husband and their four children.

Van Wagenen Lecturer

The Van Wagenen Lecture is made possible thanks to a bequest from Dr. William P. and Mrs. Abigail Van Wagenen to AANS.

Rodolfo R. Llinás, MD, PhD

Rodolfo R. Llinás, MD, PhD, is the Thomas and Suzanne Murphy Professor of Neuroscience at New York University School of Medicine, where he has been chairman of the Department of Physiology and Neuroscience since 1976.

Dr. Llinás received his medical degree from Universidad Javeriana, Bogota in 1959, followed by his PhD in neurophysiology from Australian National University, Canberra in 1965.

An internationally known leader in the field of brain research, Dr. Llinás has
Eric C. Holland, MD, PhD

Eric C. Holland, MD, PhD, is director of the Brain Tumor Center at Memorial Sloan-Kettering Cancer Center and is a professor at Cornell University with joint appointments in the Departments of Neurology, Surgery (Neurosurgery), and Cancer Biology & Genetics. Dr. Holland received his PhD in biochemistry and molecular biology from the University of Chicago in 1985. He received his medical degree from Stanford University in 1990. He completed his internship in general surgery in 1991 and his residency in neurosurgery in 1995, both at the University of California, Los Angeles.

Dr. Holland has authored 80 peer-reviewed articles, wrote 11 book chapters, and edited Mouse Models of Human Cancer, published in 2004. He has presented at nearly 100 conferences worldwide, and nearly 70 institutional seminars/visiting professorships.

In addition to the AANS, he is a member of several professional organizations, including the Society for Neuro-Oncology, American Association for Cancer Research, and the Congress of Neurological Surgeons.

Dr. Holland has been honored with numerous awards, including the Farber Award, Seroussi Award, Bressler Scholars Award, American Brain Tumor Association Research Award, Peter A. Steck Memorial Award, Searle Scholars Award, and the Howard Hughes Medical Institute Post Doctoral Fellowship.

Hunt-Wilson Lecturer

The Hunt-Wilson Lecture is made possible thanks to an endowment established by Dr. John J. and Mrs. Mary Guarnaschelli to honor and recognize his mentor.

Marcus E. Raichle, MD

Marcus E. Raichle, MD, is professor of radiology, neurology, neurobiology, biomedical engineering and psychology at Washington University in St. Louis School of Medicine. He is also co-director of the Division of Radiological Sciences, Mallinckrodt Institute of Radiology.

Dr. Raichle received his medical degree from the University of Washington School of Medicine, Seattle, in 1964. He did his internship and residency in general medicine at Baltimore City Hospitals, followed by a fellowship at Johns Hopkins University, Department of Medicine. He practiced radiology at New York Hospital, Cornell University Medical College from 1966 to 1969.

A Major in the United States Air Force from 1969 to 1971, Dr. Raichle served as neurologist and flight surgeon at the USAF School of Aerospace Medicine, Brooks AFB in San Antonio, Texas.

Dr. Raichle has held various positions at Washington University since 1971, starting as a research instructor in neurology and research fellow in radiation physics. He is affiliated with Barnes-Jewish Hospital of St. Louis and St. Louis Children's Hospital.

A prolific author, Dr. Raichle has published nearly 200 peer-reviewed articles and close to 150 books, book chapters, reviews and commentaries. He has served on the editorial boards of numerous publications. His current research focuses on the intrinsic functional activity of the brain as distinct from evoked responses related to behavioral events.

Theodore Kurze Lecturer

The Theodore Kurze Lecture is made possible thanks to an endowment established by Dr. John J. and Mrs. Mary Guarnaschelli to honor and recognize his mentor.

Michael L. J. Apuzzo, MD

Michael L. J. Apuzzo, MD, is the Edwin M. Todd/Trent H. Wells, Jr. Professor of Oncology, Biology, and Physics at the University of Southern California Keck School of Medicine. He is director of Neurosurgery at the Kenneth Norris, Jr. Cancer Hospital and Research Institute.

Dr. Apuzzo's pre-residency education was obtained at Yale College, Boston University School of Medicine, and McGill's Royal Victoria Hospital. This was followed by neurosurgical residency at the Yale School of Medicine where he completed fellowships in neurophysiology and neuropathology. He had special training in nuclear, submarine, and diving medicine at the US Navy Postgraduate School at Groton, Connecticut, following which he served with distinction in the Polaris
Nuclear Submarine Service. Stressing interdisciplinary activity, he has had active involvement with NASA, The California Institute of Technology, The Jet Propulsion Laboratory, and USC Schools of Engineering and Cinematic Arts.

During his career, he has played a central role in the practical introduction and development of microsurgery, endoscopy, imaging directed stereotaxy, radiosurgery, and investigative molecular biology as elements of the neurosurgical armamentarium as well as the concepts of minimal invasion and cellular/molecular neurosurgery.

An avid internationalist and educator, he has given over 135 invited professorships nationally and internationally and developed more than 600 scientific publications, including 45 edited volumes dealing with topics of microsurgery, stereotaxy, the future of neurosurgery, cerebral surgery, central nervous system tumors, trauma, epilepsy, and operating room design.

Since 1992, he has been Editor-in-Chief of NEUROSURGERY, Operative NEUROSURGERY, and NEUROSURGERY Online.

Dr. Apuzzo has been honored nationally and internationally with numerous elite awards and Honorary Doctorates, including (among others) the William Beecher Scoville Prize, the Sixto Obrador Gold Medal, the Van Heck Prize, the Herbert Olivecrona Award, and the annual Apuzzo Lecture on Creativity and Innovation of the Congress of Neurological Surgeons who have also honored him with the Guest Laureate status.

His current scientific interests include cerebral and minimally invasive surgical techniques, radiosurgery, virtual surgery, restorative methods, and nanotechnology.

**Recipients of Honorary Membership**

2007  James A. Ferrendelli, MD
2007  Darell D. Bigner, MD, PhD
2007  Albert J. Aguayo, MD
2005  Armando Basso, MD
2004  Jacques Brochti, MD, PhD
1997  Carl H. Hauber, JD, CAE
1995  Roy W. Black
1994  John W. Holter
1992  Madjid Samii, MD, PhD
1990  H. Alphans D. Walder, MD
1990  Andrei P. Romadanov, MD
1989  M. Gazi Yasargil, MD
1988  Chung-Cheng Wang, MD
1988  B. Ramamurthi, MD
1988  Karl August Bushe, MD
1987  Bernard Pertuiset, MD
1987  Emil Pasztor, MD
1987  Willem Luyendijk, MD
1987  A.N. Konovalov, MD
1986  Shozo Ishii, MD
1986  Hajime Handa, MD
1986  Murray Goldstein, DO
1986  F. John Gillingham, MD
1984  Kurt Schurmann, MD
1984  Lindsay Symon, MD
1983  Elizabeth C. Crosby, MD
1975  Gerard Guiot, MD
1974  Keiji Sano, MD
1974  Gosta Norlen, MD
1974  Hugo Krayenbuhl, MD
1974  Wilder Penfield, MD
1969  R. Eustace Semmes, MD
1969  Dorothy Russell, MD
1967  Oscar Hirsch, MD
1955  Norman M. Dott, MD
1948  Eduard A. V. Busch, MD
1944  Howard C. Naffziger, MD
1940  Alfred W. Adson, MD
1937  Sir Geoffrey Jefferson, MD
1936  Ernest Sachs, MD
1936  Herbert Olivecrona, MD
1931  Harvey Cushing, MD

**AWARD RECIPIENTS**

**2008 Cushing Medalist**

Charles B. Wilson, MD
Charles B. Wilson, MD, received his medical degree and completed his neurological residency at Tulane Medical School before obtaining faculty appointments at Tulane, Louisiana State University and the University of Kentucky. In 1968, Dr. Wilson became professor and chairman of the Neurosurgery Division at the University of California, San Francisco (UCSF). By 1970, he had established the Department of Neurological Surgery and the Brain Tumor Research Center, a national cancer research center which has been continuously funded by the National Institutes of Health since 1971. In 1985, he was appointed Tong-Po Kan Professor of Neurological Surgery at UCSF. Dr. Wilson stepped down as chair in 1994 and retired from active practice in 2002.

While in active practice, Dr. Wilson obtained a Master’s in Health Administration and became a senior fellow at the Institute for the Future, a long-range forecasting organization in Menlo Park, California. He is now on the staff of the Health Technology Center, a long-range forecasting think tank, based in San Francisco.

Dr. Wilson just completed a term on the National Cancer Advisory Board. He is a member of the Institute of Medicine of the National Academies. At Tulane, he is a member of the Leadership Committee, the Tulane University Health Sciences Center Board of Governors, and the Tulane University Board of Administrators.

Among his honors are the Herbert Olivecrona Lecturer to the Karolinska Institute in Sweden, and Honored Guest of the Congress of Neurological Surgeons. Honors received at Tulane have included Outstanding Alumnus (School of Medicine), Tulane Surgical Society Award of Merit, Doctor of Science (H.C.), Outstanding Leadership (Health Sciences Center), and the Lifetime Achievement Award.

In 1999, Dr. Wilson co-founded Global AIDS Interfaith Alliance working in sub-Saharan Africa. More recently, he was appointed senior advisor to UCSF Global Health Sciences as director of Surgery Programs, with a current focus on delivering surgical services in rural Uganda.

A pioneer in the surgery of pituitary tumors, Dr. Wilson has authored more than 600 scientific publications and presented at hundreds of symposiums worldwide. He also served on the editorial boards of several medical journals. His contemporary research involves emerging medical technologies, in particular, those related to molecular genetics.

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Past Cushing Medalists

- 2007 Robert G. Grossman, MD
- 2006 David G. Kline, MD
- 2005 Martin H. Weiss, MD
- 2004 John A. Jane, Sr., MD, PhD
- 2003 Stewart B. Dunker, MD
- 2002 Edward R. Laws, Jr., MD
- 2001 Julian T. Hoff, MD
- 2000 Russell H. Patterson, Jr., MD, FACS
- 1999 David J. Kelly, Jr., MD
- 1998 Albert L. Rhoton, Jr., MD
- 1997 Robert G. Ojemann, MD
- 1996 Shelley N. Chou, MD, PhD
- 1995 Richard DeSaussure, MD
- 1994 Byron C. Pevehouse, MD
- 1993 Sidney Goldring, MD
- 1992 W. Eugene Stern, MD
- 1991 William F. Collins, MD
- 1990 Robert B. King, MD
- 1989 Lester A. Mount, MD
- 1988 Charles G. Drake, MD
- 1987 William F. Meacham, MD
- 1986 Lyle French, MD
- 1985 Francis Murphy, MD
- 1984 Eben Alexander, Jr., MD
- 1983 Guy L. Odom, MD
- 1982 W. James Gardner, MD
- 1981 Bronson S. Ray, MD
- 1980 Paul C. Bucy, MD
- 1979 Henry G. Schwartz, MD
- 1978 William H. Sweet, MD
- 1977 Frank H. Mayfield, MD

Distinguished Service Award

The Distinguished Service Award is one of the highest honors bestowed by the American Association of Neurological Surgeons, recognizing exemplary service to the AANS and the field of neurosurgery. The award pays tribute to the contributions of remarkable neurosurgeons within their profession.

Peter W. Carmel, MD

Peter Carmel, MD, has been at New Jersey Medical School since 1994, where he is currently professor and chairman of the Department of Neurological Surgery and co-medical director of the Neurological Institute of New Jersey. He operates at The University Hospital in Newark, N.J. Dr. Carmel was a faculty member in the Department of Neurosurgery at Columbia University for 25 years, the founding chief of the Division of Pediatric Neurosurgery and professor of neurological surgery.

Dr. Carmel received his medical degree from New York University School of Medicine and was a research associate at the National Institutes of Health. He completed his residency in neurosurgery at the Neurological Institute of New York. He obtained his doctorate in neuroanatomy from the Columbia University College of Physicians and Surgeons (P&S).


A committed researcher and advocate for neurological research, Dr. Carmel served as chairman of the National Coalition for Research in Neurological Disease and Stroke, and subsequently as chair of the National Foundation for Brain Research. In this capacity, he helped the Honorable Silvio Conte launch the Decade of the Brain initiative. He also founded the Neuroendocrine Laboratory within the Institute for the Study of Human Reproduction at P&S in 1969. This laboratory has been continuously funded for 38 years.

Past Recipients of the Distinguished Service Award

- 2007 Mary Louise Sanderson
- 2006 Lyal Leibrock, MD
- 2005 John C. Van Gilder, MD
- 2004 John A. Kusske, MD
- 2003 Troy M. Tippett, MD
- 2002 John A. Jane, Sr., MD, PhD
- 2001 Donald H. Stewart, Jr., MD
- 2000 Frank P. Smith, MD
- 1999 W. Ben Blackett, MD, FACS, JD
- 1998 Mark J. Kubala, MD
- 1997 Ernest W. Mack, MD
- 1996 Robert E. Florin, MD
- 1995 Charles Edwin Bracket, MD
- 1994 William A. Buchheit, MD
- 1993 Roy W. Black, Codman & Shurtleff, Vice President

2008 Humanitarian Award

At the recommendation of President Robert Ojemann, MD, the Board of Directors established the Humanitarian Award in January 1987. The award recognizes AANS members for activities outside the art and science of neurosurgery, which bring great benefit to mankind. The Board of Directors selects the recipient on the recommendation of the Awards Committee. The Humanitarian Award distinguishes those members who have given their time or talents selflessly to charitable or public activity and whose actions have brought honor to the specialty.

2008 Humanitarian Recipient

Robert J. Dempsey, MD

Robert J. Dempsey, MD, is chair and professor of the Department of Neurological Surgery at the University of Wisconsin at Madison, a position he assumed in 1995. He is founder and director of the Multidisciplinary Stroke Program and established the cerebrovascular research laboratories. In 1998, he became the first Manucher J. Javid Endowed Professor in Neurological Surgery.

Prior to this, he was on the faculty at the University of Kentucky, where he was founding director of the Center of Excellence in Stroke Research of the Center on Aging and medical director of the cerebrovascular laboratory. Dr. Dempsey has devoted the last 15 years to volunteering his time in developing countries, teaching neurosurgery primarily in Guatemala and Ecuador. This has involved developing educational programs for medical students, trainees and graduate neurosurgeons. He has been involved in

www.AANS.org
Medical Mission Ecuador, which has revitalized the charity care network of south central Ecuador, including rebuilding of infrastructure, operating rooms, equipment and teaching physicians modern techniques with supplied and donated equipment.

As a member of the Board of Directors and the Secretary of the Foundation for International Education in Neurological Surgery (FIENS), Dr. Dempsey has been active in building the groundwork for neurosurgical training programs in developing countries throughout the world. In addition to Latin America, he has been very active in the east Africa program working with FIENS volunteers. The program has succeeded in winning approval from the Kenyan Ministry of Health for funding of the first residency program in east Africa, an area of 300,000,000 people without a training program.

Dr. Dempsey received his medical degree from the University of Chicago in 1977, followed by his neurosurgical residency at the University of Michigan, under the mentorship of Richard C. Schneider, MD, Glenn W. Kindt, MD, and Julian T. Hoff, MD.

Past Recipients of the Humanitarian Award

2007 Benjamin C. Warf, MD
2006 Gene E. Bolles, MD
2005 Tetsuo Tatsumi, MD, FACS
2004 Charles L. Branch, Sr., MD
2002 Edgar M. Housepian, MD
2001 Gary D. Vander Ark, MD
2000 Merwyn Bagan, MD, MPH
1999 Thomas B. Flynn, MD
1998 Lee Finney, MD
1997 Robert J. White, MD
1995 Melvin L. Cheatham, MD
1994 E. Fletcher Eyster, MD
1993 Manual Velasco-Suarez, MD
1992 William H. Mosberg, Jr., MD
1991 George B. Udvarhelyi, MD
1990 A. Roy Tyner, Jr., MD
1989 Hugo V. Rizzoli, MD
1988 Gaston Acosta-Rua, MD
1987 Courtland H. Davis, Jr., MD

Robert Florin Award

Zachary N. Litvack, MD
Zachary N. Litvack, MD, is currently a senior resident in Neurological Surgery at the Oregon Health & Science University in Portland, Ore. He received his medical degree in 2003 from Brown University in Providence, R.I.

His academic interests include neuroimaging, critical care, and healthcare policy. Dr. Litvack is the recipient of several research awards, including a Dana Foundation Scholarship and Tartar Trust Fellowship. During his research year prior to chief residency, he will be completing a Masters in Clinical Research.

In addition to his membership in the AANS, Dr. Litvack serves on the Executive Committee of the Congress of Neurological Surgeons and the Editorial Board of SANS Lifelong Learning.

Dr. Litvack has accepted a fellowship in Pediatric Neurosurgery at Children's Hospital of Philadelphia, starting in July 2008. His clinical interests are in the areas of brain tumors.

Cone Pevehouse Award

Shearwood McClelland III, MD
Shearwood McClelland III, MD, is currently a neurosurgical resident at the University of Minnesota. Dr. McClelland received his medical degree from the Columbia University College of Physicians and Surgeons in 2004.

Dr. McClelland is the recipient of a number of national awards, including the 2004 Student National Medical Association Wilbert C. Jordan Clinical Science Research Award and the 2006 American Epilepsy Society Young Investigator Award.

His major clinical interests include epilepsy surgery, primary and secondary brain tumors, trigeminal neuralgia, carotid artery stenosis, and stereotactic and functional neurosurgery. Dr. McClelland has presented at a number of scientific meetings across the country, and has published more than 30 articles in peer-reviewed journals, including first-author manuscripts in *Annals of Neurology*, *Clinical Infectious Diseases*, *Epilepsia*, *Neurosurgery*, *the Journal of Neuro-Oncology*, *Neurocritical Care*, *Stereotactic and Functional Neurosurgery*, *Neurological Focus*, and *the Journal of Neurosurgery: Pediatrics*.

In addition to the AANS, Dr. McClelland is a member of several professional organizations, including the Congress of Neurological Surgeons, the World Society of Stereotactic and Functional Neurosurgery, the AANS/CNS Section on Tumors, and the American Society for Stereotactic and Functional Neurosurgery.

Neurosurgery Research and Education Foundation (NREF) Award and Fellowship Recipients

Annually, the Neurosurgery Research and Education Foundation (NREF) awards one- and two-year research grants for important investigative studies in the rapidly developing field of neuroscience. Through voluntary donations from AANS member, individuals, groups and corporations, the NREF grant program helps bright, young neurosurgeons establish their labs, perform basic science research and compile results that when applied, have the potential to dramatically improve patient care and could ultimately save lives. To hear first hand testimonials from previous awardees or to learn more about the NREF, visit www.AANS.org/research.

Last year, your support helped provide funding for 12 basic science and/or clinical, patient-oriented Research Fellowships and Young Clinician Investigator Awards to both neurosurgical residents and junior faculty. Additionally, a two-year Faculty Career Development Award, co-sponsored by the ACS and the NREF was awarded supporting the establishment of a
new and independent research program in an area of neurological surgery.

The future of the specialty is dependent upon advances discovered through dedicated research that is basic, translational and clinical. Your support this year and beyond are making advancements in neurosurgery possible!

2006 Research Fellow

Ming (David) Cheng, MD
Massachusetts General Hospital

Sponsor: Emad N. Eskander, MD

Project Title: The Role of the Primate Neostriatum in Learning Novel Visual-Motor Associations.

The goal of our research proposal is to examine the role of the primate neostriatum in learning novel visual-motor associations. Our general hypothesis is that the dorsal neostriatum is where biologically profitable visual-motor associations are enhanced during learning. We believe that this process occurs by dopamine-mediated reinforcement of particular circuits in the dorsal-anterior caudate and the rostral putamen. To test this hypothesis, we plan to perform neurophysiological recording, electrical microstimulation, and electrochemical assessments of dopamine release during behavioral learning tasks in awake-behaving primates trained to learn novel visual-motor associations for reward. Determination of the physiological role of the striatum in learning is important in the understanding of many disease processes, including non-motor components of Parkinson’s disease, other neurodegenerative conditions and other learning disorders such as autism.

2006 Research Fellow

Lewis Chun Hou, MD
Stanford University

Sponsor: Victor Tse, MD, PhD

Project Title: Integrin αβ3 Based Molecular Imaging of Tumor Angiogenesis in a Mouse Post-Resection Glioblastoma Multiforme Model.

Glioblastoma Multiforme is a malignant primary brain tumor with grim prognosis despite aggressive surgical intervention and adjunctive therapy. The discovery of tumor vessel-specific integrin αβ3 expression has lead to the development of novel molecular imaging techniques and treatments targeting tumor angiogenesis. It is unclear however, if surgical resection alters the angiogenesis characteristics of glioblastoma. Thus, the applicability of anti-angiogenesis therapy or the optimal window for treatment after surgery is unknown. We hypothesize that post-resection residual glioblastoma continue to expresses integrin αβ3 expression making novel integrin-based molecular imaging and anti-angiogenic treatments possible and feasible in a tumor recurrence setting.

2007 NREF/Porex Surgical Research Fellow

Justin Cetas, MD, PhD
Oregon Health

Sponsor: Mary M. Heinricher, PhD

Project Title: Central Mechanisms of Pain in Dural Inflammation.

Dural inflammation is associated with significant morbidity, not least of which is severe pain and hyperalgesia. An important factor in this pathological pain may be brainstem modulatory circuits, including the rostral ventromedial medulla. These circuits are now known to function as part of a positive feedback loop following peripheral inflammation, and recent functional studies on the pathophysiology of migraine suggest that brainstem neurons may also play a role in generation and maintenance of the pain arising from dural inflammation. I therefore propose to examine the recruitment of identified pain modulating neurons in the rostral ventromedial medulla in a rat model of dural inflammation. In these studies, simultaneous recordings from individual nociceptive neurons in the trigeminal nucleus and pain-modulating neurons in the rostroventral medial medulla will allow direct demonstration of the modulation of afferent nociceptive processing by the brainstem. Understanding the contribution of central modulatory systems to abnormal pain states may allow us to move beyond the limitations of therapeutic approaches focused solely on inputs from peripheral tissues. The present studies may therefore lay the foundation for future studies on novel therapeutic interventions for pain arising from inflammation of the dura.

2007 NREF/Biomet Research Fellow

James Frazier, MD
Johns Hopkins University

Sponsor: Alfredo Quinones-Hinojosa, MD

Project title: Determination of the Role of PDGF and EGF in the Migratory Pattern of Brain Cancer Stem Cells and Comparison of this Migratory Pattern to Normal Fetal and Adult Human Stem Cells in an In Vitro Assay and In Vivo Rodent Model using NOD/SCID/IL2γnull Mice.

The objective of my research is to study neural stem cells in the human brain and consequently the effect that PDGF and EGF have on the migratory behavior of these stem cells. We will test the hypothesis that human adult stem cells have the ability to migrate and that their manipulation with PDGF and EGF can change them to a more aggressive migratory behavior that resembles that of high-grade tumors and/or the fetal human utilizing both in vitro and in vivo studies.

2007 Research Fellow

Jonathan Miller, MD
Case Western

Sponsor: Dawn Taylor, PhD

Assistive robots and implanted peripheral nerve stimulators can now restore reach and grasp to people with high tetraplegia. In this study, neural signals recorded from either intracortical microelectrodes implanted in the motor cortex or from less invasive conductive bone screws embedded in the skull will be used to determine how well monkeys can use each type of recorded signal to control a 6-DOF virtual arm. If successful, this strategy could allow a severely paralyzed person to regain independence by controlling a robotic or paralyzed arm just by thinking about doing so.

2007 Young Clinician Investigator Award

Gerald Grant, MD
Duke University
Sponsor: Darrel Bigner, MD

There is increasing interest in malignant brain tumor neovascularity and angiogenesis as a vascular targeting strategy to find unique molecular targets to enhance drug delivery. We hypothesize that the changes in blood-brain barrier function seen in tumors with a more rapid growth rate is a manifestation of an angiogenic switch which occurs as the tumor progresses. The blood-tumor barrier is much leakier than the blood-brain barrier, although the putative factors responsible for the increased permeability seen in tumors remains unknown. In an animal xenograft model of human glioblastoma, nanocarrier-based MRI contrast agents will be used to characterize the blood-tumor barrier in vivo. We will then modulate the blood-brain and blood-tumor barrier to enhance targeted drug delivery.

2007 Young Clinician Investigator Award

Brian L. Hoh, MD
University of Florida
Sponsor: Edward W. Scott, PhD

Aneurysmal subarachnoid hemorrhage affects 30,000 Americans each year with significant morbidity, mortality, and socioeconomic impact. Little is known about the pathophysiology of aneurysm formation. Additionally, aneurysms can recanalize after being treated with endovascular coiling, a concerning deficiency in this therapy. Endothelial progenitor cells (EPCs) and hematopoietic stem cells (HSCs), from which they are thought to derive, have been shown to migrate to sites of vascular injury. We hypothesize that aneurysms occur at sites of endothelial disruption and that EPCs and HSCs migrate to the injured vessel wall and play a significant role in aneurysmal formation. EPCs and HSCs have also been shown to migrate to sites of vascular instrumentation such as coronary stents. We hypothesize that EPCs and HSCs migrate to the coil mass in coil-treated aneurysms and contribute to aneurysm recanalization. Chemokines that act in the signaling pathway for EPC and HSC migration in models of retinal ischemia are likely involved in their migration in aneurysm formation and aneurysm recanalization. Genetic modification of EPCs could enhance their ability for vascular repair. We propose that EPCs could be genetically modified and utilized as a biologic therapy for aneurysms.

2007 NREF/Kyphon Young Clinician Investigator Award

Eve Tsai, MD, PhD
University of Ottawa
Sponsor: Peter Stys, Professor
Project: Bioengineering Strategies to Enable Combination Therapy for the Repair of Spinal Cord Injury.

This award will allow Dr. Tsai to develop therapeutic constructs to repair the injured spinal cord. Spinal cord repair will require a combination of factors to enable axon regeneration and functional recovery. We have demonstrated that bioengineered constructs with a combination of growth factors and cell transplants can partially...
improve recovery after spinal cord injury in rats. We are now working to develop biodegradable constructs and improve upon the combination of agents required to enable the complete restoration of function after injury. This translational research is necessary to develop therapeutic constructs that will allow repair of the human spinal cord.

**2007 Young Clinician Investigator Award**

**Project:** Role of Apolipoprotein E and Amyloid-Beta Protein Peptide in Cerebral Vasospasm

ApoE4 genotype is an important risk factor for both cerebral vasospasm and poor patient outcome following aneurysmal subarachnoid hemorrhage (SAH); however, the molecular underpinnings for this phenomenon are not known. We hypothesize that ApoE4 exacerbates SAH-induced cerebral vasospasm via its influence on amyloid-beta peptide (AB). This hypothesis will be examined by inducing SAH in mice expressing ApoE isoforms in the presence or absence of AB, permitting direct assessment of the contribution of ApoE4 and A6 on SAH-induced cerebral vasospasm and neurologic deficits. This work will lead to a better understanding of SAH pathophysiology, and may lead to new therapeutic targets.

**SECTION AWARD RECIPIENTS**

**AANS/CNS Section on Pain**

**William Sweet Award**

Jonathan D. Carlson, MD, PhD

Jonathan D. Carlson, MD, PhD, is the chief resident in neurological surgery at Oregon Health and Science University in Portland Ore. He received his medical and PhD degrees at Loma Linda University in 2001, studying the role of the pedunculopontine nucleus in Parkinson’s disease.

Dr. Carlson’s more recent scientific work has been on brainstem mechanisms in chronic neuropathic pain, for which he received the Ronald Tasker Award in 2004 and the Western Neurosurgical Society Research Resident Award in 2005.

His scientific interests include the technical aspects of intraoperative electrophysiology, pathophysiological mechanism of Parkinson’s disease, basal ganglia - brainstem interactions, and brainstem nociceptive mechanisms.

**Kenneth Shulman Award**

Jeffrey P. Greenfield, MD, PhD

Jeffrey P. Greenfield, MD, PhD, is currently chief resident in the Department of Neurosurgery at New York Hospital/Cornell Medical Center. He received his PhD and medical degree from Weill Medical College of Cornell University, followed by his neurosurgical residency at New York Presbyterian Hospital, Cornell Medical Center.

**AANS/CNS Section on Neurotrauma and Critical Care**

**Synthes Award for Resident Research on Brain Craniofacial Injury**

Jay Jagannathan, MD

Jay Jagannathan, MD is a fifth year resident at the University of Virginia in Charlottesville. A native of Madras, India, Dr. Jagannathan was raised outside of Washington, DC. He received his medical degree from the University of Maryland, achieving academic distinction by finishing first in his class.

At age 24, he started his neurosurgical residency at the University of Virginia under John Jane Sr., MD, and Mark Shaffrey, MD. During this time, he has benefited from the close mentorship of Drs. Edward Laws, Ladislau Steiner, Chris Shaffrey, Neal Kassell, Jason Sheehan, Aaron Dumont, David Okonkwo and John Jane Jr. He also spent a year as a clinical fellow at the National Institutes of Health under Edward Oldfield, MD.

Dr. Jagannathan has coauthored nearly 40 peer-reviewed publications, including papers in *Nature, Oncogene* and *Cancer Research*. He is currently completing a combined neurosurgery and orthopedic surgery spine fellowship with Drs. Chris Shaffrey and Vincent Arlet. In June he will travel to New Zealand where he will spend a year as senior registrar at Auckland Hospital. Upon his return, Dr. Jagannathan hopes to begin an academic practice focusing on spine, trauma and neuro-oncology.

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

Raqeeb M. Haque, MD

Raqeeb Haque, MD, is currently a third-year neurosurgical resident at the Department of Neurological Surgery at Columbia University Medical Center. Upon completing undergraduate studies at Harvard University, he was accepted to the Johns Hopkins Medical School and began to develop an early interest in neurosurgery. He was the recipient of the Howard Hughes Medical Institute Research Fellowship and spent a dedicated year after his second year of medical school at the National Cancer Institute, working with Howard Fine, MD.

Dr. Haque began his neurosurgical residency training at Columbia in 2005. In his second year, he worked in the laboratory of John Martin, MD, a well-known neuroanatomist who specializes in understanding brain and spinal cord motor pathways. During this time, Dr.
Haque began to study new ways to restore motor control after spinal cord injury, using a peripheral nerve bridge model. He received a NRSA research grant for his research. His work with this model has been presented at numerous national meetings and was recently featured in *New Scientist*.

### 2006 Codman Award Recipient

**Gregory Hawryluk, MD**

Gregory Hawryluk, MD, is currently a mid-level neurosurgical resident at the University of Toronto. He is also in his second year of graduate studies in the laboratory of Michael Fehlings, MD, PhD, FRCS, FACS, where he is pursuing a PhD in conjunction with the University of Toronto’s Surgeon Scientist Program.

Dr. Hawryluk received his medical degree from the University of Alberta. He was recipient of the Medical Students’ Association Involvement Award for his medical school volunteerism.

In work supported by his Codman Fellowship in Neurotrauma and Intensive Care, he is seeking to better understand the effects of stem cell transplantation and the mechanisms underlying the observed benefits. In addition to his research work on spinal cord injury repair, Dr. Hawryluk completed a combined clinical and research elective in brain trauma with M. Ross Bullock, MD, PhD, in 2005.

Dr. Hawryluk is an Advanced Trauma Life Support instructor and is contributing to a revision of the Traumatic Brain Injury Prognosis Guidelines in conjunction with the Brain Trauma Foundation. He hopes to continue both clinical and basic science neurotrauma research in the future.

### AANS/CNS Section on Stereotactic and Functional Neurosurgery

#### Philip L. Gildenberg Resident Award

**Shabbar F. Danish, MD**

Shabbar F. Danish, MD, is currently chief resident at the University of Pennsylvania. He received his Bachelor of Science in biochemistry from Rutgers University, and his medical degree from Robert Wood Johnson Medical School.

During his residency, Dr. Danish has investigated the neurophysiology of the basal ganglia in patients undergoing deep brain stimulation surgery. He has been working on algorithms for intraoperative target localization with Stephen Wong, MD, at the University of Pennsylvania.

In addition, Dr. Danish had the opportunity to spend several months as a research fellow at the Hospital Nacional de Paraplejicos in Toledo, Spain under the direction of Guglielmo Foffani, MD. There he studied the relevance of neuron firing behavior and local field potentials in movement disorder pathophysiology. Upon completion of his residency, Dr. Danish hopes to continue these endeavors in a functional neurosurgery program.

### WINS Award Recipient

**Bawarjan Schatlo, MD**

Bawarjan Schatlo, MD, is currently in his first year of residency at the vascular neurosurgery unit of the University Hospital of Geneva, Switzerland, under Professor Karl Schaller.

Dr. Schatlo received his medical degree from the University of Bonn in 2007. His interest in academic neurosurgery was sparked early in medical school after rotating in Bonn’s neurosurgery department, one of the largest in Germany, under Professor Johannes Schramm.

During this time, he spent a clinical year in France at Université de Rennes, and also did a neurosurgery rotation in the United States at the Mayo Clinic.

In 2004, he worked under the direction of Jens Dreier, MD, in the experimental neurology department in Berlin (Charité) as a neurovascular research fellow. He was later awarded the Boehringer Foundation and International Academy of Life Sciences scholarships to continue his research at the National Institutes of Health (NIH) from 2004 to 2006. At the NIH, he led basic and preclinical research projects on ischemic stroke and subarachnoid hemorrhage under the mentorship of Ryszard Pluta, MD, and Edward Oldfield, MD.

### AANS/CNS Section on Tumors

#### Integra Foundation Award

**Joung H. Lee, MD**

Joung H. Lee, MD, is professor and head of the Section of Skull Base Surgery, Department of Neurosurgery/Brain Tumor and Neuro-Oncology Center at the Cleveland Clinic. He received his medical degree from the University of Southern California, and completed his neurosurgery residency at the University of Virginia.

Dr. Lee started the skull base surgery program at the Cleveland Clinic in 1993, establishing one of the largest meningioma programs in the United States. More than 200 new meningioma patients are treated annually through this program.

He was a recipient of a Research Fellowship Award from the Neurosurgery Research and Education Foundation. Other honors include the Thomas J. Watson Fellowship, Crutchfield-Thomson-Gage Award, Razavi Clinical Scholarship Award, and Mahaley Award.

Dr. Lee served as president of the Ohio State Neurosurgical Society from 1999 to 2000. He has authored more than 90 publications and edited two books, one of
which is the most recently updated comprehensive textbook on meningiomas, being published by Springer in 2008.

**BrainLAB Community Neurosurgery Award**

Alan T. Villavicencio, MD

Alan T. Villavicencio, MD, is director of the Minimally Invasive Spine Program and Research and Development at Boulder Neurosurgical Associates. He is also founder and director of the Trigeminal Neuralgia Program at this practice. He is director of neurosurgery at Longmont United Hospital and director of surgery at the Minimally Invasive Spine Institute.

Dr. Villavicencio received his medical degree cum laude from Harvard Medical School in 1995. He completed his internship in general surgery in 1996 and his residency in neurological surgery in 2001, both at Duke University Medical Center. Following his residency, he undertook a one-year fellowship in orthopedic minimally invasive and reconstructive spine surgery at the Institute of Spinal Disorders at Cedars-Sinai and the University of California, Los Angeles.

Dr. Villavicencio has authored more than 50 peer-reviewed articles, wrote seven book chapters, and presented at nearly 100 conferences worldwide. In addition to the AANS, he is a member of numerous professional organizations, including the American Medical Association, the Colorado Medical Society, the Colorado Neurological Society, and the Congress of Neurological Surgeons.

**Synthes Skull Base Award**

Michael Sughrue, MD

Michael E. Sughrue MD, is currently a neurosurgical resident at the University of California at San Francisco. He received his medical degree from Columbia University, College of Physicians and Surgeons in 2005.

Dr. Sughrue is the recipient of several research awards including the Memorial Sloan-Kettering Medical Student Research Fellowship (2001), the American Heart Association Medical Student Research Fellowship (2003), the American Medical Association: Seed Research Grant (2004), and the Louis Gibofsky Memorial Prize for Excellence in Immunobiology Research (2005). He is author or co-author of nearly 20 peer-reviewed publications.

**Ronald L. Bittner Award**

Matthew McGirt, MD

Matthew McGirt, MD, is currently a fifth-year resident in neurological surgery at the Department of Neurological Surgery at Johns Hopkins Hospital in Baltimore. He graduated magna cum laude with a Bachelor of Science from Duke University in 1998. He received his medical degree from Duke University School of Medicine in 2003, followed by an internship in general surgery at the Department of Surgery at Johns Hopkins Hospital.

Presently, Dr. McGirt serves as the co-principal investigator and founder of the Neuro-Oncology Surgical Outcomes Laboratory at Johns Hopkins. His current research interests focus on assessing appropriate surgical outcome measures for brain tumor patients, evaluating and implementing outcomes-driven hospital-based safety measures, and assessing the efficacy of surgical and medical therapeutics for neurosurgical diseases through prospective outcomes studies.

**Preuss Residents Research Award**

John K. Park, MD, PhD

John K. Park, MD, PhD, is currently head of the Surgical and Molecular Neuro-oncology Unit within the intramural research program of the National Institute of Neurological Disorders and Stroke. He has been on staff at the National Institutes of Health (NIH) since 2002.

Dr. Park received his medical and doctorate degrees from Harvard Medical School in 1992. In 1998, he completed his neurosurgery residency at the Children's Hospital/Brigham and Women's Hospital/ Harvard Medical School and joined the faculty of these institutions.

His laboratory investigates mechanisms of brain tumor development and chemotherapy resistance. In collaboration with the National Cancer Institute, his clinical practice is focused on the surgical treatment of patients with primary and metastatic brain tumors.

Dr. Park has previously received awards and funding from the American Brain Tumor Association, the AANS/CNS Section on Pediatric Neurological Surgery, the Neurosurgery Research and Education Foundation, the New England Cancer Society, the Howard Hughes Medical Institute and the NIH.

**Farber Award**

E. Antonio Chiocca, MD, PhD

E. Antonio Chiocca, MD, PhD, has been the chair of the Ohio State University Medical Center Department of Neurological Surgery since 2004. He holds the Dardinger Family Endowed Chair in Oncological Neurosurgery at the James Comprehensive Cancer Center.

He was previously an associate professor of Neurosurgery at Massachusetts General Hospital/Harvard Medical School (MGH/ Harvard), where he also completed his residency. He received his medical and PhD degrees from the University of Texas Medical School at Houston in 1988.

He was elected to the American Society for Clinical Investigation in 2005 and as a fellow of the American Association for the Advancement of Sciences in 2005. He is member of the National Cancer Institute (NCI) – D (clinical studies) parent
committee and of NCI’s Developmental Therapeutics Study Section. He also sits on the scientific advisory board of the American Brain Tumor Association and of the Goldhirsh Foundation. He was awarded the Grass Foundation Award by the Society for Neurological Surgery in 2007.

Dr. Chiocca has published more than 150 papers and chapters, related to glioma biology and treatment. His research has focused on developing novel treatments for brain tumors, including gene-based and virus-based therapies and mechanistic aspects of brain tumor biology. He has held continuous NIH funding since 1995 and has also received funding through numerous private foundations.

Dr. Chiocca serves on the editorial board of several journals, including Journal of Neurosurgery and Neurosurgery.

American Brain Tumor Association Young Investigator Award

Ichiro Nakano, MD, PhD

Ichiro Nakano, MD, PhD, has been clinical instructor in the Division of Neurosurgery at the University of California, Los Angeles since 2006. He received his medical degree in 1993, followed by his PhD in 2001, from Kyoto University Graduate School of Medicine. He received board certification from the Japanese Board of Neurological Surgery in 2001.

His research and clinical interests are focused on pediatric brain tumors, in particular the characterization of brain tumor stem cells, and genetic mechanism of neural stem cells. Dr. Nakano has authored 15 peer-reviewed articles, wrote a book chapter for Stage-Specific and Cell Fate Markers, published in 2003, and presented at conferences worldwide.

Dr. Nakano has been honored with several awards, including The Jules Spivak Memorial Scholarship Award, the Fine Science Tools Postdoctoral Award from the Brain Research Institute at UCLA, and the Journal of Neuro-Oncology Award.

Mahaley Award

Andrew T. Parsa, MD, PhD

A native of Brooklyn, N.Y., Andrew T. Parsa, MD, PhD, completed his undergraduate studies at Yale College, with a degree in molecular biophysics and biochemistry. At Yale, he developed an interest in neurosurgical oncology after completing a student externship with Michael Apuzzo, MD. Dr. Parsa returned to Brooklyn in 1988, where he enrolled in the MD, PhD program at Downstate Medical Center. During this time, Dr. Parsa collaborated with John Miller, MD, and other members of the neurosurgery department at Downstate to initiate a clinical trial evaluating an adjuvant linked vaccine for recurrent glioma.

In 1996, Dr. Parsa matriculated into the neurosurgical training program at Columbia University, under Bennett Stein, MD, Donald Quest, MD, and later Robert Solomon, MD. While at Columbia, Dr. Parsa continued to develop his research interests in the laboratory of Jeffrey Bruce, MD, working to refine mechanisms of anti-glioma immunity.

In 2002, Dr. Parsa joined the faculty at the University of California at San Francisco, under the leadership of Mitchel S. Berger, MD. He is currently an associate professor appointed to the Khatib Endowed Chair of Skull Base Tumor Surgery. Dr. Parsa is also co-director of the skull base tumor program at UCSF and project leader in the UCSF Brain Tumor Specialized Program of Research Excellence funded through the National Cancer Institute. The author of numerous peer reviewed papers, reviews, chapters and commentaries, Dr. Parsa’s most recent work was published last year in Nature Medicine.

Louise Eisenhardt Lecture

Marcia Angell, MD

Marcia Angell, MD, is an American physician, author, and the first woman to serve as editor-in-chief of the New England Journal of Medicine (NEJM). She currently is a senior lecturer in the Department of Social Medicine at Harvard Medical School.

After completing undergraduate studies in chemistry and mathematics at James Madison University in Harrisonburg, Va., Dr. Angell spent a year as a Fulbright Scholar studying microbiology in Frankfurt, Germany. After receiving her medical degree from Boston University School of Medicine in 1967, she trained in both internal medicine and anatomic pathology and is a board-certified pathologist. She joined the editorial staff of NEJM in 1979, became executive editor in 1988, and interim editor-in-chief from 1999 until June 2000.

Dr. Angell is a frequent contributor to both medical journals and the popular media on a wide range of topics, particularly medical ethics, health policy, the nature of medical evidence, the interface of medicine and the law, and end-of-life healthcare. Her book, Science on Trial: The Clash of Medical Evidence and the Law in the Breast Implant Case (1996) received critical acclaim. With Stanley Robbins and, later, Vinay Kumar, she coauthored the first three editions of the textbook Basic Pathology. She has written chapters in several books dealing with ethical issues in medicine and healthcare.

Dr. Angell is a member of various professional organizations including the Association of American Physicians, the Institute of Medicine of the National Academy of Sciences, the Alpha Omega Alpha National Honor Medical Society, and is a Master of the American College of Physicians.

In 1997, Time magazine named Marcia Angell one of the 25 most influential Americans.
Donald D. Matson Lecture

Marion L. Walker, MD

Marion L. Walker, MD, was recruited to the University of Utah in 1976, where he established the Division of Pediatric Neurosurgery. He became Division Chief in 1978, a position he held for 28 years. Although he has stepped down as Division Chief, Dr. Walker continues to be active in his clinical practice and teaching roles.

Dr. Walker received his medical degree from the University of Tennessee, and subsequently pursued a neurosurgical residency at the Barrow Neurological Institute of St. Joseph’s Hospital in Phoenix. During this time he spent a year as a pediatric neurosurgery fellow at the Hospital for Sick Children in Toronto.

Dr. Walker has been invited as a visiting professor to numerous centers around the world. He has made seminal academic contributions in many areas of pediatric neurosurgery, in particular, hydrocephalus.

Dr. Walker currently serves as chairman of the Accreditation Council for Pediatric Neurosurgery Fellowships. He has served as president of the following organizations: the AANS/CNS Section on Pediatric Neurological Surgery, the American Society of Pediatric Neurosurgery, and the International Society of Pediatric Neurosurgery. Dr. Walker has also served on the editorial board of multiple journals and just completed a term as chairman of the editorial board of the Journal of Neurosurgery: Pediatrics.

David Klein Lecturer

Professor Rolfe Birch, MChir, FRCS

Professor Rolfe Birch, MChir, FRCS, is professor in neurological orthopaedic surgery at University College London. He was appointed surgeon to St Mary’s Hospital in London in 1979, working with two innovators in the field of orthopaedics in Great Britain, George Bonney and John Crawford Adams. In the same year, he was appointed to the Peripheral Nerve Injury Unit (alongside Donald Brooks) at the Royal National Orthopaedic Hospital.

Professor Birch obtained his FRCS for Glasgow in 1972, and for Edinburgh in 1973. The degree of MChir was awarded by the University of Cambridge in 1986.

His interest in peripheral nerves was acquired during college and medical school, and further developed in 1973 when he replanted the thumb of a child. He has enjoyed a longstanding and fruitful collaboration with Nicholas Murray, Shelagh Smith, and Peter Misra at the National Hospital for Nervous Diseases, and with Professor Praveen Anand at London Hospital and Imperial College.

He has published more than 100 papers and books in the field, many in collaboration with George Bonney, including the definitive textbook, Surgical Disorders of the Peripheral Nerves. Professor Birch was appointed the Robert Jones Lecturer to the College of Surgeons of England in 2005, leading to election to that College.

William P. Van Wagenen Fellowship—Celebrating 41 years

The William P. Van Wagenen Fellowship was established by the estate of Dr. and Mrs. Van Wagenen. Following his neurosurgical residency with Harvey Cushing, Dr. Van Wagenen traveled and studied in Europe, broadening his knowledge of neurological surgery and the related basic sciences.

In considering what contribution of a permanent nature he might make to neurosurgery, Dr. Van Wagenen chose to provide support to a post neurosurgical resident for foreign travel for scientific enrichment, prior to beginning an academic career in neurological surgery. The Van Wagenen Fellowship was designed to give freedom in scientific development without the restrictive limitations usually imposed by many research grants and fellowships.

Awarded annually, this prestigious Fellowship provides a $60,000 stipend for living and travel expenses to a foreign country for a period of twelve months. A family travel and living allowance of $6,000 is available if a spouse and/or children are accompanying the Fellow along with $5,000 for insurance expenses (if applicable). In addition, $15,000 of research support is available to the University, hospital or laboratory, which has agreed to sponsor the Van Wagenen Fellow.

Samuel H. Cheshier, MD, PhD

Samuel H. Cheshier, MD, PhD, is currently chief resident and postdoctoral fellow at the Institute of Regenerative Medicine and Stem Cell Biology, Department of Neurosurgery, Stanford University School of Medicine, where he also received his medical degree. His research is in the area of neural stem cell biology, in the laboratories of Irving L. Weissman, MD, and Roeland Nusse, PhD.

Dr. Cheshier has studied both normal and cancer-stem cells in the brain and identified the role of an important factor (Wnt protein) in the life cycle of these cells. His preliminary experiments indicate that Wnt proteins are indeed able to guide neural stem cell behavior and can be utilized as therapeutics for pathologies such as Parkinson’s disease.

As the 2008 Van Wagenen Fellow, Dr. Cheshier will travel to Sweden to study under the tutelage of Anders Bjorklund, MD, at Lund University, continuing his research on neural stem cell biology.
Visit the AANS Resource Center

Booth 1120 | Exhibit Hall

- Learn about new products and services such as educational videos, online offerings, neurosurgical books, patient education materials, and the latest clinical and practice management meetings.

- Find out about recent enhancements to the AANS’ online claims coding tool, AANSCodingToday.com.

- Learn about the newest AANS partner programs including an identity theft prevention service and a medical transcription service.

- Find out how you can make the most of AANS offerings through enhanced online services on the AANS Web sites: www.NeurosurgeryToday.org and www.AANS.org.

- Tour the AANS Online Career Center

- View www.MyAANS.org, the members-only site, which provides a virtual tool-kit with CME resources and tracking of credits, the Online Membership Directory, and more.

- Discover the latest membership benefits, check your application status, or learn more about exclusive services available only to members.

The AANS Resource Center also features:

- Many e-mail stations to check your e-mail.


- Technology Pavilion classroom offering free courses on selecting and implementing an EMR system, a tutorial of the ABNS Web site and demonstrations by AANSCodingToday and NextGen.

- The chance to place your bids on numerous offerings in the Silent Auction benefiting the Neurosurgery Research and Education Foundation (NREF).

VISIT BOOTH 1120
See Your Best, Feel Your Best

SurgiCam™
Digital Video Camera
(shown with SurgiTel Compact Prism Telescopes)

- USB plug-and-play connectivity
- Can be connected to any monitor
- Straight digital output - no conversion!
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RARE BOOKS EXHIBIT
The New York Academy of Medicine has graciously loaned the AANS rare medical books that are several hundred years old. Selections from the collection will highlight the issues, education and changes in neurosurgery as viewed from past leaders in the field of neurosurgery. Visit this rare books display in the rear of the exhibit hall at booth #1355.

INTERACTIVE EXHIBIT HALL
The AANS will once again use ExpoCAD, an online interactive exhibiting tool. This software provides real-time viewing of the exhibit floor and denotes locations of exhibiting partners. Busy neurosurgeons can now pre-plan their valuable time by searching exhibitor locations by company name, booth number, product and group in advance. To view the interactive exhibit hall, visit http://www.AANS.org/vr/shows/ AANS08/start.html.

CD-ROM STATION
The 2008 AANS Annual Meeting Scientific Program on CD-ROM will be distributed to all medical attendees with their registration materials. This CD offers AANS’ full oral presentations and poster abstracts. Search by author, abstract number, specialty or keyword with an easy to use search feature. Simply insert the CD in your CD drive and it automatically starts giving simple instructions and a help feature. AANS is providing several stations for you to view this program on site. Look for computer stations in the AANS Resource Center (Booth #1120) in the Exhibit Hall and Level 2 Lobby.

NEUROSURGERY RESEARCH AND EDUCATION FOUNDATION (NREF)
Advancing Neurosurgery Through Research
In 1981, in response to the alarming decline in federal and private funding for medical research, the AANS founded its research division, the Neurosurgery Research and Education Foundation (NREF). Over the past 26 years and through voluntary donations, the NREF has been dedicated to providing private, non-governmental sources of funding for research training in the neurosciences, related to the field of neurological surgery. The NREF cannot provide much needed funding for key scientific investigations without your help! Available again this year! When completing your registration form for the 2008 Annual Meeting, demonstrate your commitment to research and advancing the specialty by including your donation to the NREF. Annually, the NREF recognizes the generous support it receives at the AANS meeting through the NREF Donor and Grant Recipient Reception. The NREF Reception is an “invitation only” event, whereby Cushing Scholar Circle level supporters ($1000 and up) have the opportunity to meet incoming and outgoing Research Fellows and Young Clinician Investigators. This exclusive event is scheduled Tuesday evening at the headquarter hotel, the Sheraton Chicago Hotel and Towers, Chicago, IL. To ensure you are recognized among this benevolent group and amongst the invitees to the NREF Reception, be sure to make your donation to the NREF through the AANS Annual Meeting Registration Form, AANS Web site (www.AANS.org/Research), at registration or stop by the AANS Resource Center, booth #1120.

YOUNG NEUROSURGEONS’ SILENT AUCTION
The Young Neurosurgeons Committee invites you to visit the Tenth Annual Silent Auction located in the AANS Resource Center, booth #1120. An expanded array of items promises another successful year. Place your bid on favorite items such as high-tech electronics, sought-after medical items, vintage wines and much more. For a preview of some of this year’s Silent Auction items, visit www.AANS.org/Research. All proceeds from the Tenth Annual Silent Auction benefit the Neurosurgery Research and Education Foundation (NREF) and the Research Fellowships and Young Clinician Investigator Awards they support. Once again, the NREF will be utilizing the services of cMarket, an online auction provider. This service offers bidders convenient options for placing their bids be it online from their hotel rooms, from a PDA or at a computer at the auction site.

NREF Research Symposium
Tuesday, April 29, 4:00–5:30 PM
Room Missouri, Sheraton Chicago Hotel & Towers
The NREF will host its first annual Research Symposium prior to its reception for donors and grant recipients. Awardees completing their fellowships will present the results of their research. The NREF’s Scientific Advisory Committee will moderate. It is hoped that this symposium will foster collegial ties among awardees and expose their work to academic faculty and departmental chairs. Following the symposium, new grant recipients and past awardees will join the NREF Board of Directors, corporate partners and Cushing Donors at a reception for donors and grant recipients.
SPECIAL EVENTS

OPENING RECEPTION AT NAVY PIER
Sunday, April 27, 7:00–9:00 PM
Join us at the AANS Opening Reception, a memorable evening of food and entertainment while you enjoy the beauty of one of Chicago’s most important historical landmarks. Navy Pier is where tourists from around the world come to enjoy the beauty of Lake Michigan and a fantastic view of the Chicago lakefront skyline. This event promises to be a wonderful opportunity to see longtime friends and meet neurosurgical colleagues from around the world.

One ticket to the Opening Reception is included with each medical attendee and guest registration. Motor coaches will shuttle between all AANS contracted convention hotels between 6:45 and 9:15 PM.

INTERNATIONAL RECEPTION
Wednesday, April 30
Chicago History Museum
1601 North Clark Street
7:00–9:00 PM
All international attendees are invited to attend this reception and mingle with leaders from AANS and other international neurosurgical organizations as well as surgeons or surgeons in training from around the globe. The museum’s collection of 22 million historical artifacts rich in Chicago’s history creates an entertaining setting for attendees. Enjoy the exhibits while talking about the latest news in neurosurgery in many countries. Meet this year’s award winners and scholarship or fellowship recipients, then tour the museum’s permanent collection on the second floor.

NEUROSURGICAL TOP GUN COMPETITION
The Young Neurosurgeons Committee will present a competition for residents and fellows located in the exhibit hall. This third annual, three-day event will include stations such as endovascular/carotid stent simulator, computer-simulated ventriculostomy and spine/posterior cervical instrumentation. Contestants will receive scores for their performance and the resident or fellow with the best score will be awarded the Neurosurgical Top Gun honor and a valuable prize. Visit booth #1730 to participate!

ANNUAL MEETING ONLINE COURSES
Much of the scientific and section sessions and plenary sessions will be available for purchase streamed online. Visit the Annual Meeting Online Courses booth outside the plenary sessions. See page 121 for more details.

MEET THE PRESS
Breakfast Seminar 121
This seminar is for AANS Members only. Monday, April 28, 7:30–9:30 AM. Learn how to be confident and get your message across accurately when you respond to media inquiries. Journalists are turning to neurosurgeons now more than ever to comment on important socioeconomic issues such as medical liability reform and pay-for-performance; as well as medical issues such as Parkinson’s disease, chronic pain, spinal surgery, endovascular procedures, stroke, and more. A seasoned media trainer will walk AANS neurosurgeon members through a two hour media training session that includes on-camera time, talking points, and helpful hints for working with the media. Participants will learn how to develop, tailor and deliver their message to a targeted audience. Register for this informative breakfast seminar and be prepared for your next print, radio or television interview. This program is eligible for CME.

AANS PRESS ROOM
The Press Room is located in Room E254 in Lakeside Center, McCormick Place. It is open Monday, April 28 through Wednesday, April 30, 8:30 AM to 5:00 PM daily. AANS policy does not permit any exhibitor or outside promotional materials in the Press Room.

COUNCIL OF STATE NEURSUGICAL SOCIETIES (CSNS)
The semi-annual meeting of the Council of State Neurosurgical Societies (CSNS) will be held on Friday, April 25th and Saturday, April 26th at the Hyatt Regency Chicago Hotel.

NEUROSURGERYPAC
Federal policymakers have a huge impact on how neurosurgeons practice, when we practice, what we get paid and what patients we see; this influence is only growing stronger. In order to maximize effective advocacy efforts on behalf of neurosurgery, the AANS has yet another tool in its advocacy arsenal: a political action committee called NeurosurgeryPAC. Its mission is to support candidates for federal office who support neurosurgeons. NeurosurgeryPAC does this by making direct campaign contributions to candidates for the US Senate and the US House of Representatives who are supportive of the issues important to neurosurgery. NeurosurgeryPAC is nonpartisan and does not base its decisions on party affiliation, but instead focuses on the voting records and campaign pledges of the candidates. Stop by the NeurosurgeryPAC booth in the registration area to learn about current campaigns, recent successes and how you can help. AANS members who are citizens of the United States and who pay dues or have voting privileges can make contributions at this booth, or in the AANS Resource Center.
PHYSICIAN EXTENDERS’ PROGRAM

Neuroscience Nurses, Nurse Practitioners and Physician Assistants Activities

Watch for this icon throughout the Program. It indicates sessions that were designed with you in mind.

The Scientific Program Committee has organized a comprehensive selection of scientific topics that will be presented. All registered nurses, nurse practitioners, and physician assistants are invited and encouraged to attend any of the Breakfast Seminars that are offered each morning, Monday through Thursday and the Practical Clinics on Sunday.

Two practical clinics, eight breakfast seminars and two afternoon sessions are being offered, plus the Nursing Luncheon.

Practical Clinics

026 Head Trauma: Current Treatments and Controversies with Hands-On Practical Session in Brain Monitoring and Techniques

028 Decision Making and the Spine Patient for Nurses, APRN’s and PA’s

Breakfast Seminars

107 Coil vs. Clip for Intracranial Aneurysms

116 Integrating Mid-Level Practitioners Into Your Practice

122 Neurosurgical Decision Making in the Elderly

206 Functional Mapping of the Cerebral Cortex: Advantages and Limitations

224 Management of Acute Spinal Cord Injury

310 Management of Adult Scoliosis

322 Management of Subacute and Chronic Treatment of Traumatic Spinal Cord Injury

324 Neurosurgical Patient Assessment Scales: Critique and Practice Integration

NURSES, NURSE PRACTITIONERS AND PHYSICIAN ASSISTANTS

Nurses Luncheon

New Technologies and Strategies to Deal with Complex Hydrocephalus Cases

Monday, April 28
1:15-2:45 PM
Room CC12A, Hyatt Regency, McCormick Place

Moderator
Ellen Barker, MSN, APN

Speaker
Sanjay Misra, MD

This is an exciting opportunity for nurses who attend the annual educational conference to network, exchange information and receive handouts with a certificate for nursing credits for a dynamic packed educational offering with audience participation! Every neurosurgeon is encouraged to inform and invite their nurses. Attendees will also learn about the benefits of becoming a nurse associate AANS member. Make plans now to register early for this special event, bring a colleague and share in this free activity that nurses look forward to each year.

Sponsored by Aesculap, Inc.

Meeting Credit

This continuing nursing education activity was approved by the Illinois Nurses Association, an accredited approver by the American Nurses Credentialing Center’s Commission on Accreditation.

AANS Associate and Allied Memberships Benefits

Associate and Allied members save money on registration fees not only for the AANS Annual Meeting, but for all programming throughout the year. The AANS is making a concerted effort to involve nurses, nurse practitioners, and physician assistants (PA) in strategic planning to assure that any unique needs are being met. AANS provides leading educational opportunities—both clinically and in practice management. Associate and Allied members have access to the same programming as neurosurgeon members and many of the same benefits, including:

• Free online courses for members

• Member discounts on neurosurgical and practice management publications

• Member discounts on coding, reimbursement and other practice management seminars and resources

• Networking and peer assistance through meetings and online services such as the Online Membership Directory

• Access to the exhibit hall, featuring over 200 technical exhibits

• Additional training programs and exclusive courses are in the planning stages.

Associate Member Requirements

Nurses who specialize in the care of neurosurgical patients and Physician Assistants (PA) may apply if certified by the National Commission on Certification of Physician Assistants (PA-C).
Allied Member Requirements
Surgical Technicians or Allied Members shall be individuals who are Certified Surgical Technologists and are certified by the Liaison Council on Certification for the Surgical Technologist.

Applying for Membership has Never Been Easier! The AANS online application process makes applying for membership quick and easy through MyAANS.org. Visit the AANS Resource Center in the Exhibit Hall for more information, Monday through Wednesday, during exhibit hours. You may also obtain information by contacting the AANS Member Services Department at (847) 378–0500 or e-mail at info@AANS.org.

500 2:00–4:30 PM  N&PE
Organ Donation and Procurement

Monday, April 28
Room E351, Lakeside Center, McCormick Place

Cost: $75
This session is free for Nurses and Physician Extenders.

Moderator
Joseph Haymore, CRNP

Speakers
Kim A. Clark, PA; Alex B. Valadka, MD

There are approximately 100,000 patients awaiting organ transplantation in the United States. With less than 7,000 deceased donors per year, the patients awaiting transplantation risk death before receiving an organ. The ideal candidate for organ donation is a patient who is brain dead, and otherwise healthy. Neurosurgeons often care for patients who reach brain death and are appropriate for donation. This presentation will discuss patient selection for organ donation, brain death examination and criteria, clinical and ethical issues associated with donation, and clinical management of the patient before donation. This presentation is appropriate for Neurosurgeons, Neurointensivists, Physician Assistant, Nurse Practitioners, and Registered Nurses.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss the examination and standards for brain death determination
• Define selection criteria and procedure for organ donation
• Review ethical and legal aspects of organ donation
• Develop clinical management strategies to care for the brain dead patient before donation

501 2:00–5:00 PM  N&PE
Integration of Patient Assessment Technology Into Practice

Tuesday, April 29
Room E351, Lakeside Center, McCormick Place

Cost: $75
This session is free for Nurses and Physician Extenders.

Moderator
Twyila Lay, NP, MS

Speaker
MaryKay Bader, MSN; Julia Galletly; Leo Timothy Harris, PA-C; Geoffrey T. Manley, MD, PhD; Karen March, RN, MN; Matson Sewell, MPH, CPH

This symposium will explore the technological advancements in cerebral monitoring used in the assessment and management of complex patient data critical to the care of patients with traumatic brain injury. Didactic will be provided by a neurotrauma expert, including Advance Practice Nurses, Physician Assistants, and Neurosurgeons with an opportunity for interactive discussion and hands on device demonstrations.

Learning Objectives
After completing this educational activity, participants should be able to:
• Analyze the differences in various devices for ICP monitoring and discuss the guidelines for monitoring and medical decision making in regards to placement of an EVD vs. a parenchymal monitor
• Identify appropriate parenchymal placement, relevance and reliability of core vs. brain temperatures, and the use of brain tissue oxygen monitoring in the treatment and assessment of the patient with traumatic brain injury
• Describe the indications for using cerebral blood flow monitoring and performance of auto regulation challenges, including the significance of its use in treatment and prevention of secondary brain injury
• Distinguish the various levels of cellular physiology as it relates to cerebral microdialysis and the significance of it’s use in the treatment of traumatic brain injury
• Examine how the introduction of informatics into your practice can aid in the treatment/care of the ICU patient
RESIDENT, YOUNG NEUROSURGEON AND MEDICAL STUDENT ACTIVITIES

Residents, Fellows and Medical Students

Watch for this icon throughout the Program. It indicates sessions that were designed with you in mind.

Neurosurgical residents in North America receive FREE membership in the AANS; FREE Journal of Neurosurgery subscription; and FREE registration to the Annual Meeting. Medical students are able to receive free registration. Visit the AANS Resource Center in the Exhibit Hall to learn more about membership benefits, or visit www.AANS.org/residents/.

International Resident/Fellow

This membership category offers membership to residents or fellows who are enrolled in a verifiable non-North American neurosurgical training program or who are in the five years following completion of residency. Once certification is obtained, the International Resident/Fellow Member may request transfer to International member status with the submission of a copy of their certification certificate. For more information, please visit the AANS Resource Center in the Exhibit Hall or the membership area of www.AANS.org.

Marshals’ Office

Want to attend practical clinics and breakfast seminars for free? If so, the Marshals Program may be for you. The Marshall’s Subcommittee depends on the volunteer activity of many individuals to ensure the quality and success of the practical clinics and breakfast seminars. All marshals should report to the Marshals’ Office at least 30 minutes before their scheduled session. The office is located in room E250, Lakeside Center, McCormick Place, and will be open 7:00 AM to 5:00 PM on Saturday, April 26 and Sunday, April 27; and 6:30 to 10:00 AM on Monday, April 28 through Thursday, May 1.

Sessions for Residents, Fellows and Medical Students

Six exclusive practical clinics and six breakfast seminars are being offered complimentary to residents, fellows and medical students:

**Practical Clinics**

008 Basics of Spinal Stabilization, Fusion and Instrumentation

010 3-D Anatomy and Approaches to the Supratentorial Area and Anterior Skull Base

018 Endovascular and Hybrid Approaches to Cerebrovascular Disease

021 Peripheral Nerve Injuries, Entrapments and Tumors: Examination and Evaluation

029 3-D Anatomy and Approaches to the Posterior Fossa and Posterior Skull Base

034 Interventional Neurovascular Disease: Management, Complications and Avoidance Strategies

**Breakfast Seminars**

107 Coil vs. Clip for Intracranial Aneurysms

119 Surgical Approaches to the Lateral Skull Base

122 Neurosurgical Decision Making in the Elderly

211 Advances in Carotid Disease: Surgery vs. Endovascular Therapy

222 Becoming a Neurosurgeon: A Practical Course for Medical Students and Residents

302 Multidisciplinary Management of Cerebral AVM

Young Neurosurgeons Luncheon

Monday, April 28
1:15–2:45 PM
Rooms E271a and E271b, Lakeside Center, McCormick Place

The Future of Neurosurgical Education

Moderator
Jonathan A. Friedman, MD

Speaker
H. Hunt Batjer, MD, FACS

Young Neurosurgeons Committee Meeting

Monday, April 28
5:30–7:30 PM
Room Erie, Sheraton Chicago Hotel & Towers

Neurosurgical Top Gun Competition

The Young Neurosurgeons Committee will present a competition for residents and fellows located in the exhibit hall. This third annual, three-day event will include stations for motion/tremor analysis, computer-simulated ventriculostomy and pedicle screw placement. Contestants will receive scores for their performance and the resident or fellow with the best score will be awarded the Neurosurgical Top Gun honor and a $1,000 gift certificate. Visit www.AANS.org for further details.
The AANS Resource Center located in the Exhibit Hall, booth #1120, is the place to go to learn about all that’s happening at AANS—and how the AANS is helping neurosurgeons meet the challenges of neurosurgery.

ANNUAL MEETING SPECIAL PROMOTIONS

• Purchase any AANS clinical or professional management DVD or any AANS patient education brochure package onsite and become eligible to win a complimentary copy of Neurosurgical Operative Atlas: Spine and Peripheral Nerves (retail value $225). For the complete list of topics available in the AANS DVD and patient education brochure series, visit www.AANS.org and select ‘AANS Online Marketplace’.

• 2008 AANS Annual Meeting Online Courses: Over 50 hours of meeting content will be captured and streamed online post meeting. Attendees can save over $100 by pre-ordering or ordering the annual meeting online sessions onsite. Plenary sessions, scientific sessions, and section sessions will be available. $185 for AANS Members and $195 for non-members, the price increases over $100 after the meeting. Pick up an order form/course list in the AANS Resource Center or the Annual Meeting Online Courses sales booth located just outside the Plenary Session area. CME is available.

EDUCATIONAL DVDS

Stop in to view AANS’ educational and scientific DVDs available for purchase. Featuring discussions of current neurosurgical treatment options or hands-on lab instruction using cadaver material, neurosurgeons at all levels of clinical practice will find these instructional recordings valuable tools in their continuing education. Taught by renowned faculty, many offer CME credit.

PUBLICATIONS

NEW! A Guide to the Primary Care of Neurological Disorders, Second Edition by A. John Popp, MD

Synthesizing the expert clinical advice of specialists who treat disorders of the nervous system, this book is an accessible, single-volume resource for primary care physicians requiring practical information on a range of neurological disorders. Features include an outline at the start of each chapter that aids rapid location of topics of interest, thorough coverage of history-taking and the physical examination and “pearls” and “pitfalls” at the end of each chapter review fundamental concepts and provide helpful guideposts to managing each clinical situation.

NEW! Neurosurgical Emergencies, Second Edition by Christopher Loftus, MD

This edition is an up-to-date reference covering the most frequently encountered neurosurgical emergencies caused by disease, infection, trauma, and complications. It presents the current surgical guidelines for managing the full range of neurosurgical emergencies including those involving intracranial, spinal and peripheral nerve pathology and neurosurgical problems in pediatric patients. Highlights include new chapters on the assessment of acute loss of consciousness, emergency management of spinal cord injury and the management of raised intracranial pressure. This publication also includes more than 200 illustrations and images that demonstrate key concepts.

EDUCATION AND MEETINGS

Pick up the 2008 Calendar of Clinical and Practice Management Meetings—topics range from cadaver lab courses to practice management and coding workshops.

NEW! Be sure to pick up the course listing for the new practice management web conferences. These web-based conferences offer the convenience of education without leaving your office. And, for one small fee, you can have as many staff present to take advantage of AANS’ expertise and knowledge.

View the AANS/SNS Neurosurgical Online Learning Sessions offered free to members of the AANS and the Society of Neurological Surgeons. These sessions serve as a valuable learning tool for residents, neurosurgeons, physician assistants and nurses as they directly relate to the core cognitive curriculum of neurosurgery. Archived online for viewing any time, instruction is provided via audio-narrated presentations. New sessions are added frequently, and all sessions will now offer CME credit.

Check out the latest upgrades to the AANS Online Case Studies. The case studies serve as a repository for neurosurgical cases that offer the variation in disease presentation and management within neurosurgical practice. Members can discuss cases and learn from each other in a secure and confidential environment. Share how you have managed similar cases and offer insights into other aspects of the case presentation or pathophysiology.

CODING & EMR PROGRAMS FOR MEMBERS

The AANS has partnered with several companies to offer AANS members technological solutions to difficult practice issues—especially coding, billing and medical records. Stop in to pick up literature or talk to representatives about the following member programs:
Today is a product of private and secure and many, many more.
to add personal coding notes that are ideally suited for providers that want to medical practice, NextGen® EMR is designed to help physician practices increase revenues. Appropriate for any size improve quality, reduce risk, cut costs and designed to help physician practices revisiting physicians who subscribe to AANSCodingToday.com will benefit from many new enhancements including navigational improvements, enhanced search capabilities, more local coverage decision results, direct links to modifier definitions, ability to add personal coding notes that are private and secure and many, many more.

AANSCodingToday is a product of Physicians Reimbursement Systems, Inc. (PRS). For more information, visit the AANS Resource Center, or stop in the technology pavilion for a demonstration.

- **NextGen** EMR: NextGen® EMR is designed to help physician practices improve quality, reduce risk, cut costs and increase revenues. Appropriate for any size medical practice, NextGen® EMR is ideally suited for providers that want to share and manage clinical and administrative patient information through a comprehensive, single-source application.

**NEUROSURGERY RESEARCH AND EDUCATION FOUNDATION (NREF)**

**Advancing Neurosurgery Through Research**
The NREF has continued to ensure the viability and expansion of the field of neurological surgery, based on fundamental research in the basic sciences and clinical enterprises pertinent to neurosurgery. Through support by the neurosurgical community, the NREF has stimulated learning by neurosurgeons and enhanced educational opportunities throughout their careers. Over the past 26 years, the Foundation has established two grant programs to fulfill this need. The Research Fellowship provides research training for neurosurgeons who are preparing to dedicate their futures to the research and application of new scientific knowledge.

The Research Fellowship is a two-year grant for $70,000 or a one-year grant of $40,000. The one-year Young Clinician Investigator Award (YCI) is a $40,000 grant, which provides young faculty members funding for pilot studies, which enables them to develop preliminary data to support applications for more permanent funding. Visit the AANS Resource Center, Exhibit Hall booth #1120 for more information on how you can support the NREF or to pick up information on the various grants and fellowships available. Or, visit the Registration area and register your support for the NREF when you pick up your badge and other meeting materials. Thank you in advance for your support.

**YOUNG NEUROSURGEONS’ SILENT AUCTION**
The Young Neurosurgeons Committee invites you to visit the Tenth Annual Silent Auction located in the AANS Resource Center, booth #1120.

An expanded array of items promises another successful year. Place your bid on favorite items such as high-tech electronics, exciting weekend vacation packages, sought-after medical items, vintage wines and much more. For a preview of some of this year’s Silent Auction items, visit www.AANS.org/Research.

All proceeds from the Tenth Annual Silent Auction benefit the Neurosurgery Research and Education Foundation (NREF) and the Research Fellowships and Young Clinician Investigator Awards they support. Once again, the NREF will be utilizing the services of cMarket, an online auction provider. This service offers bidders convenient options for placing their bids be it online from their hotel rooms, from a PDA or at a computer at the auction site.

**AANS ONLINE CAREER CENTER**
A great source for open neurosurgical positions from across the country, the AANS Online Career Center is a free benefit to AANS members. The AANS Online Career Center has launched several exciting new features for job seekers, including a new Résumé Builder feature and the ability to create your own personalized employment Web site. Résumé Builder includes the ability to customize your professional résumé, including specific fonts, colors and content. The new “My Site” section allows you to easily build your own password protected Web site, including a home page, photo, résumé, references and the ability to upload articles you’ve written or published. Your site will have its own unique Web address that you can provide to anyone you wish, including potential employers. Also, take advantage of the “My Work Style” feature that enables members to use the state-of-the-art self evaluation tool designed to provide an evaluation of your own unique work style. This new feature identifies optimal work environments and provides guidance on how to use the information to advance your career.

All features on the AANS Online Career Center are free to job seekers and are easy to use with simple instructions and templates. Visit with an AANS Online Career Center representative to learn how easy it is to search for employment opportunities, or how to advertise open positions.

**ALSO AVAILABLE IN THE AANS RESOURCE CENTER**
- E-mail stations—free to medical attendees
- CME self-reporting stations to help expedite the self-reporting process
- Opportunity to purchase the latest publication releases from the AANS
- Free courses on selecting and implementing an EMR system and navigating through MOC while using the ABNS website. These courses are offered at the Center’s Technology Pavilion (see page 28)
- Free demonstrations on AANS partner programs including AANSCodingToday.com and NextGen EMR in the Resource Center’s Technology Pavilion
- Opportunity to pick up a cup of coffee and meet with colleagues in a comfortable lounge area
AANS TECHNOLOGY PAVILION FREE SESSIONS
Located in the AANS Resource Center (Exhibit Hall booth #1120)
All sessions are free to AANS medical attendees and their staff; first-come, first-serve seating. Come early to save your seat—sessions fill up fast!

New! Selecting and Implementing EMR Systems for the Neurosurgical Practice
45 minutes
Peter K. Dempsey, MD
You know that Electronic Medical Records add value, but the options are overwhelming. How do you know where to start? Talking with a neurosurgeon who has been through the process of selecting and implementing an EMR is a good beginning. Peter Dempsey, MD recently went through this process for the Lahey Clinic (Burlington, MA). His presentation will identify the components of an EMR system and the value a system provides. He will discuss with participants what to look for in an EMR system, offer contract pointers, and review issues related to implementing the system into practice. At the conclusion of the program, attendees will have a basic knowledge of how an EMR will improve their practice, and will be aware of potential pitfalls.

New! Navigating MOC: Using the ABNS Web Site to Stay on Course
45 minutes
Charles L. Branch, Jr, MD, Kim J. Burchiel, MD, FACS, Paul C. McCormick, MD
The ABNS Web site recently introduced new features to two important components of Maintenance of Certification requirements: Evidence of Lifelong Learning and Evidence of Performance in Practice. Attend this session to learn where CME credits and self-assessment vehicles are tracked and how to use them. Presenters will also show participants where key cases are stored, how to submit key cases and how to run the appropriate reports to stay on track. Representatives from the ABNS will be available to answer questions, and how to use the Web site to fulfill MOC requirements.

AANS PARTNER PRESENTATIONS
AANSCodingToday.com
Keeping up with the constant changes in claims coding and billing rules that occur every year is both costly and time consuming. Now, there is an online database to help. AANSCodingToday.com is a comprehensive, easy-to-use online claims coding tool offered to members at deeply discounted yearly subscriptions through Physician Reimbursement Systems.

Attend this 45-minute presentation to learn how AANSCodingToday.com brings together all the claims coding resources and educational material your surgical practice needs. Learn how a simple search by procedure code or name provides:
• Full list of CPT, HCPCS Level II and ICD-9 codes
• Allowed modifiers and other billing rules such as bundling edits

NextGen® EMR System
NextGen Healthcare will provide an overview on the benefits of electronic medical records and will showcase their award-winning system (NextGen® EMR). NextGen® EMR facilitates point-of-care documentation, coding accuracy, and robust reporting in an easy-to-use Windows design. NextGen® EMR includes content specific to neurosurgery, with workflow templates and tools designed uniquely for the specialty.

NextGen® EMR also integrates seamlessly (on a single database) with NextGen Healthcare’s practice management system, NextGen EPM, for a full practice solution. This integration allows for simplicity in administration, maintenance, communication, reporting, and charge capture.

Benefits of using an EMR include transcription savings, record availability, stronger care management, improved patient safety, and coding optimization.

AANS TECHNOLOGY PAVILION SCHEDULE

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
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</thead>
<tbody>
<tr>
<td>9:00–9:45 AM</td>
<td>Selecting and Implementing EMR Systems for the Neurosurgical Practice</td>
<td>Navigating MOC: Using the ABNS Web Site to Stay on Course</td>
<td>NextGen EMR</td>
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<tr>
<td>1:15–2:00 PM</td>
<td>Navigating MOC: Using the ABNS Web Site to Stay on Course</td>
<td>Selecting and Implementing EMR Systems for the Neurosurgical Practice</td>
<td>AANSCodingToday</td>
</tr>
<tr>
<td>2:30–3:15 PM</td>
<td>AANSCodingToday</td>
<td>NextGen EMR</td>
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SECTION ACTIVITIES

AANS SECTION ON THE HISTORY OF NEUROLOGICAL SURGERY

SUNDAY, APRIL 27
Annual Business Meeting
2:30–4:00 PM
Room Superior A, Sheraton Chicago Hotel & Towers

MONDAY, APRIL 28
History Section Dinner
6:00–10:00 PM
Sears Tower Metropolitan Club

WEDNESDAY, APRIL 30
Section Session
2:45–5:30 PM
Room E353b, Lakeside Center, McCormick Place

AANS /CNS CEREBROVASCULAR SECTION

SUNDAY, APRIL 27
Executive Committee Meeting
4:00–6:00 PM
Room Chicago Ballroom VIII, Sheraton Chicago Hotel & Towers

TUESDAY, APRIL 29
Section Session
2:45–5:30 PM
Room E353c, Lakeside Center, McCormick Place

AANS /CNS SECTION ON NEUROTRAUMA AND CRITICAL CARE

MONDAY, APRIL 28
Executive Committee Meeting
1:00–2:45 PM
Room CC12C, Hyatt Regency McCormick Place

TUESDAY, APRIL 29
Section Session
2:45–5:30 PM
Room E353c, Lakeside Center, McCormick Place

AANS /CNS SECTION ON PAIN

SUNDAY, APRIL 27
Executive Committee Meeting
4:30–6:30 PM
Room Illinois Boardroom, Sheraton Chicago Hotel & Towers

WEDNESDAY, APRIL 30
Section Session
2:45–5:30 PM
Room E353c, Lakeside Center, McCormick Place

AANS /CNS SECTION ON PEDIATRIC NEUROLOGICAL SURGERY

WEDNESDAY, APRIL 30
Executive Committee Meeting
1:00–2:45 PM
Room CC11B, Hyatt Regency McCormick Place

AANS /CNS SECTION ON DISORDERS OF THE SPINE AND PERIPHERAL NERVES

MONDAY, APRIL 28
Executive Committee Meeting
1:00–2:45 PM
Room CC12D, Hyatt Regency McCormick Place

TUESDAY, APRIL 29
Section Session (Spine)
2:45–5:30 PM
Room E451b, Lakeside Center, McCormick Place

WEDNESDAY, APRIL 30
Section Session (Peripheral Nerve)
2:45–5:30 PM
Room E451b, Lakeside Center, McCormick Place

Peripheral Nerve Task Force
5:30–6:00 PM
Room E451b, Lakeside Center, McCormick Place
AANS /CNS SECTION ON STEREOTACTIC & FUNCTIONAL NEUROSURGERY

TUESDAY, APRIL 29
Executive Committee Meeting
1:00–2:45 PM
Room Meeting Suite #3, Hyatt Regency
McCormick Place

Section Session
2:45–5:30 PM
Room E350, Lakeside Center,
McCormick Place

Reception
5:45–8:00 PM
Room Columbus A, Sheraton Chicago
Hotel & Towers

AANS /CNS SECTION ON TUMORS

MONDAY, APRIL 28
Executive Committee Meeting
1:00–2:45 PM
Room CC12B, Hyatt Regency
McCormick Place

Young Members Reception
5:30–8:00 PM
Room Sheraton Ballroom V, Sheraton
Chicago Hotel & Towers

TUESDAY, APRIL 29
Business Meeting
2:40–2:45 PM
Room E450b, Lakeside Center,
McCormick Place

Section Session (Tumors I)
2:45–5:30 PM
Room E450b, Lakeside Center,
McCormick Place

WEDNESDAY, APRIL 30
Section Session (Tumors II)
2:45–5:30 PM
Room E450b, Lakeside Center,
McCormick Place

WOMEN IN NEUROSURGERY (WINS)

SUNDAY, APRIL 27
Strategic Planning Meeting
1:00–2:00 PM
Room Mayfair, Sheraton Chicago
Hotel & Towers

Executive Committee Meeting
2:00–4:00 PM
Room Mayfair, Sheraton Chicago
Hotel & Towers

TUESDAY, APRIL 29
Louise Eisenhardt Breakfast
8:30–10:00 AM
Room CC12B, Hyatt Regency
McCormick Place

Reception
6:00–8:00 PM
Room Sheraton II, Sheraton Chicago
Hotel & Towers

DON’T MISS THE AANS HISTORY SECTION ANNUAL DINNER

The Metropolitan Club located in the Sears Tower

Cost per person: $135
Attend this year’s annual dinner of the American Association of Neurological Surgeons History Section at The Metropolitan Club located in the Sears Tower. Enjoy an evening filled with sweeping panoramic views of Lake Michigan and the Chicago skyline from North America’s tallest building, the Sears Tower. The Metropolitan Club, founded in 1974, is the premiere business and social club in Chicago, located in the heart of the Loop. Their seasonal menu offers American cuisine with a European flair prepared by an exceptional culinary staff. The newly remodeled private event space, located on the 66th floor of the Sears Tower, offers magnificent views of Chicago's skyline, major landmarks, and incredible lakeshore. The evening will consist of a tour of the Sears Tower Skydeck, a plated meal and a lecture by Dr. Christopher Goetz from Rush Medical Center. The Sears Tower is centrally located in the heart of the “Loop,” and is easily accessible by subway or cab. Join us for a memorable evening at this historic location!
## FRIDAY, APRIL 25, 2008

### AANS Finance Committee Meeting
7:00–10:00 AM  
Room Sheraton Ballroom III, Sheraton Chicago Hotel & Towers

### CNS Executive Committee Meeting
7:00 AM–5:00 PM  
Room Chicago Ballroom VIII, Sheraton Chicago Hotel & Towers

### CSNS Communications and Education
7:30–9:00 AM  
Room McCormick, Hyatt Regency Chicago

### CSNS Information Conference
7:30–8:00 AM  
Room Buckingham, Hyatt Regency Chicago

### CSNS Young Physician’s Committee Meeting
8:00–9:00 AM  
Room Picasso, Hyatt Regency Chicago

### CSNS Editorial/Publication Ad Hoc
9:00–10:00 AM  
Room Addams, Hyatt Regency Chicago

### CSNS Fellowship Ad Hoc
9:00–10:00 AM  
Room Ogden, Hyatt Regency Chicago

### CSNS Leadership Development Ad Hoc
9:00–10:00 AM  
Room Field, Hyatt Regency Chicago

### CSNS Membership Development Ad Hoc
9:00–10:00 AM  
Room DuSable, Hyatt Regency Chicago

### CSNS Mentoring Program Ad Hoc
9:00–10:00 AM  
Room Wright, Hyatt Regency Chicago

### CSNS Website Ad Hoc
9:00–10:00 AM  
Room Horner, Hyatt Regency Chicago

### CSNS Medical Practices
10:00–11:45 AM  
Room Horner, Hyatt Regency Chicago

### CSNS Neurotrauma
10:00–11:45 AM  
Room Field, Hyatt Regency Chicago

### CSNS Reimbursement
10:00–11:45 AM  
Room Wrigley, Hyatt Regency Chicago

### CSNS Workforce
10:00–11:45 AM  
Room Wright, Hyatt Regency Chicago

### CSNS Executive Committee Meeting
11:45 AM–12:30 PM  
Room Wrigley, Hyatt Regency Chicago

### CSNS Plenary Session
9:00 AM–12:00 PM  
Room Columbus KL, Hyatt Regency Chicago

### CSNS Plenary Session
12:00–1:00 PM  
Room Wrigley, Hyatt Regency Chicago

### AANS Long Range Planning Committee Meeting
10:15–11:45 AM  
Room Sheraton Ballroom III, Sheraton Chicago Hotel & Towers

### CSNS Executive Committee Meeting
11:45 AM–12:30 PM  
Room Wrigley, Hyatt Regency Chicago

### CSNS Plenary Session
9:00 AM–12:00 PM  
Room Columbus KL, Hyatt Regency Chicago

### CSNS Executive Committee Meeting
12:00–1:00 PM  
Room Wrigley, Hyatt Regency Chicago

### CSNS / AANS Caucus
7:00–9:00 AM  
Room Gold Coast, Hyatt Regency Chicago

### CSNS / CNS Caucus
7:00–9:00 AM  
Room Truffles, Hyatt Regency Chicago

### SATURDAY, APRIL 26, 2008

### CSNS / AANS Caucus
7:00–9:00 AM  
Room Gold Coast, Hyatt Regency Chicago

### CSNS / CNS Caucus
7:00–9:00 AM  
Room Comiskey, Hyatt Regency Chicago
CSNS Medical Legal
1:00–2:00 PM
Room Buckingham, Hyatt Regency Chicago

CSNS Medical Practices
1:00–2:00 PM
Room Picasso, Hyatt Regency Chicago

CSNS Neurotrauma
1:00–2:00 PM
Room Wrigley, Hyatt Regency Chicago

CSNS Reimbursement
1:00–2:00 PM
Room Gold Coast, Hyatt Regency Chicago

CSNS Workforce
1:00–2:00 PM
Room Haymarket, Hyatt Regency Chicago

Journal of Neurosurgery Publishing Group Editorial Board Meeting
1:00–4:00 PM
Room Sheraton Ballroom I, Sheraton Chicago Hotel & Towers

CSNS Executive Committee Meeting
2:00–3:00 PM
Room Comiskey, Hyatt Regency Chicago

Joint Guideline Committee
3:00–5:00 PM
Room Ontario, Sheraton Chicago Hotel & Towers

CNS University
3:30–5:30 PM
Room Arkansas, Sheraton Chicago Hotel & Towers

Neurosurgery PAC Board of Directors Meeting
4:30–5:30 PM
Room Mayfair, Sheraton Chicago Hotel & Towers

SUNDAY, APRIL 27, 2008

AANS Member Benefit Development Committee
6:30–8:00 AM
Room Colorado, Sheraton Chicago Hotel & Towers

CNS Annual Meeting IML Planning Meeting
7:00 AM–5:00 PM
Room Chicago Ballroom X, Sheraton Chicago Hotel & Towers

Spouse/Guest Hospitality Suite
7:30 AM–4:00 PM
Room Java East, Sheraton Chicago Hotel & Towers

Springer Journal Neurosurgical Review
7:30–9:30 AM
Room Meeting Suite I, Hyatt Regency McCormick Place

AANS Leadership Orientation
8:00 AM
Room Sheraton Ballroom IV, Sheraton Chicago Hotel & Towers

AANS Van Wagenen Fellowship
9:30–10:30 AM
Room Colorado, Sheraton Chicago Hotel & Towers

CNS Congress Quarterly Editorial Board Meeting
10:00 AM–2:00 PM
Room Parlor E, Sheraton Chicago Hotel & Towers

Neurosurgical Summit Meeting
10:00 AM–12:00 PM
Room Mayfair, Sheraton Chicago Hotel & Towers

AANS Education and Practice Management Committee
10:30 AM–12:00 PM
Room Mississippi, Sheraton Chicago Hotel & Towers

Van Wagenen Past Fellows Luncheon
11:30 AM–2:00 PM
Room Arkansas, Sheraton Chicago Hotel & Towers

CNS Fellowship Committee
11:30 AM–1:00 PM
Room Illinois Boardroom, Sheraton Chicago Hotel & Towers

CNS Nominating Committee
11:30 AM–2:00 PM
Room Michigan B, Chicago Hotel & Towers

CNS I.T. Committee
12:00–2:00 PM
Room Sheraton, Ballroom III, Sheraton Chicago Hotel & Towers

WFNS Planning Meeting
12:00–1:00 PM
Room Sheraton Ballroom I, Sheraton Chicago Hotel & Towers

Quality Improvement Workgroup
12:00–2:00 PM
Room Colorado, Sheraton Chicago Hotel & Towers

CNS Publications Committee Meeting
12:00–3:00 PM
Room Ohio, Sheraton Chicago Hotel & Towers

CNS SANS Editorial Board Meeting
12:30–5:00 PM
Room Erie, Sheraton Chicago Hotel & Towers

2008 International Meningioma Congress Committee Meeting
1:00–3:00 PM
Room Sheraton II, Sheraton Chicago Hotel & Towers

American Academy of Neurological Surgery Executive Committee Meeting
1:00–3:30 PM
Room Missouri, Sheraton Chicago Hotel & Towers

ABNS Extra-Mural Subspecialty Item Writing Committee Luncheon Seminar
1:30–3:00 PM
Room Sheraton Ballroom V, Sheraton Chicago Hotel & Towers

AANS Publications Committee Meeting
2:00–3:00 PM
Room Colorado, Sheraton Chicago Hotel & Towers

AANS Public Relations Committee
2:30–3:45 PM
Room Illinois Boardroom, Sheraton Chicago Hotel & Towers

AANS Maintenance of Certification Committee
2:30–4:00 PM
Room Michigan B, Chicago Hotel & Towers

American Brain Injury Consortium
3:00–6:00 PM
Room Sheraton Ballroom V, Sheraton Chicago Hotel & Towers
CNS Education Committee
3:00–4:00 PM
Room Sheraton Ballroom II, Sheraton Chicago Hotel & Towers

CNS International Committee Meeting
3:00–5:00 PM
Room Chicago Ballroom IX, Sheraton Chicago Hotel & Towers

FLANC
3:00–4:00 PM
Room Superior B, Sheraton Chicago Hotel & Towers

WFNS Nominating Committee
3:00–5:00 PM
Room Michigan B, Sheraton Chicago Hotel & Towers

AANS NREF Executive Council Meeting
3:30–5:00 PM
Room Sheraton Ballroom III, Sheraton Chicago Hotel & Towers

AANS International Outreach Committee
4:00–5:30 PM
Room Colorado, Sheraton Chicago Hotel & Towers

AANS Joint Sponsorship Council
4:00–5:00 PM
Room Parlor F, Sheraton Chicago Hotel & Towers

AANS Membership Committee
4:15–5:30 PM
Room Ontario, Sheraton Chicago Hotel & Towers

AANS Neurosurgeon Editorial Board
4:30–6:00 PM
Room Sheraton Ballroom II, Sheraton Chicago Hotel & Towers

Springer Journal Neurosurgical Review Reception
5:00–7:00 PM
Room Meeting Suite 4, Hyatt Regency McCormick Place

AANS Resident Mentoring Reception
5:45–6:30 PM
Room Huron, Sheraton Chicago Hotel & Towers

MONDAY, APRIL 28, 2008

AANS Development Committee Meeting
6:15 AM–7:30 AM
Room Missouri, Sheraton Chicago Hotel & Towers

Spouse/Guest Hospitality Suite
7:30 AM–4:00 PM
Room Java East, Sheraton Chicago Hotel & Towers

CNS Research Committee
12:30–2:30 PM
Room Huron, Sheraton Chicago Hotel & Towers

ABNS Advisory Council Luncheon Meeting
1:00–2:45 PM
Room TBD, Hyatt Regency McCormick Place

CNS Web Committee
1:00–2:45 PM
Room Michigan B, Sheraton Chicago Hotel & Towers

Nurses Luncheon, Sponsored by Aesculap
1:15–2:45 PM
Room CC12A, Hyatt Regency McCormick Place (Ticketed Event)

Young Neurosurgeons Luncheon
1:00–2:34 PM
Room E271ab, Lakeside Center, McCormick Place (Ticketed Event)

Association of Neurosurgical Physician Assistants Board Meeting
5:00–8:30 PM
Room Parlor B, Sheraton Chicago Hotel & Towers

Joint Annual Business Meeting of the AANS and the American Association of Neurosurgeons
5:30–6:30 PM
Room E350a, McCormick Place Lakeside Center

AASAN Meeting
5:30–7:00 PM
Room Hilton, Chicago

Ohio State University Neurosurgery Alumni Reception
5:30–7:00 PM
Room Michigan A, Sheraton Chicago Hotel & Towers

UCSF Cocktail Party
5:30–7:30 PM
Room Chicago Ballroom X, Sheraton Chicago Hotel & Towers

AANS Joint Military Committee
5:30–7:30 PM
Room Superior A, Sheraton Chicago Hotel & Towers

University of Pennsylvania–Department of Neurosurgery Frazier Club Reception
5:30–7:00 PM
Room CC 23AB, Hyatt Regency McCormick Place

Dandy Society Reception
5:30–7:30 PM
Room Arkansas, Sheraton Chicago Hotel & Towers

Young Neurosurgeons’ Committee
5:30–7:30 PM
Room Erie, Sheraton Chicago Hotel & Towers

University of Colorado Alumni Reception
6:00–8:00 PM
Room Mississippi, Sheraton Chicago Hotel & Towers

Baylor College of Medicine, Department of Neurosurgery Reception
6:00–8:00 PM
Room Missouri, Sheraton Chicago Hotel & Towers

University of Virginia Medical Alumni Reception
6:00–8:00 PM
Room Ohio, Sheraton Chicago Hotel & Towers

Stanford University Neurosurgery Alumni Reception
6:00–8:00 PM
Room Colorado, Sheraton Chicago Hotel & Towers

Temple University School of Medicine Neurosurgery Alumni Reception
6:00–8:00 PM
Room Colorado, Sheraton Chicago Hotel & Towers

University of Pittsburgh, Department of Neurological Surgery Reception
6:00–7:30 PM
Room Mayfair, Sheraton Chicago Hotel & Towers
Mayo Clinic Alumni Association
6:30–8:00 PM
Room Ontario, Sheraton Chicago
Hotel & Towers

MGH Neurosurgery Alumni Reception
6:30–9:00 PM
Room Chicago Ballroom VIII, Sheraton Chicago Hotel & Towers

University of Nebraska Medical Center Alumni Program
6:30–8:00 PM
Room Huron, Sheraton Chicago Hotel & Towers

Neurological Institute Alumni Cocktail Party
6:30–7:30 PM
Room Michigan B, Sheraton Chicago Hotel & Towers

Satellite Symposium: Schering Plough “Tomorrow Will Be Different”
7:00–10:00 PM
Room Chicago Ballroom VI, Sheraton Chicago Hotel & Towers

TUESDAY, APRIL 29, 2008

AANS Ethics Committee
6:30–7:30 AM
Room E272d, McCormick Place Lakeside Center

Spouse/Guest Hospitality Suite
7:30 AM–4:00 PM
Room Java East, Sheraton Chicago Hotel & Towers

AANS Information Technology Committee
1:00–2:30 PM
Room Meeting Suite #4, Hyatt Regency McCormick Place

NREF Research Symposium
4:00–5:30 PM
Room Missouri, Sheraton Chicago Hotel & Towers

AANS NREF Donor and Grant Recipient Reception
5:30–7:00 PM
Room Mayfair, Sheraton Chicago Hotel & Towers

Cleveland Clinic AANS Alumni Reception
5:30–7:00 PM
Room Sheraton Ballroom I, Sheraton Chicago Hotel & Towers

Careers in Functional Neurosurgery: Resident and Fellow Reception
5:45–7:15 PM
Room Ohio, Sheraton Chicago Hotel & Towers

USC Neurosurgery
7:00–10:00 PM
Room Sheraton Ballroom III, Sheraton Chicago Hotel & Towers

WEDNESDAY, APRIL 30, 2008

Spouse/Guest Hospitality Suite
7:30 AM–4:00 PM
Room Java East, Sheraton Chicago Hotel & Towers

2008/2009 Annual Meeting Committee/Scientific Program Committee Meeting
2:00–3:30 PM
Room E260, McCormick Place Lakeside Center

THURSDAY, MAY 1, 2008

Spouse/Guest Hospitality Suite
7:30–10:00 AM
Room Java East, Sheraton Chicago Hotel & Towers
The AANS wishes to thank the following companies for their year-long support of both the Annual Meeting and the Pinnacle Partners program.

**PLATINUM ($75,000 +)**
- Boston Scientific Neurovascular (PP)
- Codman, a Johnson & Johnson company (PP)
- DePuy Spine, a Johnson & Johnson company (PP)
- Globus Medical (PP)
- Integra Foundation (PP)
- Medtronic (PP)
- Medtronic Neurologic Technologies (PP)
- Micrus Endovascular, Inc. (PP)
- Synthes Spine (PP)

**GOLD ($50,000 – $74,999)**
- Carl Zeiss Meditec, Inc. (PP)
- Cordis Neurovascular, Inc., a Johnson & Johnson company (PP)
- Ev3 Neurovascular (PP)
- Stryker (PP)

**SILVER ($25,000 – $49,999)**
- Kyphon (PP)

**BRONZE ($1,000 – $24,999)**
- Aesculap, Inc.
- Anspach Companies
- Neurologica
- NuVasive, Inc.
- Osteotech, Inc.
- TeDan Surgical Innovations
- Varian Medical Systems
- Zimmer Spine

(P) references the Pinnacle Partners Program

Through the AANS Pinnacle Partners program, these corporate partners have invested in the future of neurosurgical research and education for residents and senior neurosurgeons, providing much needed support for education courses and research grants.

For more information about the Pinnacle Partners program, visit our Web site at www.AANS.org/corporate.

**PRACTICAL CLINIC GIFTS IN KIND AS OF FEBRUARY 5, 2008**
- Abbott Spine
- Accuray, Incorporated
- Ad-Tech Medical Instrument Corporation
- Aesculap Implant Systems
- Aesculap Inc.
- ALOKA Ultrasound
- Alpha Omega
- Anspach Companies
- Boston Scientific Neurovascular
- BrainLAB, Inc.
- Cardinal Health V. Mueller
  - Neuro/Spine Products
- Carl Zeiss Meditec, Inc.
- Cervitech, Inc.
- Codman, a Johnson & Johnson company
- Cordis Neurovascular
- Cosman Medical
- DePuy Spine, a Johnson & Johnson company
- Elekta
- FHC, Inc. (Frederick Haer Co.)
- Globus Medical
- Integra LifeSciences
- Integra Radionics
- Karl Storz Endoscopy-America, Inc.
- KLS-Martin, LP
- Kyphon Inc.
- Leica Microsystems
- Medtronic
- Medtronic Neuromodulation
- Medtronic Neurologic Technologies
- Medtronic Neuromodulation
- Medtronic Powered Surgical Solutions
- Micrus® Endovascular Inc.
- Mizuho America, Inc.
- Neurologica Corporation
- NuVasive, Inc.
- Porex Surgical, Inc.
- Radionics
- Richard Wolf Medical Instruments Corporation
- Spinal Motion
- Stryker Instruments
- Stryker Navigation
- Stryker Spine
- Synergetics, Inc.
- Synovis MCA
- Synthes CMF
- Synthes Spine
- TomoTherapy, Inc.
- TranS1, Inc.
- Ulrich Medical USA
- US Spine
- Varian Medical Systems
- Zimmer Spine
The Exhibitors Lounge is located in booth 2350.

**4-D Neuroimaging**
9727 Pacific Heights Blvd.
San Diego, CA 92121
(858) 453-6300
www.4dneuroimaging.com

*Booth #428*

4-D Neuroimaging manufactures and distributes the Magnes® 3600 WH, a 248-channel MEG system utilizing coils-in-vacuum technology, magnetometer or gradiometer detection coils, a ceiling mounted gantry and subject system for recording in any position from seated to supine, plus an integrated 96-channel EEG system and comprehensive stimulus/response capability.

**ANS/CNS Sections**
5550 Meadowbrook Drive
Rolling Meadows, IL 60008-3852
(847) 378-0500
www.aans.org

*Booth #432*

Visit the AANS/CNS Section booth for section news, membership application information and information on upcoming meetings.

**Abbott Spine**
5301 Riata Park Court, Bldg F
Austin, TX 78727
(512) 918-2700
www.abbottspine.com

*Booth #811*

Abbott Spine was built on a foundation of innovation. Today, we continue our commitment to providing expertise to the surgical community. In addition to the enhancement and diversification of its spinal fusion product line, we are working to develop therapies that are less invasive and intervene earlier in the continuum of care. Abbott Spine. Expertise at your side.

**Accuray Incorporated**
1310 Chesapeake Terrace
Sunnyvale, CA 94089-1100
(408) 716-4600
www.accuray.com

*Booth #200*

The CyberKnife Robotic Radiosurgery System is the world’s first and only radiosurgery system capable of treating tumors anywhere in the body with proven sub-millimeter accuracy. Using image guidance technology and computer controlled robotics, the CyberKnife System is designed to continuously track, detect, and correct for tumor and patient movement throughout the treatment.

**Acra-Cut, Inc.**
989 Main Street
Acton, MA 01720
(978) 263-9186
www.acracut.com

*Booth #1114*

Manufacturer of cranial perforators, adult and pediatric. Our XPress 120, combines a disposable perforator and battery-powered drill. Other ACRA-CUT products include cranioblades, wire pass drills, dura separators, and distraction screws. Our Scalp Clip System features a reusable applier and disposable pre-loaded clip cartridge for easy application.

**Ad-Tech Medical Instrument Corporation**
1901 William Street
Racine, WI 53404
(262) 634-1555
www.adtechmedical.com

*Booth #2128*

For over 20 years, Epilepsy Centers have made Ad-Tech their choice for invasive electrodes for brain mapping and epilepsy monitoring. Visit our booth to see our new products for ICP monitoring (pending FDA approval) and discover why Ad-Tech is your best choice.

**Advanced Medical Technologies AG**
Kasteler Str. 11
Nonnweiler, Germany 66620
(49) 6873668119
www.amt-ag.de/

*Booth #539*

ART is designed for all indications including deformities and has a proven history of excellent results with scoliosis patients. WAVE PLIF-Cage – easy restoration of the disc height with a limited approach. The absolutely anatomically designed cage is offered in standard and expandable. SHELL Cervical Cage wonderfully adapts to the anatomy of the disc space. LOOP T-LIF Cage allows easy implantation and give a high primary stability.

**Advanced Neuromodulation Systems**
6901 Preston Road
Plano, TX 75024
(972) 309-8000
www.ans-medical.com

*Booth #637*

Advanced Neuromodulation Systems (ANS), a division of St. Jude Medical, designs, develops, and markets a full range of neurostimulation/spinal cord stimulation products to treat chronic pain and other neurological disorders. Key products include the Eon™ rechargeable IPG system, with market-leading battery capacity; a broad line of trial, paddle, and percutaneous leads; and the innovative Rapid Programmer® 3.1 programming platform.
Since 1867, Aesculap has been providing surgeons around the world with products that set the standards for modern surgery. Aesculap Implant Systems combines years of R&D, along with modern technology to offer a complete line of implant systems and instrumentation to Spine surgeons.

Aesculap Inc.
3773 Corporate Parkway
Center Valley, PA 18034
(800) 258-1946
www.aesculap-usa.com
Booth #1035

Aesculap, Inc., is a member of the B. Braun family of healthcare companies. With its world headquarters in Tuttlingen, Germany, Aesculap is the world’s largest surgical instrument manufacturer, designing and producing instruments, implants and motors for several surgical specialties including: ENT, plastic and reconstructive, thoracic, cardiovascular, orthopaedic, gynecologic and general surgery as well as neurosurgery and minimally-invasive procedures.

Allen Medical Systems
One Post Office Sq.
Acton, MA 01720
(800) 433-5774
www.allenmedical.com
Booth #2306

Allen Medical provides patient positioning devices and accessories.

Allmeds
151 Lafayette Dr. STE 401
Oak Ridge, TN 37830
(865) 482-1999
www.allmeds.com
Booth #307

Designed by Neurosurgeons, AllMed’s EMR and Practice Management tools deliver the industry’s most effective productivity solutions. Experience streamlined implementation, recognize full benefits faster than any other solution. Improve staff efficiency, increase revenue, capture a stunning ROI. There’s a reason AllMed has the industry’s highest customer retention rate. Find out why!

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Carlsbad, CA 92011
(760) 431-9286
www.alphatecspine.com
Booth #514

Our product development effort is guided by the Alphatec Spine “Surgeons’ Culture.” It begins with listening to our physician customers and scientific advisory board for product innovation and development. Our products can simplify surgical procedures, improve clinical outcomes, and ultimately improve the quality of patient care.

Amedica Corporation
Suite 302
615 Arapeen Drive
Salt Lake City, UT 84108
(801) 583-5100
www.amedicacorp.com
Booth #744

Amedica is an emerging orthopedic implant company focused on using its silicon nitride ceramic technologies to develop and commercialize a broad range of innovative, high-performance spine and joint implants for the growing orthopedic device market. Products under development include spinal implants and reconstructive hip and knee implants that may represent new standards of care based on superior durability, performance and safety.

ALSIUS is the worldwide leader in providing catheter-based intravascular patient temperature management for critically ill patients. The ALSIUS system and catheters deliver precise core patient cooling or warming therapy in an easy-to-use and cost-effective system to achieve and maintain desired patient temperature.

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Charlotte, NC 28273
(704) 409-1750
www.altivacorp.com
Booth #2138

Altiva Corporation will feature these comprehensive spinal systems and related products: HydraLok Polysaxial Pedicle Screw System; ArcTec Semi-rigid Plating System; cerView Anterior Cervical Plating System; Contour II Degenerative Low Back System; PEEK VBR; OsteoBridge DBM. Plus, our Customs & Specials department is ready to help create solutions for your most challenging cases. Stop by and see us today!
The AANS offers many benefits to its members including neurosurgical and practice management publications, information on AANS meetings including coding and practice management courses, clinical courses and alternate options to earn CME credit. Other benefits include the AANS Online Marketplace, AANS Online Career Center, malpractice insurance, retirement plan services and more!

American College of Surgeons
633 N. Saint Clair St.
Chicago, IL 60611-3211
(312) 202-5000
www.facs.org/
Booth #536

The American College of Surgeons is dedicated to improving the care of the surgical patient and to safeguarding standards of care in an optimal and ethical practice environment. Benefits include: coding hotline, CME, publications, scholarships, case log system for MOC, and much more.

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16776 Bernardo Center Drive, #203
San Diego, CA 92128
(858) 451-6173
www.radiosurgery.net
Booth #510

American Radiosurgery, Inc. Booth #330 presents the US produced Rotating Gamma System™ (RGS) for Radiosurgery. Compared to the older Gamma Knife™ technology, the RGS eliminates awkward helmets, provides greater treatment headroom, incorporates advanced treatment planning options, has IMRS and APS capabilities and can save over $1 Million per installation.

American Surgical Sponges, Div.
82 Sanderson Avenue
Lynn, MA 01902
(781) 592-7200
www.americansurgicalsp.com
Booth #205

American Surgical Sponges is a boutique manufacturer specializing in neurosurgical, orthopedic and vascular surgery. Our unique line consists of the largest variety of microsurgical sponges.

Anspach Companies
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Palm Beach Gardens, FL 33410
(561) 627-1080
www.anspach.com
Booth #1331

The ANSPACH Companies manufacture high performance instrument systems for neurosurgery, neurotology, spinal procedures, and otolaryngology. Our power systems provide consistent power and smooth performance for even the most demanding applications. While the advanced design of these instruments assures unparalleled performance and reliability, it also allows for effortless assembly, meeting the needs of both surgeon and staff.

Anulex Technologies Inc.
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5600 Rowland Rd.
Minnetonka, MN 55343
(952) 224-4000
www.anulex.com
Booth #2309

Anulex Technologies, Inc. specializes in the development and manufacture of new and innovative technologies used for the repair of soft tissue. Featured products include the Inclose™ Surgical Mesh System and the Xclose™ Tissue Repair System.

AOSpine North America
PO Box 1658
West Chester, PA 19380
(610) 344-2015
www.aospinena.org
Booth #414

AOSpine North America’s purpose and responsibility is to shape our members' skills and understanding of spine principles; to establish new values and incentives for the creation of knowledge, the sharing of wisdom and the development of new tools and techniques that improve the outcome and effectiveness of spinal surgery.

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www.apatech.com
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(610) 240-4905
www.apexmed.com
Booth #219

Apex Medical Inc. has been manufacturing innovative surgical instruments since 1994. We collaborate with leading neurosurgeons to provide elegant solutions to surgical dilemmas. For delicate, safe sharp microscopic dissection, Apex Arachnoid Knives are the answer. Come find out why the best neurosurgeons in the world use Apex Arachnoid Knives™.

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Sunnyvale, CA 94085-3523
(408) 736-0224
www.arthrocare.com
Booth #1341

ArthoCare Spine is dedicated to improving patient outcomes, creating innovative products for less traumatic spinal procedures. Our patented Coblation technology is the foundation for spinal disc decompression and soft tissue removal procedures. Solutions range from interventional to surgical treatments including discography, plasma disc decompression, fracture reduction, and vertebroplasty.
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Irvine, CA 92618-5202
(800) 295-2776
www.aspenmp.com
Booth #411
Aspen Medical Products is a leader in the development of innovative spinal immobilization products used for post-trauma stabilization, rehabilitation, pre- and postsurgical stabilization, and pain management. Aspen@ Spinal Bracing Systems™ provide innovative patient care, unsurpassed motion restriction and superior comfort that encourage better patient compliance.

Association of Neurosurgical Physician Assistants
PMB 202
4267 NW Federal Highway
Jensen Beach, FL 34957
(888) 942-6772
www.anspa.org
Booth #2316
The Association of Neurosurgical Physician Assistants, is the premiere organization representing all neurosurgical PAs in pre-, intra, and post-operative settings as well as a wide variety of academic and educational venues. ANSPA members are recognized as eligible for Associate membership in the AANS.

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Alachua, FL 32615
(386) 462-6800
www.axogeninc.com
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(406) 388-0480
www.bacterin.com
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(41) 1 443058014
www.fisso.com
Booth #735
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Booth #2130
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(800) 210-2677
www.bossinst.com
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http://www.bafound.org
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(212) 448-9494
www.cbtf.org
*Booth #415*

Children’s Brain Tumor Foundation, a non-profit organization, to improve the treatment, quality of life and the long term outlook for children with brain and spinal cord tumors through research, support, education, and advocacy to families and survivors.

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CMF Medicon Surgical designs, manufactures and distributes neurosurgical implants and instrumentation. Recognized as a leader in new product development, its product offering includes titanium osteosynthesis systems and a full line of surgical instruments.

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Codman, a Johnson & Johnson company is a worldwide leader in neurosurgery. In addition, Codman markets one of the most broad and comprehensive lines of neurosurgical implants, disposables, equipment and instruments specializing in the treatment of hydrocephalus, ICP monitoring, electrosurgery, cranial plating and implantable drug delivery solutions.

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Concentric Medical is dedicated to helping clinicians help ischemic stroke patients. The company manufacturers and markets the Merci® Retrieval System, the first and only interventional devices cleared for thrombus retrieval in acute ischemic stroke. Concentric Medical has a full line of sizes and configurations of Merci Retrievers, and a pipeline of new products.

Congress of Neurological Surgeons
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www.cns.org

The Congress of Neurological Surgeons exists to enhance health and improve lives worldwide through the advancement of education and scientific exchange. Stop by for demonstrations of our latest products and services, and see how the CNS can help you enhance your leadership skills, advance your education and further your career.

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ConMed Linvatec is a global medical technology company that specializes in the development and sale of products and services that allow our physician customers to deliver high quality care. ConMed Linvatec offers a complete line of neurosurgical powered instrument solutions through the Hall brand name.
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Booth #405
Cordis Neurovascular, Inc. develops, manufactures and markets medical devices for neurovascular therapies. Products include the TRUFFIL DCS ORBIT™ Detachable Coil System, the TRUFFIL® n-BCA Liquid Embolic System, CORDIS ENTERPRISE™ Vascular Reconstruction Device and Delivery System, and a variety of complementary access products including the ENVOY® Guiding Catheter, and PROWLER® SELECT™ Microcatheters.

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Cyberkinetics Neurotechnology Systems
Suite 240
100 Foxborough Blvd.
Foxborough, MA 02035
(508) 549-9981
www.cyberkinetics.com
Booth #2330
Cyberkinetics Neurotechnology Systems, Inc. develops, manufactures and markets diagnostic and therapeutic technologies for nervous system injuries, conditions and diseases. The Company’s Andara™ Oscillating Field Stimulator (OFS™) Therapy, the first implantable neurostimulator designed to enhance axonal regeneration and restore neurological function, is intended for the early treatment of spinal cord injury.

Cyberonics
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Houston, TX 77058
(281) 228-7320
www.cyberonics.com
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www.depuyspine.com
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(800) 345-4009
www.designsforvision.com
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(800) 371-2535
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EKR Therapeutics
Suite 2150
2035 Lincoln Highway
Edison, NJ 08817
(732) 692-1105
www.ekrtx.com
Booth #421

EKR Therapeutics is a specialty pharmaceutical company that acquires, develops and commercializes products for the patient in the acute setting, with a particular focus on pain management and oncology supportive care.

Elekta
4775 Peachtree Industrial Blvd.
Norcross, GA 30092
(770) 670-2409
www.elekta.com
Booth #1914

Elekta is an international medical technology group, providing advanced clinical solutions, comprehensive management and information systems as well as services for improved cancer care and management of brain disorders. All of Elekta’s solutions employ non-invasive or minimally invasive techniques and are therefore clinically effective, gentle on the patient and cost-effective.

Ellman Innovations
3333 Royal Ave.
Oceanside, NY 11572
(516) 594-3333
www.ellman.com
Booth #738

Ellman manufactures patented Radiowave technology with innovative delivery systems for intracranial and spine surgery. High frequency energy permits tissue preservation, low absorption control and surgical versatility for all neurosurgical procedures; from skin incision, dissection, resection, tumor access and debulking, soft tissue preparation and non-adherent bipolar effects.

Endure Medical, Inc.
1455 Ventura Drive
Cumming, GA 30040
(800) 736-3873
www.enduremed.com
Booth #419

Endure Medical specializes in refurbished surgical microscopes. All microscopes are returned to new condition and come with a full two year warranty.

ERBE USA, Inc.
2225 Northwest Parkway
Marietta, GA 30067
(770) 955-4400
www.erbe-usa.com
Booth #1027

ERBE with over 160 years developing innovative technologies for surgery, introduces the HELIX Hydro-Jet™, a unique water jet dissector for the separation and aspiration of soft tissue in the brain that preserves blood vessels even at low pressures and provides accurate dissection with minimal trauma to surrounding tissue.

Fehling Surgical Instruments, Inc.
509 Broadstone Lane
Acworth, GA 30101-3502
(800) 334-5464
www.fehlingsurgical.com
Booth #409

Fehling Surgical Instruments provides innovative surgical Instrument designs using state-of-the-art materials combined with enhanced technology manufacturing techniques. Results are products like the “FEHLING CERAMO SURGICAL INSTRUMENT LINE”. See AND feel the black ceramic instruments, new cranial / spinal retractor designs and implants.

Flagship Medical
Suite 313
16 Mt. Bethel Road
Warren, NJ 07059
(888) 633-5843
www.flagshipsurgical.com
Booth #2300

The Surgical Mat—The only patented disposable surgical mat addressing 3 major OR issues: surgeon comfort, fluid buildup and overall OR safety. The patented fluid channels help keep the surgical team’s feet dry while the elasticity and cushioning provides exceptional comfort during prolonged, strenuous surgeries which will reduce foot, leg and back pain. Stay comfortable, stay safe and perform surgery with optimal productivity and focus.

Flowtronics, Inc.
10250 N. 19th Avenue, Ste. B
Phoenix, AZ 85021-1945
(602) 997-1364
www.flowtronics.net
Booth #208

Flowtronics designs and manufacturers neurological monitoring systems and various sensors for the monitoring of cerebral blood flow, cortical temperature, EEG, intracranial pressure and CSF drainage in the surgical environment and intensive care units.

Fujiiryoki/ACIGI
762 Barber Lane
Milpitas, CA 95035
(408) 432-7376
www.fujichair.com
Booth #929

Fujiiryoki Medical Massage and Healthcare Products first specialize in design with back knead balls and air pressing bags, perfect combination of point and surface massage. The synthetic treatments are applied to relax the whole body, relief stress, strengthen energy, and alleviate muscular pain for human being especially for the medical professionals.

FzioMed, Inc.
231 Bonetti Drive
San Luis Obispo, CA 93401
(805) 546-0610
www.fzio.com
Booth #2340

FzioMed specializes in absorbable, surgical biomaterials based on our patented polymer science. FzioMed products include Oxiplex/SP Gel, the leading adhesion barrier for spine surgery in the world. Oxiplex/SP is marketed outside the U.S. and over 100,000 patients have been treated worldwide. The company has filed a PMA for U.S. approval.
GE Healthcare
384 Wright Brothers Drive
Salt Lake City, UT 84116
(801) 328-9300
www.gehealthcare.com
Booth #1131
GE Healthcare is dedicated to helping you transform healthcare delivery by driving critical breakthroughs in biology and technology. Our expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery and biopharmaceutical manufacturing technologies is enabling healthcare professionals around the world to discover new ways to predict, diagnose and treat disease earlier. We call this model of care “Early Health.”

Gore and Associates
1505 N. Fourth St.
Flagstaff, AZ 86004
(928) 437-8181
Booth #1738
W. L. Gore & Associates, Inc. is the worldwide leader in expanded polytetrafluoroethylene (ePTFE) technology. The Medical Division of Gore specializes in the design and manufacture of innovative medical devices for use in vascular, interventional, cardiac, general, orthopaedic, neurological, dental, and plastic surgery.

Globe Medical
2560 General Armistead Ave.
Audubon, PA 19403-5214
(610) 415-9000
www.globusmedical.com
Booth #527
Globus Medical is an innovative spinal implant company specializing in fusion, minimally invasive surgery, biomaterials, and motion preservation. Globus currently markets a full product line of spinal implant systems, including posterior stabilization, cervical and thoracolumbar plating, vertebral spacers, deformity correction, and tumor reconstruction. For more information please visit www.globusmedical.com.

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Flagstaff, AZ 86004
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Audubon, PA 19403-5214
(610) 415-9000
www.globusmedical.com
Booth #527
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Ianni & Associates, P.L.L. C.  
3622 Covert Road  
Waterford, MI 48328  
(734) 971-1200  
Booth #1025

Law firm specializing in development of individualized professional liability programs.

Image Stream Medical  
300 Foster Street  
Littleton, MA 01460  
(978) 486-8494  
www.imagestreammedical.com  
Booth #2315

Image Stream Medical (ISM) designs and manufactures standards compliant, networkable, medical image management solutions. ISM's low maintenance, user friendly products enable recording, archiving, streaming, routing and retrieval of digital video and images. ISM recently completed integration of eleven O.R.s at the Barrow Neurological Institute of St. Joseph's Hospital in Phoenix.

IMRIS  
100-1370 Sony Place  
Winnipeg, MB R3T-1N5  
(204) 480-7070  
www.imris.com  
Booth #2244

Imris is a global leader in advanced surgical imaging and is the only solution of its kind in the world. Our product, IMRISneuro offers surgeons the highest degree of integration options, including our patented technology enabling the 1.5T MR to move to the patient.

Innovasis, Inc  
614 East 3900 South  
Salt Lake City, UT 84107  
(801) 261-2242  
www.innovasis.com  
Booth #944

Innovasis is a rapidly growing company engaged in the research, development, manufacturing, and marketing of spinal implant devices and related products. Innovasis offers a spinal product line with implants and instruments that address the major pathologies and focus areas of traditional spinal surgery.

Innovative Healthcare Solutions  
Suite 200  
900 Osceola Drive  
West Palm Beach, FL 33409  
(561) 791-1198  
www.ihhs-health.com  
Booth #1846

Innovative Healthcare Solutions is the national distributor of the Accu-Spina - the first fully integrated cervical and lumbar spinal rehabilitation system which is successfully used for the treatment of degenerative and herniated discogenic disease. Please see us at our Booth to see how the Accu-Spina can become synergistic to your neurosurgical practice.

Innovative Spinal Technologies, Inc.  
111 Forbes Boulevard  
Mansfield, MA 02048  
(508) 452-3500  
www.istspine.com  
Booth #1539

Innovative Spinal Technologies (IST) is dedicated to becoming the leading developer, manufacturer and marketer of the most innovative suite of products in Minimally Invasive Spine surgery worldwide. IST has developed proprietary technologies in Dynamic Stabilization, MIS Fusion, and single use spine tools

Integra LifeSciences  
311 Enterprise Drive  
Plainsboro, NJ 08536  
(609) 275-0500  
www.integra-ls.com  
Booth #1700

Integra® sells the Camino®, Licox® and Ventrix® lines of intracranial pressure monitoring systems. Integra Hydrocephalus Management Products, the DuraGen™ Dural Graft Matrix, the NeuraGen™ Nerve Guide, the Selector® and Cusa Excel” Ultrasonic Aspirator, Mayfield® Surgical Devices, Integra Systems CSF Drainage and Cranial Access and Ruggles™ instruments for neurosurgery.

Interbody Innovations  
Suite 1101  
303 Veterans Air Park Lane  
Midland, TX 79705  
(432) 697-7463  
www.interbodymed.com  
Booth #1051

Interbody Innovations supplies surgeons with spinal implants and instrumentation systems. Our implants are manufactured from polyetheretherketone (PEEK) polymer, a semi-crystalline thermoplastic that exhibits a combination of strength, stiffness and toughness, together with biocompatibility and the ability to be repeatedly sterilized without the degradation of its mechanical properties. PEEK is the material of choice for the development of long-term implant applications.

Interim Physicians Inc.  
Suite 120  
1040 Crown Pointe Pkwy.  
Atlanta, GA 30338-4777  
(800) 226-6347  
www.interimphysicians.com  
Booth #1447

Interim Physicians, Inc., has been providing extraordinary locum tenens and permanent placement physician services since 1979. Call us at 800-226-6347 or visit our website at www.interimphysicians.com for more information.

Interventional Spine, Inc  
13700 Alton Parkway #160  
Irvine, CA 92618  
(949) 472-0006  
www.i-spineinc.com  
Booth #941

Interventional Spine, Inc., located in Orange County, California, designs, develops, and markets patented implantable devices for the spine that can be deployed via percutaneous techniques, supported by unique Interventional Spine product introduction systems.
Eloquence is a turnkey solution for functional MRI. In-magnet and control room components are integrated to provide powerful fMRI tools for the clinician and researcher. Eloquence is designed to minimize scan time for the patient during the exam and for the clinician during set-up, resulting in rapid study completion.

Invuity Inc.
39 Stillman St.
San Francisco, CA 94107
(415) 847-2337
www.invuity.com
Booth #2040

Invuity™ offers a line of advanced spinal retractors incorporating complex optical structures that provide flawless light to the surgical field, allowing surgeons to achieve an unparalleled level of visualization during less invasive surgery.

J&R Enterprises
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926 Main Street
Billings, MT 59105
(406) 839-9111
www.neuro7.com
Booth #221

Innovative way to perform a neurological exam.

Johnson & Johnson Wound Management
Route 22 West
Somerville, NJ 08876
(877) 384-4266
www.biosurgicals.com
Booth #228

Visit Johnson & Johnson Wound Management, a division of ETHICON, INC. at Booth #228 to view innovations in hemostasis, featuring SURGICEL® Family of Absorbable Hemostats, “The Choice” of surgeons for nearly half a century.

K2M
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Leesburg, VA 20175
(703) 777-3155
www.k2m.com
Booth #341

K2M is an emerging medical device company committed to research, development and commercialization of surgeon driven products for treating spinal disorders. This surgeon driven focus forms a unique culture around an R&D process that facilitates our ability to commercialize innovative spinal products for surgeons and patients.

Journal of Neurosurgery Publishing Group
1224 Jefferson Park Ave., Suite 450
Charlottesville, VA 22903
(434) 924-5503
www.thejns.org
Booth #1120

Since 1944, the Journal of Neurosurgery (JNS) has been widely recognized for its authoritative and cutting-edge content. The JNS Publishing Group now includes JNS: Pediatrics, JNS: Spine and the open-access journal, Neurosurgical Focus. Each journal is issued monthly under the aegis of the AANS.

Karger Publishers
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Farmington, CT 06085-
(860) 675-7834
www.karger.com
Booth #1747

Publisher of medical/scientific books and journals, including Atlas of Cytoarchitecture of the Adult Human Cerebral Cortex; the book series Radiosurgery and Progress in Neurological Surgery; and the journals Cerebrovascular Diseases, Dementia and Geriatric Cognitive Disorders, European Neurology, Neurodegenerative Diseases, Pediatric Neurosurgery and Stereotactic and Functional Neurosurgery.

Karl Storz Endoscopy-America, Inc.
600 Corporate Pointe
Culver City, CA 90230-7600
(310) 338-8100
www.karlstorz.com
Booth #914

KARL STORZ Endoscopy-America, Inc., is the global leader in endoscopy equipment and instrumentation that emphasizes precision craftsmanship and clinical effectiveness. KARL STORZ has what is probably the industry’s most advanced line of neurosurgery products, including Image 1® HD, which acquires and displays images in 1080p60 and a 16:9 aspect ratio.
Keeler Instruments Inc.
456 Parkway
Broomall, PA 19008-4201
(610) 353-4350
www.keelerusa.com
Booth #305

Keeler will be showing our 3x High Definition Wide Field SL Loupes along with our popular 2.5x type, the Prismatic XL 3.5x to 5.5x systems are also available all on the Sport Frame. A new bright, lightweight LED Spotlight will be shown that can fit any type frame.

Kinamed, Inc.
820 Flynn Rd.
Camarillo, CA 93012-8701
(800) 827-5775
www.kinamed.com
Booth #2308

Kinamed manufactures and sells the NeuroPro® Rigid Fixation System designed specifically for neurosurgical cranial and skull base applications. The system includes many unique tools for the neurosurgeon such as the Temporalis Muscle Suspension (TMS) Plate with suture eyelets for secure repositioning of the temporalis muscle and the Quick Tap single-use battery driver.

Kirwan Surgical Products, Inc.
180 Enterprise Drive
Marshfield, MA 02050-0427
(781) 834-9500
www.kirwans.com
Booth #1215

Kirwan Surgical Products, Inc. manufactures high quality specialty electrosurgical instruments and accessories for use in neurosurgical procedures. We offer a full range of both reusable and disposable non-stick bipolar forceps and bipolar cords. Completing Kirwan’s AURA Product Line is the progressive 70-watt Irrigating Bipolar Electrosurgical Coagulator.

KLS - Martin, LP
P.O. Box 50249
Jacksonville, FL 32250-0249
(904) 641-7746
www.klsmartin.com
Booth #1705

KLS Martin is a company dedicated to providing innovative medical devices and power systems for craniomaxillofacial surgery. The company’s rich history began with surgical instrument production in Tuttlingen, Germany in 1896 and continued with miniplate production in 1975. KLS Martin has advanced the capabilities of distraction osteogenesis, and revolutionized resorbable fixation with the Sonic-Weld Rx system.

Koros USA, Inc.
610 Flinn Avenue
Moorpark, CA 93021-2008
(805) 529-0825
www.korosusa.com
Booth #1941

Koros USA manufactures and distributes state of the art technology including the Super Slide, Blad Belt, ALIP Polaris Retractors, OsteoPunch, Ejector Punch Plus and anterior roungeurs. These devices provide ergonomically controlled movement and stability. Koros specializes in cervical, spine, micro discectomy, lumbar and anterior fusion instrumentation.

Kyphon Inc.
1221 Crossman Avenue
Sunnyvale, CA 94089
(408) 548-6500
www.kyphon.com
Booth #1314

Kyphon Inc. (www.kyphon.com) develops minimally invasive spinal products and therapies. The company’s products are used in Balloon Kyphoplasty to treat spinal fractures, the Functional Anesthetic Discography(TM) procedure to diagnose the source of low back pain and the X-STOP® Interspinous Process Decompression procedure for treating lumbar spinal stenosis.

Kyron Clinical Imaging, Inc.
Suite 202
2457 North Mayfair Road
Wauwatosa, WI 53226
(414) 727-1930
www.kyronclinical.com
Booth #416

Kyron Clinical Imaging is the market leader in applying multi-modality diagnostic imaging to treatment planning and management of brain tumors and neurological disorders. Kyron Prism integrates anatomical, functional (fMRI) and physiological images to provide clinicians sophisticated multiparameter studies that produce superior diagnostic, treatment and disease management results.

LANX, LLC
Suite 890
390 Interlocken Crescent
Broomfield, CO 80021
(303) 443-7500
www.lanx.us
Booth #1342

Lanx specializes in systems and implants for all segments of spinal surgery. Integrating leading technology, intellectual property and state-of-the-art engineering, each product is designed to simplify surgery and improve patient outcomes.

Leica Microsystems
2345 Waukegan Road
Bannockburn, IL 60015
(800) 526-0355
www.surgicalscopes.com
Booth #2009

Leica Microsystems introduces a true innovation: Horizontal Optics, the most significant advance in surgical microscope design in over 50 years.

Leslie Munzer Neurological Institute (LMNI)
Suite 100 W
100 Merrick Road
Rockville Centre, NY 11570
(516) 442-3527
www.lmni.org
Booth #220

Leslie Munzer Neurological Institute’s mission is to advance the understanding and
knowledge of the nervous system and related neurological disorders, improve the quality of life, provide education and outreach to patients and physician, to fund research in the neurosciences, and work with Long Island hospitals to help purchase necessary equipment so that cutting edge technology is available to the community.

**Life Instrument Corporation**
14 Wood Road
Braintree, MA 02184
(781) 849-0109
www.lifeinstruments.com
**Booth #1344**

Life Instrument Corporation is dedicated to serving neurosurgeons and orthopedic surgeons with the highest quality surgical instruments. Since the 1980’s, spine surgery has advanced with new procedures and new approaches to the spine. Life Instrument Corporation was founded to meet the needs of spine surgeons for these new surgical techniques.

**LifeLink Tissue Bank**
8170 Woodland Center Blvd.
Tampa, FL 33606
(813) 886-8111
www.lifelinktb.org
**Booth #2336**

LifeLink Tissue Bank, the largest not-for-profit tissue bank in the south east, is an industry leader in providing allografts recovered and processed with the most stringent safety standards. LifeLink offers a complete range of traditional grafts, sports medicine grafts and milled LifeGraft spinal allografts—all with an emphasis on cost.

**Lippincott Williams & Wilkins a Wolters Kluwer Health Business**
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Philadelphia, PA 19106
(215) 521-8300
www.lww.com
**Booth #242**

Lippincott Williams & Wilkins is a division of Wolters Kluwer Health is a leading medical publisher. We are the proud publisher of Neurosurgery; Neurosurgery Quarterly; Neurosurgery News; Contemporary Neurosurgery; Journal of Neurosurgical Anesthesiology. Stop by Booth #424 to pursue our books and electronic products.

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Chicago, IL 60606
(312) 425-2446
www.marcapcorp.com
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With more than 30 years of healthcare financing experience, MarCap provides doctors and entrepreneurs with creative, flexible financing programs. If you need limited or non-recourse financing, we can help you develop a new center, expand your current center or add imaging capabilities. MarCap’s consultative approach and friendly customer experience has helped build better healthcare businesses.

**Market Access Partners**
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Evergreen, CO 80439
(303) 526-1900
www.marketaccesspartners.com
**Booth #2219**

Market Access Partners provides market research consulting to the medical device and pharmaceutical industries. We use innovative qualitative and quantitative methodologies to research opinions of physicians, nurses and patients. We offer a management-oriented approach to product development and marketing.

**Medical Doctor Associates**
145 Technology Parkway NW
Norcross, GA 30092
(800) 780-3500
www.mdainc.com
**Booth #231**

Medical Doctor Associates is the only multi-specialty locum tenens organization that protects with Occurrence Form Insurance. MDA pays competitive fees every two weeks. We are 100% employee-owned. Your satisfaction is our future!

**Medical Education & Research Institute**
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Memphis, TN 38104-3503
(901) 722-8001
www.meri.org
**Booth #2326**

The Medical Education and Research Institute (MERI) is a nonprofit medical teaching and training facility in Memphis, Tennessee qualified under section 501(c) (3) of the Internal Revenue code. The MERI conducts state-of-the-art, hands-on educational courses for physicians from across the country and around the world.

**Medivance Inc.**
Suite 240
1172 W. Century Drive
Louisville, CO 80027
(303) 926-1917
www.medivance.com
**Booth #333**

Medivance® offers the Arctic Sun System® which monitors and controls a patient’s core body temperature to induce mild hypothermia or to achieve normothermia. This non-invasive approach features a sophisticated feedback control algorithm and the unique hydrogel coated Arctic Sun Energy Transfer Pads™ to modify temperature in a manner that simulates water immersion.

**Medtronic**
1800 Pyramid Place
Memphis, TN 38132-1719
(901) 396-3133
www.medtronic.com
**Booth #1100**

Medtronic is the global leader in medical technology—alleviating pain, restoring health and extending life for millions of people around the world. Our booth will feature advanced therapies for spinal disorders, superior cranial neurosurgery products, breakthrough treatments for neurological disorders and chronic diseases, and innovative products for computer-assisted surgery.
MGI PHARMA, INC.
Suite 100
5775 West Old Shakopee Road
Bloomington, MN 55437-3174
(952) 346-4700
www.mgipharma.com
Booth #1929
MGI PHARMA, INC. is a biopharmaceutical company focused in oncology and acute care that acquires, researches, develops and commercializes proprietary products that address the unmet needs of patients. MGI PHARMA markets Aloxi® (palonosetron hydrochloride) Injection, Dacogen® (decitabine) for Injection and Gliadel® (polifeprosan 20 with carmustine implant) Wafer in the U.S.

MicroVention, Inc.
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Aliso Viejo, CA 92656
(949) 461-3314
www.microvention.com
Booth #209
MicroVention develops devices for the treatment of vascular diseases in small vessels. These include, the MicroPlex® Coil System, the HydroCoil® Embolic System, which combines platinum coils and hydrogel, the revolutionary V-TrakTM Delivery System with the V-Grip(TM) Detachment Controller, and the Glide-wire® Gold Neuro and Headliner® hydrophilic coated guidewires.

Micrus® Endovascular Inc.
821 Fox Lane
San Jose, CA 95131
(408) 433-1400
www.micruscorp.com
Booth #911
Micrus develops implantable and disposable medical devices used to treat cerebral vascular diseases. Micrus’ product lines include the Micrusphere and Presidio framing coils, Cashmere complex coil, Helipaq, Interpaq and Ultipaq filling coils, Courier and Courier Enzo microcatheters, Watusi guidewire, Pharos intracranial stent (Not available for sale in USA), EnPower detachment system.

MINRAD International, Inc.
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Orchard Park, NY 14127-4121
(716) 855-1068
www.minrad.com
Booth #1732
MINRAD’s SabreSource™ System targets subcutaneous structures for orthopedic and neurological surgery, pain management and interventional radiology procedures. It is designed to make fluoroscopically-guided procedures more accurate while reducing x-ray exposure. MINRAD’s Light Sabre™ instruments provide visual confirmation that the needle is properly aligned with the SabreSource™ during insertion.

MINSURG Corporation
Suite C
2730 McMullen Booth Road
Clearwater, FL 33761
(727) 475-4692
www.trufuse.com
Booth #549
TruFUSE® Facet Fusion represents a new surgical option for back pain sufferers who do not yet qualify for major surgery. It may be used to treat a variety of back problems, including augmentation of other procedures for any location from C2-C3 to L5-S1.

Mizuho America, Inc.
133 Brimbal Avenue
Beverly, MA 01915
(800) 699-2547
www.mizuho.com
Booth #1925
Mizuho America, Inc. is a neurosurgical focused instrumentation company whose main products include the market leading Sugita® Aneurysm Clips, Micro-Instruments, Kelly all-in-one Endonasal-Transphenoidal Instrument Set for Pituitary Surgery, Head Frames, Micro-Surgical Operating Table, Precision Cutting Tools from Feather® and Surgical Dopplers.

Mizuho OSI
30031 Ahern Avenue
Union City, CA 94587
(800) 777-4674
www.osiosi.com
Booth #2106
Mizuho OSI develops, manufactures and distributes a comprehensive range of radiolucent specialty surgical tables and positioning systems. The Axis Jackson™ System, providing the latest technology in spinal tables will be exhibited in addition to the Jackson Table System which allows rotation of the patient 180° allowing anterior and posterior procedures.

Moeller Medical GmbH and Co. KG
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(49) 661941950
www.moeller-medical.com
Booth #417
LiquoGuard® represents a revolutionary step in CSF drainage, maximizing patient safety, reducing costs and enhancing mobility while offering versatile medical tool. LiquoGuard® is the first CSF management system that simultaneously measures pressure and drains CSF.

Moeller-Wedel
Rosengarten 10
Wedel, Germany 22880
(49) 4103709272
www.moeller-wedel.com
Booth #1144
Founded in 1864 as an optical company in Wedel (near Hamburg, Germany), MÖLLER-WEDEL is today a worldwide renowned manufacturer of surgical microscopes. New products are available like the multi-talent microscope MÖLLER Hi-R 700, MÖLLER MIOS for image grabbing and data networking, etc. Taylor-made solutions are possible.
The National Brain Tumor Foundation is a nationwide non-profit organization serving people whose lives are affected by brain tumors. We are dedicated to promoting a cure for brain tumors, improving the quality of life and giving hope to the brain tumor community by funding meaningful research and providing patient resources, timely information and education.

**Neuro Diagnostic Devices**

Suite 300  
One Neshaminy Interplex  
Trevose, PA 19053  
(215) 645-0090  
www.NeuroDx.com  
Booth #2311

NeuroDx presents ShuntCheck, a non-invasive device for monitoring shunt patency in hydrocephalus patients—in office or in the ER. ShuntCheck works via thermal convection—the shunt is chilled transcutaneously; the device looks for a transcutaneous dip in temperature “downstream”. A temperature dip indicates shunt flow. Simple, direct, non-invasive.

**Neurognostics, Inc.**

Suite 309  
10437 Innovation Drive  
Milwaukee, WI 53226  
(414) 727-7950  
www.neurognostics.com  
Booth #947

The Neurognostics’ suite of FDA cleared fMRI products and services is designed to be a all-inclusive fMRI solution. Our integrated fMRI system supplies health care providers with state of the art imaging technology; integrating easily with existing devices and simplifying the application of fMRI.

**Neurologica Corporation**

14 Electronics Avenue  
Danvers, MA 01923  
(978) 564-8576  
www.neurologica.com  
Booth #523

NeuroLogica is focused on conceiving, developing, manufacturing and marketing advanced medical imaging equipment. The company was founded based on the conviction that all people should have access to high quality medical imaging. The CereTom® portable CT scanner makes high quality imaging readily available, yet affordable. The scanner itself is lightweight, and can be brought bedside. The scanner is capable of performing normal CT, Perfusion, Xenon Perfusion and Angiography.
Booth #217

“Primado” is an electric drill-bone saw system developed with the aim of being the ideal power tool. NAKANISHI INC. has made a large variety of additional special-purpose handpieces available for the various types of drill-bone saw basic items to accommodate many types of surgical operations.

Booth #847

Novel beta-TCP based on bone substitute. Natural lordosis shape promoting spinal fixation system.

Booth #233

Since 1994 Nutech Medical has provided allograft products and innovative biologic solutions to surgeons and hospitals in the Southeast.

Booth #1714

NuVasive is a comprehensive spine company featuring innovative technologies for the treatment of various disorders of the cervical, thoracic and lumbar spine. NuVasive’s Maximum Access Surgery (MAS™) platform features the MaXcess® Retractor System, the NeuroVision® Nerve Avoidance System, and specialized implants for minimally disruptive spine surgery. NuVasive’s XLIF™ procedure integrates several of these proprietary technologies.

Booth #544

Olsen Medical is the industry leader in high quality bipolar and monopolar forceps with an emphasis on our proprietary “single use” collection. Our exclusive Extendable Pencil allows an adjustable length without extenders and is ideal for Bariatric surgery. Olsen Medical is the quality source for your Electrosurgery needs.

Booth #1017

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Booth #315

The Optivus Conforma 3000 is the most efficient, flexible, precise and environmentally friendly proton therapy system on the market today. The Conforma 3000 is a true turnkey system which offers state-of-the-art proton therapy, an efficient modular design and world-class maintenance, support and training.

Booth #2319

Ortho Development will be featuring their Integrated® Spine System (ISS) , VUSION® TS/PS/CS Partial Vertebral Interbody Spacer, Envision®2 Anterior Cervical Plate, and the IBS® Allograft. The ISS® is designed for component strength, ease-of-use and provides a low-profile design. The VUSION® is manufactured from PEEK-OPTIMA® polymer and features radiopaque markers.

Booth #740

Orthovita® is the premier developer of biomaterials for bone regeneration and soft tissue healing in spine and orthopedics. Technology platforms include Vitoss®, the number one synthetic bone graft on the market, and Vitagel®, a hemostat that facilitates healing by utilizing the patient’s own biology.

Booth #835

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Addison, TX 75001
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www.osteomedcorp.com
Booth #719

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(781) 982-9950
www.paradigmmbiodevices.com
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www.sophysa.com
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(760) 607-0121
www.spinalelements.com
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SpinalMotion, Inc
Suite 115
201 San Antonio Circle
Mountain View, CA 94040
(650) 947-3472
www.spinalmotion.com
Booth #747

SpinalMotion is focused exclusively on spinal disc arthroplasty, developing innovative technology designed to further enhance options for patients suffering from degenerative disc disease. SpinalMotion was founded in September 2003. The company is located in Mountain View, California.

Spine Surgical Innovation
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(800) 350-8188
www.spinesurgicalinnovation.com
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Spine Surgical Innovation seeks to improve existing systems by offering instrumentation that is safer, faster, and more precise. SSI also tries to introduce features currently unavailable from other companies. Minimally invasive instrumentation is our specialty. Visit our website at www.spinesurgicalinnovation.com for more information.

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www.spineuniverse.com
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www.spinewave.com
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www.spinefrontier.com
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(904) 737-7611
www.sunoptitech.com
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Sunoptics Surgical® offers a full line of TITAN and Solar branded Surgical Headlights, Lightsources, Video Cameras, Recording Devices, Fiberoptic Cables and a full array of accessories, parts, and repair services direct to the surgical marketplace. Sunoptics Surgical® combines high quality products with worldwide support.

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www.surgitel.com
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www.truevisionsys.com
*Booth #1749*

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www.ulrichmedicalusa.com
*Booth #2327*

Ulrich Medical USA is the newly-formed US subsidiary of Ulrich Medical, an independent medical technology company headquartered in Germany, founded in 1912. Ulrich Medical is committed to providing US surgeons with the finest, most advanced surgical spinal systems available. Featured spinal products available in the US: the obelisc, expandable vertebral body replacement, the small and large VBR, expandable vertebral body replacement and the tangoRS, cannulated low-profile pedical screw system.

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(561) 367-7463
www.us-spine.com
*Booth #2100*

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Booth #1644

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(800) 586-5022
www.weatherbylocums.com
Booth #1347

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Welch Allyn, Inc.
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Booth #917

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(800) 903-0640
www.x-spine.com
Booth #215

X-spine Systems, Inc. is a next-generation spinal implant company. We specialize in the development of original fixation and motion designs emphasizing surgeon-centricism, efficacy and uniqueness. Our goal is to provide a superior alternative to the “me-too” spinal products which are dominating the marketplace.

Zimmer Spine
7375 Bush Lake Road
Minneapolis, MN 55439
(952) 857-5682
www.zimmerspine.com
Booth #1932

Zimmer Spine develops, produces and markets the highest quality spine products and services that repair, replace and regenerate spine health. Zimmer constructs superior fusion and non-fusion spine systems, instrumentation systems, cervical plates, allograft bone filler and trabecular metal. We value continuous surgeon education, building confidence and enhancing patient outcomes.
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### Allografts/Human Tissue

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- Carl Zeiss Meditec, Inc. 1349
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- Leica Microsystems 2009
- Mizuho America, Inc. 1925
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- Aesculap Implant Systems: 1435
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- Abbott Spine: 811
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- Advanced Medical Technologies AG: 539
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- Advanced Medical Technologies AG: 539
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<td>314</td>
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<tr>
<td>DePuy Spine, a Johnson &amp; Johnson company</td>
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<td>Koros USA, Inc.</td>
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<td>Mizuho America, Inc.</td>
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<tr>
<td>Scanlan International, Inc.</td>
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<tr>
<td>Stealth Surgical</td>
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<tr>
<td>Thompson Surgical Instruments, Inc.</td>
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**Telescopes, Surgical (Loupes)**

<table>
<thead>
<tr>
<th>Company Name</th>
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<tr>
<td>Carl Zeiss Meditec, Inc.</td>
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<tr>
<td>Designs For Vision, Inc.</td>
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<tr>
<td>Keeler Instruments Inc.</td>
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<td>Scanlan International, Inc.</td>
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<td>SurgiTel/General Scientific Corporation</td>
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**Ultrasound Equipment**

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<tr>
<td>ALOKA Ultrasound</td>
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<tr>
<td>GE Healthcare</td>
<td>1131</td>
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**Video Equipment**

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<td>BFW, Inc.</td>
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<td>Endure Medical, Inc.</td>
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<tr>
<td>Image Stream Medical</td>
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<td>Karl Storz Endoscopy-America, Inc.</td>
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<td>Leica Microsystems</td>
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<td>Moeller-Wedel</td>
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<td>Prescott’s, Inc.</td>
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<td>SunOptics</td>
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<td>TrueVision Systems, Inc.</td>
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For attendees participating in an all day clinic or in a morning and afternoon clinic, lunch will be served in room E450a from 12:00–1:00 PM.

**PRACTICAL CLINIC**
**8:00 AM–12:00 PM**

001
**Artificial Lumbar Disc Technology**
*Room E451a, Lakeside Center, McCormick Place*

**Clinic Fee:** $800  
**Material Fee:** $0  
**Total Fee:** $800  

**Co-Directors**
Richard G. Fessler, MD, PhD; Fred H. Geisler, MD, PhD  
**Faculty**
Gordon Guthrie Donald, MD; Carl Laurysen, MD; John Chung-Liang Liu, MD; Bruce E. Mathern, MD; Charles S. Theofilos, MD

Review the lumbar artificial discs currently in FDA clinical trials or approved in the United States. Biomechanics, material properties, patient selection and clinical outcomes will be presented and compared for all discs. There will be hands-on demonstration in calf spine and anatomic models of these lumbar artificial discs.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Review the available artificial lumbar discs
- Discuss the surgical techniques of applying these discs
- Review potential complications of using artificial lumbar discs
- Review the lumbar artificial discs currently in FDA clinical trials or approved in the United States.

002
**Management of Cervical Spine Deformity and Instability**
*Room E353c, Lakeside Center, McCormick Place*

**Clinic Fee:** $375  
**Material Fee:** $0  
**Total Fee:** $375  

**Co-Directors**
Regis W. Haid, Jr., MD; Praveen V. Mummaneni, MD  
**Faculty**
Harel Deutsch, MD; Michael W. Groff, MD; Robert F. Heary, MD, Frank L. Marca, MD; Allan D. O. Levi, MD, PhD; Jeff Pan, MD; Timothy C. Ryken, MD; Michael Y. Wang, MD; Christopher E. Wolfia, MD; Neill M. Wright, MD

A comprehensive didactic and hands-on (saw-bones) clinic on the management of cervical spine deformity and instability. Biomechanical principles and surgical techniques will be demonstrated. Significant time for participant input and interaction is provided.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Discuss options for anterior and posterior cervical fixation
- Discuss indications and selection criteria for fusion and for arthroplasty in the cervical spine
- Explain surgical anatomical principles related to cervical spine instrumentation techniques

003
**Anterior and Lateral Approaches to Skull Base**
*Room 353b, Lakeside Center, McCormick Place*

**Clinic Fee:** $350  
**Material Fee:** $450  
**Total Fee:** $800  

**Co-Directors**
Ossama Al-Mefty, MD; Chandranath Sen, MD  
**Faculty**
Ryojo Akagami, MD; Helmut Bertalanffy, MD; Chun Siang Chen, MD; William T. Couldwell, MD, PhD; Evandro De Oliveira, MD, PhD; Kadir Erkmen, MD; Paulo Abdo Kadri, MD; Wesley A. King, MD; Sandeep M. Kunwar, MD; Anil Nanda, MD, FACS; Thomas C. Origitano, MD, PhD; Raj K. Shrivastava, MD

Skull base approaches will be taught by recognized experts in the field through lectures and hands-on cadaver dissections.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Describe the surgical anatomy of approaches to the skull base
- Evaluate advantages/disadvantages of approaches for specific pathologies
- Discuss minimizing morbidity of tumor resection in the skull base
Current and Future Trends in Lumbar Interbody Fusion

Room E265, Lakeside Center, McCormick Place

Clinic Fee: $375
Material Fee: $0
Total Fee: $375

Director
Daniel K. Resnick, MD

Faculty
Christopher J. Barry, MD; Michael W. Groff, MD; James S. Harrop, MD; Kee D. Kim, MD; Charles Kuntz, IV, MD; William Mitchell, MD; Richard P. Schlenk, MD

A series of didactic lectures and hands-on instruction will illustrate the state-of-the-art lumbar interbody fusion techniques and technology. The impact of implant design and biological agents on interbody outcomes will be discussed.

Learning Objectives
After completing this educational activity, participants should be able to:
• Compare the various surgical approaches used for interbody lumbar fusion
• Evaluate lumbar interbody implant devices and assess the value of emerging technology
• Predict the impact of biological agents such as rh BMP-2 on interbody outcomes

Minimally Invasive Treatment of Trigeminal Neuralgia

Room E258, Lakeside Center, McCormick Place

Clinic Fee: $375
Material Fee: $0
Total Fee: $375

Co-Directors
Jeffrey Thomas Keller, PhD; John M. Tew, Jr., MD

Faculty
Aaron A. Cohen-Gadol, MD; George T. Mandybur, MD; Philip V. Theodosopoulos, MD

This course will familiarize participants with the pathophysiology of trigeminal neuralgia and the entire breadth of treatment options, including percutaneous lesions, open surgical management, endoscopic approaches as well as radiosurgical treatment. The relevant anatomy will be extensively reviewed with an emphasis on key surgical points that maximize the effectiveness of treatment both in standard pathologic findings as well as atypical presentations, recurrences after treatment and lesion related symptoms. A treatment algorithm will be presented and the nuances of treatment decision making will be extensively discussed.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss the standard techniques for the treatment of trigeminal neuralgia
• Explain the decision making process regarding which treatment modality is “best” for the patient
• Discuss the current thoughts regarding the pathophysiology of trigeminal neuralgia
• Explain the diagnosis of trigeminal neuralgia versus atypical facial pain
• Discuss the issues related to recurrence of trigeminal neuralgia following treatment as well as the subsequent treatment of these patients

Minimally Invasive Microendoscopic Discectomy

Room E451b, Lakeside Center, McCormick Place

Clinic Fee: $400
Material Fee: $500
Total Fee: $900

Co-Directors
Jeffrey Thomas Keller, PhD; John M. Tew, Jr., MD

Faculty
Muwaffak M. Abdulhak, MD, FRCS(C); Donald L. Hilton, Jr., MD; Langston T. Holly, MD; Sylvain Palmer, MD; Najeeb M. Thomas, MD

This clinic will review current techniques for minimally invasive lumbar and cervical discectomy using microscopic-endoscopic tubular retraction. Hands-on experience will be emphasized using cadaveric specimens in conjunction with microscopic and endoscopic approaches.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss the indications for minimally invasive spine surgery (i.e. lumbar and cervical discectomy, lumbar fixation, lumbar fusion)
• Describe the surgical techniques for minimally invasive micro-endoscopic discectomy
• Compare microscopic vs. endoscopic approaches to minimally invasive spine surgery

Intracranial Endoscopy: Indications, Techniques, Outcome and Complications

Room 450b, Lakeside Center, McCormick Place

Clinic Fee: $400
Material Fee: $500
Total Fee: $900

Director
Alan R. Cohen, MD, FACS

Faculty
Jacques Caemaert, MD, Prof; Michael R. Gaab, MD, PhD; Andre Grotenhuis, MD, PhD; Nakamasa Hayashi, MD, PhD; Carl Barnes Heilman, MD; Tenoch Herrada-Pineda, MD; Alan S. Hoffer, MD; Wesley A. King, MD; Jonathan P. Miller, MD; Henry W. S. Schroeder, MD, PhD; Theodore H. Schwartz, MD; Mark M. Souweidane, MD; John C. Wellons III, MD
Participants will receive didactic and hands-on instruction in intracranial endoscopy, including indications, techniques, outcomes and complications. Topics covered will include the management of hydrocephalus (including third ventriculostomy), removal of colloid cysts and other intraventricular tumors, endoscope-assisted microneurosurgery and transsphenoidal procedures.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Identify the indications for intracranial endoscopy
- Evaluate specific techniques available for intracranial endoscopy
- Discuss strategies for avoiding complications in intracranial endoscopy

**PRACTICAL CLINIC**
1:00–5:00 PM

**007**
**Hands-On Peripheral Nerve of the Upper Extremities**
*Room E451a, Lakeside Center, McCormick Place*

**Clinic Fee:** $350  
**Material Fee:** $450  
**Total Fee:** $800  

**Co-Directors**  
Rajiv Midha, MD, MS, FRCS; Robert L. Tiel, MD

**Faculty**  
David G. Kline, MD; John E. McGillicuddy, MD; Stephen M. Russell, MD; Robert J. Spinnler, MD, FACS; Christopher J. Winfree, MD; Lynda Jun-san Yang, MD, PhD; Eric L. Zager, MD

This hands-on clinic uses cadaver dissection to review clinically relevant anatomy and surgical approaches to the brachial plexus and upper extremity nerves.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Discuss the anatomy of upper extremity nerves
- Explain surgical approaches to upper extremity nerves and the brachial plexus

**008**
**Basics of Spinal Stabilization, Fusion and Instrumentation**
*Room E271a, Lakeside Center, McCormick Place*

**Clinic Fee:** $375  
**Material Fee:** $0  
**Total Fee:** $375  

This clinic is free to Residents, Fellows and Medical Students.

**Co-Directors**  
Peter Douglas Angevine, MD; Kaushik Das, MD

**Faculty**  
Edward C. Benzel, MD; Virany H. Hillard, MD; Michael G. Kaiser, MD; Tyler Robert Koski, MD; Eric W. Nottmeier, MD; Naresh P. Patel, MD

This course will describe the biological and biomechanical principles of spinal fusion. Through the use of didactic sessions and hands-on application, it will also describe the indications, operative approaches and surgical techniques used in spinal fusion and instrumentation of the cervical and thoracolumbar spine.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Describe biologic basis and biomechanics of spine fusion  
- Describe indications of spinal fusion and instrumentation and arthroplasty  
- Describe operative approaches and surgical techniques for spinal fusion and instrumentation
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 skullbase and cavernous sinus; and transphenoidal, transmaxillary and transoral approaches.

**Learning Objectives**
After completing this educational activity, participants should be able to:

- Describe the routes to and through the anterior and posterior cerebrum and temporal lobe
- Discuss anatomy and approaches to the lateral and third ventricles and pineal region
- Discuss anterior and middle skull base including the orbit and cavernous sinus
- Discuss transphenoidal, transmaxillary and transoral approaches

**011**

**Minimal Access Management of Spinal Disease: Case Reviews with the Experts**

*Room E255, Lakeside Center, McCormick Place*

**Clinic Fee:** $375  
**Material Fee:** $0  
**Total Fee:** $375

**Co-Directors**
Anthony K. Frempong-Boadu, MD; Robert E. Isaacs, MD

**Faculty**
Richard G. Fessler, MD, PhD; Kevin T. Foley, MD; Larry T. Khoo, MD; Bruce E. Mathern, MD; Luiz Pimenta, MD, PhD; Noel I. Perin, MD; Frank Phillips, MD; Adrian M. Nowitzke, MBBS, FRACS; Najeeb M. Thomas, MD

This course is a new format to help diffuse information about Minimal Access surgery through case-based, interactive, didactic teaching. This completely case-based approach is designed to engage and help the participants explain the thought process that helps determine the faculty's surgical decision making.

The cases increase in complexity and scope, altering the scenarios until all come to explain the factors which influence our own surgical practice. As the cases become increasingly complex, the faculty and audience alike are forced to address the difficult, sometimes impossible choices encountered. The goal is for every surgeon who participates to explain the thought process behind how different surgeons, when presented with a surgical dilemma, choose to address a case. Be prepared to participate in helping form a treatment algorithm as to how to address various surgical issues, while focusing on minimally invasive spine surgery and the variety of patients who increasingly desire this form of treatment.

**Learning Objectives**
After completing this educational activity, participants should be able to:

- Evaluate and indicate patients for Minimal Access spine surgery
- Discuss what variety of options are reasonable and available to address common spine disorders
- Develop best practice treatment algorithms to appropriately treat patients with Minimal Access spinal approaches (including when to convert to open or to avoid entirely before attempting)
For attendees participating in an all day clinic or in a morning and afternoon clinic, lunch will be served in room E450a from 12:00–1:00 PM.

**PRACTICAL CLINIC**
**8:00 AM–12:00 PM**

**012**

**Spinal Radiosurgery**
*Room E270, Lakeside Center, McCormick Place*

**Clinic Fee:** $375  
**Material Fee:** $0  
**Total Fee:** $375

**Co-Directors**  
Mark H. Bilsky, MD; Peter C. Gerszten, MD, MPH

**Faculty**  
Lilyana Angelov, MD, FRCS(C); Steven D. Chang, MD; Fraser C. Henderson, MD; Jason P. Sheehan, MD

Current state-of-the-art techniques in image-guided surgery of the spine will be reviewed. Emphasis will be placed on the current indications for and preliminary outcomes after radiosurgical ablation of benign and malignant spinal lesions.

**Learning Objectives**
After completing this educational activity, participants should be able to:
• Discuss the most commonly used techniques for spine radiosurgery  
• Explain the current indications for and preliminary outcomes after spine radiosurgery  
• Explain the relative contraindications to spine radiosurgery

**013**

**Thoracic and Lumbar Stabilization and Fusion: Indications and Complications**
*Room E353b, Lakeside Center, McCormick Place*

**Clinic Fee:** $375  
**Material Fee:** $0  
**Total Fee:** $375

**Co-Directors**  
Christopher I. Shaffrey, MD; Eric J. Woodard, MD

**Faculty**  
Christopher Pearson Ames, MD; Sumon Bhattacharjee, MD; Harel Deutsch, MD; Michael G. Kaiser, MD; Laurence D. Rhines, MD; James C. Robinson, MD; Paul D. Sawin, MD; Gregory R. Trost, MD; Michael Y. Wang, MD; Christopher E. Wolf, MD

A series of didactic lectures and hands-on instruction will illustrate the state-of-the-art in thoracic and lumbar fusion techniques and technology. Discussion will include treatment of degenerative disease and spinal deformity in the thoracolumbar spine. The impact of implant design, technique selection (including minimally invasive approaches), and biological agents will be discussed.

**Learning Objectives**
After completing this educational activity, participants should be able to:
• Review patient selection for thoracic and lumbar fusion  
• Discuss translational and rotational techniques for correction of thoracolumbar deformity  
• Review open and minimally invasive approaches for lumbar interbody fusion (ALIF, TLIIF, PLIF)  
• Discuss common complications and management associated with thoracic and lumbar fusion

**014**

**Strategies for Building Hospital Partnerships**
*Room E256, Lakeside Center, McCormick Place*

**Clinic Fee:** $375  
**Material Fee:** $0  
**Total Fee:** $375

**Co-Directors**  
Deborah L. Benzil, MD; Edie E. Zusman, MD, FACS

**Faculty**  
Gene H. Barnett, MD, FACS; Mark H. Camel, MD; Emmet Hunter Dyer, MD; M. Sean Grady, MD; L. Dade Lunsford, MD; Clarence B. Watridge, MD, FACS

Providing optimal patient care requires neurosurgeons to be available and accessible within the current health care environment. This course examines ways for neurosurgeons to maximize opportunities within their hospitals and communities to ensure career satisfaction, financial stability and availability for patient care. Special attention is paid to the interwoven financial relationships between hospitals and neurosurgeons and how best to leverage a neurosurgeon’s value to his/her hospital in negotiating resources. Alternative approaches to building sustainable success for neurosurgical practices will be related by experienced practitioners.

**Learning Objectives**
After completing this educational activity, participants should be able to:
• Assess the direct and indirect financial contribution neurosurgeons make to a hospital  
• Discuss how to design the business case to bring a new program to your hospital
• Define alternative revenue sources for program development in your hospital
• Determine strategic alliances that can support the growth and stability of a neurosurgical practice/program

015
Craniovertebral Junction Surgical Approaches: Indications, Techniques, Limitations and Complications
Room E353c, Lakeside Center, McCormick Place
Clinic Fee: $300
Material Fee: $250
Total Fee: $550
Director
Arnold H. Menezes, MD
Faculty
Richard C.E. Anderson, MD; Ronald I. Apfelbaum, MD; Marc E. Eichler, MD; Michael G. Fehlings, MD, PhD; Noel I. Perin, MD; Rick C. Sasso, MD; Paul D. Sawin, MD; Vincent C. Traynelis, MD
This course will cover physician procedure coding for spine procedures such as laminectomy, discectomy, corpectomy fusion, fracture treatment, tumor removal and spinal injections. We will discuss what procedures and services are included in the global surgical package for these codes and what services may be separately billed.

Learning Objectives
After completing this educational activity, participants should be able to:
• Describe the four major components of coding spine procedures
• Differentiate what procedures are included in the global surgical package for spine procedure codes
• Explain the use of surgical modifiers and how revenue can be improved by accurate use of these modifiers

017
Spinal Endoscopic Techniques to the Thoracic and Lumbar Spine
Room E451b, Lakeside Center, McCormick Place
Clinic Fee: $350
Material Fee: $450
Total Fee: $800
Director
Kevin T. Foley, MD
Faculty
Dean Chou, MD; Curtis A. Dickman, MD; Richard G. Fessler, MD, PhD; Kevin T. Foley, MD; Robert E. Isaacs, MD; Adrian M. Nowitzke, MBBS, FRACS
This clinic provides hands-on training with thoracic and lumbar microendoscopic discectomy and thorascopy, using cadaveric material.

Learning Objectives
After completing this educational activity, participants should be able to:
• Describe the techniques and indications for endoscopic spinal surgery
• Review endoscopic surgery for spine
• Determine indications and contraindications for endoscopic spinal surgery

018
Endovascular and Hybrid Approaches to Cerebrovascular Disease
Room E258, Lakeside Center, McCormick Place
Clinic Fee: $375
Material Fee: $0
Total Fee: $375
This clinic is free to Residents, Fellows and Medical Students.
Co-Directors
Rocco A. Armonda, MD; B. Gregory Thompson, Jr., MD
Faculty
Alan S. Boulos, MD; Neil A. Martin, MD; Howard A. Riina, MD; Owen Bruce Samuels, MD; Erol Veznedaroglu, MD
This clinic will provide an in-depth review of techniques, technologies and evolving concepts in the treatment of patients with cerebrovascular disorders. Evidence-based treatment paradigms, current trends and future directions will be covered in each of three areas: intracranial aneurysms, arteriovenous malformations and cerebral ischemia/hemorrhage. Audience participation will be encouraged via a case-presentation format rather than solely didactic lectures.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss treatment paradigms for intracranial aneurysms
• Discuss treatment paradigms for AVMs
• Discuss treatment paradigms for cerebral ischemia
• Discuss treatment paradigms for cerebral hemorrhage
019  
**Technical Management of Intracranial Aneurysms: Site Specific Surgical Anatomy, Operation Intervention and Complication Management**  
*Rooms E253c and E253d, Lakeside Center, McCormick Place*

**Clinic Fee:** $375  
**Material Fee:** $0  
**Total Fee:** $375  
**Director**  
Arthur L. Day, MD, FACS  
**Faculty**  
Daniel Louis Barrow, MD; H. Hunt Batjer, MD, FACS; Ralph G. Dacey, Jr., MD  

This clinic is designed to teach attendees the basics of vertebrobasilar, internal carotid, middle cerebral and anterior cerebral artery aneurysms.  

**Learning Objectives**  
After completing this educational activity, participants should be able to:  
- Recognize the special features of aneurysms at specific sites  
- Recognize potential pitfalls for safe lesion treatment  
- Identify new methods of intervention for cerebral aneurysms

020  
**Moving your Practice into the Digital Age**  
*Room E271b, Lakeside Center, McCormick Place*

**Clinic Fee:** $375  
**Material Fee:** $0  
**Total Fee:** $375  
**Director**  
Mark H. Camel, MD  
**Faculty**  
Neil A. Martin, MD; Harold J. Pikus, MD; Oren Sagher, MD; Nathan R. Selden, MD, PhD  

Faculty will discuss movement of neurosurgical practice into an increasingly digital environment, including deployment of electronic medical record-keeping, billing and coding software, imaging and archiving. The course will cover the steps that need to be taken in transitioning an office from a largely paper-based system to an entirely computerized set-up as well as smaller interval changes. The financial and human resource costs of such a conversion will be reviewed. The course is open to physicians, office managers and office personnel. Faculty will include physician and office representatives of diverse practice groups and participants will have the opportunity to gain hands-on experience with several different software packages.  

**Learning Objectives**  
After completing this educational activity, participants should be able to:  
- Identify key components of a computer network  
- Examine the costs involved in transitioning, implementing and maintaining an electronic medical record system  
- Evaluate new medical practice software applications  
- Identify the major problems encountered in managing a practice in an increasingly digital environment

021  
**Peripheral Nerve Injuries, Entrapments and Tumors: Examination and Evaluation**  
*Room E265, Lakeside Center, McCormick Place*

**Clinic Fee:** $375  
**Material Fee:** $0  
**Total Fee:** $375  
**Co-Directors**  
Line Jacques, MD; Robert J. Spinner, MD, FACS  
**Faculty**  
Allan H. Friedman, MD, FACS; David G. Kline, MD; Allen H. Maniker, MD; John E. McGillicuddy, MD; Rajiv Midha, MD, MS, FRCS; Robert L. Tiel, MD  

This clinic will provide an overview of the neurosurgeon’s approach to patients with peripheral nerve injuries, entrapments and tumors.  

**Learning Objectives**  
After completing this educational activity, participants should be able to:  
- Discuss indications for, the timing of and types of operative intervention on peripheral nerve injuries  
- Discuss patho-anatomy, clinical presentation and management of common entrapments in the upper and lower limbs  
- Explain the indications for and approaches to operative interventions on different types of benign and malignant peripheral nerve tumors  
- Explain the role of preoperative and intraoperative electrophysiology in the management of patients with these common peripheral nerve lesions

022  
**Preparation for Medical/Legal Testimony**  
*Room E261, Lakeside Center, McCormick Place*

**Clinic Fee:** $375  
**Material Fee:** $0  
**Total Fee:** $375  
**Director**  
Stanley W. Fronczak, MD, JD, FACS  
**Faculty**  
Vincent M. Auricchio, JD; Norman J. Barry, Jr.; Michael Anthony Chabraja, Esq.  

This clinic will provide an advanced and practical review of medical malpractice defense. Topics to be discussed include: 1) Preventive strategies to reduce the threat of a lawsuit 2) Preparing for and giving deposition and trial testimony 3) Expert medical witness guidelines, testimony and censure 4) Practical proactive techniques to form a winning physician attorney team  

**Learning Objectives**  
After completing this educational activity, participants should be able to:  
- Explain the practical aspects of medical defense procedure and technique  
- Integrate proactive strategies to combat plaintiff expert witness testimony
• Discuss effectively with your defense counsel all aspects of litigation

023
Non-Invasive Pre-Operative and Intra-Operative Brain Mapping and Treatment of Epilepsy
Room E271a, Lakeside Center, McCormick Place
Clinic Fee: $475
Material Fee: $0
Total Fee: $475
Co-Directors
Gerald A. Grant, MD; Guy M. McKhann, II, MD
Faculty
Nicholas M. Barbaro, MD; Gene H. Barnett, MD, FACS; Mitchel S. Berger, MD, FACS; William E. Bingaman, Jr., MD; Peter McL. Black, MD, PhD; Isabelle M. Germano, MD, FACS; Gerald A. Grant, MD; Dennis D. Spencer, MD
This clinic will provide an in-depth review of techniques and technologies that can be applied to identifying and working within eloquent areas of the brain and performing successful resections. In addition, preoperative and intra-operative state-of-the-art detection of seizure foci will be reviewed. The selection of surgical approaches based on non-invasive monitoring for surgery of epilepsies and brain tumors will be discussed.

Learning Objectives
After completing this educational activity, participants should be able to:
• Identify the technologies currently available for pre- and intra-operative brain mapping
• Apply brain mapping techniques to daily practice
• Recognize complication avoidance in epilepsy and brain mapping techniques

024
Surgical Anatomy of the Thoracic and Lumbar Spine
Room E451a, Lakeside Center, McCormick Place
Clinic Fee: $400
Material Fee: $500
Total Fee: $900
Co-Directors
Richard G. Fessler, MD, PhD; Daniel H. Kim, MD
Faculty
Harsimran S. Brara, MD; Anthony K. Frempong-Boadu, MD; Bernard H. Guiot, MD; Robert F. Heary, MD; Robert E. Isaacs, MD; Larry T. Khoo, MD; Kee D. Kim, MD; Ehud Mendel, MD, FACS; Mick J. Perez-Cruet, MD; Srinath Samudrala, MD
This clinic will focus on teaching the surgical anatomy relevant to the anterior, lateral and posterior surgical approaches to the thoracic and lumbar spine. Surgical approaches will include transmanubrial, lateral extrapleural, thoracoabdominal, transperitoneal and retroperitoneal.

Learning Objectives
After completing this educational activity, participants should be able to:
• Review anatomy of surgical approaches to the thoracic and lumbar spine
• Review surgical techniques of the major thoracic and lumbar approaches to the ventral spine
• Review potential complications of these techniques

025
Practical and Technical Aspects of Transsphenoidal Surgery
Room E450b, Lakeside Center, McCormick Place
Clinic Fee: $400
Material Fee: $500
Total Fee: $900
Co-Directors
William T. Couldwell, MD, PhD; Gail L. Rosseau, MD
Faculty
Helmut Bertalanffy, MD; William F. Chandler, MD, FACS; Matthew G. Ewend, MD, FACS; Carl Barnes Heilman, MD; John A. Jane, Jr., MD; Amin Kassam, MD; Daniel F. Kelly, MD; Edward R. Laws, Jr., MD; Ian E. McCutcheon, MD; Basant Kumar Misra, MD; Edward H. Oldfield, MD; Jean Regis, MD; Warren R. Selman, MD; Jonas M. Sheehan, MD
This clinic will review traditional transsphenoidal approaches and present contemporary modifications of the technique, including endoscopic approaches. This clinic will also update the neurosurgeon on current medical and radiosurgical adjuncts to transsphenoidal surgery.

Learning Objectives
After completing this educational activity, participants should be able to:
• Describe the transsphenoidal approach and contemporary modification
• Cite the advantages of the endonasal, endoscopic technique
• Outline current approaches to transsphenoidal surgery
• Evaluate adjunctive therapies for patients with pituitary tumors

026
Head Trauma: Current Treatments and Controversies with Hands-On Practical Session in Brain Monitoring and Techniques
Room E253a and E253b, Lakeside Center, McCormick Place
Clinic Fee: $475
Material Fee: $0
Total Fee: $475
Co-Directors
Geoffrey T. Manley, MD, PhD; Shelly D. Timmons, MD, PhD
Faculty
M. Ross Bullock, MD, PhD; William M. Coplin, MD; Domenic P. Esposito, MD, FACS; Michael G. Fehlings, MD, PhD; Anthony Marmarou, PhD; Raj K. Narayan, MD

This clinic emphasizes case studies and covers the significant breadth of the field of neurotrauma and critical care. It will be directed by a private practice neurosurgeon with emphasis on practical as well as complex case management issues. Also, an afternoon session will be added with hands-on instruction in techniques and devices for ICP monitoring, Parenchymal O2 monitoring and decompressive craniectomy.

Learning Objectives
After completing this educational activity, participants should be able to:
• Describe the ICU management of the TBI patient
• Describe the current surgical controversies in the management of the head injured patient
• Identify the current concepts in dealing with head injured athletes
• Recognize the role of the neurosurgeon in a trauma center and discuss the concept of neurotrauma referral centers

027
Update on Tumors for the General Neurosurgeon
Room E350, Lakeside Center, McCormick Place
Clinic Fee: $475
Material Fee: $0
Total Fee: $475
Director
Jeffrey N. Bruce, MD, FACS

Faculty
Ossama Al-Mefty, MD; Frederick G. Barker, II, MD, FACS; Mitchel S. Berger, MD, FACS; Michael W. McDermott, MD; Thomas C. Origitano, MD, PhD; Joseph M. Piepmeier, MD; Corey Raffel, MD, PhD; Gail L. Rosseau, MD; James T. Rutka, MD, PhD; Raymond Sawaya, MD

This clinic will provide the practicing clinician with an up-to-date overview of current management strategies for all types of benign and malignant brain tumors. This seminar includes current research topics but emphasizes practical management issues.

Learning Objectives
After completing this educational activity, participants should be able to:
• Identify the state-of-the-art management of benign and malignant brain tumors including glial tumors, meningiomas, acoustic neuromas and skull base tumors
• Discuss current concepts in glioma management
• Apply current updates about brain tumors to daily clinical practice decision making

028 N&PE
Decision Making and the Spine Patient for Nurses, APRNs and PAs
Room E262, Lakeside Center, McCormick Place
Clinic Fee: $375
Material Fee: $0
Total Fee: $375
Director
Andrea L. Strayer, MSN, CNRN

Faculty
Dean Barone, PA-C, MPAS; Edward C. Benzel, MD; Steven Casha, MD, PhD; Joseph S. Cheng, MD; Marc E. Eichler, MD; Richard P. Schlenk, MD; Christopher I. Shaffrey, MD; Michael Patrick Steinmetz, MD; Gregory R. Trost, MD

This course will focus on specific decision making challenges the nurse, APRN and PA face providing care for spine patients. Topics to be presented include an analysis of radiographic study indication and specifics of study indications; radiographic as well as clinical evaluation of fusion; various injection types, indications, risks and available evidence; new technology including biologics, cervical disc arthroplasty and dynamic stabilization. Presentation of the implications of new technology to practice and appropriate patient selection for operative intervention will provide opportunity for in-depth discussion.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss problem based decision making and differential diagnosis in regard to the spine patient
• Discuss new technologies available including biologics, cervical disc arthroplasty and lumbar spinous process
• Analyze radiographic study indications, the specifics of interpretation and the clinical as well as radiographic evaluation of fusion
• Analyze the various injection types, associated risks and indications as well as the available evidence on injection efficacy

• Discuss new technology and the implications for practice as well as decision making for selecting the right surgery for the right patient

PRACTICAL CLINIC
1:00–5:00 PM

029 R&F
3-D Anatomy and Approaches to the Posterior Fossa and Posterior Skull Base
Room E259, Lakeside Center, McCormick Place
Clinic Fee: $375
Material Fee: $0
Total Fee: $375

This clinic is free to Residents, Fellows and Medical Students.

Director
Albert L. Rhoton, Jr., MD

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.
Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss anatomy and approaches through the temporal bone
• Discuss approaches to the cerebellum and fourth ventricle
• Discuss far lateral and transcondylar approaches
• Discuss approaches to the cerebellopontine angle
• Discuss anatomy and approaches to the jugular foramen

030 Percutaneous Vertebral Body Stabilization and Augmentation
Room E451b, Lakeside Center, McCormick Place
Clinic Fee: $350
Material Fee: $450
Total Fee: $800
Co-Directors
Andrew J. Ringer, MD; Eric Roger, MD
Faculty
Robert J. Bohinski, MD, PhD; Patrick W. Hitchon, MD; Jay U. Howington, MD; Richard M. Spiro, MD; William D. Tobler, MD
This clinic will explain percutaneous spinal access techniques and procedures for spinal stabilization including vertebroplasty, kyphoplasty, AxiaLIF and percutaneous instrumentation techniques and identifying appropriate patients for this procedure. Participants benefit from hands-on experience in each procedure.

Learning Objectives
After completing this educational activity, participants should be able to:
• Identify anatomical landmarks and approaches for percutaneous spinal access
• Explain the techniques for vertebral body augmentation with vertebroplasty and kyphoplasty
• Explain the approach for percutaneous pedicle screw fixation
• Discuss exposure to the percutaneous axial lumbosacral fixation technique

031 Artificial Cervical Disc Technology
Room E271b, Lakeside Center, McCormick Place
Clinic Fee: $375
Material Fee: $0
Total Fee: $375
Director
Robert J. Hacker, MD
Faculty
Rick Delamarter, MD; Regis W. Haid, Jr., MD; Praveen V. Mummaneni, MD; Stephen M. Papadopoulos, MD; Vincent C. Traynelis, MD
Cervical motion preservation technology is changing the practice of spine surgery outside of the United States and likely will have a similar impact on our practices. This clinic will cover biomechanics, clinical science, patient selection, study results and also provide hands-on experience with devices now in clinical trials.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss the various cervical disc arthroplasty devices and their biomechanical properties
• Discuss the usefulness of this technology for patients with cervical disc disease
• Compare artificial disc technology with cervical fusion from a clinical and hands on standpoint

032 Movement Disorder Surgery: Techniques, Decision Making, Complication Avoidance and Management
Room E258, Lakeside Center, McCormick Place
Clinic Fee: $375
Material Fee: $0
Total Fee: $375
Director
Robert G. Grossman, MD
Faculty
Aviva Abosch, MD, PhD; Ron L. Alterman, MD; Jeffrey E. Arle, MD, PhD; Roy A. E. Bakay, MD; Nicholas M. Boulis, MD; Brian H. Kopell, MD; Alon Y. Mogilner, MD, PhD; Joshua M. Rosenow, MD; Ashwini D. Sharan, MD; Philip A. Starr, MD, PhD
Practical aspects of surgery for the treatment of Parkinson’s disease, tremor and dystonia will be presented via lectures, videos, case presentations and device demonstrations. Emphasis will be on anatomical and physiological targeting strategies, intraoperative decision making, troubleshooting, complication avoidance and management. Cases and intraoperative scenarios will be presented for interactive discussion with the audience and faculty.

Learning Objectives
After completing this educational activity, participants should be able to:
• Evaluate patients for surgery for Parkinson’s disease, tremor and dystonia
• Apply the principles and techniques of DBS and lesioning surgeries
• Identify anatomical and physiological localization of the STN, Gpi and thalamus

033 Neurosurgical Case Coding: Cranial and Non-Spine Procedures
Room E255, Lakeside Center, McCormick Place
Clinic Fee: $375
Material Fee: $0
Total Fee: $375
Director
Robert R. Johnson, II, MD, FACS
Faculty
Mina Foroohar, MD
This course will cover physician procedure coding for cranial procedures such as those to treat aneurysms, AVMs, traumatic brain injuries, epilepsy, functional disorders and tumors. The global surgical package for these codes and what services may be separately billed will be reviewed.
Learning Objectives
After completing this educational activity, participants should be able to:
• Differentiate what procedures are included in the global surgical package for neurosurgical CPT code from procedures that may be billed separately
• Explain the use of surgical modifiers and how revenue can be improved by accurate use of these modifiers

Interventional Neurovascular Disease: Management, Complications and Avoidance Strategies
Room E265, Lakeside Center, McCormick Place
Clinic Fee: $375
Material Fee: $0
Total Fee: $375
This clinic is free to Residents, Fellows and Medical Students.

Co-Directors
Robert H. Rosenwasser, MD, FACS; Erol Veznedaroglu, MD

Faculty
Felipe C. Albuquerque, MD; Rocco A. Armonda, MD; Bernard R. Bendok, MD; C. Michael Cawley, III, MD; Brian L. Hoh, MD; Michael T. Lawton, MD; Elad I. Levy, MD; Charles Joseph Prestigiacomo, MD

A comprehensive discussion of complications and complication avoidance in the endovascular management of cerebral aneurysms, AVMs/AVFs, spinal AVMs, tumor and special problems associated and encountered with treatment in the endovascular suite. Hands on clinic with simulators to follow brief discussions of complication avoidance strategies.

Learning Objectives
After completing this educational activity, participants should be able to:
• Evaluate and apply strategies when endovascular/complications occur
• Discuss the treatment of intracranial aneurysms, AVMs, occlusive cerebrovascular disease and tumors
• Apply these procedures to avoid complications and effectively manage the complications
• Identify problems which are peculiar to treatments in the endovascular suite

Medical Certainty and the Medical Expert Witness
Room E261, Lakeside Center, McCormick Place
Clinic Fee: $375
Material Fee: $0
Total Fee: $375

Director
Stanley W. Fronczak, MD, JD, FACS

Faculty
Vincent M. Aurichio, JD; Norman J. Barry, Jr.; Michael Anthony Chabraja, Esq.

This course will present the medical and legal concerns with regard to "standard of care" as expressed through expert witness testimony. It will discuss the requirements to qualify as an expert witness as well as testifying to “a reasonable degree of medical certainty.” Insights regarding trial procedure and witness examination will provide the participant the means to better prepare for or react to expert testimony.

Learning Objectives
After completing this educational activity, participants should be able to:
• Explain the role of the expert witness in civil litigation
• Discuss what attorneys expect from the expert witness
• Recognize ways to become more effective as a witness during deposition, direct or cross-examination
• Discuss pitfalls and common mistakes regarding expert testimony
• Explain the legal process in order to maximize one’s advantage

Thoracic and Lumbar Stabilization and Fusion: Indications and Complications
Room E353b, Lakeside Center, McCormick Place
Clinic Fee: $375
Material Fee: $0
Total Fee: $375

Co-Directors
Regis W. Haid, Jr., MD; Praveen V. Mummaneni, MD

Faculty
Juan C. Bartolomei, MD; Dean Chou, MD; Jay Y. Chun, MD, PhD; Michael W. Groff, MD; Robert F. Heary, MD; R. Patrick Jacob, MD; J. Patrick Johnson, MD; Adam S. Kanter, MD; Charles Kuntz, IV, MD; James C. Robinson, MD; Gregory R. Trost, MD

A series of didactic lectures and hands-on instruction will illustrate the state-of-the-art in thoracic and lumbar fusion techniques and technology. Discussion will include treatment of degenerative disease and spinal deformity in the thoracolumbar spine. The impact of implant design, technique selection (including minimally invasive approaches) and biological agents will be discussed.

Learning Objectives
After completing this educational activity, participants should be able to:
• Review patient selection for thoracic and lumbar fusion
• Discuss translational and rotational techniques for correction of thoracolumbar deformity
• Review open and minimally invasive approaches for lumbar interbody fusion (ALIF, TLIF, PLF)
Cranial Radiosurgery
Room E270, Lakeside Center, McCormick Place
Clinic Fee: $375
Material Fee: $0
Total Fee: $375

Director
Antonio A. F. De Salles, MD, PhD

Faculty
William A. Friedman, MD, FACS; Peter C. Gerszten, MD, MPH; Ajay Niranjan, MD; Allesandra Augusta Gorgulho, MD; Michael Brian Sisti, MD, FACS

This clinic will illustrate various radiosurgery methods currently available.

Learning Objectives
After completing this educational activity, participants should be able to:
• Explain basic aspects of radiosurgery planning
• Discuss radiosurgery applications for brain and spinal tumors
• Discuss indications of radiosurgery for functional disease of the brain
• Explain differences among the various radiosurgery techniques available
• Apply a radiosurgery plan

Local Delivery Methods for Adjuvant Treatment of Brain Tumor Patients
Room E271a, Lakeside Center, McCormick Place
Clinic Fee: $375
Material Fee: $0
Total Fee: $375

Co-Directors
Russell R. Lonser, MD; Andrew Thomas Parsa, MD, PhD

Faculty
Arun Paul Amar, MD; William C. Broaddus, MD, PhD; Edward A. Neuwelt, MD; Edward H. Oldfield, MD; Timothy C. Ryken, MD; Stephen B. Tatter, MD, PhD; Kevin A. Walter, MD

Local delivery methods for adjuvant therapy of intrinsic brain tumors have evolved from experimental studies into standard of care treatment. In this practical update a wide range of local delivery modalities will be discussed including polymers, convection, blood brain barrier disruption, endovascular techniques and local delivery of radiation. Practical examples of clinical applications for each of these methods will be reviewed, and the current status of experimental therapies in clinical trial will be discussed. At the conclusion of the course, participants will be able to explain what delivery methods are currently available for standard of care treatment, and what methods are currently in later stages of clinical development. A review of clinical trial results, ongoing clinical trials and centers of participation will be provided as well.

Learning Objectives
After completing this educational activity, participants should be able to:
• Explain the basic physiologic principles behind local delivery methods
• Discuss the utility and limitations of local delivery methods for brain tumor patients
• Discuss the most recent results of clinical trials testing local delivery methods

Transfacet Technology: An Alternative to Pedicle Screw Fixation with Interbody Techniques
Room E353c, Lakeside Center, McCormick Place
Clinic Fee: $300
Material Fee: $250
Total Fee: $550

Director
Randy O. Kritzer, MD

Faculty
Edward C. Benzel, MD; Isador Lieberman, MD, FRCS(C); Kenneth I. Renkens, MD

Both the biomechanical properties and clinical applications of transfacet screw technology will be discussed as it relates to ALIF, TLIF and PLIF procedures. During the hands-on portion, participants will be able to do saw bone trials of all the techniques discussed.

Learning Objectives
After completing this educational activity, participants should be able to:
• Identify the biomechanical properties of transfacet screws as compared to pedicle screw constructs
• Discuss clinical applications so that surgeons will be aware of indications
• Discuss the techniques presented
• Apply the techniques into their physician practices
JOIN US AT THE AANS OPENING RECEPTION

Join us at the AANS Opening Reception, Sunday, April 27, 7:00–9:00 PM for a memorable evening of food and entertainment while you enjoy the beauty of one of Chicago’s most important historical landmarks. Navy Pier is where tourists from around the world come to enjoy the beauty of Lake Michigan and a fantastic view of the Chicago lakefront skyline. This event promises to be a wonderful opportunity to see longtime friends and meet neurosurgical colleagues from around the world.

One ticket to the Opening Reception is included with each medical attendee and guest registration. Motor coaches will shuttle between all AANS contracted convention hotels between 6:45 and 9:15 PM.
Prove it in the AANS neurosurgical competition for residents and fellows and win a prize valued over $1000! Organized by the AANS Young Neurosurgeons Committee, the competition is held at the Top Gun Booth located in the exhibit hall. Test your skills and compete against your colleagues. This three-day event will include a new station for endovascular/carotid stent simulation, and updated stations for ventriculostomy spinal instrumentation.

Each contestant has one opportunity at each intricate and demanding surgical skill station, and is scored on his or her performance. The top five scores are posted on a leaderboard so attendees can track the scores to beat. The resident or fellow with the best score will be awarded the Neurosurgical Top Gun honor and prize. Visit Booth #1730 and play to win!

Sponsors of this innovative competition are:
MONDAY, APRIL 28

Exhibit Hours:
9:00 AM–4:00 PM
Breakfast in Exhibit Hall D2:
6:45–7:30 AM

BREAKFAST SEMINARS
7:30–9:30 AM

Cost: $75 each

101
Quality and Efficiency Measures in an Action Plan
Room E353c, Lakeside Center, McCormick Place
Moderator
Mark E. Linskey, MD
Panelists
Robert E. Harbaugh, MD, FACS; Stacey Lambeth; Daniel K. Resnick, MD; Alan M. Scarrow, MD, JD
This seminar will focus on the current professional liability crisis, including a history of reform measures that have worked and those that have not. Methods to reduce exposure to professional liability claims will be discussed, as well as ways physicians can limit personal liability. Participants can use these strategies to develop an action plan for their practice.
Learning Objectives
After completing this educational activity, participants should be able to:
• Describe the differences between process and efficiency measures
• Explain the make-up and role of the AMA-PCPI, the NQF and the AQA in developing, approving and implementing quality measures as well as the degree of physician input and influence on this process
• Discuss the legislative background and current structure of the CMS PQRI initiative
• Discuss the amount of practice infrastructure and personnel investment as well as the practice process changes and extra time-work investment needed to participate in the 2007 PQRI initiative
• Explain the expected ROI for the PQRI as currently structured, and will be able to decide in general terms whether participation in the initiative for 2008 makes sense for their practice

102
Open vs. Endoscopic Surgical Strategies and Approaches to the Anterior Skull Base
Room 451b, Lakeside Center, McCormick Place
Moderator
William T. Couldwell, MD, PhD
Panelists
Joshua B. Bederson, MD; Fred Gentili, MD; Hae-Dong Jho, MD, PhD; Sandeep M. Kunwar, MD
This seminar will review the pathologic conditions affecting the anterior cranial base and surgical strategies employed for extradural, intradural and combined compartment lesions. Panelists will discuss steps in avoidance and management of complications, demonstrate specialized (expert) surgical approaches and indicate the appropriate application of emerging technology to anterior cranial base problems.
Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss the various approaches to the anterior skull base
• List pathologies that would indicate use of an anterior skull base approach
• Explain various approaches to the anterior skull base
• List the advantages of using the endoscope for anterior skull base approaches

103
Cerebral Neuromonitoring
Room E353b, Lakeside Center, McCormick Place
Moderator
R. Loch Macdonald, MD, PhD
Panelists
Odette Althea Harris, MD, MPH; Michael O. Kelleher, MD, FRCS; Gary K. Steinberg, MD, PhD
This seminar will review the use of various cerebral neuromonitoring techniques for surgical and ICU patients.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss application of electrophysiology (EEG, erected potentials) functional mapping, ICP monitoring, CBF measurements, TCD and tissue chemical analysis for patients undergoing cranial and spinal surgery, as well as ICU neurotrauma patients
• Identify the uses for different cerebral neuromonitoring techniques for surgical and ICU patients

104
Cerebral Venous System: Surgical Considerations
Room E352, Lakeside Center, McCormick Place
Moderator
Albert L. Rhoton, Jr., MD
Panelists
Ossama Al-Mefty, MD; Johnny B. Delashaw, Jr., MD; Laligam N. Sekhar, MD, FACS
This seminar will review the anatomy and surgery of the major venous sinuses and veins of the brain and the approaches to the cavernous sinus and jugular foramen.

**Learning Objectives**
After completing this educational activity, participants should be able to:

- Explain the venous hazards of intracranial surgery
- Recognize operative procedures to avoid injury and complications related to the major venous sinus intracranial veins, the cavernous sinus and jugular foramen
- Discuss the anatomy of the approaches to the cavernous sinus and jugular foramen

105

**International Opportunities in Neurosurgery**

*Room E258, Lakeside Center, McCormick Place*

**Moderator**
Merwyn Bagan, MD, MPH

**Panelists**
Jack P. Rock, MD; Gail L. Rosseau, MD; David I. Sandberg, MD; Benjamin C. Warf, MD

This seminar will highlight past, present and future efforts of the Foundation for International Education in Neurological Surgery (FIENS), an organization dedicated to fostering neurosurgical education and training in developing countries. Current volunteer activities at FIENS sites around the world will be provided and information on how to become a FIENS volunteer (for both attending and resident neurosurgeons) will be discussed.

**Learning Objectives**
After completing this educational activity, participants should be able to:

- Discuss the current educational and material needs of neurosurgical training programs in the developing world

106

**Epilepsy: New Surgical Treatment and Management Approaches**

*Room E353a, Lakeside Center, McCormick Place*

**Moderator**
Dennis D. Spencer, MD

**Panelists**
Nicholas M. Barbaro, MD; Frederick A. Boop, MD, FACS; Aaron A. Cohen-Gadol, MD; Gerald A. Grant, MD; Guy M. McKhann, MD

This seminar will examine the preoperative evaluation for surgery and emphasize the changing descriptive of the epileptogenic and how this may alter new surgical therapies.

**Learning Objectives**
After completing this educational activity, participants should be able to:

- Describe the common preoperative evaluations for surgery
- Describe what each evaluation provides
- Recognize how surgical approaches are made based on these evaluations

107

**Coil vs. Clip for Intracranial Aneurysms**

*Room E450b, Lakeside Center, McCormick Place*

**Moderator**
B. Gregory Thompson, Jr., MD

**Panelists**
Felipe C. Albuquerque, MD; Gavin W. Britz, MD; C. Michael Cawley, III, MD; Adel M. Malek, MD; Charles Joseph Prestigiacomo, MD

This seminar will highlight the current controversies surrounding the optional management of ruptured and unruptured intracranial aneurysms. Experts in the field will present their perspectives, experience and ideas for future study.

**Learning Objectives**
After completing this educational activity, participants should be able to:

- Analyze individual patients and make more informed treatment recommendations
- Evaluate available data and determine their significance for ruptured and unruptured intracranial aneurysms
- Assess treatment failures in intracranial aneurysms
- Assemble strategies for salvage of intracranial aneurysms

108

**Pediatric Head Injury**

*Room E260, Lakeside Center, McCormick Place*

**Moderator**
Thomas G. Luerssen, MD

**Panelists**
Ann-Christine Duhaime, MD; Hugh J. L. Garton, MD, MHSc; John Ragheb, MD, FACS

This seminar will review the current issues surrounding the diagnosis and management of traumatic brain surgery in children. The panel will focus on unique diagnosis and therapeutic strategies.

**Learning Objectives**
After completing this educational activity, participants should be able to:

- Recognize current issues specifically related to pediatric brain injury
- Integrate or diagnose specific management strategies in pediatric head injury

109

**Peripheral Nerve Entrapment Syndromes**

*Room E253a, Lakeside Center, McCormick Place*

**Moderator**
David G. Kline, MD

**Panelists**
Allan J. Belzberg, MD; Robert J. Spinner, MD, FACS; Eric L. Zager, MD

This seminar will discuss the evaluation and management of peripheral nerve entrapment syndromes.
**Learning Objectives**

After completing this educational activity, participants should be able to:

- Describe the clinical presentation and diagnostic evaluation of the various entrapment syndromes
- Discuss the conservative and surgical management options of peripheral nerve entrapment syndromes

**110 Complications and Complex Spinal Surgery: Lessons Learned**

*Room E351, Lakeside Center, McCormick Place*

**Moderator**

Volker K. H. Sonntag, MD

**Panelists**

Regis W. Haid, Jr., MD; Paul C. McCormick, MD; Stephen L. Ondra, MD

This seminar will utilize distinctive presentation and panel discussion of cases to analyze complications associated with complex spine surgery. An emphasis will be placed on complication avoidance and management.

**Learning Objectives**

After completing this educational activity, participants should be able to:

- Analyze the causes of surgical complications in the spine
- Formulate strategies to avoid and manage spine surgery complications and apply these principles to one’s practice

**111 Spondylolisthesis: Controversies in Management**

*Room E451a, Lakeside Center, McCormick Place*

**Moderator**

Charles L. Branch, Jr., MD

**Panelists**

Peter Douglas Angevine, MD; Ziya L. Gokaslan, MD, FACS; Langston T. Holly, MD; John E. O’Toole, MD; Michael Y. Wang, MD

A complete discussion of degenerative spondylolisthesis including treatment and treatment failures will be the focus of this seminar.

**112 Cervical Spondylotic Myelopathy**

*Room E350, Lakeside Center, McCormick Place*

**Moderator**

Robert F. Heary, MD

**Panelists**

Richard G. Fessler, MD, PhD; Michael G. Kaiser, MD; Iain H. Kalfas, MD; Brian R. Subach, MD, FACS

This seminar will look at how cervical myelopathy can be caused by disc herniation, hard bone spurring, congenital stenosis, OPLL and subhixations. In addition, there can be instability and deformity. Multiple cases will be presented and the participants, followed by the panel, will go over treatment options and guidelines.

**113 Update in Psychosurgery**

*Room E253b, Lakeside Center, McCormick Place*

**Moderator**

G. Rees Cosgrove, MD, FRCS(C)

**Panelists**

Aviva Abosch, MD, PhD; Paul S. Larson, MD; Andres M. Lozano, MD, PhD; Parag G. Patil, MD, PhD

This seminar will address the issues of surgery for psychiatric illness. Indications for surgery and the therapeutic results for different procedures will be discussed.

**Learning Objectives**

After completing this educational activity, participants should be able to:

- Discuss neurobiological basis of psychiatric disorders
- Discuss currently available surgical treatments
- Discuss indications of psychosurgery
- Discuss current results for psychosurgical procedures

**114 How I Do It: Vascular Microsurgery**

*Room E253c, Lakeside Center, McCormick Place*

**Moderator**

Michael T. Lawton, MD

**Panelists**

Evandro De Oliveira, MD, PhD; Nobuo Hashimoto, MD; Jacques J. Morcos, MD, FRCS; Robert A. Solomon, MD

This seminar will address the surgeon’s approach to vascular microsurgery. It will include discussions of approach, management of vascular lesions, pitfalls and complications.

**Learning Objectives**

After completing this educational activity, participants should be able to:

- Identify a variety of surgical approaches for vascular lesions
Identify indications for vascular microsurgery

Describe the most common complications encountered in vascular microsurgery approaches

**Vertebral Column Tumors**

*Room E253d, Lakeside Center, McCormick Place*

**Moderator**
Ziya L. Gokaslan, MD, FACS

**Panelists**
Mark H. Bilsky, MD; Peter C. Gerszten, MD, MPH; Ehud Mendel, MD, FACS; Laurence D. Rhines, MD; Phillip A. Tibbs, MD

This seminar is intended to provide an overall review of management of both primary and metastatic spinal tumors. This would include cervical evaluation of patients, as well as various surgical resection/reconstruction technologies and state-of-the-art radiation therapy options.

**Learning Objectives**
After completing this educational activity, participants should be able to:

- Discuss the current literature on the management of both primary and metastatic spinal tumors
- Evaluate various medical and surgical treatment options including stereotactic radiosurgery
- Identify patients who are most suitable for vertebroplasty and kyphoplasty

**Integrating Mid-Level Practitioners into your Practice**

*Room E271b, Lakeside Center, McCormick Place*

**Moderator**
Dean Barone, PA-C, MPAS

**Panelists**
Barry D. Birch, MD; Thomas A. Kopitnik Jr., MD; Twila Lay, NP, MS; Aman B. Patel, MD

This seminar will discuss how to integrate a Mid-Level Practitioner into your practice from an administrative and financial standpoint.

**Learning Objectives**
After completing this educational activity, participants should be able to:

- Compare differences between biomechanics of fusion and artificial disc
- Discuss instantaneous axis of rotation of lumbar spine
- Explain surgical insertion techniques for artificial lumbar discs
- State degree of restoration of function and cordosis with artificial disc
- Discuss material aspects of artificial disc for wear, debris and longevity

**R&F**

**Surgical Approaches to the Lateral Skull Base**

*Room E270, Lakeside Center, McCormick Place*

**Moderator**
Jeffrey J. Olson, MD

**Panelists**
Jeffrey N. Bruce, MD, FACS; John G. Golfinos, MD; Takeshi Kawase, MD; Chandranath Sen, MD

This seminar will address contemporary surgical approaches to the lateral skull base and how to avoid complications.

**Learning Objectives**
After completing this educational activity, participants should be able to:
• Discuss the pathologic processes best addressed by lateral skull base surgical approaches
• Describe the technical aspects of standard and unusual lateral skull base approaches
• Identify the most common complications to the lateral skull base and how to avoid them

120
Models for Successful Neurosurgical Practice
Room E265, Lakeside Center, McCormick Place
Moderator
Clarence B. Watridge, MD, FACS
Panelists
Paul Joseph Camarata, MD; Mark H. Camel, MD; Richard Arthur Roski, MD; Warren R. Selman, MD

Building a booming and successful neurosurgical practice in this day and age is no simple task. Experts in community, academic and international neurosurgical practices will present the keys to building a successful practice while achieving quality patient care.

Learning Objectives
After completing this educational activity, participants should be able to:
• Identify strategies for effective media delivery techniques
• Develop a media message

121
Meet the Press
Room E261, Lakeside Center, McCormick Place
Open to AANS Members Only.
Moderator
Patricia Ann Clark

Today's neurosurgeons need to be expert communicators to be effective in delivering the specialty’s message to patients, public and legislative audiences. This high-energy session taught by an experienced media coach will show you how. You will discuss how to dress and act when you step before the cameras, how to develop your media message and most important, how to deliver that message successfully.

Learning Objectives
After completing this educational activity, participants should be able to:
• Explain the benefits of effective media delivery techniques
• Develop a media message

122
Neurosurgical Decision Making in the Elderly
Room E255, Lakeside Center, McCormick Place
Moderator
Deborah L. Benzil, MD
Panelists
Guy Edelman, MD; Peter David Le Roux, MD; Linda L. Sternau, MD; Mary K. Sturaitis, MD; Stephen E. Sullivan, MD

One of the most significant demographic changes in the United States today is the aging of the population. As Americans live longer, incidence and prevalence of many neurosurgical diseases will change. Many questions will arise about surgical intervention and decision making in this population. This course will address many important aspects of surgical decision making in the elderly patient. Attention will be given to explaining physiological changes which impact anesthesia and to appreciating special surgical considerations for a spectrum of diseases including spinal deformity, aneurysms and trauma. Content will also be directed toward surgical treatment of diseases unique to the elderly such as dementia and NPH.

Learning Objectives
After completing this educational activity, participants should be able to:
• Explain physiological changes that occur in the elderly and how they impact anesthesia for neurosurgical intervention
• Review special surgical considerations and potential alternatives for a spectrum of neurosurgical diseases including spinal deformity, aneurysms and trauma in the geriatric population
• Discuss new opportunities for and potential growth of neurosurgical treatments for the fastest growing population in the US, those over the age of 60

123
So You've Been Sued: What Now?
Room E259, Lakeside Center, McCormick Place
Moderator
Stanley W. Fronczak, MD, JD, FACS
Panelists
James R. Bean, MD; John A. Kusske, MD

The process of receiving and responding to a malpractice lawsuit will be discussed.

Learning Objectives
After completing this educational activity, participants should be able to:
• Describe the steps in the process of a malpractice lawsuit
• Explain what to expect and how to respond when a formal complaint is received
• Explain the techniques for handling a discovery deposition
• Describe typical emotional responses to a lawsuit and how to maintain control of personal reactions and the process of defense
• Describe courtroom experience and how to testify before a jury

124
How to Advance your Academic Career: Answers to your Questions
Room E262, Lakeside Center, McCormick Place
Moderator
James I. Ausman, MD, PhD
Panelists
H. Hunt Batjer, MD, FACS; James R. Bean, MD; Mitchel S. Berger, MD, FACS; Ralph G. Dacey, Jr., MD; John A. Jane, Sr., MD, PhD

An open forum for residents and faculty in academic programs seeking advice on how to advance their careers. Faculty will include prominent heads of academic programs. Audience question format is oral or written.

Learning Objectives
After completing this educational activity, participants should be able to:
• Explain future trends in academia
• Discuss career management in academia with experts
• Discuss the future of academic medicine

125
Your Practice: Diversification, Practice Expansion and Autonomy

Moderator
Russell L. Travis, MD

Panelist
David Randolph, MD

Independent medical evaluation has evolved as part of contemporary medical practices. The experienced practitioner can expand an existing practice by using additional education and expertise to capitalize on new opportunities. This introductory program will provide a brief overview of contemporary evaluation and assessment concepts and their use in conjunction with evidence based medical practices. Today’s neurosurgeon can then analyze and determine what steps can lead to successful capitalization of the new opportunities.

Learning Objectives
After completing this educational activity, participants should be able to:
• Identify new opportunities to diversify and expand an existing practice
• Apply the basic skills of disability evaluation and determine the next steps to building a disability evaluation practice
• Identify three common sources of evidence based medicine practice guidelines
• Identify an acceptable medical-legal report and the potential risks/ pitfalls of report writing

PLENARY SESSION I
9:45 AM–1:05 PM
Room E354a and E354b, Lakeside Center, McCormick Place

Moderators
Timothy B. Mapstone, MD; Jon H. Robertson, MD

WELCOME
9:45–9:49 AM
Timothy B. Mapstone, MD

RICHARD C. SCHNEIDER LECTURE
9:50–10:24 AM
Speaker
A. John Popp, MD
Arrowsmith Reconsidered

600
10:25–10:39 AM
A Prospective, Multicenter Trial to Evaluate the Role and Timing of Decompression in Patients with Cervical Spinal Cord Injury: Initial One Year Results of the STASCIS Study

Authors
Michael G. Fehlings, MD, PhD, FRC; Alexander Vaccaro, MD; Bizhan Aarabi, MD; Christopher Shaffrey, MD; James Harrop, MD; Marcel Dvorak, MD, FRCS; Charles G. Fisher, MD, FRCS; Y. Raja Rampersaud, MD, FRCS; Eric M. Massicotte, MD, FRCS; Stephen Lewis, MD, FRCS

Discussant
Christopher B. Shields, MD, FRCS(C)

601
10:40–10:54 AM
Conventional Surgery Versus Stereotactic Radiosurgery in the Treatment of Single Brain Metastases: A Prospective Study with Both Randomized and Non-randomized Arms

Authors
Frederick F. Lang, MD, FACS; Dima Suki, PhD; Moshe Maor, MD; Eric Chang, MD; Kenneth Hess, PhD; Susan Graham, RN; Stephen Hentschel, MD; Raymond Sawaya, MD

Discussant
Philip H. Gutin, MD

HUNT-WILSON LECTURE
10:55–11:29 AM
Two Views of Brain Function

Speaker
Marcus E. Raichle, MD

602
11:30–11:44 AM
Robert Florin MD Award
Impact of Malpractice Environments on the US Neurosurgical Workforce 2005-2007

Authors
Zachary N. Litvack, MD; Kim J. Burchiel, MD, FACS; Matthew A. Hunt, MD

Discussant
A. John Popp, MD

603
11:45–11:59 AM
Barrow Ruptured Aneurysm Trial

Authors
Cameron G. McDougall, MD, FRCSC; Joseph M. Zabramski, MD; Felipe C. Albuquerque, MD; Robert C. Wallace, MD; Shahram Partovi, MD; Richard Clatterbuck, MD; Robert F. Spetzler, MD, FACS

Discussant
H. Hunt Batjer, MD, FACS
International Abstract Award
Hypothalamic Stimulation for Chronic Cluster Headache: A Pluricentric Controlled Study

Authors
Yves R. Lazorthes, MD; Nelly Fabre; Denis Fontaine; Jean-Christophe Sol; Patrick Mertens; Serge Blong; Michel Lantery-Minet

Discussant
Kim J. Burchiel, MD, FACS

RESEARCH FOUNDATION RECIPIENT PRESENTATION
12:15–12:19 PM
Speaker
Griffith R. Harsh, IV MD

CUSHING MEDAL PRESENTATION
12:20–12:24 PM
Introduction
Jon H. Robertson, MD
Recipient
Charles B. Wilson, MD

CUSHING ORATOR
12:25–1:05 PM
Our American Heritage
Speaker
Douglas Brinkley, PhD

LUNCH IN THE EXHIBIT HALL
1:15–2:00 PM

POSTER VIEWING IN THE EXHIBIT HALL
2:00–2:45 PM

NURSES LUNCHEON
1:15–2:45 PM

Room CC12A, Hyatt Regency McCormick Place

New Technologies and Strategies to Deal with Complex Hydrocephalus Cases

Moderator
Ellen Barker, MSN, APN

Speaker
Sanjay Misra, MD

Sponsored by Aesculap, Inc.
See page 23 for more information.

YOUNG NEUROSURGEONS LUNCHEON
1:15–2:45 PM

Room E271a and E271b, Lakeside Center, McCormick Place

Moderator
Jonathan A. Friedman, MD

Speaker
H. Hunt Batjer, MD, FACS

See page 25 for more information on Young Neurosurgeons activities.

500
2:00–4:30 PM

Organ Donation and Procurement

Room E351, Lakeside Center, McCormick Place

Cost: $75
This session is free for Nurses and Physician Extenders

Moderator
Joseph Haymore, CRNP

Speakers
Kim A. Clark, PA; Alex B. Valadka, MD
See page 24 for more information

SCIENTIFIC SESSION I—TUMOR
2:45–5:15 PM

Room E450b, Lakeside Center, McCormick Place

Moderator
Michael W. McDermott, MD

This session will focus on innovations in the diagnosis, management and treatment of tumor neurosurgery. Innovations which have been developed in the last twelve months will be presented.

RONALD L. BITTNER LECTURER
2:45–3:15 PM

Pre-Clinical Trials in Genetically Engineered Mouse Models of Brain Tumors

Speaker
Eric C. Holland, MD

A Phase II Clinical Trial Evaluating RNA-Loaded Dendritic Cells Targeting Human Cytomegalovirus in Patients with Newly-Diagnosed GBM

Authors:
John H. Sampson, MD, PhD; Duane A. Mitchell, MD, PhD; Gary E. Archer, PhD; Sharon McGehee-Norman; Beth A. Perry, RN; Denise Lally-Goss, ANP-C; Robert Schmitten, PhD; Darell D. Bigner, MD, PhD; Allan H. Friedman, MD; Henry S. Friedman, MD; David A. Reardon, MD; James J. Vredenburgh, MD; James E. Herndon, PhD; Peter E. Fecci, MD, PhD

Discussant
Robert L. Martuza, MD

Association of Uncontrolled Hyperglycemia with Perioperative Mortality, Length of Hospitalization and Healthcare Cost for Resection of Supratentorial Brain Neoplasms

Authors
Matthew J. McGirt, MD; Frank Attenello, MS; Muraya Gathinji, MS; Khoi Than, MD; Kaisorn L. Chaichana, BS; Ghazala Datoo, BS; Alessandro Olivi, MD; Jon D. Weingart, MD; Henry Brem, MD; Alfredo Quinones-Hinojosa, MD

Discussant
Jeffrey N. Bruce, MD, FACS

The Natural History of Untreated Acoustic Neuromas: A Comprehensive Meta-Analysis

Authors
Michael Sughrue, MD; Derick Aranda, MD; Isaac Yang, MD; Steven Cheung, MD; Andrew Parsa, MD, PhD

Discussant
Carl Barnes Heilman, MD
608 4:01–4:15 PM

Association of Preoperative Depression and Survival after Primary Resection of Malignant Brain Astrocytoma

**Authors**
Matthew J. McGirt, MD; Frank Attenello, MS; Muraya Gathinji, MS; Khoi Than, MD; Kaisorn L. Chaichana, BS; Ghazala Datoo, BS; Alessandro Olivi, MD; Jon D. Weingart, MD; Henry Brem, MD; Alfredo Quinones-Hinojosa, MD

**Discussant**
Stephen B. Tatter, MD, PhD

609 4:16–4:30 PM

National Brain Tumor Foundation Mahaley Award
Prolific CD8 T Cell Infiltrate in Newly Diagnosed Glioblastoma Patients Correlates with Long Term Survival

**Authors**
Andrew T. Parsa, MD, PhD; Tarik Tihan, MD; Margaret Wrensch, PhD

**Discussant**
Allan H. Friedman, MD, FACS

610 4:31–4:45 PM

Long-Term Recurrences of Cushing’s Disease after Initial Successful Transsphenoidal Surgery

**Authors**
Chirag G. Patil, MD; Daniel M. Prevedello, MD; Shivanand P. Lad, MD, PhD; Mary Lee Vance, MD; Michael O. Thorne, MD; Laurence Katznelson, MD; Edward R. Laws, Jr., MD

**Discussant**
Nelson M. Oyesiku, MD, PhD

611 4:46–5:00 PM

Differential Proteomic Signatures Detected by MALDI Mass Spectrometry in Glioblastoma Multiforme

**Authors**
John R. Floyd, MD; Reid Thompson, MD; Richard Caprioli, PhD; Mahlon Johnson, MD

**Discussant**
Ennio Antonio Chiocca, MD, PhD

612 5:01–5:15 PM

The Value of Fiber Tractography with the 3-Tesla MRI System for Brainstem Surgery

**Authors**
Ugur Ture, MD; Ahmet Hilmi Kaya, MD; Geysu Karlikaya, MD; Zeynep Fırat, PhD; Hatrice Ture, MD; Canan Aykut Bingol, MD; İlhamı Kovanlıkaya, MD

**Discussant**
Mitchel S. Berger, MD, FACS

613 2:45–2:59 PM

Visual Loss after Spine Surgery: A Population Based Study

**Authors**
Shivanand P. Lad, MD, PhD; Chirag G. Patil, MD; Eleonora M. Lad, MD, PhD; Christopher Ho, BS; Maxwell Boakye, MD

**Discussant**
C. Wayne Hamm, CRNA

614 3:00–3:14 PM

Rodent Model of Perioperative Ischemic Optic Neuropathy

**Authors**
Steven Roth, MD; Jason Waldinger, BS; John Dreixler, PhD; Afzhal Shaikh, MS

**Discussant**
C. Wayne Hamm, CRNA

615 3:46–4:00 PM

XLIF in the Treatment of Single-Level Lumbar Spondylolisthesis: 6 Month and 1 Year Follow-Up

**Authors**
Curtis S. Cox, MD; W. B. Rodgers, MD; Edward J. Gerber, PA-C

**Discussant**
Kevin T. Foley, MD

616 4:01–4:15 PM

Self-Reported Measures of Health Status as a Predictor of Operative vs. Conservative Management of Adult Deformity

**Authors**
Kai-Ming Fu, MD, PhD; Justin Smith, MD; Christopher I. Shaffrey, MD

**Discussant**
TBD

617 4:16–4:30 PM

Perioperative Complications of Multi-Level Thoracolumbar Spinal Fusions in Elderly Patients

**Authors**
Jordan M. Cloyd, BA; Frank L. Acosta, Jr., MD; Christopher P. Ames, MD

**Discussant**
Charles L. Branch, Jr., MD

618 4:31–4:45 PM

Thorascopic-Assisted Microsurgical Resection of Symptomatic Thoracic Disc Herniations

**Authors**
Scott D. Wait, MD; Douglas J. Fox, MD; Gregory P. Lekovic, MD, PhD; Kathy J. Kenny, RN, MS, NP; Curtis A. Dickman, MD

**Discussant**
Patrick W. Hitchon, MD
Trends and Variations in Cervical Spine Surgery for Degenerative Disease in Medicare Beneficiaries, 1992-2005

Authors
Marjorie C. Wang, MD, MPH; William Kreuter; Christopher Wolfla, MD; Dennis J. Maiman, MD, PhD; Richard A. Deyo, MD, MPH

Discussant
Peter Douglas Angevine, MD

Reinforcement Learning in the Basal Ganglia During Deep Brain Stimulation

Authors
Kareem Zaghoul, MD, PhD; Justin Blanco, BSC; Kathryn McGill, MSN, ACNP; Michaux Kilpatrick, MD, PhD; Patrick Connelly, MD; Jurg L. Jaggi, PhD; Michael J. Kahana, PhD; Gordon H. Balruch, MD, PhD

Discussant
Matthew A. Howard, III, MD

Gamma Knife Radiosurgery for Trigeminal Neuralgia: Comparison of the Root-Entry Zone and Retrogasserian Targets

Authors
K. Singh Sahni, MD, FACS; Aditya Gupta, MD; Alfred M. Strash, PhD; Karla M. Mossi, PhD

Discussant
Bruce E. Pollock, MD

Deep Brain Stimulation Does Not Affect Neurons in the Subthalamic Nucleus

Authors
Jonathan D. Carlson, MD, PhD; Mary Heinricher, PhD; Justin Cetas, MD, PhD; Kim Burchiel, MD

Discussant
Gordon Hirsh Baltuch, MD, PhD

The Safety of MRI after DBS Implantation Evaluated by Immediate and Delayed Serial Imaging

Authors
Vaninder S. Chhabra, MD; Edward Sung, BS; Klaus Mewes, PhD; Robert E. Gross, MD, PhD

Discussant
Ali R. Rezai, MD

Automated Visualization of Subthalamic Nucleus Border Location During Deep Brain Stimulation Surgery

Authors
Shabbar F. Danish, MD; Gordon H. Balruch, MD, PhD; Jurg Jaggi, PhD; Stephen Wong, MD

Discussant
Roy A. E. Bakay, MD

Epilepsy Surgery for Insular Lesions

Authors
Marec von Lehe, MD; Joerg Wellmer, MD; Thomas Kral, MD; Horst Urbach, MD, Prof; Johannes Schramm, MD; Christian E. Elger, MD; Hans Clusmann, MD

Discussant
Guy M. McKhann, II, MD

Medically Intractable Temporal Lobe Epilepsy in Patients with Normal MRI: Surgical Outcome in Twenty-Four Consecutive Patients

Authors
Adam P. Smith, MD; Richard W. Byrne, MD; Andres Kanner, MD; Sepehr Sani, MD; Matthew Morrin; Susan Palac, MD; Donna Bergen, MD; Antoaneta Balabanov, MD; Michael Smith, MD; Walter W. Whisler, MD, PhD

Discussant
Robert E. Gross, MD, PhD
**SCIENTIFIC SESSION IV—PEDIATRICS**

2:45–5:15 PM

Room E352, Lakeside Center, McCormick Place

**Moderator**
Jeffrey H. Wisoff, MD

This session will focus on innovations in the diagnosis, management and treatment of pediatric neurosurgery. Innovations which have been developed in the last twelve months will be presented.

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
<th>Discussant</th>
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</thead>
<tbody>
<tr>
<td>629</td>
<td>2:45–2:59 PM</td>
<td>Urinary Biomarkers Predict Brain Tumor Presence and Response to Therapy</td>
<td>Edward R. Smith, MD; David Zurakowski, PhD; Ali Saad, MD; R. Michael Scott, MD; Marsha A. Moses, PhD</td>
<td>Corey Raffel, MD, PhD</td>
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<tr>
<td>630</td>
<td>3:00–3:14 PM</td>
<td>Long-Term Motor and Sensory Function after Resection of Intramedullary Spinal Cord Tumors in Children</td>
<td>Matthew J. McGirt, MD; Kaisorn Chaichana, BS; Kevin Yao, MD; Frank Attenello, MS; George Jallo, MD</td>
<td>Bruce A. Kaufman, MD, FACS</td>
</tr>
<tr>
<td>631</td>
<td>3:15–3:29 PM</td>
<td>Clinical Predictors of Developmental Outcome in Patients with Cephaloceles</td>
<td>Benjamin W. Y. Lo, MD; Andrew Jea, MD; James Rutka, MD, PhD; James Drake, MD, MSc; Peter Dirkx, MD, PhD; Abhaya Kulkarni, MD, PhD; Maria Lamberti-Pasculli, RN; Lehana Thabane, PhD</td>
<td>Karin M. Muraszko, MD</td>
</tr>
<tr>
<td>632</td>
<td>3:30–3:44 PM</td>
<td>The Effective Management of Complex CSF Shunt Infections: A Clinical Report</td>
<td>Philipp R. Aldana, MD; Hector E. James, MD; John S. Bradley, MD</td>
<td>Marion L. Walker, MD</td>
</tr>
<tr>
<td>633</td>
<td>3:45–3:59 PM</td>
<td>Characteristics of and Treatment Strategies for Intracranial Aneurysms in Children</td>
<td>Francisco A. Ponce, MD; Robert F. Spetzler, MD, FACS; Kumar Kakarla, MD; Joseph Zabramski, MD</td>
<td>Robert A. Solomon, MD</td>
</tr>
<tr>
<td>634</td>
<td>4:00–4:14 PM</td>
<td>Pathogenesis of Epilepsy in Children Who Were Born Preterm: A Translational Study</td>
<td>Shenandoah Robinson, MD</td>
<td>Dennis D. Spencer, MD</td>
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**INVITED SPEAKER**

4:15–4:45 PM

Neurosurgical Management of Spasticity

Marion L. Walker, MD

<table>
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<th>Session</th>
<th>Time</th>
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<th>Authors</th>
<th>Discussant</th>
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<tr>
<td>635</td>
<td>4:46–5:00 PM</td>
<td>Endoscopic Options in Children: Experience with 125 Procedures</td>
<td>Joachim M. Oertel, DR; Joerg Baldauf, DR; Henry WS Schroeder, DR; Michael R. Gaab, DR</td>
<td>Mark M. Souweidane, MD</td>
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<tr>
<td>636</td>
<td>5:01–5:15 PM</td>
<td>Incidence, Associations and Clinical Significance of Cerebrospinal Fluid Eosinophilia in Children with Ventricular Shunts</td>
<td>Daniel H. Fulkerson, MD; Joel C. Boaz, MD</td>
<td>Robin M. Bowman, MD</td>
</tr>
</tbody>
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**SCIENTIFIC SESSION V—CEREBROVASCULAR**

2:45–5:30 PM

Room E353b, Lakeside Center, McCormick Place

**Moderator**
Robert H. Rosenwasser, MD, FACS

This session will focus on innovations in the diagnosis, management and treatment of cerebrovascular neurosurgery. Innovations which have been developed in the last twelve months will be presented.

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<th>Session</th>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
<th>Discussant</th>
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<tr>
<td>637</td>
<td>2:45–2:59 PM</td>
<td>Histopathological Changes in Brain AVMs after Embolization with ONYX® or n-BCA</td>
<td>Sabareesh K. Natarajan, MD, MS; Donald Born, MD, PhD; Basavaraj Ghodke, MD; Gavin W. Britz, MD, MPH; Laligam N. Sekhar, MD, FACS</td>
<td>Saleem Abdulrauf, MD</td>
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<tr>
<td>638</td>
<td>3:00–3:14 PM</td>
<td>Automated, Compliant, High-Flow Common Carotid to Middle Cerebral Artery Bypass</td>
<td>Ralph G. Dacey, Jr., MD, Greg Zipfel, MD, William Ashley, MD, PhD, Michael Chicoine, MD, Michael Reinert, MD</td>
<td>Saleem Abdulrauf, MD</td>
</tr>
</tbody>
</table>
**Surgical Management of Brainstem Cavernous Malformations**

*Authors*
Gregory P. Lekovic, MD, PhD; L. Fernando Gonzalez, MD; Randall Porter, MD; Jean de Oliveira, MD; Robert F. Spetzler, MD

*Discussant*
M. Christopher Wallace, MD

**Durability of Microsurgical Clipping of Unruptured MCA Aneurysms: Long Term Follow-Up by Multislice Computerized Tomography (MSCT) Angiography**

*Authors*
Niklaus Krayenbühl, MD; Stefano Binaghi, MD; Antoine Uske, MD; Amir Dehdashti, MD; Luca Regli, MD

*Discussant*
Carlos A. David, MD

**Partial Aortic Obstruction Improves Cerebral Perfusion in Patients with Symptomatic Vasospasm: Mid Term Follow Up**

*Authors*
Juan Carlos Miranda, MD; Angel Ferrario, MD; Rosana Ceratto, MD; Luciano Langui, MD; Ricardo Romero, MD; Pedro Lylyk, MD

*Discussant*
R. Loch Macdonald, MD, PhD

**Comparison of Coil Types in Aneurysm Recurrence**

*Authors*
Shah-Naz H. Khan, MD; Christopher Nichols, MD; Todd A. Abbruzzo, MD; Andrew J. Ringer, MD

*Discussant*
B. Gregory Thompson, Jr., MD

**Multimodality Treatment of Dural AV Fistulas-Evolution of Treatment**

*Authors*
Sabareesh K. Natarajan, MD, MS; Laligam N. Sekhar, MD, FACS; Gavin W. Britz, MD, MPH; Louis J. Kim, MD; Danial K. Hallam, MD; Basavaraj Ghodke, MD

*Discussant*
Daniel Louis Barrow, MD

**Does Country or Continent of Treatment affect Outcome after Aneurysmal Subarachnoid Hemorrhage?**

*Author*
R. Loch Macdonald, MD, PhD, FRC

*Discussant*
Neil D. Kitchen, MD, FRCS

**Results of a Prospective, Multicenter Phase I/IIa Clinical Trial to Evaluate Safety and Preliminary Efficacy of a Recombinant Rho Inhibitor (Cethrin) in Severe Acute Spinal Cord Injury**

*Authors*
Michael G. Fehlings, MD, PhD, FRC; Gilles Maurais, MD, FRCSC; Nicholas Theodore, MD; James Harrop, MD; Charles Kuntz, IV, MD; Brian Kwon, MD, PhD, FRC; Jens Chapman, MD; Albert Yee, MD, FRCSC

*Discussant*
Fred H. Geisler, MD, PhD

**Temporal Relationship Between ICP & PbtO2 in Acute Brain Pathology; The Role of Real-Time Analysis Using Symbolic Regression**

*Authors*
John F. Morrison, MS; Michael D. Schmidt, MSE; Matthew C. Ringenberg, BS; Narendra Nathoo, MD, PhD; Pradeep K. Narotam, MD, FACS

*Discussant*
Shelly D. Timmons, MD, PhD

**Endovascular Treatment of Traumatic Intracranial Aneurysms**

*Authors*
Ricardo Segal, MD; Jose E. Cohen, MD; John M. Gomori, MD; Alex Spivak, MD; Emil Margolin, MD; Gil Sviri, MD; Gustavo Rajz, MD; Sergey Spektor, MD

*Discussant*
Rocco A. Armonda, MD

**Neurotrauma**

*Room E353c, Lakeside Center, McCormick Place*

*Moderator*
P. David Adelson, MD, FACS

*Discussant*
This session will focus on innovations in the diagnosis, management and treatment of neurotrauma neurosurgery. Innovations which have been developed in the last twelve months will be presented.

**Invited Speaker**

Neurotrauma at the Crossroads: A View of our Subspeciality in 2018

M. Sean Grady, MD
The Effects of Intrathecal Hypotension on Tissue Perfusion and Pathophysiological Outcome Following Acute Spinal Cord Injury

**Authors**
Eric M. Horn, MD, PhD; Nicholas Theodore, MD; Rachid Assina, BS; Robert Spetzler, MD; Volker Sonntag, MD; Mark Preul, MD

**Discussant**
John E. O’Toole, MD

---

Synthes Resident Craniofacial Award Management Strategies and Outcomes for Pediatric Patients with Severe TBI and Refractory® ICP

**Authors**
Jayant Jagannathan, MD; David O. Okonkwo, MD, PhD; Kwang H. Yeoh, BSC; Dwight Saulle, BA; Aaron S. Dumont, MD; Rod J. Oskouian, MD; Charles A. Sansur, MD; John A. Jane, Sr., MD; John A. Jane, Jr., MD

**Discussant**
P. David Adelson, MD, FACS

---

The Value of Postoperative Computed Tomography in Cranial Cases

**Authors**
Ahmad Khaldi, MD; Vikram C. Prabhu, MD, FACS; Douglas E. Anderson, MD; T. C. Origitano, MD, PhD

**Discussant**
H. Richard Winn, MD

---

Transverse Process Fractures Do Not Warrant Neurosurgical Consultation or Involvement

**Authors**
Wayne C. Paullus, MD; Lucas H. Bradley; Norman S. Litofsky, MD, FACS; James R. Howe, MD

**Discussant**
Jamie S. Ullman, MD

---

Diminution in Pain in Acute Spinal Cord Injury Treated with Oscillating Field Stimulation

**Authors**
Scott Shapiro, MD; Richard B. Borgens, PhD; Richard B. Rodgers, MD; Jamie Bradbury, MD

**Discussant**
Richard K. Osenbach, MD

---

Business Meeting

**Room E353a, Lakeside Center, McCormick Place**

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Section on Tumors: Young Members Reception

**Sheraton Ballroom V, Sheraton Chicago Hotel & Towers**

**Speaker**
Michael W. McDermott, MD

**Head and Neck Injuries in Motorsports Racing**

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History Section Dinner

**6:00–10:00 PM**

**DON’T MISS THE AANS HISTORY SECTION ANNUAL DINNER**

The Metropolitan Club located in the Sears Tower

Cost per person: $135

Attend this year’s annual dinner of the American Association of Neurological Surgeons History Section at The Metropolitan Club located in the Sears Tower.

Enjoy an evening filled with sweeping panoramic views of Lake Michigan and the Chicago skyline from North America’s tallest building, the Sears Tower.

The Metropolitan Club, founded in 1974, is the premiere business and social club in Chicago, located in the heart of the Loop. Their seasonal menu offers American cuisine with a European flair prepared by an exceptional culinary staff.
Exhibit Hours:
9:00 AM–4:00 PM
Breakfast in Exhibit Hall D2:
6:45–7:30 AM

BREAKFAST SEMINARS
7:30–9:30 AM
Cost: $75 each

201
How I Do It: Acoustic Tumors
Room E270, Lakeside Center, McCormick Place
Moderator
Frederick G. Barker, II, MD, FACS
Panelists
Ossama Al-Mefty, MD; L. Dade Lunsford, MD; Kalmon D. Post, MD; Craig Andrew Van Der Veer, MD
The principles of selecting suitable approaches, techniques and tactics of multimodality treatment of acoustic neuromas will be described.

Learning Objectives
After completing this educational activity, participants should be able to:
• Identify the indications for operative treatment, radiation treatment and observation
• Apply technical details of acoustic tumor surgery
• Discuss how to avoid complications and study the outcome of surgery, radiation treatment and observation

202
Minimally Invasive Spinal Neurosurgery: State-of-the-Art
Room E350, Lakeside Center, McCormick Place
Moderator
Kevin T. Foley, MD
Panelists
Domagoj Coric, MD; Kurt M. Eichholz, MD; Praveen V. Mummaneni, MD
This seminar will focus on endoscopic and minimally invasive techniques for cervical, thoracic and lumbar spine surgery. Techniques for decompression and fusion will be discussed.

Learning Objectives
After completing this educational activity, participants should be able to:
• Identify the fundamentals of the surgical decision making process
• Discuss factors involved with patient selection for lumbar spine fusion
• Distinguish between the surgical strategies for lumbar spine fusion and their relative indications, as well as their pros and cons

204
History of Neurosurgery and Neurosciences in Chicago
Room E451a, Lakeside Center, McCormick Place
Moderator
Samuel H. Greenblatt, MD
Panelists
Ivan Ciric, MD; Javad Hekmatpanah, MD; James L. Stone, MD, FACS
Review the history of neurosurgery and related neuroscience during the 20th century in Chicago, with emphasis on people, institutions, and the first two thirds of the century.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss the contributions of the people and institutions who founded and maintained neurosurgery and its related neurosciences in Chicago during the 20th century
205  Cavernous Malformations: Current Controversies in Management
Room E255, Lakeside Center, McCormick Place

Moderator
Murat Gunel, MD

Panelists
Michael T. Lawton, MD; Gabriele Schackert, MD; R. Michael Scott, MD

This seminar will use didactic and case based discussion to explain the clinical diagnosis and management of patients with intracranial cavernous malformations.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss the presentation, diagnosis and natural history of intracranial cavernous malformations
• Review the expectant, surgical and radiosurgical treatment options for patients with cavernous malformations
• Review familiar cavernous malformation syndromes

207  Chiari Malformations: Diagnosis, Treatments and Failures
Room E253a, Lakeside Center, McCormick Place

Moderator
Ulrich Batzdorf, MD

Panelists
Richard G. Ellenbogen, MD, FACS; Bermans J. Iskandar, MD; Karin M. Muraszko, MD

This seminar will focus on the pathophysiology of Chiari malformations, the indications for treatment, therapeutic options and the basis of their success and failure.

Learning Objectives
After completing this educational activity, participants should be able to:
• Describe the current concepts of the pathophysiology of Chiari malformations
• Recognize the indications for treatment of Chiari malformations
• Discuss the options for treatment of Chiari malformations

206  Functional Mapping of the Cerebral Cortex: Advantages and Limitations
Room E256, Lakeside Center, McCormick Place

Moderator
Matthew A. Howard, III, MD

Panelists
Mitchel S. Berger, MD, FACS; Michael M. Haglund, MD, PhD; Guy M. McKhann, II, MD

All aspects and methods of functional mapping for neurosurgery will be discussed including removal of brain tumors, vascular lesions and epilepsy for awake and asleep patients.

Learning Objectives
After completing this educational activity, participants should be able to:
• Identify and work within eloquent areas of the brain

208  Lumbar Stenosis
Room E265, Lakeside Center, McCormick Place

Moderator
Robert E. Isaacs, MD

Panelists
Edward C. Benzel, MD; Larry T. Khoo, MD; Carl Lauryssen, MD; Claudius Thome, MD

This seminar will evaluate short term and long term outcomes of both surgical and non-surgical treatment of lumbar stenosis. It will also evaluate recently developed minimal access treatments for stenosis.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss the natural history of spinal stenosis
• Explain the data underlying non-operative therapies for spinal stenosis
• Explain the data underlying conventional operative therapies for spinal stenosis
• Explain the data underlying the newer and less conventional operative therapies for spinal stenosis

209  Treatment of Complex Regional Pain Syndrome and Hyperhidrosis
Room E262, Lakeside Center, McCormick Place

Moderator
Christopher J. Winfree, MD

Panelists
Zelma HT Kiss, MD, PhD; Robert M. Levy, MD, PhD

This seminar will present current management concepts and emerging state-of-the-art techniques and technology to treat symptomatically mediated disorders that include complex regional pain syndrome and hyperhidrosis.

Learning Objectives
After completing this educational activity, participants should be able to:
• Recognize and diagnose complex regional pain syndrome
• Discuss current treatment of hyperhidrosis

210  Controversies in the Management of Intracerebral Hematomas
Room E352, Lakeside Center, McCormick Place

Moderator
Neil D. Kitchen, MD, FRCS

Panelists
Geoffrey T. Manley, MD, PhD; Alexander David Mendelow, FRCS, PhD; Mario Zuccarello, MD

This seminar will evaluate short term and long term outcomes of both surgical and non-surgical treatment of intracerebral hematomas. It will also evaluate recently developed minimal access treatments for hematomas.
The pathophysiology of spontaneous intracerebral hemorrhage will be described, as well as current treatment options. Recent ongoing clinical trials for treatment of ICH patients will be discussed.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Discuss the management of intracerebral hemorrhage according to current clinical evidence
- Discuss rationale for current clinical studies
- Discuss evidence based medicine in the management of a patient with intracerebral hemorrhage

**211**
**Advances in Carotid Disease: Surgery vs. Endovascular Therapy**
*Room E271b, Lakeside Center, McCormick Place*

**Moderator**
Christopher M. Loftus, MD, FACS

**Panelists**
Felipe C. Albuquerque, MD; Robert E. Harbaugh, MD, FACS

This seminar will explore the risk/benefit ratio for high-risk carotid surgery.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Identify high-risk cases in carotid disease
- Recommend appropriate carotid disease cases for surgery
- Discuss the limits of endovascular treatment

**212**
**Pituitary Tumors**
*Room E353b, Lakeside Center, McCormick Place*

**Moderator**
Gail L. Rosseau, MD

**Panelists**
William T. Couldwell, MD, PhD; Daniel F. Kelly, MD; Edward R. Laws, Jr., MD; Jean Regis, MD

Participants will obtain a state-of-the-art update on pituitary tumors, including optimal medical, surgical and adjunctive therapies.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Discuss optimal management of prolactinomas
- Describe approach advances in and extensions of transsphenoidal surgery
- Construct appropriate adjunctive treatment algorithms for patients

**213**
**Biologics for the Spine**
*Room E253c, Lakeside Center, McCormick Place*

**Moderator**
Daniel K. Resnick, MD

**Panelists**
Robert S. Bray, Jr., MD; James S. Harrop, MD; Patrick W. Hitchon, MD; Christopher I. Shaffrey, MD; Michael Y. Wang, MD

This seminar will focus on novel cutting edge strategies for spine stabilization, specifically focusing on bone graft extenders and substitutes, absorbable implants, and biological adjuncts for fusion.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Discuss the use of electrical stimulation for promotion of fusion
- Describe the current use of absorbable and non-absorbable polymers for spinal stabilization
- Discuss the current use of BMP for spinal arthrodesis

**214**
**Management of Spinal Axis Trauma**
*Room E253b, Lakeside Center, McCormick Place*

**Moderator**
Gregory R. Trost, MD

**Panelists**
Nicholas Theodore, MD; Brian Patrick Walsh, MD; Michael Y. Wang, MD

A variety of commonly encountered spine injuries/fractures will be discussed. The controversies and rationale for treatment strategies will be reviewed.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Discuss the pertinent issues and alternatives for treatment of spinal fractures/injuries
- Review rationale for various spine trauma treatments

**215**
**Cervical Disc Disease**
*Room E260, Lakeside Center, McCormick Place*

**Moderator**
Vincent C. Traynelis, MD

**Panelists**
Ronald I. Apfelbaum, MD; Darryl J. Dirisio, MD; William E. Krauss, MD; Stephen M. Papadopoulos, MD; Paul Santiago, MD

This seminar will evaluate the surgical management options for herniated cervical discs. The rationale for selection of anterior and posterior approaches and available techniques will be explored.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Evaluate the various treatment options for cervical disc disease
- Compare and contrast the different surgical approaches for herniated cervical disc disease
- Discuss treatment options for cervical disc disease
Intracranial Endoscopy
Room E271a, Lakeside Center, McCormick Place

Moderator
Michael R. Gaab, MD, PhD

Panelists
Alan R. Cohen, MD, FACS; Amin Kassam, MD; Daniel R. Pieper, MD; Mark M. Souweidane, MD

Experienced panelists will discuss the actual indications and new developments in intracranial endoscopy and the techniques available for performing these procedures. Emphasis will be placed on techniques, complication rates, complication avoidance and management.

Learning Objectives
After completing this educational activity, participants should be able to:
• Identify the indications for intracranial endoscopic procedures
• Evaluate specific techniques available for intracranial endoscopic procedures
• Discuss complication rates and strategies for complication avoidance of intracranial endoscopic procedures
• Recognize actual trends in intracranial endoscopy development

Malignant Brain Tumors: State-of-the-Art Treatment
Room E353a, Lakeside Center, McCormick Place

Moderator
Joseph M. Piepmeier, MD

Panelists
Ennio Antonio Chiocca, MD, PhD; Francesco DiMeco, MD; Andrew Thomas Parsa, MD, PhD

This seminar will discuss new advances in the management of malignant gliomas including gene therapy, convection enhanced drug and immunotherapy. These advances will be discussed in the context of tumors managed by the neurosurgeon.

Learning Objectives
After completing this educational activity, participants should be able to:
• Examine drug delivery using convection based interstitial diffusion
• Review the tumor biology with gene and vaccine therapy

Tethered Cord Anomalies
Room E261, Lakeside Center, McCormick Place

Moderator
Joseph H. Piatt, Jr., MD

Panelists
Stephen J. Haines, MD; Corey Raffel, MD, PhD; Nathan R. Selden, MD, PhD

The seminar will present the evidentiary basis for the management of tethered spinal cords in childhood. It will highlight contemporary surgical techniques. It will emphasize unanswered questions and areas of controversy, including the concept of ‘minimal’ tethered cord.

Learning Objectives
After completing this educational activity, participants should be able to:
• Classify the various patterns of spinal dysraphism
• Discuss the risks of progressive neurological disability from spinal cord tethering associated with each pattern of dysraphism
• Select intraoperative and postoperative practices that minimize the risk of surgical complications in the treatment of tethered spinal cord
• Explain the treatment of a child with minimal imaging findings referred because of dysfunctional voiding

The Future of Global Neurosurgery
Room E267, Lakeside Center, McCormick Place

Moderator
Nelson M. Oyesiku, MD, PhD

Panelists
Rick Abbott, MD; Tetsuo Kanno, MD

The seminar will focus on the predictions and direction of the future of neurological surgery.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss the direction and future of neurosurgery
• Explore treatment options for neurosurgery into the future

Improving Your Bottom Line
Room E253d, Lakeside Center, McCormick Place

Moderator
James I. Ausman, MD, PhD

Panelists
Saeed Bajwa, MD; Gregory B. Lanford, MD; Troy D. Payner, MD; Webster H. Pilcher, MD, PhD

This seminar will survey the solutions neurosurgeons have made to the constritive economic environment using practicing neurosurgeons as faculty. Successful examples will cover the small practice to the academic center. This seminar encourages audience participation. It will cover options ranging from entrepreneurial to employment.

Learning Objectives
After completing this educational activity, participants should be able to:
• Appraise techniques employed by managing partners of large neurosurgical practices to reduce overhead
• Manage personnel and develop innovative ways to increase the bottom line and run a more productive practice
• Discuss forces shaping healthcare
• Explain how to grow a practice in today’s and tomorrow’s healthcare environment
Spinal Motion Preservation—
The Posterior Column Implants

Room E353c, Lakeside Center, McCormick Place

Moderator
M. Samy Abdou, MD

Panelists
Fred H. Geisler, MD, PhD; Russ P. Nockels, MD; Phillip A. Tibbs, MD; Kenneth S. Yonemura, MD

A wide range of treatment strategies and implantable devices are being developed to treat facet disease, spinal stenosis and other manifestations of posterior column disease without fusion. The implantable devices include X-Stop, Dynasis, TOPS and others. The results of the most recent clinical trials will be presented by investigators involved in these studies.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss the normal anatomy of the posterior spinal column, as well as the pathophysiology of degenerative disease
• Discuss the biomechanical basis of non-fusion technology
• Explain the design features of both pedicle screw-based and inter-spinous process implants
• Compare and contrast the differing treatment strategies
• Discuss the relevant clinical results of pedicle screw-based stabilization devices and of inter-spinous process implants

Vertebroplasty: Indications, Controversies and Credentialing

Room E259, Lakeside Center, McCormick Place

Moderator
Richard D. Fessler, II, MD

Panelists
Sean D. Lavine, MD; Mick J. Perez-Cruet, MD; Andrew J. Ringer, MD

This seminar will focus on vertebroplasty (VP) and kyphoplasty (KP) techniques, hospital credentialing for performance of these procedures and identifying appropriate patients for each technique.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss the indications for VP and KP
• Discuss the rationale for choosing VP or KP for a given patient
• Discuss hospital credentialing and delineation of privileges

Management of Acute Spinal Cord Injury

Room E263, Lakeside Center, McCormick Place

Moderator
Michael G. Fehlings, MD, PhD

Panelists
Charles Kuntz, IV, MD; Michael Patrick Steinmetz, MD; Andrea Strayer, MSN, CNRN, Michael Y. Wang, MD

This breakfast seminar will provide an up-to-date review of the pathophysiology, medical management, surgical options and recent clinical trials related to spinal cord injury.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss clinically relevant aspects of the pathophysiology of spinal cord injury
• Discuss current concepts in the medical management of spinal cord injury
• Explain the role and timing of surgical treatment for acute spinal cord injury
• Discuss recent developments in clinical trials for spinal cord injury
• Integrate current concepts of spinal cord injury into their practice

Becoming a Neurosurgeon: A Practical Course for Medical Students and Residents

Room E258, Lakeside Center, McCormick Place

This clinic is free to Residents, Fellows and Medical Students.

Moderator
Lawrence S. Chin, MD, FACS

Panelists
Deborah L. Benzil, MD; M. Sean Grady, MD; Jayant Jagannathan, MD; N. Scott Litofsky, MD

This seminar will provide medical students and junior residents an overview of neurosurgery residency and how to prepare for a career beyond residency. Practical tips, as well as an overview of the future of our specialty will be presented.

Learning Objectives
After completing this educational activity, participants should be able to:
• Describe the typical process for applying and getting into a residency
• Recite practical hints on dealing with the stress of residency
• Discuss how to prepare for a career out of residency
• Discuss the main challenges facing neurosurgeons now and in the future

The Economic Impact of the Prestige® Cervical Disc System: Results from a Randomized Clinical Trial

Authors
Vincent C. Traynelis, MD; Joseph Menzin, PhD; Bin Zhang, MD; Peter J. Neumann, ScD; Lisa M. Lines, BS; David W. Polly, Jr., MD

This breakfast seminar will present the results of the most recent clinical trials will be presented by investigators involved in these studies.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss the indications for VP and KP
• Discuss the rationale for choosing VP or KP for a given patient
• Discuss hospital credentialing and delineation of privileges
**Discussant**
Paul C. McCormick, MD

**701**
10:00–10:14 AM
Surgical Management of Cavernous Malformations of the Brainstem Presenting in Childhood

**Authors**
Gregory P. Lekovic, MD, PhD; Elisa Beres, MD; L. Fernando Gonzalez, MD; Randall Porter, MD; Harold Rekate, MD; Robert F. Spetzler, MD

**Discussant**
R. Michael Scott, MD

**702**
10:15–10:29 AM
Journal of Neuro-Oncology Award Impact of Surgery on the Leptomeningeal Dissemination (LMD) of Supratentorial Brain Metastasis (SBM)

**Authors**
Raymond Sawaya, MD; Dima Suki, PhD; Mustafa Aziz Hatiboglu, MD; Akash J. Patel, MD; Weiming Shi, MD; Anita Mahajan, MD; Jeffrey Weinberg, MD; Morris D. Groves, MD

**Discussant**
Joseph M. Piepmeier, MD

**703**
10:30–10:44 AM
Deep Brain Stimulation (DBS) for Treatment of Depression: Long-Term Outcomes from a Prospective Multi-Center Trial

**Authors**
Ali R. Rezai, MD; Donald Malone, MD; Darin Dougherty, MD; Gerhard Friehs, MD; Emad Eskandar, MD; Andre Machado, MD, PhD; Cynthia Kubu, PhD; Linda Carpenter, MD; Audrey Tyrka, MD, PhD; Paul Malloy, PhD; Stephen Salloway, MD; Scott Rauch, MD; Lawrence H. Price, MD; Steven Rasmussen, MD

**Discussant**
Philip A. Starr, MD, PhD

**704**
10:45–10:59 AM
Outcome Analysis in Surgery for Adult Chiari I Malformation with Syringomyelia, With or Without Arachnoid Opening and Dural Graft

**Authors**
Rupa Gopalan, BS; Charles A. Sansur, MD, MHSc; David K. Hamilton, MD; John A. Jane, MD, PhD

**Discussant**
Ulrich Batzdorf, MD

**705**
11:00–11:14 AM
Long-Term Follow-Up in Patients Surgically Treated for an Unruptured Intracranial Aneurysm

**Authors**
James Torner, PhD; David Piepgras, MD; Irene Meissner, MD; John Huston, MD; Robert Brown, MD, MPH

**Discussant**
Robert A. Solomon, MD

**501**
2:00–5:00 PM N&PE
Integration of Patient Assessment Technology Into Practice

**Room E351, Lakeside Center, McCormick Place**

**Cost:** $75
This session is free for Nurses and Physician Extenders.

**Moderator**
Twyla Lay, NP, MS

**Speakers**
MaryKay Bader, MSN, Julia Galletly; Leo Timothy Harris, PA-C, Geoffrey T. Manley, MD, PhD; Karen March, RN, MN; Matson Sewell, MPH, CPH

This symposium will explore the technological advancements in cerebral monitoring used in the assessment and management of complex patient data critical to the care of patients with traumatic brain injury. Didactic will be provided by a neurotrauma expert, including Advance Practice Nurses, Physician Assistants, and Neurosurgeons with an opportunity for interactive discussion and hands on device demonstrations.

**Learning Objectives**
After completing this educational activity, participants should be able to:

- Analyze the differences in various devices for ICP monitoring and discuss the guidelines for monitoring and medical decision making in regards to placement of an EVD vs. a parenchymal monitor
- Identify appropriate parenchymal placement, relevance and reliability of core vs. brain temperatures, and the use of brain tissue oxygen monitoring in the treatment and assessment of the patient with traumatic brain injury
- Distinguish the various levels of cellular physiology as it relates to cerebral microdialysis and the significance of it's use in the treatment of traumatic brain injury
• Examine how the introduction of informatics into your practice can aid in the treatment/care of the ICU patient

**AANS/CNS SECTION ON NEUROTRAUMA**

*Room E353c, Lakeside Center, McCormick Place*

**2:45–5:30 PM**

**Diminishing Professional Liability Exposure: Patient Safety, Error Disclosure, Enhancing Communication**

*Room E352, Lakeside Center, McCormick Place*

**Moderators**
- Odette Althea Harris, MD, MPH
- Roland A. Torres, MD

**CODMAN 2006 AWARD PRESENTATION**

2:45–3:00 PM

**Recipient**
- Gregory Hawryluk, MD

**CODMAN 2007 AWARD PRESENTATION**

3:01–3:15 PM

**Recipient**
- Amy Lee, MD

**Codman 2008 Award Recipient**
- TBD

**731 3:16–3:30 PM**

**Magnetic Resonance Imaging Findings in Vegetative State After Acute Head Injury**

**Authors**
- Raimund P. Firsching, DR
- Birgitt Stiller, MD
- Imre Bondar, PhD
- Martin Skalej, PhD

**732 3:31–3:45 PM**

**Synthes Resident Spine Award Cortical Control and Characterization of a Spinal Nerve Bridge to Bypass Spinal Cord Injury**

**Authors**
- Raqeeb M. Haque, MD
- Samit Chakabarty, PhD
- Lucas Campos, MD
- Deepa Danan, BS
- Christopher Winfree, MD
- John Martin, PhD

**733 3:46–4:00 PM**

**Early Detection of Cerebral Edema Through an Implanted Optical Probe**

**Authors**
- Christopher M. Owen, MD
- Amandip S. Gill, BS
- Devin K. Binder, MD

**AANS/CNS CEREBROVASCULAR SECTION**

*Room E353b, Lakeside Center, McCormick Place*

**2:45–5:30 PM**

**Embolization of Wide-Neck Aneurysms—Does Stent-Assistance Help? 368 Aneurysms with Delayed Angiographic Follow Up**

**Authors**
- Michael J. Alexander, MD
- Ketan Bulsara, MD
- Ali Zomorodi, MD

**734 4:01–4:15 PM**

**The Use of Selective NMDA Modulators in Traumatic Brain Injury**

**Author**
- Jennifer Jennings, MD

**SPINAL TRAUMA CASE STUDIES: DISCUSSION WITH THE EXPERTS**

**Cervical Trauma**

4:16–4:40 PM

**Speaker**
- J. Patrick Johnson, MD

**Thoracolumbar Trauma**

4:41–5:05 PM

**Speaker**
- Rudolf Beisse, MD

**Lumbar/Lumbosacral Trauma**

5:06–5:30 PM

**Speaker**
- Michael Y. Wang, MD

**POSTER VIEWING IN THE EXHIBIT HALL**

**2:00–2:45 PM**

**POSTER VIEWING IN THE EXHIBIT HALL**

**2:00–2:45 PM**
DONAGHY LECTURESHIP
Introduction
3:25–3:30 PM
Joshua B. Bederson, MD

Treatment Strategy of Cerebral Arteriovenous Malformation
3:31–3:50 PM
Recipient
Nobuo Hashimoto, MD

STATE OF THE CEREBROVASCULAR SECTION
3:51–4:00 PM
Speaker
Joshua B. Bederson, MD

SYMPOSIUM
Should Carotid Artery Bypass Be Performed in Patients Tolerating Balloon Test Occlusion? Let’s Ask the Experts
Moderator
Charles J. Prestigiacomo, MD, FACS
4:01–4:11 PM
Speaker
Neil A. Martin, MD
4:12–4:22 PM
Speaker
Robert H. Rosenwasser, MD, FACS

QUESTIONS/INDEX CASE DISCUSSION
4:23–4:26 PM
Charles J. Prestigiacomo, MD, FACS

Pial Synangiosis for Moyamoya Disease with Hemorrhagic Presentation in Children: Long-Term Follow-Up
Authors
Ronald T. Grondin, MD, FRCSC; Edward R. Smith, MD; R. Michael Scott, MD

Best Treatment for Hemorrhagic Type Moyamoya Disease Based on the Long Term Follow-Up Data
Authors
Shoichiro Kawaguchi, MD, PhD; Toshisuke Sakaki, MD, PhD; Masami Imanishi, MD, PhD; Yasunori Sasaoka, MD, PhD; Takeshi Matsuyama, MD, PhD; Toshikazu Takeshima, MD, PhD; Misato Nobayashi, MD, PhD
Relationship of Intraoperative Blood Flow and Post-Operative Outcome in Moyamoya Patients Following Revascularization Surgery

Authors
Marco Lee, MD; Raphael Guzman, MD, PhD; Samuel Cheshier, MD, PhD; Gary Steinberg, MD, PhD

A New Modified Intracerebral Hemorrhage (MICH) Score for Treatment Decisions in Basal Ganglia Hemorrhage—A Randomized Trial

Authors
Der-Yang Cho, MD; Chun-Chung Chen, MD; Han-Chung Lee, MD; Wen-Yuan Lee, MD; Li-Hwe Ho, RN

Cervical Myelopathy—Pathogenesis and Treatment Options

Speaker
James S. Harrop, MD

MIS Foraminotomy—The Argument for Motion Preservation

Speaker
Michael Y. Wang, MD

Prospective Assessment of Axial Back Pain Symptoms Before and After Bariatriac Weight Reduction Surgery

Authors
Paul Khoueir, MD; Mary Helen Black, MS; Peter F. Crookes, MD; Howard S. Kaufman, MD; Namir Karkhouda, MD; Michael Y. Wang, MD

Predictors of Outcome with Decompressive Surgery for Cervical Spondylotic Myelopathy: A Prospective Multicenter Study in 283 Patients with Independent Assessment

Authors
Michael G. Fehlings, MD, PhD, FRC; Branko Kopjar, MD, PhD; Tim Yoon, MD; Paul Arnold, MD; Darrel Brodke, MD; Eric Woodward, MD; Christopher Shaffrey, MD; Alexander Vaccaro, MD; Michael Jannsen, DO

Murine Embryonic Stem Cells for Disc Regeneration in an In-Vivo Rabbit Model of Disc Degeneration

Authors
Mick Perez-Cruet, MD, MSc; Hormoz Sheikh, MD; David Svinarich, PhD; Ramiro Perez De La Torre, DR; Christopher Facek, BS; Rasul Chaudhry, PhD

MRI Parameters as Predictors of Neurological Improvement in Patients with Traumatic Spinal Cord Injury: A Prospective Study in 60 Consecutive Patients

Authors
Julio C. Furlan, MD, PhD; Bizhan Aarabi, MD; Michael G. Fehlings, MD, PhD

Influence of Anesthesia on Postoperative Cognitive Decline in Adults Over 50 Who Have Undergone Spinal Surgery

Authors
Lee Hyer, PhD; Sami Walid, MD; Erich Richter, MD; Andrew Brooks; Joe Sam Robinson, MD

A Receptor for Myelin-Associated Inhibitors Contributes to Parallel Axonal Regeneration on Spinal Cord White Matter

Authors
David B. Pettigrew, PhD; Jeffrey M. Sutton, BS; Charles Kuntz, IV, MD; Keith A. Crutcher, PhD

Multidisciplinary Approach for Perimedullary AV Fistulas

Authors
Kazutoshi Hida, MD, PhD; Shunsuke Yano, MD, PhD; Yoshinobu Iwasaki, MD, PhD

The Effect on Missed Diagnosis of Lumbar Disc Herniation with Kinetic MRI

Authors
Jun Zou, MD, MS; Huilin Yang, MD, PhD; Jeffrey C. Wang, MD
PERIPHERAL NERVE TASK FORCE
5:30–6:00 PM
Room E451b, Lakeside Center, McCormick Place

TUMOR BUSINESS MEETING
2:40–2:45 PM
Room E450b, Lakeside Center, McCormick Place

AANS/CNS SECTION ON TUMOR I
2:45–5:30 PM
Room E450b, Lakeside Center, McCormick Place

Moderators
Khaled M. Aziz, MD, PhD
Franco De Monte, MD, FACS

SYMPOSIUM
2:45–3:30 PM
An Expert Panel Discussion on Suprasellar Meningiomas: Thoughts and Strategies for Microscopic Versus Endoscopic Surgical Resection

Learning Objectives
After completing this educational activity, participants should be able to:
• Explain the pros and cons of minimally invasive surgery
• Discuss the anatomical barriers to suprasellar meningiomas
• Discuss safe optic foramenotomy and dissection around the encased optic nerve and/or the internal carotid artery branches
• Discuss the importance of dural repair
• Discuss operative time, cosmetics and postoperative recovery

2:45–2:59 PM
Endoscopic Resection of Suprasellar Meningiomas
Speaker
Amin Kassam, MD

3:00–3:14 PM
Microscopic Resection of Suprasellar Meningiomas
Speaker
Ossama Al-Mefty, MD

3:15–3:30 PM
Endoscopic Assisted Microsurgical Resection of Suprasellar Meningiomas
Speaker
Harry R. van Loveren, MD

PANEL DISCUSSION
3:31–3:50 PM

AWARD PRESENTATIONS AND LECTURES
3:51–4:00 PM
Introductions
Gene H. Barnett, MD, FACS

FARBER AWARD
4:01–4:20 PM
Introductions
Gene Barnett, MD
Recipient
E. Antonio Chiocca, MD, PhD

4:21–4:30 PM
American Brain Tumor Association Young Investigator Identification of Inhibitor for Brain Tumor Stem Cells
Author
Ichiro Nakano, MD, PhD

4:31–4:40 PM
Persistent Outpatient Hyperglycemia is Independently Associated with Decreased Survival After Surgical Resection of Malignant Brain Astrocytoma
Authors
Matthew J. McGirt, MD; Muraya Gathinji, MS; Frank Attenello, MS; Khoi Th an, MD; Kaisorn L. Chaichana, BS; Amado Jimenez Ruiz, BS; Alessandro Olivi, MD; Jon D. Weingart, MD; Henry Brem, MD; Alfredo Quinones-Hinojosa, MD

4:41–4:50 PM
Convection Enhanced Delivery of a Highly Specific Ras Inhibitor: Salirasib
Authors
Liat Goldberg, MSc; Aharon Ocherashvilli, PhD; Dianne Daniels, MSc; David Last, PhD; Zvi Cohen, MD; Gregory Tamar, BSC; Yoel Klooog, PhD; Yael Mardor, PhD

4:51–5:00 PM
Gamma Knife Surgery for Cushing’s Disease: Long-Term Outcomes
Authors
Jason P. Sheehan, MD, PhD; Jay Jagannathan, MD; Nader Pouratian, MD, PhD; Edward Laws, MD; Ladislau Steiner, MD, PhD; Mary Lee Vance, MD

5:01–5:10 PM
Preuss Award Interleukin-13 Receptor Alpha2 Expression in Glioblastoma Multiforme
Authors
John K. Park, MD, PhD; John Jarboe, BS; Russell Lonser, MD; Kory Johnson, PhD; Yong Choi, PhD

5:11–5:20 PM
Factors Related to Failed Vestibular Schwannoma Radiosurgery
Authors
Bruce E. Pollock, MD; Michael J. Link, MD; Robert L. Foote, MD

5:21–5:30 PM
Quantitative Comparison of Kawase’s Approach Versus Retrosigmoid Approach
Authors
Steven W. Chang; Anhua Wu, MD; Pushpa Deshmukh, PhD; Mark Preul, MD; Robert F. Spetzler, MD; Nicholas Bambakidis, MD
**Moderators:**
Roy A. E. Bakay, MD  
Nicholas M. Boulis, MD

**SYMPOSIUM** 2:45–3:50 PM

**Advances in Neuro-GeneTherapy: Update on Clinical Translation**


**Gene Therapy for Neurodegeneration: Huntington's, Alzheimer's and Spinal Cerebellar Atrophy**

**Gene Therapy for Parkinson's Disease**

**Gene Therapy for Functional Disorders of the Nervous System: Psychiatry, Movement Disorders and Pain**

**Question and Answer**

**The STEPS Trial: Design of a Phase 2 Study to Evaluate Spheramine®, A Novel Cell-Based Therapy Administered by Stereotactic Implantation into the Striata of Patients with Parkinson's Disease (PD)**

**Granulocyte Macrophage-Colony Stimulation Factor (GM-CSF) Promotes the Survival of Dopaminergic Neurons in 1-Methyl-4-Phenyl-1,2,3,6-Tetrahydropyridine (MPTP) Induced Parkinson's Disease Rat Model**

**Long-Term Benefits of Subthalamic Nucleus Deep-Brain Stimulation for Cervical Dystonia**

**Idiopathic and Secondary Upper Limb Segmental Dystonia. The Therapeutic Role of Chronic Motor Cortex Stimulation**

**Complications of Subdural Electrode Epilepsy Recording**

**Intrastriatal Implantation of Human Retinal Pigment Epithelial (hRPE) Cells Attached to Gelatin Microcarriers (GM) for the Treatment of Parkinson's Disease (PD)**

**Predicting Successful Surgical Treatment of Temporal Lobe Epilepsy**

**Hypofractionated Stereotactic Radiation for Giant AVMs: Preliminary Results**

**Predictors of Peritumoral Edema Following Stereotactic Radiosurgery of Supratentorial Meningiomas**

**JOINT ANNUAL BUSINESS MEETING OF THE AANS AND THE AMERICAN ASSOCIATION OF NEUROSURGEONS**

**Room E353b, Lakeside Center, McCormick Place**

Tuesday, April 29 107
Visit the AANS Online Marketplace!

Ordering resources created by neurosurgeons and other expert professionals specifically for neurosurgical practices just got faster, easier, and offers many new options. The AANS Online Marketplace is a secure and convenient way for you to view new offerings from the AANS, and place and track orders from anywhere. Visit the AANS Online Marketplace for a listing of available products and services.

Features include:
- Search by specialty, or title name
- View table of contents or sample pages
- Recommendations and featured items are provided.

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http://marketplace.aans.org

FUNCTIONAL NEUROSURGERY MEDICAL STUDENT, RESIDENT, FELLOW CAREER RECEPTION
5:45–7:15 PM
Room Ohio, Sheraton Chicago Hotel & Towers
Come and discuss career paths in the exciting field of Functional Neurosurgery with Neurosurgeons in Academic and Private Practices.

NREF RESEARCH SYMPOSIUM
4:00–5:30 PM
Room Missouri, Sheraton Chicago Hotel & Towers
The NREF will host its first annual Research Symposium prior to its reception for donors and grant recipients. Awardees completing their fellowships will present the results of their research. The NREF’s Scientific Advisory Committee will moderate. It is hoped that this symposium will foster collegial ties among awardees and expose their work to academic faculty and departmental chairs. Following the symposium, new grant recipients and past awardees will join the NREF Board of Directors, corporate partners and Cushing Donors at a reception for donors and grant recipients.
See page 27 for more about NREF.
ABNS Board Preparation: What You Must Know

Room E352, Lakeside Center, McCormick Place

Moderator
M. Sean Grady, MD

Panelists
William T. Couldwell, MD, PhD; Tae Sung Park, MD

The panelists will describe the certification process from residency to certification. Emphasis will be placed on strategies to prepare for the oral ABNS examination.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss requirements for board certification
• Prepare for the ABNS oral examination

Multidisciplinary Management of Cerebral AVMs

Room E262, Lakeside Center, McCormick Place

Moderator
Neil A. Martin, MD

Panelists
Michael T. Lawton, MD; Bruce E. Pollock, MD; Robert H. Rosenwasser, MD, FACS; Gary K. Steinberg, MD, PhD

This will be a comprehensive discussion of the multidisciplinary management of complex cerebral AVMs. The perspective of neurosurgeons, radiosurgeons and interventionists will be presented.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss indications for treatment of patients with AVMs

Suprasellar and Juxtasellar Tumors

Room E270, Lakeside Center, McCormick Place

Moderator
Michael W. McDermott, MD

Panelists
William T. Couldwell, MD, PhD; Theodore H. Schwarz, MD; Juraj Steno, MD, PhD; Harry R. van Loveren, MD

This seminar will concentrate on explaining the approaches and indications for surgical therapy of lesions in the suprasellar region in adults and children. Appropriate preoperative evaluation and surgical decision making will be discussed. Innovative surgical techniques will be presented. Management of the most common lesions arising in this area will be discussed.

Learning Objectives
After completing this educational activity, participants should be able to:
• Review the options for surgical approaches to tuberculum sellae meningiomas
• Review the bifrontal extended frontal approach
• Review visual outcomes following surgery for tuberculum sellae meningiomas
• Review outcomes for children after surgery for craniopharyngiomas

Foraminal and Far Lateral Lumbar Disc Herniations

Room E353b, Lakeside Center, McCormick Place

Moderator
John A. Jane, Sr., MD, PhD

Panelists
Benoit Goulet, MD, FRCS(C); Patrick W. Hitchon, MD; Paul D. Sawin, MD

The clinical and imaging characteristics of foraminal and far lateral lumbar disc herniations, as well as the surgical anatomy will be presented. The various surgical approaches—paramedian, transmuscular and endoscopic will be described and the indications will be discussed.

Learning Objectives
After completing this educational activity, participants should be able to:
• Recognize a foraminal and far lateral lumbar disc herniation
• Identify the surgical approaches for foraminal and lateral lumbar disc herniations
• Assess the prognosis of foraminal and lateral disc herniations

Lumbar Interbody Fusion

Room E351, Lakeside Center, McCormick Place

Moderator
Eric J. Woodard, MD

Panelists
Christopher Pearson Ames, MD; Catherine J. Gallo, MD; Nicholas Theodore, MD; Kenneth S. Yonemura, MD
This seminar will describe conditions amenable to lumbar interbody fusion and basic surgical approaches, instrumentation and complications of LIF (Lumbar Interbody Fusion).

Learning Objectives
After completing this educational activity, participants should be able to:
• Describe the indications for lumbar interbody fusion and the appropriate investigations to consider in the workup of patients
• Explain the advantages and disadvantages of various lumbar interbody fusion techniques, including minimally invasive options
• Explain approaches to minimize complications
• Discuss the relevant approach anatomy related to LIF surgery
• Discuss the latest technical advances related to LIF surgery

306
Surgical Treatment of Parkinson’s Disease
Room E271a, Lakeside Center, McCormick Place
Moderator
Philip A. Starr, MD, PhD
Panelists
Aviva Abosch, MD, PhD; P. Charles Garell, MD
Participants will discuss current surgical targets for Parkinson's disease, a variety of technical approaches, and complications.

Learning Objectives
After completing this educational activity, participants should be able to:
• Identify potential brain targets for deep brain stimulation in Parkinson's disease
• Discuss technical alternative in placement of DBS electrodes
• Review complications of DBS for Parkinson's disease

307
Future Technology for Treating Hydrocephalus
Room E258, Lakeside Center, McCormick Place
Moderator
Mark G. Luciano, MD, PhD
Panelists
Jeffrey P. Blount, MD, FACS; James M. Drake, MD; Saadi Ghatan, MD; Abhaya Vivek Kulkarni, MD, FRCS
This seminar will review the physiology of hydrocephalus and how new shunt systems and sensor technology are likely to change our way of treating patients. The dynamic aspects of CSF flow and pressure gradients will be discussed, as well as what pressure sensors reveal about the causes of patient symptoms, and how a shunting system might be made using physiological data.

Learning Objectives
After completing this educational activity, participants should be able to:
• Cite the treatments available for cerebral vasospasm and describe common indications for their use
• Cite levels of evidence upon which treatments for vasospasm are based
• Recognize experimental, clinical and laboratory assessments of treatments for vasospasm

308
A History of Pre-Cushing Era Neurosurgery in North America
Room E451a, Lakeside Center, McCormick Place
Moderator
James T. Goodrich, MD, PhD
Panelists
Peter W. Carmel, MD; Mark C. Preul, MD; James L. Stone, MD, FACS
This seminar will review some of the earlier personalities that contributed to American neurosurgery in the era just before Harvey Cushing. The purpose of this seminar is to evaluate some of the individuals that contributed to North American neurosurgery prior to Cushing and what influence this might have had on this era and perhaps on Harvey Cushing himself.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss North American neurosurgery in the period just prior to Cushing
• Discuss other personalities that might have influenced early American neurosurgery
• Discuss the state-of-the-art of neurosurgery in the era just prior to Harvey Cushing
• Discuss contributions to neurosurgery by non-neurosurgeons in the era just before Harvey Cushing
Management of Adult Scoliosis
Room E271b, Lakeside Center, McCormick Place
Moderator
Christopher I. Shaffrey, MD
Panelists
Peter Douglas Angevine, MD; Robert F. Heary, MD; Stephen L. Ondra, MD
This seminar will discuss the strategies, evaluation and management of pediatric and adult spinal deformity. Special emphasis will be placed on the association of spinal deformity with conditions commonly treated by neurosurgeons.

Learning Objectives
After completing this educational activity, participants should be able to:
• Identify conditions associated with congenital and neuromuscular scoliosis
• Discuss diagnoses of the various types of pediatric and adult deformities
• Identify patients requiring bracing or surgical intervention

Building a Comprehensive Spine Center
Room E256, Lakeside Center, McCormick Place
Moderator
Craig Andrew Van Der Veer, MD
Panelists
Mark H. Camel, MD; Kevin T. Foley, MD; Thomas A. Kopitnik, Jr., MD; Richard N. Wohns, MD
This seminar instructs participants how to develop a multidisciplinary spine center within their hospital and community setting.

Learning Objectives
After completing this educational activity, participants should be able to:
• Recognize the core components to build an effective spine center
• Discuss interventional options and design treatment protocols for spine
• Apply strategies for developing an effective spine program in your practice

Syringomyelia: Pathophysiology and Treatment Approaches
Room E253b, Lakeside Center, McCormick Place
Moderator
Edward H. Oldfield, MD
Panelists
Nicholas M. Barbaro, MD; Ulrich Batzdorf, MD; Karin M. Muraszko, MD
This seminar reviews the biology and pathophysiology of syringomyelia as a basis for diagnosis and treatment. Participants will be able to discuss the indications for surgery, the pros and cons of different operative approaches, and current opinion concerning treatments.

Learning Objectives
After completing this educational activity, participants should be able to:
• Discuss the indications for and selection of surgical approach to syringomyelia
• Discuss the pros and cons of different operative approaches for syringomyelia
• Discuss current options concerning optimal surgical techniques for syringomyelia
• Discuss the pathophysiology underlying syringomyelia

Management of Asymptomatic Vascular Lesion
Room E253a, Lakeside Center, McCormick Place
Moderator
Warren R. Selman, MD
Panelists
David Chalif, MD, FACS; Richard Kerr, MD; Michael T. Lawton, MD; Robert H. Rosenwasser, MD, FACS
This seminar will address decision making and surgical technique for asymptomatic AVMs, aneurysms, carotid disease and intracerebral stenosis/occlusion.

Learning Objectives
After completing this educational activity, participants should be able to:
• Formulate treatment plans for silent AVMs
• Formulate treatment plans for unruptured aneurysms
• Formulate treatment plans for asymptomatic vascular occlusive disease

Neurosurgical Management of Intractable Pain
Room E263, Lakeside Center, McCormick Place
Moderator
Oren Sagher, MD
Panelists
Giovanni Broggi, MD; Kim J. Burchiel, MD, FACS; Robert M. Levy, MD, PhD; Richard K. Osenbach, MD
This seminar will review indications, techniques, and outcomes of contemporary neurosurgical procedures for the treatment of intractable pain. Attention will be directed toward practical applications of therapies that can be used in a general neurosurgical practice.
Learning Objectives
After completing this educational activity, participants should be able to:
• Compare the relative roles of noninvasive and invasive therapies for pain treatment
• Contrast the common indications for stimulation and drug delivery therapies for pain management
• Describe outcomes of neuromodulation therapies for pain management

316
Low-Grade Gliomas
Room E353c, Lakeside Center, McCormick Place
Moderator
Joseph M. Piepmeier, MD
Panelists
Mitchel S. Berger, MD, FACS; Hugues Duffau, MD; Linda M. Liau, MD, PhD
This seminar will provide an update on current evaluation and management of low-grade gliomas. The panel will address the variety of tumors and compare outcomes from different treatment strategies.

Learning Objectives
After completing this educational activity, participants should be able to:
• Describe the range of pathologies included in low-grade gliomas
• Distinguish between different management strategies for low-grade gliomas

317
Spinal Surgical Challenges
Room E353a, Lakeside Center, McCormick Place
Moderator
Edward C. Benzel, MD
Panelists
Regis W. Haid, Jr., MD; Volker K. H. Sonntag, MD; Vincent C. Traynelis, MD
This seminar portrays the surgical challenges of the expert panel. Each panelist will describe a challenge, followed by active discussion with the remaining panelists and audience.

Learning Objectives
After completing this educational activity, participants should be able to:
• Describe the nuances of complex surgical decision making
• Formulate individual decision making paradigms
• Practice critical thinking techniques

318
Management of Pediatric Spinal Column Disorders
Room E253d, Lakeside Center, McCormick Place
Moderator
Douglas L. Brockmeyer, MD
Panelists
Richard C. E. Anderson, MD; Hugh J. L. Garton, MD, MHSc; Dachling Pang, MD
This seminar will cover the most common congenital, traumatic and neoplastic disorders of the pediatric spinal column, along with their management. Emphasis will be placed on explaining basic biomechanical principles of the pediatric spine.

Learning Objectives
After completing this educational activity, participants should be able to:
• Describe indications for surgery in pediatric spinal problems
• Review basic biomechanical principles of the pediatric spine

319
Cerebral Trauma State-of-the-Art Treatment
Room E350, Lakeside Center, McCormick Place
Moderator
Alex B. Valadka, MD
Panelists
Austin R. Colohan, MD, FACS; Geoffrey T. Manley, MD, PhD; David O. Okonkwo, MD, PhD; Jamie S. Ullman, MD
This seminar will review current and future treatment options for patients with traumatic brain injury.

Learning Objectives
After completing this educational activity, participants should be able to:
• Describe current scientific advances used to diagnose and treat brain tumors
• Discuss current problems with the design of effective therapies and recommend appropriate treatment options
• Design the best treatment programs based on current data for patients with brain tumors

320
The Spectrum of Adjuvant Therapy for Brain Tumors
Room E253c, Lakeside Center, McCormick Place
Moderator
Raymond Sawaya, MD
Panelists
Jeffrey N. Bruce, MD, FACS; Amy B. Heimberger, MD; Randy Lynn Jensen, MD, PhD; James M. Markert, Jr., MD
This seminar will provide a state-of-the-art review of the different treatment options available for patients with malignant brain tumors. These treatment options influence radiation therapy, including radiosurgery and chemotherapy.

Learning Objectives
After completing this educational activity, participants should be able to:
• Describe current scientific advances used to diagnose and treat brain tumors
• Discuss current problems with the design of effective therapies and recommend appropriate treatment options
• Design the best treatment programs based on current data for patients with brain tumors

321
Microvascular Anatomy as a Guide to Better Surgery
Room E260, Lakeside Center, McCormick Place
Moderator
Evandro De Oliveira, MD, PhD
Panelists
Eliseu Paglioli, MD, Prof; Albert L. Rhoton, Jr., MD; Ugur Ture, MD
This seminar will review the anatomy, pathology and operative approaches to vascular, neoplastic and compressive lesions involving the intracranial vascular structures.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Describe the microsurgical anatomy of the vascular system in the cranium and skull base
- Diagnose pathologic lesions involving the vascular system
- Select operative approaches to vascular-lesions of the brain, skull base and Circle of Willis

322
**Management of Subacute and Chronic Treatment of Traumatic Spinal Cord Injury**
*Room E265, Lakeside Center, McCormick Place*

**Moderator**
Michael G. Fehlings, MD, PhD

**Panelists**
Barth A. Green, MD, FACS; Geoffrey T. Manley, MD, PhD; Daniel K. Resnick, MD; Scott A. Shapiro, MD

The treatment of patients with spinal cord injuries after the initial 72 hours will be discussed with a focus on clinical trials, novel approaches to rehabilitation, management of delayed complications of spinal cord injury including post-traumatic deformity and syringomyelia/tethering.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Discuss the relevant pathophysiology of acute spinal cord injury
- Explain the best medical treatment options for acute spinal cord injury
- Explain the role and timing of surgical intervention for acute spinal cord injury
- Explain the management of post traumatic syringomyelia and spinal cord tethering

323
**New and Evolving Technologies for Minimally Invasive Surgery of the Lumbar Disc**
*Room E259, Lakeside Center, McCormick Place*

**Moderator**
Richard G. Fessler, MD, PhD

**Panelists**
Charles L. Branch, Jr., MD; Dean Chou, MD; Larry T. Khoo, MD

This seminar will focus on the techniques of lumbar disc surgery and lumbar interbody fusion. Competing technologies will be evaluated on a side-by-side basis.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Review current techniques of surgery on the lumbar disc
- Compare benefits and problems between these techniques
- Compare potential risks of each of these techniques

324
**Neurosurgical Patient Assessment Scales: Critique and Practice Integration**
*Room E261, Lakeside Center, McCormick Place*

**Moderator**
Christina M. Stewart-Amidei, MS, CNRN

**Panelists**
Susan Bell, RN, MS, CNRN; Kathleen Redelman, RN, CNRN; Nancy Eleanor Villanueva, ANP-C

Assessment scales developed for research have been incorporated over time into clinical practice. This session serves as a review of commonly used patient assessment tools, including tool development, reliability and validity testing, and clinical applications, as well as limitations in use.

**Learning Objectives**
After completing this educational activity, participants should be able to:
- Critically analyze commonly used patient assessment scales in neurosurgical research and clinical practice
- Appropriately incorporate patient assessment scales into clinical practice

**PLENARY SESSION III**
9:45 AM–1:00 PM
*Rooms E354a and E354b, Lakeside Center, McCormick Place*

**Moderators**
Matthew A. Howard, III, MD; Vincent C. Traynelis, MD

800 9:45–9:59 AM
**Twenty-Three-Year Experience of a Single Neurosurgeon in Transphenoidal Pituitary Surgery for Cushing’s Disease in Children and Adolescents**

**Authors**
Mohammed Awad, MBBS, BSc; Jonathan A. Hyam, MBBS, FRCS; Shabin Joshi, MBBS, FRCS; Helen L. Storr, MBBS, BSc; Ashley B. Grossman, MD; Martin O. Savage, MD; Fary Afshar, FRCS

**Discussant**
Edward R. Laws, Jr., MD

801 10:00–10:14 AM
**Efficacy and Risks Associated with Adjustable Valves in the Treatment of Idiopathic Normal Pressure Hydrocephalus**

**Authors**
Raqueeb Haque, MD; Jason A. Ellis, MA; Christopher P. Kellner, BA; Amanda J. Silverman, BS; Guy M. McKhann, II, MD; Robert R. Goodman, MD, PhD

**Discussant**
Matthew A. Howard, III, MD

Wednesday, April 30
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>802 10:15–10:29 AM</td>
<td>National Complications and Outcomes After Posterior Lumbar Fusion for Degenerative Spondylolisthesis</td>
</tr>
<tr>
<td>Authors</td>
<td>Paul Kalanithi, MD; Chirag Patil, MD; Shivanand P. Lad, MD, PhD; Maxwell Boakye, MD</td>
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<tr>
<td>Discussant</td>
<td>Daniel K. Resnick, MD</td>
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<tr>
<td>803 10:30–10:44 AM</td>
<td>Factors Associated with Aspirin and Clopidogrel Resistance in Endovascular Neurosurgery Procedures</td>
</tr>
<tr>
<td>Authors</td>
<td>John F. Reavey-Cantwell, MD, MS; W. Christopher Fox, MD; Brett D. Reichwage, MD; Gregory L. Fautheree, MD; Gregory J. Velat, MD; Jobyna H. Whiting, MD; Christopher S. Firment, MD; Brian L. Hoh, MD</td>
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<tr>
<td>Discussant</td>
<td>John A. Wilson, MD, FACS</td>
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<tr>
<td>804 10:45–10:59 AM</td>
<td>Third Ventriculostomy for Treatment of Hydrocephalus: Results of 301 Procedures</td>
</tr>
<tr>
<td>Authors</td>
<td>Joachim M. Oertel, DR; Henry WS Schroeder, DR; Michael R. Gaab, DR</td>
</tr>
<tr>
<td>Discussant</td>
<td>Frederick A. Boop, MD, FACS</td>
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<tr>
<td>805 11:00–11:14 AM</td>
<td>Significant Reduction in Neurosurgical Hardware Infection with Use of Local Antibiotics</td>
</tr>
<tr>
<td>Authors</td>
<td>Jonathan P. Miller, MD; Feridun Acar, MD; Kim Burchiel, MD</td>
</tr>
<tr>
<td>Discussant</td>
<td>Stephen J. Haines, MD</td>
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<tr>
<td>LUNCH IN THE EXHIBIT HALL 1:15 – 2:00 PM</td>
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<td>POSTER VIEWING IN THE EXHIBIT HALL 2:00–2:45 PM</td>
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<tr>
<td>AANS/CNS SECTION ON PAIN 2:45–5:30 PM</td>
<td>Room E353c, Lakeside Center, McCormick Place</td>
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<tr>
<td>Moderator</td>
<td>Joshua M. Rosenow, MD</td>
</tr>
<tr>
<td>809 2:45–2:56 PM</td>
<td>William Sweet Award</td>
</tr>
<tr>
<td>Authors</td>
<td>Jonathan D. Carlson, MD, PhD; Jennifer Maire; Mary Heinricher, PhD</td>
</tr>
<tr>
<td>Authors</td>
<td>Alan T. Villavicencio, MD; Sigita Burneikiene, MD</td>
</tr>
<tr>
<td>811 3:09–3:20 PM</td>
<td>Tailored Deep Brain Stimulation Targets for Chronic Pain Syndromes</td>
</tr>
<tr>
<td>Authors</td>
<td>Jean-Philippe Langevin, MD; Antonio A. De Salles, MD, PhD; Alessandra Gorgulho, MD; Sandi Lam, MD; Jackie King, MS</td>
</tr>
<tr>
<td>812 3:21–3:32 PM</td>
<td>Glia-Specific Connexin-43 in Rat Sensory Ganglia Plays a Critical Role in the Modulation of Pain</td>
</tr>
<tr>
<td>Authors</td>
<td>Luc Jasmin, MD, PhD; Jean-Philippe Vit, PhD; Aditi Bhargava, PhD; Peter T. Ohara, PhD</td>
</tr>
<tr>
<td>813 3:33–3:44 PM</td>
<td>Microvascular Decompression for Glossopharyngeal Neuralgia: A Long-Term Retrospective Review of the Milan-Bologna Experience in 31 Consecutive Cases</td>
</tr>
<tr>
<td>Authors</td>
<td>Paolo Ferroli, MD; Antonio Fioravanti; Marco Paolo Scharitii; Giovanni U. Tringali; Angelo Franzini; Fabio Calbucci; Giovanni Broggi</td>
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<tr>
<td>814 3:45–3:56 PM</td>
<td>Radiographic Evaluation of Trigeminal Neurovascular Compression in Patients With and Without Trigeminal Neuralgia</td>
</tr>
<tr>
<td>Authors</td>
<td>Jonathan P. Miller, MD; Feridun Acar, MD; Bronwyn Hamilton, MD; Kim Burchiel, MD</td>
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</table>
Cranial Peripheral Nerve Stimulation for Intractable Headache: Prospective Two Year Follow-Up Results

Authors
Robert M. Levy, MD, PhD; Janna L. Silverstein, BA

Dysesthetic Pain in Patients with Syringomyelia and Chiari Type I Malformation

Authors
Kazutoshi Hida, MD, PhD; Shunsuke Yano, MD, PhD; Yoshinobu Iwasaki, MD, PhD

3RD ANNUAL JOHN LOESER LECTURE

4:21–5:05 PM

Speaker
Kim J. Burchiel, MD, FACS

SYMPOSIUM

Functional Imaging of Pain

5:06–5:30 PM

Speaker
A. Vania Apkarian, PhD

AANS/CNS SECTION ON TUMOR II

2:45–5:30 PM

Room E450b, Lakeside Center, McCormick Place

Moderators
Jeffrey N. Bruce, MD, FACS; Antonio Chiocca, MD, PhD

SYMPOSIUM

2:45–3:30 PM

An Expert Panel Discussion on “Stem Cells in Brain Tumors”

Learning Objectives

After completing this educational activity, participants should be able to:

• Discuss the existence of human brain stem cells and their location in the subventricular zone
• Explain potential utilization of human neural stem cells in the diagnosis and treatment of CNS diseases

• Explain the directed differentiation of human embryonic stem cells into specific cell types, with emphasis on the central nervous system
• Discuss the potential use of human embryonic stem cells as replacement tools in the CNS disorders
• Discuss the current status of somatic cell nuclear transfer and reprogramming
• Explain the hypothesis of cancer stem cells and how it applies to human brain tumors and mouse models of brain tumors

Human Neural Stem Cells: Current Evidence

2:45–2:59 PM

Speaker
Alfredo Quinones-Hinojosa, MD

Human Embryonic Stem Cells

3:00–3:14 PM

Speaker
Viviane S. Tabar, MD

Cancer Stem Cells in Brain Tumors of Mice and Man

3:15–3:29 PM

Speaker
Peter B. Dirks, MD

PANEL DISCUSSION

3:30–4:00 PM

Temozolomide Enhances Efficacy of EGFRvIII Vaccine (CDX-110) in Patients with Newly-diagnosed GBM

Author
John H. Sampson, MD

Ronald L. Bittner Award

Extent of Surgical Resection is Independently Associated with Survival in Patients with Malignant and Low-Grade Brain Astrocytoma

Authors
Matthew J. McGirt, MD; Frank Attenello, MS; Muraya Gathinji, MS; Khoi ’Than, MD; Kaisorn L. Chaichana, BS; Ghazala Datoo, BS; Alessandro Olivi, MD; Jon D. Weingart, MD; Henry Brem, MD; Alfredo Quinones-Hinojosa, MD

Development of a Mouse Model of Malignant Glioma Through the Overexpression of Platelet Derived Growth Factor in White Matter Progenitor Cells

Authors
Christopher E. Mandigo, MD; Monique Vanaman, BS; Marcela Assanah, PhD; Peter Canoll, PhD; Richard CE Anderson, MD; Jeffrey N. Bruce, MD

Integra Foundation Award

Operative Outcome Following Meningioma Surgery: A Single Surgeon’s Experience with 600 Cases

Authors
Joung H. Lee, MD; Burak Sade, MD

BrainLAB Community Neurosurgery Award

Survival Following Stereotactic Radiosurgery for Newly Diagnosed and Recurrent Glioblastoma Multiforme

Authors
Alan T. Villavicencio, MD; Sigita Burneikiene, MD; Pantaleo Romanelli, MD; Lee McNeely, MD; John Lipani, MD; Laura Fariselli, MD; Steven D. Chang, MD; Melinda McIntyre, RN; Giovanni Broggi, MD; Jeffrey J. Thramann, MD; John Addler, MD

Microarray Analysis of Paired Initial and Recurrent High Grade Gliomas

Authors
Peter D. Kim, MD, PhD; Jennifer S. Jennings, MD; Frank A. Middleton, PhD; Gregory W. Canute, MD; Walter A. Hall, MD, MBA

Myxopapillary Ependymomas of the Filum: A Single Center Retrospective Review

Authors
Nicholas C. Bambakidis, MD; Elisa Beres, MD; Robert Spetzler, MD
832 5:11–5:20 PM
Delayed Extrusion of Hydroxyapatite (HA) After Transpetrosal Reconstruction

Authors
Robert G. Kerr, MD; Mathew J. Hearst, MD; Ravi N. Samy, MD, FACS; Philip V. Theodosopoulos, MD; John M. Tew, Jr., MD; Myles L. Pensak, MD, FACS

833 5:21–5:30 PM
Stereoscopic 3-Dimensional Endoscopic Pituitary Surgery

Authors
Theodore H. Schwartz, MD; Seth Brown, MD, MBA; Vijay K. Anand, MD, FACS

834 3:55–4:06 PM
Cerebrovascular Physiology in Neonates with Congenital Hydrocephalus

Authors
William C. Hanigan, MD, PhD; Jean C. Aldag, PhD

835 4:07–4:18 PM
Role of Rac1-Mediated Signaling in Medulloblastoma Invasion

Authors
Salvatore M. Zavarella, BS; Salvatore Coniglio, PhD; Shawn Belverud, DO; Mark Mittler, MD; Steven Schneider, MD; Mark Symons, PhD

836 4:19–4:30 PM
Seizure Reduction and Effect on Antiepileptic and Behavioral Medications After Vagus Nerve Stimulator Placement

Authors
Rohan R. Lall, BS; David M. Frim, MD, PhD; Michael Kohrman, MD

837 4:31–4:42 PM
Outcomes After Surgery for Focal Epilepsy in Children

Authors
Peter Kan, MD; Colin Van Orman, MD; John RW Kestle, MD

838 4:43–4:54 PM
Congenital Hydrocephalus Still Beats the Shunt Technology: Programmable Shunts Did Not Change the Scenario of Revisions

Authors
Christina Notarianni, MD; Papireddy Bollam, MD; Prasad Vannemreddy, MD; Gloria Calditto, MD; Esther Wylen, MD; Brian Willis, MD; Anil Nanda, MD

839 4:55–5:06 PM
Correlation of Cognitive Deficits and Noninvasive Measurement of ICP and CBF in Hydrocephalus

Authors
Roberta P. Glick, MD; Terry Lichtor, MD, PhD; Aaron Lee, BS; Noam Alperin, PhD
**European Experience in Lobotomy**

3:26–3:45 PM

**Speaker**
Gerhard M. Friehs, MD

**DISCUSSION**
3:45–4:00 PM

**PRESENTATION OF THE VESALIUS AWARD**
4:01–4:05 PM

**Introduction**
Setti S. Rengachary, MD

**Recipient**
Chaim B. Colen, MD, PhD

**817**
4:06–4:15 PM

**Victor Horsley’s Operations at Queen Square in the 19th Century**

**Author**
Michael Powell, MD

**818**
4:16–4:25 PM

**The Genesis of the Use of Corticosteroids in the Treatment and Prevention of Brain Edema**

**Authors**
Shearwood McClelland, III, MD; Donlin M. Long, MD, PhD

**819**
4:26–4:35 PM

**Vesalius Award**

Charles-Édouard Brown-Séquard: An Eccentric Genius"

**Author**
Chaim B. Colen, MD, PhD

**820**
4:36–4:45 PM

**Abnormal Muscle Response in Microvascular Decompression for the Hemifacial Spasm**

**Authors**
Tetsuya Goto, MD, PhD; Kazuhiro Hongo, MD; Kunihiko Kodama, MD; Yuichiro Tanaka, MD

**821**
4:46–4:54 PM

**Neurosurgery’s First Technology: Paul Broca and Craniocebral Topography**

**Authors**
Tejas Sankar, MD; Mark C. Preul, MD

**The Hemorrhage that Changed History: The Death of American Revolutionary War Hero Nathaniel Greene**

**Authors**
Christopher M. Owen, MD; Mark E. Linskey, MD

**The Influence of Peripheral Nerve Injuries (PNI) During World War I (WWI) on the Development of Neurosurgical Specialism**

**Author**
William C. Hanigan, MD

**Centennial of Pituitary Tumor Surgery: Origins in Chicago**

**Authors**
James L. Stone, MD, FACS; Edward R. Laws, MD, FACS

**QUESTION AND ANSWER**
5:25–5:30 PM

**INTERNATIONAL RECEPTION**
Wednesday, April 30
Chicago History Museum
1601 North Clark Street
7:00–9:00 PM

All international attendees are invited to attend this reception and mingle with leaders from AANS and other international neurosurgical organizations as well as surgeons or surgeons in training from around the globe. The museum's collection of 22 million historical artifacts rich in Chicago’s history creates an entertaining setting for attendees. Enjoy the exhibits while talking about the latest news in neurosurgery in many countries. Meet this year’s award winners and scholarship or fellowship recipients, then tour the museum's permanent collection on the second floor.
Breakfast in room E450a
6:15–7:00 AM

BREAKFAST SEMINARS
7:00–9:00 AM

Cost: $75 each

401
Pediatric Neurosurgery: Meet the Experts
Room E353c, Lakeside Center, McCormick Place

Moderator
James M. Drake, MD

Panelists
Frederick A. Boop, MD, FACS; Alan R. Cohen, MD, FACS; David F. Jimenez, MD, FACS; Ian F. Pollack, MD

This seminar will provide participants with an up-to-date practical overview of the management strategies for the most common pathologies in the field of pediatric neurosurgery. Experts in the field will present points and counterpoints of treatment options for pathologies often encountered in the neurosurgical daily practice. Participants are encouraged to take part in the discussion of this neurosurgical forum.

Learning Objectives
After completing this educational activity, participants should be able to:
• Recognize treatment modalities for the treatment of pediatric pathologies
• Discuss outcomes associated with various treatment modalities for pediatric pathologies
• Identify pediatric pathologies in daily clinical practice

402
Cerebrovascular Neurosurgery: Meet the Experts
Room E353b, Lakeside Center, McCormick Place

Moderator
H. Hunt Batjer, MD, FACS

Panelists
Arthur L. Day, MD, FACS; Robert H. Rosenwasser, MD, FACS; B. Gregory Thompson, Jr., MD; Yong-Kwang Tu, MD

This seminar will provide participants with an up-to-date practical overview of the management strategies for the most common pathologies in the field of cerebrovascular spine neurosurgery. Experts in the field will present points and counterpoints of treatment options for pathologies often encountered in the neurosurgical daily practice. Participants are encouraged to take part in the discussion of the neurosurgical forum.

Learning Objectives
After completing this educational activity, participants should be able to:
• Recognize treatment modalities for the treatment of cerebrovascular disease pathologies
• Discuss outcomes associated with various treatment modalities for cerebrovascular pathologies
• Identify cerebrovascular pathologies in daily clinical practice

403
Lumbar Spine Neurosurgery: Meet the Experts
Room E352, Lakeside Center, McCormick Place

Moderator
Christopher I. Shaffrey, MD

Panelists
Andrew T. Dailey, MD; John A. Jane, Sr., MD, PhD; Charles Kuntz, IV, MD; Praveen V. Mummaneni, MD; Seth M. Zeidman, MD

This seminar will provide participants with an up-to-date practical overview of the management strategies for the most common pathologies in the field of lumbar spine neurosurgery. Experts in the field will present points and counterpoints of treatment options for pathologies often encountered in the neurosurgical daily practice.

Learning Objectives
After completing this educational activity, participants should be able to:
• Recognize treatment modalities for the treatment of lumbar spine pathologies
• Discuss outcomes associated with various treatment modalities for lumbar spine pathologies
• Identify lumbar spine pathologies in daily clinical practice

404
Tumor Neurosurgery: Meet the Experts
Room E351, Lakeside Center, McCormick Place

Moderator
Linda M. Liau, MD, PhD
Panelists
Mitchel S. Berger, MD, FACS; Henry Brem, MD, FACS; Jeffrey N. Bruce, MD, FACS

This seminar will provide participants with an up-to-date practical overview of the management strategies for the most common pathologies in the field of tumor neurosurgery. Experts in the field will present points and counterpoints of treatment options for pathologies often encountered in the neurosurgical daily practice. Participants are encouraged to take part in the discussion of this neurosurgical forum.

Learning Objectives
After completing this educational activity, participants should be able to:
• Recognize treatment modalities for the treatment of cervico-thoracic spine disease pathologies
• Discuss outcomes associated with various treatment modalities for cervico-thoracic spine pathologies
• Identify cervico-thoracic spine pathologies in daily clinical practice

Socioeconomic Plenary Session
9:00–10:45 AM
Room E351, Lakeside Center, McCormick Place
Moderator
John A. Wilson, MD, FACS
903 9:35–9:44 AM
Assessing the Impact of Certificate of Need Laws in Patient Access to Elective Neurosurgical Care
Authors
Elana Fric-Shamji, MD; Mohammed F. Shamji, MD, MSc

904 9:45–9:54 AM
Ventral Surgery Versus Dorsal Decompression with Fusion for Cervical Spondylotic Myelopathy: A Cost Analysis
Authors
Zoher Ghogawala, MD; Rachel Potter; Ellyn Wasserberger, BS; Fred G. Barker, II, MD

Medicare Participation Options
10:05–10:45 AM
CMS Rules Regarding Medicare Participation
10:05–10:25 AM
Speaker
Katie Orrico, JD
A Neurosurgeons Perspective on Opting Out of Medicare
10:26–10:45 AM
Speaker
Benjamin B. Lecompte, III, MD

Cervico-Thoracic Spine Neurosurgery: Meet the Experts
Room E350, Lakeside Center, McCormick Place
Moderator
Paul C. McCormick, MD
Panelists
Edward C. Benzel, MD; Aruna Ganju, MD; Ziya L. Gokaslan, MD, FACS; Michael G. Kaiser, MD; Paul D. Sawin, MD

This seminar will provide participants with an up-to-date practical overview of the management strategies for the most common pathologies in the field of cervico-thoracic spine neurosurgery. Experts in the field will present points and counterpoints of treatment options for pathologies often encountered in the neurosurgical daily practice. Participants are encouraged to take part in the discussion of this neurosurgical forum.

Learning Objectives
After completing this educational activity, participants should be able to:
• Recognize treatment modalities for the treatment of cervico-thoracic spine disease pathologies
• Discuss outcomes associated with various treatment modalities for cervico-thoracic spine pathologies
• Identify cervico-thoracic spine pathologies in daily clinical practice

405
Cervico-Thoracic Spine Neurosurgery: Meet the Experts
Room E350, Lakeside Center, McCormick Place
Moderator
Paul C. McCormick, MD
Panelists
Edward C. Benzel, MD; Aruna Ganju, MD; Ziya L. Gokaslan, MD, FACS; Michael G. Kaiser, MD; Paul D. Sawin, MD

This seminar will provide participants with an up-to-date practical overview of the management strategies for the most common pathologies in the field of cervico-thoracic spine neurosurgery. Experts in the field will present points and counterpoints of treatment options for pathologies often encountered in the neurosurgical daily practice. Participants are encouraged to take part in the discussion of this neurosurgical forum.

Learning Objectives
After completing this educational activity, participants should be able to:
• Recognize treatment modalities for the treatment of cervico-thoracic spine disease pathologies
• Discuss outcomes associated with various treatment modalities for cervico-thoracic spine pathologies
• Identify cervico-thoracic spine pathologies in daily clinical practice

900 9:00–9:14 AM
Cone Pevehouse MD Award
Postoperative Intracranial Neurosurgery Infection Rates in North America Versus Europe: A Systematic Analysis
Author
Shearwood McClelland, III, MD

901 9:15–9:24 AM
Variations in Adult and Child Reimbursement Rates for “Pediatric” Neurosurgery Procedures
Authors
Joseph C. Hsich, MD; David M. Frim, MD

902 9:25–9:34 AM
The Effect of Transfer and Emergency Department Admissions on Mortality of a University Neurosurgical Service
Authors
Ronald L. Hammers, MD; Susan Anzalone, BS; T. C. Origitano, MD, FACS
NEW FROM AANS

Neurosurgical Operative Atlas: Neuro-Oncology
Behnam Badie, MD

Neurosurgical Operative Atlas: Spine and Peripheral Nerves
Christopher Wolfa, MD and Daniel K. Resnick, MD

The Legacy of Harvey Cushing: Profiles of Patient Care
Aaron A. Cohen-Gadol, MD, MSc and Dennis D. Spencer, MD

Understanding Stroke Laminated Chart

SPECIAL SCIENTIFIC SESSION—NEUROSURGERY WITH THE CHICAGO MASTERS
10:55 AM–12:30 PM

Room E351, Lakeside Center, McCormick Place

Moderator
Fady T. Charbel, MD

SPINE
10:55–11:10 AM
Speaker
Richard G. Fessler, MD, PhD

TUMOR
11:11–11:25 AM
Speaker
Thomas C. Origitano, MD, PhD

VASCULAR
11:26–11:40 AM
Speaker
H. Hunt Batjer, MD, FACS

PEDIATRICS
11:41–11:55 AM
Speaker
David G. McLone, MD, PhD

STEREOTACTIC & FUNCTIONAL
11:56 AM–12:10 PM
Speaker
Roy A. E. Bakay, MD

DISCUSSION
12:11–12:30 PM
ACCESSIBILITY
McCormick Place is committed to accommodating the needs of individuals with disabilities in accordance with the Americans with Disabilities Act. Elevators are located in various areas around McCormick Place, including the exhibit hall and all the meeting rooms and theaters are wheelchair accessible. There are designated parking and services for the sight and hearing impaired. Wheelchairs and scooters are available at a fee and can be reserved by contacting Scootaround at (888) 441-7575 or visit their web site at www.scootaround.com. Daily and weekly rates are available and include delivery and pickup to and from your hotel.

EVALUATIONS
NEW this year! The daily and overall evaluations that were previously located in the back of the final program will now be sent electronically immediately following the Annual Meeting.

AMERICANS WITH DISABILITIES ACT
AANS wishes to take those steps to ensure that no individual with a disability is excluded, denied services, segregated or otherwise treated differently than other individuals because of the absence of auxiliary aids and services. If you require any of the auxiliary aids or services identified in the Americans with Disabilities Act in order to attend any AANS program, please visit us in Room E252, Lakeside Center, McCormick Place.

ADMISSION REQUIREMENTS
Badges are required for admission to scientific sessions, exhibits, and the AANS Guest Hospitality Suite.

Badges are distributed at the time of registration. Participants of the 2008 AANS Annual Meeting are identified by the following badge colors:

Medical Attendee – Blue
Exhibitor – Orange
Guest – Yellow
Press – White
Staff – Red
Residents – Green

There will be a $25 fee to replace all lost or forgotten medical registrant badges and tickets.

ATTIRE
Attire for the 76th Annual Meeting is business or business casual depending on the nature of the event.

BAGGAGE CHECK
Baggage and coat check will be available on Level 2, E Hall, adjacent to the AANS Registration area during the following times:
Wednesday, April 30, 7:00 AM–5:30 PM
Thursday, May 1, 7:00 AM–1:00 PM

BUSINESS CENTERS
Located on Level 2 across from the Arie Crown Theater Box Office

CHILD CARE SERVICES
American Child Care Service
445 E. Ohio St., Suite 306
Chicago, IL 60611
(312) 644-7300

American Child Care Service offers services to children of all ages at all of the major hotels in the city. The AANS is not affiliated with and is not endorsing the services of this company.

Note: Children under the age of 18 are not permitted in the Exhibit Hall. Please make arrangements for your child’s supervision prior to visiting the Exhibit Hall.

ANNUAL MEETING ONLINE COURSES
2008 AANS Annual Meeting: Online!
Not able to catch a session you wanted to attend? It is probably online. This year, the AANS is bringing the meeting to you!

Synchronized audio/visual presentations held Monday-Wednesday for the following annual meeting programs will be captured and streamed online:

Plenary sessions
Scientific sessions
Section sessions

The complete series will offer over 50 hours of educational content! The AANS is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. The AANS designates this educational activity for a maximum of 10 AMA PRA Category 1 Credits™. Physicians should only claim credit commensurate with the extent of their participation in the activity. Credit cannot be claimed for both attending a course at the Annual Meeting and participating in the online course.

Visit the Annual Meeting Online Courses booth located directly outside the plenary session.

On-site discounts save you $100 or more
$185 for AANS members
$195 for non-members.

The price increases to $295 after the meeting, so don’t miss your chance to save.

A tear-out order form is included in this program book. Attendees can also pick up or drop off an order from at the AANS Resource Center, booth #1120

E-MAIL STATIONS
Located on Level 2 in the lobby outside of the Arie Crown Theater of Lakeside Center.
ELECTRONIC POSTERS
All posters will be presented electronically at individual computer stations and are organized by author or topic, dependant upon your preference and can be viewed throughout the convention week beginning on Friday, April 25 at 5:00 PM through Thursday, May 1 at 10:30 AM.

PROGRAM AGENDAS AND FACULTY
As we continue to improve the quality of your educational experiences, agendas are subject to change and the AANS may also substitute faculty with comparable expertise.

FIRST AID
First Aid is located on Level 1.

TICKET SALES
Tickets for the Opening Reception, Practical Clinics, Breakfast Seminars, and the History Section Dinner are available for purchase in the Registration Area. Tickets for area attractions, guest tours and optional evening events are available for purchase at the Tour Desk located in Java East of the Sheraton Chicago Hotel & Towers.

TOURS & ATTRACTION TICKETS
The 2008 Tour and Optional Evening Events Program have been arranged by In-the-Loop Chicago. Tickets for guest tours and optional evening events (except the Opening Reception History Section Dinner and International Reception) are available for purchase at the Tour Desk located in Java East of the Sheraton Chicago Hotel & Towers. All tours will depart from the Convention Entrance of the Sheraton Chicago Hotel & Towers. Tickets purchased in advance must be picked up at the Sheraton Chicago Hotel & Towers only. Tour Desk Hours are as follows:
- Saturday, April 26: 12:00–4:00 PM
- Sunday, April 27: 7:30 AM–4:00 PM
- Monday, April 28: 7:30 AM–4:00 PM
- Tuesday, April 29: 7:30 AM–4:00 PM
- Wednesday, April 30: 7:30 AM–4:00 PM

FOOD SERVICE LOCATIONS
Concession stands will be available throughout Lakeside Center, McCormick Place for your convenience in the rear of Exhibit Halls D1 and D2. Various carts and stands are available from Saturday, April 26 through Wednesday, April 30.

SPouse/GUEST HOSPITALITY SUITE
Registered spouses and guests are invited to relax, visit with friends, enjoy refreshments and wait for tour departures in the AANS Spouse/Guest Hospitality Suite. Meet new friends and greet longtime acquaintances. The Spouse/Guest Hospitality Suite will be located in Java East of the Sheraton Chicago Hotel and Towers. Complimentary continental breakfast will be served each morning from 7:30-10:00 AM. Beverages will be available throughout the day. The suite will be open during the following hours:
- Sunday, April 27: 7:30 AM–4:00 PM
- Monday, April 28: 7:30 AM–4:00 PM
- Tuesday, April 29: 7:30 AM–4:00 PM
- Wednesday, April 30: 7:30 AM–4:00 PM
- Thursday, May 1: 7:30–10:00 AM

Please note, in the Hospitality Suite a registered spouse or guest with an AANS name badge must accompany children.

HEADQUARTERS HOTEL
Sheraton Chicago Hotel and Towers
301 E. North Water St.
(312) 464-1000
www.sheratonchicago.com

OTHER OFFICIAL HOTELS
Fairmont Chicago
200 N. Columbus Dr.
(312) 565-8000
www.Fairmont.com

Four Seasons Hotel Chicago
120 E. Delaware Pl.
(312) 280-8800
www.fourseasons.com/chicagofs/

Hilton Chicago
720 S. Michigan Ave.
(312) 922-4400
www.Hilton.com

Hyatt Regency McCormick Place
2233 S. Martin Luther King Dr.
(312) 567-1234
www.hyattregencymccormickplace.com

Hyatt Regency Chicago
151 E. Wacker Dr.
(312) 565-1234
www.chicagoregency.hyatt.com

InterContinental Chicago
505 N. Michigan Ave.
(312) 944-4100
www.icchicagohotel.com

Renaissance Chicago Hotel
1 West Wacker Dr.
(312) 372-7200
www.marriott.com

Marriott Chicago Downtown
540 North Michigan Ave.
(312) 836-0100
www.marriott.com

MARSHALS’ OFFICE
All marshals should report to the Marshals’ Office at least 30 minutes before their scheduled session. The office is located in room E250, Lakeside Center, McCormick Place and will be open 7:00 AM to 5:00 PM on Saturday, April 26 and Sunday, April 27; and 6:30 to 10:00 AM on Monday, April 28 though Thursday, May 1.

For those interested in volunteering to marshal at this year’s annual meeting, please visit the Marshals’ Office. Open spots are limited, if available at all.

MESSAGE CENTER
AANS will provide a Message Center on Level 2, in the lobby outside of the Arie Crown Theater of Lakeside Center, McCormick Place Convention Center. Messages can be left for meeting attendees by calling (312) 949-3217 beginning Friday, April 25, 5:00 PM through Thursday, May 1 at 10:00 AM.

NO SMOKING POLICY
As of January 1, 2008, smoking will not be allowed in Illinois restaurants, bars, nightclubs, work places and all public buildings. Smoking is prohibited within 15 feet of any entrance.
AANS OFFICE
Have a question or need assistance? Stop by the AANS Office located in Room E252 at Lakeside Center, McCormick Place. The office will be open 8:00 AM–5:00 PM Saturday, April 26 through Wednesday, April 30 and 8:00 AM–12:00 PM on Thursday, May 1.

AANS PRESS ROOM
The Press Room is located in Room E254 in Lakeside Center, McCormick Place. It is open Monday, April 28 through Wednesday, April 30, 8:30 AM to 5:00 PM. AANS policy does not permit any exhibitor or outside promotional materials in the Press Room.

REGISTRATION
All registration fees can be found on the individual registration forms available at the on-site registration desk. Each meeting registrant will receive one complimentary ticket to the Opening Reception on Sunday evening, April 27th. Registered guest attendees will receive a complimentary ticket to the Opening Reception, as well as complimentary use of the Guest Hospitality Suite, located in Java East of the Sheraton Chicago Hotel and Towers. Badges are required for admittance. Children 18 and over may register as guests at the spouse/guest registration rate for full participation in the spouse/guest program activities. Children under 18 years of age may register at no cost for the Annual Meeting. Registration will allow full participation in the guest program activities, excluding access to the exhibit hall. (Children under the age of 18 cannot be admitted to the Exhibit Hall—Please make arrangements for your child’s supervision prior to visiting the Exhibit Hall.) For guest program activities, children under the age of 18 must be accompanied by an adult.

ON-SITE REGISTRATION HOURS
Friday, April 25 5:00–7:00 PM
Saturday, April 26 6:30 AM–5:30 PM
Sunday, April 27 6:30 AM–5:30 PM
Monday, April 28 6:30 AM–4:00 PM
Tuesday, April 29 6:30 AM–4:00 PM
Wednesday, April 30 6:30 AM–3:30 PM
Thursday, May 1 6:30–10:00 AM

REGISTRATION: SPEAKERS
Complimentary registration is not provided for speakers. All speakers must register at the applicable registration rate.

RESTAURANT RESERVATIONS/CHICAGO VISITOR INFORMATION
AANS attendees may make restaurant reservations and obtain other Chicago destination visitor information in the Registration Area of the Lakeside Center, McCormick Place.

The hours of operation are as follows:
Saturday, April 26 10:00 AM–5:30 PM
Sunday, April 27 10:00 AM–5:30 PM
Monday, April 28 10:00 AM–4:00 PM
Tuesday, April 29 10:00 AM–4:00 PM
Wednesday, April 30 10:00 AM–3:30 PM

SCIENTIFIC PROGRAM ON CD-ROM
The AANS Annual Meeting Scientific Program CD-ROM is distributed to all medical attendees with their registration materials. This searchable CD offers AANS’ complete offering of oral presentation and scientific poster abstracts. Search by author, specialty or keyword with easy to use bookmark navigation and search features. AANS is providing several stations for you to view this program onsite. Look for computer stations in the AANS Resource Center (Booth 1120) in the Exhibit Hall.

AANS/CNS SECTIONS
For up-to-date information on the AANS/CNS Sections, visit booth #432. Important information regarding membership and upcoming meetings is available.

SPEAKER READY ROOM
The Speaker Ready Room is located in Room E257 of the Lakeside Center, McCormick Place and is open during the following hours:
Saturday, April 26 7:00 AM–5:00 PM
Sunday, April 27 7:00 AM–5:00 PM
Monday, April 28 6:30 AM–5:00 PM
Tuesday, April 29 6:30 AM–5:00 PM
Wednesday, April 30 6:30 AM–5:00 PM
Thursday, May 1 6:30–11:00 AM

STUDENT EDUCATION DVD
In an effort to interest the next generation in a career in medicine in general, neurosurgery in particular, the AANS is providing you with a complimentary DVD entitled, “Fact or Fiction: The Neurosurgery Reality Show.” The DVD can be found in your registration bag.

“Fact or Fiction,” originally designed by AANS Member Gail Rosseau, MD and her young son, Brendan, is designed to be presented to elementary, middle, and high school student audiences to introduce them to neurosurgery and generate an interest in our specialty that will result in more young people choosing careers as neurosurgeons. Through its members and many public partners, the AANS continues to advance the science and art of neurosurgery, and offers this DVD as one of the many resources to promote the specialty.

Please Note: In order that the presentation can be as adaptable to your presentation preferences and style, this DVD contains no audio.
FUTURE MEETINGS
Start planning early by visiting the San Diego Convention and Visitors Bureau booth in the registration area.

77th AANS Annual Meeting
San Diego, CA
May 2–7, 2009

XIV World Congress of Neurological Surgery of the World Federation of Neurosurgical Societies
Boston, MA
August 30–September 4, 2009

78th AANS Annual Meeting
Philadelphia, PA
May 1–6, 2010

79th AANS Annual Meeting
Denver, CO
April 9–14, 2011

80th AANS Annual Meeting
Miami, FL
April 14–19, 2012

81st AANS Annual Meeting
New Orleans, LA
April 27–May 2, 2013

82nd AANS Annual Meeting
San Francisco, CA
April 12–17, 2014

PUBLIC TRANSPORTATION
The CTA (Chicago Transit Authority) operates the nation's second largest public transportation system and covers the City of Chicago and 40 surrounding suburbs. It is the safest, cleanest and most efficient way of getting around Chicago. The Chicago Transit Authority runs buses and elevated/subway trains ('L') in the city and nearby suburbs. CTA's Rail System has seven branches, differentiated by colors (Red Line, Green Line, etc.). You can get maps and brochures at both airports at the information booths, at any train station, City of Chicago information booths at the Chicago Cultural Center and the Historic Water Tower. The hours vary depending on what mode of transportation you are using. Most CTA bus routes run every 5 to 10 minutes during weekday rush periods, and every 8 to 20 minutes during mid-day and evening. Overnight (Night Owl) routes generally run every 30 minutes. CTA trains run every 3 to 12 minutes in weekday rush hours and every 6 to 20 minutes at most other times. In all stations, the time of scheduled arrival of all trains is posted. Overnight (Night Owl) service from 1:30 to 4:30 AM varies: Red Line runs every 15 minutes, Blue Line runs every 30 minutes. Base cash fare is $2.00*** on bus and rail and increases during longer trips. If you buy a transit card or a Chicago Card in advance those can save you money per ride. Rail and bus fare cards can be purchased at most vending machines located inside the stations. You can also buy visitor passes at multiple Chicago area locations. Please visit their website at: www.transitchicago.com or call them at 1-888-YOUR-CTA (968-7282) if you have any questions

AANS SHUTTLE SERVICE
The AANS will provide shuttle service at regular intervals between Lakeside Center, McCormick Place and the Sheraton Chicago Hotel and Towers, Hyatt Regency Chicago, Fairmont Chicago, InterContinental Chicago, Four Seasons Hotel Chicago, Hilton Chicago, Renaissance Chicago Hotel and Marriott Downtown. A shuttle schedule will be posted in the lobby of each of these hotels and at Lakeside Center, McCormick Place.

AANS SHUTTLE HOURS
Shuttles will run every 15 minutes during peak hours (6:30–9:45 AM and 3:30–5:45 PM) and every 25 minutes during nonpeak hours (9:45 AM–3:30 PM).

Friday, April 25 4:45–7:15 PM*
Saturday, April 26 6:30 AM–5:45 PM*
Sunday, April 27 6:30 AM–5:45 PM*
Opening Reception 6:45–9:15 PM**
Monday, April 28 6:30 AM–5:45 PM*
Tuesday, April 29 6:30 AM–5:45 PM*
Wednesday, April 30 6:30 AM–5:45 PM*
Thursday, May 1 6:15 AM–1:00 PM*

* Indicates last pickup from Lakeside Center, McCormick Place.
** Indicates last pickup from Navy Pier.
***Subject to change.

AANS SHUTTLE ROUTES
The AANS Shuttle Routes will be as follows:

Route 1—Red
Sheraton Chicago Hotel & Towers (Convention Entrance—East Entrance)
Fairmont Chicago (Lower Level Auto Lobby Entrance)
McCormick Place, Lakeside Center (Gate 33)

Route 2—Green
Renaissance Chicago Hotel (On Wacker Drive)
Hyatt Regency Chicago (On Wacker Drive in front of East Tower)
Hilton Chicago (8th Street Entrance—South Entrance)
McCormick Place, Lakeside Center (Gate 32)

Route 3—Blue
Four Seasons Hotel (Main Lower Level Lobby)
Intercontinental Hotel (Illinois Street Entrance—South Entrance)
Marriott Chicago Downtown (Walk to the Intercontinental Hotel)
McCormick Place, Lakeside Center (Gate 31)

Route 4—Yellow*
Hyatt Regency McCormick Place (Main Lobby Entrance)

* Please Note: Route 4 will be active only for the Opening Reception at Navy Pier on Sunday, April 27.
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Ashvin T. Ragoowansi, MD

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Neurosurgeons are concerned about economic issues such as the escalating malpractice liability costs and practice expenses at a time when reimbursement is declining. You can help by becoming a member of AANS. Members receive outstanding publications including the Journal of Neurosurgery, AANS Neurosurgeon, and exclusive AANS E-News. Members also benefit from substantial savings through discounts on annual meeting and course registration, practice management seminars and on AANS products and services created by renowned expert instructors, authors and educators. AANS members may participate in programs such as personalized online CME tracking, malpractice insurance program and AANS online case studies.

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• Earning CME from online education courses and education topic models
• Searchable Online AANS Membership Directory (in MyAANS.org)
• Online Patient Referral Service
• Membership in the World Federation of Neurosurgical Societies through dues paid by the AANS

Plus, as the spokesperson for neurosurgery, the AANS is committed to raising awareness of the specialty by:
• Aggressively advocating for medical liability reform
• Actively campaigning to maximize Medicare and other physician reimbursement and achieve Medicare reform
• Working to implement beneficial CPT coding changes and policies
• Educating the general public and other medical specialists about neurosurgery

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Categories of Membership

Active category is for neurosurgeons who are American Board of Neurological Surgery (ABNS), Royal College of Physicians and Surgeons of Canada (RCPSC), or Mexican Council of Neurological Surgeons (MCNS) certified and residing in North America.

Active Provisional category is for the neurosurgeon who has completed a neurosurgery residency training program approved by the ABNS, RCPSC, or MCNS within the past five years and has not yet met the certification requirements.

Resident/Fellow status includes residents and fellows enrolled in a neurosurgery residency training program approved by ABNS, RCPSC, or MCNS, or in an accredited neurosurgical fellowship. No application necessary. Residents and fellows in Canada and Mexico are encouraged to register with AANS member services to insure their inclusion.

International membership is for those who do not qualify as an Active member by virtue of their residency or training and who have completed a formal neurosurgical training program as determined by, and suitable to, the Board of Directors. Of particular interest to International members is Neurosurgical Focus, the online rapid scientific journal. The AANS Website also offers information of interest to neurosurgical professionals outside the United States such as the International Visiting Neurosurgeon Program and online journals.

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Honorary members shall be chosen from recognized leaders in the field of neurological sciences. Honorary Membership is bestowed upon the recipient by the AANS as described in “The Rules and Regulations of the Board of Directors of the American Association of Neurological Surgeons (AANS)”.

Associate category encompasses several doctor and allied health professions. It includes doctors in related medical disciplines who are non-neurosurgeons and permanently reside in North America. Eligible individuals also include neuroscience nurses, nurse practitioners, and physician assistants in North America.

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Fax: (847) 378-0600
Toll-free: (888) 566-AANS (2267)
E-mail: info@aans.org

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Bryan J. Wellman, MD
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Gabriela del Rocío Chávez, MD
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Vinay Deshmukh, MD
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Kamal Thapar, MD, FRCS(C)
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Taufik Ali Valiante, MD, PhD
Margaret Wallenfriedman, MD, PhD
Bryan J. Wellman, MD
Charles Joseph Wrobel, MD

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Ramin Amirnoor, MD
Joshua M. Ammerman, MD
Lisa Sharon Apfel, MD
Henry E. Arya, MD
Farbod Asgarzadie, MD
Ashok R. Asthagiri, MD
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Matthew Vaughn Burry, MD
Mike Yue Chen, MD
Deus Cielo, MD

Christopher J. Winfree, MD
Diana B. Wiseman, MD

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as of March 6, 2008

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<td><strong>Total AANS Membership</strong></td>
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</table>
Aurangzeb Nafees Nagy, MD
Joseph S. Neimat, MD
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Ibrahim Ahmed, MD
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Faisal Alotaibi, MD
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Joni L. Schroeder, PA-C
Thomas Scruton, PA-C
Mary Louise Szatkowski, PNP
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The main goals of the American Association of Neurological Surgeons’ Annual Meeting are to serve as a primary source of continuing medical education, tailored specifically to our specialty; to advance neuroscience research; and to promote a climate conducive to excellence in clinical practice. The Annual Meeting Committee is dedicated to meeting these goals. The AANS Annual Meeting is the principal mechanism for the transfer of scientific, technical, and intellectual information to the neurosurgical community. Feedback obtained from attendee evaluation forms is one important factor in determining the program content of this meeting. Special recognition is extended to the individuals of the 2008 Annual Meeting Committee and the committees they represent for their perseverance and commitment to making the Annual Meeting of the American Association of Neurological Surgeons a success.

CONTINUING MEDICAL EDUCATION (CME)
The AANS is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians. The AANS designates this educational activity for a maximum of 46.75* AMA PRA Category 1 Credits™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

*A maximum of 20.5 AMA PRA Category 1 Credits™ for general sessions only.

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Attendees will receive a maximum of two AMA PRA Category 1 Credits™ for each breakfast seminar they attend. Physicians should only claim credit commensurate with the extent of their participation in the activity.

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Again this year, Annual Meeting attendees will self-report CME credit for the programs they attend by going online to MyAANS.org from any computer with internet service. Please have your MyAANS.org user name [e-mail address] and password handy during and after the meeting for convenient completion and submission. Self-reported CME will not be credited if the individual does not pick up his/her registration packet.

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The Young Neurosurgeons Committee invites you to participate in the 10TH Annual Silent Auction at the 76TH AANS Annual Meeting in Chicago, April 26-May 1, 2008. This year’s expanded array of auction items are guaranteed to delight and surprise you.

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**010**: Plenary Session I

2. A Prospective, Multicenter Trial to Evaluate the Role and Timing of Decompression in Patients with Cervical Spinal Cord Injury: Initial One Year Results of the STASCIS Study - Michael G. Fehlings, MD PhD; Christopher B. Shields, MD FRCS(C)
3. Conventional Surgery versus Stereotactic Radiosurgery in the Treatment of Single Brain Metastases: A Prospective Study with Both Randomized and Nonrandomized Arms - Frederick F. Lang, Jr., MD; Philip H. Gutin, MD
4. Hunt Wilson Lecture, "Two Views of Brain Function" - Marcus E. Raichle, MD
5. Impact of Malpractice Environments on the US Neurosurgical Workforce 2005-2007 - Zachary N. Litvak, MD; A. John Popp, MD
6. Barrow Ruptured Aneurysm Trial - Cameron G. McDougall, MD; H. Hunt Batjer, MD FACS
7. Hypothalamic Stimulation for Chronic Cluster Headache: A Pliuricentric Controlled Study - Kim J. Burchiel, MD FACS; Yves R. Lazorthes, MD

**020**: Scientific Session I - Tumor

1. Ronald B. Littner, "Pre-Clinical Trials in Genetically Engineered Mouse Models of Brain Tumors" - Eric C. Holland, MD
2. A Phase I/II Clinical Trial Evaluating RNA-loaded Dendritic Cells Targeting Human Cytomegalovirus in Patients with Newly-diagnosed GBM - John H. Sampson, MD PhD; Robert L. Martuza, MD
3. Association of Uncontrolled Hyperglycemia with Perioperative Mortality, Length of Hospitalization, and Healthcare Cost for Resection of Supratentorial Brain Neoplasms - Matthew J. McGirt, MD; Jeffrey N. Bruce, MD FACS
4. The Natural History of Untreated Acoustic Neuromas: A Comprehensive Meta-Analysis - Michael Edward Sughrue, MD; Carl Barnes Heilman, MD
5. Association of Preoperative Depression and Survival After Primary Resection of Malignant Brain Astrocytoma - Stephen B. Tatter, MD PhD; Matthew J. McGirt, MD
6. Proliferative CD8 T Cell Infiltrate in Newly Diagnosed Glioblastoma Patients Correlates with Long Term Survival - Andrew Thomas Parsa, MD PhD; Allan H. Friedman, MD FACS
7. Long-Term Recurrence of Cushing's Disease After Initial Successful Transsphenoidal Surgery - Chirag Gandhi Patel, MD; Nelson M. Oyesiku, MD PhD
8. Differential Proteomic Signatures Detected by MALDI Mass Spectrometry in Glioblastoma Multiforme - John Robert Floyd, II, MD; Ennio Antonio Chiocca, MD PhD
9. The Value of Fiber Tractography with the 3-Tesla MRI System for Brainstem Surgery - Ugur Ture, MD; Mitchell S. Berger, MD FACS

**030**: Scientific Session II - Spine

1. Visual Loss After Spine Surgery: A Population Based Study - Shivank R. Lad, MD PhD; C. Wayne Hamm, MD
2. Rodent Model of Perioperative Ischemic Optic Neuropathy - Steven Roth, MD; C. Wayne Hamm, MD
3. The Anatomy of Principles of Intradural Spine Surgery - Paul C. McCormick, MD
4. Self-Reported Measures of Health Status as a Predictor of Operative vs. Conservative Management of Adult Deformity - Ka-Hing Fu, MD
5. Perioperative Complications of Multilevel Thoracolumbar Spinal Fusions in Elderly Patients - Jordan M. Cloyd; Charles L. Branch, Jr., MD
6. Thoracoscopic-Assisted Microsurgical Resection of Symptomatic Thoracic Disc Herniations - Scott Daniel Wait, MD; Patrick W. Hitchon, MD
7. Trends and Variations in Cervical Spine Surgery for Degenerative Disease in Medicare Beneficiaries, 1992-2005 - Marjorie C. Wang, MD MPH; Peter Douglas Angervile, MD
8. PEMF Increases ACF Fusion Rates in Patients 50 or Older - Kevin T. Foley, MD; Regis W. Haid, Jr., MD

* sessions list presenting author then discussant

There may be, on occasion, changes in faculty and program content - order form is subject to change.
040*: Scientific Session III - S&F
1: Deep Brain Stimulation of the Ventral Vertical Capsule/Ventral Striatum - Ali R. Rezaei, MD; Aviva Aboach, MD PhD
2: Reinforcement Learning in the Basal Ganglia during Deep Brain Stimulation - Kareem Zaghloul, MD; Matthew A. Howard III, MD
3: Gamma Knife Radiosurgery For Trigeminal Neuralgia: Comparison of the Root-Entry Zone and Retrogradessional Targets - K. Singh Sahni, MD; Bruce E. Pollock, MD
4: Deep Brain Stimulation Does Not Affect Neurons in the Subthalamic Nucleus - Jonathan D. Carlson, MD; Gordon Hirsh Battuch, MD, PhD
5: Adjusting the Dials on the Circuits of the Brain - Andres M. Lozano, MD PhD
6: The Safety of MRI after DBS Implantation Evaluated by Immediate and Delayed Serial Imaging - Ali R. Rezaei, MD; Vaninder S. Chhabra, MD
7: Automated Visualization of Subthalamic Nucleus Border Location During Deep Brain Stimulation Surgery - Shabbir F. Danish, MD; Roy A. E. Bakay, MD
8: Epilepsy Surgery for Insular Lesions - Marc von Lehe, MD; Guy M. McKhann II, MD
9: Medically Intractable Temporal Lobe Epilepsy in Patients with Normal MRI: Surgical Outcome in twenty-four consecutive patients - Adam P. Smith, MD; Robert E. Gross, MD PhD

050*: Scientific Session IV - Pediatrics
1: Urinary Biomarkers Predict Brain Tumor Presence and Response to Therapy - Edward Robert Smith, MD; Corey Raffel, MD PhD
2: Long-Term Motor and Sensory Function After Resection of Intramedullary Spinal Cord Tumors in Children - Matthew J. McGirt, MD; Bruce A. Kaufman, MD FACS
3: Clinical Predictors of Developmental Outcome in Children with Caput Medux - Karin M. Muraszko, MD; Benjamin W. Y. Lo, MD
4: The Effective Management of Cerebral Spinal Fluid Infections: A Clinical Report - Phillip R. Aldana, MD; Marion L. Walker, MD
5: Characteristics of and Treatment Strategies for Intracranial Aneurysms in Children - Francesco A. Ponce, MD; Robert A. Solomon, MD
6: Pathogenesis of Epilepsy in Children Who were Born Preterm: A Translational Study - Shenandoah Robinson, MD; Dennis S. Spencer, MD
7: Neurosurgical Management of Spasticity - Marion L. Walker, MD
8: Endoscopic Options in Children: Experience With 125 Procedures - Joachim Oertel, MD; Mark M. Souweidane, MD
9: Incidence, Associations and Clinical Significance of Cerebral Fluid Eosinophilia in Children with Ventricular Shunts - Daniel H. Fulkerson, MD; Robin M. Bezman, MD

060*: Scientific Session V - Cerebrovascular
1: Histological Changes in Brain AVNs After Embolization with ONYX® or n-BGA - Sabreen H. Katarajan; Sean D. Lavine, MD
2: Automated Compliant, High-Flow Common Carotid to Middle Cerebral Artery Bypass - CAF Talukder, MD PhD; Ralph G. Dacey, Jr., MD
3: Surgical Management of Brainstem Cavernous Malformations - Gregory P. Lekovic, MD; M. Christopher Wallace, MD
4: Durability of Microsurgical Clipping of Unruptured MCA Aneurysms: Long Term Follow-Up by Multislice Computerized Tomography, (MSCT) Angiography - Nikolaus Krayenbuhl, MD; Carlos A. David, MD
5: Partial Aortic Occlusion Improves Cerebral Perfusion in Patients with Symptomatic Vasospasm: Mid Term Follow Up - Juan Carlos Miranda; R Loach Macdonald, MD PhD
6: Comparison of Coil Types in Aneurysm Recurrence - Shahnaaz H. Khan, MD; B. Gregory Thompson, Jr., MD
7: Modality and Treatment of Dural AV Fistulas: Evolution of Treatment - Sabreen H. Katarajan, MD; Daniel Louis Barrow, MD
8: Does Country or Continent of Treatment Affect Outcome After Aneurysmal Subarachnoid Hemorrhage? - R. Loach Macdonald, MD PhD; Neil D. Kitchen, MD FRCs
9: Title TBD - Robert H. Rosenwasser, MD FACS
10: Post Market Carotid Artery Stenting Results for High Risk Symptomatic Patients and AHA Guidelines for Stroke and Death - Elad I. Levy, MD; John A. Wilson, MD FACS

070*: Scientific Session VI - Neurotrauma
1: Results of a Prospective, Multicenter Phase II/III Clinical Trial to Evaluate Safety and Preliminary Efficacy of a Recombinant Rho Inhibitor (Cethrin) in Severe Acute Spinal Cord Injury - Michael G. Fehlings, MD PhD; Fred H. Geister, MD PhD
2: Endovascular Treatment of Traumatic Intracranial Aneurysms - Ricardo Segal, MD; Rocco Armonda, MD
3: Neurotrauma at the Crossroads: A View of Our Subspecialty in 2018 - M. Sean Grady, MD
4: The Effects of Intrathecal Hypotension on Tissue Perfusion and Pathophysiologic Outcome Following Acute Spinal Cord Injury - Eric M. Horn, MD; John E. O'Toole, MD
5: Management Strategies and Outcomes for Pediatric Patients with Severe TBI and Refractory ICP - Jayant Jagannathan, MD; P. David Adelson, MD FACS
6: The Value of Postoperative Computed Tomography in Cranial Cases - Ahmad Khalidi, MD; H. Richard Wino, MD
7: Transverse Process Fractures do not Warrant Neurosurgical Consultation or Involvement - Wayne C. Paulus, MD; Jamie S. Ullman, MD
8: Dimplion in Pain in Acute Spinal Cord Injury Treated with Oscillating Field Stimulation - Scott A. Shapiro, MD; Richard K. Osenbach, MD

080*: Plenary Session II
1: The Economic Impact of the Prestige® Cervical Disc System: Results from a Randomized Clinical Trial - Vincent C. Traynelis, PhD; Paul C. McCormick, MD
2: Surgical Management of Cavernous Malformations of the Brainstem Presenting in Childhood - Gregory P. Lekovic, MD; R. Michael Scott, MD
3: Imaging the Surgeon: The Leptomeningeal Dissemination (LMD) of Supratentorial Brain Metastasis (SBM) - Raymond Sawaya, MD; Joseph M. Piegmeier, MD
4: Deep Brain Stimulation (DBS) for Treatment of Depression: Long Term Outcomes from a Prospective Multi-Center Trial - Ali R. Rezaei (MD); Philip A. Starr, MD PhD
5: Outcome Analysis in Surgery for Adult Chiari I Malformation with Syringomyelia, with or without Arachnoid Opening and Dural Graft - Rupa Gopalan, BS; Ulrich Batzdorf, MD
6: Long-Term Follow-up in Patients Surgically Treated for an Unruptured Intracranial Aneurysm - Robert A. Solomon, MD; James C. Torner, PhD
7: Louise Eisenhardt Lecture, "The American Rejection of Science" - Marcia Angell, MD

090*: AANS/CNS Cerebrovascular Section
1: Embolization of Wide Neck Aneurysms--Does Stent-Assistance Help?: 368 Aneurysms with Delayed Angiographic Follow Up - Michael J. Alexander, MD
2: Loss of Consciousness Following Aneurysmal Subarachnoid Hemorrhage: Incidence, Predictors, and Impact on Outcome - Christopher Paul Kellner, BA
3: Cortical Infarcts in a Primate Model of Subarachnoid Hemorrhage (SAH): Is it an Animal Model of Delayed Ischemic Deficits? - Pawarjan Schatlo, MD
4: Intraoperative Angiography in Intracranial Aneurysm Surgery. Experience with 1025 Cases - Eric S. Nussbaum, MD FACS
5: Evaluation of the Glasgow Coma Scale in the Prediction of Long-Term Outcome in Poor-Grade Aneurysmal Subarachnoid Hemorrhage: the Relative Value of the Motor, Verbal, and Eye Examinations - Ricardo J. Komotor, MD
6: Treatment Strategy of Cerebral Arteriovenous Malformations - Nobuo Hashimoto, MD
7: Should Carotid Artery Bypass Be Performed in Patients Tolerating Balloon Test Occlusion? Let's Ask the Experts - Neil A. Martin, MD; Robert H. Rosenwasser, MD, FACS
8: C3a-Receptor Antagonist Attenuates Brain Injury after Intracerebral Hemorrhage in Mice - Michal Adam Rynkowski, MD PhD
9: Factors Predictive of Complications from Onyx Embolization of Intracranial Arteriovenous Malformation Embolization (AVMs) - Gregory Velat, MD
10: Emergency Surgical Salvage Procedures for Severe Intracranial Aneurysm Rupture During Endovascular Coiling Procedures - Eric S. Nussbaum, MD FACS
11: Respiratory Complications of Onyx Embolization: Analysis, Management, and Outcome of Pulmonary Edema Cases - Michael P. Belkew, MD
12: Pial Synangiosis for Moyamoya Disease with Hemorrhagic Presentation in Children: Long-Term Follow-Up - Ronald T. Gronding, MD
13: Best Treatment for Hemorrhagic Type Moyamoya Disease based on the Long Term Follow-up Data - Shokiro Kawaguchi, MD, PhD
14: Relationship of Intraoperative Blood Flow and Post-Operative Outcome in Moyamoya Patients Following Revascularization Surgery - Marco B. Lee, MD
15: A New Modified Intracerebral Hemorrhage, (MICH) Score for Treatment Decisions in Basal Ganglia Hemorrhage---A Randomized Trial - Der-Yang Cho, MD
100*: AANS/CNS Section on Neurotrauma
1: Magnetic Resonance Imaging Findings in Vegetative State after Acute Head Injury - Raimund Fisching, MD PhD
2: Cortical Control and Characterization of a Spinal Nerve Bridge to Bypass Spinal Cord Injury - Raqueeb M. Haque, MD
3: Early Detection of Cerebral Edema through an Implanted Optical Probe - Christopher Michael Owen, MD
4: The Use of Selective NMDA Modulators in Traumatic Brain Injury - Jennifer Jennings, MD

110*: AANS/CNS Section on Spine
1: Neutral Upright Spinal Alignment and Spinal Balance: The Cervical Spine - Charles Kuntz, IV, MD
2: Indications for 36G Fusions - Michael W. Groff, MD
3: The Role and Limitations of Dynamic Plating - Praveen V. Munnamneni, MD
4: Cervical Myelopathy—Pathogenesis and Treatment Options - James S. Harrop, MD
5: MIS Foraminotomy—The Argument - Michael Y. Wang, MD
6: Prospective Assessment of Axial Back Pain Symptoms Before and After Bariatric Weight Reduction Surgery - Paul Khoury, MD
7: Predictors of Outcome with Decompressive Surgery for Cervical Spondylotic Myelopathy: A Prospective Multicenter Study in 283 Patients with Independent Assessment - Michael G. Fehlings, MD, PhD, FRCSC
8: Murine Embryonic Stem Cells for Disc Regeneration in an In-Vivo Rabbit Model of Disc Degeneration - Mick J. Perez-Cruz, MD, MSc
9: MRI Parameters as Predictors of Neurological Improvement in Patients with Traumatic Cervical Spinal Cord Injury: A Prospective Study in 60 Consecutive Patients - Julio C. Furlan, MD PhD
10: Influence of Anesthesia on Postoperative Cognitive Decline in Adults Over 50 Who Have Undergone Spinal Surgery - Lee Hyer, PhD
11: A Receptor for Myelin-Associated Inhibitors Contributes to Parallel Axonal Regeneration on Spinal Cord White Matter - David Pettegrew, PhD
12: Multidisciplinary Approach for Perimedullary AV Fistulas - Kazutoshi Hida, MD
13: The Effect on Missed Diagnosis of Lumbar Disc Herniation with Kinetic MRI - Jun Zou, MD, MS

120*: AANS/CNS Section on Stereotactic and Functional
1: Gene Therapy Approaches to the Spinal Cord and Peripheral Nervous System: ALS, Neuropathy and Spinal Cord Injury - Nicholas M. Boulis, MD
2: Gene Therapy for Neurodegeneration: Huntington's, Alzheimer's and Spinal Cord Atrophy - Jeffrey Kordower, PhD
3: Gene Therapy for Parkinson's Disease - Philip A. Starr, MD PhD
4: Gene Therapy for Functional Disorders of the Nervous System: Psychiatry, Movement Disorders and Pain - Michael G. Kapit, MD PhD
5: The STEPS Trial: Design of a Phase 2 Study to Evaluate Spharmine®, a Novel Cell-Based Therapy Administered by Stereotactic Implantation Into the Striata of Patients with Parkinson's Disease (PD) - Robert E. Gross, MD PhD
6: Extra-Temporal Focal Cortical Dysplasia: Long-Term Surgical Outcome - Konstantinos N. Fountas, MD PhD
7: Granulocyte Macrophage-Colony Stimulating Factor (GM-CSF) Promotes the Survival of Dopaminergic Neurons in 1-Methyl-4-Phenyl-1,2,3,6-Tetrahydropyridine (MPTP) Induced Parkinson's Disease Rat Model - Yoon Ha, MD, PhD
8: Idiopathic and Secondary Upper Limb Segmental Dystonia: The Therapeutic Role of Chronic Motor Cortex Stimulation - Angelo Franzini, MD
9: Complications of Subthalamic Electrode Epilepsy Recording - Larry R. Shannon, IL MD
10: Intrastriatal Implantation of Human Retinal Pigment Epithelial (hRPE) Cells Attached to Gelatin Microcarriers (GM) for the Treatment of Parkinson's Disease (PD) - Roy A. E. Bakay, MD PhD
11: Predicting Successful Surgical Treatment of Temporal Lobe Epilepsy - William Jeffrey Elles, MD
12: Hypofractionated Stereotactic Radiation for Giant AVMs: Preliminary Results - Rajatshree Sarkar, MD
13: Predictors of Peritumoral Edema Following Stereotactic Radiosurgery of Supratentorial Meningiomas - Chinag Gadikay Pattri, MD

130*: AANS/CNS Section on Tumor I
2: Microscopic Resection of Suprassellar Meningiomas - Osamah Al-Mefty, MD
3: Endoscopic Assisted Microsurgical Resection of Suprassellar Meningiomas - Harry R. van Loveren, MD
4: Identification of Inhibitor for Brain Tumor Stem Cells - Ichiro Nakano, MD MSc
5: Persistent Outpatient Hyperglycemia is Independently Associated with Decreased Survival after Surgical Resection of Malignant Brain Astrocytoma - Matthew J. McGirt, MD
6: Convection Enhanced Delivery of a Highly Specific Ras Inhibitor: Saliarab - List Goldberg, MSc
7: Gamma Knife Surgery for Cushing's Disease: Long-Term Outcomes - Jason P. Sheehan, MD
8: Interleukin-13 Receptor Alpha2 Expression in Glioblastoma Multiforme - John K. Park, MD PhD
9: Factors Related to Failed Vestibular Schwannoma Radiosurgery - Bruce E. Pollock, MD
10: Quantitative Comparison of Kawase's Approach Versus Retrosigmoid Approach - Steven W. Chang, MD

140*: Plenary Session III
1: Twenty-Three-Year Experience of a Single Neurosurgeon in Transphenoidal Pituitary Surgery for Cushing's Disease in Children and Adolescents - Mohammed Awan, MBBS BSc; Edward R. Laws, Jr., MD
2: Efficacy and Risks Associated with Adjustable Valves in the Treatment of Idiopathic Normal Pressure Hydrocephalus - Raqueeb M. Haque, MD; Matthew A. Howard, III, MD
3: National Complications and Outcomes After Posterior Lumbar Fusion for Degenerative Spondylolisthesis - Paul Kalaniht, MD; Daniel K. Resnick, MD
4: Factors Associated with Aspirin and Clopidogrel Resistance in Endovascular Neurosurgery Procedures - John F. Revey-Cantwell, MD; John A. Wilson, MD FACS
5: "Third Ventriculostomy for Treatment of Hydrocephalus - Joachim Oertel, MD; Frederick A. Boop, MD FACS
6: Significant Reduction in Neurosurgical Hardware Infection with Use of Local Antibiotics - Jonathan P. Miller, MD; Stephen J. Haines, MD
7: Theodore Kurze Lecture - Michael L. J. Apuzzo, MD
8: Van Wagenen Lecturer - Rodolfo Linas, MD PhD
9: Annual John Loeser Lecture - Kim J. Burchiel, MD, FACS

150*: AANS/CNS Section on Pain
1: Unmasking A Novel Brainstem Compensatory Mechanism in Neuropathic Pain - Jonathan C. Carlson, MD
2: Nerve Root Stimulation for Neuropathic Pain, A Preliminary Report on Outcomes - Alan T. Villavicencio, MD
3: Tailored Deep Brain Stimulation Targets for Chronic Pain Syndromes - Jean-Philippe Langevin, MD
4: Glia-Specific Connexin-43 in Rat Sensory Ganglia Plays a Critical Role in the Modulation of Pain - Luc Jasmin, MD PhD
5: Microvascular Decompression for Glossopharyngeal Neuralgia: A Long-Term Retrospective Review of the Milan-Bologna Experience in 31 Consecutive Cases - Paolo Ferro, MD
6: Radiological Evaluation of Trigeminal Neurovascular Compression in Patients With and Without Trigeminal Neuralgia - Jonathan P. Miller, MD
7: Cranial Peripheral Nerve Stimulation for Intractable Headache - Robert M. Levy, MD PhD
8: Dysesthetic Pain in Patients with Syringomyelia and Chiari Type I Malformation - Kazutoshi Hida, MD, PhD
9: Annual John Loeser Lecture - Kim J. Burchiel, MD, FACS
10: Functional Imaging of Pain - A. Vanja Apkarian, PhD
### 160*: AANS/CNS Section on Pediatrics

1. Survey on Primary Care Physicians Care of Neurosurgical Disease - Philipp A. Aldana, MD, FAAP
2. Pediatric Neurosurgery: The Establishment of a Subspecialty - Marion Walker, MD
3. Seizure Reduction and Effect on Antiepileptic and Behavioral Medications After Vagus Nerve Stimulator Placement - Rohan Lall, BS
4. Outcomes after Surgery for Focal Epilepsy in Children - Peter Kan, MD
5. Congenital Hydrocephalus Still Beats the Shunt Technology: Programmable Shunts did not Change the Scenario of Revisions - Christina Notarianni, MD
6. Correlation of Cognitive Deficits and Noninvasive measurement of ICP and CBF in Hydrocephalus - Roberta R. Glick, MD
7. Evaluation of CSF Drainage by Subcutaneous Ventricular Reservoir and Permanent Diversion Procedures in the Management of Posthemorrhagic Hydrocephalus in Premature Infants - Vijaya Kumar Jawalkar, MD
8. Parent Assessment on the BRIEF Correlates with Executive Performance of Children with Shunted Hydrocephalus - Maureen A. Lacy, PhD

### 170*: AANS/CNS Section on Peripheral Nerve

1. Patient Satisfaction After Brachial Plexus Surgery - Thomas Kreitzschmer, MD, PhD
2. Tissue-Engineered Nerve Grafts with a Capillary-Like Network - Marie-Noëlle Hébert-Blouin, MD
3. Carpal Tunnel Syndrome: Avoid Complications - Inaki Arroegui

### 180*: AANS/CNS Section on Tumor II

1. Human Neural Stem Cells: Current Evidence - Alfredo Quinones-Hinojosa, MD
2. Human Embryonic Stem Cells - Viviane S. Tabar, MD
3. Cancer Stem Cells in Brain Tumors of Mice and Man - Peter B. Danks, MD
4. Temozolomide Enhances Efficacy of EGFR-VIII Vaccine (CDX-110) in Patients with Newly-diagnosed GBM - John H. Sampson, MD, PhD
5. Extent of Surgical Resection is Independently Associated with Survival in Patients with Malignant and Low-Grade Brain Astrocytoma - Matthew J. McGirt, MD
6. Development of a Mouse Model of Malignant Glioma Through the Overexpression of Platelet Derived Growth Factor in White Matter Progenitor Cells - Christopher E. Mandigo, MD
7. *Outcome of Operative Following Meningioma Surgery - Jong H. Lee, MD
8. Survival Following Stereotactic Radiosurgery for Newly Diagnosed and Recurrent Glioblastoma Multiforme - Alan T. Villaviciencia, MD
9. Microarray Analysis of Paired Initial and Recurrent High Grade Gliomas - Peter David Kim, MD, PhD
10. Myocutaneous Flap Grafts to the Lower Extremity - James A. Tanzer, MD
11. Delayed Extravasation of Hydroxyapatite (HA) After Transpetrosal Reconstruction - Robert G. Kerr, MD
12. Stereoscopic 3-Dimensional Endoscopic Pituitary Surgery - Theodore H. Schwartz, MD

### 190*: Section on History

1. Egaz Moniz and Early Beginnings of Lobotomy - Joao, (John) Lobo Antunes, MD, PhD
2. Rise and Decline of Lobotomy in the United States - Elliott S. Valenstein, PhD
3. European Experience in Lobotomy - Gerhard M. Fries, MD
4. Victor Horsley's Operations at Queen Square in the 19th Century - Michael Powell, MD
5. The Genesis of the Use of Corticosteroids in the Treatment and Prevention of Brain Edema - Shearnwood McClelland, III, MD
6. Charles Édouard Brown Séquard: An Eccentric Genius - Chaim B. Colen, MD, PhD
7. Abnormal Muscle Response in Microvascular Decompression for the Hemifacial Spasm - Tetsuya Goto, MD, PhD
8. Neurosurgery's First Technology: Paul Broca and Craniofacial Topography - Tejas Sankar, MD
9. The Hemorrhage that Changed History: The Death of American Revolutionary War Hero Nathaniel Greene - Christopher M. Owen, MD
10. The Influence of Peripheral Nerve Injuries (PNIs) During World War I (WWI) on the Development of Neurosurgical Specialism - William C. Hanigan, MD, PhD
11. Centennial of Pituitary Tumor Surgery: Origins in Chicago - James L. Stone, MD FACS

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