

Preliminary Program

**Congress of
Neurological Surgeons
49th Annual Meeting**

October 30–November 4, 1999



"The End of the Beginning"

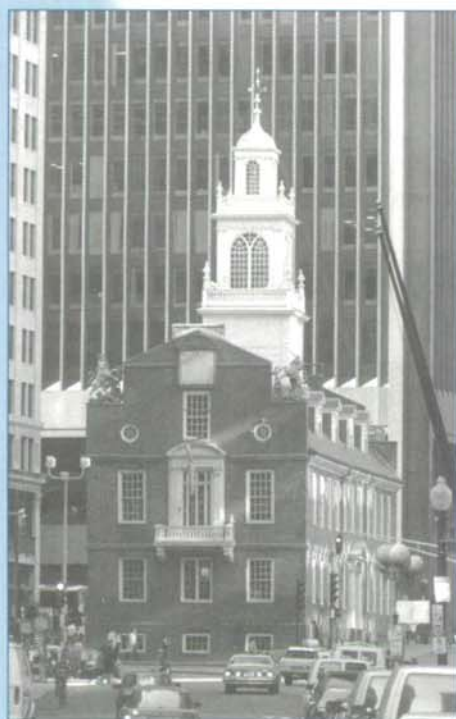


Visit Levels 1 & 2 of the Exhibit Hall featuring the most current technology, instrumentation and information available to the neurosurgical community today!

Old South Meeting House.

Built in 1729, this national historic site was a major meeting place for both religious and political gatherings.

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Old State House

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Skyline from Harbor

Meeting Highlights

PRACTICAL COURSES

Saturday - Sunday

Expanded Practical Course program including new and technically innovative courses:

- Spinal Deformity and Scoliosis in Adults: Surgical Management Options
- Exposure and Surgery of the Peripheral Nerves
- Intraoperative MRI-Guided Surgery

These are just a sample of the 46 Practical Courses offered. Make sure to register today, seats are limited and filling fast!

See pages 12-19 for more information

HONORED GUEST

It is with great enthusiasm that the Congress of Neurological Surgeons welcomes you to share the outlook of this year's Honored Guest, Duke S. Samson, MD. Doctor Samson will be discussing an array of exciting topics throughout the Annual Meeting which include:

- Neurovascular Decision Making Perspective
 - Aneurysms
 - Arteriovenous Malformations
 - Extracranial Carotid Disease
- Current Legal and Ethical Issues in Neurosurgery on Euthanasia and the Neurosurgeon.

RESIDENT PROGRAM

This year the CNS has further expanded the Resident Program. Take advantage of great opportunities for Resident Members that include: complimentary housing and meeting registration, a variety of Resident Awards, two Resident Lounges in the exhibit hall, special events such as the Residents/Honored Guest Luncheon, complimentary childcare and much more, provided to you by the Congress of Neurological Surgeons.

Register today and advance yourself and your career!

LUNCHEON SEMINARS

Monday - Wednesday

Premiering 75 Luncheon Seminars! Each seminar delivers two hours of expansive and intense programming, outlining the most advanced techniques in Neurosurgery today. Small group discussion with moderators and panelists.

Don't delay and register now! Continuing education is the key to the future of neurosurgery!

See pages 21-39 for more information

SCIENTIFIC PROGRAM

The 1999 CNS Scientific Program Committee has assembled an outstanding Scientific Program, which is indisputably the most informative and comprehensive look into the future of Neurosurgery.

General Scientific Sessions, Special Courses, Section Sessions, Luncheon Seminars and Practical Courses are all a part of the educational forum that will await you in Boston.

Emphasis will be placed on the hottest topics including:

- Treatment of CNS Neoplasms and Aneurysms: The End of the Beginning
- Neurovascular Decision Making
- Pediatric Update for the General Neurosurgeon
- Lumbar Interbody Fusions

With so much more to offer, don't miss this opportunity to attend! Register by **September 23rd** and take advantage of discounted registration fees!

**Registration and
Housing Deadline
September 23, 1999**



Minuteman Statue

Meeting Highlights



EXHIBITS & TECHNOLOGY

You won't want to miss the largest exhibition in the history of the Congress of Neurological Surgeons open on Monday, Tuesday, and Wednesday in Exhibit Halls A/B/C/D on Levels 1 and 2. The best and brightest traditional and non-traditional exhibitors in the field of neurosurgery are available to demonstrate the latest advances in products and services geared specifically towards the Annual Meeting attendee.

The CNS is also proud to announce many exciting additions to this year's Exhibit Hall. Residents can collaborate with one another in the Resident Lounge located in the Exhibit Hall on both Levels 1 and 2. The Exhibit Demonstration Theater, located on Level 1, will offer dynamic demonstrations by a select group of exhibitors. Plan to attend one of these sessions to find out how their products and services can benefit you. Also, be sure to stop by the CNS Technology Pavilion to find out how today's technology can assist you in your practice. Daily classes will be offered to teach you how to use the newest computer technology, how to efficiently explore the internet, and much more!

SPECIAL SYMPOSIUM

As an addition to this year's program, a Special Symposium, "Neurosurgery in the 21st Century", will take place at The American Academy of Arts and Sciences, located right outside of downtown Boston in Cambridge, Massachusetts, a prime environment for first-rate education. The Special Symposium will take place on Thursday, November 4, immediately following the 1999 CNS Annual Meeting in Boston.

The Special Symposium will feature a half day of extensive, leading edge programs focusing on "Neurosurgery in the 21st Century". Leaders from the field of science, industry, and management are paired with prominent neurosurgeons in four concurrent workshop sessions and one General Synthesis Session featuring topics on Education, Technology, Neurobiology and Leadership. A reception for all attendees will immediately follow the General Synthesis Session.

Availability is limited, be sure to register today to ensure your spot at the Special Symposium!

Refer to page 49 for further details.

SOCIAL EVENTS

Join your colleagues and friends and enjoy the many social events that await you in historic Boston. This year the 1999 CNS Opening Reception will conveniently take place in the Ballroom of the John B. Hynes Veterans Convention Center. The Opening Reception will take place on Halloween night. Come enjoy the *spooky* atmosphere coupled with a *ghoulish* feast, *mystifying* drinks and *creepy* company. One complimentary ticket is provided for each registrant. All little goblins are welcome and encouraged to attend!

The Annual Meeting Committee has planned a special, fun filled event for this year's Wednesday Annual Banquet. A cabaret evening in the Ballroom of the Fairmont Copley Plaza Hotel encompasses a marvelous dinner, phenomenal music, and time to catch up with good friends and colleagues. Further details are found on page 53 of your Preliminary Program.

Plan your evenings enjoying the majestic city of Boston. Optional Events include dinner cruises, symphony recitals, dinners and tours. Indulge yourself in the historic culture of Boston. Sign up today!

CHILDCARE

To enhance and further promote a family environment during the Annual Meeting, the Congress of Neurological Surgeons is proud to offer for the first time a Childcare Activity Center!

The Childcare Activity Center will be located at the Headquarter Hotel, the Sheraton Boston Hotel and Towers. Pre-registration of each child is mandatory and space is limited.

Complimentary Childcare will be provided to CNS Resident Members sponsored by the Congress of Neurological Surgeons.

Attendees of the 1999 Congress of Neurological Surgeons Annual Meeting are encouraged to bring their families to Boston and enjoy all that the city has to offer.



Paul Revere Statue

President's Message



Dear Colleagues:

I am honored to have the opportunity to invite you to the 49th Annual Meeting of the Congress of Neurological Surgeons (CNS) to be held in Boston, Massachusetts. The meeting will begin the day before Halloween, October 30, 1999. The location of the final CNS meeting of the millennium could not have been more fortuitous. The city of Boston represents the pinnacle of education, culture and science for the world stage. Could there be a more appropriate setting to celebrate the explosive growth neurosurgery has enjoyed during the 20th century, and to anticipate the future as evidenced by the crescendo of scientific and technological advances that will be delineated for you? While we reflect on the significance of the end of the second millennium, it is important to keep in perspective that the 20th century alone has marked the development of safe surgical procedures on the central and peripheral nervous system. Brain tumors can be removed with elegance and neurological safety; cerebrovascular conditions once felt to be insurmountable are now curable with low risk; and numerous other causes of pain or disability can now be treated successfully with techniques ranging from minimally invasive to major spinal reconstructions.

As we celebrate our neurosurgical predecessors (and indeed ourselves) let us critically evaluate our status. Traumatic injuries to the brain and spinal cord remain major public health problems for which we have no solution in sight. The prognosis of patients with primary malignant brain tumors is dismal despite decades of highly sophisticated scientific inquiry. In addition, recovery from the sequela of ischemic or hemorrhagic stroke remains unacceptably poor. We have much to do. Splendid advances in neurobiology, computers and technology challenge tomorrow's neurosurgeon toward more creative applications.

The 1999 CNS Annual Meeting will focus not only on recognition of prior advances but on the challenges facing us going forward. One of the (many!) benefits of serving our membership as President of the CNS is the opportunity to select an Honored Guest. Historically, the CNS has used the venue of the Annual Meeting to honor the lifetime career of a neurosurgical leader, and to use his special talents to help construct the thematic components of the Scientific Program. Dr. Duke Samson, Professor and Chairman of the Department of Neurological Surgery at the University of Texas Southwestern Medical Center will join a select group of prior CNS Honored Guests. Dr. Samson has had an extraordinary depth and breath of influence on his students over many years. He is recognized as a master surgeon, a neurosurgical scholar and a philosopher. In fact, a typical Samson quote has become the theme of the 1999 Annual Meeting. When confronted by the interventional radiology community to the effect that catheters and balloons represented the beginning of the end, Dr. Samson replied that these technologies represented only "the end of the beginning" of cerebrovascular surgery. Dr. Samson's Honored Guest presentations will span the gamut from technique to conceptual aspects of neurosurgical planning, and finally to the philosophical and ethical issues confronting modern clinical neuroscience.

The 1999 Scientific Program under the direction of Dr. Vincent Traynelis was charged with "thinking out of the box" and reinventing the Annual Meeting of the CNS. While many of your favorite formats and issues will be preserved and expanded, numerous novel new ideas will be explored. Point counterpoint discussions have now evolved to requesting speakers to take the opposite perspective. For example, you will see in the program that talented disciples of such disciplines as cranial base surgery will be charged with putting their experience in perspective and telling the audience when not to use these invasive exposures. The Scientific Program will begin with two days of hands on Practical Courses including a number of new offerings such as, microvascular decompression for cranial neuropathy, intraoperative MRI guided neurosurgery, and molecular reconstruction for spinal cord injury. Practitioners will be taught how to expand, not constrict their sphere of influence in clinical neuroscience. They will be taught new neurosurgical concepts about spinal deformity and scoliosis in what we hope will serve as an impetus for "reverse incroachment". We will continue to serve the membership by providing the most up to date instruction in medicare documentation as well as continuing the CNS "boot camp" for computer training and retraining. Special computer courses dealing with database design, Internet technology, and digital imaging will be offered. The general scientific sessions will focus on futuristic approaches toward CNS neoplasia, decision making in cerebrovascular disease, advances in pediatric neurosurgery, and the use of lumbar fusion techniques. Indeed, your Scientific Program will span the gamut between molecular and genetic techniques and disability determination.

Local Chairpersons Dr. Phil Steig and his wife Janet have assembled an extraordinary experience awaiting you in Boston. The Steigs have lived in Boston for many years and know about all the special places, as well as great cultural venues available in the great city of Boston. A sensational Opening Reception is planned on Halloween night at the

John B. Hynes Veterans Convention Center Ballroom; the Friends of the Congress Auxiliary Luncheon will take place at the John F. Kennedy Library; Wednesday night we have planned an authentic Cabaret and Dinner at the splendid Copley Plaza Hotel Grand Ballroom with jazz vocalists that will excite and entertain you; and countless tours throughout the meeting will allow you and your family to soak in every drop of Boston! You will leave the Annual Meeting with a new appreciation for the sophistication and scope of experience available in this unique city.

The Annual Meeting Committee under the Chairmanship of Dr. Issam Awad has labored diligently to ensure that each of the above facets and countless details of the Annual Meeting are delivered with the highest standards of excellence and service. It engaged an army of volunteers from the Congress membership to enhance meeting organization, planning and execution, including innumerable technical innovations and other value added services to our members and guests. You have doubtlessly enjoyed the user-friendly electronic abstract submission, but you likely did not know that nearly 1000 abstracts were processed and graded also electronically. There are more invited speakers, more luncheon panelists, and more accepted papers and abstracts than at any other previous neurosurgical meeting! Parts of the meeting will be Netcasted in real-time on the internet, and selected surgical technique classics will be engaged again on the Video Kiosk. This year's exhibit hall will consist of two full levels of convention center space packed with the latest information, products and services, enhanced by a Technology Pavilion, Neurosurgical Bookstore and Theater/Demonstration area. Our presence in Boston will be publicized to nearly one million people in the greater Boston area, and a Neurosurgery Open House is planned to highlight the neurosurgeon's role in the treatment of major diseases which concern the public.

The CNS is proud to offer our members and their families, for the first time at a neurosurgical meeting, the full range of professional and supervised Childcare Services. Spouses and families of neurosurgeons have always contributed to numerous activities of the CNS and we want to rejuvenate their presence at the Annual Meeting. In addition, as a specialty we are enjoying dramatic growth in the number of women neurosurgeons entering our field. We hope that the availability of childcare services at the Annual Meeting will allow women neurosurgeons and other parents to fully engage in all scientific, professional and social facets of the meeting.

Last year's great experiment was a success! The CNS Resident Housing concept was very successful and enjoyed by all residents who stayed at that site (fortunately no major damage was done and the building still stands!). The CNS will again make a major investment in the future of our specialty by providing a dramatically less expensive mechanism for residents to partake in this educational event.

In recognition of the end of the millennium and the critical transitions alluded to above, the CNS will host a Special Symposium on Thursday afternoon in Cambridge. This symposium will be entitled "Neurosurgery in the 21st Century". Dr. Issam Awad has identified the American Academy of Arts and Sciences as a remarkable venue for this event. Attendees will feel that they are in a retreat or think tank environment with some of the great scholars of our century. The symposium will begin with a short bus ride from the hotel to Cambridge with arrival planned at 2:00 pm. The symposium will feature four specific areas of discussion:

... Education ... Leadership ... Neurobiology ... Technology

The afternoon will begin with breakout sessions in each of these topical areas, which will be co-chaired by a neurosurgeon and a leader from each respective field. After these breakout discussions, the leadership of these sessions will bring back a report for the synthesis discussion. The afternoon event will close with a cocktail reception and attendees will be transported back to the hotel by 6:00 PM. This closing of the 1999 Annual Meeting should give attendees a great feeling of where your specialty is heading during the remainder of our careers.

I am very proud of our Annual Meeting and Scientific Program committees and know that they have done a marvelous job on your behalf. I want to extend my own personal invitation that you join Jan and the Batjer girls, as well as all of your colleagues, to celebrate one of the major transition points of all our lifetime.

Sincerely,

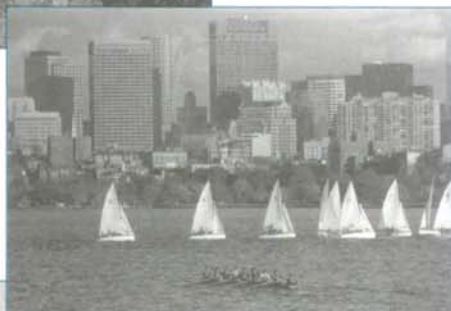
H. Hunt Batjer, MD
President of the Congress of Neurological Surgeons

Welcome

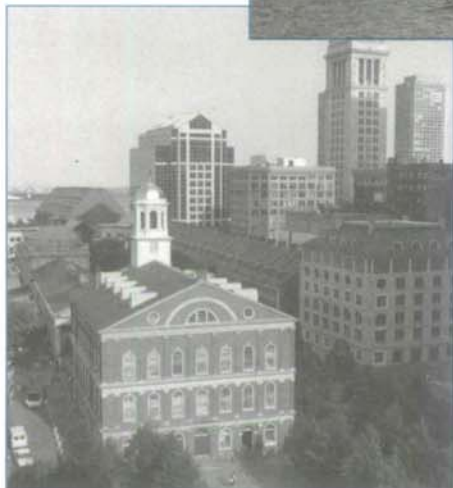


Minuteman Statue.

As the "shot heard 'round the world" signaled the start of the American Revolution, the birth of a nation took place. Boston was the site of the beginning of the American Revolution and is home to some of the most historically significant locations in the United States. From Paul Revere's home to "Old Ironside" – the USS Constitution, Boston is a city rich in history, but firmly planted in the present with its eye on the 21st Century.



Sailing & Rowing on the Charles River.



Faneuil Hall/Customs Tower.

Photos courtesy of the Greater Boston Convention & Visitors Bureau, Inc.

**Come to the 1999 Congress
of Neurological Surgeons
Annual Meeting in Boston
and see for yourself where
the United States was born!**

Boston is a walking city with sixteen of its historic sites best seen by walking the Freedom Trail. The Freedom Trail will lead you to the site of the Boston Massacre as well as the Boston Latin School - the first public school in the nation and Benjamin Franklin's alma mater - to name just two. A city of neighborhoods, Boston is home to an array of different architecture styles including the classic Victorian row houses of Commonwealth Avenue and the 18th and 19th century mansions on Beacon Hill. Considerable educational prestige also encompasses this city with the campuses of Harvard, MIT and Boston University. Enjoy its world class arts performances and traditional New England cuisine.

Children of all ages will enjoy the New England Aquarium with its 1000-seat floating amphitheater or the Children's Museum for a great "hands on" educational experience. How about taking a ride on the famous Swan Boats in the 24 acre Public Garden? The children will be mesmerized as the boat glides along a lagoon within the first public botanical garden in America. Whale watching in Massachusetts Bay is always a popular child's activity, which proves to be just as popular with adults too!



Acorn Street on Beacon Hill.

Honored Guest Biography

Honored Guest Biography Duke S. Samson, MD

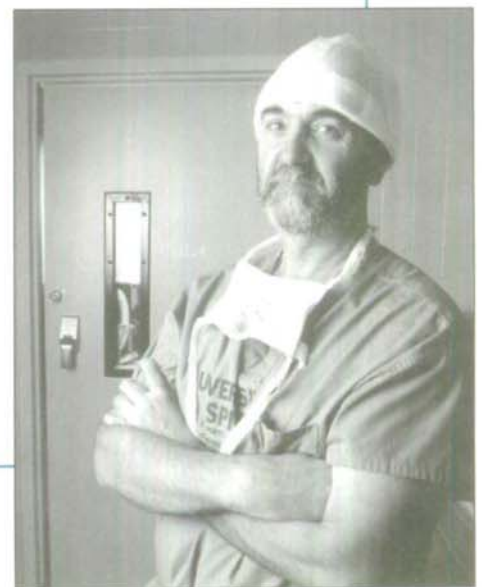
Duke S. Samson was born January 16, 1943 in Odessa, Texas. His father was an officer in the US Army Corps of Engineers and moved the family often during the post-war years. The Samson family returned to Odessa in 1949 where Duke received all primary and secondary education in the Odessa public school system. Duke's father was an accomplished horseman, and he followed suit early in life, with athletics as his other passion. He entered Stanford University in 1961, courtesy of a football scholarship, and excelled in the Honors Psychology Program with a minor in philosophy. Duke played both football and rugby until sidelined from a knee injury in 1963. He spent six months at Stanford-in-France where he learned to speak French (poorly) and drink French wine (well). While in France, he substituted parachute jumping for collegiate football and surprisingly survived and graduated from Stanford in 1965.

Duke attended Medical school at Washington University in St. Louis where he was named Outstanding Senior Student in Surgery. He graduated from medical school in 1969 and served as a surgical intern at Duke University from 1969 to 1970. He then returned to his home state of Texas in 1970 to begin his neurosurgery residency at the University of Texas Southwestern Medical Center at Dallas. As a senior resident, he spent six months with Gerard Guiot in Paris, and seven months with Dr. M. Gazi Yasargil in Zurich, Switzerland. He continued his love of athletic competition and lacking the facilities for either collegiate football or parachuting, he focused his physical prowess on the martial arts of Tae Kwon Do and Judo. At one point, Duke was third in the European Tae Kwon Do championships and achieved the rank of brown belt in Judo.

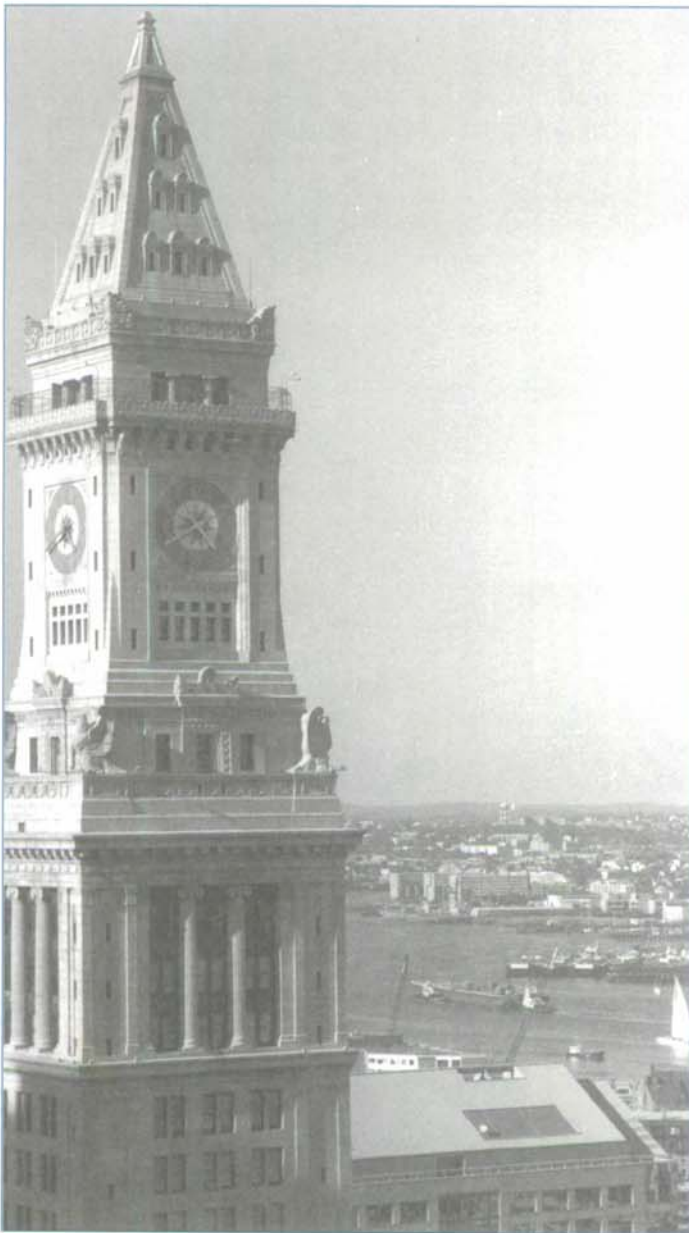
Following residency, Duke enlisted in the US Army Medical Corps and was stationed in the Western Pacific Neurosurgical Service at Clark Air Force Base, Republic of the Philippines. He was later transferred to serve at Walter Reed Army Medical Center and was "honorably" discharged from the US military in 1977. Following his service in the Army, Duke returned to Texas as a permanent fixture at UT Southwestern Medical School in Dallas at the rank of assistant professor of surgery, in the Division of Neurosurgery. He achieved rank of associate professor in 1981 and full professor in 1985. He was named chairman of the Division of Neurosurgery in 1985 and engineered the complex transition to departmental status in 1989. Duke most recently has been appointed Director of the UT Center for Clinical Research in Stroke and Spinal Cord Injury in 1998.

Duke is best noted among current and previous departmental faculty and residents as the consummate teacher and mentor. He is passionately dedicated to teaching and the succession and survival of the practical craft known as microvascular neurosurgery, and committed to patient welfare without compromise. He remains extremely active in microvascular neurosurgery and is more often than not found under an operative microscope most days of the week. As the Chairman of a large department which he has primarily built and includes 9 faculty, 10 residents, and 26 employees, it is no small feat to continue an active practice in this technically demanding field of vascular neurosurgery.

Duke is married to Patricia Bergen, M.D., Chief of Surgical Services at the Dallas Veterans Administration Hospital. They have two sons: Lome Daniel age 9, and Gabriel Stanford age 7. Duke's infrequent time away from medicine finds him pursuing interests in pistol marksmanship and western horsemanship; along with being a burgeoning novelist, a good friend, and doting father.



Mission Statement/Purpose



U.S. Customs House Tower. Photo courtesy of the Greater Boston Convention & Visitors Bureau, Inc.

**Don't Miss This
Year's Dynamic
Exhibit Hall!
Complete details are
on the next page.**

Mission Statement

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

Meeting Purpose

The purpose of the 1999 Annual Meeting of the Congress of Neurological Surgeons is to provide continuing medical education for practicing neurosurgeons, neurosurgical residents in training, and post-graduate neurosurgical fellows, as well as allied health professionals including nurses, physician assistants and clinical specialists.

CNS education is provided in many forms:

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



Exhibits

Are you interested in the latest advances in the field of neurosurgery?

Do you have a membership question?

Are you curious about the newest publications?

Do you need a place to relax during your busy day?

Visit the Exhibit Hall!

The Exhibit Hall is located on Levels 1 & 2 of the John B. Hynes Veterans Convention Center and contains an unprecedented number of exhibits and member services. Whether you are interested in image guided systems, microscopes, cervical plates, aneurysm clips, or forceps, exhibitors from all over the world are available to show you these products and others in an unhurried atmosphere.

The Exhibit Hall Offers Variety!

Make plans to visit the various new exhibiting companies we are anticipating at this year's Annual Meeting. Travel agents, computer companies, Web designers, car manufacturers, electronic companies and many others have been invited to exhibit at this year's meeting. Be sure to set aside time each day to welcome our new exhibitors and say hello to the many loyal exhibitors that have supported the Congress of Neurological Surgeons over the years.

Much, Much, More!

- Check your e-mail and gain hands-on computer experience in the CNS Technology Pavilion
- Listen to lectures and see demonstrations from experts in the field of Neurosurgery in the Exhibit Demonstration Theatre
- See surgical techniques by master neurosurgeons on the DVD Video Kiosk
- Enjoy complimentary, continuous, coffee offered in one of the many Beverage Areas
- Study your colleagues' research in the Poster viewing areas
- Meet and greet other residents and fellows in the Resident/Fellow Lounge
- Review the latest publications in the Neurosurgical Bookstore
- Become a member of the CNS, check on your membership status, or investigate an opportunity through the CNS job placement service, at the CNS Member Services Center.

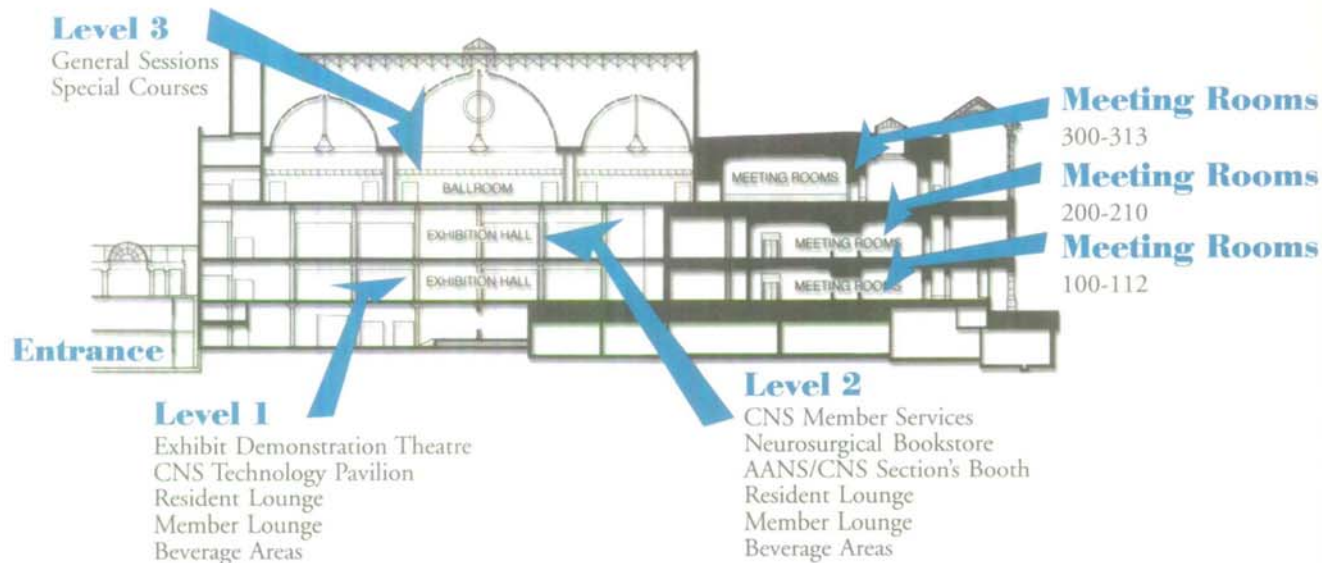


Exhibit Demonstration Theater Schedule:

Monday, November 1

9:00 AM-10:00 AM - schedule to be determined

2:00 PM-3:00 PM - schedule to be determined

Tuesday, November 2

9:30 AM-10:30 AM - schedule to be determined

2:00 PM-3:00 PM - schedule to be determined

Wednesday, November 3

11:00 AM-12:00 PM - schedule to be determined

2:00 PM-3:00 PM - schedule to be determined

Exhibit Hall Hours

Monday, November 1, 1999
8:30 AM - 4:30 PM

Tuesday, November 2, 1999
8:30 AM - 4:30 PM

Wednesday, November 3, 1999
8:30 AM - 4:30 PM

Committees



Annual Meeting Committee

Annual Meeting Chairman

Issam A. Awad

Exhibits

Paul Joseph Camarata

Marketing

Mark N. Hadley

Hosts

Robert Friedlander and Carl B. Heilman

Local Arrangements

Philip E. Stieg

Registration

T. Glenn Pait and Michael T. Lawton

Resident Registration

E. Hunt Dyer

Sergeant-At-Arms

Ali F. Krisht and James P. Chandler

Scientific Program Committee

Scientific Program Chairman

Vincent C. Traynelis

Associate Chairman—Scientific Program Committee

Gerald E. Rodts, Jr.

General Scientific Session I

Joseph M. Piepmeier

General Scientific Session II

Thomas A. Kopitnik, Jr.

General Scientific Session III

Steven Ondra

General Scientific Session IV

Richard G. Ellenbogen

International Scientific Program

Russell J. Andrews

Luncheon Seminars

Christopher Getch, Richard K. Osenbach, and Alex Valadka

Nursing Program

G. Rees Cosgrove

Open Scientific Session

Isabelle M. Germano

Poster Session

Frank Culicchia

Practical Courses

Brian Cuddy and Douglas S. Kondziolka

Special Courses

Robert J. Maciunas, H. Louis Harkley, III, Ali Rezaei

Section Program Coordinator

Kenneth A. Follett

Program Evaluation

Iain Kalfas

Computer Technology

Joel D. MacDonald

Neurosurgery Open House: Educating the Public on the Role of the Neurosurgeon

In an effort to help neurosurgeons demonstrate their role as valued providers of healthcare services, the Congress of Neurological Surgeons is proud to sponsor the first Neurosurgery Open House. This unique educational opportunity is aimed at increasing awareness among the general public and the media about the role neurosurgery plays in treating common public health problems. The overall goals of the three-day event include:

- Increase awareness of the scope and quality of neurosurgery;
- Demonstrate the neurosurgeon's role as a medical specialist trained to help patients with head and spine trauma, cerebrovascular disorders such as clogged arteries in the neck that can lead to stroke, chronic low back and neck pain, and more;
- Promote the timely, appropriate application of neurosurgical solutions to health needs; and
- Offer patients the opportunity to meet with neurosurgeons and discuss the latest prevention and treatment options for a range of neurological disorders.

Please stop by the Friends of the Congress Café (conveniently located at the Sheraton Boston Hotel and Towers) to participate in this one-of-a-kind educational opportunity.

Saturday, October 30 5-6 PM

Monday, November 1 5-6 PM

Tuesday, November 2 5-6 PM

**Our sincere thanks and appreciation
goes out to the various committees
for their dedication in organizing
the 49th Annual Meeting.**



Resident Registration

Dear Residents:

On behalf of the Congress of Neurological Surgeons, I would like to enthusiastically encourage you to attend the 1999 Annual Meeting in Boston, Massachusetts. This year's meeting offers an exciting and contemporary array of clinical and scientific presentations on the state of the art in Neurosurgical practice. The CNS goal is to be a major educational component for our Neurosurgical Community. Our goal is especially directed at the resident Neurosurgeon. We are hoping that as many residents as possible present papers and posters at this meeting, or simply attend and enjoy the wealth of information being offered. At the generous direction of H. Hunt Batjer, the President of the CNS, we will again be offering complimentary housing for CNS resident members for the Annual Meeting. (note guidelines on the Resident Housing Form). Meeting registration will also be complimentary for resident members of the CNS. Many luncheon seminars are discounted for the resident members, as well. This will hopefully facilitate our goal to represent your interests in Neurosurgery. The Annual Meeting features several resident awards, to include those honoring the best abstract submissions, and the CNS Clinical Fellowship Awards.

Duke S. Samson, MD, Professor and Chairman of the Department of Neurosurgery at the University of Texas, Southwestern, will be the Honored Guest at this year's meeting. Dr. Samson is a pioneer in the microsurgical treatment of cerebral vascular malformations and aneurysms and will be sharing his thoughts on his surgical experience. In addition, Dr. Samson, who is a provocative and dynamic speaker, will be discussing other important subjects that face the Neurosurgeon, to include those involving ethical issues. The Honored Guest/Resident Luncheon will feature Honored Guest, Dr. Samson, President, Dr. Batjer, and President-elect, Daniel L. Barrow. This will be one way to interact with these leaders in an informal and relaxed atmosphere.

Boston is a historic and wonderful city. It is a colorful blend of "the established" and "the avant-garde". It features a unique mix of intelligentsia, sports, arts and culture. The convention center is extremely modern and convenient. The social and recreational activities will be exceptional.

We hope you will make every effort to attend the Congress of Neurological Surgeons Meeting in Boston, October 30 – November 4, 1999. It will be an exciting educational experience highlighted by substantial benefits and involvement for the residents.

I look forward to seeing you in Boston!

Richard G. Ellenbogen, M.D.
Resident Membership
Committee Chairman

Meeting registration for Resident Members is complimentary. Non-member Residents have a reduced fee of \$50 if registered by September 23 and \$75 thereafter. All Luncheon Seminars with the letter *r* next to them (i.e. 101*r*) and the Special Symposium are discounted for residents. Please indicate the appropriate resident course number on the registration form to register for these courses. Because of limited availability of resident tickets for some courses, early registration is suggested. On-site availability of discounted course tickets can be determined at the registration desk.



Charles River Boathouse and Skyline. Photo courtesy of the Greater Boston Convention & Visitors Bureau, Inc.

Meeting Calendar



 = Exhibit Viewing

	Saturday October 30	Sunday October 31	Monday November 1	Tuesday November 2	Wednesday November 3	Thursday November 4						
7:00 AM												
-												
8:00 AM	P r a c t i c a l C o u r s e s	P r a c t i c a l C o u r s e s	General Scientific Session I	General Scientific Session II	General Scientific Session III	General Scientific Session IV						
-												
9:00 AM												
-												
10:00 AM									Honored Guest Presentation	Dis. Service Award	Decade of Brain Medalist	
-												
11:00 AM									Presidential Address		CNS Resident Award	
-												
12:00 NOON												
-												
1:00 PM			Luncheon Seminars	Luncheon Seminars	Luncheon Seminars	Special Symposium "Neurosurgery in the 21st Century"						
-												
2:00 PM												
-												
3:00 PM			Section Sessions	Section Sessions	Section Sessions							
-												
4:00 PM			CV, Tumors, CSNS, S & F, Trauma	Peds, Pain, S & F, Spine, CV	Peds, Trauma, Spine, Pain, Tumor							
-												
5:00 PM												
-												
6:00 PM				Annual Business Meeting								
-												
7:00 PM		Opening Reception	Open Evening	Open Evening	Boston Cabaret Reception and Dinner							
-												
8:00 PM												



Practical Courses - Saturday

SATURDAY - AT - A - GLANCE

8:00 AM-5:00 PM

8:00 AM-12:00 NOON

1:00 PM-5:00 PM

All Day Practical Courses

Morning Practical Courses

Afternoon Practical Courses

8:00 AM-5:00 PM Practical Courses/All Day

001 Microsurgical Anatomy for Cranial Surgery

Course Director: Albert L. Rhoton, Jr.
Faculty: Toshioi Matsushima, Evandro de Oliveria, Ronald Smith, Antonio Mussi, Qing Liang, Tsutomu Hitotsumatus, Ryusui Tanaka, Eduardo Seoane, Hung Wen, Helder Tedeschi

The clinic will provide hands-on experience with exposing the lateral, third, and fourth ventricles, the cavernous sinus, basal cisterns, and the cranial nerves in the middle and posterior cranial fossa. The operative approaches will be done under the operating microscope. Lectures will focus on the microsurgical anatomy of each of these areas. After this course, participants will be able to:

1. Expose the third ventricle and basal cisterns through the choroidal fissure;
2. Complete an intra and extradural approach to cavernous sinus and petrous apex;
3. Expose the nerves in the cerebellopontine angle and internal acoustic meatus.

002 Surgery of the Carotid Artery: Indications and Techniques

Course Directors: M. Christopher Wallace, Joshua B. Bederson
Faculty: Gregory Thompson, Robert Harbaugh, Christopher Loftus, Max Findlay, Robert Dempsey, Wesley King

The current indications for surgical and medical therapy for symptomatic and asymptomatic carotid disease will be reviewed. The surgical anatomy and approaches will be demonstrated through lecture and anatomical dissection. After this course, participants should be able to recognize the indications for medical and surgical treatment of extracranial carotid disease and will be able to evaluate the use of noninvasive Doppler imaging of the extracranial and intracranial circulation.

003 Exposure and Surgery of the Peripheral Nerves

**Off-Site Course: Tufts University School of Medicine
Lecture Hall—Sackler Room A 136 Harrison Avenue.*

Course Directors: David G. Kline, Allan Friedman
Faculty: Robert Tiel, Michele Kliot, John McGillicuddy, Allan Maniker, Allan Belzberg, Rajiv Midha, Daniel Kim, Mario Siqueira

After this course, participants should be able to identify the appropriate exposures for specific nerve injuries and entrapment syndromes, perform the anatomical exposure for peripheral nerves, and understand the indications and contraindications for surgical treatment of peripheral nerve disorders.

004 Anterior and Posterior Approaches and Stabilization Techniques for the Thoracolumbar Spine

Course Directors: David W. Cahill, Brian G. Cuddy
Faculty: Stephen Ondra, Chris Shaffrey, Gerald E. Rodts, Jr., Regis Haid, Patrick Hitchon, George Martin, Robert Heary, Eric Woodard, Robert Ho, Pat Jacobs

This course is designated to provide hands-on experience and instruction with complex exposure and decompression of the anterior cervico, thoracic, thoracolumbar, lumbar, and lumbosacral spine in cadaver specimens. The didactic portion of the course will address preoperative planning issues. After this course, participants will be able to identify a variety of operative exposures and discuss patient management techniques according to location of individual pathology.

*Bus departs the John B. Hynes Veterans Convention Center at 7:15 AM to transport participants to off-site practical course locations.

Practical Courses - Saturday



8:00 AM-5:00 PM Practical Courses/All Day (continued)

005 005 Transsphenoidal Surgery

Course Directors: Warren R. Selman, Mary Louise Hlavin
Faculty: Gary Rodziewicz, Gail Rosseau, William Chandler, William Couldwell

The purpose of this course is to educate participants in the treatment of patients with sellar and peri-sellar lesions, including endocrinological evaluation, medical treatment, surgical approaches, radiation therapy modalities (both Gamma Knife radiosurgery and fractionated radiation), as well as management of pre-operative complications. The course will focus primarily on surgical therapy and will provide a sound anatomical basis for performing the transsphenoidal approach to the sella and parasellar region. This will be accomplished through didactic lectures, interactive discussions, demonstrations and hands-on dissection. The use of the operating microscope and the endoscope will be taught. Participants in this course will learn the application of transsphenoidal operative approaches to the sella via direct exposure through cadaveric dissection including traditional transnasal transseptal, transsphenoidal endoscopic, and subfrontal suprasellar endoscopic approaches. Instruments and equipment to perform all these surgeries will be available for participant evaluation.

After completion of this course, participants will demonstrate improved skills in the assessment and management of patients with pituitary disorders. They will be able to identify, describe and demonstrate a variety of operative approaches to the sella as well as relevant anatomy.

006 006 Thoracoscopic Spinal Surgery

Course Director: Curtis A. Dickman
Faculty: Patrick Johnson, Charles Reidel, R. John Hurlbert, Dean Karahalios, Noel Perin, Ronald Apfelbaum

The indications, fundamental principles, and techniques for thoracoscopic spine surgery will be taught using lectures and hands-on experience with saw bone models, spine specimens, and endoscopic simulations. After this course, participants should be able to recognize the role of endoscopic spine surgery for disc herniations, sympathectomy, and spinal instability. Participants should also be able to describe the anatomy and surgical approaches for the various thoracoscopic spinal procedures.

8:00 AM-12:00 NOON Practical Courses/Half Day

007 007 Spinal Biomechanics

Course Director: Edward C. Benzel
Faculty: Vincent Traynelis, Michael Morone, Eric Woodard, Nevan Baldwin

This practical course is an in-depth, didactic session presenting the physical principles and biomechanical foundation of spine surgery and spine stabilization. After this course, participants should be able to describe the biomechanical principles that form the basis of complex spinal surgery.

008 008 Trigeminal Neuralgia: Percutaneous Approaches

Course Directors: Jeffrey Brown, Harry VanLoveren
Faculty: G. Robert Nugent, Hae Dong Jho, Ernest Matthews, Jeffrey Keller, Harold Wilkinson, Bruce Pollock, George Bovis, Rashid Janjua, Khaled Aziz

After this course, participants should be able to discuss the accepted techniques of percutaneous treatment of trigeminal neuralgia, and identify and manage intraoperative and postoperative complications.

009 009 Image-Guided Cranial Surgical Navigation

Course Directors: Robert J. Maciunas, Isabelle M. Germano
Faculty: John Adler, Gene Barnett, Richard Bucholtz, Charles Hodge, Douglas Kondziolka, William Tobler, Haring Nauta

This course will provide an opportunity for hands-on experience with state of the art neurocranial navigation systems. After this course, participants will be able to discuss concepts of registration and localization for cranial navigation and apply cranial navigation techniques to patients in his/her practice.

010 010 Posterior Circulation Aneurysms

Course Director: Thomas A. Kopitnik, Jr.
Faculty: Michael Horowitz, M. Gazi Yasargil, Daniel Barrow, Jon White

After this course, participants should be able to identify the indications and contraindications for surgery, via specific approaches, to lesions in this location; identify the vascular anatomy by preoperative imaging and intraoperative visualization; and identify and manage common operative and postoperative complications associated with surgery in this region.

This is a hands-on cadaver microdissection course with experts on intracranial aneurysms.



Practical Courses - Saturday

8:00 AM-12:00 NOON Practical Courses/Half Day (continued)

011

011 Lumbosacral Fusion: Cages, Dowels, and Pedicle Screws

Course Directors: Regis W. Haid, Jr, Christopher I. Shaffrey
Faculty: Gerald E. Rodts, Jr.

After this course, participants will be able to describe the indications, contraindications, uses and benefits of lumbar and lumbosacral fusion. A variety of techniques employing cages, ALIF, PLIF, and pedicle screws will be discussed. Participants may have the option to learn techniques on sawbone models.

012

012 Cervical Spine Stabilization

Course Directors: H. Louis Harkey, III, Christopher G. Paramore
Faculty: Allan Levi, Michael Fehlings, Joseph Alexander, John Hurlbert, Paul Marcotte, Timothy Ryken, Patrick Johnson, Brian Cuddy, Carl Lauryssen, Perry Ball, Seth Zeidman, Gerald Tuite, Juan Ronderos, Thomas T. Lee

The indications, techniques, and complications of stabilization of the cervical spine including the craniovertebral junction will be reviewed using lectures, case presentation, and hands on application with anatomical models. Upon completion of this course, participants will be able to recognize the indications for cervical and craniovertebral junction fusion and instrumentation, and will also be able to describe the technical application of such.

013

013 CPT Coding, Medicare Documentation and Audits

Course Directors: Gregory J. Przybylski, Richard Roski
Faculty: David Bissonette, Kimberley Pollock

This course provides a concentrated summary of the principles and application of CPT coding in describing office, consultation, and surgical work performed by the neurosurgeon. In addition, methods for creating a compliance and review system as well as for audit preparation are discussed. After this course, participants should be able to personally apply ICD-9 and CPT coding, accurately describe the necessary items to fulfill Medicare documentation guidelines for surgical as well as evaluation and management coding, and adapt their current documentation practice to reduce the risk of failing an audit.

014

014 Computer Skills – Basic Database Design

Course Director: Joel D. MacDonald
Faculty: Thomas Ellis, Richard Day, Harold Pikus, Derek Duke

The basic elements of database design, construction, management, and implementation will be presented and discussed using FileMaker Pro (Claris products). The participant will be provided with a series of exercises to complete on a desktop computer station with instructor supervision. Other database products will be demonstrated. After this course, participants should be able to explain the basic concept of database design, and utilize FileMaker Pro to create, manage, and implement a basic database.

015

015 Microsurgical Dissection Techniques

Course Director: John Diaz Day
Faculty: Michael Levy, M. Gazi Yasargil, Christian Matula, Robert Harbaugh

The microscopic anatomy of the brain, brain stem, cisterns, and ventricles will be presented in a multimedia assisted, lecture format to the neurosurgical resident in training. Practical anatomical concepts will be stressed as they relate to selection of standard and cranial base approaches. Microsurgical dissection techniques will be demonstrated, pertinent to the approaches discussed. After this symposium, participants will be able to appreciate the complexity of the microsurgical anatomy of the brain, cranial nerves, and skull base, and to discuss three-dimensional intracranial relationships and merits of selected operative approaches.

1:00 PM-5:00 PM Practical Courses/Half Day

016

016 Image-Guided Spinal Navigation

Course Directors: Kevin T. Foley, Robert J. Maciunas
Faculty: Richard Bucholtz, Kurt Smith, Jaimie Henderson, Isabelle Germano, Gene Barnett, Iain Kalfas, Haring Nauta, Douglas Kondziolka, Charles Hodge, Bart Guthrie, Ron Warnick, William Tobler, M. Peter Heilbrun, David Roberts, Ali Rezaei

Attendees should be able to describe the principles of stereotactic spine surgery, define the indications for applying these techniques, and use stereotactic spine techniques in the operating room.

Practical Courses - Saturday



1:00 PM-5:00 PM Practical Courses/Half Day (continued)

- | | | |
|------------|--|--|
| 017 | <p>017 Intraoperative MRI-Guided Surgery
 <i>**Off-Site Course: Brigham and Women's Hospital
 PBB—Main Campus—Bornstein Auditorium Main Building</i></p> <p>This course is designed as an introduction to intra-operative MRI (ioMRI) for neurosurgery. Using didactic lecture, the ioMRI suite at the Brigham and Women's Hospital, and the Surgical Planning Laboratory computer facility at the Brigham, the participants will be able to recognize the ioMRI operating environment, image-guided surgery in ioMRI, and discuss unique instrumentation issues in MRI and advanced computer concepts for image guided surgery.</p> | <p>Course Directors: Peter McL. Black, Thomas M. Moriarty
 Faculty: Rudolph Fahlbusch, Philip Stieg, Eric Woodard, Eben Alexander, III, Ferenc Jolesz, John Tew, Jr., Walter Hall</p> |
| 018 | <p>018 Microvascular Decompression for Trigeminal Neuralgia and other Cranial Nerve Syndromes</p> <p>The technique of microvascular decompression for trigeminal neuralgia, hemifacial spasm, vago-glossopharyngeal neuralgia, torticollis and hypertension will be taught through lecture and hands-on cadaver dissection experience. Upon completion of this course, participants will be able to describe each technique, its relevant surgical anatomy, indications and potential complications. They will be able to perform the surgical procedure in cadaveric dissection.</p> | <p>Course Directors: Harry R. Van Loveren, Hae-Dong Jho
 Faculty: Khaled Aziz, Michael Chicoine, Madgy El-Kalliny, Adam Lewis, Michael Link, Troy Payner, Jeffrey T. Keller, Sami Rosenblatt, Alberto Romano, Abhay Sanan, Mario Zuccarello, George Bovis, Rashid Janjua</p> |
| 019 | <p>019 Lumbosacral Fusion: Cages, Dowels, and Pedicle Screws</p> <p>After this course, participants will be able to describe the indications, contraindications, uses and benefits of lumbar and lumbosacral fusion. A variety of techniques employing cages, ALIF, PLIF, and pedicle screws will be discussed. Participants may have the option to learn techniques on sawbone models.</p> | <p>Course Directors: Regis W. Haid, Jr., Christopher I. Shaffrey
 Faculty: Gerald E. Rodts, Jr.</p> |
| 020 | <p>020 Pediatric Traumatic CNS Injury and Critical Care</p> <p>The goal of this course is to discuss the pathophysiologic treatment, and critical care issues in traumatic pediatric CNS injuries. A panel discussion will follow at the end for audience participation and case management issues/complications to be presented. After this course, participants will appraise key issues in the management of pediatric post-traumatic neurosurgery.</p> | <p>Course Directors: Brian T. Andrews, P. David Adelson
 Faculty: Ann-Christine Duhaime, John Ragheb, Tom Luerssen, Douglas Brockmeyer, Harvey Levin</p> |
| 021 | <p>021 Internet Computer Applications</p> <p>The basic features of the internet will be described and demonstrated, including bulletin board services and chat services. Basic elements of web page design and creation, including HTML, will be demonstrated and discussed. Participants will complete a series of exercises on a computer desktop terminal, using Adobe PageMill to construct a basic web page. Advanced features of web page creation will also be demonstrated. After this course, participants should be able to discuss the basic mechanics of the internet and some of its advanced features. They should also be able to utilize Adobe PageMill to construct a basic Web page.</p> | <p>Course Director: Joel D. MacDonald
 Faculty: Tom Ellis, Richard Bucholz, David McKalip, Derek Duke</p> |
| 022 | <p>022 Movement Disorders: Pathophysiology, Diagnosis, Treatment</p> <p>After this course, participants of this course will 1) be able to select patients that are candidates for movement disorder surgery; 2) will be able to discuss the anatomical and physiological basis of the surgical procedures; 3) identify technical aspects of movement disorder surgery, and 4) will be able to assess the relative merits of various targets for movement disorder surgeries and various procedures including lesioning procedures, deep brain stimulation and novel approaches including transplantation and radiosurgery.</p> | <p>Course Directors: Roy A.E. Bakay, Andres M. Lozano
 Faculty: Steven Wilkinson, Alim Benabid, Thomas Freeman, Ronald Young</p> |
| 023 | <p>023 Anterior Circulation Aneurysms</p> <p>The surgical treatment of supratentorial intracranial aneurysms will be presented, reviewed, and discussed through the use of lectures, video case presentations, anatomical dissections and case discussions, including current indications and limits of endovascular therapy. A highly focused interactive format will be utilized. Basic to advanced clipping techniques, as well as cranial surgical exposures will be demonstrated in small groups/hands-on sessions. After this course, the participants should be able to describe the surgical considerations for anterior circulation aneurysms by location, including the role of endovascular therapy.</p> | <p>Course Directors: Christopher S. Ogilvy, Fady T. Charbel
 Faculty: Jacques Morcos, Winfield S. Fisher, III, Christopher Putman, Victor Aletich</p> |

**Bus departs the John B. Hynes Veterans Convention Center at 12:15 PM to transport participants to off-site practical course location.



Practical Courses - Sunday

SUNDAY - AT - A - GLANCE

8:00 AM-5:00 PM	All Day Practical Courses
8:00 AM-12:00 NOON	Morning Practical Courses
1:00 PM-5:00 PM	Afternoon Practical Courses
6:30 PM-9:00 PM	Opening Reception

8:00 AM-5:00 PM Practical Courses/All Day

024

024 Neuroaugmentation for Pain Control

Course Director: Kenneth A. Follett
Faculty: Jaimie Henderson, Samuel Hassenbusch, Claudio Feler, Robert Levy, Richard Osenbach, Oren Sagher, Joel Seres

After completion of this course, participants should be able to explain rationale for spinal cord stimulation, peripheral nerve stimulation, and spinal drug infusions for pain control; describe the patient selection process for neuroaugmentive pain control techniques; describe techniques for implantation and management of stimulation and infusion therapies; and describe complications, complication management, and outcomes of neuroaugmentive procedures for pain control.

025

025 Microvascular Reconstruction **Off-Site Course: Harvard Center for Minimally Invasive Surgery, Seeley G. Mudd Building 250 Longwood Ave., Rm B041*

Course Directors: Philip E. Stieg, David W. Newell
Faculty: Neil Martin, Howard Yonas, Fernando Diaz, Richard Ellenbogen, Jayashree Srinivasan, Robert Friedlander

After this course, participants will be able to identify the indications for, and practical aspects of microvascular reconstruction of the cranial vasculature. Hands on experience with microvascular anastomosis will be provided.

026

026 Temporal Bone - Acoustic Surgery

Course Directors: Steven L. Giannotta, J. Diaz Day
Faculty: Carl Heilman, Anil Nanda

After this course, participants should be able to recognize the indications and contra-indications for the various approaches to acoustic legions; identify the bone and neurovascular anatomy in the temporal region; identify the sequential operative steps for successful removal of tumors in this region, and prevent, identify, and treat the common intra-operative complications associated with surgical treatment of acoustic tumors.

8:00 AM-12:00 NOON Practical Courses/Half Day

027

027 Building a Booming Practice using Marketing, Media, and the Internet

Course Director: Stan Pelofsky
Faculty: Warren Selman, Susan Nowicki

After this course, participants will be able to learn the basics of building a successful neurosurgical practice. The discussion will focus on easy to implement steps that will help you improve volume of patient referrals and create greater community awareness of your practice. Learn how to be more efficient and patient and physician friendly in your practice. Learn how to create a more active spine and vascular/intracranial practice through participation in the AANS/CNS "GET SMART" marketing and practice building programs. Learn how to use the media in a productive and professional manner and discover how to use the internet to build awareness of your practice. Bring your practice business staff to maximize your benefit from this unique discussion.

* Bus departs the John B. Hynes Veterans Convention Center at 7:15 AM to transport participants to off-site practical course location.

Practical Courses - Sunday



8:00 AM-12:00 NOON Practical Courses/Half Day (continued)

028

028 Nursing in Neurosurgery: Correlative Neuroanatomy and Neuroimaging for Nurses

Course Directors: G. Rees Cosgrove, John C. Steck
Faculty: Emad Eskander, Jonathan Brisman, Bradley R. Buchbinder, Pamela Schaeffer, Frank Culicchia

Following completion of this course, the neuroscience nurse will be able to identify the symptoms and signs indicative of acute change in neurological status, assess likely etiologies of common neurosurgical emergencies, and describe timely diagnostic and therapeutic maneuvers for identified conditions. Following completion of this course, the neuroscience nurse will also be able to identify neuroanatomical structures of the brain, recognize symptoms and signs of brain lesions, and be familiar with modern neuro-imaging techniques and the appearance of common neurosurgical conditions.

029

029 Functional Cerebral Mapping

Course Directors: Nicholas M. Barbaro, Mitchel S. Berger
Faculty: Peter McL. Black, George Ojemann

This course is designed as the first part of a two-part course on the techniques of cortical mapping used in neurosurgery. The indications, techniques and limitations of cortical mapping used in the resection of cerebral neoplasms will be demonstrated in didactic sessions and in a hands-on approach. Integration with frameless stereotaxic techniques will also be demonstrated. Upon completion of this course, participants will be able to identify the indications and techniques of cortical mapping, and be able to apply these techniques in the removal of cerebral neoplasms.

030

030 Anterolateral Skull Base Approaches

Course Directors: Harry R. Van Loveren, Jeffrey Keller, Anil Nanda
Faculty: Khaled Aziz, Michael Chicoine, Magdy El-Kalliny, Murali Guthikonda, Adam Lewis, Jae Min Kim, Sami Rosenblatt, Abhay Sanan, Alberto Romano, Mario Zuccarello, Troy Payner, Michael O'Sullivan, Rashid Janjua, George Bovis

Anterolateral skull base approaches to the medial sphenoid wing and cavernous sinus will be taught through lecture and hands-on cadaver dissection. Upon completion of this course, participants will be able to describe the surgical anatomy of the medial sphenoid wing, middle fossa and cavernous sinus. They will be able to describe surgical approaches to these regions including orbitozygomatic osteotomy, posterior orbitotomy, anterior clinoidectomy and mobilization of the lateral wall of the cavernous sinus.

031

031 Minimally Invasive Techniques for the Lumbar Spine

Course Directors: Maurice M. Smith, Noel Perin, Carl Laurysen
Faculty: Tom Mehalic, Seong-Hoon Oh, Steve Onesti, Robert Heary, Bruce McCormick, Chuck Reidel, Kevin Foley, Tim Adamson

After this course, the participant will be able to know the indications and contraindications for minimally invasive endoscopic disectomy, the available instrumentation systems and their application.

032

032 Basic Computer Skills

Course Director: Joel D. MacDonald
Faculty: Catapult, Inc.

This course will focus on basic skills to begin using desktop computers. After this course, participants will become familiar with set-up and use of a computer, from powering-up to basic applications. Sample topics will include: Use of word processor and introduction to e-mail and the internet.

033

033 Basic Endovascular Techniques

Course Director: Lee R. Guterman
Faculty: Cameron McDougall, David Levy, Michael Horowitz, Richard D. Fessler, L. N. Hopkins, Robert Rosenwasser

After this course, participants should be able to develop skills for catheter navigating the aortic arch, catheterization of brachiocephalic vessels. The course also provides an introduction to development of intracranial and extracranial microcatheter skills, cerebrovascular rescue and thrombolysis, techniques for coil occlusion of aneurysms, cervical carotid angioplasty and stent techniques, intracranial angioplasty for atherosclerotic disease and vasospasm.

034

034 Critical Care - Neurotrauma

Course Directors: Brian T. Andrews, Alex B. Valadka
Faculty: Perry Ball, M. Ross Bullock, John L.D. Atkinson

After this course, participants should be able to discuss principles of neurosurgical intensive care, including cardiopulmonary management, cerebrovascular physiology, and care of patients with head and spinal cord injuries.



Practical Courses - Sunday

8:00 AM-12:00 NOON Practical Courses/Half Day (continued)

035

035 Spinal Deformity and Scoliosis in Adults: Surgical Management Options

Course Directors: Stephen L. Ondra, Mark N. Hadley
Faculty: Nevin Baldwin, Robert Heary

This seminar is directed towards practicing neurosurgeons and residents who wish to enhance knowledge of treatment principles for patients with spinal deformities and scoliosis. Special emphasis will be given to how these principles apply to all surgeons who perform spinal fusions. The seminar will focus on cervical, thoracic and thoracolumbar spinal deformities. The natural history, pathophysiology, biomechanics and treatment strategies of these deformities will be discussed. Case presentations and a hands-on workshop utilizing saw bones will demonstrate the principles involved in treatment of these deformities. Upon completion of the seminar, participants will be able to evaluate patients with spinal kyphotic deformities and scoliosis, and apply these treatment principles to all patients undergoing spinal fusion.

036

036 New Technologies and Programmable Devices: Update for Nurses and Physicians

Course Director: Joseph R. Madsen
Faculty: Jeffrey W. Campbell, Nancy Olsen, Sandra Helmers,
Thorkild V. Norregaard

Programmable devices such as stimulators, pumps, and adjustable shunt valves have extended the range of options for neurosurgeons, and have made new types of follow-up cures and clinical roles possible. This course will focus on practical issues of patient selection, surgical techniques, hardware and software usage, and roles for ancillary personnel in the setup of programs to utilize these devices. The focus will be on the treatment of epilepsy, spasticity, and hydrocephalus, and the target audience includes nurses and physicians.

037

037 Intracranial Endoscopy

Course Directors: David E. Jimenez, Kerry R. Crone
Faculty: Adam Lewis, Wesley King, Douglas Brockmeyer,
Paul Graab, John Frazee, Michael Gaab, Alan Turtz

This course is aimed as an introduction to basic neuroendoscopic surgery and techniques of intracranial endoscopy presented relevant to specific disease management considerations. Third-ventriculostomy and excision of colloid cyst techniques will be presented on videos and hands-on models. The use of the endoscope as an adjunct to skull base surgery and aneurysmal dissection and clipping will also be demonstrated. Upon completion of this course, participants should be able to evaluate whether the neuroendoscope could be a tool to add to their practice.

1:00 PM-5:00 PM Practical Courses/Half Day

038

038 Lateral Skull Base Approaches

Course Directors: Donald C. Wright, Sunil J. Patel
Faculty: Ramesh Babu, Mitesh Shah, Mark Gerber

Following completion of this course, participants should be able to identify the indications and contra-indications for various surgical approaches to lesions in this location, identify the bone and neurovascular anatomy specific to this region, describe the sequential operative steps for surgical approaches, assess the controversies regarding operative issues of resectability and vascular reconstruction, and identify and manage the common operative, intraoperative and postoperative complications associated with surgery in this region.

039

039 Digital Images and Presentations

Course Director: Joel D. MacDonald
Faculty: Richard Day, Tonya Hines, John M. Tew, Jr.

The process of digital image capture, image manipulation, and image publication will be demonstrated and discussed. Participants will complete a series of exercises, using digital cameras and flatbed scanners to capture digital images. A series of exercises will then be performed, using Adobe PhotoShop to edit digital images. Finally, techniques for incorporation of digital images into presentations will be discussed and demonstrated. Participants will utilize a presentation software product to incorporate digital images into a presentation. The process of digital video capture and manipulation will be demonstrated. After this course, participants should be able to discuss the basic elements of video image capture, manipulation, and publication, and utilize digital cameras and flatbed scanners to acquire images. They should also be able to manipulate digital images and incorporate them into presentations.

040

040 Intracranial Endoscopy

Course Directors: David E. Jimenez, Kerry R. Crone
Faculty: Adam Lewis, Wesley King, Douglas Brockmeyer,
Paul Graab, John Frazee, Michael Gaab, Alan Turtz

This course is aimed as an introduction to basic neuroendoscopic surgery and techniques of intracranial endoscopy presented relevant to specific disease management considerations. Third-ventriculostomy and excision of colloid cyst techniques will be presented on videos and hands-on models. The use of the endoscope as an adjunct to skull base surgery and aneurysmal dissection and clipping will also be demonstrated. Upon completion of this course, participants should be able to evaluate whether the neuroendoscope could be a tool to add to their practice.

Practical Courses - Sunday



1:00 PM-5:00 PM Practical Courses/Half Day (continued)

041

041 Stereotactic Radiosurgery

Course Director: Bruce E. Pollock
Faculty: William Friedman, Frank Bova, Kris A. Smith, John R. Adler, Jr., Allan Hamilton, Eben Alexander, III

The principles of current and developing stereotactic radiosurgery for the management of brain tumors, vascular malformations, and functional disorders will be reviewed. Basic radiobiology pertinent to radiosurgery, dose selection parameters, and clinical criteria for patient selection for these techniques, as well as complication avoidance and management will be presented. The information will be presented through lecture, case discussions and hands-on use of different radiosurgery workstations. Upon completion of this course, participants will be able to define the role of stereotactic radiosurgery for specific patients with brain disease and appraise the specifics of each.

042

042 Grants: Getting Started, Applications, Funding

Course Directors: James N. Campbell, Michael D. Walker
Faculty: Matthew Howard, Thomas Jacobs

This course is dedicated to the development and promotion of basic science and clinical science research grant proposals among practicing neurosurgeons. After this course, participants will learn how to design a grant, time-saving and technical preparation details, and how to pursue research project funding.

043

043 Anterior Approaches to the Lumbar Spine

Course Directors: Richard G. Fessler, Gerald E. Rodts, Jr.
Faculty: Daniel H. Kim, Daniel May, Ben Guiot, Robert F. Heary, Joseph Alexander, Ehud Mendel, Christopher Shaffrey, Eric Woodard, Sim Brora, Mitchell Grooper

This course is intended for neurosurgeons, general surgeons, and neurosurgery residents and fellows. Anatomical considerations and clinical indications for anterior approaches to the lumbar spine will be discussed by experienced spine surgeons. Didactic lectures and cadaver lab dissection (under the guidance of the faculty) will allow the participants to learn important aspects of open transperitoneal, retroperitoneal, thoracoabdominal, and laparoscopic anterior lumbar surgery. Emphasis will be placed on understanding the pertinent anatomy and dissection techniques as well as on complication avoidance.

044

044 Critical Care - Acute Stroke/Neurovascular

Course Directors: Brian T. Andrews, Joshua B. Bederson
Faculty: Lee Schwamm, Howard Yonas

After this course, participants should be able to discuss the critical care of subarachnoid hemorrhage, acute stroke, and intracerebral hemorrhage. New information on the use of TPA, Amicar, stereotaxic thrombolysis and use of CBF monitoring will be presented.

045

045 Brain Mapping and Surgery for Epilepsy

Course Directors: Isabelle M. Germano, Nicholas M. Barbaro
Faculty: Paul Kanev, Warwick Peacock, Jeffrey Schweitzer, Dan Silbergeld

This course is designed as the second part of a two-part course on the techniques of cortical mapping used in neurosurgery. This course is designed to demonstrate the use of cortical mapping techniques used in epilepsy surgery. The indications, evaluation, and techniques of surgical resections used in the treatment of epilepsy will be demonstrated in both didactic and hands-on sessions. Integration of frameless stereotaxy with open resective techniques will be demonstrated. Upon completion of this course, participants will be able to describe and apply the techniques of cortical mapping and resection in the treatment of epilepsy.

046

046 Vertebroplasty 8:00 AM-12:00 NOON

Course Directors: Lee Guterman, Richard Fessler
Faculty: Kevin Gibbons

This clinic will familiarize neurosurgeons with biochemistry, epidemiology, and current medical therapies for osteoporosis. The clinic will outline current treatments available for vertebral compression fractures and describe techniques for percutaneous transpedicular injection of bone cement into the vertebral body as a treatment for osteoporotic compression fracture. The clinic will also review bony and venous anatomy of the spinal column, radiographic anatomy of the spine, and operation of the fluoroscopic c-arm. Attendees will have hands-on experience in a cadaver based teaching session.

Attendees should be able to discuss biochemistry, epidemiology, and current medical therapies for osteoporosis; describe current treatments available for vertebral compression fractures; and recognize tools for percutaneous transpedicular access to vertebral body.



Scientific Program - Monday

MONDAY - AT - A - GLANCE

7:30 AM-11:45 AM	General Scientific Session I - Treatment of CNS Neoplasms and Aneurysms: The End of the Beginning
8:30 AM-4:30 PM	Exhibit Viewing
9:30 AM-10:15 AM	Coffee Break in Exhibit Hall
10:15 AM-11:05 AM	Honored Guest Presentation
11:15 AM-11:45 AM	Presidential Address
12:00 NOON-2:00 PM	Luncheon Seminars
2:00 PM-5:00 PM	Special Course I - Disability in Neurosurgical Patients
2:00 PM-5:30 PM	Section on Cerebrovascular Surgery I
2:00 PM-5:30 PM	Section on Stereotactic and Functional Surgery I
2:00 PM-5:30 PM	Section on Tumors I
2:00 PM-5:30 PM	Section on Neurotrauma and Critical Care I
2:00 PM-5:30 PM	Council of State Neurosurgical Societies
3:30 PM-4:00 PM	Coffee Break in Exhibit Hall

GENERAL SCIENTIFIC SESSION I

7:30 AM-11:45 AM

Treatment of CNS Neoplasms and Aneurysms: The End of the Beginning

Learning Objective: Following the Scientific Sessions, the participants should be able to gain updated knowledge on surgery of gliomas, pituitary tumors and posterior circulation aneurysms as well as an in depth examination of tumor biology and neuropathology. At the completion of the session the audience will be able to apply their knowledge to the treatment of patients with brain tumors and aneurysms.

Moderator:	Joseph M. Piepmeyer	
Presiding Officer:	William A. Friedman	
7:30-7:45 AM	Surgery of Cerebral Gliomas Past, Present and Future	<i>Peter McL. Black</i>
7:45-8:05 AM	Von Hippel-Lindau Syndrome: Lessons on the Origins of CNS Tumors	<i>Edward H. Oldfield</i>
8:05-8:25 AM	Glial Cell Ontology: The Key to Understanding Cerebral Tumors	<i>Mark E. Linskey</i>
8:25-8:45 AM	Mechanisms of Glioma Invasiveness	<i>Susan Hockfield</i>
8:45-9:05 AM	The Future of Pituitary Surgery	<i>Hae-Dong Jho</i>
9:05-9:10 AM	Perspective on Pituitary Surgery	<i>Ivan Ciric</i>
9:10-9:30 AM	The Future of Neuropathology	<i>Catherine Daumas-Duport</i>
9:30-10:15 AM	COFFEE BREAK WITH EXHIBITORS	
10:15-11:05 AM	Honored Guest Presentation: Posterior Circulation Aneurysms-A 25 Year Experience	<i>Duke S. Samson</i>
11:05-11:15 AM	<i>Introduction of the President</i>	
11:15-11:45 AM	Presidential Address	<i>H. Hunt Batjer</i>

Luncheon Seminars - Monday



100

INTERNATIONAL LUNCHEON: HOW TO CHOOSE A SITE FOR SUPPORT

Moderator: Russell J. Andrews

Faculty: David J. Fairholm, Shih-Tseng Lee, Madjid Samii

Learning Objective: The session presents both an in-depth look at the dramatic development of neurosurgery in Taiwan, and the predictions of the President of the World Federation of Neurological Surgeons for the year 2000 and beyond. Attendees will learn (1) factors which contribute to the success of neurosurgery in a rapidly developing country, and (2) factors which may be expected to influence neurosurgery worldwide in the near future.

101/101r

101/101r Management of Craniovertebral Junction Abnormalities

Moderator: Arnold H. Menezes

Faculty: Dennis E. McDonnell, Dean G. Karahalios, H. Louis Harkey, III, John Strugar

Learning Objective: The seminar will be directed towards residents and practicing neurosurgeons, as well as interested nurses and physician assistants. In this seminar, the management of craniovertebral junction abnormalities as they relate to specific pathological processes will be described. Emphasis will be placed on surgical strategies as they relate to stabilize and reconstruct with and without instrumentation this area of the spine. At the conclusion of this seminar, participants will be able to identify the most common pathological entities involving this region and discuss various surgical treatment options.

102/102r

102/102r Cervical Spondylotic Myelopathy: Controversies in Management

Moderator: Richard L. Saunders

Faculty: Paul K. Maurer, Gary L. Rea, Nancy Epstein, Carl Laurysen, Nachshon Knoller

Learning Objective: This seminar will be directed towards residents and neurosurgeons in practice, as well as interested nurses and physician assistants. This seminar will review the pathophysiology of cervical spondylotic myelopathy with emphasis on both operative and non-operative management. At the end of this seminar, participants should be able to describe the management options in the treatment of cervical spondylotic myelopathy and select the appropriate therapy.

103/103r

103/103r Management of Thoracolumbar Fractures

Moderator: Dennis J. Maiman

Faculty: Allan D. Levi, Patrick W. Hitchon, J. Patrick Johnson, Perry Ball, Brian G. Cuddy

Learning Objective: The seminar will be directed towards residents and practicing neurosurgeons, as well as interested nurses and physician assistants. This seminar will review the classification of thoracolumbar fractures and discuss the management options as well as discuss various surgical techniques. Complication avoidance will also be included in the discussion. At the end of the seminar, participants should be able to classify thoracolumbar fractures, specific treatment options based on this classification, recognize potential complications, and formulate a management plan.

104/104r

104/104r Current Surgical Options for Lumbar Discectomy: Comparison of Results

Moderator: James P. Hollowell

Faculty: Maurice M. Smith, Randolph C. Bishop, Stephen T. Onesti, Joan F. O'Shea, Lawrence Borges

Learning Objective: The seminar will be directed towards residents and practicing neurosurgeons, as well as interested nurses and physician assistants. The seminar will review in detail the current surgical options for treatment of herniated lumbar discs. Emphasis will be placed on comparison of techniques, the immediate and long term results employing these specific techniques and potential complications. At the end of this seminar, participants should be able to describe the various options available for the treatment of herniated lumbar discs, compare the results of the different options and select an appropriate treatment strategy.

105/105r

105/105r Spinal Infections: Contemporary Diagnosis and Management

Moderator: Christopher G. Paramore

Faculty: Daria D. Schooler, Thomas T. Lee, Jeffrey E. Masciopinto, William S. Rosenberg, Christopher Comey

Learning Objective: The seminar will be directed towards residents and practicing neurosurgeons as well as interested nurses and physician assistants. In this seminar, both spontaneous and post-operative spinal infections will be discussed. State of the art diagnostic techniques will be integrated with both surgical and non-surgical management of spinal infections. The management of spinal infections in the presence of instrumentation will also be reported. At the end of this seminar, participants should be able to review the various diagnostic techniques that can be employed in evaluating spinal infections, select the appropriate diagnostic studies and formulate a treatment plan.



Luncheon Seminars - Monday

106/106r

106/106r Low-Grade Gliomas: Current Treatment and Controversies

Moderator: William C. Broaddus
Faculty: Mitchel S. Berger, Walter A. Hall, Robert J. Maciunas, Deborah L. Benzil, Andrew H. Kaye

Learning Objective: The seminar will be directed towards residents and practicing neurosurgeons, as well as interested nurses and physician assistants. This seminar will provide an overview of current treatment strategies for low grade astrocytomas, the need for early diagnosis, as well as the role of biopsy, debulking surgery and gross total resection in the management of low grade astrocytomas. At the end of this seminar, participants should be able to review the various diagnostic and treatment options as well as the algorithms for the management of low grade cerebral gliomas.

107/107r

107/107r Radiation Therapy Options for Brain Tumors

Moderator: Philip H. Gutin
Faculty: Christer E. H. Lindquist, Volker Strum, Jeffery A. Williams, David W. Andrews, Keith M. Rich

Learning Objective: The seminar will be directed towards residents and practicing neurosurgeons, as well as interested nurses and physician assistants. The focus of this seminar is to review currently available radiation therapy options for the treatment of both benign and malignant intracranial brain tumors. The indications, timing, complications and results with respect to different radiation therapy modalities will be presented. The role of radiation therapy will also be discussed with respect to specific tumor types. Upon completion of the seminar, the participant should be able to compare different radiation treatment options and incorporate them into a comprehensive treatment plan for brain tumors.

108/108r

108/108r Controversies in Pituitary Surgery

Moderator: William T. Couldwell
Faculty: Ivan Ciric, Bruce E. Mickey, Nelson M. Oyesiku, Carl B. Heilman, Armando Basso

Learning Objective: The seminar will be directed towards residents and practicing neurosurgeons, as well as interested nurses and physician assistants. The focus of this seminar will be to examine the current treatment options available for the treatment of pituitary adenomas. This seminar will review surgery, radiosurgery and standard external beam radiotherapy, as well as pharmacologic intervention. At the end of this seminar, participants should be able to formulate an appropriate treatment strategy utilizing the latest data to treat patients with pituitary adenomas.

109/109r

109/109r Surgical Approaches to the Anterior Skull Base

Moderator: Donald C. Wright
Faculty: Bruce M. McCormack, Linda L. Sternau, Teiji Ueda, James P. Chandler, Vinko Dolenc

Learning Objective: The seminar will be directed towards residents and practicing neurosurgeons as well as interested nurses and physician assistants. The pertinent surgical anatomy and pathology of tumors arising at the skull base will be discussed. Advantages and disadvantages including the degree of exposure and techniques of bony resection will be presented. At the end of this seminar, participants should be able to utilize information presented to determine the appropriate skull base approach for various tumor locations and types.

110/110r

110/110r Hearing Preservation in Acoustic Tumor Surgery: Practical and Technical Considerations

Moderator: Lawrence H. Pitts
Faculty: Madjid Samii, Kil Soo Choi, Douglas Kondziolka, Donlin M. Long, Wolfgang Koos

Learning Objective: The seminar will be directed towards residents and practicing neurosurgeons as well as interested nurses and physician assistants. In this seminar, the current state of hearing preservation in acoustic tumor surgery will be reviewed. Factors associated with hearing preservation, surgical approach, intraoperative monitoring and microdissection techniques will be stressed. The results of surgical and radiosurgical treatment strategies will be compared. At the conclusion of the seminar, participants should be able to describe surgical approaches and microdissection techniques that favor hearing preservation in acoustic tumor surgery and how they relate to alternative therapeutic options.

111/111r

111/111r Anterior Circulation Aneurysms

Moderator: Bryce K.A. Weir
Faculty: Michael T. Lawton, Michael B. Horowitz, Kyu-Chang Lee, Fernando Vinuela, Hunter Dyer

Learning Objective: The seminar will be directed towards residents and practicing neurosurgeons as well as interested nurses and physician assistants. This seminar will focus on the surgical and endovascular management of aneurysms arising in the anterior circulation. The indications for surgery and for endovascular treatment as well as the various operative approaches for anterior circulation aneurysms will be discussed. At the conclusion of the seminar, participants should be able to discuss the indications, techniques and potential complications for endovascular and surgical treatment strategies for aneurysms in different anatomical locations in the anterior circulation.

Luncheon Seminars - Monday



112/112r

112/112r Poor-Grade Aneurysm Patients:
Surgical and ICU Management

Moderator: Joshua B. Bederson
Faculty: Curtis E. Doberstein, Neil A. Martin,
Peter D. Le Roux, J. Max Findlay, Nobuo Hashimoto

Learning Objective: The seminar will be directed towards residents and practicing neurosurgeons, as well as interested nurses and physician assistants. In the seminar, the indications, timing and outcomes for both endovascular and surgical therapy in the poor grade aneurysm patient will be discussed. ICU management unique to this patient population will be emphasized. After this course the participant will be able to review the role and results of available treatment options and discuss relevant critical care issues in this patient population.

113/113r

113/113r Management of Cavernous and
Paraclinoidal Vascular Lesions

Moderator: Arthur L. Day
Faculty: Gazi Yasargil, Thomas A. Kopitnik, Jr, Yong-Kwang
Tu, Hirotooshi Sano, Shiro Nagasawa

Learning Objective: The seminar will be directed towards residents and practicing neurosurgeons, as well as interested nurses and physician assistants. The purpose of this seminar will be to discuss the management of various cavernous sinus and paraclinoidal lesions. Emphasis will be placed on relevant surgical anatomy and techniques as well as the role of endovascular therapy in the management of vascular pathology in these anatomical regions. After attending the seminar, the participant should be able to define the variety of vascular pathology unique to these anatomical regions, review relevant surgical anatomy and formulate an appropriate treatment strategy.

114/114r

114/114r Current and Emerging Technologies for
Monitoring Head-Injured Patients

Moderator: M. Ross Bullock
Faculty: Alex B. Valadka, Jamie S. Ullman, David McKalip,
Donald Marion, Howard Yonas

Learning Objective: The seminar will be directed towards residents and practicing physicians in the ICU setting, including neurosurgeons, anesthesiologist, and neurologists, as well as interested nurses and physician assistants. The focus of this seminar will be to examine the current intracranial and systemic invasive/non-invasive monitoring systems that are currently available for evaluating the head injured patient. The participant will learn about the reliability, accuracy, and clinical application of specific intracranial and systemic monitoring devices. The participant will also be introduced to emerging technology that may prove beneficial in evaluating and treating the critically ill head-injured patient.

115/115r

115/115r Craniosynostosis: Controversies in Treatment

Moderator: James T. Goodrich
Faculty: J. Gordon McComb, David F. Jimenez, Robin P.
Humphreys, Marion Walker, Mark Proctor

Learning Objective: The seminar will be directed towards residents and practicing neurosurgeons, as well as interested nurses and physician assistants. The seminar will focus on controversial issues in the treatment of craniosynostosis. The current indications for surgical intervention will be reviewed. New techniques utilizing endoscopy will be compared to more conventional surgical techniques. At the end of this seminar, the participant will be able to review clearly the indications for surgical intervention and be able to discuss and compare emerging surgical techniques with conventional treatment modalities.

116/116r

116/116r Pediatric Spine Surgery

Moderator: Richard G. Ellenbogen
Faculty: Dachling Pang, Douglas L. Brochmeyer, Charles Teo,
Robin M. Bowman

Learning Objective: The seminar will be directed towards residents and neurosurgeons in practice, as well as interested nurses and physician assistants. The seminar, conducted by recognized experts in the field of pediatric spinal surgery, will focus on the diagnosis and treatment of pediatric spinal disorders and will recognize experts in pediatric spinal surgery. Various non-operative and operative treatment approaches will be discussed. At the end of the seminar, participants should be able to describe the types of spinal disorders found in the pediatric population, as well as relevant technical points in the surgical management of pediatric spinal disorders.

117/117r

117/117r Surgical Management of Tremor:
Role of Thalamotomy, Chronic Thalamic Stimulation
and Stereotactic Radiosurgical Thalamotomy

Moderator: Kim J. Burchiel
Faculty: Alim-Louis Benabid, Steven B. Wilkinson, Philip A.
Starr, Gerhard M. Friehs, Jose G. Martin-Rodriguez

Learning Objective: The seminar will be directed towards residents and practicing neurosurgeons, as well as interested nurses and physician assistants. In the seminar, the rationale for selection of patients, as well as a choice of different techniques for stereotactic surgery for movement disorders will be presented. In particular, pallidotomy for Parkinson's disease will be discussed and outcome data will be reviewed, however, treatment of other movement disorders vs stereotactic surgery will also be discussed. This issues of imaging, microelectrode use, and the size and location of lesions will be considered and the relative effects of these lesions on dopa dyskinesia, bradykinesia and tremor will also be presented. After this course, the participants should be able to discuss the selection of appropriate patients for pallidotomy, discuss the strengths and weaknesses of the procedure and apply these data to their own practice.



Luncheon Seminars - Monday

118/118r

118/118r Current Management of Medically Refractory Spasticity: From Rhizotomy to Baclofen Pump

Moderator: Tae Sung Park
Faculty: Richard D. Penn, Paul Steinbok, Warwick J. Peacock, J. Parker Mickle, Marc P. Sindou

Learning Objective: The seminar will be directed towards residents and practicing neurosurgeons, as well as interested nurses and physician assistants. In this seminar, the management strategies for spasticity of multiple etiologies will be reviewed. Topics discussed will range from ablative procedures to long term pharmacological therapy including implantable Baclofen pumps. At the end of this seminar, the participant should be able to list the clinical conditions for which each strategy is appropriate and discuss the advantages and disadvantages of individual approaches.

119/119r

119/119r Neurosurgical Management of Athletic Injuries

Moderator: Joseph C. Maroon
Faculty: G. Robert Nugent, Donald P. Becker, John E. McGillicuddy, Dennis G. Vollmer, Julian Bailes

Learning Objective: The seminar will be directed towards residents and practicing neurosurgeons, as well as interested nurses and physician assistants. This seminar will focus on the neurosurgical issues in sports medicine including closed head, spinal cord, and peripheral nerve injury. At the end of this seminar, the participants should be able to better recognize and manage neurosurgical sports injuries.

120/120r

120/120r Ablative Surgery for Intractable Pain: What Works and Why Are We Not Utilizing These Procedures More Often?

Moderator: Nicholas M. Barbaro
Faculty: Yucel Kanpolat, John P. Gorecki, Alain D.J. de Lotbiniere, Giovanni Broggi

Learning Objective: The seminar will be directed towards resident and practicing neurosurgeons, as well as interested nurses and physician assistants. The seminar will review the various central and peripheral ablative surgical procedures currently utilized for the treatment of intractable pain. These procedures will be discussed in the context of alternative therapies such as stimulation techniques. Invasive as well as non-invasive ablative procedures will be presented. At the end of this seminar, participants should be able to list the principle ablative surgical procedures, their indications and alternative management strategies for intractable pain.

121/121r

121/121r Surgical Management of Brachial Plexus Pathology

Moderator: Eric L. Zager
Faculty: Rajiv Midha, Allan H. Friedman, Robert L. Tiel, John Park

Learning Objective: The seminar will be directed towards residents and practicing neurosurgeons, as well as interested nurses and physician assistants. This seminar will review the appropriate assessment including diagnostic electrophysiological studies and surgical management of brachial plexus injuries. The advantages and disadvantages of the various surgical approaches, results and complication avoidance will be discussed. At the end of this seminar, participants should be able to formulate and perform a well integrated evaluation and treatment plan.

122/122r

122/122r How I Do It: Peripheral Nerve Examination

Moderator: Allan J. Belzberg
Faculty: David G. Kline

Learning Objectives: The seminar will be directed towards residents and practicing neurosurgeons, as well as interested nurses and physician assistants. In this seminar, a recognized expert in the field of peripheral nerve surgery will review the clinical features of peripheral nerve examination and discuss the role of nerve conduction studies in the evaluation of peripheral nerve injury and surgical treatment of peripheral nerve injury. Teaching points will be illustrated by a series of relevant case presentations. At the end of this seminar, participants should be able to perform a systematic peripheral nerve examination and describe management strategies of peripheral nerve injury.

123/123r

123/123r Management of the Unruptured Aneurysm

Moderator: Frank Culicchia
Faculty: David G. Piepgras, Kazuo Hashi, Jacques Moret, Edward W. Mee, Yoko Kato

Learning Objective: The seminar will be directed towards residents and practicing neurosurgeons, as well as interested nurses and physician assistants. In this seminar, the controversies surrounding the treatment of unruptured aneurysms will be presented. Emphasis will be placed on a discussion of the natural history and indications for treatment of unruptured aneurysms. The current results and complications of both endovascular and surgical therapy will be presented. At the conclusion of this seminar, the participant will be able to discuss the natural history and indications for the treatment of unruptured aneurysms. The participant should also be able to compare and select the most optimal treatment strategies.

Scientific Program - Monday



124/124r

124/124r Publishing Scientific Articles in *Neurosurgery*

Moderator: Michael L.J. Apuzzo
 Faculty: Stephen Lenier, Peter McL. Black, Rudolph Fahlbusch, James T. Rutka, Daniel Sullivan

Learning Objective: This seminar will be directed towards residents and neurosurgeons in practice, both academic and private. The goal of this seminar is to provide insight into how best to develop a manuscript for publication. The speakers will be from the editorial board of *Neurosurgery*. After this seminar, participants will be better informed on how best to construct a well-written manuscript to improve chances for its publication.

Special Course I Disability in Neurosurgical Patients

2:00-5:00 PM

Learning Objective: The participants should be able to describe the determination of disability and impairment in neurosurgical patients by applying principles outlined in The Guides to the Evaluation of Permanent Impairment and other regulations as presented by the faculty.

Course Director:	H. Louis Harkey, III	
2:00-2:15 PM	What is the Difference between Impairment, Disability, and Handicap?	<i>H. Louis Harkey, III</i>
2:15-2:30 PM	Impairment and Disability from Brain Injury and Stroke	<i>Mel Glen</i>
2:30-2:45 PM	Impairment and Disability associated with Cognitive Dysfunction and Epilepsy	<i>Webster H. Pilcher</i>
2:45-3:15 PM	AMA Guide to Impairment as It Relates to Pain	<i>Samuel Hassenbusch</i>
3:15-3:30 PM	Case Discussions	
3:30-4:00 PM	COFFEE BREAK WITH THE EXHIBITORS	
4:00-4:15 PM	Functional Capacity Evaluations	<i>David Randolph</i>
4:15-4:30 PM	Carpal Tunnel Syndrome and Workman's Compensation	<i>Robert L. Tiel</i>
4:30-4:45 PM	Determination of Spinal Impairment Using the AMA Guidelines	<i>Donlin Long</i>
4:45-5:00 PM	Case Discussions	

Section on Cerebrovascular Surgery I

2:00-5:30 PM

Controversies in the Management of Brain Stem Cavernous Malformations

Learning Objective: At the conclusion of this session, participants will be able to differentiate indications for surgical management and radiosurgery in the treatment of brainstem cavernous malformations.

Moderator:	Issam A. Awad	
2:00-2:15 PM	The Case for Radiosurgery	<i>Douglas S. Kondziolka</i>
2:15-2:30 PM	The Case for Surgical Resection	<i>Steven L. Giannotta</i>
2:30-2:50 PM	Management of Brainstem Cavernous Malformations: Lessons Learned	<i>Duke S. Samson</i>
2:50-3:30 PM	Oral Posters Moderators: <i>Philip Stieg, Christopher Wallace</i>	
3:30-4:00 PM	COFFEE BREAK WITH EXHIBITORS	
4:00-5:30 PM	Open Papers Moderators: <i>Philip Stieg, Christopher Wallace</i>	

**Registration and Housing
 Deadlines are September 23, 1999.**

Don't miss this opportunity, register today!



Scientific Program - Monday

Section on Stereotactic and Functional Surgery I

2:00 - 5:30 PM

The Role of Biopsy in the 21st Century

Learning Objective: At the conclusion of this session, participants will be able to summarize the role of biopsy in the diagnosis and management of neurosurgical disorders and describe relative advantages and disadvantages of biopsy in the management of neurological diseases.

Moderators: David W. Roberts, Philip L. Gildenberg

2:00-2:20 PM

Do We Still Need Tissue?

Mark C. Preul

2:20-2:40 PM

Lessons Learned Only from Tissue

David Louis

2:40-2:50 PM

Discussion

2:50-3:30 PM

Oral Posters *Moderators: David W. Roberts, Philip L. Gildenberg*

3:30-4:00 PM

COFFEE BREAK WITH EXHIBITORS

4:00-5:30 PM

Open Papers *Moderators: David W. Roberts, Philip L. Gildenberg*

Section on Tumors I

2:00 - 5:30 PM

Spinal Cord Neoplasms

Learning Objective: At the conclusion of this session, participants will be able to discuss the pathology of intramedullary tumors and describe the role of adjuvant therapies in their management.

Moderators: Joseph M. Piepmeier, Michael W. McDermott

2:00-2:25 PM

Pathology of Intramedullary Tumors

Jim Goldman

2:25-2:50 PM

Adjuvant Therapies for Spinal Cord Tumors

Paul C. McCormick

2:50-3:30 PM

Oral Posters *Moderator: Anthony L. Asher*

3:30-4:00 PM

COFFEE BREAK WITH EXHIBITORS

4:00-5:30 PM

Open Papers *Moderators: William Couldwell, Roberta P. Glick*

Preuss Award

Young Investigator Award

Section on Neurotrauma and Critical Care I

2:00 - 5:30 PM

Trauma Update

Learning Objective: At the conclusion of this session, participants will be able to identify the appropriate use of anticonvulsant medications in the treatment of neurological disorders and explain the role of magnetic resonance imaging in the evaluation of cerebrovascular injuries.

Moderators: Michael J. Caron, Alex B. Valadka

2:00-2:25 PM

Are Anticonvulsants Overused in Neurosurgery?

David W. Newell

2:25-2:50 PM

What MRI Can Tell Us about Cerebrovascular Injury: The Clot Thickens

Michael Chopp

2:50-3:30 PM

Oral Posters *Moderators: Michael J. Caron, Alex B. Valadka*

3:30-4:00 PM

COFFEE BREAK WITH EXHIBITORS

4:00-5:30 PM

Open Papers *Moderators: Michael J. Caron, Alex B. Valadka*

**Visit the CNS Technology Pavilion to learn
how today's technology can assist you in
your practice.**

Scientific Program - Monday



Council of State Neurosurgical Societies

2:00 - 5:30 PM

Learning Objective: At the conclusion of this session, participants will be able to discuss important socioeconomic issues confronting neurological surgeons and describe the activities of the Washington Committee in addressing these concerns.

Moderators: Edie E. Zusman, Frederick A. Boop

2:00-2:30 PM Washington Committee Update

2:30-2:50 PM Questions

Arthur L. Day, Katie O. Orrico

2:50-3:30 PM Oral Posters *Moderators: Edie E. Zusman, Frederick A. Boop*

3:30-4:00 PM COFFEE BREAK WITH EXHIBITORS

4:00-5:30 PM Open Papers *Moderators: Edie E. Zusman, Frederick A. Boop*

Important Dates

September 23, 1999 Deadline for housing reservations. The official CNS Housing Form must be used to ensure convention rates.

September 23, 1999 Last day for receipt of Advance Registration applications at the CNS Annual Meeting Office. Advance Registration Forms received after this date pay full registration fees.

Registration cancellations received on or before this date will receive a full refund.

Cancellation requests must be received by mail or fax (847) 518-2648.

September 24 - October 25, 1999 Registration cancellations received on or between these dates will receive a refund less a \$75 processing fee.

October 26, 1999 Refunds of registration fees (including ticketed courses and events) will not be allowed on or after this date.



Scientific Program - Tuesday

TUESDAY - AT - A - GLANCE

7:30 AM-11:45 AM	General Scientific Session II - Neurovascular Decision Making
8:30 AM-4:30 PM	Exhibit Viewing
9:30 AM-10:15 AM	Coffee Break in Exhibit Hall
10:15 AM-10:20 AM	Distinguished Service Award Presentation
12:00 NOON - 2:00 PM	Luncheon Seminars
2:00 PM-5:00 PM	Special Course II - Current Legal and Ethical Issues in Neurosurgery
2:00 PM-5:30 PM	Section on Disorders of the Spine and Peripheral Nerves I
2:00 PM-5:30 PM	Section on Cerebrovascular Surgery II
2:00 PM-5:30 PM	Section on Stereotactic and Functional Surgery II
2:00 PM-5:30 PM	Section on Pediatric Neurosurgery I
2:00 PM-5:30 PM	Section on Pain I
3:30 PM-4:00 PM	Coffee Break in Exhibit Hall
5:30 PM- 6:00 PM	Annual Business Meeting

GENERAL SCIENTIFIC SESSION II

7:30 AM-11:45 AM

Neurovascular Decision Making

Learning Objective: Following the general scientific session, the participant will be able to review the indications for extended skull base surgical approaches when treating intracranial aneurysms. The participant will be able to describe the indications for endovascular and surgical treatment of both intracranial aneurysms and extracranial occlusive carotid disease. The participant will be able to review the types of cerebral arteriovenous malformations which would benefit from radiosurgical treatment and those which would benefit from open surgical resection.

Moderator:	Thomas A. Kopitnik, Jr.	
Presiding Officer:	Daniel L. Barrow	
7:30-7:45 AM	Aneurysms Which Require Extended Skull Base Approaches	<i>Daniel L. Barrow</i>
7:45-8:00 AM	Selecting Aneurysms Which are Adequately Exposed Without Utilizing Extended Skull Base Approaches	<i>Thomas C. Origiano</i>
8:00-8:10 AM	Honored Guest Perspective	<i>Duke S. Samson</i>
8:10-8:25 AM	Aneurysms Which Should be Referred for Endovascular Treatment	<i>Issam A. Awad</i>
8:25-8:40 AM	The Limits of Coiling Aneurysms - Choosing Lesions for Surgery	<i>Fernando Vinuela</i>
8:40-8:50 AM	Honored Guest Perspective	<i>Duke S. Samson</i>
8:50-9:10 AM	Neurosurgery's Men of the Century	<i>Michael Apuzzo</i>
9:10-9:30 AM	<i>Outstanding Abstracts with Invited Discussants</i>	
9:30-10:15 AM	COFFEE BREAK WITH EXHIBITORS	
10:15-10:20 AM	<i>Distinguished Service Award</i>	
10:20-10:25 AM	Women in Neurosurgery	
10:25-10:40 AM	When Should the Radiosurgeon Refer Arteriovenous Malformations for Conventional Surgery?	<i>William A. Friedman</i>
10:40-10:55 AM	The Need for Radiosurgery in the Treatment of Arteriovenous Malformations	<i>Philip E. Stieg</i>
10:55-11:05 AM	Honored Guest Perspective	<i>Duke S. Samson</i>
11:05-11:20 AM	Extracranial Carotid Lesions Which Should Be Surgically Repaired	<i>L.N. Hopkins III</i>
11:20-11:35 AM	Extracranial Carotid Lesions Which Should Be Managed with Angioplasty and Stenting	
11:35-11:45 AM	Honored Guest Perspective	<i>Christopher M. Loftus</i> <i>Duke S. Samson</i>

Luncheon Seminars - Tuesday



RESIDENTS' HONORED GUEST LUNCHEON

Moderator: H. Hunt Batjer

Faculty: Duke S. Samson

200

Learning Objective: Following attendance of this luncheon seminar, the participant will be able to review the process of surgical decision making as it relates to neurosurgical resident training. The participant will be able to describe methods of outcome analysis and the impact of resident training on patient outcome.

201/201r

201/201r Intracerebral Hematoma:
Treatment Options and Controversies

Moderator: Issam A. Awad

Faculty: Gene H. Barnett, B. Gregory Thompson, Jr.,
Takayuki Ohira, Luciano Basauri, Murat Gunel

Learning Objective: The participant will learn about the etiology and pathology of spontaneous intracerebral hematomas and the relative advantages of surgical versus non-operative treatment. At the conclusion of this seminar, the participant will be able to discuss the various surgical options as well as the indications for surgical intervention. The roles of some controversial treatments such as stereotactic aspiration facilitated by the use of thrombolytics agents will be discussed.

202/202r

202/202r Management of Lesions of the Craniovertebral Junction

Moderator: Edward Benzel

Faculty: Gregory R. Trost, Andrea L. Halliday, Charles
Reidel, George R. Cybulski, Fraser Henderson

Learning Objective: The participant in this seminar will develop a better understanding of the anatomy and biomechanics of the craniovertebral junction relative to the pathological processes that affect this area of the spine. He/she will be able to identify the most common disease processes that affect this region and the various treatment options. The participant will learn about the various surgical approaches to this region and the indications, advantages, and disadvantages of each. He/she will learn ways to avoid complications in this area.

203/203r

203/203r Lumbar Spondylolysis/Spondylolisthesis:
Current Management Options

Moderator: Stephen M. Papadopoulos

Faculty: Joseph T. Alexander, Richard G. Fessler,
Christopher I. Shaffrey, Deepak Awasthi,
Christopher Adams

Learning Objective: Individuals attending this seminar will be able to discuss the pathogenesis and clinical presentation of lumbar spondylosis and the various types of spondylolisthesis. The participant should be able to discuss the pertinent anatomy and biomechanics of spondylolisthesis, especially as they relate to surgery. He/she will learn the indications for surgery, as well as the role of posterior and/or anterior spinal instrumentation.

204/204r

204/204r Sympathetic vs. Neuropathic Pain:
Differences in Pathophysiology and Treatment

Moderator: Richard K. Osenbach

Faculty: Richard K. Simpson, Jr., Samuel J. Hassenbusch,
George T. Mandybur, Yoichi Katayama

Learning Objective: The person attending this seminar will be able to identify the various types of neuropathic and sympathetically maintained pain and how to differentiate between the various types of pain. He/she will develop an understanding of the indications for and limitations to surgery. The participant will learn about some of the surgical procedures that are effective in managing this type of pain such as spinal drug infusion, motor cortex stimulation, deep brain stimulation, and the role of neuroablative procedures in managing this type of pain.

205/205r

205/205r Biology of Bone Fusion and
Techniques of Bone Grafting

Moderator: Russell P. Nockels

Faculty: James P. Hollowell, Michael J. Rauzzino,
Bernard Guiot, Michael A. Morone,
Srinath Samudrala

Learning Objective: The attendee will learn about and be able to discuss the basic biology of bone fusion. He/she will learn about the various endogenous and exogenous factors that promote or inhibit bone fusion and the manner in which these factors relate to the clinical practice. The participant will also learn about the various bone substitutes that are currently being used along with the indications and limitations of their use.



Luncheon Seminars - Tuesday

206/206r

206/206r Outcomes Assessment for Spinal Surgery

Moderator: Thomas B. Ducker
Faculty: Beverly C. Walters, Paul C. McCormick,
Stephen J. Haines, Russell L. Travis

Learning Objective: The person attending this seminar will learn about the use of outcome measures in assessing the results of spinal surgery. The participant will learn how to critically read and interpret the published literature regarding outcomes from various surgical procedures. He/she will develop an understanding of the need for carefully performed outcome studies in assessing some of the newer technology that is currently being used in the field of spinal surgery.

207/207r

207/207r Current Management of Malignant Gliomas

Moderator: Henry Brem
Faculty: Kaoru Kurisu, Jeffrey J. Olson,
Michael W. McDermott, Nicholas Zervas

Learning Objective: The individual attending this seminar will learn about the most current philosophy regarding the treatment of malignant glial neoplasms. The participant will be able to discuss the relative indications and efficacy of various treatments such as cytoreductive surgery, radiation therapy, the use of chemotherapy, and newer more novel treatment such as gene therapy.

208/208r

208/208r Treatment of Intracranial Meningiomas

Moderator: Caetano Coimbra
Faculty: Ossama Al-Mefty, Ghassan K. Bejjani,
Mauro Loyo-Varela, Russel H. Patterson, Jr.,
William Friedman

Learning Objective: The participant will be able to discuss the surgical approaches to meningiomas in various regions of the intracranial compartment. He/she will learn about the use of adjunctive therapy such as radiation therapy and chemotherapy for residual/recurrent tumors.

209/209r

209/209r Complications of Pituitary Surgery

Moderator: Martin H. Weiss
Faculty: Ian E. McCutcheon, Ernst H. Grote, Andrew
Parent, Edward Laws, Brooke Swearingen

Learning Objective: The participant in this seminar will become familiar with the most common complications arising from pituitary surgery. He/she will be able to discuss the clinical presentation and recognition of these problems as well as the approach to management.

210/210r

210/210r Third Ventricular Tumors:
Open, Stereotactic, and Endoscopic Approaches

Moderator: Harold L. Rekate
Faculty: Jeffrey N. Bruce, Ivan Ciric, Takayuki Ohira,
Gerard S. Rodziewicz

Learning Objective: The attendee will be able to identify the relative advantages and disadvantages of open, stereotactic, and endoscopic techniques for the diagnosis and management of third ventricular lesions. He/she will be able to discuss the indications and contraindications for specific techniques based upon the type of tumor expected and its relative location within the third ventricle. The complications associated with each of these techniques will be addressed as well.

211/211r

211/211r Avoidance and Management of Complications
Following Cranial Base Procedures

Moderator: Donald P. Becker
Faculty: Wesley A. King, William T. Monacci,
Takeshi Kawase, Thomas C. O'rigitano,
Austin R. T. Colohan

Learning Objective: Those persons attending this seminar will become familiar with the various complications that arise following cranial base procedures. They will be able to identify patients at risk for these complications based on a knowledge of the most common problems encountered with the various surgical approaches to the skull base. They will also become familiar with the most successful methods of managing these complications.

212/212r

212/212r Cerebral Aneurysm Surgery: Complication
Avoidance and Management

Moderator: Eugene Flamm
Faculty: Winfield S. Fisher, III, Vladimir Zelman,
Christopher C. Getch, Johannes Schramm,
John Chaloupka

Learning Objective: Following this seminar, the participants will have developed an understanding of the most common complications associated with surgery of intracranial aneurysms and how to manage those complications.

Luncheon Seminars - Tuesday



213/213r

213/213r Operative Management of AVMs

Moderator: Philip E. Stieg
Faculty: Evandro de Oliveira, Shigeru Miyachi, Susumu Miyamoto, Nicolas De Tribolet, Jacques Morcos

Learning Objective: This seminar will provide the participant with an overview of the indications for surgery on AVMs based upon their size, location, blood supply and venous drainage. The participant will be able to identify the indications for the use of preoperative embolization as an adjunct to surgery as well as the risks and complications of embolization. He/she will be able to recognize the various intra- and post-operative complications associated with this type of surgery and be familiar with the management of these problems.

214/214r

214/214r Vascular Augmentation Techniques for Cerebral Ischemia

Moderator: Howard Yonas
Faculty: Fernando G. Diaz, David W. Newell, Kiyohiro Hokin, Craig A. Van Der Veer

Learning Objective: The participant will be able to discuss the clinical situations in which revascularization procedures or vascular augmentation techniques are indicated. He/she will understand the relative roles of extracranial-intracranial bypass and interventional endovascular techniques such as carotid stenting and angioplasty for intracranial stenosis. He/she will also become familiar with the limitations and outcomes associated with these various procedures.

215/215r

215/215r Master Techniques:
Carotid Endarterectomy and Reconstruction

Moderator: Mark H. Camel
Faculty: Christopher M. Loftus, Shunro Endo

Learning Objective: Drawing upon the exceptional experiences of several individuals with extensive experience with carotid artery surgery, the participant will be able to describe the various techniques for carotid endarterectomy and extracranial carotid artery reconstruction. The attendee will be able to discuss the various indications for and limitations to carotid reconstruction.

216/216r

216/216r Contemporary Management of Head Injury

Moderator: Jack E. Wilberger
Faculty: Daniel F. Kelly, Robert Friedlander, Jeffrey M. Lobosky, Juan Sahuquillo

Learning Objective: Those attending this seminar will be able to discuss the various interventional modalities employed in the management of patients with severe head injury, especially in the context of the recent guidelines for the management of severe head injury. The attendee will develop an understanding of the indications for certain treatment modalities such as barbiturate coma, decompressive craniectomy, etc.

217/217r

217/217r Management of Posterior Fossa and Brainstem Tumors in Children

Moderator: Ian F. Pollack
Faculty: Liliana C. Goumnerova, Leslie N. Sutton, Jon D. Weingart, Herbert E. Fuchs, Jeffrey Wisoff

Learning Objective: Following this seminar, the participant should be able to identify the most common tumors of the posterior fossa and brainstem in children along with their clinical presentation. He/she will be able to discuss the various surgical approaches to these lesions, in particular the role of biopsy and tissue diagnosis in intrinsic brainstem tumors. He/she will also be able to discuss the role of radiation therapy and chemotherapy in the overall management of these lesions.

218/218r

218/218r Chiari Malformation and Syringomyelia:
Controversies in Management

Moderator: Arnold H. Menezes
Faculty: Ulrich Batzdorf, Karin M. Muraszko, Alain de Lotbiniere

Learning Objective: The attendee will be able to review the various theories underlying the development of syringo-hydromyelia in patients with Chiari malformations. He/she will be able to discuss the clinical presentation of these patients, the role of various imaging modalities, and the indications for surgery. He/she will be able to list the various surgical procedures that can be used in the treatment of this problem.

219/219r

219/219r Managing Complex Myelomeningoceles

Moderator: David G. McLone
Faculty: Alexa I. Canady, John Ragheb, Timothy M. George, Reizou Shirane

Learning Objectives: This seminar will provide the attendee with an overview of the management of complex myelomeningoceles. The participant will be able to identify the various surgical techniques available for managing these lesions and the outcomes regarding neurological function and rethethering.



Luncheon Seminars - Tuesday

220/220r

220/220r Functional Brain Mapping Techniques

Moderator: George A. Ojemann
Faculty: Mitchel S. Berger, Michael M. Haglund,
Michael J. Schlosser

Learning Objective: The participant in this seminar will be exposed to the various techniques currently available for functional imaging of the nervous system such as electrical stimulation mapping, functional MRI, positron emission tomography, magnetoencephalography, etc. He/she will learn how these techniques are performed and the information that can be obtained from each. He/she will be able to discuss how each of these techniques is applicable to clinical practice.

221/221r

221/221r Intracranial Navigation Systems: Principles, Techniques, and Practical Applications

Moderator: Robert J. Maciunas
Faculty: Thomas M. Moriarty, Eiju Watanabe,
Barton L. Guthrie, Richard D. Bucholz, Amami Kato

Learning Objective: The individual attending this seminar will be introduced to and become familiar with various procedures for intracranial navigation. He/she will be able to describe the principles of frameless stereotaxy along with the practical applications of these techniques in facilitating intracranial surgery.

222/222r

222/222r Pediatric Epilepsy Surgery

Moderator: Robert E. Maxwell
Faculty: Frederick A. Boop, Glenn Morrison,
Joseph R. Madsen, Andre Olivier, Mark Lee

Learning Objective: This seminar will provide the participant with a review of the indications for epilepsy surgery in children. The participant will become familiar with the indications for, advantages/disadvantages of implanted electrode for extraoperative cortical mapping. He/she will identify the indications for the various surgical approaches such as cortical resection, callosotomy, as well as some of the more contemporary procedures such as vagus nerve stimulation.

223/223r

223/223r Current Clinical Applications of Spinal Cord Stimulation

Moderator: Jaimie M. Henderson
Faculty: Giancarlo Barolat, Richard B. North,
John C. Oakley, Kenneth A. Follett

Learning Objective: The person attending this seminar will learn about the mechanisms underlying the use of spinal cord stimulation for treatment of various pain states. The participant will develop an understanding of the different types of instrumentation used for spinal cord stimulation along with the relative advantages and disadvantages of the various systems. He/she will be able to discuss the indications for the use of spinal cord stimulation for conditions such as failed back surgery, ischemic limb pain, angina, and various other neuropathic pain states.

224/224r

224/224r Peripheral Nerve Surgery: Clinical and Electrical Diagnosis, Surgical Exposure, and Results

Moderator: Suzie C. Tindall
Faculty: John E. McGillicuddy, David G. Kline,
Michel Kliot, Setti S. Rengachary, Kevin O. Lillehei

Learning Objective: The attendee will learn about the most common peripheral nerve entrapment syndromes and be able to discuss their clinical presentation. The role of extraoperative electrical studies will be discussed as well as the use of intraoperative electrophysiological recordings. The participant will be exposed to the various peripheral nerve exposures used in both the upper and lower extremity. He/she will learn about the principles of peripheral nerve injury as well as the timing and techniques of nerve repair.

**Registration
Deadline
September 23, 1999**

Scientific Program - Tuesday



Special Course II

2:00 – 5:00 PM

Current Legal and Ethical Issues in Neurosurgery

Learning Objective: The participant should be able to describe the current legal and ethical issues in Neurosurgery, analyze the impact of these issues upon successful clinical practice and judge the relative merits of alternative approaches to address situations of current clinical relevance.

Course Directors:	Robert J. Maciunas, Peter McL. Black	
2:00–2:15 PM	The Role of the Institutional Ethics Committee	<i>Peter McL. Black</i>
2:15–2:45 PM	The Neurosurgical Expert Witness	<i>Howard H. Kaufman</i>
2:45–3:15 PM	Euthanasia and the Neurosurgeon	<i>Duke S. Samson</i>
3:15–3:30 PM	Case Discussions	
3:30–4:00 PM	COFFEE BREAK WITH THE EXHIBITORS	
4:00–4:20 PM	The Difficult Patient: Ethical, Medical and Legal Implications	<i>W. Ben Blackett</i>
4:20–4:40 PM	The Difficult Health Professional: Ethical, Medical and Legal Implications	<i>Gregory D. Willard</i>
4:40–5:00 PM	Case Discussions	<i>Robert Maciunas</i>

Section on Disorders of the Spine and Peripheral Nerves I 2:00–5:30 PM

Pedicle Screw Fixation Revisited

Learning Objective: At the conclusion of this session, participants will be able to describe the current regulatory status of pedicle screw fixation of the spine and discuss the clinical applications of pedicle screw fixation.

Moderators:	Curtis A. Dickman, Robert F. Heary	
2:00–2:15 PM	Regulatory Status and Update	<i>James P. Hollowell</i>
2:15–2:30 PM	What Is the Current Role of Lumbar Pedicle Fixation?	<i>Maurice M. Smith</i>
2:30–2:45 PM	Screws, Cages, Both, Neither?	<i>Richard G. Fessler</i>
2:45–2:50 PM	Discussion	
2:50–3:30 PM	Oral Posters <i>Moderators: Curtis A. Dickman, Robert F. Heary</i>	
3:30–4:00 PM	COFFEE BREAK WITH EXHIBITORS	
4:00–5:30 PM	Open Papers <i>Moderators: Nevin G. Baldwin, Lloyd Zucker</i>	

This year the CNS brings you TWO FULL levels of an unprecedented number of exhibits and member services. See page 8 for further details!



Scientific Program - Tuesday

Section on Cerebrovascular Surgery II

2:00 - 5:30 PM

Controversy in Cerebral Revascularization: Bypass Surgery Revisited

Learning Objective: At the conclusion of this session, participants will be able to review the role of cerebral revascularization procedures and appraise the need for clinical trials of these procedures.

Moderator:	Christopher M. Loftus	
2:00-2:15 PM	A New Millennium: Is it Time for a New EC-IC Bypass Trial?	<i>Harold P. Adams</i>
2:15-2:30 PM	Cerebral Revascularization: Spectrum of Indications	<i>Howard Yonas</i>
2:30-2:45 PM	Surgical Techniques	<i>Fernando G. Diaz</i>
2:45-2:50 PM	Discussion	
2:50-3:30 PM	Oral Posters <i>Moderators: Christopher M. Loftus</i>	
3:30-4:00 PM	COFFEE BREAK WITH EXHIBITORS	
4:00-5:30 PM	Open Papers <i>Moderators: Neil Martin, Gregory Thompson</i>	

Section on Stereotactic and Functional Surgery II

2:00-5:30 PM

Transplantation and Functional Restoration

Learning Objective: At the conclusion of this session, participants will be able to evaluate the role of neurotransplantation procedures and implications of bioengineering techniques in functional restoration.

Moderators:	Andres M. Lozano, G. Rees Cosgrove	
2:00-2:20 PM	Neurotransplantation: What Have We Learned? Where Are We Going?	<i>Thomas B. Freeman</i>
2:20-2:40 PM	Bioengineering and Control of Thought	<i>Roy A.E. Bakay</i>
2:40-2:50 PM	Discussion	
2:50-3:30 PM	Oral Posters <i>Moderators: Andres M. Lozano, G. Rees Cosgrove</i>	
3:30-4:00 PM	COFFEE BREAK WITH EXHIBITORS	
4:00-5:30 PM	Open Papers <i>Moderators: Andres M. Lozano, G. Rees Cosgrove</i>	

Section on Pediatric Neurosurgery I

2:00-5:30 PM

Syringomyelia

Learning Objective: At the conclusion of this session, participants will be able to discuss clinical features and management of syringomyelia.

Moderator:	Frederick A. Boop	
2:00-2:30 PM	Overview	<i>Harold L. Rekate</i>
2:30-2:50 PM	Case Presentations	
2:50-3:30 PM	Oral Posters <i>Moderator: Frederick A. Boop</i>	
3:30-4:00 PM	COFFEE BREAK WITH EXHIBITORS	
4:00-5:30 PM	Open Papers <i>Moderator: Frederick A. Boop</i>	

Section on Pain I

2:00-5:30 PM

Consultants Corner on Pain

Learning Objective: At the conclusion of this session, participants will be able to compare and contrast different treatment strategies for management of pain.

Moderator:	Jeffrey A. Brown	
2:00-2:50 PM	Consultant's Corner <i>Panelists: Hubert L. Rosomoff, Samuel J. Hassenbusch, Joel L. Seres, Charles L. Branch, Jr.</i>	
2:50-3:30 PM	Oral Posters <i>Moderator: Jeffrey A. Brown</i>	
3:30-4:00 PM	COFFEE BREAK WITH EXHIBITORS	
4:00-5:30 PM	Open Papers <i>Moderator: Jeffrey A. Brown</i>	

Scientific Program - Wednesday



WEDNESDAY - AT - A - GLANCE

7:30 AM-11:45 AM	General Scientific Session III - Pediatric Update for the General Neurosurgeon
8:30 AM-4:30 PM	Exhibit Viewing
9:00 AM-9:30 AM	Decade of the Brain Medalist
9:30 AM-10:15 AM	Coffee Break in Exhibit Hall
10:30 AM-10:40 AM	CNS Resident Award Paper
10:40 AM-10:45 AM	Presidential Acknowledgement
12:00 PM-2:00 PM	Luncheon Seminars
2:00 PM-5:00 PM	Special Course III - Deep Brain Stimulation
2:00 PM-5:30 PM	Section on Disorders of the Spine and Peripheral Nerves II
2:00 PM-5:30 PM	Section on Tumors II
2:00 PM-5:30 PM	Section on Neurotrauma and Critical Care II
2:00 PM-5:30 PM	Section on Pediatric Neurosurgery II
2:00 PM-5:30 PM	Section on Pain II
3:30 PM-4:00 PM	Coffee Break in Exhibit Hall

GENERAL SCIENTIFIC SESSION III 7:30 AM - 11:45 AM

Pediatric Update for the General Neurosurgeon

Learning Objectives: The participants should be able to describe the indications and specify treatment options in the care of pediatric patients with hydrocephalus, myelomeningocele, intractable epilepsy, craniostynosis, spasticity, brain tumors and head injury. After attending this scientific session, the participants should be able to integrate the information presented on Pediatric Neurosurgery and apply it where applicable to their own practices.

Moderator:	Richard G. Ellenbogen	
Presiding Officer:	H. Hunt Batjer	
7:30-7:45 AM	Pediatric Brain Tumors: From the Laboratory Bench to the Operating Room	<i>James T. Rutka</i>
7:45-8:00 AM	Craniosynostosis and Complex Craniofacial Disorders Update	<i>Richard Ellenbogen</i>
8:00-8:15 AM	Pediatric Trauma Made Simple	<i>P. David Adelson</i>
8:15-8:30 AM	Shunt Technology: How to Choose a Valve	<i>James M. Drake</i>
8:30-8:45 AM	Common Congenital Abnormalities	<i>David McLone</i>
8:45-9:00 AM	Pediatric Stroke - Treatable Causes	<i>R. Michael Scott</i>
9:00-9:30 AM	<i>Decade of the Brain Medalist</i>	
9:30-10:15 AM	COFFEE BREAK WITH EXHIBITORS	
10:15-10:20 AM	THINK FIRST	<i>Jeffrey M. Lobosky</i>
10:20-10:25 AM	The CNS International Committee	
10:25-10:30 AM	CNS Fellowship Presentation	
10:30-10:40 AM	<i>The CNS Resident Award Paper</i>	
10:40-10:45 AM	Presidential Acknowledgment	
10:45-11:00 AM	Indications and Outcomes for Lobectomy, Corpus Callosotomy and Hemispherectomy	<i>Benjamin Carson</i>
11:00-11:15 AM	Invited Comments	
11:15-11:30 AM	Dorsal Rhizotomy: Is It Still Indicated for the Treatment of Spasticity	<i>Warwick J. Peacock</i>
11:30-11:45 AM	Baclofen Pump: Current Concepts and Indications	<i>T.S. Park</i> <i>Paul Steinbok</i>



Luncheon Seminars - Wednesday

301/301r

301/301r Current Management of Odontoid Fractures

Moderator: Michael G. Fehlings
Faculty: Nevan G. Baldwin, Paul M. Arnold, John A. Wilson Jr., Christopher E. Wolfla, Charles B. Stillerman

Learning Objective: Attendees will be able to describe classification schemes for odontoid fractures and diagnose and manage odontoid fractures and related injuries.

302/302r

302/302r Single-Level Cervical Disc Disease: Optimal Surgical Management

Moderator: Emily D. Friedman
Faculty: Charles A. Fager, Stephen M. Papadopoulos, Volker K.H. Sonntag, Scott Shapiro, Phyo Kim

Learning Objective: Attendees will be able to explain indications for surgery, principles of complication avoidance, and appropriate selection of surgical approaches.

303/303r

303/303r Management of the Rheumatoid Cervical Spine

Moderator: H. Louis Harkey, III
Faculty: Fraser C. Henderson, Eric J. Woodard, Daniel H. Kim, John Strugar

Learning Objective: Attendees will be able to identify the pathology of rheumatoid spinal abnormalities, explain treatment options, and recognize allied conditions.

304/304r

304/304r Career Options and Tracks in Neurosurgery

Moderator: Paul J. Camarata
Faculty: Janet W. Bay, Issam A. Awad, Robert H. Rosenwasser, Richard A. Roski, Ralph G. Dacey, Jr.

Learning Objective: Attendees will be able to describe the spectrum of career choices and paths available to those who have completed a residency in neurological surgery.

305/305r

305/305r Multidisciplinary Management of Failed Back Surgery Syndrome

Moderator: Richard B. North
Faculty: Charles D. Ray, Hubert L. Rosomoff, Robert J. Hacker, Lawrence Borges, Joshua Dowling

Learning Objective: Attendees will be able to diagnose the failed back surgery syndrome, recognize its various causes, and design effective treatment plans.

306/306r

306/306r Management Strategies for Spinal Neoplasms

Moderator: Richard G. Perrin
Faculty: Ziya L. Gokaslan, Gregory Brandenburg, Robert E. Heary, Mark H. Bilsky, William Welch

Learning Objective: Attendees will be able to describe indications for, and techniques of, surgical and nonsurgical management of primary and metastatic neoplasms of the spinal column.

307/307r

307/307r Intraoperative Navigation: Current Technology and Practical Applications

Moderator: Iain H. Kalfas
Faculty: Kevin T. Foley, Allan J. Hamilton, Gerald E. Rodts, Jr., Rudolph Fahlbusch, Patrick J. Kelly

Learning Objective: Attendees will be able to describe methods available for stereotactic localization and discuss their indications and complications.

308/308r

308/308r Intracranial Metastases: Current Management Strategies

Moderator: Raymond Sawaya
Faculty: Eben Alexander, III, Robert A. Fenstermaker, Robert J. Coffey, Timothy C. Ryken

Learning Objective: Attendees will be able to explain appropriate indications for, and techniques of, surgical and nonsurgical management of intracranial metastases.

Luncheon Seminars - Wednesday



309/309r

309/309r Treatment of Craniopharyngiomas

Moderator: James T. Rutka
Faculty: Timothy B. Mapstone, Dachling Pang, Philip H. Cogen, Bruce Pollock

Learning Objective: Attendees will be able to select the most appropriate treatments for patients with craniopharyngiomas by assessing the advantages and disadvantages of various treatment options.

310/310r

310/310r Pineal Region Tumors

Moderator: Michael L.J. Apuzzo
Faculty: Gerhard Pendl, Kintomo Takakura, Gerard S. Rodziewicz

Learning Objective: Attendees will be able to analyze the major factors associated with the treatment of pineal region masses and describe the advantages and disadvantages of various treatment options.

311/311r

311/311r Tumors of the Posterior Skull Base and Tentorium

Moderator: Szymon S. Rosenblatt
Faculty: Kevin J. Gibbons, Thomas C. Origitano, Jon H. Robertson, Leonard I. Malis

Learning Objective: Attendees will be able to describe the microsurgical anatomy of various surgical approaches, select appropriate approaches for given lesions, explain principles of reconstruction and complication avoidance, and discuss the role of adjuvant therapy.

312/312r

312/312r Decision-Making for Recurrent Cranial Base Neoplasms: Observation, Reoperation, or Radiation?

Moderator: Douglas S. Kondziolka
Faculty: Hidefumi Jokura, Felix Umansky, Gail L. Rosseau

Learning Objective: Attendees will be able to describe contemporary standards of treatment for recurrent cranial base neoplasms, evaluate the use of adjunctive therapies, and discuss the biological basis of new treatments.

313/313r

313/313r Treatment Strategies for Spinal Cord Tumors

Moderator: Kalmon D. Post
Faculty: Paul McCormick, Paul D. Sawin, Allan J. Belzberg, T. Glenn Pait

Learning Objective: Attendees will be able to identify and classify tumors of the spinal cord, describe various surgical techniques for resection of these lesions, and explain the role of adjunctive therapies.

314/314r

314/314r Subcranial Anatomy for the Skull Base Surgeon

Moderator: Ossama Al-Mefty
Faculty: Albert L. Rhoton, Jr, Chandranath Sen, Luis A.B. Borba, Jacques J. Morcos, Mitesh V. Shah

Learning Objective: Attendees will be able to describe the anatomical relationships and the implications of these relationships for surgery involving the paranasal sinuses, the parapharyngeal space, the infratemporal fossa, and other subcranial areas.

315/315r

315/315r Posterior Circulation Aneurysms

Moderator: Jeffrey E. Thomas
Faculty: Eugene S. Flamm, Daniel L. Barrow, Steven L. Giannotta, Matti Vapalahti, Thomas Kopitnik, L. N. Hopkins

Learning Objective: Attendees will be able to assess the operability of posterior circulation aneurysms, compare the merits and limitations of different surgical approaches and techniques, describe the relevant microsurgical anatomy, and discuss potential intraoperative and postoperative problems and their management.

316/316r

316/316r Instability of the Subaxial Cervical Spine: Current Concepts in Management

Moderator: Michael J. Caron
Faculty: R. John Hurlbert, Seth M. Zeidman, Noel I. Perin, Richard Assaker, Hiroshi Nakagawa

Learning Objective: Attendees will be able to diagnose cervical spine instability, explain the relevant biomechanics, compare the advantages and disadvantages of different surgical approaches, and design an appropriate plan of treatment.



Luncheon Seminars - Wednesday

317/317r

317/317r Management of Penetrating CNS Injuries

Moderator: Michael E. Carey
Faculty: Peter B. Letarte, Brian T. Andrews, Michael L. Levy, James M. Ecklund, Martin C. Holland

Learning Objective: Attendees will be able to articulate diagnostic and therapeutic strategies for penetrating injuries of the central nervous system, including surgical management, intensive care unit treatment, and complication avoidance and management.

318/318r

318/318r Management of Acute Cerebral Ischemia

Moderator: J. Paul Muizelaar
Faculty: John G. Frazee, Yoshiaki Shiokawa, Lee R. Guterman, Iver Langmoen, Harold Adams

Learning Objective: Attendees will be able to describe the pathophysiology of cerebral ischemia, explain fundamental principles of the rapid diagnosis of cerebral ischemia, and discuss contemporary therapeutic measures.

319/319r

319/319r Pediatric Head Injury

Moderator: John D. Ward
Faculty: Thomas G. Luerssen, Ann-Christine Duhaime, P. David Adelson, Ann Marie Flannery, Joseph V. Queenan

Learning Objective: Attendees will be able to describe current diagnostic, therapeutic, and rehabilitative practices for pediatric head-injured patients.

320/320r

320/320r Managing Shunt Complications

Moderator: James M. Drake
Faculty: Bruce A. Kaufman, Cheryl A. Muszynski, Joseph R. Madsen, Alan R. Cohen, Flemming Gjerris

Learning Objective: Attendees will be able to describe the diagnosis of various types of shunt-related complications and malfunctions and discuss techniques for their management.

321/321r

321/321r Moya Moya Disease

Moderator: R. Michael Scott
Faculty: Gary K. Steinberg, Daniel A. Wecht, Philip Stieg

Learning Objective: Attendees will be able to explain basic management principles, controversies, and special treatment options for this cerebrovascular condition.

322/322r

322/322r Pallidotomy and Other Surgical Treatments for Parkinson's Disease

Moderator: Roy A.E. Bakay
Faculty: Isabelle M. Germano, Frederick A. Lenz, G. Rees Cosgrove, Jeffrey S. Schweitzer

Learning Objective: Attendees will be able to identify those circumstances in which surgical intervention is indicated, describe the technique of pallidotomy for Parkinson's disease, and review the merits and pitfalls of other surgical techniques.

323/323r

323/323r Indications for Epilepsy Surgery: Who Should Get Surgery, Which Operation, and When?

Moderator: Dennis D. Spencer
Faculty: Kaveh Khajavi, Youssef G. Comair, Nicholas M. Barbaro, Webster H. Pilcher, Raul Marino, Jr.

Learning Objective: Attendees will be able to list the indications for various surgical procedures for refractory epilepsy and compare the usefulness of different surgical options for different seizure types.

324/324r

324/324r Trigeminal Neuralgia: Percutaneous Techniques

Moderator: Ronald I. Apfelbaum
Faculty: Ronald F. Young, G. Robert Nugent, Jeffrey A. Brown

Learning Objective: Attendees will be able to discuss general treatment principles for patients with trigeminal neuralgia and the benefits and limitations of the various percutaneous techniques.

Luncheon Seminars - Wednesday



325/325r

325/325r Preparation for Oral Board Examinations in Neurosurgery

Moderator: Donald Quest
 Faculty: Franklin C. Wagner, Jr., Fremont P. Wirth, Donald Becker, David Piepgras

Learning Objective: Attendees will be able to demonstrate improved understanding of the purpose and content of the oral Board examination and exhibit increased confidence in preparing for the examination.

Special Course III Deep Brain Stimulation

2:00-5:00 PM

Learning Objective: The faculty of this course is internationally recognized in the field of functional neurosurgery and neurology. After this course, the participant will be able to discuss the cortical and sub-cortical anatomy, physiology, pathophysiology, as well as functional imaging. Participants will become familiar with the latest methods of anatomical and physiological localization. Patient selection, surgical techniques and outcome of brain stimulation for movement disorders, chronic pain, and epilepsy will be presented.

Course Director:	Ali R. Rezai	
2:00-2:10 PM	Overview and Historical Perspective	<i>Philip L. Gildenberg</i>
2:10-2:30 PM	Overview of the Anatomy, Physiology, and Pathophysiology of the Basal Ganglia, Thalamus and the Subthalamic Nucleus	<i>Mahlon Delong</i>
2:30-2:45 PM	Deep Brain Stimulation: Equipment, General Technique and Localization Methods	<i>Robert Maciunas</i>
2:45-3:10 PM	Thalamic and Pallidal Stimulation for Movement Disorders: Patient Selection, Surgical Technique, Outcome and Complications	<i>Andres M. Lozano</i>
3:10-3:30 PM	Subthalamic Nucleus Stimulation for Movement Disorders: Patient Selection, Surgical Technique, Outcome and Complications	<i>Alim Louis Benabid</i>
3:30-4:00 PM	COFFEE BREAK WITH EXHIBITORS	
4:00-4:30 PM	Brain Stimulation for Chronic Pain: Anatomy, Physiology, Functional Imaging, Patient Selection, Surgical Technique, Targets, Outcome and Complications	<i>Ali R. Rezai</i>
4:30-4:50 PM	Deep Brain Stimulation for Epilepsy: Anatomy, Physiology, Patient Selection, Targets, Outcome and Complications	<i>Robert Fisher</i>
4:50-5:00 PM	Future Prospects: Emerging Applications of Brain Stimulation	<i>Andres M. Lozano</i>

Don't Delay...
Your Housing Deadline is
September 23, 1999.



Scientific Program - Wednesday

Section on Disorders of the Spine and Peripheral Nerves II 2:00–5:30 PM

Lumbar Fixation Controversies

Learning Objective: At the conclusion of this session, participants will be able to describe and compare strategies for treatment of lumbar spondylolisthesis and degenerative disc disease.

Moderators: Kevin T. Foley, Stephen M. Papadopoulos
Panelists: Brian G. Cuddy, Charles L. Branch, Jr., David W. Cahill, John Jane

2:00–2:50 PM Case #1: Degenerative Spondylolisthesis at L4-L5
Case #2: L5-S1 Disc Degeneration
Case #3: Recurrent Lumbar Disc Herniation

2:50–3:30 PM Oral Posters *Moderators: Noel I. Perin, Keith R. Kuhlengel*

3:30–4:00 PM COFFEE BREAK WITH EXHIBITORS

4:00–5:30 PM Open Papers *Moderators: Noel I. Perin, Keith R. Kuhlengel*

Section on Tumors II

2:00–5:30 PM

Issues in Skull Base Surgery

Learning Objective: At the conclusion of this session, participants will be able to describe biological characteristics of meningiomas and apply this information to the management of these tumors, and contrast indications for operative and nonoperative treatment of malignant skull base tumors.

Moderators: Ossama Al-Mefty, Thomas C. Origitano
2:00–2:20 PM Update on the Biology of Meningiomas and Implications for Nonoperative Treatment *Randy L. Jensen*
2:20–2:40 PM Cranial Base Surgery for Malignant Tumors: When and When Not to Operate *Franco De Monte*
2:40–2:50 PM Discussion

2:50–3:30 PM Oral Posters *Moderators: James M. Markert, Michael W. McDermott*

3:30–4:00 PM COFFEE BREAK WITH EXHIBITORS

4:00–5:30 PM Open Papers *Moderator: James T. Rutka*
Mahaley Award

Section on Neurotrauma and Critical Care II

2:00–5:30 PM

Sports Medicine: What Every Neurosurgeon Needs to Know

Learning Objective: At the conclusion of this session, participants will be able to describe the pathophysiology, clinical features, and manifestations of sports-related neurological injuries.

Moderators: Martin C. Holland, Perry A. Ball
2:00–2:25 PM Sports-Related Head Injury *Julian E. Bailes, Jr.*
2:25–2:50 PM Sports-Related Spine and Spinal Cord Injury *Arthur L. Day*

2:50–3:30 PM Oral Posters *Moderators: Martin C. Holland, Perry A. Ball*

3:30–4:00 PM COFFEE BREAK WITH EXHIBITORS

4:00–5:30 PM Open Papers *Moderators: Martin C. Holland, Perry A. Ball*

**Visit the Exhibit Hall for continuous,
complimentary coffee Monday–Wednesday!**

Scientific Program - Wednesday



Section on Pediatric Neurosurgery II

2:00-5:30 PM

Cervical Spine Stabilization and Fusion

Learning Objective: At the conclusion of this session, participants will be able to describe principles and applications of cervical spine stabilization and fusion procedures.

Moderator: John P. Laurent

2:00-2:30 PM Overview of Cervical Spine Stabilization of Children

Douglas L. Brockmeyer

2:30-2:50 PM Difficult and Controversial Case Presentations

2:50-3:30 PM Oral Posters *Moderator: John P. Laurent*

3:30-4:00 PM COFFEE BREAK WITH EXHIBITORS

4:00-5:30 PM Open Papers *Moderator: John P. Laurent*

Section on Pain II

2:00-5:30 PM

Postoperative Pain Management in the Neurosurgical Patient

Learning Objective: At the conclusion of this session, participants will be able to describe methods of assessing and treating postoperative pain in patients undergoing neurosurgical procedures.

Moderator: Kenneth A. Follett

2:00-2:20 PM Assessing Pain in Pediatric Patients

Charles Berde

2:20-2:30 PM Pain Management Following Spine Surgery: Epidurally-applied Analgesics

John C. Oakley

2:30-2:40 PM Pain Management for the Substance Abuse Patient

Joel L. Seres

2:40-2:50 PM Discussion

2:50-3:30 PM Oral Posters *Moderator: Kenneth A. Follett*

3:30-4:00 PM COFFEE BREAK WITH EXHIBITORS

4:00-5:30 PM Open Papers *Moderator: Kenneth A. Follett*

Important Dates to Remember

September 23 Early Registration Deadline

October 30 1999 CNS Annual Meeting Opens

October 31 Opening Reception

November 1 Presidential Address/Honored Guest Presentation

November 3 Boston Cabaret Reception and Dinner

November 4 Special Symposium at the Academy of Arts and Sciences



Scientific Program - Thursday

THURSDAY - AT - A - GLANCE

7:30 AM-11:45 AM	General Scientific Session IV - Lumbar Interbody Fusions
9:30 AM-10:15 AM	Coffee Break
1:00 PM-6:30 PM	Special Symposium

GENERAL SCIENTIFIC SESSION IV 7:30 AM-11:45 AM

Lumbar Interbody Fusions

Learning Objective: After this course, participants will be able to examine the current state and role of lumbar interbody fusion in the management of spine disease. The biomechanics of lumbar interbody fusion devices will be reviewed. Different approaches and techniques will be discussed as well as indications and shortcomings.

Moderator:	Stephen L. Ondra
Presiding Officer:	Paul C. McCormick
7:30-7:50 AM	The Biomechanics of Lumbar Fusion and Sagittal Plane Balance
7:50-8:10 AM	Posterior Lumbar Interbody Fusion
8:10-8:30 AM	Posterolateral Lumbar Fusion
8:30-8:50 AM	The Role of Pedicle Screw Fixation in Lumbar Fusion
8:50-9:10 AM	Posterior Lumbar Interbody Fusions with Cages and Bone Dowels
9:10-9:30 AM	<i>Outstanding Abstracts with Invited Discussants</i>
9:30-10:15 AM	COFFEE BREAK WITH EXHIBITORS
10:15-10:35 AM	Lateral Approach to Lumbar Interbody Fusions
10:35-10:55 AM	Open Anterior Lumbar Interbody Fusions
10:55-11:15 AM	Laparoscopic Anterior Lumbar Interbody Fusions
11:15-11:45 AM	The Shortcomings of Lumbar Fusions with Cages and Interbody Bone Dowels

*Gregory J. Przybylski
Paul M. Lin
Mark N. Hadley
Curtis A. Dickman
Regis W. Haid, Jr.*

*Richard G. Fessler
Charles Reidel
Gerald E. Rodts, Jr.
Edward C. Benzel*

**The deadline to register for the
Special Symposium is September 23, 1999.**

Register today—Availability is Limited!

Scientific Sessions - Open Papers



Monday, November 1

Section on Cerebrovascular Surgery I

4:00 PM-4:09 PM

Galbraith Award

700. Enos Upregulation and Infarct Reduction by Mevastatin, an HMG-CoA Reductase Inhibitor. *Sepideh Amin-Hanjani, Nancy Stagliano, Masaru Yamada, James K Liao, Michael A Moskowitz.*

4:09 PM-4:18 PM

701. Posterior Circulation Aneurysms: Surgical or Endovascular Results- What Should We Do? *Robert J. Singer, Deidre A. Buckley, Christopher Putman, In Sup Choi, Ronald Budzik, Alexander M. Norbash, Christopher S. Ogilvy.*

4:18 PM-4:27 PM

702. Decreased Nitric Oxide (NO) Availability Contributes to Cerebral Ischemia Following Subarachnoid Hemorrhage (SAH). *Amit Schwartz, Fatima Sebba, Joshua Bederson.*

4:27 PM-4:36 PM

703. NO Quenches Oxygen Free Radical in a Rabbit Model of Embolic Stroke and Thrombolysis. *Ryszard Pluta, Ryszard M. Pluta, Ramin Rak, John J. Woodward, Edward H. Oldfield, Joe C. Watson.*

4:36 PM-4:45 PM

704. Gene Transfer Therapy with Overexpression of the Calcium Binding Protein, Calbindin D28K is Neuroprotective Against Experimental Stroke. *Midori Yenari, M. Minami, G. H. Sun, T.J. Meier, D. Y. Ho, R. M. Sapolsky, G. K. Steinberg.*

4:45 PM-4:54 PM

705. EC-IC bypass for refractory ischemic cerebrovascular disease. *Eric Nussbaum, Don Erickson.*

4:54 PM-5:03 PM

706. Carotid Angioplasty and Stenting Combined with Abciximab for Carotid Artery Stenosis. *Rocco Armonda, Ronald Benitez, Anthony Carabasi, Susan Morrison, Patricia Gannon, Jeffrey Thomas, Robert Rosenwasser.*

5:03 PM-5:12 PM

707. Hydroxyethyl Starch Inhibits Leukocyte Adherence and Vascular Injury in the Pig Cerebral Circulation Following Ischemia. *Stuart Kaplan, TS Park, Eesto R. Gonzales, and Jeffrey M. Gidday.*

5:12 PM-5:21 PM

708. Intravascular Stents for Endoluminal Cerebrovascular Bypass. *Demetrius Lopes, Ajay Wakhloo.*

5:21 PM-5:30 PM

709. Intracranial Vertebralbasilar Stent Assisted Angioplasty: Preliminary Experience. *Peter Rasmussen, John Perl II, Cathy Sila, Derk Krieger, Irene Katzan, Anthony J. Furlan, Thomas J. Masaryk.*

Section on Stereotactic and Functional Surgery I

4:00 PM-4:09 PM

710. Vagus Nerve Stimulation for Intractable Partial Seizures: Results of the XE5 Trial. *Arun Amar, Christopher M. DeGiorgio, Michael L. Levy, Michael L.J. Apuzzo, E05 Study Group.*

4:09 PM-4:18 PM

711. Efficacy of Vagal Nerve Stimulation in Patients with Prior Epilepsy Surgery. *Ethan A. Bernardete, Weer K. Doyle.*

4:18 PM-4:27 PM

712. Surgical Treatment of Occipital Epilepsy. *Doo Sik Kong, Seung-Chyul Hong, Seung Bong Hong, Dae Won Seo, Jong Hyun Kim.*

4:27 PM-4:36 PM

713. Role of Invasive Monitoring In Surgical Decision Making in Epilepsy Surgery. *Milind Deogaonkar, Martin Weinand, David Labiner.*

4:36 PM-4:45 PM

714. Multiple Subpial Trasections (MST) for Seizure Foci in Both Hemispheres. *Arun-Angelo Patil, Richard Andrews, Jeffrey Lewine.*

4:45 PM-4:54 PM

715. Seizure Outcome after Reoperation in Patients with Temporal Lobe Epilepsy. *Quentin Malone, Juan Bulacio, Imad Najm, William Bingaman, Yousef Comair.*

4:54 PM-5:03 PM

716. The Behavioral and Electroencephalographic Effects of Stereotactic Radiosurgery for the Treatment of Epilepsy Evaluated in the Rat Kainic Acid Model. *Satoshi Maesawa, Douglas Kondziolka, Edward Dixon, Jeffery Balzer, Wendy Fellows, L. Dade Lunsford.*

5:03 PM-5:12 PM

717. Magnetic Source Imaging Speech Mapping: Comparison with Direct Cortical Stimulation Speech Mapping. *Brent Alford, William Maggio, Joshua Brier, Panagiotis Simos, William Gormley, Jules Constantinou, James Wheless, George Zouridakis, Andrew Papanicolaou.*

5:12 PM-5:21 PM

718. Task-related Theta Activity from Intracranial Recordings During Virtual Maze Navigation. *Joseph R. Madsen, Matthew Kirschen, Jeremy B. Caplan, Robert Sekuler, Michael J. Kahana.*

5:21 PM-5:30 PM

719. Representations of Movement Direction in the Primate Parietal Cortex. *Emad Eskandar, John Assad.*

Section on Tumors I

4:00 PM-4:09 PM

Preuss Award

720. Antisense-mediated Inhibition of the bcl-2 Gene Induces Apoptosis in Human Malignant Glioma. *Terrence Julien, Bruce Frankel, Sharon Longo, Michele Kyle, Timothy Ryken.*

4:09 PM-4:18 PM

Tumor Young Investigator Award

721. Regression of Glioma Growth Using a Retroviral Vector Expressing Interleukin-4. *Quentin Malone, Andrew Kaye, Mary Saleh.*

4:18 PM-4:27 PM

722. Gamma Knife Radiosurgery is Superior to Conventional Radiotherapy in the Adjunctive Management of Acromegaly. *Mary Lee Vance, Edward R. Laws, Ladislav Steiner, Melita Steiner, CJ Woodbu.*

4:27 PM-4:36 PM

723. Apoptotic Signaling by Apo2L Selectively Kills Glioma Cells in vitro and in vivo. *Ian Pollack, Melanie Erff, Avi Ashkenazi.*

4:36 PM-4:45 PM

724. Spinal Cord Biopsies: A Review of 38 Cases. *Ofer Zikel, Gary M. Miller, Bed W. Scheithauer, William E. Krauss.*

4:45 PM-4:54 PM

725. Hemangioblastoma (HB) of the CNS and the Retina: impact of von Hippel-Lindau Disease (VHL) on the outcome. *Mika Niemelä, Sebebe Lemeta, Paula Summanen, Tom Böhling, Juha Jääskeläinen.*

4:54 PM-5:03 PM

726. The Importance of Timing in a Two Compartment Model of Sodium Thiosulfate Protection Against Carboplatin-induced Ototoxicity in Patients with Malignant Brain Tumors. *Edward Neuwelt, Nancy D. Doolittle, Leslie L. Muldoon.*

5:03 PM-5:12 PM

727. Spinal Meningiomas in Patients Under Age 50: A 21 Year Review. *Ofer Zikel, Bed W. Scheithauer, William E. Krauss.*



Scientific Sessions - Open Papers

5:12 PM-5:21 PM

728. Treatment of Neoplastic Meningitis with Intrathecal Temozolomide. *Alan Villavicencio, Gary E. Archer, Alan T. Villavicencio, Roger E. McLendon, Allan H. Friedman, Darell D. Bigner, Henry S. Friedman, John H. Sampson.*

5:21 PM-5:30 PM

729. Intracranial Adenoviral Interleukin 12 Delivery Effects Potent and Long-lasting Immunity Against Glioma. *John Yu, Yunhui Liu, Hua Zhang, Christopher Wheeler, Ken Samoto, Chenren Liu, Luis Villareal, Keith L. Black.*

Section on Neurotrauma and Critical Care I

4:00 PM-4:09 PM

Trauma Resident Award

730. Prolonged Prostaglandin E2 Expression Following Spinal Cord Injury. *Peter Nguyen, Daniel K. Resnick.*

4:09 PM-4:18 PM

731. GM1 Ganglioside Acute Spinal Cord Injury Study II: Efficacy and Safety. *Fred Geisler, Giacinto Grieco, Frank C. Dorsey, Francesca Pataell, Devinder Poonian, Roberto Fiorentini.*

4:18 PM-4:27 PM

732. Implantation of Autologous Stimulated Macrophages to Paraplegic Rats Leads to Partial Recovery of Motor Activity. *Michal Schwartz, Orly Lazarov-Spiegler, Eugenia Agranov, Eti Yoles, PhD, Gad Velan, Matt Fraidakis, Michal Neeman.*

4:27 PM-4:36 PM

733. Reduction of Traumatic Spinal Cord Injury by Inhibition of Caspases. *Mingwei Li, Victor O. Ona, Philip E. Stieg, Robert M. Friedlander.*

4:36 PM-4:45 PM

734. Dexanabol Phase II Trial- Management of ICP/CPP in Severe Head Trauma Patients. *Nachshon Knoller, Leon Levi, Zvi Israel, Nisim Razon, Eli Reichental, Zvi H. Rappaport, Aviva Fridman, Noa Ehrenfreund, Anat Biegon.*

4:45 PM-4:54 PM

735. Regeneration of Transected Optic Nerve Axons in vivo. *Wai Pui Ng, Andres Lozano.*

4:54 PM-5:03 PM

736. Does CPP Therapy Really Do What We Think It Does? *Jordi Kellogg, Michael L. Horgan, Jonathan E. Martin, Randall M. Chestnut.*

5:03 PM-5:12 PM

737. Human Poliovirus Replicon Vectors in a Murine Model of Spinal Cord Injury. *Curtis Rozzelle, Charles Cobbs, Jean Peduzzi, Casey Morrow, Andrea Bledsoe.*

5:12 PM-5:21 PM

738. Stimulation of Axonal Regeneration and Enhanced Survival of Retinal Ganglion Cells Following Optic Nerve Injury. *Steven Leon, Jennifer Nguyen, Nina Irwin, Larry Benowitz.*

5:21 PM-5:30 PM

739. Response of Amino Acid Neurotransmitters and Metabolites by APOE Genotype. *Mary Kerr, Lynn Kraus, Donald Marion, Ava Puccio, Steven DeKosky, Ilyas Kamboh, Joseph Lucke.*

Council of State Neurosurgical Societies

4:00 PM-4:09 PM

Cone Pevehouse Award

740. Rate and Timing of Perioperative Complications of Image-Guided Stereotactic Brain Biopsy (IGSBB): Implications on Postoperative Management. *Wayel Kaakaji, Gene H. Baett, Ab Boonswang.*

4:09 PM-4:18 PM

741. The Efficacy and Cost of Prophylactic Versus Perioperative Antibiotics in Patients with Extral Ventricular Drains. *Cargill Alleyne, Jr., Mahmood Hassan, Joseph M. Zabramski.*

4:18 PM-4:27 PM

742. Evaluation of the THINK FIRST For KIDS Injury Prevention Curriculum for Primary Students. *Edward Neuwelt, Adrienne Greene, Peggy Baett, Kay Enbom, Jack Crossen, Gary Sexton, Pat Ruzicka.*

4:27 PM-4:36 PM

743. Craniotomy of Unusual Interest: Issues for Medicine, Law, Journalism, and Society in a Highly Publicized Case of Nonaccidental Trauma. *Joseph R. Madsen.*

4:36 PM-4:45 PM

744. Outcome Improvement in Undergraduate Neurosurgical Education. *Daniel Resnick, Lincoln Ramirez.*

4:45 PM-4:54 PM

745. WITHDRAWN

4:54 PM-5:03 PM

746. Outcomes Assessment in Neurosurgery Practice. *Jennifer Kean.*

5:03 PM-5:12 PM

747. Longterm Outcome Following Aggressive Conservative Therapy of Sciatica. *Fred Geisler, Leonard J. Cerullo, James F. Grutsch, Roberto P. Segura, Lori Alderete.*

5:12 PM-5:21 PM

748. The Neurosurgeon's Future Role in Emergency Medical Services. *Julian E. Bailes.*

5:21 PM-5:30 PM

749. Gender and Racial Differences in Presentation and Initial Improvement Following Lumbar Surgery. *Robert Morlock, David Nerenz, Todd Nash, Froylan Gonzalez, Edward Benzel, Russ P. Nockels, Iain Kalfas, Peter Dempsey, Edward Feil, William Kraus, Beard Pfeifer, Richard Ward, Scott Erwood.*

Tuesday, November 2

General Scientific Session II

Outstanding Abstracts

9:10 AM-9:20 AM

750. A Prospective Randomized Blinded Trial of GPi vs. Subthalamic Nucleus Stimulation for Medically Intractable Parkinson's Disease. *Kim Burchiel, Valerie Anderson, Jacques Faure, John Hammerstad.*

9:20 AM-9:30 AM

751. Evaluation of On-line Microdialysis to Diagnose "Vasospasm" Following Aneurysmal Subarachnoid Hemorrhage (SAH). *Andreas Unterberg, Asita Sarrafzadeh, Oliver Sakowitz, Goetz Benndorf, Wolfgang Lanksch.*

Section on Disorders of the Spine & Peripheral Nerve I

4:09 PM-4:18 PM

752. Intercostal to Phrenic Nerve Grafts Can Lead to Successful Electrophrenic Respiration. *Abbott Krieger.*

4:09 PM-4:18 PM

753. Outpatient Lumbar Microdiscectomy: An Analysis of Safety and Efficacy. *William Young, Eleni Costa.*

4:18 PM-4:27 PM

754. Radiation Exposure During Fluoroscopically-Assisted Pedicle Screw Insertion. *Kevin Foley, Y. Raja Rampersaud, Alfred C. Shen, Scott Williams, Milo Solomito.*

Scientific Sessions - Open Papers



4:27 PM-4:36 PM

755. Results of Management of Syringomyelia: Long Term Clinical and Mri Followup In 89 Cases. *Eve C. Tsai, Michael G. Fehlings, Charles H. Tator.*

4:36 pm-4:45pm

756. Conus Arteriovenous Malformation: Proposal of a New Type of Spinal Arteriovenous Lesion. *Paul W. Detwiler, Randall W. Porter, Robert F. Spetzler, Michael T. Lawton.*

4:45 PM-4:54 PM

757. Surgical Treatment Outcome of Posttraumatic Cystic Myelopathy (PPCM). *Thomas Lee, Gustavo Alameda, Erika B. Gromelski, Barth A. Green.*

4:54 PM-5:03 PM

758. Outcomes after Treatment for Birth-Related Upper Brachial Plexus Injuries. *John Grossman, Loa E. Ramos, OTRL, Israel Alfonso, Oscar Papaziam, Andrew E. Price, John Ragheb, Glenn Morrison, Philipp R. Aldana.*

5:03 PM-5:12 PM

759. Spinal Intramedullary Caveomas: Clinical Presentation and Surgical Outcome. *Harel Deutsch, George Jallo, Alina Fakovich, Fred Epstein.*

5:12 PM-5:21PM

760. Stereotactic Guidance of Pedicle Screws in the Thoracic Spine: The University of Michigan Experience. *Andrew Youkilis, Douglas Quint, John E. McGillicuddy, Stephen M. Papadopoulos.*

5:21PM-5:30 PM

761. Magnetic Resonance Neurography of the Median Nerve Before and After Carpal Tunnel Decompression. *Simon Cudlip, Franklyn A Howe, Andrew Clifton, B Anthony Bell.*

Section on Cerebrovascular Surgery II

4:00 PM-4:09 PM

762. One Year Outcome of 109 Patients with Acute Sah. A Prospective Randomized Study Of Clipping Vs. Coiling. *Timo Koivisto, Ritva Vanninen, Helena Hurskainen, Tapani Saari, Juba Heesniemi, Matti Vapalahti.*

4:09 PM-4:18PM

763. Endovascular Treatment with Guglielmi Detachable Coils and Permanent Balloon Occlusion for Paraclinoid Aneurysms. *John Thoton, Mukesh Misra, Zachary Dovey, Victor Aletich, Gerard Debrun, Abdulkader Alazzaz, Fady Charbel, James Ausman.*

4:18 PM-4:27 PM

764. Clinical Outcomes of Carotid Endarterectomy Using Regional vs General Anesthesia. *Achilles K. Papavasiliou, Hulda Magnadottir, Tamas A. Gonda, Douglas M. Franz, Robert E. Harbaugh.*

4:27 PM-4:36 PM

765. Efficacy of Computed Tomographic Angiography in the setting of Aneurysmal Subarachnoid Haemorrhage. *Kishor Choudhari, Stephen McKinstry, Houssein Kamel, Thomas Fannin.*

4:36 PM-4:45PM

766. Stereotactic Radiosurgery in The Management of Motor Cortex Arteriovenous Malformations. *Constantinos Hadjipanayis, Elad I. Levy, Andrew D. Firlik, Douglas Kondziolka, John C. Flickinger, L. Dade Lunsford.*

4:45 PM-4:54 PM

767. A Decision and Cost-Benefit Analysis Comparing Therapeutic Interventions for Patients with Asymptomatic AVMs. *James McIneey, David A. Gould, Robert E. Harbaugh.*

4:54 PM-5:03 PM

768. Multimodality Treatment of Posterior Fossa Arteriovenous Malformations. *Marcus Stoodley, Kevin Cockroft, Teresa Bell, Michael Marks, Gary Steinberg.*

5:03 PM-5:12 PM

769. Repeat Radiosurgery For Incompletely Obliterated Arteriovenous Malformations. *Melvin Field, Satoshi Maesawa, John Flickinger, Douglas Kondziolka, L. Dade Lunsford.*

5:12 PM-5:21PM

770. Stent-Assisted Coil Obliteration of Wide-Necked Intracranial Aneurysms. *Joe Beard, David Morris, Meng C. Vang, Allen K. Sills, J. Scott Williams.*

5:21PM-5:30 PM

771. Anatomic Factors Affecting Surgical Outcome of Basilar Apex Aneurysms. *Saleem Abdulrauf, M. Gazi Yasargil.*

Section on Stereotactic and Functional Surgery II

4:00 PM-4:09 PM

772. Restoration of Dopaminergic Activity in Parkinsonian Monkeys by Adeno-Associated Vector-mediated Gene Transfer of AADC. *Krys Bankiewicz, Malgorzata Kobutnicka, Judith Harvey-White, Janet Cunningham, William Jagust, Jamie Eberling.*

4:09 PM-4:18PM

773. Activation of Medial Frontal Cortex due to Deep Brain Stimulation of Subthalamic Nucleus in Parkinson's Disease. -Positron Emission Tomography Study. *Kenji Sugiyama, Tetsuo Yokoyama, Takaomi Ohuchi, Hiroyuki Okada, Hiroshi Ryu, Shigeru Nishizawa, Naoki Yokota, Kenichi Uemura, Hiroki Nanba.*

4:18 PM-4:27 PM

774. Qualitative, Quantitative, and Neuropsychological Outcome Measures Following Thalamic Deep Brain Stimulation for Disabling Tremor in Essential Tremor and Parkinson's Disease. *Robert Wharen, Ryan Uitti, Margaret Turk, Audrey Strongosky, Alois Obwegeser.*

4:27 PM-4:36 PM

775. Thalamic Surgery for Treatment of Essential Tremor: Results in 46 Patients. *Konstantin V. Slavin, M. Cenk Akbostanci, Kim J. Burchiel.*

4:36 PM-4:45PM

776. Stereotactic Pallidotomy for Parkinson's Disease: Long Term Results. *Emad Eskandar, Leslie A. Shinobu, John B. Penney Jr., G. Rees Cosgrove.*

4:45 PM-4:54 PM

777. Pallidotomy and Deep Brain Stimulation as a Treatment for Dystonia. *Roy A.E. Bakay, Jerrold Vitek, Marion Evatt, Jian-Yu Zhang, Vijay Chockkran, Mahlon R. Delong, Shirley Triche.*

4:54 PM-5:03 PM

778. STN Electrical Inhibition as a Treatment of PD. *Benabid Alim-Louis, Adnan Koudsie, Abdelhamid Benazzouz, Nadege van Blerkom, Valerie Fraix, Jean-Francois LeBas, Pierre Pollak.*

5:03 PM-5:12 PM

779. High Frequency Stimulation of the Subthalamic Nucleus as a Treatment for Parkinson's Disease: A 12 Month Follow-up Study. *Isabelle Germano, C. W. Olanow, J. M. Gracies, D. Weisz, J. C. Bucobo, Adam Silvers, M. Brin.*

5:12 PM-5:21PM

780. Intraventricular Administration of a Caspase Inhibitor Delays Disease Progression and Mortality in a Mouse Model of Huntington's Disease. *Robert Friedlander, Victor O. Ona, Mingwei Li, Jean Paul G. Vonsattel, L. John Andrews, Sobail Q. Khan, Woosik M. Chung, Ariel S. Frey, Anil S. Menon, Philip E. Stieg, Junying Yuan, John B. Penney, Anne B. Young, Jang-Ho J.*



Scientific Sessions - Open Papers

5:21PM-5:30 PM

781. 12 Years Experience with Intrathecal Baclofen Therapy. *Doris Lenartz, Athanasios Koulousakis, Michael Weber, Volker Sturm.*

Section on Pediatric Neurosurgery I

4:00 PM-4:09 PM

782. Vagal Nerve Stimulation for Treatment of Epilepsy in Pediatric Patients. *Joseph R. Madsen, Sandra Helmers.*

4:09 PM-4:18 PM

783. A Randomized, Controlled Study of a Programmable Shunt Valve Versus a Conventional Valve for Patients with Hydrocephalus. *Ian Pollack, A. Leland Albright, P. David Adelson, HP Shunt Study Group.*

4:18 PM-4:27 PM

784. Surgically Treated Lumbar Disc Disease in Children: A Medical Outcome Study. *Susan Durham, Peter Sun, Leslie N. Sutton.*

4:27 PM-4:36 PM

785. Efficacy and Function of Rifampin-impregnated Silicone Catheters in the Prevention and Treatment of Foreign Body-associated CNS Infections. *Juergen A. Hampl, Ralf A. Kockro, Martin Scheihing, Rainer Giacomelli, Bed Jansen, Hans P. Schmitt, Stefan Kunze, Alfred Aschoff.*

4:36 PM-4:45 PM

786. Addition of Elemental Iodine to Surgical Irrigation for Shunt Infection Prophylaxis. *SooHo Choi, J. Gordon McComb, Michael L. Levy, Ignacio Gonzales, Berislav Zlokovic, Roger Bayston.*

4:45 PM-4:54 PM

787. In Vivo Intraventricular Pressure Dynamics Consequent to Manipulations of the Codman-Medos Programmable Shunt Valve. *David Frim, Dawn Lathrop.*

4:54 PM-5:03 PM

788. 37 Cases of Percutaneous Endoscopic Recanalization of Catheter (PERC) Procedure: Progress and Pitfalls. *Jogi Pattisapu, Eric Trumble, Kay Taylor, P. Denise Howard, Tina Kovacs.*

5:03 PM-5:12 PM

789. Observer Reliability of the Frontal and Occipital Ho Ratio Measurement of Ventricular Size. *Abhaya V. Kulkai, Derek C. Armstrong, Peter B. Dirks, James M. Drake.*

5:12 PM-5:21 PM

790. Neuronavigational Assisted Neuroendoscopy of Hydrocephalic Disorders: Indication, Operative Options and Benefits. *Dan V. Plev, H. Gumprecht, Hans A. Frost, Ch.B. Lumenta.*

5:21PM-5:30 PM

791. Visual Loss from Ventriculoperitoneal Shunt Malfunction: A Ten Year Experience. *Kraus Robert, William C. Olivero, William C. Hanigan., Jorge Kattah.*

Section on Pain I

4:00 PM-4:09 PM

Ronald Tasker Award

792. Motor Cortex Stimulation for Chronic Neuropathic Pain. Literature Review and Results from a Prospective Audit. *Nikki Maartens, Dawn Carroll, Tipu Aziz, Carole Joint.*

4:09 PM-4:18 PM

793. Spinal Cord Stimulation Electrode Design: A Prospective, Randomized Trial of Percutaneous versus Surgically Implanted, Insulated Electrode Arrays. *Richard North, David H. Kidd, Christopher Davis, John C. Olin, Jeffrey M. Sieracki.*

4:18 PM-4:27 PM

794. Intraoperative Somatosensory Evoked Potentials for Nucleus Caudalis DREZ Lesioning, Technical Modifications and Results. *John Pracyk, Alan T. Villavicencio, Aatif Husain, John Gorecki.*

4:27 PM-4:36 PM

795. The Histologic Effects of Trigeminal Nerve Radiosurgery in the Primate Model: Implications for Trigeminal Neuralgia Radiosurgery. *Douglas Kondziolka, David Lacomis, Ajay Niranjan, Yoshimasa Mori, Satoshi Maesawa, Wendy Fellows, L. Dade Lunsford.*

4:36 PM-4:45 PM

796. Gamma Knife Radiosurgery for Trigeminal Neuralgia: The Initial Experience at the Barrow Neurological Institute. *Patrick Han, Andrew G. Shetter, C. Leland Rogers, Jeffrey A. Fiedler, Kris A. Smith, Iman Feiz-Erfan, Paul W. Detweiler, Randall W. Porter, Burton L. Speiser.*

4:45 PM-4:54 PM

797. Adrenosensitivity of Injured Afferent Neurons Does not Require the Presence of Postganglionic Sympathetic Terminals. *Giorgio Rubin, Marshall Devor, Zvi Harry Rappaport, Michael Ravikovitch, Thalia Kaspi.*

4:54 PM-5:03 PM

798. Peripheral Neurostimulation to Control Intractable Occipital Neuralgia. *Richard Weiner, Kenneth Reed, Kenneth Alo, Michelle Fuller.*

5:03 PM-5:12 PM

799. Epidural Motor Cortex Stimulation for Chronic Pain: The Utility of Functional Brain Imaging. *Alon Mogilner, Alexander Beric, Djordje Sterio, Rodolfo Llinas, Patrick J Kelly, Ali R Rezaei.*

5:12 PM-5:21 PM

800. SF-36 Health Survey in Cervical and Lumbar Outcome Assessment. *Fred Geisler, Lori Alderete, James Grutsch.*

5:21PM-5:30 PM

801. Narcotic Withdrawal is Not a Problem in Failed Back Surgery Syndrome after Implantation of Dorsal Column Stimulators. *Mitchell Gropper, Larry Armstrong, Milind Deogonkhar.*

Wednesday, November 3

General Scientific Session III

10:25 AM-10:35 AM

CNS Resident Award

802. An Analysis of Risk Factors in Radiosurgery for Vestibular Schwannoma. *Kelly Foote, William A. Friedman, John M. Buatti, Sanford A. Meeks, Francis J. Bova.*

Section on Disorders of the Spine and Peripheral Nerves II

4:00 PM-4:09 PM

803. Single and Two-Level Anterior Cervical Discectomy and Arthrodesis, Autograft versus Allograft: Radiographic and Clinical Outcomes. *A. Giancarlo Vishteh, Nicholas Theodore, Timothy Harrington, Jonathan J. Baskin, Ashraf Ezz-Eldin, Volker K.H. Sonntag.*

4:09 PM-4:18 PM

804. Minimally Invasive 360 Degree Instrumented Lumbar Fusion. *John S. Thalgott, Albert K. Chin, John A. Ameriks, Frank T. Jordan, Michael D. Daubs, James M. Giuffre, Kay Fritts.*

4:18 PM-4:27 PM

805. Anterior Cervical Discectomy versus Anterior Cervical Discectomy and Fusion: One-year Patient Outcome Using the SF-36. *Todd Vitaz, George Raque, Christopher Shields.*

Scientific Sessions - Open Papers



4:27 PM-4:36 PM

806. Thoracoscopic Spinal Surgery: Indications, Limitations and Cost Analysis. *Gregory Dowd, Noel I. Perin.*

4:36 PM-4:45 PM

807. Gasless Lumbar Anterior Interbody Fusion Utilizing the B.E.R.G. Approach. *John S. Thalgott, Albert K. Chin, John A. Ameriks, Frank T. Jordan, Michael D. Daubs, James M. Giuffre, Kay Fritts.*

4:45 PM-4:54 PM

808. Key Patient Factors in the Decision to Offer Surgery on the Lumbar Spine. *Robert Morlock, David Nerenz, Edward Benzel, Russ P. Nockels, William Krauss, Peter Dempsey, Edward Feil, Iain Kalfas, Beard Pfeifer, Mark Rosenblum, Richard Ward, Scott Erwood.*

4:54 PM-5:03 PM

809. Factors Influencing Neurological Deficit and Spinal Alignment in Cervical Spine Facet Injuries: Differences between Unilateral and Bilateral Facet Injury. *Prasad Vannemreddy, Mahmood Fazl.*

5:03 PM-5:12 PM

810. Surgical Treatment of Cervical Spondylotic Myelopathy in Extreme Old Age. *Richard J Edwards, Simon A Cudlip, Anne J Moore.*

5:12 PM-5:21 PM

811. Vertebral Body Reconstruction with Methylmethacrylate in Cancer Patients: Longterm Follow-up. *Julie E. York, Ziya L. Gokaslan.*

5:21 PM-5:30 PM

812. Bone Morphogenetic Protein-9 Gene Therapy and Spinal Fusion. *Tord Alden, Elisa Beres, Subinoy Das, Johnathan Engb, John Jane Jr, Theodore Schuman, Gerald Hankins, David Kallmes, Gregory Helm.*

Section on Tumors II

4:00 PM-4:09 PM

Mahaley Award

813. Colloid Cysts of the Third Ventricle: Factors Associated with Symptomatic Clinical Presentation. *Bruce Pollock, Shawn Schreiner, John Huston III.*

4:09 PM-4:18 PM

814. MR Spectroscopy at 3 Tesla Differentiates Tumor Recurrence from Radiation Change in Patients with Astrocytomas. *James Rabinov, Patricia Lani Lee, Leo Ling Cheng, Frederick G. Barker, David N. Louis, R. Gilberto Gonzalez.*

4:18 PM-4:27 PM

815. The Middle Fossa Approach for Acoustic Neuroma: Hearing Preservation Results. *J. Diaz Day, William E. Hittselberger, Derald E. Brackmann, Robert Owens.*

4:27 PM-4:36 PM

816. Safety and Efficacy of a Multi-Center Study using Intraarterial Chemotherapy in Conjunction with Osmotic Opening of the Blood-Brain Barrier for the Treatment of Malignant Brain Tumors. *Nancy Doolittle, Michael E. Miner, Walter A. Hall, Tali Siegal, E. Jerome Hanson, Eva Osztie, Leslie D. McAllister, Joseph S. Bubalo, Dale F. Kraemer, David Fortin, Randal Nixon, Leslie L. Muldoon, Edward A. Neuwelt.*

4:36 PM-4:45 PM

817. Intraoperative Neurophysiological Monitoring during Surgery of Intrinsic Tumors of the Insula. *Ulrich Pechstein, Georg Neuloh, Johannes Schramm, Josef Zentner.*

4:45 PM-4:54 PM

818. Targeting Gamma 34.5-Mediated Herpes Virulence for Tumor Therapy. *Richard Chung, E. Antonio Chioocca.*

4:54 PM-5:03 PM

819. Presurgical Motor and Somatosensory Cortex Mapping with fMRI and PET. *Richard G. Bittar, André Olivier, Abbas F. Sadikot, Frederick Andermann, G. Bruce Pike, David C. Reutens.*

5:03 PM-5:12 PM

820. Dna Plody, Dna Index, and S-phase Among Secreting and Non-secreting Anterior Pituitary Adenomas. A Cytometric Study on 61 Cases with Feulgen-positive DNA Analysis. *Luciano Mastronardi, Antonio Guiducci, Cristina Spera, Franca M. Buttarò, Enrico G. Cristallini, Fabrizio Puzilli.*

5:12 PM-5:21 PM

821. An ULTRASOUND-Based NEURONAVIGATION System, A Good Solution To The Brain-Shift Problem. *Geirmund Unsgaard, Atle Kleven, Steinar Ommedal, Aage Gronningsaeter.*

5:21 PM-5:30 PM

822. Hearing Preservation in Acoustic Tumor Surgery: Practical and Technical Considerations. *Wolfgang T. Koos.*

Section on Neurotrauma and Critical Care II

4:00 PM-4:09 PM

823. Helmets for Skiers and Snowboarders: Head Injury Prevention Through Intervention, a Pilot Program. *Stewart Levy, Kelly Fulton, Kathy Shaver, Mary Bonville.*

4:09 PM-4:18 PM

824. Evaluation of Ventriculoperitoneal Shunt Valve Effectiveness in Adults Using Intracranial Pressure Monitoring. *Panayiotis Varelak, Romergrzyko G Geocadin, Alexander Y Razumovsky, Maureen O'Brien, Daniel F Hanley, Michael A Williams.*

4:18 PM-4:27 PM

825. Long-term Functional and Neuropsychological Outcome Following Successful Treatment of Chronic Subdural Hematoma in the Elderly. *Vikram C. Prabhu, Vincent J. Miele, Deborah Rettig, Salli Lewis, Staci Robyn, Marc Haut, Barbara J. Holt, Joseph L. Voelker, Howard H. Kaufman.*

4:36 PM-4:45 PM

826. Adult Respiratory Distress Syndrome (ARDS) Worsens Outcome Following Traumatic Brain Injury (TBI) is not Prevented by Insulin-like growth factor 1 (IGF-1) and growth hormone (GH). *Byron Young, Reza Shahim, Jimmi Hatton, Pharm.D, Phillip Tibbs, Robert Gewirtz, Deborah Blades, Benjamin Warf.*

4:45 PM-4:54 PM

827. Utilization of Head Injury Guidelines in U.S. Trauma Centers. *Wilberger Jack.*

4:54 PM-5:03 PM

828. Risk Stratification of Mild Head Injury Patients: A Predictive Index for Outcome. *Kelly Scrantz, Gregory C. Dowd, Deepak Awasthi.*

5:03 PM-5:12 PM

829. Types of Temporal Profiles of CBFV After Head Injury: Correlation with Clinical Course and Outcome? *Moshe Hadani, Bela Bruk, Nachshon Knoller, Zvi Ram.*

5:12 PM-5:21 PM

830. How Safe is the Twistdrill? *Leonardo Lustgarten, Nicholas Maartens, Tipu Aziz.*

5:21 PM-5:30 PM

831. Pump Regulated Lumbar-Subarachnoid Drainage. *Paul Houle, Kostas Fountas, John Vender.*



Scientific Sessions - Open Papers

Section on Pediatric Neurosurgery II

4:00 PM-4:09 PM

832. Endoscopic Third Ventriculostomy Failure: A Risk Factor Analysis. *Toru Fukuhara, Mark G. Luciano.*

4:09 PM-4:18 PM

833. Redo Endoscopic Third Ventriculostomy: Worth Trying? *Vitaly Siomin, Howard Weiner, Jeffrey Wisoff, Giuseppe Cimally, Alain Pierre-Kahn, Rick Abbott, Hanoch Elran, Liana Beni-Adani, Georges Ouaknine, Shlomo Constantini.*

4:18 PM-4:27 PM

834. CSF Shunt Complications after Urologic Procedures in Patients with Chiari II Malformation. *Philipp R. Aldana, Miguel Castellan, Jason Sevald, Katherbyn Nathe, Rafael Gosalbez, Andrew S. Labbie, Glenn S. Morrison, John Ragheb.*

4:27 PM-4:36 PM

835. Management of Pediatric Congenital Fixed Atlantoaxial Dislocation (AAD). *Sanjay Behari, Vyom Bhargava, Vijendra K. Jain, Deepu Banerji, Devendra K. Chhabra.*

4:36 PM-4:45 PM

836. Biomechanical Modeling in Infant Head Injury: From Tissue to Patient History. *Ann-Christine Duhaime, Susan S. Margulies.*

4:45 PM-4:54 PM

837. Treatment of Epilepsy with Vagus Nerve Stimulation in the Pediatric Population. *Henry Bartkowski, Kelly Collins.*

4:54 PM-5:03 PM

838. Evaluation of Transfusion Practice in the Perioperative Management of Craniosynostosis Repair. *J Parker Mickle, Lisa W. Faberowski, Susan Black.*

5:03 PM-5:12 PM

839. Endoscopic Third Ventriculostomy in the Treatment of Hydrocephalus Associated with Posterior Fossa Tumors in Children. *Roux FE, Cinalli G, Sainte-Rose, Chumas P, Zerah M, Renier D, Pierre-Kahn A.*

5:12 PM-5:21 PM

840. Caveous Hemangiomas of the Brain Stem in the Pediatric Population. *Randall Porter, Paul W. Detwiler, Patrick P. Han, Iman Feiz-Erfan, Harold L. Rekate, Robert F. Spetzler.*

5:21 PM-5:30 PM

841. Incidence of Venous Air Embolism During Craniectomy for Craniosynostosis Repair. *J Parker Mickle, Lisa W. Zaberowski, Susan Black.*

Section on Pain II

4:00 PM-4:09 PM

842. Percutaneous Controlled Radiofrequency Trigeminal Rhizotomy for the Treatment of Idiopathic Trigeminal Neuralgia: A 25-Year Experience with 1,600 Patients. *Yucel Kanpolat, Ali Savas, Ahmet Bekar, Caglar Berk.*

4:09 PM-4:18 PM

843. Gamma knife treatment of Trigeminal Neuralgia (TN): Long Term Results. *Ronald Young, Dean S. Jacques, Sandra Vermeulen, Rufus J. Monk, Francisco Li, Brian Copcutt.*

4:18 PM-4:27 PM

844. Outcomes of Posterior Fossa Exploration for Trigeminal Neuralgia. *Philip V. Theodosopoulos, Elysa J. Marco, Charles B. Wilson.*

4:27 PM-4:36 PM

845. Chromaffin Cell Allograft for Cancer Pain Management. *Yves Lazorthes, Jean-Claude Bes, Brigitte Sallerin, Jean Tkaczuk, Mathieu Tafani, Helene Duplan, Jean-Christophe Sol, Beard Malavaud.*

4:36 PM-4:45 PM

846. Long-Term Efficacy of Intrathecal Morphine in the Treatment of Nonmalignant Pain: A Retrospective Study. *Oren Sagher, Vishal C. Gala, Susan Grube, Randy Roth, James A. Taren.*

4:45 PM-4:54 PM

847. Radiosurgical Treatment of Trigeminal Neuralgia: Pain Relief Correlates with Root Entry Zone Dose. *Nicholas Barbaro, Patricia Sneed, Mariann Ward, Michael McDermott.*

4:54 PM-5:03 PM

848. Prospective Study of Long-term Results of Totally Implantable Spinal Cord Stimulation (SCS) in Cohort of 78 Patients. *Ricardo Segal, Margaret-Beth Ott, Elad Levy, Richard Reardon.*

5:03 PM-5:12 PM

849. Evaluation of Efficacy of Transverse Tripolar Stimulation on Chronic Low Back Pain Relief: Results of a Single Center. *Konstantin V. Slavin, Beverly Cooke, Valerie C. Anderson, Kim J. Burchiel.*

5:12 PM-5:21 PM

850. Recurrent Trigeminal Neuralgia Due To Veins Following Microvascular Decompression. *Sun Lee, Elad I. Levy, Alan M. Scarrow, Peter J. Jannetta.*

5:21 PM-5:30 PM

851. Interventional Pain Management: Can Charges Be Effectively Minimized Without Compromizing Quality? *Jason E. Garber, Samuel J. Hassenbusch.*

Thursday, November 4

General Scientific Session IV

Outstanding Abstracts

9:10 AM-9:20 AM

852. Risk factors for repeat cerebrospinal shunt failures in pediatric hydrocephalus. *Sagun Tuli, James Drake, Jerry Lawless, Melaine Wiggs, Maria Lamberti-Pasculli.*

9:20 AM-9:30 AM

853. Cranial Procedures without Hair Removal: A Prospective Trial. *Donald Ross, Michael Sheinberg.*

See page 9 for details on the
1999 Neurosurgery Open House

Special Symposium



“Neurosurgery in the 21st Century”

Educational Objective

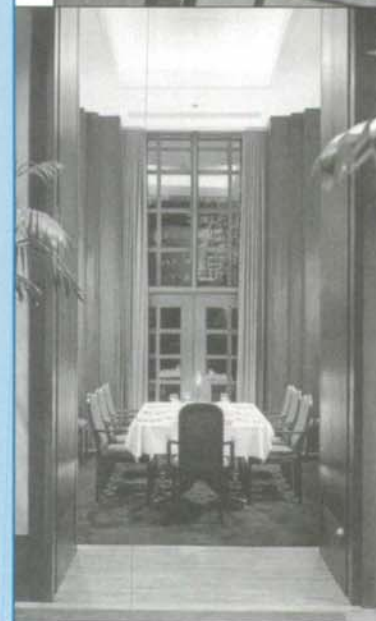
This symposium is accredited for 3.5 hours of Category I Continuing Medical Education Credit. After this course, attendees shall be able to describe emerging trends in neurosurgical education, technology, neurobiology and leadership at the end of the 20th century. They shall recognize challenges facing neurosurgeons in each of these areas and articulate specific strategies for advancing the field.

“Neurosurgery in the 21st Century” American Academy of Arts & Sciences Cambridge, Massachusetts

Thursday, November 4, 1999 1:00 PM–6:30 PM

Symposium Co-Directors: Issam Awad, MD, Philip Stieg, MD, PhD

1:00 PM	Shuttles depart from the Sheraton Boston Hotel and Towers
1:30 PM–2:00 PM	Arrival and Registration
2:00 PM–3:30 PM	Workshops
	I. Education
	Leaders: Olga Jonasson, MD, FACS Michael L.J. Apuzzo, MD
	II. Technology
	Leaders: Eric Cosman, MD Peter McL. Black, MD, PhD
	III. Neurobiology
	Leaders: Gerald Fischbach, MD Bryce K.A. Weir, MD
	IV. Leadership
	Leaders: Jeffrey Otten, MA, MBA Arthur L. Day, MD
3:30 PM–4:00 PM	Coffee Break
4:00 PM–5:30 PM	Workshop Reports and Synthesis Discussion Symposium and Co-Directors
5:30 PM–6:30 PM	Cocktail Reception
6:30 PM	Shuttles depart for Sheraton Boston Hotel and Towers



Special Symposium Faculty



Issam Awad, MD, MSc,
FACS



Philip E. Stieg, MD,
PhD



Olga Jonasson, MD,
FACS



Michael L. J. Apuzzo,
MD



Eric Cosman, PhD

Issam Awad, MD, MSc, FACS

Symposium Co-Director
The Nixdorff-German Professor of Neurosurgery
Yale University School of Medicine
See bio on page xx.

Philip E. Stieg, MD, PhD

Symposium Co-Director
Associate Chief of Neurosurgery
Brigham & Women's Hospital
See bio on page xx.

Olga Jonasson, MD, FACS

Director, Education and Surgical Services
American College of Surgeons
Dr. Jonasson attended Northwestern University as an undergraduate and the University of Illinois College of Medicine. Her residency in General Surgery at the University of Illinois Hospital in Chicago was followed by research fellowships in Immunobiology and Transplantation at Walter Reed Army Institute of Research and Massachusetts General Hospital. In 1967, Dr. Jonasson joined the faculty of the Department of Surgery at the University of Illinois and headed the Division of Transplantation. In 1977 she became Chief of Surgery at Cook County Hospital and in 1987 became the Robert M. Zollinger Professor and Chair of the Department of Surgery, The Ohio State University, and became program director of the residency program in general surgery. She has been a member of the Board of Directors of the ACGME and the American Board of Surgery. In 1993, Dr. Jonasson became the Director of Education and Surgical Services for the American College of Surgeons and resumed an appointment as Professor of Surgery at the University of Illinois and Adjunct Professor of Surgery at Northwestern University.

Michael L. J. Apuzzo, MD

Edwin M. Todd/Trent H. Wells, Jr. Professor
Neurological Surgery and Radiation Oncology,
Biology and Physics
LAC/USC Medical Center
Michael L. J. Apuzzo is the Edwin M. Todd/Trent H. Wells, Jr. Professor of Neurological Surgery and Radiation, Oncology, Biology and Physics at the University of Southern California School of Medicine in Los Angeles.
One of the world's best known and respected surgeons, researchers and academicians, he is considered a principal visionary and innovator in the field. With primary interests in cerebral surgery, neuro-oncology, and the development and transfer of complex technology to the operating room, he has pioneered and

introduced areas of imaging-directed stereotaxy, radiosurgery, minimally invasive and molecular neurosurgery, publishing more than 400 contributions in the scientific literature. With 25 published volumes, his principal texts, Surgery of the Third Ventricle and Brain Surgery: Complication Avoidance and Management are employed worldwide as essential guidelines for neurosurgical practice.

During his career he has championed internationality, communication and education in neurosurgery, serving on more than 25 editorial boards, presenting more than 120 invited professorships worldwide, and holding principle leadership roles in program and educational committees of major national and international organizations. As Editor of Neurosurgery he has instituted and fostered innovations in scientific publishing, internet activities and the scope of organized neurosurgery in global unification and education.

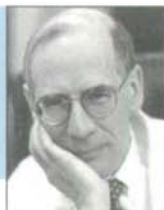
Eric Cosman, PhD

President, Radionics, Inc.
Professor of Physics, Massachusetts Institute of Technology (M.I.T.), Cambridge, Massachusetts, USA; and President, Radionics, Inc., Burlington, Massachusetts. Born May 9, 1942 in Boston. B.S. degree in Mathematics, M.I.T., 1963; and Ph.D. in Physics, M.I.T., 1966. Associate Professor of Physics, 1966 to 1977. Full Professor of Physics, M.I.T., 1977 to 1991. Professor of Physics Emeritus, M.I.T., 1991 to present (and a life-time position). Research Fellow, Max-Planck Institute fur Kernphysik, Heidelberg 1970-71. Scientific Director of Radionics, Inc., 1969 to 1991, President and CEO of Radionics, 1991 to present. Author of over 90 scientific publications in Nuclear Physics and Medical Physics; and holder of 31 U.S. Patents. Specialist in nuclear structure and reactions, isobaric analog and shape-isomeric nuclear states, radio frequency generation in medicine, ICP sensor and models, and stereotactic methods. Designer of numerous inventions and instruments in these fields.

Peter McL. Black, MD, PhD

Neurosurgeron-in-Chief
Brigham and Women's and Children's Hospitals
Dr. Black graduated from McGill Medical School and did neurosurgical training at Massachusetts General Hospital. Since 1987, he has been Franc D. Ingraham Professor of Neurosurgery at Harvard Medical School, Neurosurgeon-in-Chief at Brigham & Women's and Children's Hospitals, and Chief of Neurosurgical Oncology at Dana Farber Cancer Institute.
His major interests are the use of technology including imaging and molecular biology in advancing neurosurgery. His laboratories are the operating room and the molecular biology lab. The OR includes the revolutionary intraoperative MRI at the Brigham and Women's Hospital and the highly sophisticated system for intraoperative navigation and brain mapping. These have been applied particularly to resection of cortical tumors and low grade gliomas. In the laboratory, Dr. Black is interested in the relation between glial development and glioma formation, and angiogenesis. He also focuses on novel ways of providing local drug therapy.

Special Symposium Faculty



Peter McL. Black, MD,
PhD



Gerald Fishbach, MD



Bryce K.A. Weir, MD



Jeffrey Otten, MA,
MBA



Arthur L. Day, MD

Gerald Fishbach, MD

Director

National Institute of Neurological Disorders and Stroke

Gerald D. Fischbach, M.D., assumed the position of Director, National Institute of Neurological Disorders and Stroke, National Institutes of Health on July 15, 1998. He has been the Nathan Marsh Pusey Professor of Neurobiology and chairman of the Neurobiology Departments of Harvard Medical School and Massachusetts General Hospital since June of 1990. He previously served for ten years as Edison Professor of Neurobiology and Chairman of the Department of Anatomy and Neurobiology at Washington University Medical School in St. Louis, Missouri. Dr. Fischbach received his M.D. degree from Cornell University Medical School in New York and interned at the University of Washington Hospital in Seattle, Washington. Throughout his career, Dr. Fischbach has studied the formation and maintenance of synapses, the junctions between nerve cells and their targets through which information is transferred. His current focus is on trophic factors that influence synapse efficacy and nerve cell survival. He is a past-President of the Society for Neuroscience and he now serves on several medical and scientific advisory boards. He is a member of the National of Academy of Sciences, American Academy of Arts and Sciences and the Institute of Medicine, and he is a fellow of the American Association for the Advancement of Science and a non-resident Fellow of the Salk Institute.

Bryce K.A. Weir, MD

Maurice Goldblatt Professor

Chief, Section of Neurosurgery

Director, Brain Research Institute

University of Chicago Medical Center

Bryce Weir is Professor of Surgery and Neurology at The University of Chicago, Chief of Neurosurgery and Director of the Brain Research Institute. He is the author of more than 250 publications, including three books on vascular neurosurgery. He is an honorary Fellow of the Royal College of Surgeons of Edinburgh, an Officer of the Order of Canada and a member of the Institute of Medicine of the National Academy of Sciences.

Jeffrey Otten, MA, MBA

Brigham & Women's Hospital

Chief Executive Brigham and Women's Hospital

Jeffrey Otten joined Brigham and Women's Hospital in August, 1993 as Executive Vice President and Chief Operating Officer, and was promoted to Chief Executive Officer in July, 1994. In this position, he is responsible for the daily management and strategic development for this 751 bed, \$850 million non-profit teaching affiliate of Harvard Medical School. This includes administrative responsibility for clinical services, ambulatory and community health services, nursing services, human resources, and support services. Sponsored research at Brigham and Women's is over \$200 million annually, and the hospital trains 800 medical students and residents. In 1998, Faulkner Hospital, a community teaching facility, merged with Brigham and Women's Hospital. Mr. Otten is also a member of

senior leadership at Partners HealthCare System, the structure managing the affiliation of Brigham and Women's and the Massachusetts General Hospitals. Mr. Otten is Chairman elect of the Massachusetts Hospital Association, Vice-Chair of the Greater Boston Foodbank, Secretary/Treasurer of the University Hospital Consortium, and member of the Board of the Partnership and MASCO.

Prior to joining Brigham and Women's, Mr. Otten was Chief Operating Officer for the Hospital of the University of Pennsylvania in Philadelphia, where he held administrative responsibility for the daily management of the Hospital.

Mr. Otten has also served as Associate Director and Chief Financial Officer at UCLA Medical Center, where he directed such diverse activities as data processing, patient accounts, clinical services, accounting, and the second largest solid organ transplant program in the country. He has also served in senior management positions at the 2,105 bed Los Angeles County USC Medical Center and the 711 bed Harbor - UCLA Medical Center. In addition, his background includes experience as a consultant in healthcare strategy and financial management. He has held teaching positions at California State University Los Angeles, UCLA, Wharton, and the Harvard School of Public Health.

Mr. Otten has both a Master of Arts and Master of Business Administration degree from the University of California in Los Angeles. He is married and has two children.

Arthur L. Day, MD

Professor and Eminent Scholar

University of Florida

Arthur L. Day, MD, Professor, Co-Chairman and Residency Program Director of the Department of Neurological Surgery at the University of Florida, graduated from Louisiana State University Medical School in 1972 and completed his neurological surgery residency training at the University of Florida in 1977. After a fellowship in brain tumor immunology at UF, he joined the neurosurgery faculty in 1978, and is currently Professor and the James and Newton Eblen Eminent Scholar Chair in Cerebrovascular Surgery.

Dr. Day's clinical interests are in cerebrovascular disease and sports medicine. His research activities focus on cerebral ischemia and protection. Dr. Day currently serves on the editorial boards of the Journal of Stroke and Cerebrovascular Disease, Neurosurgery, and Operative Techniques in Neurosurgery.

He has served as president of the Florida Neurosurgical Society, the Congress of the Neurological Surgeons, the Section on Cerebrovascular Surgery of The American Association of Neurological Surgeons/CNS, the Sports Medicine Section of the AANS/CNS, and the Alachua County Medical Society. He has recently completed a term as a member of the Board of Directors of The American Association of Neurological Surgeons, and is currently the Chairman of the AANS/CNS Washington Committee. He has also recently been appointed as a director on the American Board of Neurological Surgery.

Registration Deadline

September 23, 1999



Auxiliary Program - at - a - Glance

Saturday, October 30

#601
6:00 PM-11:00 PM
Dinner at Salem Cross Inn
\$110

#602
7:00 PM
Boston Symphony Orchestra
Concert
\$55

Sunday, October 31

7:30 AM-5:00 PM
Friends of the Congress Café

#501
8:30 AM-5:00 PM
Mansions of Newport
\$69

#502
9:00 AM-1:00 PM
Harvard University and the
Glass Flowers Exhibit
\$29

#503
9:00 AM-12:00 NOON
Boston Duck Tours: The Ride of
Your Life
\$36

#504
11:00 AM-12:00 NOON
Welcome to Boston: An
Overview
Complimentary

#505
1:00 PM-5:00 PM
Complete Tour of Boston: 350
Years In A Day
\$21

#506
1:00 PM-5:00 PM
Lexington and Concord- The
Shot Heard Round The World
\$29

#507
1:30 PM-5:00 PM
A Walking Tour of the North End
\$35

6:30 PM-9:00 PM
Opening Reception

Monday, November 1

7:30 AM-5:00 PM
Friends of the Congress Café

#508
9:00 AM-12:00 NOON
The Boston Design Center
\$29

#509
9:00 AM-12:30 PM
Homes of Beacon Hill
\$55

#510
9:30 AM-3:30 PM
A Literary Tour of Concord
\$69

#511
11:30 AM-5:00 PM
A Thanksgiving Luncheon at
Plimoth Plantation
\$62

#512
11:30 AM-3:00 PM
Friends of the Congress Auxiliary
Educational and Lunch Program
\$40

#513
1:00 PM-4:30 PM
The Black Heritage Trail®
\$26

#514
1:00 PM-5:00 PM
Boston Brew Pubs:
The "Historic" Beer
\$54

#603
6:00 PM-10:30 PM
A Sunset Cruise Aboard the
Odyssey
\$99

Tuesday, November 2

7:30 AM-5:00 PM
Friends of the Congress Café

#515
8:30 AM-11:00 AM
Antique and Estate Jewelry
\$42

#516
9:00 AM-3:30 PM
The History of Cambridge: Tory
Row
\$55

#517
9:00 AM-10:00 AM
Auxiliary Educational Session
Complimentary

#518
10:00 AM-4:30 PM
Images of Women in Art
\$84

#519
10:00 AM-5:00 PM
Antiquing North of Boston
\$48

#520
12:30 PM-4:30 PM
Marblehead and Old Salem:
Myth and Mystery
\$35

#521
1:00 PM-4:30 PM
Tennis
\$39

#604
7:30 PM
Dolce Vita: The Heart of the
Italian North End
\$110

#605
7:00 PM
Riverdance
\$88

Wednesday, November 3

7:30 AM-5:00 PM
Friends of the Congress Café

#522
8:30 AM-9:30 AM
Auxiliary Educational Session
Complimentary

#523
9:30 AM-1:30 PM
The USS Constitution Museum
and the Old State House
\$29

#524
1:30 PM-4:30 PM
A Glimpse into the Life of
Victorian Boston
\$45

#605
7:00 PM-11:00 PM
Boston Cabaret Reception and
Dinner
\$100

Thursday, November 4

7:30 AM-12:00 NOON
Friends of the Congress Café

All Auxiliary Tours and Optional Evening Events depart from the Sheraton Boston Hotel and Towers.

Social Program



Opening Reception

Don't miss this year's 1999 CNS Opening Reception! This Halloween evening bring your family, join your colleagues and get ready for a fun filled holiday event! Come enjoy the *spooky* atmosphere coupled with a *ghoulish* feast, *mystifying* drinks and *creepy* company. This fabulous event will take place in the Ballroom of the John B. Hynes Veterans Convention Center. One complimentary ticket is provided for each registrant. All little goblins are welcome and encouraged to attend!

Each registrant will receive one complimentary ticket to the Opening Reception. The existing shuttle routes, as applicable during the day, will apply for the Opening Reception and will run until 9:30 PM.



Boston Cabaret Reception and Dinner Ticket Exchange

If you advance register for the Boston Cabaret Reception and Dinner you will receive a ticket in your on-site registration packet. You must exchange this ticket for a table assignment no later than 12:00 NOON, Tuesday, November 2. For groups wishing to sit together, we recommend that one person collect the group's tickets and bring them to the exchange desk, which is located in the CNS Registration Area at the John B. Hynes Veterans Convention Center. The ticket exchange desk and the floorplan will be available during registration hours. See below for further details on this exciting event!

Boston Cabaret Reception and Dinner

Make plans to join us for this exclusive event at the Fairmont Copley Plaza Hotel—it will be one of your most memorable experiences that you take home with you from Boston!

Join your friends and colleagues for a spectacular cabaret evening at this year's Annual Reception and Dinner. The site of this year's event is the Grand Ballroom of the Fairmont Copley Plaza Hotel. The Grand Ballroom, world-renowned for its magnificence, is a veritable jewel box filled with crystal chandeliers, mirrors and gilded decorations, and has been witness to receptions for guests such as John F. Kennedy, the Prince of Wales and King Saud of Saudi Arabia.



This annual event will begin with a reception followed by an enchanting dinner in one of the city's most sensational venues. This special cabaret evening will feature notable music by the New York Voices and Intensive Care Unit, delightful cuisine and the best company you can find in Boston.



Plan to join us in Boston for the most spectacular evening that has yet to be seen!



Intensive Care Unit



New York Voices



Optional Evening Events

Dear Spouses and Friends of CNS Meeting Attendees:

Under the leadership of the CNS Auxiliary Committee President, activities for spouses and friends of CNS members have received very special attention this year. A number of new initiatives have been implemented in time for the 1999 CNS Annual Meeting in Boston, October 31-November 4, 1999.

The "Friends of the CNS Newsletter" was designed to provide you with information about the meeting, and about all the activities in Boston. Plans are underway for Childcare Services—for the first time at a neurosurgical meeting, to allow you and your spouse to enjoy the meeting and social activities knowing that your children are there and taken care of. The auxiliary suite at the Boston meeting will be a small restaurant, which we are reserving as part of the Headquarters Hotel, the Sheraton Boston Hotel and Towers, adjacent to Copley shopping areas and on your way to the John B. Hynes Veterans Convention Center. This "Friends of the Congress Cafe" will be open all day for you and your spouse to meet, chat, rendezvous, and obtain information on tours and social activities. We will also host a number of scheduled public information events at the "Cafe", which you will find informative and interesting.

We have listened to you. This is a new era, celebrating the "new" neurosurgical families, and recognizing their needs. Please engage us with your full participation, and let us know how we can continue to serve you better.

See you in Boston, at the Best Neurosurgical Meeting EVER!

Janet Batjer, Auxiliary CNS President
Catherine Awad, Auxiliary Meeting Chairperson
Janet Stieg, Auxiliary Local Arrangements Chairperson

SATURDAY, OCTOBER 30

#601

Dinner at Salem Cross Inn

6: 00 PM-11: 00 PM

\$110 per person

You'll travel to central Massachusetts, where down a quiet country road, surrounded by rolling hills and meadows, the Salem Cross Inn recalls a time and place ordinarily beyond the reach of contemporary Americans. The Inn is known for its extensive collection of American antiques and furnishings. The collections occupy richly paneled rooms in the ancestral home of a family whose forebear, Peregrine White, was the first person born on the MAYFLOWER. Built in 1705, the Inn, with its borning room and stream of spring water flowing through the cellar, withstood countless Indian raids, the French and Indian Wars and the American Revolution. You'll have a tour of the Inn led by the Innkeeper, where you'll see hundreds of early American artifacts. You may also choose to take a romantic hayride through the rolling hills of the inn's acreage. During the reception, you can watch dinner cooking - huge prime

ribs of beef roasting in a giant open hearth. When dinner is served the aroma of fresh baked breads and muffins prepared in the Inn's 1699 beehive oven will greet you. Choose from homemade zucchini, pecan and squash muffins or Bannister rolls prepared from a prize winning New England recipe. All of the meals served at the inn are comprised of ingredients produced on the inn's own farm. The staff dressed in authentic period costume serves dinner.

#602

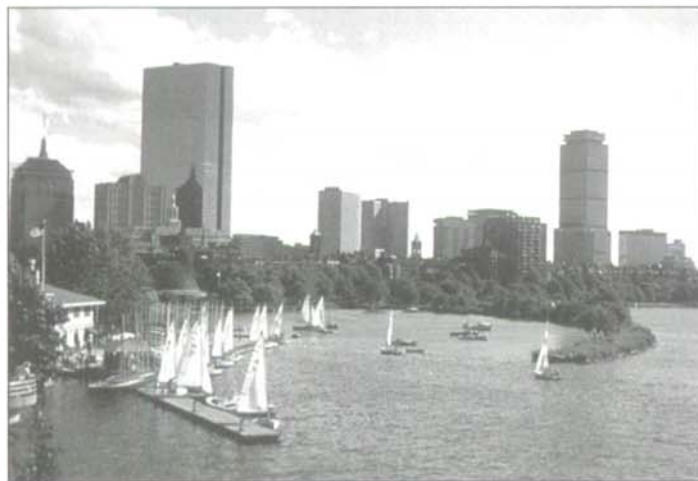
Boston Symphony Orchestra Concert

Time: 7:00 PM

\$55 per person

Now in its 115th season, the Boston Symphony Orchestra gave its inaugural concert on October 22, 1881 and has continued to uphold the vision of its founder, the philanthropist, Civil War veteran, and amateur musician Henry Lee Higginson, for more than a century. Under the leadership of Seiji Ozawa, its music director since 1973, the Boston Symphony Orchestra has performed throughout the United States, as well as in Europe, Japan, Hong Kong, South America, and China, and reaches audiences numbering in the millions through its performances on radio,

Optional Evening Events



Downtown Skyline from Boston Harbor. Home to many hotels, shopping arcades, restaurants and museums around Waterfront Park. Photo courtesy of the Greater Boston convention & Visitors Bureau.

television, and recordings. Today, the Boston Symphony Orchestra presents more than 250 concerts annually. It is an ensemble that has richly fulfilled its founder's vision of a great and permanent orchestra in Boston.

Performance Agenda:
Emanuel Krivine, conductor
Yevgeni Kissin, piano

BOULEZ Notations VII
PROKOFIEV Piano Concerto No. 2
RIMSKY-KORSAKOV Scheherazade

MONDAY, NOVEMBER 1

#603
A Sunset Cruise Aboard the Odyssey
6:00 PM–10:30 PM
\$99 per person

The Odyssey is the most elegant dinner cruise ship in Boston Harbor. An entire deck of this beautiful mega yacht will be chartered exclusively for the attendees of the Congress of Neurological Surgeons Annual Meeting. Listening or dancing to a five piece band on the deck plus a four course plated meal will delight you during an event overflowing with good food, laughter, lively music and dancing, all on board a magnificent ship surrounded by spectacular skyscrapers and the sparkling waters of Boston Harbor. *Beverages available on a cash basis.*

TUESDAY, NOVEMBER 2

#604
Dolce Vita: The Heart of the Italian North End
Time: 7:30 PM
\$110 per person

You'll think you're in Italy when you enter the warm and gracious trattoria, "Dolce Vita". Franco, host and owner, will make you feel as if you are one of the family. As with most restaurants in the North End, Dolce Vita is located in a former home. As you walk up the stairs to the second floor dining room for dinner, the sounds and aroma of the kitchen and the warmth of the people will also make you feel that this is your home.

#605
Riverdance
7:00 PM
\$88

Riverdance – The Show, the highly acclaimed celebration of Irish dance, music and song that played to sold-out audiences at the Wang Theatre for the past three years, returns to Boston. The phenomenon of *Riverdance – The Show* draws on Irish traditions and combines the richness of music with the magic and sensuality of dance. Featuring a cast of over 80 performers led by principal dancers from Ireland, the United States, Spain and Russia, this extraordinary show took London and Dublin by storm. Nearly 1.5 million people worldwide have seen this spectacular fusion of song and dance, celebrating Ireland and the world beyond.



Exhibit Hall Hours

Monday, November 1	8:30 AM–4:30 PM
Tuesday, November 2	8:30 AM–4:30 PM
Wednesday, November 3	8:30 AM–4:30 PM



Auxiliary Tours

SUNDAY, OCTOBER 31

**#501
Mansions of Newport
8:30 AM-5:00 PM
\$69 per person**

You will drive to famous Newport, Rhode Island, for an opportunity to experience the lifestyles of the rich and famous. You will visit the spectacular "Breakers" mansion, the summer "cottage" of Cornelius Vanderbilt, and The Marble House, built for William K. Vanderbilt. Private tours of both homes have been arranged. After time for browsing in Newport Harbor and luncheon at the charming La Forge Casino, you will tour the famed 10 mile Ocean Drive for a view of the estates and gardens that dot this beautiful shoreline. *Please note that the driving time to Newport is approximately 1.5 hours.*



Faneuil Hall/Customs House Tower. Three restored buildings from the 1700's. This is the nation's premier marketplace.

**#502
Harvard University and the Glass Flowers Exhibit
9:00 AM-1:00 PM
\$29 per person**

You will explore the world famous Harvard University area where the young JFK lived and studied. Stroll through Harvard Yard, the original campus of the oldest university in the country, and see the Ancient Burying Ground where Harvard's first eight Presidents are buried. You will have time to browse in Harvard Square, with its shops, boutiques, and over 25 bookstores before your tour of the Ware Collection of Glass Models of Plants, popularly known as "THE GLASS FLOWERS." Commissioned by Goodale from the renowned artisans, Leopold and Rudolf Blaschka, the collection still serves as an adjunct to teaching biology, while also attracting worldwide public interest. The approximately 3,000 models, created from 1887 through 1936, represent over 840 species, each with a scientifically accurate, life-size model and magnified parts.

**#503
Boston Duck Tours: The Ride of Your Life
9:00 AM-12:00 NOON
\$36 per person**

Unless you fought in World War II, you probably haven't ridden on a "duck" before. This "duck" is an authentic renovated amphibious landing vehicle, retrofitted to take you on a special historical tour of Boston, with a *very* special splashdown right into the Charles River for a breathtaking water side view of Boston, the kind of view that you can't get anywhere else.

The tour starts off impressively at your hotel when your chartered "duck" and conDUCKtor call for you. Your tour will last approximately 70 minutes, during which you'll see the highlights of Boston's Freedom Trail and other famous landmarks. You'll cross over the Charles River, and once on the Cambridge side, your "duck" becomes waterborne, for the ride of your life. Upon re-entry, you'll board an executive motorcoach for the remainder of your tour of Boston.

**#504
A Welcome to Boston: An Overview
11:00 AM-12:00 NOON
Complimentary**

A beautiful selection of slides and entertaining commentary will introduce you to the full range of Boston's treasures. You'll see the distinct character of each of Boston's neighborhoods - Beacon Hill,

Auxiliary Tours



Back Bay, and the North End just to name a few, as well as the exciting Marketplace area, newly renovated and full of unusual boutiques and appealing restaurants. You'll learn about the historical sites along the Freedom Trail; Boston's numerous museums, and the contemporary shopping and dining delights of Boston.

#505

Complete Tour of Boston: 350 Years In A Day

1:00 PM–5:00 PM

\$21 per person

Boston is comprised of many neighborhoods, each with its own architecture and atmosphere. You'll have an overview of the city when you see the major neighborhoods and the historic sites that make Boston such a fascinating place to visit.

You'll see Beacon Hill, Boston's most prestigious address, and visit the Back Bay, an elegant section of Boston which, one hundred years ago, was built according to the plan of Paris' Bois de Bologne. You'll pass by the Midtown Cultural District, Chinatown, and the South End, which boasts the largest Victorian neighborhood in the United States. Fenway Park is on your route, and the Fens section of Boston, which contains the Museum of Fine Arts, Symphony Hall, and the Isabella Stuart Gardner Museum will also be seen. You'll drive by the Waterfront and then walk into the North End, Boston's famous Italian neighborhood where you will visit the Old North Church to see where the lanterns were hung to signal the beginning of Paul Revere's famous "midnight ride". Boston's Freedom Trail continues from here. You will have a photo stop at the USS CONSTITUTION, as well as seeing the Massachusetts State House, the Old South Meeting House, Boston Common, and other sites along the Trail. You will have time on your own in Quincy Market, Boston's renovated central market, where you can browse among the vast array of carts and shops offering everything from local crafts to merchandise from around the world.

#506

Lexington and Concord—The Shot Heard Round The World

1:00 PM–5:00 PM

\$29 per person

Your first stop is historic Lexington Green, the site of the initial skirmish of the Revolution. Surrounding the Green are three historic homes, all of which played a significant role in the events which occurred in April, 1775.



Smith Court. Homes owned by Afro-American laborers, clergy and entrepreneurs that were used as investments as well as rentals. Also a site on the Black Heritage Trail.

You will have a private tour of one of these homes, Buckman Tavern, preserved as it was over two hundred years ago, and learn what role it played as our country declared its freedom from England. After your tour, you will travel the Battle Road to Concord, where you will visit the Old North Bridge, see the Minuteman Statue and stand on the site where "the embattled farmers stood and fired the shot heard round the world". While in Concord, you will pass by the homes of Louisa May Alcott, Ralph Waldo Emerson and Nathaniel Hawthorne, three of Concord's most famous residents.

#507

A Walking Tour of the North End

1:30 PM–5:00 PM

\$35 per person

Join us for a special walking tour of the North End spanning 300 years of history. The streets of the North End are filled with a fascinating mix of historical sites, ethnic shops and food. Your guided tour will begin at the Paul Revere House, the oldest wooden home in existence in Boston. The tour will include famous Revolutionary War sites such as Old North Church and will also highlight the neighborhood's rich immigrant flavor. After your walk enjoy a specialty of the North End - a cannoli and cappuccino at a charming Italian trattoria.



Auxiliary Tours

MONDAY, NOVEMBER 1

#508

The Boston Design Center

9:00 AM-12:00 NOON

\$29 per person

Located along the waterfront, The Boston Design Center is the focal point for interior design services for the entire New England region. You will be treated to an exclusive tour of the showrooms which feature antique and contemporary furniture, fabrics and floor coverings. By special arrangement you may discuss your decorating needs with the Center's interior decorators, as well as have an opportunity to purchase items from the showrooms. You will also have an opportunity to enjoy an informal tea with the decorators, where you may discuss your individual decorating issues.

#509

Homes of Beacon Hill

9:00 AM-12:30 PM

\$55 per person

Beacon Hill is one of Boston's most prestigious neighborhoods, with many historic buildings and the private residences of some of the city's more renowned citizens - past and present. The homes on the Hill were designed by the country's most celebrated architects, and built for governors, senators and presidents. The morning begins with a walking tour of the Hill, which will enhance your appreciation of the history of this landmark neighborhood. Your guide will also share anecdotes about the past and present residents. Special arrangements have been made to visit three private homes, whose owners will offer their own perspective of life on the "Hill."



Acorn Street on Beacon Hill. Cobblestone Street on Boston's historic Beacon Hill.

#510

A Literary Tour of Concord

9:30 AM-3:30 PM

\$69 per person

This tour highlights Concord's importance as the site where some of the most influential American literary figures of the 19th century lived, worked and died. You will visit Walden Pond made famous lately by Don Henley, and weather permitting, walk through the pristine woods to the actual site of Thoreau's cabin. Your literary journey continues as you tour Orchard House, the home of Louisa May Alcott, and the house which became the setting for *Little Women*, the most widely published children's book in the world. The costumes and clothing used by the Alcott girls when they gave their famous plays have been preserved, and some will be on display. Your next stop is The Concord Antiquarian Museum, which features rooms from every period of Concord's history, each room having authentic decor and artifacts from its period. This is a fascinating look into the world of "Little Women" and its author, as well as the other literary periods represented by Concord's famous local authors. There will be time to view the graves of these famous authors at Sleepy Hollow Cemetery. Before returning to Boston, luncheon will be served in a private room at the historic Wayside Inn, where you will see the original schoolhouse of "Mary Had a Little Lamb", as well as period furnishings and historical artifacts.

#511

A Thanksgiving Luncheon at Plimoth Plantation

11:30 AM-5:00 PM

\$62 per person

Plimoth Plantation recreates the lives of the settlers who arrived here from England in the 1600's -they were called Pilgrims and they established the first successful English colony in New England. They arrived aboard a ship called the MAYFLOWER and in Plymouth Harbor you will have a photo stop at Plymouth Rock and the MAYFLOWER II, a duplicate of the ship, which carried these hardy souls. Both on the ship and at the Plantation, actual residents are portrayed. Dressed in authentic clothing and speaking with early English accents, these "settlers" will relate their experiences and answer questions about their lives. You will enter their homes and explore the settlement on your own.

Since Thanksgiving is only three weeks away, you'll have a chance to celebrate as the Pilgrims did, as you enjoy a Traditional Thanksgiving luncheon at Plimoth Plantation. The lunch consists of New England Clam Chowder, Garden Salad, Roast Native Turkey with Cornbread Stuffing, Giblet Gravy, Potatoes, Seasonal Vegetables, Cape Cod Cranberry Sauce, Hot Fruit Cobbler, and beverage.

Auxiliary Tours



FEATURED EVENT

#512

Friends of the Congress Auxiliary Educational and Lunch Program

John F. Kennedy Library and Museum

11:30 AM-3:00 PM

\$40 per person

Plan to join us for this opportunity to experience the stirring legacy of President Kennedy's thousand days, and come away inspired by his vision that each person in our society can make a difference and that everyone should try. You are invited to view the Library's permanent collection on the life and legacy of President John F. Kennedy. The museum features three theaters, period settings and twenty dramatic exhibits drawing on rare film and television footage, historic Presidential documents, personal family keepsakes, treasures from the White House, and gifts throughout the world. After enjoying a delightful lunch viewing a spectacular panoramic view of the Boston Harbor and skyline you will



get the unique opportunity to hear from the museum's curator who will provide you with historical information regarding the Kennedy family.

*Don't miss this special event - register today for this program!
This program is co-sponsored by the CNS.*

#513

The Black Heritage Trail®

1:00 PM-4:30 PM

\$26 per person

The first Africans arrived in Boston in 1638, only 18 years after the English Puritans established their settlement. One hundred and fifty years later, the first Federal census determined that Massachusetts was the only state in the Union to record no slaves. The largest community of free black citizens was congregated along the north slope of Beacon Hill, and the buildings which contain the history of the early African Americans of Boston are all situated here. Your walking route will take you past the homes of escaped slaves, an old meeting house, homes which were stations along the underground railroad, the first integrated school in Boston, and the African Meeting House which is the oldest black church edifice in Boston (1805).

Exploration of the Underground Railroad takes place at the Jackson Homestead, located 8 miles outside of Boston. Built in 1809, the Jackson Homestead was home to Edward Jackson, a 1643 settler of Newton, Massachusetts. This home was a station on the Underground Railroad in the 1850's, and you will see where the Jackson family hid runaway slaves, as well as a photograph and document collection.

#514

Boston Brew Pubs: The "Historic" Beer

1:00 PM-5:00 PM

\$54 per person

Boston's reputation as a historic city applies not only to her buildings and events, but to her beer as well. Sam Adams was a statesman, a patriot and a brewer. You'll tour the world famous Samuel Adams Brewery to see how this award winning lager is brewed - and with a generous tasting you can judge for yourself why Time Magazine voted Sam Adams Lager the "Best Brew of the Decade". Then it's on to The Warren Tavern (1732), the oldest tavern in Charlestown where you'll enjoy the colonial ambiance of wide planked wood floors, exposed brick and an atmosphere not unlike that experienced by the Massachusetts colonists over 250 years ago. After a beer and some light snacks, your final stop is the bar "where everybody knows your name" - CHEERS. Here you'll be treated to VIP status - no waiting in line. You'll have a final beer at the bar, and then you're free to explore the gift shop upstairs and the surrounding neighborhood. As a souvenir of your visit, each person will receive a "Cheers" pilsner glass.



Auxiliary Tours

TUESDAY, NOVEMBER 2

#515

Antique and Estate Jewelry

8:30 AM–11:00 AM

\$42 per person

It's an early morning trip to the prestigious Skinner Gallery, one of the leading auction houses in the United States, where the Director of Fine Jewelry, a renowned expert in her field, will speak about antique jewelry and the best way to buy and sell it. Following her discussion, and a question and answer period, the gallery's latest collection will be on display. The Director will also be available to do informal appraisals for those who wish to bring antique jewelry of their own. Coffee and pastries will be served.

#516

The History of Cambridge: Tory Row

9:00 AM–3:30 PM

\$55 per person

Your tour of Cambridge begins at the *Hooper Lee Nichols House* on "Tory Row". Built between 1685 and 1690 by physician Richard Hooper, the original house was a small medieval farmhouse with steeply pitched roof and massive chimney. The house has a documented history over the next 300 years which you will have an opportunity to learn about during your tour. You will see early nineteenth century wallpapers that were discovered during restoration, as well as "windows" which have been opened up to show details of the original structure and the character of the repairs.

Along the remaining area of "Tory Row", the seven homes and the Anglican Church built by Puritans, wealthy merchants and Crown officials between 1727 and 1767 all survive and give the street its nickname. This area is called the Old Cambridge Historical District and forms one of America's finest collections of residential architecture.

There will be time to explore Harvard Square on your own before the luncheon, which will be served at a charming restaurant in the heart of Harvard Square.



State House. Designed by Charles Bulfinch, the distinctive gold dome has enhanced the Boston Skyline since 1778. Photo courtesy of the Greater Boston Convention & Visitors Bureau.

#517

Auxiliary Educational Session

9:00 AM–10:00 AM

Complimentary

Jim McAllister, a popular local historian, photographer, lecturer and teacher, will enthrall you with the history of the Salem Witch Trials. He examines political, economic, and psychological issues that led to the accusation of more than two hundred people and execution of twenty for the alleged crime of witchcraft in Salem, Massachusetts in 1692.

McAllister will also discuss other themes relevant to the Salem witch trials including gender, the belief in the existence and the power of witchcraft, and the popular ergot theory. His presentation, entitled **PROSECUTING SATAN: A LEGAL PERSPECTIVE ON THE SALEM WITCH TRIALS**, will offer a unique and fascinating look at this unfortunate period of early American history.

**You don't want to miss the Boston Cabaret Reception
and Dinner on Wednesday, November 3.**

See page 53 for details!

Auxiliary Tours



#518

Images Of Women In Art

10:00 AM-4:30 PM

\$84 per person

Bostonians have always supported the arts, and the Museum of Fine Arts is a grand example of this commitment. You will view the incomparable collections of paintings, sculpture, decorative arts, drawings and photographs, representing Eastern and Western cultures from ancient times to the present. To make these collections even more meaningful, a fine arts expert will interpret the images of women as they were perceived by various artists and cultures throughout the ages. This is a fascinating tour, especially for women, and one you will long remember. Following your tour, you will have time on your own to browse through the museum and gift shop, and then you will dine in the Museum's charming restaurant overlooking a beautiful courtyard filled with statuary.

Following luncheon, you'll visit the Isabella Stewart Gardner Museum, a five-story Italian Renaissance structure which surrounds an open courtyard filled with plants and flowers. Mrs. Gardner's home contains masterpieces of Botticelli, Reubens, Raphael and Rembrandt, as well as other art and artifacts, which she collected during her travels. Isabella Stewart Gardner was one of Boston's most prominent citizens at the turn of the century, famous for her charm and eccentricity.

#519

Antiquing North of Boston

10:00 AM-5:00 PM

\$48 per person

In the 18th and 19th centuries the port of Boston was home to thousands of ships continually arriving from Europe and the East with treasures to furnish and decorate the homes of New England. Over the years these treasures made their way to the grand summer homes located along the north shore of Boston. Ultimately, a great many have found temporary homes in the antique shops that line the back roads winding along the shoreline north of Boston. You'll have an opportunity to explore many shops including those that carry only items with the finest provenance as well as those that display a great selection of "near antiques". A special stop will be made at "Woodman's" for their famous Fisherman's Platter!

**Be sure to register for the
Featured Event #512. See
page 59 for details.**

#520

Marblehead and Old Salem: Myth and Mystery

12:30 PM-4:30 PM

\$35 per person

Your tour will begin with a visit to scenic Marblehead harbor on Boston's north shore. You will stroll among the quaint shops that surround the waterfront and visit the town hall where the original "Spirit of '76" is hung. You will continue on to the next town - Salem - the home of "witch hysteria" in the 1600's. You will begin your visit with a private tour of the Witch Museum, where through a multimedia presentation you will experience what it was like when "witch hysteria" was rampant in the 17th century, and the effects of this legacy of fear. Salem is also famous for its participation in the China Trade, and the sea captains of this era built stately mansions with the great profits they earned. Many of these homes were built on Chestnut Street and you will visit this area which has been called "the most distinguished street in America". If time permits, you will stop in Ye Olde Candy Shoppe, the oldest candy store in America.

#521

Tennis

1:00 PM-4:30 PM

\$39 per person

Spend an afternoon sharpening your game or just enjoying a few games of tennis at an indoor athletic club. A tennis pro will be in attendance to assist you, and there will be light snacks and beverages available throughout.

WEDNESDAY, NOVEMBER 3

#522

Auxiliary Educational Session

8:30 AM-9:30 AM

Complimentary

Tom Hayes, with humor, empathy and insight takes his audience through the self-inventory process of identifying their current habits, skills and knowledge base. By determining what the audience's strengths are, Tom helps them to mold and implement an approach that successfully conforms to each participant's desires, values, goals and make-up, all the while empowering them to go beyond present levels of performance.



Auxiliary Tours

Tom provides his audiences with 'ah-ha' experiences by showing them new ways to look at concepts and approaches such as the purposes and goals of individual mission statements, relationship building, and time management. He will tailor his material with emphasis placed on motivation, interpersonal skills, teamwork, and goal achievement, all according to the participants' objectives.

Tom leads a very successful life. During the day he's one of the best sales people in the country but at night he puts it all away for work as one of the country's leading nightclub and corporate comedians. With the same approach that has characterized his excellence at work, Tom has quickly established himself as one of the funniest comedians around, and in classic Tom Hayes fashion, set a goal for himself and ultimately won Showtime TV's "Funniest Person in Massachusetts" award. His act is a rare combination of magic, comedy and salesmanship of the truly funny kind.

#523

The USS Constitution Museum and the Old State House

9:30 AM-1:30 PM

\$29 per person

There are two museums along Boston's Freedom Trail which make the early history of our country come alive. The first is the USS Constitution Museum that examines the voyages and battles of "Old Ironsides" the oldest commissioned warship in the US Navy. You'll have an opportunity to see how the sailors of the late 1700's lived aboard ship, and you'll even learn how the ship's construction prevented the iron cannonballs of the British fleet from doing any damage to her wooden hull.

Next, you'll visit The Old State House, originally built in 1732 for the ruling British Governor. From the balcony of this jewel of a building, the Constitution was first read to the citizens of Boston. The exhibits include the original broadside published by Paul Revere of the "Boston Massacre", as well as a beautifully preserved waistcoat of John Hancock.

#524

A Glimpse into the Life of Victorian Boston

1:30 PM-4:30 PM

\$45 per person

You'll be welcomed at the Nichols House, an impressive four story town house situated on the crest of Beacon Hill. Built with money amassed through mercantile trading, The Nichols House was



USS Constitution and Bunker Hill Monument. "Old Ironsides" is the oldest commissioned warship afloat in the world. In the background, the Bunker Hill Monument commemorates the famous 1775 battle between the British and the colonists. Photo courtesy of the Greater Boston Convention & Visitors Bureau.

designed by the eminent architect of the day, Charles Bullfinch, who later designed the Capitol Building in Washington D.C. The house is furnished with possessions accumulated over several generations including works by America's foremost sculptor of the 19th century, Augustus Saint Gaudens.

A contrast to the refined taste and traditional architecture of the Nichols House, you'll have a glimpse into the life of a middle class merchant of Victorian Boston during your private tour of the Gibson House, situated on the "flat" of the Hill. This unusual five-story brownstone is a remarkable example of Victorian architecture and lifestyle, and untouched by contemporary times.

Annual Meeting Leadership



Janet & H. Hunt Batjer CNS President

Hunt Batjer was born in 1951 in Burlington, Vermont to parents Henry Huntington Batjer and Eleanor Thomas Batjer. During the Korean conflict, Mr. Batjer returned to naval service as a Lieutenant Commander. Hunt and his mother moved briefly to California, and after the war the family settled in West Texas in the city of Saint Angelo. Early on athletics became a passion, as did academics, particularly centered on the sciences and mathematics. Hunt participated in varsity basketball as well as baseball but clearly baseball was his primary interest. As he could not hit, and was tall in stature and left handed; pitching became

his central interest. After being drafted by the Baltimore Orioles as a free agent in 1970 he elected to attend the University of Texas on an athletic scholarship.

In 1973 he entered the University of Texas Southwestern Medical School in Dallas and graduated with the Doctor of Medicine degree in 1977 with Alpha Omega Alpha designation. Following an internship in general surgery at UT Southwestern, he performed his neurological surgery residency at the University of Texas under Dr. Kemp Clark, who was Chief of Neurological Surgery at that time. During this period of residency, he became very closely associated with Dr. Duke Samson, who was already a dominant cerebrovascular neurosurgeon. During residency two fellowships were pursued; the first was at the National Hospital, Institute of Neurology at the University of London at Queen's Square, and the second fellowship was at the University of Western Ontario under Dr. Charles Drake. Following the completion of residency training, he accepted a position on the faculty with the Department of Neurological Surgery at UT Southwestern and focused academic and clinical activities in the realm of cerebrovascular disease. Basic laboratory studies were coordinated with clinical research activities specifically dealing with cerebral ischemia, ischemic brain protection, cerebral vasospasm, and auto-regulatory disturbances associated with vascular malformations.

Dr. Batjer became Professor of Neurological Surgery in 1993. In 1995, he assumed the position of Chief of the Division of Neurological Surgery and Director of the Neurosurgical Residency Training Program at Northwestern University Medical School in Chicago. In addition, Dean Harvey Colten named Dr. Batjer the Director of the Feinberg Clinical Neuroscience Research Institute at Northwestern in 1997. In 1998, he became the Michael J. Marchese Professor and Chairman of the Department of Neurological Surgery. He has achieved numerous academic awards during his professional career including multiple endowed lectureships, outstanding teacher awards, and being repeatedly listed in Best Doctors in America. Dr. Batjer has served as visiting professor at over 25 institutions world wide and currently serves on the editorial boards of Neurosurgery, Perspectives in Neurological Surgery, and as ad hoc reviewer for a dozen other scientific publications. In addition, he serves as co-editor for Techniques in Neurosurgery with Dr. Chris Loftus. He has published over 175 scientific papers and chapters, and four books.

Current executive and board appointments include the Executive Council of the Section on Cerebrovascular Surgery, the Board of Trustees of the Foundation for International Education in Neurological Surgery (FIENS), the Board of Directors of the Interurban Neurosurgical Society, the Executive Council of the Society of University Neurosurgeons and the Executive Committee and Board of Directors of Northwestern Medical Faculty Foundation. In addition, he is currently Vice President of the Society of University Neurosurgeons.

In 1990 Dr. Batjer became very active in the Congress of Neurological Surgeons being named to its Executive Committee. Subsequently, he has chaired numerous committees culminating in service as Scientific Program Chairman in 1993, and Annual Meeting Chairman the following year. In 1995 he became Secretary of the CNS and was elected President-elect in 1997.

Dr. Batjer's personal life took a major turn for the better in 1989 when he and Janet Elieen Wright were married. The Batjer's have four wonderful daughters which include the birth of twins in August 1998. The current list is as follows: Hannah 9, Devon 7, twins Ashley and Hunter 7 months. If the Batjers can achieve success, it will be in somehow striking a balance between the demands of professional life and the critical importance of family.



Annual Meeting Leadership



Mollie & Daniel Louis Barrow **President-elect**

Daniel Louis Barrow was raised in west central Illinois, the first of four children of Dr. and Mrs. Warren C. Barrow. During high school, Dan was active in varsity sports including football, golf and track. He was named an Illinois State Scholar and appeared in *Who's Who In High School Dramatics*. Dan graduated magna cum laude from Westminster College in 1976 and began his medical education at Southern Illinois University School of Medicine in the summer of 1976. He received his M.D. degree from Southern Illinois University in 1979 and moved to Atlanta, Georgia to obtain his postgraduate training in neurosurgery at Emory University School of Medicine.

Dr. Barrow completed his general surgery internship and neurosurgical residency at Emory University affiliated hospitals and obtained his neurology training at Massachusetts General Hospital. Upon completing his neurosurgical residency, Dr. Barrow did a fellowship in cerebrovascular surgery at the Mayo Clinic in Rochester, Minnesota. He returned to Emory University in 1985 as an Assistant Professor in the Department of Surgery. In 1990, Dr. Barrow was promoted to Associate Professor, and in 1991 was named the Vice-Chairman of the Department of Neurosurgery at Emory University School of Medicine. In 1995, Dr. Barrow was named the MBNA/Bowman Professor and Chairman of the Department of Neurosurgery. In 1998, he was appointed to the Board of Directors of The Emory Clinic, Inc., a multi-specialty clinic with over 800 physicians.

Dr. Barrow has authored over 150 scientific articles and chapters in medical textbooks. He has authored or edited twelve monographs including a major textbook of neurosurgery, *The Practice of Neurosurgery*. He has been a visiting professor at major universities throughout the United States, Europe and Asia. His research interests have focused on cerebrovascular disease and stroke. During his career in medicine he has won many awards including induction into the honorary medical society, Alpha Omega Alpha. He has been named in *Who's Who in America* and has been chosen by his peers to appear in the publication, *The Best Doctors in America*. In 1997, Dr. Barrow received the Distinguished Alumnus Award from Southern Illinois University School of Medicine, one of only four recipients of this prestigious honor. In 1998, he received the Alumni Achievement Award from Westminster College.

Dr. Barrow has been an active member of the CNS since 1987, holding a variety of leadership positions, including service as a member of the Editorial Board of *Clinical Neurosurgery* (1988-1992), Chairman of the Scientific Program Committee (1991), Annual Meeting Chairman (1992), member of the Finance Committee (1992-1995) and Secretary (1992-1995).

Dr. Barrow is married to Mollie Winston Barrow, a practicing oral and maxillofacial surgeon. They live in Atlanta, Georgia with their three children, Emily, 10; Jack, 9; and Tom, 6.



Joan & Vincent C. Traynelis **Scientific Program Chairman**

Vincent C. Traynelis was born in South Bend, Indiana, in 1956. Ten years later his family moved to Morgantown, West Virginia, where he remained for the next 23 years. He received a Bachelor of Arts degree in Chemistry and a Doctor of Medicine degree from West Virginia University. In 1983, Vince began his Neurosurgical Residency at West Virginia University under the direction of Dr. G. Robert Nugent. Upon completion of training, he accepted a position at the University of Iowa where he now serves as Professor in the Division of Neurosurgery.

Dr. Traynelis' busy clinical practice is primarily focused on spinal and skull base surgery. His research interests include basic explorations of novel therapies for malignant gliomas and investigations of cervical spinal kinematics and biomechanics. He has authored or co-authored over 80 scientific and clinical papers and book chapters and two books. He has reviewed articles for *Neurosurgery*, *Journal of Neurosurgery*, *Spine*, *Surgical Neurology*, and *the Journal of Biomechanical Engineering*. Dr. Traynelis also has been active in the Joint Section on Disorders of the Spine and Peripheral Nerves and currently serves as the Chairperson of the organization.

Vince and Joan Traynelis have been married for 18 years. Their children are Vince (16), Laura (13), and Matthew (10).

Annual Meeting Leadership



Catherine & Issam A. Awad **Annual Meeting Chairman**

Issam Abdullah Awad is the Nixdorff-German Professor of Neurosurgery at Yale Medical School, and Head of the Neurovascular Surgery Program and Director of the Neuro-ICU at Yale New Haven Hospital in New Haven, Connecticut. Born in Beirut, Lebanon, Dr Awad moved to the United States in his teens and received a Bachelor of Sciences degree in Biochemistry (Summa Cum Laude) in 1976, and Master of Sciences degree in Biochemistry in 1979, and his Doctor of Medicine degree in 1980, all from Loma Linda University in California. He completed his residency training in neurological surgery at the Cleveland Clinic Foundation and performed fellowship training in neurovascular surgery at the Barrow Neurological Institute in Phoenix, Arizona, graduating from that fellowship in June 1986. Dr. Awad was a full-time faculty member at Stanford University School of Medicine (1986-1987) and the Cleveland Clinic Foundation (1987-1993) before relocating to Yale in 1993. He is active in the leadership of numerous professional and learned societies. He serves on the Executive Committees of the Congress of Neurological Surgeons and the Stroke Council of the American Heart Association, the Board of Governors of the American College of Surgeons, and is Secretary and Chairman-Elect of the Cerebrovascular Section of the AANS/CNS. He has authored over 180 scientific papers and book chapters, and has edited eleven books dealing with cerebrovascular surgery and other aspects of neurological surgery. He has presented over 300 papers and lectures at major meetings and symposia, and has been a visiting professor at numerous institutions. His fundamental contributions include the characterization of subcortical ischemic lesions in the aged, advances in the understanding of the natural history and biologic behavior of cerebral vascular malformations, outcome assessment in neurovascular and epilepsy surgery, and the compilation of the first scholarly treatise on philosophy of neurological surgery.

Dr Awad met his better half, Catherine, a neurosurgical critical care nurse, while in Cleveland. They have been married for fourteen years, and enjoy homemaking in Connecticut, travel and biking with their 10 year old son Armand.



Janet & Philip E. Stieg **Local Arrangements Chairpersons**

Dr. Stieg was born in Milwaukee, Wisconsin and received his Bachelor of Science Degree from the University of Wisconsin. He then received his Ph.D. From Union University in 1980 in the laboratory of Dr. Harold Kimeberg. Thereafter, he returned home and was awarded the M.D. degree from the Medical College of Wisconsin in 1983. He did his surgical internship and neurosurgical training at Southwestern Medical School where he had the good fortune to interact with Duke Samsom, M.D., H. Hunt Batjer, M.D., and W. Kemp Clark, M.D. During his residency, Dr. Stieg also did a Fellowship at The Karolinska Institute in the laboratories of Lars Olson and Thomas Hökfelt studying transplant biology. Upon his return to Dallas, Dr. Stieg directed his clinical interest toward vascular neurosurgery. He subsequently moved to Harvard Medical School and the Neurosurgical Services at the Brigham & Women's and Children's Hospitals. He is currently the Associate Chief and Director of the Cerebrovascular Center at the Brigham & Women's Hospital and an Associate Professor at Harvard Medical School. He continues research on neuronal plasticity after CNS ischemia, cerebral protection with a novel NMDA antagonist and transplantation after ischemic injuries with NIH and industrial funding.

Mrs. Janet Stieg is active in many philanthropic activities in Boston including the Boards of Judge Baker Child Care Unit, Friends of Brigham and Women's Hospital, and the New England American Heart Association. She is also a consultant for Cardiac Alert as well as mother to Claire, age five, and Nicholas, age six. The family is active in equestrian sports, tennis, and running.



General Information

Continuing Medical Education

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

The CNS designs this continuing medical activity for 23 credit hours in category 1 toward the AMA Physician's Recognition Award. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.

An additional 25 hours of credit may be earned by attending optional educational programs such as Practical Courses, Luncheon Seminars, and the Special Symposium.

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

Certificates of attendance are mailed approximately six weeks after the meeting.

Nurse/Physician Assistants

Neuroscience nurses and physician assistants are welcome and encouraged to attend the 1999 CNS Annual Meeting. All registered nurses and physician assistants are invited and encouraged to attend any of the Luncheon Seminars that are offered each afternoon, Monday through Wednesday. Neuroscience nurses and physician assistants will receive CME credits for attendance at the general scientific program and any optional education events attended. Each neuroscience nurse and physician assistant attendee will need to contact their individual membership Association and Certification Board to determine the requirements for accepting CME credits. All attendees will receive a Confirmation of Attendance.

Registration Information

Along with other pertinent information, please find the Advance Registration Forms and applicable Housing Form enclosed.

Advance Registration Forms are preprinted with identification numbers, names and addresses. Use only your form when registering. DO NOT use another person's registration form, as our computers register by the preprinted information listed on the form.

If you would like to request additional forms, please call (847) 692-9500 and our office will mail you a personalized registration form.

Complete the Advance Registration Form in ink.

If paying by check or money order, make it payable in U.S. dollars to CNS and mail all pages of the form with your payment in the envelope provided. DO NOT FAX your registration form if paying by check or money order.

If paying by credit card, fax the complete form without a cover sheet to (847) 692-7729 and keep the originals for your files OR mail the completed form. DO NOT MAIL your faxed registration form.

A late fee is added to registrations received in our office on or after September 24, 1999. The postmark date on the envelope is NOT the date used in determining a late fee.

All registrants will receive a registration confirmation letter, confirming meeting registration and assignment of courses. Please allow three weeks for processing.

Please note: **The deadline for advance registration is September 23, 1999.** Because course capacities are limited, early registration is recommended. All attendees wishing to register after this date should register at the on-site registration desk at the meeting. CNS registration will take place at the John B. Hynes Veterans Convention Center. Registration hours will be:

Saturday, October 30	7:00 AM-5:30 PM
Sunday, October 31	7:00 AM-5:30 PM
Monday, November 1	7:00 AM-5:30 PM
Tuesday, November 2	7:00 AM-5:30 PM
Wednesday, November 3	7:00 AM-5:30 PM
Thursday, November 4	7:00 AM-11:00 AM

All meeting registrants will receive one complimentary ticket to the Opening Reception on Sunday evening.

Refund Policy

Registration Fees:

A letter requesting cancellation of pre-registration must be received by the CNS Annual Meeting Office, Attention: Registration Department, 22 South Washington Street, Park Ridge, Illinois 60068-4287, by September 23, 1999, in order to receive a full refund. Cancellation requests for the full meeting registration received on or after September 24 but before October 25 will be refunded less a \$75 processing fee. NO REFUNDS will be made if received in the CNS Annual Meeting Office on or after October 26. Cancellations may be faxed to (847) 518-2648.

Course and Event Tickets:

Course and event tickets will be refunded in full until October 25. Changes to course and event tickets may be faxed to (847) 518-2648. Because of facility guarantees, there can be no refund for tickets canceled on or after October 26. There will be NO RETURN OR EXCHANGE of tickets for courses and events on-site.

Scientific Meeting

All scientific meetings and exhibits will take place at the John B. Hynes Veterans Convention Center.

CNS Member Services Center

To increase the availability of the CNS Secretary's Office, the CNS Membership Office, as well as the Resident and Placement Offices, a CNS booth for member services will be accessible in the Exhibit Hall of the John B. Hynes Veterans Convention Center. The CNS Member Service Center will be open during Exhibit Hall hours. Staff members will be available to answer any questions you may have regarding the CNS and its member services.

General Information



CNS Exhibition

Over 600 exhibit booths will be located in Exhibit Hall A/B/C/D of the John B. Hynes Veterans Convention Center. Hours are:

Monday, November 1	8:30 AM–4:30 PM
Tuesday, November 2	8:30 AM–4:30 PM
Wednesday, November 3	8:30 AM–4:30 PM

Support CNS exhibiting companies by visiting the Exhibit Hall. Their financial contribution to the Annual Meeting is essential to its success!

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

Social and Auxiliary Activities

Complete details of all planned Social and Auxiliary activities can be found on pages 52–62. It is recommended that this information be shared with your spouse or guest in order to register for the week's extensive programming. Tours and activities have been selected to provide an opportunity to explore the Boston area. All tours will depart from the CNS headquarter hotel, the Sheraton Boston Hotel and Towers.

All Auxiliary Program registrants are invited to use the Hospitality Suite, including daily continental breakfasts from 7:30 AM–10:00 AM. Please note that admittance to the Hospitality Suite is by Spouse/Guest or Nurse/Spouse badge only. The Hospitality Suite is located in the Boylston Park Café of the Sheraton Boston Hotel and Towers and is open from 7:30 AM–5:00 PM, Sunday through Wednesday, and Thursday from 7:30 AM–12:00 NOON.

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

For the first time, a Childcare Activity Center is being offered at the 1999 Annual Meeting. This will allow spouses and members to leave their children with trained, professional caregivers in a safe, secure, educational environment while the parents participate in Annual Meeting activities. The official CNS Childcare Activity Center will be located at the headquarter hotel, the Sheraton Boston Hotel and Towers. A registration form and further information are included.

Hotel Reservations

Please reference page 68.

Airline Information

Please reference page 71.

CNS Shuttle Services

The CNS will provide shuttle service at regular intervals between the John B. Hynes Veterans Convention Center and the official CNS hotels. A shuttle schedule will be posted at all official CNS hotels and at the John B. Hynes Veterans Convention Center. Shuttle hours are as follows:

Saturday	6:45 AM–7:30 PM
Sunday	6:45 AM–7:00 PM
Opening Reception at the Convention Center*	6:15 PM–9:30 PM
Monday	6:45 AM–6:00 PM
Tuesday	6:45 AM–6:00 PM
Wednesday	6:45 AM–5:30 PM
Thursday	6:45 AM–12:30 PM

Shuttle departs for the Special Symposium at 1:00 PM and departs for return at 6:30 PM

* The site of the CNS Opening Reception is at the John B. Hynes Veterans Convention Center. The existing shuttle routes, as applicable during the day, will apply for the Opening Reception.

Speaker Ready Room

The Speaker Ready Room will be available Saturday through Thursday from 7:00 AM–5:00 PM at the John B. Hynes Veterans Convention Center in Room 207 for speakers wishing to preview their slides.

Smoking

Smoking will be prohibited in all meeting rooms and exhibit areas.

Message Center

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

Important Dates

September 23, 1999 Deadline for housing reservations. The official CNS Housing Form must be used to ensure convention rates.

September 23, 1999 Last day for receipt of Advance Registration applications at the CNS Annual Meeting Office. Advance Registration Forms received after this date pay full registration fees. Registration cancellations received on or before this date will receive a full refund. Cancellation requests must be received by mail or fax (847) 518-2648.

September 24 – October 25, 1999 Registration cancellations received on or between these dates will receive a refund less a \$75 processing fee.

October 26, 1999 Refunds of registration fees (including ticketed courses and events) will not be allowed on or after this date.



Housing

Housing

The Sheraton Boston Hotel and Towers has been designated as the official headquarters hotel for the 1999 Annual Meeting. Additional housing (all in the proximity of the John B. Hynes Veterans Convention Center) is available at the hotels listed below; all are official hotels of the 1999 CNS Annual Meeting.

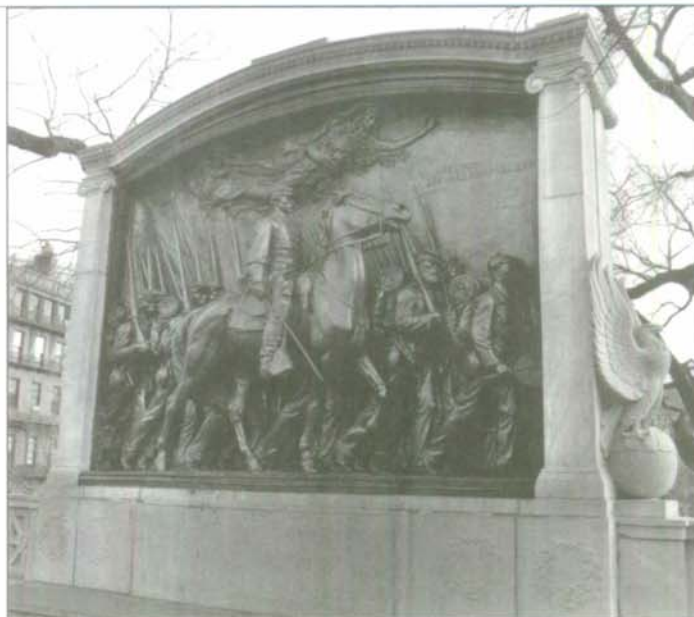
The Greater Boston Convention and Visitors Bureau will coordinate all housing reservations for those attending the 1999 CNS Annual Meeting in Boston, Massachusetts.

To receive the special CNS discounted room rates, please refer to the appropriate CNS housing form for instruction on reservation services.

Please submit one form per room. The form may be photocopied.

All reservation requests must be received by September 23, 1999. The Housing Bureau will acknowledge your hotel assignment by either fax (if you have indicated a fax number on your housing form) or by mail. This is not a confirmation. Your assigned hotel will send a confirmation within 2-3 weeks.

Changes and cancellations must be made in writing. If a change/cancellation occurs within 2 weeks of the convention dates, contact your assigned hotel directly.



Robert Gould Shaw/54th Regiment Memorial. Photo courtesy of the Greater Boston Convention & Visitors Bureau, Inc.

A credit card guarantee of \$150.00 per room is required for all reservations. If you wish to guarantee your room by check, you may send your deposit with the mailed housing form. Please make checks payable to "Passkey.com/Neurological".

Early reservations are strongly suggested. Special discounted rates are available only through the cut-off date, September 23, 1999.

Hotel	Single	Double	Suites	Add'l Person	Restaurants	Room Service	Pool	Fitness Center	Gift Shop(s)	Laundry/Valet	Parking	Lounges	Handi-capped Rooms	Non-smoking Rooms	Concierge	Business Center
Boston Back Bay Hilton	\$167.00	\$183.00	\$450-\$1200	\$20.00	1	X	X	X	1	X	1	X	X	X	X	
Boston Park Plaza Hotel	\$166.00	\$189.00	\$495-\$595	\$20.00	4	X		X	X	X	2	X	X	X	X	
Boston Marriott Copley	\$207.00	\$230.00	\$500-\$1100	\$20.00	4	X	X	X	X	X	1	X	X	X	X	
The Colonnade	\$208.00	\$238.00	\$550-\$1250	\$25.00	1	X	X	X		X	1	X	X	X	X	
Copley Square Hotel	\$186.00	\$186.00	\$299-\$385	\$20.00	3	X					2		X	X		
The Fairmont Copley Plaza	\$207.00	\$218.00	\$459-\$810	\$20.00	2	X		X	X	X	2	X	X	X	X	
Four Seasons Hotel	\$350.00	\$350.00	\$600-\$2200	\$35.00	2	X	X	X	X	X	2	X	X	X	X	
The Lenox Hotel	\$178.00	\$201.00	\$405-\$510	\$20.00	3	X		X	X	X	2	X	X	X		
Radisson Hotel Boston	\$209.00	\$209.00	\$249-\$279	\$20.00	2	X	X	X	X	X	2	X	X	X	X	
Sheraton Boston Hotel & Towers	\$181.00	\$200.00	\$379-\$499	\$20.00	1	X	X	X	X	X	1	X	X	X	X	
Swissotel Boston	\$195.00	\$195.00	\$450-\$550	\$25.00	1	X	X	X	X	X	2	X	X	X	X	
Westin Copley Place	\$210.00	\$230.00	\$339-\$1200	\$25.00	2	X	X	X	X	X	1	X	X	X	X	

Housing



Sheraton Boston Hotel & Towers

39 Dalton Street

The Sheraton, The CNS Headquarter Hotel, is located in the heart of Boston's Back Bay and is the only hotel directly connected to the John B. Hynes Veterans Convention Center. A recently completed renovation has enhanced the Sheraton's already excellent accommodations. Guest amenities include Boston's largest indoor/outdoor swimming pool, a state of the art fitness facility and concierge service. Enjoy dinner at their restaurant, order room service or step outside their doors to the many restaurants and shops located just a short walk away.

Single	\$181
Double	\$200

Boston Back Bay Hilton

40 Dalton Street

Also located in the heart of Back Bay, the Boston Back Bay Hilton is adjacent to the John B. Hynes Veterans Convention Center via a covered walkway and offers deluxe guestrooms within its unique triangular shape. Boodles Restaurant, known for its grilled specialty foods, offers a wide variety of cuisine in a casual atmosphere and Boston's largest selection of American Specialty Beers. Relax after dinner with a swim in their indoor pool or exercise the day's tensions away in their fitness room.

Single	\$167
Double	\$183

Boston Park Plaza Hotel

64 Arlington Street

Owned and operated by third generation Bostonians, this hotel captures the essence of olde Boston. Its spacious guestrooms offer luxurious comfort in a classic atmosphere at the only hotel in Boston that is a member of Historic Hotels of America. It offers four restaurants and 2 lounges: the bistro-style dining at Café Rouge, the world-renowned Legal Sea Foods, the elegance of Swan's Court for afternoon tea or perhaps the pan-Asian cuisine at café Euroasia - whatever your fancy, you will be sure to find a place just right for your mood. After dinner catch the nightly cabaret at the Terrace Room, exercise at the hotel's fitness center or jog through Boston on the path that begins just outside the hotel's front door.

Single	\$166
Double	\$189

Boston Marriott Copley Place

110 Huntington Avenue

Within walking distance of the Convention Center, connected via a covered walkway, this hotel boasts a beautiful 4-story atrium with a three story Tivoli Chandelier. Each room is appointed with tasteful, upscale furnishings with soundproofing to insure a quiet, restful stay. Dine at Bello Mondo for an elegant Northern Italian dinner with gracious service or savor the fresh seafood and sushi at Gourmeli's Seafood. Looking for something more casual? Catch up on the latest sports scores while enjoying a specialty sandwich at Champions, the American Sports Bar. Stroll through Copley Place once dinner is finished and peruse through the many designer boutiques. Relax in the glass-enclosed whirlpool and swimming pool or work out at its health club.

Single	\$207
Double	\$230

The Colonnade

120 Huntington Avenue

Located across the street from the John B. Hynes Convention Center, this independent luxury hotel is lauded for its bold, modern architecture inspired by the Bauhaus School and offers fully appointed guestrooms. Enjoy the spectacular city views from Boston's only roof top leisure area featuring a pool and fitness room. Have a full course dinner or enjoy a light snack at Café Promenade. Stop for a dinner drink at Zachary's Bar before or after dinner. This hotel has been the top choice of some of this country's Presidents as well as other internationally known people. Experience all the first class service this hotel has to offer.

Single	\$208
Double	\$238

Copley Square Hotel

47 Huntington Avenue

The Copley Square Hotel, built in 1891, offers a timeless sense of comfort and the utmost in personal service. Deemed "a Local Treasure" by the Boston Globe, this hotel offers 2 restaurants and 2 lounges as well as complimentary use of a nearby health and fitness center. Enjoy Hungarian cuisine in the nationally acclaimed Café Budapest or the unique breakfasts and "custom-built", locally roasted coffees at Speeder & Earl's. In the mood for BBQ? Check out Tennessee's BBQ in The Original Sports Saloon or from Tennessee's "Real BBQ, Real Fast" which offers take out for those nights when you would like to dine in your room. Take a casual walk after dinner, as this hotel is within walking distance of most of the city's cultural and historical attractions.

Single	\$186
Double	\$186

**Oral Papers are
listed on
pages 43-48**



Housing

The Fairmont Copley Plaza

138 St. James Plaza

A four-diamond award winner, the gilded, coffered ceilings with trompe l'oeil paintings create a stunning overhead view within the 5,000 square foot lobby. Each of the 379 guestrooms is elegantly furnished with exquisite period antique reproductions. Relax in your room with a private dinner and a plush terry cloth robe or dine at the four-diamond award winning Oak Room which features prime-aged steaks and fresh seafood as well as an extensive collection of the world's finest wines. Listen to the classic piano entertainment in the Oak Bar, a distinctive bar reminiscent of a British Officers Club in the Orient, or relax within the unique atmosphere of Copley's Bar.

Single\$207
Double\$218

Four Seasons Hotel

200 Boylston Street

Warm and sophisticated, the Four Seasons offers comfortable and airy rooms to its guests. Personal attention is never more than a phone call away with 24-hour room service and Concierge and twice daily maid service. Dine at the acclaimed Aujourd'hui known for its elegant décor and extensive international wine list or for a more casual atmosphere dine at The Bristol and enjoy the eclectic fare served all day. Relax at the Health Club and Spa by swimming in its 51-foot indoor pool, Jacuzzi and sauna, or make an appointment for a massage.

Single\$350
Double\$350

The Lenox Hotel

710 Boylston Street

Built in 1900, this hotel is identified by its understated charm and personal attention. It's a one-block walk to the John B. Hynes Veterans Convention Center so you'll have time to enjoy the complimentary Wall Street Journal delivered to your room each morning. Visit the Upstairs Grill to enjoy an authentic taste of New England, enjoy a light appetizer and cocktail at the Pub or relax to the sounds of music at the award winning Diamond Jim's Piano Bar. You'll feel as if you're a guest in a charming home.

Single\$178
Double\$201

Radisson Hotel Boston

200 Stuart Street

Located in the heart of the Historic Theater District, the Radisson offers oversized guestrooms with private balconies. Enjoy an off-Broadway production at the hotel's own 490 seat theater, the 57 Theater. Dine at the Theater Café or enjoy the famous 57 Restaurant, a Boston favorite for more than 30 years. It also offers a fitness center and indoor pool with sundeck.

Single\$209
Double\$209

Swissotel Boston

1 Lafayette Avenue

Classic European style and furnishings punctuate the décor of the Swissotel Boston. Enjoy 24-hour room service, indoor swimming pool and fitness center. Dine at the 4 star gourmet Restaurant Le Marquis de Lafayette, recipient of 17 Gault Millau Toques, or enjoy Swiss cuisine at the Café Suisse. Enjoy the all warmth, luxury, and old world style the Swissotel has to offer.

Single\$195
Double\$195

The Westin Hotel

10 Huntington Avenue

The newly renovated Westin guestrooms and suites offer breathtaking views of Boston and are connected to the John B. Hynes Veterans Convention Center via a covered walkway. This hotel offers a full service health club including an indoor swimming pool. Make an appointment to enjoy a massage or relax in their Jacuzzi. Taste the reason why Boston is known for its clam chowder, Turner Fisheries Bar and Restaurant offers New England's number one award winning clam chowder. It also offers live jazz seven nights a week.

Single\$210
Double\$230

Housing Deadline

September 23, 1999

Transportation



Official CNS Airlines

The Congress of Neurological Surgeons is pleased to announce that Delta Airlines and United Airlines have been designated as the Official Airlines of the 49th Annual Meeting being held in Boston, Massachusetts, October 30 – November 4, 1999.

Each airline is pleased to offer special convention rates for travel to the 1999 CNS Annual Meeting, providing all rules and conditions of the airfare are met.

Individuals flying on United can earn United frequent flyer miles, which can be applied to their United Airlines frequent flier account. Individuals flying on Delta will earn Delta SkyMiles frequent flyer miles. And now, because United and Delta have become partners you will be able to share their mileage programs. That means those who fly Delta and have a United Mileage Plus card can redeem their Delta miles with United and those with a Delta SkyMiles card may redeem their United miles with Delta.

To make your reservations, call one of the toll-free numbers listed below. A trained meeting specialist will be happy to assist you or your travel agent in confirming reservations to the CNS Annual Meeting. Don't forget to identify yourself as a CNS Annual Meeting participant and provide the special meeting file number indicated below.

For reservations call:



Delta Air Lines
1-800-241-6760
7:30 AM–11:00 PM Eastern Time 7 Days a week
Meeting ID Code: 125661A



United Airlines
1-800-521-4041
7:00 AM–12:00 AM Eastern Time 7 Days a week
Meeting ID Code: 545XT

Future CNS Annual Meetings

September 23–29, 2000

San Antonio, Texas

September 29–October 4, 2001

San Diego, California

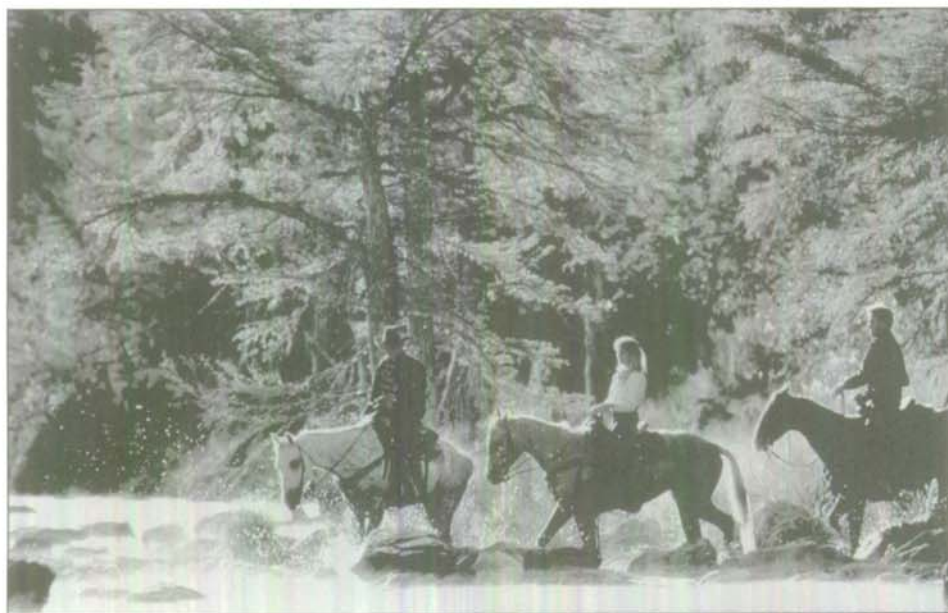
September 21–26, 2002

Philadelphia, Pennsylvania

See you next year in

SAN ANTONIO TEXAS

SEPTEMBER 23-29, 2000



Horseback Riding, Texas Hill Country. *Photo courtesy of the Texas Department of Commerce*

The Riverwalk.
Photo courtesy of the SACVB/Craig Stafford



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