SCIENTIFIC PROGRAM OF THE 2002 ANNUAL MEETING OF THE CONGRESS OF NEUROLOGICAL SURGEONS

Pennsylvania Convention Center, Philadelphia, Pennsylvania
September 21 – September 26, 2002

Saturday, September 21

Afternoon Half-day Practical Courses (PC01–PC09)

1:00 p.m. – 5:00 p.m.

PC01
Technology Solutions for Practice Management

Learning Objective: *This course will present the participant with currently available digital enhancement of office work flow and practice management. It includes the hardware and software components essential to managing an efficient office in the digital age. Examples of topics include databases, personal digital assistants, digital imaging, email, and networking solutions. Upon completion of this course, participants should be conversant with the available technological resources and their use in neurosurgical practice.*

Course Director: *John J. Oro*

Faculty: *Larry Khoo, Fred H. Geisler, John K. Dorman*

PC02
CPT Coding, Medicare Documentation, and Audits

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

Course Director: *Gregory J. Przybylski*

Faculty: *Teri Gatchel, M.B.A., Joanne Rechtine, M.S., M.P.H.*

PC03
Pediatric Traumatic Central Nervous System Injury and Critical Care: Management Guidelines and Case Studies

Learning Objective: *The goal of this course is to discuss the pathophysiological treatment and critical care issues in traumatic pediatric central nervous system injuries. A panel discussion will follow the course, so that the audience can participate and case management issues and/or complications can be presented. After this course, participants will be able to appraise key issues in the management of pediatric neurological injuries.*

Course Directors: *P. David Adelson, John Ragheb*

Faculty: *Douglas L. Brockmeyer, Mark S. Dias, Paul A. Grabb, Stephen L. Huhn, Mark R. Proctor*

PC04
Spinal Biomechanics and Clinical Management Decision Making

Learning Objective: *This practical course is an in-depth, didactic session presenting the physical principles and biomechanical foundation of spine surgery and spine stabilization. Upon completion, participants will be able to describe the biomechanical principles that form the basis of complex spinal surgery. This seminar will introduce participants to problem-based decision-making strategies and will apply these strategies to hypothetical clinical situations.*

Course Director: *Edward C. Benzel*

Faculty: *Vincent C. Traynelis, Eric J. Woodard, Michael A. Morone, Daniel H. Kim, Darryl J. DiRisio*

PC05
Movement Disorders: Pathophysiology, Diagnosis, and Treatment

Learning Objective: *The practical aspects of functional stereotactic surgery will be presented via lecture, videotape presentation, and equipment demonstration. The primary emphasis will be on Parkinson's disease, but tremor, dystonia, and hemiballismus will also be discussed. Upon completion of this course, participants will be able to list patient selection criteria, select preoperative evaluation studies, and describe intraoperative techniques. Participants will also be able to discuss anatomic and physiological target localization techniques.*

Course Directors: *Roy A.E. Bakay, Andres M. Lozano*

Faculty: *Philip A. Starr, Michael G. Kaplitt, Matthew B. Stern, Steven B. Wilkinson*

PC06
Three-dimensional Microscopic Brain Anatomy

Learning Objective: *This course will provide three-dimensional microsurgical anatomic instruction, recapitulating the intraoperative microscopic view. It covers the basal cisterns, ventricles, the cavernous sinus, and the cranial nerves. Stepwise operative approaches will be observed as they are seen through the operating microscope. Lectures will focus on the microsurgical anatomy of each of these areas. After this course, participants will be able to describe the anatomy of these areas and develop an appreciation of the three-dimensional neurovascular relationships in each region.*

Course Director: *Albert L. Rhoton, Jr.*

PC07
Functional Cerebral Mapping

Learning Objective: *This course will focus 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 stereotactic techniques will also be demonstrated. Upon completion of this course, participants will understand the indications for and techniques of cortical mapping.*

Course Directors: *Nicholas M. Barbaro, Mitchel S. Berger*

Faculty: *George A. Ojemann, Carl J. Sartorius, P. David Adelson*

PC08
Personal Digital Assistants in Medical Practice

Learning Objective: *No CME credits will be awarded for this course. This course is targeted at individuals who have a basic working familiarity with Palm devices, such as the Palm Pilot, Visor, or Handspring. Activities will include a brief review of the basic Palm OS application suite as well as third-party products and tools for practice integration. Participants must provide their own Palm-based computing devices as well as the docking cradle and desktop application software. Upon completion of this course, participants will be able to discuss Palm-based computing devices and the basic application suite of the Palm OS. Participants will be able to use the basic Palm OS application suite to record contact information, schedule events, and configure the basic preferences of the Palm OS and will be able to discuss the use of Palm devices in clinical medical practice. Participants will also gain familiarity with the range of third-party applications available for the Palm platform.*

Course Director: *Harold J. Pikus*

Faculty: *Paul J. Camarata, Andrew K. Metzger, Joseph C.T. Chen*

PC09
Stereotactic Radiosurgery

Learning Objective: *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 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 discussion, and hands-on use of different radiosurgical workstations. Upon completion of the course, participants will be able to define the role of stereotactic radiosurgery for specific patients with brain disease, appraise the specifics of each radio-*

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surgical technology, and discuss complication management.

Course Director: *Bruce E. Pollock*

Faculty: *David W. Andrews, Steven D. Chang, Antonio A.F. De Salles, Ajay Niranjan*

Sunday, September 22

Full-day Practical Courses (PC10–PC17)

8:00 a.m. – 5:00 p.m.

PC10
Microsurgical Anatomy

Learning Objective: *This clinic will provide hands-on experience with exposing the lateral, third, and fourth ventricles; the cavernous sinus; the basal cisterns; and the cranial nerves in the middle and posterior cranial fossa. The operative approaches will be performed under the operating microscope. Lecturers will focus on the microsurgical anatomy of each of these areas. After this course, participants will be able to expose the third ventricle and the basal cisterns through the choroidal fissure, complete an extradural approach to the cavernous sinus and the petrous apex, and expose the nerves in the cerebellopontine angle and the internal acoustic meatus.*

Course Director: *Albert L. Rhoton, Jr.*

Faculty: *Evandro P. de Oliveira, Hung Tzu Wen, Ron Smith, Carolina Martins, Necmettin Tanriover, Masatou Kawashima, Eduardo R. Seoane*

PC11
Stabilization Techniques for the Thoracic and Lumbar Spine

Learning Objective: *This course is designed to provide hands-on experience and instruction with exposure, decompression, and reconstruction of the thoracolumbar spine from the cervicothoracic junction to the sacrum using cadaveric dissection. Didactic lectures will cover both anatomic exposure techniques and graft/instrumentation and reconstruction techniques. After the course, participants will be able to describe anterior, lateral, and posterolateral approaches and to use anterior, lateral, and posterior instrumentation systems.*

Course Directors: *David W. Cahill, Gerald E. Rodts, Jr.*

Faculty: *Stephen L. Ondra, Christopher I. Shaffrey, Robert F. Heary, Ziya L. Gokaslan, Daniel H. Kim, Seth M. Zeidman, Robert En Ming Ho, Barry D. Birch, Brett B. Abshire, Michael V. Hajjar*

PC12
Surgical and Endovascular Treatment of Aneurysms

Learning Objective: *After the completion of this course, participants will be able to identify the indications and contraindications for surgery and endovascular treatment of patients with posterior circulation aneurysms and supratentorial intracranial aneurysms. Participants will be able to recognize vascular anatomy by preoperative imaging and intraoperative visualization of both surgical and endovascular treatment by the use of cadaver prosections and models and will be able to describe the anatomic considerations for specific aneurysms by location, intraoperative management techniques, and cranial surgical exposures. This is a hands-on cadaver microdissection course.*

Course Directors: *Thomas A. Kopitnik, Jonathan A. White*

Faculty: *Duke S. Samson, M. Gazi Yaşargil, Robert E. Replogle, John Henry A. McMahon, Christopher L. Taylor, Jeffrey Joseph Drees, Shawn P. Moore*

PC13
One-day Comprehensive Course on Tumors and Functional Disorders of Cranial Nerves of the Posterior Fossa

Learning Objective: *Upon completion of this course, participants will be able to identify the indications for microvascular decompression and anterolateral cranial base approaches, which will be taught through lecture and hands-on cadaver experience. Participants will perform microsurgical dissections to understand the relevant anatomy in the different surgical procedures and will be able to select approaches between operative regions that will result in more complete resection of tumors in this region with the least morbidity.*

Course Directors: *Harry R. Van Loveren, Amin B. Kassam, Jeffrey T. Keller*

Faculty: *Khaled M. Aziz, Samy Youssef, Mario Zuccarello, Michael R. Chicoine, Michael J. Link, Troy D. Payner, Walter C. Jean, Murali Guthikonda, Szymon S. Rosenblatt, Salah Hemida, Norberto Andaluz, Ali Nader-Sepahi, Myles L. Pensak*

PC14
Microvascular Reconstruction

Learning Objective: *After this course, participants will be able to discuss the indications for and practical aspects of microvascular reconstruction of the cranial vasculature. Hands-on experience with microvascular anastomosis will be provided using the animal laboratory.*

Course Directors: *Richard G. Ellenbogen, David W. Newell, Joel D. MacDonald*

Faculty: *Fady T. Charbel, Saleem I. Abdulrauf, Howard Yonas, Neil A. Martin, Peter David LeRoux, Gavin W. Britz*

PC15
Minimally Invasive Procedures for Spinal Pain Syndromes

Learning Objective: *The indications and techniques of minimally invasive, percutaneous techniques for the diagnosis and treatment of spinal pain syndromes will be taught through lectures and a hands-on cadaver laboratory. The procedures to be discussed include epidural injections and root blocks, facet blocks and denervations, discography and intradiscal therapy, sympathetic blocks, spinal cord stimulation, and intrathecal medication delivery. Participants should be able to describe several common minimally invasive approaches in the diagnosis and treatment of spinal pain syndromes and demonstrate percutaneous techniques for neural blockade and neurolysis, as well as spinal cord stimulation and intrathecal medication delivery.*

Course Directors: *Jaimie M. Henderson, Richard B. North*

Faculty: *John C. Oakley, James N. Campbell, Claudio Andres Feler, Allan J. Belzberg*

PC16
Exposure and Surgery of the Peripheral Nerves

Learning Objective: *This course will include a hands-on dissection laboratory with cadavers. After completion of this course, participants will be able to identify the appropriate exposures for specific nerve injuries and entrapment syndromes, perform the anatomic exposure for peripheral nerves, and understand the indications and contraindications for surgical treatment of peripheral nerve disorders.*

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

Faculty: *Eric L. Zager, John E. McGillicuddy, Rajiv Midha, Daniel H. Kim, Robert J. Spinner, Allen H. Maniker, Allan J. Belzberg, Robert L. Tiel, Mario G. Siqueira*

PC17
Operative Colloquium: Masters of Neurological Surgery

Learning Objective: *Using lecture, discussion, demonstration, and question-and-answer sessions, this unique lecture and interactive course will give participants insights into the management of complex neurosurgical issues. These insights will be imparted by the recognized masters in their field. This course will help participants understand surgical nuances in the management of a wide variety of neurosurgical diseases. Upon completion of this course, participants will be able to describe novel and useful techniques for the management and surgical options involved in the care of common and complex neurosurgical problems.*

Course Director: *Volker K.H. Sonntag*

Faculty: *H. Alan Crockard, Hiroshi Abe, Robert F. Spetzler, L. Nelson Hopkins III, Arthur L. Day, Roberto C. Heros, Steven L. Giannotta, Duke S. Samson, Daniel Rosenthal, Laligam N. Sekhar, Ossama Al-Mefty*

Morning Half-day Practical Courses (PC18–PC23)

8:00 a.m. – 12:00 noon

PC18
Endoscopic Carpal Tunnel Techniques

Learning Objective: *This course will focus on the techniques used to evaluate and treat patients with carpal tunnel syndrome. There will be a practical laboratory in which participants will learn how to perform endoscopic carpal tunnel surgery. Upon completion of the seminar, participants will be able to evaluate and treat patients who are appropriate for endoscopic carpal tunnel treatment.*

Course Director: *David F. Jimenez*

Faculty: *Craig H. Rabb, Thomas S. Loftus*

PC19
Contemporary Management of Severe Traumatic Brain Injury and Controversies

Learning Objective: *This course will review current concepts regarding pathophysiology and management of neurotrauma patients. Emphasis will be on the management by the private practice neurosurgeon. After this course is completed, participants will be able to describe the physiology of traumatic brain injury, practical management of blood pressure ventilation and electrolytes in patients with head injuries, realistic intracranial pressure-monitoring techniques, and contemporary surgical*

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treatment. The guidelines will also be reviewed.

Course Directors: *Geoffrey B. Manley, Domenic P. Esposito*

Faculty: *John H. McVicker, Claude J. Hemphill III, Donald W. Marion, Randall M. Chesnut*

PC20
Image-guided Spinal Navigation

Learning Objective: *Upon completion of this course, participants will be able to identify clinical applications for spinal stereotaxy, identify and avoid common pitfalls associated with image-guided spinal localization, and assess the merits of systems currently available for use with this technique.*

Course Directors: *Kevin T. Foley, Isabelle M. Germano*

Faculty: *William D. Tobler, Haring J.W. Nauta, J. Patrick Johnson, Kenneth S. Yonemura, Iain H. Kalfas, Lansing S. Cowles, Langston T. Holly*

PC21
Vertebroplasty

Learning Objective: *This course will focus on developing an understanding of vertebroplasty techniques and identifying appropriate patients for this procedure. Hands-on experience will be provided. After this course, participants will be able to discuss the indications for vertebroplasty. They will also be able to describe how to perform the procedure.*

Disclaimer: *Vertebroplasty often involves the insertion of polymethylmethacrylate (PMMA) into the spine. PMMA bone cement is considered a device for U.S. Food and Drug Administration (FDA) purposes. In October 1999, the FDA reclassified PMMA bone cement as a Class II device for its intended use "in arthroplastic procedures of the hip, knee, and other joints for the fixation of polymer or metallic prosthetic implants to living bone." The use of a device for other than its FDA-cleared indication is an off-label use. Physicians may use a device off-label if they think, in their best medical judgment, that its use is appropriate for a particular patient. As is true of the CNS's policy regarding all of its educational offerings, the fact that the use of PMMA bone cement in the spine is discussed in this course does not constitute CNS endorsement of this use.*

Course Directors: *Lee R. Guterman, Richard D. Fessler*

Faculty: *Andrew J. Ringer, Demetrius K. Lopes, Bernard R. Bendok*

PC22
Cervical Spine Stabilization

Learning Objective: *The indications, techniques, and complications of stabilization of the cervical spine, including the craniovertebral junction, will be reviewed through lectures, case presentation, and hands-on application with anatomic models. Upon completion of this course, participants will be able to recognize the indications for cervical and craniovertebral junction fusion and instrumentation and will be able to describe the technical application of this procedure and the instruments involved.*

Course Directors: *H. Louis Harkey, Christopher G. Paramore*

Faculty: *J. Patrick Johnson, Mitchell R. Gropper, Michael G. Fehlings, Carl Lauryssen, Allan D. Levi, R. John Hurlbert, Christopher E. Wolfla, Joseph T. Alexander, Paul J. Marcotte, John Joseph Knightly, Perry A. Ball, Timothy C. Ryken*

PC23
Lumbosacral Fusion: Cages, Dowels, and Pedicle Screws

Learning Objective: *After this course, participants will be able to describe the indications, contraindications, uses, and benefits of lumbar and lumbosacral fusion. A variety of techniques using cages, anterior lumbar interbody fusion, posterior lumbar interbody fusion, and pedicle screws will be discussed. Participants may have the option to learn techniques on sawbones models.*

Course Directors: *Regis W. Haid, Christopher I. Shaffrey*

Faculty: *Joseph T. Alexander, Daniel K. Resnick, R. John Hurlbert, Rick Sasso, Juan Bartolomei, Anthony Frempong-Boadu, Robert F. Heary, Praveen Mummaneni, Brian R. Subach, Gregory R. Trost, Michael G. Kaiser, Julie York, Kaushik Das, Michael Groff, Charles Kuntz IV, Barry D. Birch*

Afternoon Half-day Practical Courses (PC24 – PC31)

1:00 p.m. – 5:00 p.m.

PC24
Intracranial Endoscopy

Learning Objective: *This course will provide an introduction to basic neuroendoscopic surgery and techniques of intracranial endoscopy relevant to specific disease management. Third ventriculostomy and colloid cyst surgery techniques will be presented on videotape and with the use of hands-on models. The use of the endoscope as an adjunct to cranial base and aneurysm surgery will also be demonstrated. Upon completion of this course, participants will be able to evaluate whether the neuroendoscope could be a tool to add to their practice.*

Course Directors: *David F. Jimenez, Paul A. Grabb*

Faculty: *John G. Frazee, Bermans J. Iskandar, Wesley A. King*

PC25
Minimally Invasive Techniques for the Lumbar Spine

Learning Objective: *After this course, participants will be able to recognize the indications and limitations of minimally invasive techniques in the lumbar spine. Participants will have knowledge of the different surgical techniques and their applications.*

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

Faculty: *Seong-Hoon Oh, Bruce M. McCormack, Stephen T. Onesti, Richard G. Fessler, Hyun-Chul Shin, Michael W. Groff*

PC26
Digital Images and Presentations

Learning Objective: *No CME credits will be awarded for this course. This course will explain the process of digital image capture and image manipulation, and image publication will be demonstrated and discussed. Participants will complete a series of exercises using digital cameras, flatbed scanners, and digital video cameras to capture digital images. A series of manipulations will be applied to these images using Photo Deluxe image-editing software, and the techniques for incorporating digital images into PowerPoint presentations will be discussed and demonstrated. After the course, participants will be able to discuss the basic elements of resolution digital image capture, manipulation, and publication and will be able to use various forms of digital image capture, such as digital cameras, flatbed scanners, and video capture devices. Participants will be able to incorporate these digital images after basic manipulation into PowerPoint presentation software.*

Course Director: *Tonya Hines, CMI*

PC27
Critical Care for Neurovascular Disorders

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

Course Directors: *Joshua B. Bederson, J. Paul B. Elliott*

Faculty: *E. Sander Connolly, Jr., L. Nelson Hopkins III, J. Max Findlay, Scott E. Kasner*

PC28
Image-guided Cranial Navigation

Learning Objective: *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 review concepts of registration and localization for cranial navigation and apply cranial navigation techniques to patients in their practice.*

Course Directors: *Isabelle M. Germano, Kevin T. Foley*

Faculty: *Richard D. Bucholz, Robert J. Maciunas, Christopher R. Mascott, George I. Jallo, William D. Tobler, Ronald E. Warnick, Gene H. Barnett, William E. Butler, Robert F. Spetzler, Peter McL. Black, Lucia J. Zamorano*

PC29
Kyphoplasty

Learning Objective: *The prerequisite for participation in this course is completion of the vertebroplasty course at this meeting or at a previous CNS or AANS meeting. Participants will learn the indications, techniques, and complication avoidance and management related to kyphoplasty. Hands-on cadaver experience will allow participants to perform the technique using fluoroscopy at multiple lumbar and thoracic levels.*

Course Directors: *Lee. R. Guterman, Richard D. Fessler*

Faculty: *Andrew J. Ringer, Demetrius K. Lopes, Bernard R. Bendok*

PC30
Nurses, Physician Extenders, and Neurosurgery

Learning Objective: *Physician attendees will not be awarded CME credits for this course. After completion of this course, the neuro-*

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science nurse will understand basic cerebral and spine neuroanatomy. Participants will recognize the clinical signs and symptoms related to pathology in these major systems in both adult and pediatric patients. Participants will recognize the signs and symptoms of acute neurological emergencies. Participants will be familiar with the special social needs of spine, pediatric, and brain tumor patients and families. Participants will be familiar with strategies for maximizing outpatient clinic efficiency, dealing with precertification issues related to various neurosurgical pathologies and/or procedures, and optimally managing outpatient-inpatient transitions in various practice settings.

Course Directors: *Tess Slazinski, R.N., Douglas L. Brockmeyer*

Faculty: *Linda Littlejohns, R.N., Kay Carpenter, R.N., Sam Browd*

PC31
Management, Contracting, and Financial Benchmarks for a Successful Neurosurgical Practice

Learning Objective: *This course will explore the issues surrounding managed care contracts from PPO, EPO, and HMO plans for physician group practices, including renegotiating existing contracts, negotiating with insurance carriers, meeting with payers, and contract negotiation. It will also provide an overview of how to implement sound financial management in the neurosurgical practice, including five important financial statistics for practice benchmarks and understanding monthly financial management reports.*

Course Director: *Debra R. Mills, R.N., C.P.C.*

6:30 p.m. – 9:00 p.m.
OPENING RECEPTION

Monday, September 23

GENERAL SCIENTIFIC SESSION I

7:30 a.m. – 12:00 noon
Discovery

Learning Objective: *Participants will become familiar with the process of discovery, refinement, and the state of the art in various neurosurgical realms, including image-guided surgery, endovascular neurosurgery, surgical approaches, and cervical spine instrumentation. Participants will understand the process and potential clinical implications of decoding the human genome. Participants will be able to discuss future computer and networking technologies and their potential impact on society and the practice of medicine.*

Moderator: *Joel D. MacDonald*

Presiding Officer: *James T. Rutka*

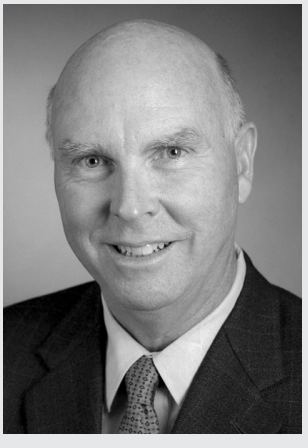
7:30 a.m. – 7:50 a.m.
From Discovery to Design: Image-guided Surgery
Richard D. Bucholz

7:50 a.m. – 8:10 a.m.
Discovery of a New Discipline: Endovascular Neurosurgery
L. Nelson Hopkins, III

8:10 a.m. – 8:30 a.m.
Discovering the Novel Surgical Approach
Robert F. Spetzler

8:30 a.m. – 8:35 a.m.
Introduction of J. Craig Venter, CEO, Celera Genomics
Richard G. Ellenbogen

8:35 a.m. – 9:00 a.m.
SPECIAL LECTURE
Discoveries in Science: Mapping the Human Genome



J. Craig Venter

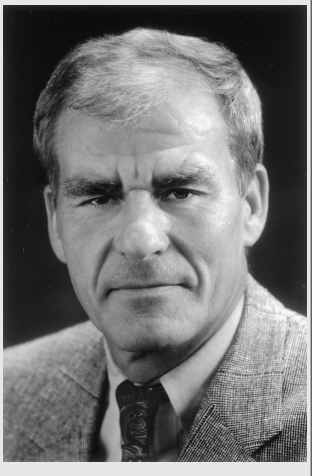
9:00 a.m. – 9:10 a.m.
Introduction of the President, Stephen M. Papadopoulos
Volker K.H. Sonntag

9:10 a.m. – 9:30 a.m.
PRESIDENTIAL ADDRESS
Stephen M. Papadopoulos

9:30 a.m. – 10:30 a.m.
Coffee with Exhibitors

10:30 a.m. – 10:35 a.m.
Introduction of the Honored Guest, Volker K.H. Sonntag
Stephen M. Papadopoulos

10:35 a.m. – 11:00 a.m.
HONORED GUEST PRESENTATION
Discovery of the Spine Specialist: Instrumentation for the Cervical Spine



Volker K.H. Sonntag

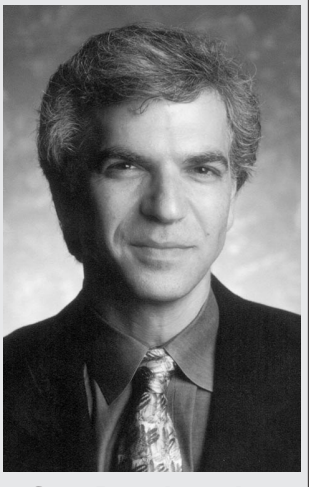
11:00 a.m. – 11:05 a.m.
Introduction of Meg Whitman, CEO, eBay
Joel D. MacDonald

11:05 a.m. – 11:30 a.m.
SPECIAL LECTURE
Discoveries with the Internet: The eBay Venture

Meg Whitman

11:30 a.m. – 11:35 a.m.
Introduction of Greg Papadopoulos, CTO, Sun Microsystems
Stephen M. Papadopoulos

11:35 a.m. – 12:00 noon
SPECIAL LECTURE
Discovering the Future of Technology: Leading the Direction



Greg Papadopoulos, Ph.D.

VISIT EXHIBITS
12:00 noon–1:00 p.m.

LUNCHEON SEMINARS
1:00 p.m. – 2:30 p.m.

M01
RESIDENT AND HONORED GUEST LUNCHEON

Learning Objective: *Participants and our Honored Guest will review and discuss the Honored Guest's thoughts on neurosurgical education, mentorship, and certification.*

Moderators: *Mark N. Hadley, Daniel K. Resnick*

Faculty: *Volker K.H. Sonntag*

M02
Controversies in the Management of Craniovertebral Junction Abnormalities

Learning Objective: *This seminar will discuss the management of congenital and acquired disorders of the craniovertebral junction. Participants will be able to discuss different approaches to diagnosis and*

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treatment of specific congenital, neoplastic, and degenerative disorders.

Moderator: *Vincent C. Traynelis*

Faculty: *Curtis A. Dickman, Haynes Louis Harkey III, Noel I. Perin, John G. Strugar*

M03
Cervical Spondylotic Myelopathy: Case Management Perspectives

Learning Objective: *In this seminar, the moderator will present cases of cervical spondylotic myelopathy to be discussed by the faculty and attendees. Participants will be able to review different approaches for the diagnosis and treatment of degenerative cervical spine disease.*

Moderator: *Ulrich Batzdorf*

Faculty: *Joseph T. Alexander, Paul K. Maurer, Paul C. McCormick, Joan F. O'Shea*

M04
Management Strategies for Thoracolumbar Fractures

Learning Objective: *This seminar will address the diagnosis and treatment of fractures and other trauma to the thoracolumbar spine. Participants will be able to review the radiological classifications, surgical approaches, and strategies for reconstruction in the setting of thoracolumbar fractures.*

Moderator: *J. Patrick Johnson*

Faculty: *Jamie L. Baisden, Allan D. Levi, Ross R. Moquin, Seth M. Zeidman*

M05
Spinal Deformity Surgery

Learning Objective: *This seminar will discuss the clinical problems posed by patients who may harbor a spinal deformity (bone). Participants will be able to discuss how to identify patients with scoliosis, kyphosis, and loss of sagittal contour; recommend appropriate treatment; and manage complications.*

Moderator: *Stephen L. Ondra*

Faculty: *Deborah A. Blades, R. Patrick Jacob, Christopher I. Shaffrey, Eric J. Woodard*

M06
Gliomas: Current Therapies

Learning Objective: *This seminar will discuss multimodal management of patients with glial and other malignant neoplasms. Participants will be able to review current surgical, radiotherapeutic, and chemotherapeutic approaches to patients with glial tumors.*

Moderator: *Joseph M. Piepmeier*

Faculty: *Keith L. Black, Linda M. Liau, James M. Markert, Jr., Ronald E. Warnick*

M07
Optimizing Outcomes in Acoustic Tumor Surgery: Practical and Technical Considerations

Learning Objective: *This seminar will describe different methods to manage patients with acoustic tumors, including microsurgical resection and stereotactic radiosurgery. Participants will be able to review the indications and outcomes associated with different techniques and discuss the practical controversies between different approaches.*

Moderator: *Madjid Samii*

Faculty: *Michael J. Ebersold, L. Dade Lunsford, Bruce E. Mickey, Jon H. Robertson*

M08
Anterior Circulation Aneurysms: Options and Approaches

Learning Objective: *This seminar will describe the surgical and endovascular approaches to patients with anterior circulation aneurysms. Outcomes associated with each approach will be discussed. Participants will be able to select individual strategies for specific patients on the basis of available data accumulated from the use of the different approaches.*

Moderator: *Ralph G. Dacey, Jr.*

Faculty: *Joshua B. Bederson, Eugene S. Flamm, Joel D. MacDonald, Rafael J. Tamargo*

M09
Poor-grade Aneurysm Patients: Management Options

Learning Objective: *This seminar will discuss the management of patients with severe subarachnoid hemorrhage in the operating room and intensive care unit settings. Participants will review techniques for the medical and surgical management of poor-grade aneurysm patients.*

Moderator: *David W. Newell*

Faculty: *Paul J. Camarata, Lee R. Guterman, Peter David Le Roux, Joseph M. Zabramski*

M10
Management of Cavernous and Paraclinoidal Vascular Lesions

Learning Objective: *This seminar will discuss the diagnosis and treatment of patients with vascular lesions that involve the cavernous sinus and related structures. Participants will be able to describe different radiological techniques to identify the anatomy of cavernous and paraclinoidal vascular lesions and formulate an appropriate management plan for these entities.*

Moderator: *Arthur L. Day*

Faculty: *Vinko V. Dolenc, Christopher C. Getch, Thomas C. Origitano*

M11
Case Management of Complex Head Trauma in Adults and Children

Learning Objective: *This seminar will discuss the medical and surgical treatment of complex head injury. Participants will be able to describe different management techniques and surgical approaches to the treatment of patients with complex head trauma. Participants will be able to discuss both the management and controversies surrounding current techniques in the treatment of complex head injury.*

Moderator: *P. David Adelson*

Faculty: *Ann-Christine Duhaime, Thomas G. Luerssen, Raj K. Narayan, Alex B. Valadka*

M12
Craniosynostosis: Controversies in Treatment

Learning Objective: *This seminar will describe the available techniques used for children with craniosynostosis. Specific controversies in the use of different approaches will be discussed. Participants will be able to review the advantages and disadvantages of different surgical and nonsurgical methods for treating children with cranial deformities.*

Moderator: *Ken R. Winston*

Faculty: *Derek A. Bruce, Benjamin S. Carson, David F. Jimenez, Mark R. Proctor*

M13
Pediatric Spine Surgery: Management Issues and Controversies

Learning Objective: *This seminar will focus on the clinical management of the pediatric spine. Faculty will discuss the diagnosis and the surgical and nonsurgical management of spinal problems in pediatric patients. Emphasis will be on decision making and surgical treatment options to provide the best outcome and avoid complications.*

Moderator: *Douglas L. Brockmeyer*

Faculty: *Henry M. Bartkowski, Robin M. Bowman, Paul A. Grabb, Paul Steinbok*

M14
Surgical Management of Tremor: Role of Thalamotomy, Chronic Thalamic Stimulation, and Stereotactic Radiosurgical Thalamotomy

Learning Objective: *This seminar will discuss the role of different surgical techniques in the management of tremor. The advantages and disadvantages of thalamotomy, deep brain stimulation, and radiosurgery will be described. Participants will review the indications, results, and complications associated with different techniques used in the management of medically refractory tremor.*

Moderator: *Andres M. Lozano*

Faculty: *Aviva Abosch, Kim J. Burchiel, Philip A. Starr*

M15
Management of Intractable Pain: Consultants' Corner

Learning Objective: *This seminar will discuss different surgeries for the management of intractable pain. Participants will be able to review the roles of different ablative surgeries for the management of pain and identify which procedures are associated with good outcomes for individual pain disorders.*

Moderator: *Jaimie M. Henderson*

Faculty: *Nicholas M. Barbaro, Giancarlo Barolat, Kenneth A. Follett, Yücel Kanpolat, Andrew G. Shetter*

M16
Peripheral Nerve Lesions and Entrapment Syndromes: What Every Neurosurgeon Must Know

Learning Objective: *This seminar will discuss the clinical indications, diagnosis, and surgical approach to patients with peripheral nerve injuries and tumors. Participants will be able to describe which patients should have surgery, when surgery should be performed, and the intraoperative techniques used to optimize long-term outcome.*

Moderator: *David G. Kline*

Faculty: *Neal J. Naff, Russ P. Nockels, Richard K. Osenbach, Eric L. Zager*

M17
Spinal Cord Injury Management: Guidelines and New Advances

Learning Objective: *This seminar will discuss the recently published guidelines for spinal cord injury management. The faculty will discuss the methods of evidence-based medicine and highlight the key findings on which the spinal injury guidelines are based. Attendees will review the findings as they pertain to neurosurgical practice and unan-*

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swered questions for future investigation.

Moderator: *Beverly C. Walters*

Faculty: *Russ P. Nockels, Daniel K. Resnick, Jack E. Wilberger, Jr.*

M18
Case Management: Unruptured Aneurysm

Learning Objective: *This seminar will discuss the management of patients with unruptured aneurysms. The moderator will present cases to the faculty for discussion with the attendees. Participants will review the indications for surgery in patients with unruptured aneurysms, expected management outcomes, and indications for observation or endovascular surgery.*

Moderator: *Issam A. Awad*

Faculty: *Rocco A. Armonda, David G. Piepgras, Robert H. Rosenwasser, B. Gregory Thompson, Jr.*

2:30 p.m. – 5:30 p.m.

SPECIAL COURSE I: REVISION LUMBAR SURGERY
In conjunction with the Section on Disorders of the Spine and Peripheral Nerves

Revision Lumbar Surgery: Which Operation and Why?

Learning Objective: *Participants will be able to recognize and describe the treatment of the following spinal disorders: rheumatoid arthritis, trauma, and degenerative disease.*

Moderator: *Christopher E. Wolfla*

CNS Course Director: *Robert F. Heary*

2:30 p.m. – 2:45 p.m.
Minimally Invasive Options
Richard G. Fessler

2:45 p.m. – 3:00 p.m.
Open Decompressive Surgery
Gregory R. Trost

3:00 p.m. – 3:15 p.m.
Decompress, Instrument, and Fuse
Andrew T. Dailey

3:15 p.m. – 3:30 p.m.
Complications and their Management
David W. Cahill

3:30 p.m. – 4:00 p.m.
Refreshments with Exhibitors

4:00 p.m. – 5:30 p.m.
Open Papers 700 – 710

2:30 p.m. – 5:30 p.m.

SECTION ON CEREBROVASCULAR SURGERY I

Learning Objective: *Participants will be able to discuss factors associated with deciding whether to treat an aneurysm with surgery. Participants will be able to discuss new developments in the treatment of cerebrovascular disease.*

Moderators: *Murat Gunel, E. Sander Connolly, Jr.*

2:30 p.m. – 3:30 p.m.
Open Papers 711 – 717

The Galbraith Award

3:30 p.m. – 4:00 p.m.
Refreshments with Exhibitors

4:00 p.m. – 4:40 p.m.
Oral Posters 1 – 13

4:40 p.m. – 4:45 p.m.
Introduction of the Charles Drake Lecturer

4:45 p.m. – 5:15 p.m.

THE CHARLES DRAKE LECTURE

Microsurgical Options for the Treatment of Intracranial Aneurysms
M. Gazi Yaşargil

5:15 p.m. – 5:30 p.m.
Questions and Answers with Dr. Yaşargil

2:30 p.m. – 5:30 p.m.

SECTION ON STEREOTACTIC AND FUNCTIONAL SURGERY I

Learning Objective: *Participants will be able to discuss paradigms of stereotactic surgery and how potential stereotactic surgery patients may be evaluated with the use of sophisticated imaging studies and intraoperative localization and navigation devices. Participants will be able to discuss new developments in the field of stereotactic and functional surgery.*

Moderators: *Douglas Kondziolka, Philip A. Starr*

2:30 p.m. – 3:30 p.m.
Open Papers 718 – 724

Stereotactic and Functional Neurosurgery Resident Award

3:30 p.m. – 4:00 p.m.
Refreshments with Exhibitors

4:00 p.m. – 4:30 p.m.
Oral Posters 27 – 36

Operative Pearls in the Subthalamus

4:30 p.m. – 4:50 p.m.
Ali R. Rezai

4:50 p.m. – 5:10 p.m.
Ronald L. Alterman

5:10 p.m. – 5:30 p.m.
Philip A. Starr

2:30 p.m. – 5:30 p.m.

SECTION ON TUMORS I

Learning Objective: *Participants will be able to describe the natural history, surgical management, and adjuvant treatment of primary brain neoplasms and neoplasms of the cranial base. Participants will be able to discuss new developments in the field of neurooncology.*

Moderators: *Anthony L. Asher, Russell R. Lonser*

2:30 p.m. – 3:30 p.m.
Open Papers 725 – 731

Preuss Award
Tumor Young Investigator Award

3:30 p.m. – 4:00 p.m.
Refreshments with Exhibitors

4:00 p.m. – 4:40 p.m.
Oral Posters 37 – 49

4:40 p.m. – 5:30 p.m.
Open Papers 732 – 737

2:30 p.m. – 5:30 p.m.

SECTION ON NEUROTRAUMA AND CRITICAL CARE I

Learning Objective: *Participants will be able to describe the management of penetrating brain injury and will be familiar with the Penetrating Brain Injury Guidelines*

Moderators: *Domenic P. Esposito, Geoffrey T. Manley*

2:30 p.m. – 2:50 p.m.
Open Papers 738 – 739

2:30 p.m. – 2:40 p.m.
Synthes Award for Resident Research in Brain and Craniofacial Injury

2:40 p.m. – 2:50 p.m.
Synthes Award for Resident Research in Spinal Cord and Spinal Column Injury

2:50 p.m. – 3:30 p.m.
Do I Focus on the Intracranial Pressure or the Cerebral Perfusion Pressure?

2:50 p.m. – 3:05 p.m.
Case for Intracranial Pressure-focused Management
Alex B. Valadka

3:05 p.m. – 3:20 p.m.
Case for Cerebral Perfusion-focused Management
Michael J. Rosner

3:20 p.m. – 3:30 p.m.
Questions and Answers

3:30 p.m. – 4:00 p.m.
Refreshments with Exhibitors

4:00 p.m. – 5:30 p.m.
Open Papers 740 – 750

Tuesday, September 24

GENERAL SCIENTIFIC SESSION II

7:30 a.m. – 12:00 noon
Leadership

Learning Objective: *Participants will be able to discuss the evolution of spine surgery. Participants will understand the impact of the science of biomechanics on the treatment of spinal pathology. The cur-*

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rent and future state of technology will be reviewed with respect to biological implants and prostheses, minimally invasive approaches, and neurosurgical management of spinal deformity. The participants will become familiar with contemporary evidence-based guidelines for the evaluation and treatment of cervical spine pathology.

Moderator: *Harold J. Pikus*

Presiding Officer: *B. Gregory Thompson*

7:30 a.m. – 7:50 a.m.
The Neurosurgeon as a Spine Expert: Historical Perspective
Frederick A. Simeone

7:50 a.m. – 8:10 a.m.
Essentials of Biomechanics for the General Neurosurgeon
Edward C. Benzel

8:10 a.m. – 8:25 a.m.
Special Lecture (TBA)

8:25 a.m. – 8:35 a.m.
CNS Resident Award

8:35 a.m. – 9:00 a.m.
HONORED GUEST PRESENTATION
Leading the Future of Spine Surgery
Volker K.H. Sonntag

9:00 a.m. – 9:15 a.m.
Biologics and Prosthetics: The Wave of the Future
Vincent C. Traynelis

9:15 a.m. – 9:30 a.m.
Minimalism: Is Less More?
Richard G. Fessler

9:30 a.m. – 10:30 a.m.
Coffee with Exhibitors

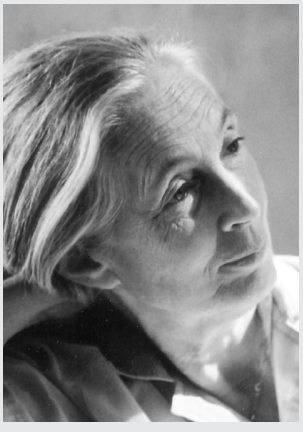
10:30 a.m. – 10:45 a.m.
Spinal Deformity: The Role of the Neurosurgeon
Stephen L. Ondra

10:45 a.m. – 11:05 a.m.
Guidelines for the Management of Acute Cervical Spine and Spinal Cord Injuries: The Essentials
Mark N. Hadley, Beverly C. Walters

11:05 a.m. – 11:10 a.m.
CNS Fellowship Presentation
B. Gregory Thompson, Jr.

11:10 a.m. – 11:15 a.m.
Introduction of the Third Annual Walter J. Dandy Orator, Jane Goodall
Stephen M. Papadopoulos

11:15 a.m. – 12:00 noon
THE THIRD ANNUAL WALTER J. DANDY ORATOR
Reasons for Hope



Jane Goodall, Ph.D.

VISIT EXHIBITS
12:00 noon – 1:00 p.m.

LUNCHEON SEMINARS
1:00 p.m. – 2:30 p.m.

T19
International Luncheon Seminar: European Schools of Neurosurgery

Learning Objective: *This seminar will discuss the contributions and unique features of European schools of neurosurgery. It will be presented by neurosurgical leaders from Europe. Participants will review neurosurgical practice and education in Europe and their impact on international neurosurgery.*

Moderator: *David G. Thomas*

Faculty: *Graham Teasdale*

T20
Cranial Endoscopy for the Adult and Pediatric Neurosurgeon

Learning Objective: *This seminar will discuss the current endoscopic technologies available for both adult and pediatric neurosurgery and will describe differences in use among adult and pediatric patients relevant to specific disease management. Participants will become familiar with current endoscopic technologies.*

Moderator: *Alan R. Cohen*

Faculty: *Kerry R. Crone, Hae-Dong Jho, Leon E. Moores, Marion L. Walker*

T21
Neurotrauma for the Neurosurgeon: Standards and Socioeconomic Issues

Learning Objective: *This seminar will discuss the roles of the neurosurgeon in the management of neurotrauma. Emphasis will be on the community neurosurgical perspective. Participants will review how neurosurgeons can appropriately and efficiently manage patients with traumatic injuries. Emphasis also will be on treatment guidelines and socioeconomic issues in the delivery of neurotrauma care.*

Moderator: *Donald W. Marion*

Faculty: *Domenic P. Esposito, Jamshid Ghajar, John H. McVicker, Jamie S. Ullman*

T22
Case Management: Lumbar Spondylolysis and Spondylolisthesis

Learning Objective: *Participants will be able to review different approaches to the diagnosis and treatment of degenerative lumbar spine disease as well as future and novel therapeutic strategies.*

Moderator: *Frederick A. Simeone*

Faculty: *William W. Choi, Andrea L. Halliday, Charles J. Riedel*

T23
Optimizing Bony Fusion: From Biology to Indications and Surgical Techniques

Learning Objective: *Participants will be able to describe the approaches necessary to obtain adequate fusion at the different spinal levels and the reasoning underlying the different fusion techniques. Faculty will review current and future modalities for achieving fusion.*

Moderator: *Edward C. Benzel*

Faculty: *Michael A. Morone, Charles B. Stillerman, Brian R. Subach*

T24
Difficult Meningiomas: Convexity to Cranial Base

Learning Objective: *In this seminar, the faculty will discuss intracranial meningiomas that present unique, difficult, or multimodality treatment challenges. Participants will be able to review the different cranial and cranial base approaches to these tumors. In particular, preoperative, intraoperative, and reconstructive strategies will be highlighted.*

Moderator: *Ossama Al-Mefty*

Faculty: *John Diaz Day, Antonio A.F. De Salles, William T. Monacci, Gail L. Rosseau, John M. Tew, Jr.*

T25
Pituitary Surgery: Advances in Medical and Surgical Management

Learning Objective: *This seminar will discuss the current medical and surgical management of pituitary tumors. Participants will be able to review the different surgical approaches and decision making for the various categories of tumors.*

Moderator: *Paul B. Nelson*

Faculty: *Nelson M. Oyesiku, Kalmon D. Post, Gerard S. Rodziewicz, Brooke Swearingen*

T26
Craniopharyngiomas

Learning Objective: *This seminar will describe the different methods for managing patients with craniopharyngiomas. Participants will be able to discuss the advantages and disadvantages of each treatment strategy in both newly diagnosed and recurrent cases of craniopharyngioma.*

Moderator: *R. Michael Scott*

Faculty: *Jean-Pierre Lejeune, Corey Raffel, Robert A. Sanford, Jeffrey H. Wisoff*

T27
Cerebral Aneurysm Surgery: Complication Avoidance and Management

Learning Objective: *This seminar will discuss the management of intracranial aneurysms. The seminar will highlight the risks of surgery and the implementation of strategies designed to mitigate complications. Participants will be able to evaluate which lesions pose significant risk and which aneurysms are best treated by surgical, endovascular, or expectant management.*

Moderator: *Roberto C. Heros*

Faculty: *Daniel L. Barrow, H. Hunt Batjer, Frank Culicchia, William Shucart*

T28
Optimizing Multimodal Management of Arteriovenous Malformations

Learning Objective: *This seminar will discuss the multimodal management of patients with arteriovenous malformations (AVMs). The different diagnostic options, as well as surgical and nonsurgical procedures, will be discussed. Participants will be able to review each of the different manage-*

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ment options in patients with AVMs and discuss the specific methods and reasons for optimal management in different patient types and presentations.

Moderator: *Robert F. Spetzler*

Faculty: *C. Michael Cawley III, Nobuo Hashimoto, Douglas Kondziolka, Gary K. Steinberg*

T29
Vascular Augmentation Techniques for Cerebral Ischemia

Learning Objective: *This seminar will discuss the different surgical techniques for vascular augmentation for cerebral ischemia. Participants will be able to review the diagnostic options and decision making for each of the revascularization procedures. Participants will be able to list the specific methods for preoperative and intraoperative management as well as the indications for surgical intervention.*

Moderator: *David W. Newell*

Faculty: *Fady T. Charbel, Robert L. Grubb, Jr., Neil A. Martin, Philip E. Stieg, Howard Yonas*

T30
Carotid Disease: Endovascular or Surgery

Learning Objective: *In this seminar, the faculty will discuss carotid disease. Specifically, they will discuss the indications and procedures for surgical and endovascular intervention. Participants will be able to describe the technical differences between the available treatment techniques and will be able to formulate an appropriate management plan.*

Moderator: *Robert E. Harbaugh*

Faculty: *Felipe Albuquerque, Christopher M. Loftus, Marc R. Mayberg, Peter A. Rasmussen*

T31
Posterior Fossa and Brainstem Tumors: Approaches and Complication Avoidance

Learning Objective: *This seminar will outline the multidisciplinary approach used to maximize survival in children with cerebellar and brainstem tumors. Participants will be able to describe which patients require surgery, the best surgical approach for each tumor type, and how to minimize the complications of pediatric posterior fossa and brainstem surgery.*

Moderator: *James T. Rutka*

Faculty: *J. Gordon McComb, Ian F. Pollack, Harold L. Rekate, Leslie N. Sutton*

T32
Intracranial Navigation and Brain Mapping: Guideposts in Surgery

Learning Objective: *This seminar will discuss intraoperative navigational innovations, including magnetic resonance imaging, ultrasonography, and advances in frameless stereotaxy. Participants will be able to describe the comparative applications of these techniques and how these methodologies may assist in their practice.*

Moderator: *Lucia J. Zamorano*

Faculty: *Gene H. Barnett, Michael M. Haglund, Daniel L. Silbergeld, Edie E. Zusman*

T33
Epilepsy Surgery: Indications, Technical Nuances, and Maximizing Outcomes in Adults and Children

Learning Objective: *In this seminar, the current neurosurgical management of epilepsy will be reviewed. Participants will be able to discuss the methods for defining surgical candidates; which operation to perform; how to avoid complications during focal resective surgery, disconnection, or hemispherectomy and hemispherotomy procedures; and anticipated outcomes. This seminar will review the different surgical procedures and their technical variations. Participants will be able to discuss the advantages of each surgical approach and the selection of patients for surgical treatment.*

Moderator: *Dennis D. Spencer*

Faculty: *Joseph R. Madsen, Michael J. O'Connor, Webster H. Pilcher, Johannes Schramm*

T34
Controversies in Brain Tumor Management

Learning Objective: *This seminar will outline current controversies in brain tumor management. Faculty will define the role of surgical chemotherapeutic and radiation treatment options for treatment of patients with any of the various glioma subtypes. Participants will review the management options for patients with brain tumors.*

Moderator: *Henry Brem*

Faculty: *Anthony L. Asher, Robert L. Martuza, Edward H. Oldfield, Kris A. Smith*

T35
Odontoid Fractures: Surgical Options

Learning Objective: *This seminar will address the diagnosis and management of fractures of the odontoid. Participants will be able to discuss the various treatment options for odontoid fractures and treatment outcomes.*

Moderator: *Michael G. Fehlings*

Faculty: *William C. Welch, John A. Wilson, Jr., Christopher E. Wolfla*

T36
Cervical Disc Disease: Surgical Options and Approaches

Learning Objective: *This seminar will discuss the different surgical strategies for the management of single-level cervical disc disease. Participants will be able to review the different methods and philosophies for managing single-level cervical disc problems.*

Moderator: *Richard L. Saunders*

Faculty: *Charles A. Fager, Samuel S. Lyness, Randall W. Porter, Scott Shapiro*

T37
Vertebroplasty and Kyphoplasty: Indications and Outcomes

Learning Objective: *This seminar will present the participants with the current applications of vertebroplasty and kyphoplasty to the management of spine problems. Indications, techniques, and outcome assessment will be reviewed.*

Moderator: *Lee R. Guterman*

Faculty: *Sean D. Lavine, Demetrius K. Lopes, Farzad Massoudi, Neal J. Naff*

2:30 p.m. – 5:30 p.m.

SPECIAL COURSE II: REVIEW OF NEURO-ONCOLOGY
In conjunction with the Section on Tumors

Learning Objective: *Participants will be able to describe the recent advances in the biology and treatment of pituitary tumors. Participants will be able to discuss the rationale for management of low-grade gliomas and cerebral metastatic disease.*

Moderator: *Kevin J. Gibbons*

CNS Course Director: *James T. Rutka*

2:30 p.m. – 2:40 p.m.
State-of-the-Art Treatment of Low-grade Gliomas
Mitchel S. Berger

2:40 p.m. – 2:50 p.m.
Pituitary Tumors: Lessons Learned
William F. Chandler

2:50 p.m. – 3:00 p.m.
Surgery for Metastatic Disease
Raymond Sawaya

3:00 p.m. – 3:10 p.m.
Advances in Cranial Base Techniques
Ossama Al-Mefty

3:10 p.m. – 3:20 p.m.
Applications of Advanced Imaging in Neuro-oncological Surgery
Peter McL. Black

3:20 p.m. – 3:30 p.m.
Advances in Pediatric Neuro-oncological Surgery
James T. Rutka

3:30 p.m. – 4:00 p.m.
Refreshments with Exhibitors

4:00 p.m. – 5:30 p.m.
Open Papers 752 – 762

Mahaley Clinical Research Award

2:30 p.m. – 5:30 p.m.

SECTION ON PEDIATRIC NEUROSURGERY I

Learning Objective: *Participants will understand the impact of the extent of brain tumor resection on pediatric patients. Data on low-grade gliomas and other tumor types will be discussed, and the extent of surgical therapy will be supported by evidence from multicenter trials.*

Moderators: *Alan R. Cohen, Ann-Christine Duhaime, Andrew D. Parent*

2:30 p.m. – 3:30 p.m.
Impact of the Extent of Resection on Pediatric Brain Tumors

2:30 p.m. – 2:50 p.m.
Jeffrey H. Wisoff

2:50 p.m. – 3:10 p.m.
Frederick A. Boop

3:10 p.m. – 3:30 p.m.
Discussion

3:30 p.m. – 4:00 p.m.
Refreshments with Exhibitors

4:00 p.m. – 5:20 p.m.
Open Papers 763 – 772

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5:20 p.m. – 5:30 p.m.
Section Business Meeting

2:30 p.m. – 5:30 p.m.

SECTION ON PAIN I

Learning Objective: *Participants will be able to describe and contrast options available for the treatment of acute and chronic pain. Participants will be able to describe new basic and clinical developments relevant to the treatment of pain.*

Moderators: *Jaimie M. Henderson, Kim J. Burchiel*

2:30 p.m. – 3:30 p.m.
Open Papers 773 – 779

Ronald Tasker Award

3:30 p.m. – 4:00 p.m.
Refreshments with Exhibitors

4:05 p.m. – 4:30 p.m.
Oral Posters 89 – 97

4:30 p.m. – 5:30 p.m.
Symposium

2:30 p.m. – 5:30 p.m.

SECTION ON DISORDERS OF THE SPINE AND PERIPHERAL NERVES SURGERY II/GENERAL INTEREST

Learning Objective: *Participants will be able to recognize and describe the spectrum of treatment options for spinal disorders such as rheumatoid arthritis, trauma, and degenerative disease.*

Moderator: *Julie E. York*

2:30 p.m. – 3:30 p.m.
Open Papers 780 – 786

3:30 p.m. – 4:00 p.m.
Refreshments with Exhibitors

4:00 p.m. – 4:40 p.m.
Oral Posters 63 – 75

4:40 p.m. – 5:30 p.m.
Open Papers 787 – 792

2:30 p.m. – 5:30 p.m.

SECTION ON CEREBROVASCULAR SURGERY II/GENERAL INTEREST

Learning Objective: *Participants will be able to discuss factors associated with surgical planning and patient selection for contemporary cerebrovascular surgery. Participants will be able to discuss new developments in the treatment of cerebrovascular disease.*

Moderators: *Jacques J. Morcos, Paul J. Marcotte, James M. Ecklund*

2:30 p.m. – 3:30 p.m.
Open Papers 793 – 799

3:30 p.m. – 4:00 p.m.
Refreshments with Exhibitors

4:00 p.m. – 4:40 p.m.
Oral Posters 14 – 26

4:40 p.m. – 5:30 p.m.
Open Papers 800 – 805

Wednesday, Sept. 25

GENERAL SCIENTIFIC SESSION III

7:30 a.m. – 12:00 noon

Freedom to Expand the Neurosurgeon's Domain

Learning Objective: *Participants will gain an understanding of the expanding domain of neurosurgery. Participants will be able to discuss the advantages of a multimodal approach to cerebral vascular pathology. Participants will understand how to integrate contemporary concepts in shunt technology and pain management into neurosurgical practice. Participants will be able to discuss the role of the neurosurgeon as an intensivist. Participants will be able to describe the elements of maintenance of certification. Participants will become familiar with the indications for treatment of acoustic neuromas and the elements of the decision-making process for surgery versus radiation treatment.*

Moderator: *Michael T. Lawton*

Presiding Officer: *Philip E. Stieg*

7:30 a.m. – 7:45 a.m.
The Modern Neurovascular Team
Cameron G. McDougall

7:45 a.m. – 8:00 a.m.
Shunt Technology: Contemporary Concepts
R. Michael Scott

8:00 a.m. – 8:15 a.m.
Modern Paradigms of Pain Management
Kim J. Burchiel

8:15 a.m. – 8:30 a.m.
The Neurosurgeon as an Intensivist
Alex B. Valadka

8:30 a.m. – 8:45 a.m.
Elements of Maintenance of Certification: Report from the ABNS
David G. Piepgras

8:45 a.m. – 9:00 a.m.
Neurosurgical Fellowship Accreditation: Report from the Senior Society
H. Richard Winn

9:00 a.m. – 9:05 a.m.
Introduction of Bennett M. Stein, Emeritus Special Lecturer
Volker K.H. Sonntag

9:05 a.m. – 9:30 a.m.
EMERITUS SPECIAL LECTURE
The Neurosurgeon as a Renaissance Man in the Modern Era

Bennett M. Stein

9:30 a.m. – 10:30 a.m.
Coffee with Exhibitors

10:30 a.m. – 10:55 a.m.
Acoustic Tumors: Operation versus Radiation—Making Sense of Opposing Viewpoints
Moderator: *Albert L. Rhoton, Jr.*
Steven L. Giannotta, Douglas Kondziolka

10:55 a.m. – 11:00 a.m.
Distinguished Service Award

11:00 a.m. – 11:05 a.m.
Presidential Acknowledgment

11:05 a.m. – 11:10 a.m.
CNS International Committee Report
Nelson M. Oyesiku

11:10 a.m. – 11:30 a.m.
HONORED GUEST PRESENTATION
The Neurosurgeon as Mentor and Student
Volker K.H. Sonntag

11:30 a.m. – 11:35 a.m.
Introduction of Admiral Vern Clark, Chief of Naval Operations
Ralph G. Dacey, Jr.

11:35 a.m. – 12:00 noon
SPECIAL LECTURE
Leadership under Pressure

Admiral Vern Clark, U.S. Navy

VISIT EXHIBITS
12:00 noon – 1:00 p.m.

1:00 p.m. – 2:30 p.m.
LUNCHEON SEMINARS

W38
Difficult Spine Lesions: Case Management

Learning Objective: *In this seminar, the faculty will discuss spine lesions that present unique, diffi-*

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cult, or multimodality treatment challenges. Participants will be able to review the different approaches to these lesions. Preoperative and intraoperative strategies will be highlighted. The application of complex spinal instrumentation in the treatment of patients with these lesions will be reviewed.

Moderator: *Regis W. Haid, Jr.*

Faculty: *David W. Cahill, Robert F. Heary, Peter M. Klara, Paul J. Marcotte*

W39
Lumbar Disc Surgery: Simple, Recurrent, and Complex

Learning Objective: *The seminar will discuss the different surgical strategies for the management of simple, recurrent, and complex lumbar disc disease. Participants will be able to review the different methods and philosophies for managing lumbar disc problems.*

Moderator: *Charles L. Branch, Jr.*

Faculty: *Barry D. Birch, Richard G. Fessler, Paul M. Lin, Junichi Mizuno*

W40
Chiari Malformation and Syringomyelia: Controversies and Management

Learning Objective: *This seminar will focus on the controversies surrounding the use of posterior fossa decompression in patients with Chiari I malformations, chronic fatigue syndrome, and cervical stenosis. Participants will be able to define the specific disease entities and discuss the various treatment options and the scientific evidence supporting each option.*

Moderator: *Thomas H. Milhorat*

Faculty: *Hiroshi Abe, Dan S. Heffez, Karin M. Muraszko, Marcus A. Stoodley*

W41
Approaches to Spinal Neoplasms

Learning Objective: *This seminar will discuss the methods used in the management of vertebral, epidural, and intraparenchymal spinal neoplasms. Complication avoidance will be emphasized. Participants will be able to differentiate between the techniques used in the treatment of patients with these lesions.*

Moderator: *Ziya L. Gokaslan*

Faculty: *John R. Adler, Jr., Richard G. Perrin, Narayan Sundaresan*

W42
Spinal Navigation: The Next Generation

Learning Objective: *This seminar will describe the currently available techniques used in intraoperative localization during spinal operations. Participants will be able to discuss the current methods of computer-aided navigation, including infrared, mechanical, and sonic localizers. Participants will be able to discuss the advantages and limitations of each technology.*

Moderator: *Iain H. Kalfas*

Faculty: *Tanvir F. Choudhri, Kevin T. Foley, William D. Tobler*

W43
Brain Metastases

Learning Objective: *In this seminar, the moderator will present cases of metastatic tumors in the brain for discussion by the faculty and attendees. Participants will be able to describe the operative and nonoperative techniques used in the management of brain metastases, including surgical resection, stereotactic radiosurgery, and radiotherapy. Participants will be able to discuss the treatment options available for each patient and recommend the appropriate treatment.*

Moderator: *Michael L.J. Apuzzo*

Faculty: *Walter A. Hall, Griffith R. Harsh IV, Michael W. McDermott, Raymond Sawaya*

W44
Neurosurgical Coding: A to Z

Learning Objective: *In this seminar, attendees will learn how to code according to legal tenets delineated by the government. Participants will learn the nuances that are permitted in their evolving neurosurgical practice. At the end of the seminar, participants will understand the new government guidelines and be able to incorporate them into their practices efficiently. This seminar will discuss the application of CPT coding in neurosurgery. Participants will be able to use the coding guidelines in their own practices.*

Moderator: *James R. Bean*

Faculty: *Jeffrey W. Cozzens, Samuel J. Hassenbusch, Gregory J. Przybylski, John A. Wilson, Jr.*

W45
Surgical Approaches to the Anterior and Central Cranial Base

Learning Objective: *This seminar will describe the different surgical approaches for patients with anterior cranial base lesions. Participants will be able to review the anatomic basis for selecting different cranial base approaches, the techniques of reconstruction, and the role of adjuvant therapies.*

Moderator: *Harry R. Van Loveren*

Faculty: *William T. Couldwell, Evandro P. de Oliveira, Ali F. Krisht, Chandranath Sen, Mitesh V. Shah*

W46
Posterior Circulation Aneurysms: Issues and Controversies

Learning Objective: *This seminar will discuss the management of aneurysms of the vertebrobasilar system. The seminar will review the role of surgical clipping and endovascular methods of aneurysm obliteration. Participants will be able to evaluate which patients and which aneurysms are best treated by surgical, endovascular, or expectant management.*

Moderator: *Duke S. Samson*

Faculty: *Cargill H. Alleyne, Jr., Fernando G. Diaz, Michael T. Lawton, Jacques J. Morcos, M. Christopher Wallace*

W47
Contemporary Management of Head Injuries

Learning Objective: *This seminar will discuss the contemporary management of head injuries. Participants will be able to review the management issues in both the acute and chronic settings as well as in the intensive care unit. Participants will be able to describe surgical management as well as techniques for the management of clinical problems in patients with head injuries.*

Moderator: *Brian T. Andrews*

Faculty: *Julian E. Bailes, Jr., Austin R.T. Colohan, James M. Ecklund, M. Sean Grady*

W48
Vascular Case Studies: How I Would Do It

Learning Objective: *A panel of expert cerebrovascular neurosurgeons will discuss their approaches to a variety of complex neurovascular problems. Optimal treatment strategies and the basic tenets of vascular microneurosurgery will be reviewed. Participants are encouraged to bring their own cases for discussion.*

Moderator: *H. Hunt Batjer*

Faculty: *Winfield S. Fisher III, Steven L. Giannotta, Neal F. Kassell, Thomas A. Kopitnik, Jr., Cameron G. McDougall*

W49
Parkinson's Disease, Dystonia, and Movement Disorders

Learning Objective: *In this seminar, the faculty will present cases of actual patients with advanced Parkinson's disease and dystonia for discussion by the faculty and attendees. This seminar will review the available techniques for stereotactic lesioning and deep brain stimulation. After the review of actual cases, participants will be able to describe the most effective surgical treatment for patients with advanced movement disorders.*

Moderator: *Roy A.E. Bakay*

Faculty: *Alim-Louis Benabid, Isabelle M. Germano, Robert E. Gross, Ali R. Rezai*

W50
Trigeminal Neuralgia and Other Cranial Nerve Syndromes: Multimodal Approaches

Learning Objective: *This seminar will discuss the currently available treatment strategies for trigeminal neuralgia and neuralgia of the lower cranial nerves. Participants will be able to discuss the risks and the long-term efficacy of microvascular decompression, percutaneous rhizolysis procedures, and stereotactic radiosurgery.*

Moderator: *Ronald I. Apfelbaum*

Faculty: *Frederick G. Barker II, Ronald Brisman, Jeffrey Alan Brown, Peter J. Jannetta*

W51
Medicolegal Issues: Facts, Questions, and Answers

Learning Objective: *This seminar will focus on the medicolegal issues in neurosurgery. The faculty will discuss national and regional flash points. Current and future trends in litigation and legislation will be reviewed.*

Moderator: *Stan Pelofsky*

Faculty: *W. Ben Blackett, A. John Popp, John Vail*

W52
Contemporary Issues in the Management of Stroke

Learning Objective: *This seminar will review the elements of a stroke workup and will include discussion of innovations in diagnosis and treatment. Emphasis will be placed on novel treatments as well as the standard of care in this controversial area. Participants will develop an appreciation for the indications for surgical intervention and various management and technical options designed to improve patient outcomes.*

Moderator: *Donald O. Quest*

Faculty: *Robert M. Friedlander, Robert A. Mericle, Robert Neumann, Warren R. Selman*

W53
Entrapment Syndromes Update

Learning Objective: *This seminar will review the various entrapment syndromes encountered in neurosurgical practice. Clinical and elec-*

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trophysiological diagnosis, anatomic exposure, and treatment outcome will be reviewed.

Moderator: *Setti S. Rengachary*

Faculty: *Kimberly S. Harbaugh, John E. McGillicuddy, Robert L. Tiel*

W54
Shunt Update

Learning Objective: *This seminar will review the management of hydrocephalus with the use of shunts. An overhaul of the current shunt technologies, selection criteria, and application to clinical situations will be discussed. Complication avoidance will be emphasized. Participants will review the current start of the art in shunt management.*

Moderator: *Joseph H. Piatt, Jr.*

Faculty: *James M. Drake, Lucy Carole Love, Cheryl A. Muszynski, Leslie N. Sutton*

2:30 p.m. – 5:30 p.m.

SPECIAL COURSE III: CEREBROVASCULAR SURGERY PATIENT SELECTION
In conjunction with the Section on Cerebrovascular Surgery

Learning Objective: *Participants will be able to describe and contrast patient selection options. Participants will be able to describe clinical developments relevant to the treatment of patients with cerebrovascular disease.*

Moderator: *Robert E. Harbaugh*

CNS Course Director: *Robert M. Friedlander*

Patient Selection for Cerebrovascular Surgery: Aneurysms and Vascular Malformations—When Not To Operate

2:30 p.m. – 2:40 p.m.
Cavernous Malformations: Brainstem
Robert F. Spetzler

2:40 p.m. – 2:50 p.m.
Cavernous Malformations: Brain and Cerebellum
H. Hunt Batjer

2:50 p.m. – 3:00 p.m.
Cerebral Arteriovenous Malformations
Arthur L. Day

3:00 p.m. – 3:30 p.m.
Cerebral Aneurysms
Duke S. Samson

3:30 p.m. – 4:00 p.m.
Refreshments with Exhibitors

4:00 p.m. – 5:30 p.m.
Open Papers 806 – 816

2:30 p.m. – 5:30 p.m.

SECTION ON DISORDERS OF THE SPINE AND PERIPHERAL NERVES III

Learning Objective: *Participants will be able to describe the available management paradigms for thoracolumbar spinal column injuries. Participants will be able to describe the clinical developments in and a wide range of acceptable clinical management schemes for the treatment of patients with spinal injuries.*

Moderators: *Daniel K. Resnick, Andrew T. Dailey*

2:30 p.m. – 3:30 p.m.
Open Papers 817 – 823

3:30 p.m. – 4:00 p.m.
Refreshments with Exhibitors

4:00 p.m. – 4:40 p.m.
Oral Posters 76 – 88

4:40 p.m. – 5:30 p.m.
Open Papers 824 – 829

2:30 p.m. – 5:30 p.m.

SECTION ON STEREOTACTIC AND FUNCTIONAL SURGERY II

Learning Objective: *Participants will be able to explain the role of stereotactic surgery as it pertains to contemporary neurosurgical management. Participants will be able to discuss new developments in the fields of stereotactic and functional surgery.*

Moderators: *Kris A. Smith, Isabelle M. Germano*

2:30 p.m. – 3:30 p.m.
Open Papers 830 – 836

3:30 p.m. – 4:00 p.m.
Refreshments with Exhibitors

4:00 p.m. – 5:00 p.m.
Open Papers 837 – 843

Movement Disorder Radiosurgery: Results and Realities

5:00 p.m. – 5:15 p.m.
Ronald F. Young

5:15 p.m. – 5:30 p.m.
Roy A.E. Bakay

2:30 p.m. – 5:30 p.m.

SECTION ON TUMORS III/GENERAL INTEREST

Learning Objective: *Participants will be able to list several management options for primary brain neoplasms and neoplasms of the cranial base. Participants will be able to discuss new developments in the field of neurooncology.*

Moderators: *John R.W. Kestle, Austin R.T. Colohan*

2:30 p.m. – 3:30 p.m.
Open Papers 844 – 850

3:30 p.m. – 4:00 p.m.
Refreshments with Exhibitors

4:00 p.m. – 4:40 p.m.
Oral Posters 50 – 62

4:40 p.m. – 5:30 p.m.
Open Papers 851 – 856

2:30 p.m. – 5:30 p.m.
COUNCIL OF STATE NEUROSURGICAL SOCIETIES

Learning Objective: *Participants will be able to describe the consequences of Medicare sanctions for coding violations, the process of investigating Medicare coding fraud, and practical steps that can be taken to avoid the appearance of Medicare-coding impropriety. Participants will also become aware of the ways in which they can have a positive effect on the neurosurgical reimbursement environment, the practical advantages of becoming involved in the political process, and the mechanisms for becoming actively involved in the political process at local, state, and federal levels.*

Moderators: *Mick J. Perez-Cruet, Mark E. Linskey*

2:30 p.m. – 3:30 p.m.
Open Papers 857 – 863

3:30 p.m. – 4:00 p.m.
Refreshments with Exhibitors

4:00 p.m. – 4:05 p.m.
CSNS Resident Award

4:05 p.m. – 4:10 p.m.
CSNS Young Neurosurgeon Award

4:10 p.m. 4:30 p.m.
Medicare Fraud: Avoiding the Pitfalls
Debra Mills, Rheinisch Medical Management, Inc.

4:30 p.m. – 4:50 p.m.
Improving the Reimbursement Environment for Specialty Surgeons
Neil Kahanovitz

4:50 p.m. – 5:15 p.m.
The Importance of Political Advocacy in Neurosurgical Practice
Fernando G. Diaz

5:15 p.m. – 5:30 p.m.
Panel Discussion
Debra Mills, Neil Kahanovitz, Fernando G. Diaz, Richard G. Fessler

Thursday, September 26

GENERAL SCIENTIFIC SESSION IV

7:30 a.m. – 12:00 noon

Medical Liability Crisis: Neurosurgeons and Politics—From the Ivory Tower to the Trenches

Learning Objective: *Participants will become familiar with state tort reform initiatives across the United States, medical liability reform in Pennsylvania, and the need for neurosurgeons to get involved in the political process. After the session, participants will also be able to discuss federal medical liability reform initiatives, the impact of the judicial branch on medical liability, the Washington Committee's medical liability reform campaign, and other key issues.*

Moderator: *James R. Bean*

CNS Director: *David F. Jimenez*

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7:30 a.m. – 7:45 a.m.
AANS/CNS Advocacy Program: Who Are We and How Are We Helping Neurosurgery?
James R. Bean

7:45 a.m. – 8:45 a.m.
Point-Counterpoint: Perspectives of Tort Reform Advocates and Tort Reform Foes

7:45 a.m. – 8:00 a.m.
Tort Reform Is Detrimental to the Patient
John Vail, Center for Litigation, Association of Trial Lawyers of America

8:00 a.m. – 8:15 a.m.
State Tort Reform Is Essential for the Survival of the Medical Field
Sherman Joyce, President, American Tort Reform Association

8:15 a.m. – 8:45 a.m.
Presidential Format Debate
Moderator: *David F. Jimenez*
John Vail, Sherman Joyce

8:45 a.m. – 9:30 a.m.
Views from the State: The Pennsylvania Experience

8:45 a.m. – 9:05 a.m.
Howard A. Richter, Pennsylvania Medical Society

9:05 a.m. – 9:30 a.m.
The Honorable John Michael Perzel, Majority Leader, State of Pennsylvania House of Representatives

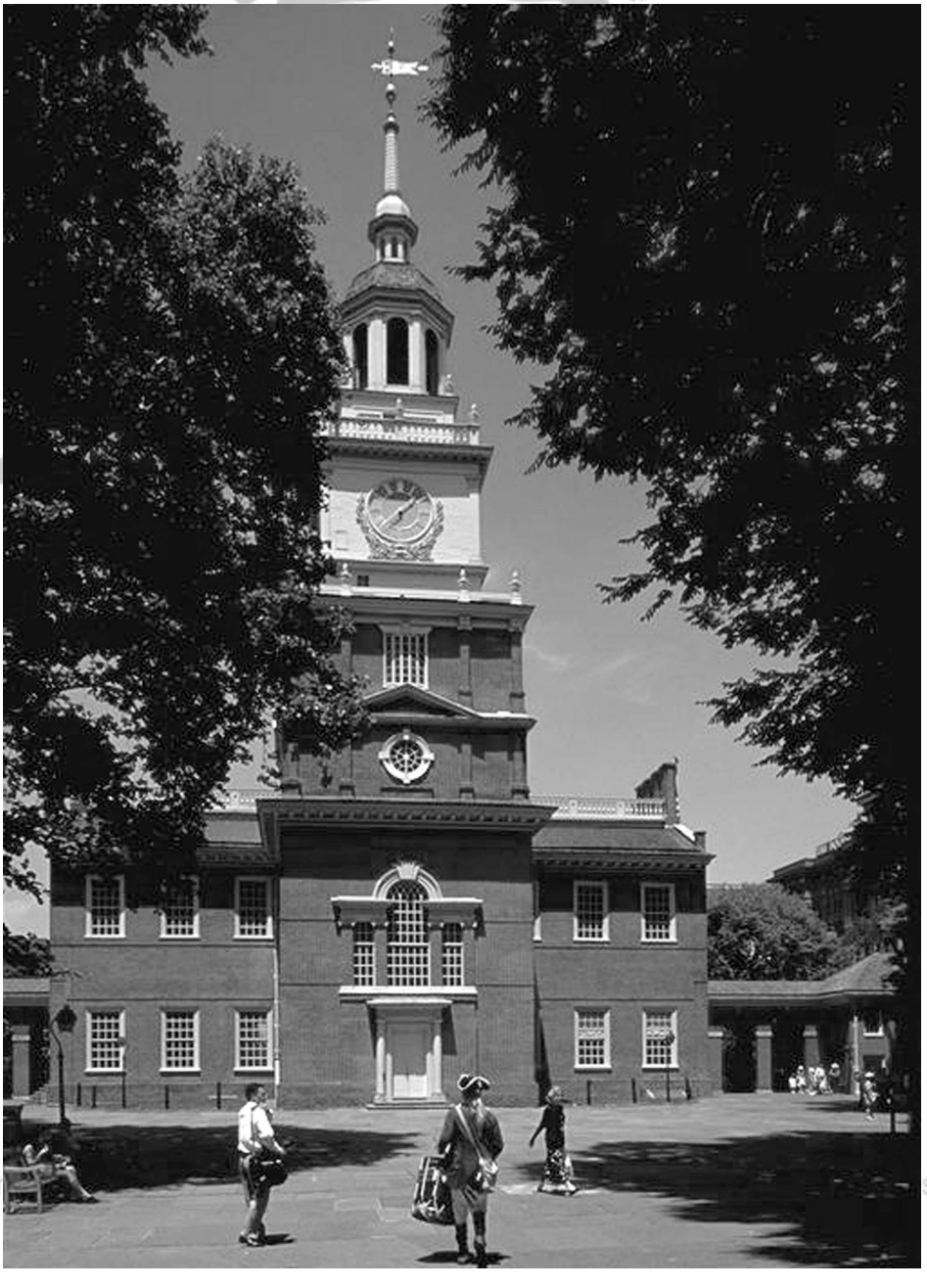
9:30 a.m. – 10:00 a.m.
Coffee Break

10:00 a.m. – 10:30 a.m.
Judicial Perspective: Judges Help Make the Law
The Honorable Elliott E. Maynard, Justice, State of West Virginia Supreme Court of Appeals

10:30 a.m. – 11:15 a.m.
How to Get Liability Reform Legislation Enacted: Grass-roots Advocacy
Michael E. Dunn

11:15 a.m. – 12:00 noon
Open Forum, All Speakers
Moderator: *Katie O. Orrico, Director, AANS/CNS Washington Office*

Independence Hall, Philadelphia, Pennsylvania.



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