

PRACTICAL CLINIC

8:00 AM–12:00 PM

001

Artificial Lumbar Disc Technology

Clinic Fee: \$800

Material Fee: \$0

Total Fee: \$800

Co-Directors

Richard G. Fessler, MD, PhD; Fred H. Geisler, MD, PhD

Faculty

Gordon Duthie Donald, MD; Carl Laurysen, MD; John Chung-Liang Liu, MD; Bruce E. Mathern, MD; Charles S. Theofilos, MD

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

Learning Objectives

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

- Review the available artificial lumbar discs
- Discuss the surgical techniques of applying these discs
- Review potential complications of using artificial lumbar discs

002

Management of Cervical Spine Deformity and Instability

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Co-Directors

Regis W. Haid, Jr., MD; Praveen V. Mummaneni, MD

Faculty

Harel Deutsch, MD; Michael W. Groff, MD; Robert F. Heary, MD, Frank La Marca, MD; Allan D. O. Levi, MD, PhD; Jeff Pan, MD; Timothy C. Ryken, MD; Michael Y. Wang, MD; Christopher E. Wolfla, MD; Neill M. Wright, MD

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

Learning Objectives

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

- Discuss options for anterior and posterior cervical fixation
- Discuss indications and selection criteria for fusion and for arthroplasty in the cervical spine
- Explain surgical anatomical principles related to cervical spine instrumentation techniques

003

Anterior and Lateral Approaches to Skull Base

Clinic Fee: \$350

Material Fee: \$450

Total Fee: \$800

Co-Directors

Ossama Al-Mefty, MD; Chandranath Sen, MD

Faculty

Ryojo Akagami, MD; Helmut Bertalanffy, MD; Chun Siang Chen, MD; William T. Couldwell, MD, PhD; Evandro De Oliveira, MD, PhD; Kadir Erkmen, MD; Paulo Abdo Kadri, MD; Wesley A. King, MD; Sandeep M. Kunwar, MD; Anil Nanda, MD, FACS; Thomas C. O'rigitano, MD, PhD; Raj K. Shrivastava, MD

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

Learning Objectives

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

- Describe the surgical anatomy of approaches to the skull base
- Evaluate advantages/disadvantages of approaches for specific pathologies
- Discuss minimizing morbidity of tumor resection in the skull base

004

Current and Future Trends in Lumbar Interbody Fusion

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Director

Daniel K. Resnick, MD

Faculty

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

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

Learning Objectives

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

- Compare the various surgical approaches used for interbody lumbar fusion
- Evaluate lumbar interbody implant devices and assess the value of emerging technology
- Predict the impact of biological agents such as rh BMP-2 on interbody outcomes

041**Minimally Invasive Treatment of Trigeminal Neuralgia**

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Co-Directors

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

Faculty

Aaron A. Cohen-Gadol, MD; Albert L. Rhoton, Jr., MD; Philip V. Theodosopoulos, MD

This course will familiarize participants with the pathophysiology of trigeminal neuralgia and the entire breadth of treatment options, including percutaneous lesions, open surgical management, endoscopic approaches as well as radiosurgical treatment. The relevant anatomy will be extensively reviewed with an emphasis on key surgical points that maximize the effectiveness of treatment both in standard

pathologic findings as well as atypical presentations, recurrences after treatment and lesion related symptoms. A treatment algorithm will be presented and the nuances of treatment decision making will be extensively discussed.

Learning Objectives

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

- Discuss the standard techniques for the treatment of trigeminal neuralgia
- Explain the decision making process regarding which treatment modality is “best” for the patient
- Discuss the current thoughts regarding the pathophysiology of trigeminal neuralgia
- Explain the diagnosis of trigeminal neuralgia versus atypical facial pain
- Discuss the issues related to recurrence of trigeminal neuralgia following treatment as well as the subsequent treatment of these patients

PRACTICAL CLINIC

8:00 AM – 5:00 PM

005**Minimally Invasive Microendoscopic Discectomy**

Clinic Fee: \$400

Material Fee: \$500

Total Fee: \$900

Director

Kevin T. Foley, MD

Faculty

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

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

Learning Objectives

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

- Discuss the indications for minimally invasive spine surgery (i.e. lumbar and cervical discectomy, lumbar fixation, lumbar fusion)
- Describe the surgical techniques for minimally invasive micro-endoscopic discectomy
- Compare microscopic vs. endoscopic approaches to minimally invasive spine surgery

006**Intracranial Endoscopy: Indications, Techniques, Outcome and Complications**

Clinic Fee: \$400

Material Fee: \$500

Total Fee: \$900

Director

Alan R. Cohen, MD, FACS

Faculty

Jacques Caemaert, MD, Prof; Michael R. Gaab, MD, PhD; Andre Grotenhuis, MD, PhD; Nakamasa Hayashi, MD, PhD; Carl Barnes Heilman, MD; Tenoch Herrada-Pineda, MD; Wesley A. King, MD; Henry W. S. Schroeder, MD, PhD; Theodore H. Schwartz, MD; Mark M. Souweidane, MD; John C. Wellons III, MD

Participants will receive didactic and hands-on instruction in intracranial endoscopy, including indications, techniques, outcomes and complications. Topics covered will include the management of hydrocephalus (including third ventriculostomy), removal of colloid cysts and other intraventricular tumors, endoscope-assisted microneurosurgery and transsphenoidal procedures.

Learning Objectives

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

- Identify the indications for intracranial endoscopy
- Evaluate specific techniques available for intracranial endoscopy
- Discuss strategies for avoiding complications in intracranial endoscopy

PRACTICAL CLINIC

1:00–5:00 PM

007

Hands-On Peripheral Nerve of the Upper Extremities

Clinic Fee: \$350

Material Fee: \$450

Total Fee: \$800

Co-Directors

Rajiv Midha, MD, MS, FRCS; Robert L. Tiel, MD

Faculty

Allan H. Friedman, MD, FACS; David G. Kline, MD; John E. McGillicuddy, MD; Stephen M. Russell, MD; Robert J. Spinner, MD, FACS; Christopher J. Winfree, MD; Lynda Jun-san Yang, MD, PhD; Eric L. Zager, MD

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

Learning Objectives

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

- Discuss the anatomy of upper extremity nerves
- Explain surgical approaches to upper extremity nerves and the brachial plexus

008

R&F

Basics of Spinal Stabilization, Fusion and Instrumentation

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

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

Co-Directors

Peter Douglas Angevine, MD; Kaushik Das, MD

Faculty

Edward C. Benzel, MD; Virany H. Hillard, MD; Michael G. Kaiser, MD; Tyler Robert Koski, MD

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

Learning Objectives

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

- Describe biologic basis and biomechanics of spine fusion
- Describe indications of spinal fusion and instrumentation and arthroplasty
- Describe operative approaches and surgical techniques for spinal fusion and instrumentation

009

Modern Techniques and Future Trends in Lumbar Interbody Fusion

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Co-Directors

Charles L. Branch, Jr., MD; Andrew T. Dailey, MD

Faculty

Martin D. Herman, MD, PhD; Todd Hopkins Lanman, MD; Paul G. Matz, MD; Russ P. Nockels, MD; Brian R. Subach, MD, FACS

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

Learning Objectives

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

- Compare the various surgical approaches used for lumbar interbody fusion
- Evaluate lumbar interbody implant devices and assess the value of emerging technology
- Predict the impact of biological agents such as rh BMP-2 on interbody outcomes

010

R&F

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

Clinic Fee: \$350

Material Fee: \$0

Total Fee: \$350

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

Director

Albert L. Rhoton, Jr., MD

This course will provide three-dimensional microsurgical instruction on routes through the anterior and posterior cerebrum and temporal lobe; anatomy and approaches to the lateral and third ventricles and pineal region; anterior skullbase and cavernous sinus; and transsphenoidal, transmaxillary and transoral approaches.

Learning Objectives

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

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

011

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

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Co-Directors

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

Faculty

Richard G. Fessler, MD, PhD; Kevin T. Foley, MD; Larry T. Khoo, MD; Bruce E. Mathern, MD; Noel I. Perin, MD; Frank Phillips, MD; Maurice M. Smith, MD; Najeeb M. Thomas, MD

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

The cases increase in complexity and scope, altering the scenarios until all come to explain the factors which influence our own surgical practice. As the cases become increasingly complex, the faculty and audience alike are forced to address the difficult, sometimes impossible choices encountered. The goal is for every surgeon who participates to explain the thought

process behind how different surgeons, when presented with a surgical dilemma, choose to address a case. Be prepared to participate in helping form a treatment algorithm as to how to address various surgical issues, while focusing on minimally invasive spine surgery and the variety of patients who increasingly desire this form of treatment.

Learning Objectives

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

- Evaluate and indicate patients for Minimal Access spine surgery
- Discuss what variety of options are reasonable and available to address common spine disorders

- Develop best practice treatment algorithms to appropriately treat patients with Minimal Access spinal approaches (including when to convert to open or to avoid entirely before attempting)

PRACTICAL CLINIC

8:00 AM–12:00 PM

012

Spinal Radiosurgery

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Co-Directors

Mark H. Bilsky, MD; Peter C. Gerszten, MD, MPH

Faculty

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

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

Learning Objectives

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

- Discuss the most commonly used techniques for spine radiosurgery
- Explain the current indications for and preliminary outcomes after spine radiosurgery
- Explain the relative contraindications to spine radiosurgery

013

Thoracic and Lumbar Stabilization and Fusion: Indications and Complications

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Co-Directors

Christopher I. Shaffrey, MD; Eric J. Woodard, MD

Faculty

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

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

Learning Objectives

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

- Review patient selection for thoracic and lumbar fusion
- Discuss translational and rotational techniques for correction of thoracolumbar deformity
- Review open and minimally invasive approaches for lumbar interbody fusion (ALIF, TLIF, PLIF)
- Discuss common complications and management associated with thoracic and lumbar fusion

014

Strategies for Building Hospital Partnerships

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Co-Directors

Deborah L. Benzil, MD; Edie E. Zusman, MD, FACS

Faculty

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

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

Learning Objectives

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

- Assess the direct and indirect financial contribution neurosurgeons make to a hospital
- Discuss how to design the business case to bring a new program to your hospital
- Define alternative revenue sources for program development in your hospital
- Determine strategic alliances that can support the growth and stability of a neurosurgical practice/program

015

Craniovertebral Junction Surgical Approaches: Indications, Techniques, Limitations and Complications

Clinic Fee: \$300

Material Fee: \$250

Total Fee: \$550

Director

Arnold H. Menezes, MD

Faculty

Ronald I. Apfelbaum, MD; Marc E. Eichler, MD; Michael G. Fehlings, MD, PhD; Noel I. Perin, MD; Rick C. Sasso, MD; Paul D. Sawin, MD; Vincent C. Traynelis, MD

This clinic will include the evaluation of craniocervical anatomy and pathology. Formulation of a treatment for disorders and construction of physiological modes of therapy will be reviewed. The didactic program will be followed by hands-on demonstration. All attendees will receive a spine model.

Learning Objectives

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

- Formulate craniocervical junction surgical approaches
- Classify and differentiate craniocervical lesions
- Identify and treat fusions

016**Current Issues and Complexities in Spine Coding**

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Director

John A. Wilson, MD, FACS

Faculty

Robert R. Johnson, II, MD, FACS; Alexander M. Mason, MD; William Mitchell, MD; Gregory J. Przybylski, MD

This course will cover physician procedure coding for spine procedures such as laminectomy, discectomy, corpectomy fusion, fracture treatment, tumor removal and spinal injections. We will discuss what procedures and services are included in the global surgical package for these codes and what services may be separately billed.

Learning Objectives

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

- Describe the four major components of coding spine procedures
- Differentiate what procedures are included in the global surgical package for spine procedure codes
- Explain the use of surgical modifiers and how revenue can be improved by accurate use of these modifiers

017**Spinal Endoscopic Techniques to the Thoracic and Lumbar Spine**

Clinic Fee: \$350

Material Fee: \$450

Total Fee: \$800

Director

Kevin T. Foley, MD

Faculty

Dean Chou, MD; Curtis A. Dickman, MD; Richard G. Fessler, MD, PhD; Kevin T. Foley, MD; Robert E. Isaacs, MD; Adrian M. Nowitzke, MBBS, FRACS

This clinic provides hands-on training with thoracic and lumbar microendoscopic discectomy and thorascopy, using cadaveric material.

Learning Objectives

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

- Describe the techniques and indications for endoscopic spinal surgery
- Review endoscopic surgery for spine
- Determine indications and contraindications for endoscopic spinal surgery

018**R&F****Endovascular and Hybrid Approaches to Cerebrovascular Disease**

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

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

Co-Directors

Rocco A. Armonda, MD; B. Gregory Thompson, Jr., MD

Faculty

Alan S. Boulos, MD; Jacques E. Dion, MD; Neil A. Martin, MD; Howard A. Riina, MD; Owen Bruce Samuels, MD; Erol Veznedaroglu, MD

This clinic will provide an in-depth review of techniques, technologies and evolving concepts in the treatment of patients with cerebrovascular disorders. Evidence-based treatment paradigms, current trends and future directions will be covered in each of three areas: intracranial aneurysms, arteriovenous malformations and cerebral ischemia/hemorrhage. Audience participation will be encouraged via a case-presentation format rather than solely didactic lectures.

Learning Objectives

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

- Discuss treatment paradigms for intracranial aneurysms
- Discuss treatment paradigms for AVMs
- Discuss treatment paradigms for cerebral ischemia
- Discuss treatment paradigms for cerebral hemorrhage

019**Technical Management of Intracranial Aneurysms: Site Specific Surgical Anatomy, Operation Intervention and Complication Management**

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Director

Arthur L. Day, MD, FACS

Faculty

H. Hunt Batjer, MD, FACS; Ralph G. Dacey, Jr., MD

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

cerebral artery aneurysms.

Learning Objectives

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

- Recognize the special features of aneurysms at specific sites
- Recognize potential pitfalls for safe lesion treatment
- Identify new methods of intervention for cerebral aneurysms

020

Moving Your Practice into the Digital Age

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Director

Mark H. Camel, MD

Faculty

Neil A. Martin, MD; Harold J. Pikus, MD; Oren Sagher, MD; Nathan R. Selden, MD, PhD

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

Learning Objectives

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

- Identify key components of a computer network
- Examine the costs involved in transitioning, implementing and maintaining an electronic medical record system

- Evaluate new medical practice software applications
- Identify the major problems encountered in managing a practice in an increasingly digital environment

021

R&F

Peripheral Nerve Injuries, Entrapments and Tumors: Examination and Evaluation

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

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

Co-Directors

Line Jacques, MD; Robert J. Spinner, MD, FACS

Faculty

Allan H. Friedman, MD, FACS; David G. Kline, MD; Allen H. Maniker, MD; John E. McGillicuddy, MD; Rajiv Midha, MD, MS, FRCS; Robert L. Tiel, MD

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

Learning Objectives

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

- Discuss indications for, the timing of and types of operative intervention on peripheral nerve injuries
- Discuss patho-anatomy, clinical presentation and management of common entrapments in the upper and lower limbs
- Explain the indications for and approaches to operative interventions on different types of benign and malignant peripheral nerve tumors
- Explain the role of preoperative and intraoperative electrophysiology in the management of patients with these common peripheral nerve lesions

022

Preparation for Medical/Legal Testimony

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Director

Stanley W. Fronczak, MD, JD, FACS

Faculty

Vincent M. Auricchio, JD; Norman J. Barry, Jr.; Michael Anthony Chabreja, Esq.

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

Learning Objectives

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

- Explain the practical aspects of medical defense procedure and technique
- Integrate proactive strategies to combat plaintiff expert witness testimony
- Discuss effectively with your defense counsel all aspects of litigation

023

Non-Invasive Pre-Operative and Intra-Operative Brain Mapping and Treatment of Epilepsy

Clinic Fee: \$475

Material Fee: \$0

Total Fee: \$475

Director

Guy M. McKhann, II, MD

Faculty

Nicholas M. Barbaro, MD; Gene H. Barnett, MD, FACS; Mitchel S. Berger, MD, FACS; William E. Bingaman, Jr., MD; Peter McL. Black, MD, PhD; Gerald A. Grant, MD; Dennis D. Spencer, MD

This clinic will provide an in-depth review of techniques and technologies that can be applied to identifying and working within eloquent areas of the brain and performing successful resections. In addition, pre-operative and intra-operative state-of-the-art detection of seizure foci will be reviewed. The selection of surgical approaches based on non-invasive monitoring for surgery of epilepsies and brain tumors will be discussed.

Learning Objectives

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

- Identify the technologies currently available for pre- and intra-operative brain mapping
- Apply brain mapping techniques to daily practice
- Recognize complication avoidance in epilepsy and brain mapping techniques

PRACTICAL CLINIC

8:00 AM–5:00 PM

024

Surgical Anatomy of the Thoracic and Lumbar Spine

Clinic Fee: \$400

Material Fee: \$500

Total Fee: \$900

Co-Directors

Richard G. Fessler, MD, PhD; Daniel H. Kim, MD

Faculty

Harsimran S. Brara, MD; Anthony K. Frempong-Boadu, MD; Bernard H. Guiot, MD; Robert F. Heary, MD; Robert E. Isaacs, MD; Larry T. Khoo, MD; Kee D. Kim, MD; Ehud Mendel, MD, FACS; Mick J. Perez-Cruet, MD; Srinath Samudrala, MD

This clinic will focus on teaching the surgical anatomy relevant to the anterior, lateral and posterior surgical approaches to the thoracic and lumbar spine. Surgical approaches will include transmanubrial, lateral extrapleural, thoracoabdominal, lateral extraperitoneal and retroperitoneal.

Learning Objectives

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

- Review anatomy of surgical approaches to the thoracic and lumbar spine
- Review surgical techniques of the major thoracic and lumbar approaches to the ventral spine
- Review potential complications of these techniques

025

Practical and Technical Aspects of Transsphenoidal Surgery

Clinic Fee: \$400

Material Fee: \$500

Total Fee: \$900

Co-Directors

William T. Couldwell, MD, PhD; Gail L. Rosseau, MD

Faculty

Helmut Bertalanffy, MD; William F. Chandler, MD, FACS; Matthew G. Ewend, MD, FACS; Carl Barnes Heilman, MD; John A. Jane, Jr., MD; Amin Kassam, MD; Daniel F. Kelly, MD; Edward R. Laws, Jr., MD; Ian E. McCutcheon, MD; Basant Kumar Misra, MD; Edward H. Oldfield, MD; Jean Regis, MD; Warren R. Selman, MD; Jonas M. Sheehan, MD

This clinic will review traditional transsphenoidal approaches and present contemporary modifications of the technique, including endoscopic approaches. This clinic will also update the neurosurgeon on current medical and radiosurgical adjuncts to transsphenoidal surgery.

Learning Objectives

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

- Describe the transsphenoidal approach and contemporary modification
- Cite the advantages of the endonasal, endoscopic technique
- Outline current approaches to transsphenoidal surgery
- Evaluate adjunctive therapies for patients with pituitary tumors

026

N&PE

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

Clinic Fee: \$475

Material Fee: \$0

Total Fee: \$475

Co-Directors

Geoffrey T. Manley, MD, PhD; Shelly D. Timmons, MD, PhD

Faculty

M. Ross Bullock, MD, PhD; William M. Coplin, MD; Domenic P. Esposito, MD, FACS; Michael G. Fehlings, MD, PhD; Anthony Marmarou, PhD; Raj K. Narayan, MD

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

Learning Objectives

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

- Describe the ICU management of the TBI patient
- Describe the current surgical controversies in the management of the head injured patient
- Identify the current concepts in dealing with head injured athletes
- Recognize the role of the neurosurgeon in a trauma center and discuss the concept of neurotrauma referral centers

027

Update on Tumors for the General Neurosurgeon

Clinic Fee: \$475

Material Fee: \$0

Total Fee: \$475

Director

Jeffrey N. Bruce, MD, FACS

Faculty

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

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

Learning Objectives

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

- Identify the state-of-the-art management of benign and malignant brain tumors including glial tumors, meningiomas, acoustic neuromas and skull base tumors
- Discuss current concepts in glioma management
- Apply current updates about brain tumors to daily clinical practice decision making

028

N&PE

Decision Making and the Spine Patient for Nurses, APRNs and PAs

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Director

Andrea L. Strayer, MSN, CNRN

Faculty

Dean Barone, PA-C, MPAS; Edward C. Benzel, MD; Steven Casha, MD, PhD;

Joseph S. Cheng, MD; Marc E. Eichler, MD; Richard P. Schlenk, MD; Christopher I. Shaffrey, MD; Michael Patrick Steinmetz, MD; Gregory R. Trost, MD

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

Learning Objectives

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

- Discuss problem based decision making and differential diagnosis in regard to the spine patient
- Discuss new technologies available including biologics, cervical disc arthroplasty and lumbar spinous process
- Analyze radiographic study indications, the specifics of interpretation and the clinical as well as radiographic evaluation of fusion
- Analyze the various injection types, associated risks and indications as well as the available evidence on injection efficacy
- Discuss new technology and the implications for practice as well as decision making for selecting the right surgery for the right patient

PRACTICAL CLINIC

1:00–5:00 PM

029

R&F

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

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

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

Director

Albert L. Rhoton, Jr., MD

This course will provide three-dimensional microsurgical instruction on anatomy and approaches through the temporal bone; cerebellum and fourth ventricle; far lateral and transcondylar approaches; approaches to the cerebellopontine angle; and anatomy and approaches to the jugular foramen.

Learning Objectives

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

- Discuss anatomy and approaches through the temporal bone
- Discuss approaches to the cerebellum and fourth ventricle
- Discuss far lateral and transcondylar approaches
- Discuss approaches to the cerebellopontine angle
- Discuss anatomy and approaches to the jugular foramen

030

Percutaneous Vertebral Body Stabilization and Augmentation

Clinic Fee: \$350

Material Fee: \$450

Total Fee: \$800

Co-Directors

Andrew J. Ringer, MD; Eric Roger, MD

Faculty

Robert J. Bohinski, MD, PhD; Patrick W. Hitchon, MD; Jay U. Howington, MD; Richard M. Spiro, MD; William D. Tobler, MD

This clinic will explain percutaneous spinal access techniques and procedures for spinal stabilization including vertebroplasty, kyphoplasty, AxialIF and percutaneous instrumentation techniques and identifying appropriate patients for this procedure. Participants benefit from hands-on experience in each procedure.

Learning Objectives

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

- Identify anatomical landmarks and approaches for percutaneous spinal access
- Explain the techniques for vertebral body augmentation with vertebroplasty and kyphoplasty
- Explain the approach for percutaneous pedicle screw fixation
- Discuss exposure to the percutaneous axial lumbosacral fixation technique

031

Artificial Cervical Disc Technology

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Director

Robert J. Hacker, MD

Faculty

Regis W. Haid, Jr., MD; Praveen V. Mummaneni, MD; Daniel B. Murrey, MD; Stephen M. Papadopoulos, MD; Vincent C. Traynelis, MD

Cervical motion preservation technology is changing the practice of spine surgery outside of the United States and likely will have a similar impact on our practices. This clinic will cover biomechanics, clinical science, patient selection, study results and also provide hands-on experience with devices now in clinical trials.

Learning Objectives

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

- Discuss the various cervical disc arthroplasty devices and their biomechanical properties
- Discuss the usefulness of this technology for patients with cervical disc disease
- Compare artificial disc technology with cervical fusion from a clinical and hands on standpoint

032

Movement Disorder Surgery: Techniques, Decision Making, Complication Avoidance and Management

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Director

Robert G. Grossman, MD

Faculty

Aviva Abosch, MD, PhD; Ron L. Alterman, MD; Jeffrey E. Arle, MD, PhD; Roy A. E. Bakay, MD; Nicholas M. Boulis, MD; Brian H. Kopell, MD; Alon Y. Mogilner, MD, PhD; Joshua M. Rosenow, MD; Ashwini D. Sharan, MD; Philip A. Starr, MD, PhD

Practical aspects of surgery for the treatment of Parkinson's disease, tremor and dystonia will be presented via lectures, videos, case presentations and device demonstrations. Emphasis will be on anatomical and physiological targeting strategies, intraoperative decision making, troubleshooting, complication avoidance and management. Cases and intraoperative scenarios will be presented for interactive discussion with the audience and faculty.

Learning Objectives

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

- Evaluate patients for surgery for Parkinson's disease, tremor and dystonia
- Apply the principles and techniques of DBS and lesioning surgeries
- Identify anatomical and physiological localization of the STN, Gpi and thalamus

033

Neurosurgical Case Coding: Cranial and Non-Spine Procedures

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Director

Gregory J. Przybylski, MD

Faculty

Robert R. Johnson, II, MD, FACS

This course will cover physician procedure coding for cranial procedures such as those to treat aneurysms, AVMs, traumatic brain injuries, epilepsy, functional disorders and tumors. The global surgical package for these codes and what services may be separately billed will be reviewed.

Learning Objectives

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

- Differentiate what procedures are included in the global surgical package for neurosurgical CPT code from procedures that may be billed separately
- Explain the use of surgical modifiers and how revenue can be improved by accurate use of these modifiers

034

R&F

Interventional Neurovascular Disease: Management, Complications and Avoidance Strategies

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

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

Co-Directors

Robert H. Rosenwasser, MD, FACS; Erol Veznedaroglu, MD

Faculty

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

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

Learning Objectives

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

- Evaluate and apply strategies when endovascular/complications occur
- Discuss the treatment of intracranial aneurysms, AVMs, occlusive cerebrovascular disease and tumors
- Apply these procedures to avoid complications and effectively manage the complications
- Identify problems which are peculiar to treatments in the endovascular suite

035

Medical Certainty and the Medical Expert Witness

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Director

Stanley W. Fronczak, MD, JD, FACS

Faculty

Vincent M. Auricchio, JD; Norman J. Barry, Jr.; Michael Anthony Chabreja, Esq.

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

Learning Objectives

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

- Explain the role of the expert witness in civil litigation
- Discuss what attorneys expect from the expert witness
- Recognize ways to become more effective as a witness during deposition, direct or cross-examination
- Discuss pitfalls and common mistakes regarding expert testimony
- Explain the legal process in order to maximize one’s advantage

036

Thoracic and Lumbar Stabilization and Fusion: Indications and Complications

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Co-Directors

Regis W. Haid, Jr., MD; Praveen V. Mummaneni, MD

Faculty

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

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

Learning Objectives

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

- Review patient selection for thoracic and lumbar fusion
- Discuss translational and rotational techniques for correction of thoracolumbar deformity
- Review open and minimally invasive approaches for lumbar interbody fusion (ALIF, TLIF, PLF)

037

Cranial Radiosurgery

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Director

Antonio A. F. De Salles, MD, PhD

Faculty

William A. Friedman, MD, FACS; Peter C. Gerszten, MD, MPH; Michael Brian Sisti, MD, FACS

This clinic will illustrate various radiosurgery methods currently available.

Learning Objectives

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

- Explain basic aspects of radiosurgery planning
- Discuss radiosurgery applications for brain and spinal tumors
- Discuss indications of radiosurgery for functional disease of the brain
- Explain differences among the various radiosurgery techniques available
- Apply a radiosurgery plan

038

R&F

Choosing and Developing a Neurosurgical Practice

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

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

Co-Directors

Jonathan A. Friedman, MD; G. Edward Vates, MD, PhD

Faculty

H. Hunt Batjer, MD, FACS; E. Sander Connolly, Jr., MD; William T. Couldwell, MD, PhD; Gregory J. Przybylski, MD; Craig H. Rabb, MD; Judith Rosman

This course will cover the basics of starting a neurosurgery practice upon finishing a residency. Topics will include office management, billing and coding, medical pitfalls, government regulations and building a practice.

Learning Objectives

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

- Discuss HIPAA and how it applies to their practice
- Discuss what actions place them at risk for a lawsuit and how to avoid them
- Explain proper coding for the most common operations
- Discuss the components of a successful office practice
- Explain how to evaluate a job opportunity

039

Local Delivery Methods for Adjuvant Treatment of Brain Tumor Patients

Clinic Fee: \$375

Material Fee: \$0

Total Fee: \$375

Co-Directors

Russell R. Lonser, MD; Andrew Thomas Parsa, MD, PhD

Faculty

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

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

Learning Objectives

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

- Explain the basic physiologic principles behind local delivery methods
- Discuss the utility and limitations of local delivery methods for brain tumor patients
- Discuss the most recent results of clinical trials testing local delivery methods

040

Transfacet Technology: An Alternative to Pedicle Screw Fixation with Interbody Techniques

Clinic Fee: \$300

Material Fee: \$250

Total Fee: \$550

Director

Randy O. Kritzer, MD

Faculty

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

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

Learning Objectives

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

- Identify the biomechanical properties of transfacet screws as compared to pedicle screw constructs
- Discuss clinical applications so that surgeons will be aware of indications
- Discuss the techniques presented
- Apply the techniques into their physician practices

OPENING RECEPTION AT NAVY PIER

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

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



The Ferris wheel at Navy Pier rises above the statue of a ship captain near DuSable Harbor.