

*2nd Annual Mayo Clinic Advances & Innovations in
Complex Neuroscience Patient Care:
Brain & Spine*

**Advanced Practice Provider Hands-On Workshop:
Neurosurgery Brain & Spine Concepts
Program Schedule**

Wednesday, March 6, 2019

Pre-Course Workshop

11:30 a.m.	Registration and Lite Lunch – Meeting Village
Noon	Welcome and Course Overview JoDee A. Winter, P.A.-C. MSPAS
12:10 p.m.	The Growing Role of NP/PAs in Neurosurgical Care Bernard R. Bendok, M.D.
12:20	Door to Decision JoDee A. Winter, P.A.-C. MSPAS
12:30	Intensive Care Unit Management Marjorie (Margie) E. Amity, M.S.N., ANP/ACNP-BC
12:40	External Ventricular Drain (EVD) Management and Care Alexandra (Lexy) Richards, D.N.P.
12:50	Cerebrospinal Fluid Leaks, Shunts and Studies Orland K. Boucher, P.A.-C.
1:00	Move to Workshop
1:10	Hands-on Workshop (30 minutes per station and total of 5 minutes for rotation between stations) 1. External Ventricular Drain (EVD) Insertion Pelagia E. Kouloumberis, M.D. 2. Lumbar Puncture Naresh P. Patel, M.D. 3. Shunt Programming Orland K. Boucher, P.A.-C

2:50 p.m.	Return to General Session
2:55	Spinal Anatomy and Pathology Jamal McClendon, Jr., M.D.
3:05	Spinal Instrumentation Matthew T. Neal, M.D.
3:15	Pain Management Joseph B. Farnsworth, P.A.-C., MMSPAS
3:25	Move to Workshop
3:30	Hands-on Workshop (30 minutes per station and total of 5 minutes for rotation between stations) 1. Facet and Trigger Point Injections; Occipital Nerve; and Carpal Tunnel Blocks Chandan Krishna, M.D. 2. Temporal Artery and Muscle Biopsies JoDee A. Winter, P.A.-C. MSPAS 3. Suturing Devi P. Patra, M.B.B.S
5:05	Move to General Session
5:10	Cranial Anatomy/Pathology Richard S. Zimmerman, M.D.
5:20	Endovascular Anatomy, Pathology and Interventions Chandan Krishna, M.D.
5:30	Course Achievements JoDee A. Winter, P.A.-C. MSPAS
5:35	Adjournment
	Advances and Innovations in Complex Neuroscience Patient Care: Brain and Spine Course
6:00 - 7:30 p.m.	Course Welcome Reception and Early Registration – Meeting Village

***2nd Annual Mayo Clinic
Advances & Innovations in Complex Neuroscience
Patient Care: Brain & Spine***

Thursday, March 7, 2019

Program Schedule

6:15 a.m. **Registration – Meeting Village
Continental Breakfast and Exhibits**

7:00 **Welcome and Daily Course Overview**
Bernard R. Bendok, M.D.

Session 1: Peripheral Nerve Tumors

Moderator: Pelagia E. Kouloumberis, M.D.

7:15 a.m. **Medical Work-up of Patient with Peripheral
Nerve Pathologies**
Alejandro Zavala, M.D.

7:25 **Peripheral Nerve Tumors: Diagnosis and Workup**
Robert J. Spinner, M.D.

7:35 **The Art of Case Selection Peripheral Nerve Surgery:
When to Operate and When to Observe**
Pelagia E. Kouloumberis, M.D.

7:45 **Technical Nuances of Peripheral Nerve Surgery**
Shelley S. Noland, M.D.

7:55 **Case Based Panel Discussion**
Session Faculty, Naji Riachi, M.D. and Patrick B. Bolton, M.D.

Session 2: Minimally Invasive Spine Interventions and Sports Neurosurgery Management

Moderators: Chandan Krishna, M.D. and Matthew T. Neal, M.D.

8:15 a.m. **Role of Physiatrist in Sports Spine**
Arthur J. De Luigi, D.O., M.H.A.

8:25 **Innovations and Endoscopy in MIS Surgery**
Matthew T. Neal, M.D.

8:35 **Minimally Invasive Cervical Spine Surgery and
Arthroplasty**
Jamal McClendon, Jr., M.D.

Thursday, March 7, 2019 *(continued)*

- 8:45 a.m. **Anterior Approaches to Lumbar Spine**
Pelagia E. Kouloumberis, M.D.
- 8:55 **Minimally Invasive Lumbar Spine Surgery**
Chandan Krishna, M.D.
- 9:05 **Behavioral Chronic Pain Management**
Cynthia O. Townsend, Ph.D., L.P.
- 9:15 **Session Case Based Panel Discussion**
Session Faculty and Patrick B. Bolton, M.D.
- 9:35 **Refreshment Break and Exhibits**

Session 3: Scoliosis and Spinal Deformity

- Moderator:** Jamal McClendon, Jr., M.D.
- 10:05 a.m. **Cervical Fixation in Pediatric Deformity**
Jamal McClendon, Jr., M.D.
- 10:15 **Pediatric Scoliosis: Selective Fusion for
Congenital Scoliosis**
Judson W. Karlen, M.D.
- 10:25 **Revision of Adolescent Idiopathic Scoliosis Surgery**
Gregory R. White, M.D.
- 10:35 **Skeletal Dysplasia and Thoracolumbar Kyphosis**
Mohan V. Belthur, M.D.
- 10:45 **Growing Rod Constructs for Early Onset Scoliosis**
Richard L. Shindell, M.D.
- 10:55 **Proximal Fixation Distal Versus Proximal Thoracic
Spine in Adult Degenerative Scoliosis**
Jeremy L. Fogelson, M.D.
- 11:05 **Fusion of the Junctional Curve Only vs Treatment
of Entire Scoliosis for Adult Degenerative Scoliosis**
Mark A. Pichelmann, M.D.
- 11:15 **Session Case Based Panel Discussion**
Session Faculty and Patrick B. Bolton, M.D.
- 11:45 **Break and Exhibits**

Thursday, March 7, 2019 (continued)

Session 4: Spine Oncology

Moderator: Sujay Vora, M.D.

12:15 p.m. **Cord Compression Diagnosis and Differential Diagnosis**
Marie F. Grill, M.D.

12:25 **Cord Compression Surgery**
Maziyar A. Kalani, M.D.

12:35 **Radiation Cord Compression**
Sujay Vora, M.D.

12:45 **Benign Tumors**
Maziyar A. Kalani, M.D.

12:55 **Session Case Based Panel Discussion**
Faculty, Jamal McClendon, Jr., M.D., Ramiro del Valle, M.D.
and Patrick B. Bolton, M.D.

1:15 **Course Overview and Achievements**

1:30 **Adjourn**

DEVICE & TECHNOLOGY SHOWCASE with HANDS-ON SIMULATION

1:45 p.m. **Showcase Starts**

4:45 **Showcase Ends**

COURSE DINNER AND SPECIAL PRESENTATION

6:00 p.m. **Reception**

6:30 **Dinner and Special Presentation:
Art of Innovation**
Nick Hopkins, M.D.

Friday, March 8, 2019

6:30 a.m. **Continental Breakfast and Exhibits**

7:00 **Daily Course Overview**
Bernard R. Bendok, M.D.

Session 5: Aneurysms: Treating Intracranial Aneurysms

Moderator: Bernard R. Bendok, M.D.

7:10 a.m. **Brain Aneurysm Overview: Diagnosis, Natural History and Screening**
Chandan Krishna, M.D.

7:20 **Subarachnoid Hemorrhage Management**
Ayan Sen, M.D.

7:30 **Management of Challenging Aneurysms**
Bernard R. Bendok, M.D.

7:40 **Session Case Based Panel Discussion**
Session Faculty, Alejandro Zavala, M.D. and Patrick B. Bolton, M.D.

Session 6: Arteriovenous Malformations (AVM)

Moderator: Chandan Krishna, M.D.

8:00 a.m. **Intracerebral Hemorrhage (ICH) Initial Triage and Reversal Strategies**
Ayan Sen, M.D.

8:10 **Minimally ICH Evacuations**
Devi P. Patra, M.B.B.S.

8:20 **Management of Dural AV Fistulas**
Chandan Krishna, M.D.

8:30 **Brain AVM Management**
Bernard R. Bendok, M.D.

8:40 **Session Case Based Panel Discussion**
Session Faculty, Nick Hopkins, M.D., Ramiro del Valle, M.D. and Patrick B. Bolton, M.D.

9:00 **Refreshment Break and Exhibits**

Friday, March 8, 2019 *(continued)*

Session 7: Acute Ischemic Stroke

- Moderator:** Bart M. Demaerschalk, M.D.
- 9:30 a.m. **Advances and Innovations in the Management of Neurovascular Diseases and Stroke**
Nick Hopkins, M.D.
- 9:45 **Acute Stroke Triage and Telehealth**
Bart M. Demaerschalk, M.D.
- 9:55 **IV TPA**
Kara A. Sands, M.D.
- 10:05 **Stroke Thrombectomy**
Chandan Krishna, M.D.
- 10:15 **Moyamoya Disease**
Devi P. Patra, M.B.B.S.
- 10:25 **Session Case Based Panel Discussion**
Session Faculty and Patrick B. Bolton, M.D.
- 10:45 **Refreshment Break and Exhibits**

Session 8: Epilepsy

- Moderator:** Joseph I. Sirven, M.D.
- 11:15 a.m. **Epilepsy Surgery: Neurology Perspective**
Katherine H. Noe, M.D., Ph.D.
- 11:30 **New Technology in Epilepsy Management**
Joseph I. Sirven, M.D.
- 11:45 **Unique Cases Epilepsy**
Naji Riachi, M.D.
- 11:50 **Challenging Cases in Epilepsy**
Alejandro Zavala, M.D.
- 12:15 p.m. **Epilepsy Surgery: Adult Perspective**
Richard S. Zimmerman, M.D.
- 12:30 **Session Case Based Panel Discussion**
Session Faculty and Patrick B. Bolton, M.D.
- 12:55 **Wrap-up, Achievements and Adjournment**
Bernard R. Bendok, M.D.

Friday, March 8, 2019 *(continued)*

DEVICE & TECHNOLOGY SHOWCASE with HANDS-ON SIMULATION

1:15 p.m. **Showcase Starts**

4:15 **Showcase Ends**

Saturday, March 9, 2019

6:30 a.m. **Continental Breakfast and Exhibits**

7:00 **Daily Course Overview**
Bernard R. Bendok, M.D.

Session 9: Pituitary Tumors

Moderator: Bernard R. Bendok, M.D.

7:10 a.m. **Pituitary Tumors Endocrinology Medical Work-up**
Michael D. Whitaker, M.D.

7:20 **Pituitary Tumor: Ophthalmology**
Marie D. Acierno, M.D.

7:30 **Advances in Endoscopic Skull Surgery**
Michael J. Marino, M.D.

7:40 **Surgery for Pituitary Tumors**
Bernard R. Bendok, M.D.

7:50 **Neurofibromatosis Type 2 (NF2) Genetics**
Radhika Dhamija, M.B.B.S.

8:00 **Acoustic Neuromas Otology Perspective**
Peter A. Weisskopf, M.D.

8:10 **Acoustic Neuromas Surgery**
Bernard R. Bendok, M.D.

8:20 **Radiosurgery for Acoustic Neuroma**
Ramiro del Valle, M.D.

8:30 **Proton Beam for Skull Base Tumors**
Sameer R. Keole, M.D.

8:40 **Session Case Based Panel Discussion**
Session Faculty, Maciej M. Mrugala, M.D., Ph.D. and
Patrick B. Bolton, M.D.

9:00 **Refreshment Break and Exhibits**

Session 10: Brain Gliomas

Moderator: Maciej M. Mrugala, M.D., Ph.D.

9:20 a.m. **Advances in Glioma Imaging**
Leland S. Hu, M.D.

Saturday, March 9, 2019 *(continued)*

- 9:30 a.m. **Innovations in the Medical Management of Gliomas**
Maciej M. Mrugala, M.D., Ph.D.
- 9:40 **Awake Surgery for Glioma**
Bernard R. Bendok, M.D.
- 9:50 **Radiotherapy and Proton Beam for Gliomas**
Jonathan B. Ashman, M.D., Ph.D.
- 10:00 **The Future of Glioma Therapy**
Alfredo Quinones-Hinojosa, M.D.
- 10:10 **Scientific Advances in Gliomas**
Kristin R. Swanson, Ph.D.
- 10:20 **Session Case Based Panel Discussion**
Session Faculty, Ramiro del Valle, M.D. and
Patrick B. Bolton, M.D.
- Session 11: Brain Metastases**
- Moderator:** Alyx B. Porter, M.D.
- 10:40 a.m. **Brain Metastases Medical Management**
Alyx B. Porter, M.D.
- 10:55 **Radiosurgery for Brain Metastases: Indications**
Naresh P. Patel, M.D.
- 11:10 **Brain Metastases Radiosurgery Techniques and
Advances**
Jonathan B. Ashman, M.D., Ph.D.
- 11:25 **Brain Metastases Laser Ablation**
Richard S. Zimmerman, M.D.
- 11:40 **Brain Metastases Microsurgery**
Chandan Krishna, M.D.
- 11:55 **Leptomeningeal Disease**
Maciej M. Mrugala, M.D., Ph.D.
- 12:10 p.m. **Session Case Based Panel Discussion**
Session Faculty, Alejandro Zavala, M.D. and
Patrick B. Bolton, M.D.
- 12:40 **Objectives Reviews, Closing Comments and Reflection**
- 1:20 **Course Adjourns**