

***4th Annual Mayo Clinic Update in
Complex Neuroscience Patient Care:
“The Art of Neurosurgery”
A Case-Based Educational Experience
December 14-17, 2022***

Wednesday, December 14, 2022

6:00 a.m.	Registration, Continental Breakfast and Exhibits
7:00 a.m.	Welcome and Introductions Bernard R. Bendok, M.D.
SESSION I	APP Critical Knowledge Part 1
MODERATOR(S)	Joseph Farnsworth, P.A.-C. and Chris Tran, D.N.P.
7:15 a.m.	Virtual Reality Neuro-Anatomy Workshop Bernard R. Bendok, M.D.; Chandan Krishna, M.D.; Nora Schaefer, R.N., CNRN
8:00 a.m.	Transcranial Dopplers JoDee A. Winter, P.A.-C.
8:30 a.m.	EVD Placement and Management Kara Curley, P.A.-C.
9:00 a.m.	Medical Management of Intracranial Hemorrhage Abigail Taylor, P.A.-C.
9:30 a.m.	Interpreting Imaging: Brain Breck Jones, M.D.
10:00 a.m.	Spinal Tumor Consults: Operative vs. Radiation Only Joseph Farnsworth, P.A.-C.
10:30 a.m.	Refreshment Break and Exhibits Transfer to Hands-On Workshop Stations (60 minutes – 3 stations – 20 minutes per station)

Wednesday, December 14, 2022 (continued)

- 10:45 a.m. **Hands-On Station #1: Shunt Imaging Interpretation, Interrogation, and Programming**
Kara Curley, P.A.-C. and JoDee A. Winter, P.A.-C.
- Hands-on Station #2: Mayfield Placement and Removal**
Joseph Farnsworth, P.A.-C. and Chandan Krishna, M.D.
- Hands-On Station #3: Bedside EVD Placement**
Breck Jones, M.D. and Chris Tran, D.N.P.
- 11:45 a.m. **Lunch (provided) and Exhibits**
- SESSION II** **APP Critical Knowledge Part 2**
- MODERATOR(S)** JoDee Winter, P.A.-C. and Kara Curley, P.A.-C.
- 12:30 p.m. **Cervical Spine Fractures:
Operative vs. Non-Operative Treatments**
Chris Tran, D.N.P.
- 1:00 p.m. **Pre and Post Op Pain Medication
Considerations for the Neurosurgical Patient**
Heather Chung, FNP
- 1:30 p.m. **Compression Fracture Consult:
Kyphoplasty vs. Vertebroplasty vs. Bracing**
Chandan Krishna, M.D.
- 2:00 p.m. **Interpreting Imaging: Spine**
Maziyar Kalani, M.D.
- 2:30 p.m. **Refreshment Break and Exhibits**
Transfer to Hands-On Workshop Stations
(60 minutes – 3 stations – 20 minutes per station)
- 2:45 p.m. **Hands-On Station #1: Cranial Plating**
JoDee Winter, P.A.-C. and Breck Jones, M.D.
- Hands-On Station #2: Muscle/Spine Injections**
Chandan Krishna, M.D. and Kara Curley, P.A.-C.
- Hands-On Station #3: Spine Screw Placement**
Maziyar Kalani, M.D. and Joseph Farnsworth, P.A.-C.
- 3:45 p.m. **Advanced Practice Workshop Adjourns**

Wednesday, December 14, 2022

SESSION I	Optional Bypass Workshop (<i>Pre-registration and Fee Required</i>)
8:00 a.m.	Registration and Continental Breakfast
8:30 a.m.	Workshop Abhijith Bathini, M.D.; Hunt Batjer, M.D.; Bernard R. Bendok, M.D.; Jhon E. Bocanegra Becerra, M.D.; Anshit (Ansh) Goyal, M.B.B.S., M.S.; Miles A. Hudson, M.D.; Teodoro Forcht-Dagi, M.D., DMedSC, DCH, FRCSEd; Nicolae (Nicolae Teodor) T. Melita, M.D., Ph.D.; Jenna H. Meyer, M.D. M.S.; Ryan M. Naylor, M.D., Ph.D.; Sathish Prabu (Sathish) Sathyamangalam Samiappan, M.B.B.S., M.Ch.; and Qazi Zeeshan, FNU, M.B.B.S.
11:00 a.m.	Bypass Workshop Adjourns
SESSION II	Optional Endovascular Workshop (<i>Pre-registration and Fee Required</i>)
11:45 a.m.	Registration and Lunch
12:30 p.m.	Workshop Abhijith Bathini, M.D.; Hunt Batjer, M.D.; Bernard R. Bendok, M.D.; Jhon E. Bocanegra Becerra, M.D.; Anshit (Ansh) Goyal, M.B.B.S., M.S. Miles A. Hudson, M.D.; Nicolae (Nicolae Teodor) T. Melita, M.D., Ph.D.; Jenna H. Meyer, M.D. M.S.; Ryan M. Naylor, M.D., Ph.D.; Sathish Prabu (Sathish) Sathyamangalam Samiappan, M.B.B.S., M.Ch.; Vanessa K. Vanderhye, M.S.N., CCRN-K, SCRNI; and Qazi Zeeshan, FNU, M.B.B.S.
2:30 p.m.	Endovascular Workshop Adjourns

Thursday, December 15, 2022

- 6:00 a.m. **Registration, Continental Breakfast and Exhibits**
- 7:00 a.m. **Course Overview, Daily Goals and Objectives**
Bernard R. Bendok, M.D.
- SESSION I Quality and Safety in Neuroscience Patient Care**
- MODERATOR(S)** Richard S. Zimmerman, M.D.; Iryna M. Muzyka, M.D.;
and Teodoro Forcht-Dagi, M.D., DMedSC, DCH, FRCSEd
- 7:15 a.m. **Quality and Safety in the Intensive Care Unit**
Ayan Sen, M.D.
- 7:25 a.m. **Quality and Safety in the Operating Room**
Jamal McClendon, Jr., M.D.
- 7:35 a.m. **Important and Often Overlooked Safety
Considerations in Awake Craniotomies**
Patrick B. Bolton, M.D.
- 7:45 a.m. **Electrophysiology in Cranial Surgery**
Jaime Lopez, M.D.
- 7:55 a.m. **Neuromonitoring in Spinal Surgery**
Alejandro Zavala, M.D.
- 8:05 a.m. **Case-Based Panel Discussion and Q&A**
Ayan Sen, M.D.; Jamal McClendon, Jr., M.D.;
Patrick B. Bolton, M.D.; Jaime Lopez, M.D.;
Iryna M. Muzyka, M.D.; Alejandro Zavala, M.D.;
and Richard S. Zimmerman, M.D.
- SESSION II Spine Oncology**
- MODERATOR(S)** Alyx B. Porter, M.D.
- 8:25 a.m. **Challenges and Medical Therapeutics in Spine Oncology**
Alyx B. Porter, M.D.
- 8:35 a.m. **Managing Complex Wounds in Spine Oncology**
Edward M. Reece, M.D., M.S.
- 8:45 a.m. **Surgical and Minimally Invasive Options in Spine Oncology**
Maziyar A. Kalani, M.D.

Thursday, December 15, 2022 (continued)

- 8:55 a.m. **Radiotherapy for Spine Oncology**
Sujay Vora, M.D.
- 9:05 a.m. **Case-Based Panel Discussion and Q&A**
Alyx B. Porter, M.D.; Edward M. Reece, M.D., M.S.;
Maziyar A. Kalani, M.D.; and Sujay Vora, M.D.
- 9:25 a.m. **Refreshment Break and Exhibits**
- SESSION III** **Multidisciplinary Management of Degenerative
Spinal Diseases**
- MODERATOR(S)** Naresh Patel, M.D.
- 9:55 a.m. **Spinal Cord Stimulation for Back Pain**
Naresh Patel, M.D.
- 10:05 a.m. **Lumbar Disc Disease: Minimally Invasive Approaches**
Maziyar Kalani, M.D.
- 10:15 a.m. **Cervical Disc Disease: Surgical Options**
Chandan Krishna, M.D.
- 10:25 a.m. **When to Fuse vs. When Not to Fuse**
Jamal McClendon, Jr., M.D.
- 10:35 a.m. **Case-Based Panel Discussion and Q&A**
Naresh Patel, M.D.; Chandan Krishna, M.D.;
and Jamal McClendon, Jr., M.D.
- 10:55 a.m. **Innovations and Novel Techniques in Complex
Spinal Reconstruction: A Case-Based Discussion**
(each faculty member will present one case)
Jamal McClendon, Jr., M.D.; Maziyar A. Kalani, M.D.;
Chandan Krishna, M.D.; Naresh Patel, M.D.;
Edward M. Reece, M.D.; and
Sathish Prabu (Sathish) Sathyamangalam Samiappan, M.B.B.S., M.Ch.
- 11:55 a.m. **Lunch** (provided)
- 12:30 p.m. **Lunch and Learn**
“The Art of Neurosurgery: To Draw is to Understand”
Stephen P. Graepel; and Michael (Mike) C. Clayton

Thursday, December 15, 2022 *(continued)*

1:30 p.m.

General Session Adjourns

5:30 p.m.

Welcome Reception and Dinner

Special Presentation (no CME Credit)

Facing Adversity in Neurosurgery and Life

Hunt Batjer, M.D.

Pre-registration requested. Included in registration fee

Friday, December 16, 2022

6:00 a.m. **Continental Breakfast and Exhibits**

7:00 a.m. **Daily Overview of Goals and Objectives**
Bernard R. Bendok, M.D.

SESSION IV **Familial Neurovascular Diseases**

MODERATOR(S) Hunt Batjer, M.D.; Bernard R. Bendok, M.D.; and
Ramiro Del Valle, M.D.

7:15 a.m. **Familial Aneurysms**
Bernard R. Bendok, M.D.

7:25 a.m. **Familial Arteriovenous Malformations**
Bernard R. Bendok, M.D.

7:35 a.m. **Familial Moyamoya Disease**
Breck Jones, M.D.

7:45 a.m. **Case-Based Panel Discussion and Q&A**
Abhijith R. Bathini, M.D.; Bernard R. Bendok, M.D.;
Breck Jones, M.D.; and Ramiro Del Valle, M.D.

SESSION V **Innovations in the Treatment of Neurovascular Diseases**

MODERATOR(S) Bernard R. Bendok, M.D.; Ramiro Del Valle, M.D.;
and Hunt Batjer, M.D.

8:05 a.m. **Advances in Aneurysm and AVM Management**
Bernard R. Bendok, M.D.

8:20 a.m. **Innovations Towards Better Cosmesis and Wound
Outcomes in Cranial Neurosurgery**
Salvatore Lettieri, M.D.

8:35 a.m. **Advances in Carotid Disease Management**
Chandan Krishna, M.D.

8:50 a.m. **Endovascular Management of Acute Ischemic Stroke**
Ali Turkmani, M.D.

9:05 a.m. **Innovations in Management of ICH**
Chandan Krishna, M.D.

Friday, December 16, 2022 (continued)

- 9:20 a.m. **Radiosurgery for Brain AVMs**
Ramiro Del Valle, M.D.
- 9:35 a.m. **Medical Management of ICH**
Kara A. Sands, M.D.
- 9:50 a.m. **Case-Based Panel Discussion and Q&A**
Hunt Batjer, M.D.; Bernard R. Bendok, M.D.;
Salvatore Lettieri, M.D.; Chandan Krishna, M.D.;
Jenna H. Meyer, M.D., M.S.; Ali Turkmani, M.D.;
and Ramiro Del Valle, M.D.
- 10:10 a.m. **Refreshment Break and Exhibits**
- SESSION VI** **Innovations in Epilepsy Surgery**
- MODERATOR(S)** Richard S. Zimmerman, M.D.
- 10:40 a.m. **What Do I Do Now? The Drug Resistant Adult
Patient with Seizures: RNS vs DBS vs VNS**
Matthew T. Hoerth, M.D.
- 10:50 a.m. **Overdiagnosis of Epilepsy**
Alejandro Zavala, M.D.
- 11:00 a.m. **Informed Extraoperative and Intraoperative Brain
Mapping in Epilepsy**
David S. Sabsevitz, Ph.D.
- 11:10 a.m. **Traditional Resection vs. LITT for Epilepsy:
Which Approach**
Richard S. Zimmerman, M.D.
- 11:20 a.m. **Case-Based Panel Discussion and Q&A**
Matthew T. Hoerth, M.D., Ph.D.; Alejandro Zavala, M.D.;
David S. Sabsevitz, Ph.D.; and Richard S. Zimmerman, M.D.
- 11:40 a.m. **Lunch** (provided)

Friday, December 16, 2022 (continued)

- 12:05 p.m. **Lunch and Learn Session: The Future of Graduate Medical Education**
Hunt Batjer, M.D.; Bernard R. Bendok, M.D.; Jamal McClendon, M.D.;
and Teodoro Forcht-Dagi, M.D., DMedSC, DCH, FRCSEd
- 1:05 p.m. **General Session Adjourns**
- OPTIONAL WORKSHOP:**
Epilepsy Neuromodulation Hands-On Workshops
Pre-registration required; Fee required
- 1:15 p.m. **Registration**
- 1:35 p.m. **Workshop Overview**
(40 minutes per station, then rotate to next station)
- Group 1: Surgical Approach to Neuromodulation
Richard S. Zimmerman, M.D. and Sanjeet S. Grewal, M.D.
- Group 2: Powering and Programming VNS and DBS
Matthew T. Hoerth, M.D.
- Group 3: Powering and Programming RNS
Amy Z. Crepeau, M.D. and Cornelia N. Drees, M.D.
- 3:45 p.m. **Closing Comments and Adjourn**

Saturday, December 17, 2022

6:00 a.m. **Continental Breakfast and Exhibits**

7:00 a.m. **Daily Overview of Goals and Objectives**
Bernard R. Bendok, M.D.

SESSION VII Acoustic Neuromas

MODERATOR(S) Hunt Batjer, M.D. and Peter A. Weisskopf, M.D.

7:15 a.m. **Decision-Making for Vestibular Schwannomas**
Peter A. Weisskopf, M.D.

7:25 a.m. **Audiology of Vestibular Schwannomas**
Geoffrey C. Waite, Au.D., C.C.C.-A.

7:35 a.m. **Radiosurgery for Vestibular Schwannomas**
Ramiro Del Valle, M.D.

7:45 a.m. **Neuromonitoring during Vestibular Schwannoma Surgery**
Alejandro Zavala, M.D.

7:55 a.m. **Vestibular Schwannomas: Translabrynthine Approach**
Nicholas Deep, M.D.

8:05 a.m. **Vestibular Schwannomas: Retrosigmoid Approach**
Bernard R. Bendok, M.D.

8:15 a.m. **Case-Based Panel Discussion and Q&A**
Hunt Batjer, M.D.; Bernard R. Bendok, M.D.;
Nicholas Deep, M.D.; Ramiro Del Valle, M.D.;
Miles A. Hudson, M.D.; Peter A. Weisskopf, M.D.;
and Alejandro Zavala, M.D.;

SESSION VIII Pituitary Adenomas

MODERATOR(S) Michael Marino, M.D. and Aditi Kumar, M.B.B.S.

8:40 a.m. **Medical Management of Pituitary Adenomas**
Aditi Kumar, M.B.B.S.

9:00 a.m. **Neuro-Ophthalmology Perspectives in the Treatment of Pituitary Adenomas**
Marie A. Di Nome, M.D.

9:10 a.m. **Endoscopic Approaches to Pituitary Adenomas**
Michael Marino, M.D.

Saturday, December 17, 2022 (continued)

- 9:20 a.m. **Imaging of Sellar and Suprasellar Tumors**
Tanya Rath, M.D.
- 9:30 a.m. **Innovations in Surgical Approaches to
Pituitary Adenomas**
Bernard R. Bendok, M.D.
- 9:40 a.m. **Case-Based Panel Discussion and Q&A**
Bernard R. Bendok, M.D. Aditi Kumar, M.B.B.S.;
Marie A. Di Nome, M.D.; and Tanya Rath, M.D.
- 10:05 a.m. **Refreshment Break and Exhibits**
- SESSION IX Gliomas**
- MODERATOR(S)** Maciej M. Mrugala, M.D., Ph.D. and Alyx B. Porter, M.D.
- 10:35 a.m. **Advances in Imaging of Gliomas**
Leland S. Hu, M.D.
- 10:45 a.m. **Medical Management of Low-Grade Gliomas**
Alyx B. Porter, M.D.
- 10:55 a.m. **Medical Management of High-Grade Gliomas**
Maciej M. Mrugala, M.D.
- 11:05 a.m. **Laser Ablation for Gliomas**
Richard S. Zimmerman, M.D.
- 11:15 a.m. **The Future of Intra-Arterial Therapy for Glioma**
Chandan Krishna, M.D.
- 11:25 a.m. **Glioma: Science and Discoveries**
Kristin Swanson, Ph.D.
- 11:35 a.m. **Innovations in Glioma Surgery**
Bernard R. Bendok, M.D.
- 11:45 a.m. **Case-Based Panel Discussion and Q&A**
Bernard R. Bendok, M.D.; Leland S. Hu, M.D.;
Chandan Krishna, M.D ; Maciej M. Mrugala, M.D.;
Alyx B. Porter, M.D.;
Sathish Prabu (Sathish) Sathyamangalam Samiappan, M.B.B.S., M.Ch.
Kristin Swanson, Ph.D.; Richard S. Zimmerman, M.D.
- 12:10 p.m. **Closing Comments, Evaluation and Adjourn**