

***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 and Welcome Reception Begins

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	Maziyar A. Kalani, M.D.
9:55 a.m.	Lumbar Disc Disease: Minimally Invasive Approaches Maziyar Kalani, M.D.
10:05 a.m.	Cervical Disc Disease: Surgical Options Chandan Krishna, M.D.
10:15 a.m.	When to Fuse vs. When Not to Fuse Jamal McClendon, Jr., M.D.
10:25 a.m.	Case-Based Panel Discussion and Q&A Chandan Krishna, M.D.; and Jamal McClendon, Jr., M.D.
10:50 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.; 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: Translabyrinthine 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 Aditi Kumar, M.B.B.S.; Marie A. Di Nome, M.D.; Devyani Lal, M.D.; Tanya Rath, M.D.; and Bernard R. Bendok, 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