Advanced Practice Provider Hands-on Workshop:
Neurosurgery Brain and Spine Concepts (limited registration)
Program Schedule

11:30 a.m.  Registration and Lite Lunch
Noon        Welcome and Course Overview
            JoDee A. Winter, PA-C  MSPAS
12:10 p.m.  The Growing Role of NP/PAs in Neurosurgical Care
            Bernard R. Bendok, M.D.
12:20 p.m.  Door to Decision
            JoDee A. Winter, PA-C  MSPAS
12:30 p.m.  Intensive Care Unit Management
            Marjorie (Margie) E. Amity, RN, MSN, ANP/ACNP-BC
12:40 p.m.  External Ventricular Drain (EVD) Management and Care
            Alexandra (Lexy) Richards, D.N.P.
12:50 p.m.  Cerebrospinal Fluid Leaks, Shunts and Studies
            Orland K. Boucher, P.A.-C.
1:00 p.m.   Move to Workshop
1:10 p.m.   Hands-on Workshop (30 minutes per station and total of 5 minutes for rotation between stations)
            1.  External Ventricular Drain (EVD) Insertion
                Pelagia E. Kouloumeris, M.D.
            2.  Lumbar Puncture
                Naresh Patel, M.D.
            3.  Shunt Programming
                Orland K. Boucher, P.A.-C.
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>2:50 p.m.</td>
<td><strong>Return to General Session</strong></td>
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<td>2:55 p.m.</td>
<td><strong>Spinal Anatomy and Pathology</strong></td>
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<tr>
<td></td>
<td>Jamal McClendon, Jr., M.D.</td>
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<td>3:05 p.m.</td>
<td><strong>Spinal Instrumentation</strong></td>
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<td>Matthew T. Neal, M.D.</td>
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<td>3:15 p.m.</td>
<td><strong>Pain Management</strong></td>
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<td>Joseph B. Farnsworth, PA-C, MMSPAS</td>
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<td>3:25 p.m.</td>
<td><strong>Move to Workshop Room</strong></td>
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<td>Juniper House</td>
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<tr>
<td>3:30 p.m.</td>
<td><strong>Hands-on Workshop</strong></td>
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<td>(30 minutes per station and total of 5 minutes for rotation between stations)</td>
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<td></td>
<td>1. <strong>Facet and Trigger Point Injections; Occipital Nerve; and Carpal Tunnel Blocks</strong></td>
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<td>Chandan Krishna, M.D.</td>
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<td>2. <strong>Temporal Artery and Muscle Biopsies</strong></td>
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<td>JoDee A. Winter, PA-C MSPAS</td>
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<td>3. <strong>Suturing</strong></td>
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<td>Devi Patra, M.B.B.S</td>
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<td>5:05 p.m.</td>
<td><strong>Move to General Session</strong></td>
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<tr>
<td>5:10 p.m.</td>
<td><strong>Cranial Anatomy/Pathology</strong></td>
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<td>Richard S. Zimmerman, M.D.</td>
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<td>5:20 p.m.</td>
<td><strong>Endovascular Anatomy, Pathology and Interventions</strong></td>
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<td>Chandan Krishna, M.D.</td>
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<td>5:30 p.m.</td>
<td><strong>Course Achievements</strong></td>
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<td>JoDee A. Winter, PA-C MSPAS</td>
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<td>5:35 p.m.</td>
<td><strong>Adjournment</strong></td>
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**Advances and Innovations in Complex Neuroscience Patient Care: Brain and Spine Course**

<table>
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<th>Time</th>
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<tr>
<td>6:00 p.m. – 7:30 p.m.</td>
<td><strong>Course Welcome Reception and Early Registration</strong></td>
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Thursday, March 7, 2019

Advances and Innovations in Complex Neuroscience Patient Care: Brain and Spine Program Schedule

6:15 a.m.  Registration  Continental Breakfast and Exhibits

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

Session 1: Peripheral Nerve Tumors

**Moderator:**  Pelagia E. Kouloumbiris, M.D.

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

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

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

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

7:55 a.m.  **Case Based Panel Discussion**  Session Faculty and Naji Raichi, 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 a.m.  **Innovations and Endoscopy in MIS Surgery**  Matthew T. Neal, M.D.

8:35 a.m.  **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. Kouloumeris, M.D.

8:55 a.m.  Minimally Invasive Lumbar Spine Surgery
            Chandan Krishna, M.D.

9:05 a.m.  Behavioral Chronic Pain Management
            Cynthia O. Townsend, Ph.D., L.P.

9:15 a.m.  Session Case Based Panel Discussion

9:35 a.m.  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 a.m.  Pediatric Scoliosis: Selective Fusion for
            Congenital Scoliosis
            Judson W. Karlen, M.D.

10:25 a.m.  Revision of Adolescent Idiopathic Scoliosis Surgery
            Gregory R. White, M.D.

10:35 a.m.  Skeletal Dysplasia and Thoracolumbar Kyphosis
            Mohan V. Belthur, M.D.

10:45 a.m.  Growing Rod Constructs for Early Onset Scoliosis
            Richard L. Shindell, M.D.

10:55 a.m.  Proximal Fixation Distal Versus Proximal Thoracic
            Spine in Adult Degenerative Scoliosis
            Jeremy L. Fogelson, M.D.

11:05 a.m.  Fusion of the Junctional Curve Only vs Treatment
            of Entire Scoliosis for Adult Degenerative Scoliosis
            Mark A. Pichelmann, M.D.

11:15 a.m.  Session Case Based Panel Discussion

11:45 a.m.  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 p.m. Cord Compression Surgery
Maziyar A. Kalani, M.D.

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

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

12:55 p.m. Session Case Based Panel Discussion
Faculty, Jamal McClendon, Jr., M.D. and Ramiro Del Valle, M.D.

1:15 p.m. Course Overview and Achievements

1:30 p.m. Adjourn

DEVICE & TECHNOLOGY SHOWCASE with HANDS-ON SIMULATION

1:45 p.m. Showcase Starts

4:45 p.m. Showcase Ends

COURSE DINNER AND SPECIAL PRESENTATION

5:30 p.m. Reception

6:30 p.m. 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 a.m.  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 a.m.  Subarachnoid Hemorrhage Management
           Ayan Sen, M.D.

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

7:40 a.m.  Session Case Based Panel Discussion
           Session Faculty and Alejandro Zavala, 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 a.m.  Minimally ICH Evacuations
           Devi P. Patra, M.B.B.S.

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

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

8:40 a.m.  Session Case Based Panel Discussion
           Session Faculty, Nick Hopkins, M.D. and
           Ramiro Del Valle, M.D.

9:00 a.m.  Refreshment Break and Exhibits
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 a.m. Acute Stroke Triage and Telehealth
Bart M. Demaerschalk, M.D.

9:55 a.m. IV TPA
Kara A. Sands, M.D.

10:05 a.m. Stroke Thrombectomy
Chandan Krishna, M.D.

10:15 a.m. Moyamoya Disease
Devi P. Patra, M.B.B.S.

10:25 a.m. Session Case Based Panel Discussion

10:45 a.m. 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 a.m. New Technology in Epilepsy Management
Joseph I. Sirven, M.D.

11:45 a.m. Unique Cases Epilepsy
Naji Raichi, M.D.

11:50 a.m. Challenging Cases in Epilepsy
Alejandro Zavala, M.D.

12:15 p.m. Epilepsy Surgery: Adult Perspective
Richard S. Zimmerman, M.D.

12:30 p.m. Session Case Based Panel Discussion

12:55 p.m. Wrap-up, Achievements and Adjournment
Bernard R. Bendok, M.D.
DEVICE & TECHNOLOGY SHOWCASE with HANDS-ON SIMULATION

1:15 p.m.          Showcase Starts
4:15 p.m.          Showcase Ends
Saturday, March 9, 2019

6:30 a.m.  Continental Breakfast and Exhibits

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

Session 9: Pituitary Tumors

Moderator:

7:10 a.m.  Pituitary Tumors Endocrinology Medical Work-up
Curtiss B. Cook, M.D.

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

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

7:40 a.m.  Challenging Cases in Endoscopy Skull Surgery
Devyani Lal, M.D.

7:50 a.m.  Surgery for Pituitary Tumors
Bernard R. Bendok, M.D.

8:00 a.m.  Neurofibromatosis Type 2 (NF2) Genetics
Radhika Dhamija, M.B.B.S.

8:10 a.m.  Acoustic Neuromas Otology Perspective
Peter A. Weisskopf, M.D.

8:20 a.m.  Acoustic Neuromas Surgery
Bernard R. Bendok, M.D.

8:30 a.m.  Radiosurgery for Acoustic Neuroma
Ramiro Del Valle, M.D.

8:40 a.m.  Proton Beam for Skull Base Tumors
Sameer R. Keole, M.D.

8:50 a.m.  Session Case Based Panel Discussion
Session Faculty and Maciej M. Mrugala, M.D., Ph.D.

9:10 a.m.  Refreshment Break and Exhibits

Session 10: Brain Gliomas

Moderator:

9:30 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 a.m.  
**Surgery and Immune Therapy for Glioma**  
Ian F. Parney, M.D., Ph.D.

9:50 a.m.  
**Awake Surgery for Glioma**  
Bernard R. Bendok, M.D.

10:00 a.m.  
**Radiotherapy and Proton Beam for Gliomas**  
Jonathan B. Ashman, M.D., Ph.D.

10:10 a.m.  
**The Future of Glioma Therapy**  
Kaisorn Chaichana, M.D., F.A.C.S. F.A.A.N.S

10:20 a.m.  
**Scientific Advances in Gliomas**  
Kristin R. Swanson, Ph.D.

10:30 a.m.  
**Session Case Based Panel Discussion**  
Session Faculty and Ramiro Del Valle, M.D.

**Session 11: Brain Metastases**

**Moderator:**

10:50 a.m.  
**Brain Metastases Medical Management**  
Alyx B. Porter, M.D.

11:05 a.m.  
**Radiosurgery for Brain Metastases: Indications**  
Naresh Patel, M.D.

11:20 a.m.  
**Brain Metastases Radiosurgery Techniques and Advances**  
Jonathan B. Ashman, M.D., Ph.D.

11:35 a.m.  
**Brain Metastases Laser Ablation**  
Richard S. Zimmerman, M.D.

11:50 a.m.  
**Brain Metastases Microsurgery**  
Chandan Krishna, M.D.

12:05 p.m.  
**Leptomeningeal Disease**  
Maciej M. Mrugala, M.D., Ph.D.

12:20 p.m.  
**Session Case Based Panel Discussion**  
Session Faculty and Alejandro Zavala, M.D.

12:50 p.m.  
**Objectives Reviews, Closing Comments and Reflection**

1:20 p.m.  
**Course Adjourns**