



Mayo Clinic School of Continuous Professional Development

Electromyography (EMG),
Electroencephalography (EEG),
& Neurophysiology in

CLINICAL PRACTICE

MAYO CLINIC EDUCATION CENTER
PHOENIX, ARIZONA
JUANITA KIOUS WAUGH AUDITORIUM
JANUARY 7–12, 2018

54

**AMA PRA
CATEGORY 1
CREDITS™**

\$75 Discount when you register
online on or before December 7, 2017

CE.MAYO.EDU/EEGEMG2018

COURSE HIGHLIGHTS

- Review clinical neurophysiology techniques and topics, including: basic physiology, pathophysiology, electroencephalography, evoked potentials, electromyography, movement disorders and intraoperative monitoring.
- Focus on clinical correlation of various neurophysiological tests used for patient evaluation regarding epilepsy, sleep disorders, movement disorders, peripheral nerve and neuromuscular disorders.
- Presenters are faculty members of the Mayo Clinic College of Medicine from the Departments of Neurology in Jacksonville, FL; Rochester, MN; and Scottsdale, AZ.
- Three Demonstration Workshops included for all EMG participants:
 - Nerve Conduction Studies
 - Needle EMG
 - Miscellaneous NCS/EMG

LEARNING OBJECTIVES

Upon conclusion of this program, participants should be able to:

- Identify commonly encountered interictal and ictal epileptiform findings on EEG.
- Review benign variants commonly mistaken (over-read) for epileptiform activity on EEG.
- Distinguish epileptiform activity from non-epileptiform activity seen in EEG.
- Interpret the findings and clinical significance of abnormalities on EEG studies.
- Evaluate reading skills of routine EEG, recognizing potentially confounding normal variants, artifacts and normal waveforms versus epileptiform activity.
- Recognize and interpret the significance of EMG waveforms on needle EMG.
- Develop a logical approach to the use of standard clinical electrophysiological techniques in the evaluation of common and uncommon neuromuscular disorders.
- Develop an approach to the use of the EMU.
- Identify common treatments using Botulinumtoxin in Neurophysiology.

TARGET AUDIENCE

The audience for this course will be practitioners (MD, DO, NP, PA, RN) interested in the clinical practice of neurophysiology, including both basic and advanced theory and practice. Practitioners looking for a comprehensive review of the CNP or wishing to advance their knowledge base in these areas are encouraged to attend.

COURSE DIRECTORS

Katherine H. Noe, M.D., Ph.D.
Benn E. Smith, M.D.

MAYO CLINIC FACULTY

Sarah E. Berini, M.D.
Jamie M. Bogle, Au.D., Ph.D.
Jeffrey W. Britton, M.D.
Jonathan L. Carter, M.D.
Gregory D. Cascino, M.D.
John N. Caviness, M.D.
Amy Z. Crepeau, M.D.
Brian A. Crum, M.D.
Elliot L. Dimberg, M.D.

Joseph F. Drazkowski, M.D.
P. James B. Dyck, M.D.
Brent P. Goodman, M.D.
Matthew T. Hoerth, M.D.
Ernest (Matt) Hoffman, D.O., Ph.D.
Julie A. Khoury, M.D.
Ruple S. Laughlin, M.D.
Iryna M. Muzyka, M.D.
Elie Naddaf, M.D.
Katherine C. Nickels, M.D.
Mark A. Ross, M.D.
Devon I. Rubin, M.D.
Raj D. Sheth, M.D.
Michael H. Silber, M.B., Ch.B.
Joseph I. Sirven, M.D.

Elson So, M.D.
Eric J. Sorenson, M.D.
Scott D. Spritzer, D.O.
William O. Tatum, D.O.
James C. Watson, M.D.
Leslie A. Zuniga, M.D.

GUEST FACULTY

Randa G. Jarrar, M.D.,
Barrows Neurological
Institute, Phoenix, AZ

Registration Fee: *Three options are offered for registration*

Option 1: EMG, EEG and Neurophysiology in Clinical Practice <i>Sunday, January 7 – Friday, January 12, 2018</i>	\$1325
Option 2: EMG and Neurophysiology in Clinical Practice <i>Sunday, January 7 – Wednesday, January 10, 2018</i>	\$900
Option 3: EEG and Neurophysiology in Clinical Practice <i>Wednesday, January 10 – Friday, January 12, 2018</i>	\$725
EMG ABPN MOC/SAM	\$75
EEG ABPN MOC/SAM	\$75
Printed Syllabus (Must pre-order printed syllabus by 12/15/17)	\$150

Cancellation Policy: Please visit ce.mayo.edu/cancellation for more information.

LOCATION AND ACCOMODATIONS

Mayo Clinic Education Center

5777 East Mayo Boulevard • Phoenix, Arizona 85054

Residence Inn Desert View at Mayo Clinic *(Located on the Mayo Clinic Phoenix Campus)*

5665 E. Mayo Boulevard • Phoenix, Arizona 85054

(480) 563-1500 or (800) 331-3131

For more information: www.marriott.com/phxmh

Online Reservations: <http://bit.ly/EEGEMGRoomBlock> Reserve by 12/6/17

CREDIT

AMA: Mayo Clinic College of Medicine and Science is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Mayo Clinic College of Medicine and Science designates this live activity for a maximum of *54.00 AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

AOA: This program has been accredited by the American Osteopathic Association for 53.25 credits of AOA Category 2-A.

ABPN Maintenance of Certification Credit: The American Board of Psychiatry and Neurology has reviewed and approved this activity and self-assessment as part of a comprehensive self-assessment program, which is mandated by the ABMS as a necessary component of Maintenance of Certification. This activity awards up to 8 Self-Assessment credits: 4 Self- Assessment Credits for EMG and 4 Self- Assessment Credits for EEG.

Diplomates must achieve a score of 80% within 2 attempts in order to receive credit.

Other Health Care Professionals: A certificate of attendance will be provided to other health care professionals for requesting credits in accordance with state nursing boards, specialty societies, or other professional associations.

Available Credit

- 54.00 AMA PRA Category 1 Credit™
- 53.25 AOA

PROGRAM

Sunday, January 7, 2018

- 7:15 a.m. **Registration & Continental Breakfast**
- 7:45 **Welcome, Introductions and Pre-Test** – Benn E. Smith, M.D.
- 8:00 **Nerve Conduction Studies Basics: Localization and Recognition Tools**
Brent P. Goodman, M.D.
- 8:45 **Uncommon Motor Nerve Conduction Studies, Including F Waves and H Reflexes**
Sarah E. Berini, M.D.
- 9:30 **Uncommon Sensory Studies Technique and Utility** – Mark A. Ross, M.D.
- 10:15 **Neuromuscular Junction Physiology and Electrodiagnostic Testing**
Brian A. Crum, M.D.
- 11:15 **Pitfalls of Nerve Conduction Studies: Technical and Physiologic**
Devon I. Rubin, M.D.
- 12:15 p.m. **Lunch Provided**
- 12:30 **Lunch and Learn: Lumbosacral Radiculoplexus Neuropathies**
P. James B. Dyck, M.D.
- 1:30 **Workshops** (*All attendees participate in every workshop*)
Common and Uncommon Nerve Conductions Studies (Includes 30-minute Q & A)
- 4:30 p.m. **Adjourn**

Monday, January 8, 2018

- 7:00 a.m. **Continental Breakfast**
- 7:30 **Technique of Needle Examination** – Devon I. Rubin, M.D.
- 8:30 **Unusual Muscles and EMG** – Eric J. Sorenson, M.D.
- 9:30 **Refreshment Break**
- 9:45 **EMG Waveform Analysis: Introduction** – Devon I. Rubin, M.D.
- 11:30 **Crafting the EMG Report** – Benn E. Smith, M.D.
- Noon **Lunch Provided**
- 12:30 p.m. **Lunch and Learn: Electrophysiology–Pathology Correlates** – P. James B. Dyck, M.D.
- 1:30 **Workshops** (*All attendees participate in every workshop*)
Needle EMG Common and Uncommon Muscles and Techniques
- 5:00 **Dinner** (*Attendees must RSVP*)
- 5:30 **An Evening of EMG Waveforms: Food, Fun, and Fibrillations** – Devon I. Rubin, M.D.,
Ruple S. Laughlin, M.D.
- 9:30 **Adjourn**

Tuesday, January 9, 2018

- 7:00 a.m. **Continental Breakfast**
- 7:30 **Carpal Tunnel Syndrome** – James C. Watson, M.D.
- 8:30 **Electrodiagnostic Approach to Brachial Plexopathy** – Sarah E. Berini, M.D.
- 9:30 **Refreshment Break**
- 9:45 **EMG Approach to Muscle Diseases** – Elliot L. Dimberg, M.D.
- 10:45 **Evaluation of Peripheral Neuropathies** – Ruple S. Laughlin, M.D.
- 11:45 **Ulnar Neuropathy** – Ruple S. Laughlin, M.D.
- 12:45 p.m. **Lunch Provided**
- 1:00 **Lunch and Learn: Electrophysiology of Radiculopathies** – Eric J. Sorenson, M.D.
- 1:45 **Anomalous Innervation of the Upper and Lower Limbs** – Elie Naddaf, M.D.
- 2:30 **Neurophysiology of the Motor Neuron Diseases** – Mark A. Ross, M.D.
- 3:15 **Nerve Conduction Studies and Electromyography in the Pediatric Population** –
Randa G. Jarrar, M.D.
- 4:00 **Refreshment Break**
- 4:15 **Electrodiagnostic Approach to Neuromuscular Junction Disorders** –
Brent P. Goodman, M.D.
- 5:00 **Cranial Mononeuropathies** – Leslie A. Zuniga, M.D.
- 5:45 **Lower Limb Mononeuropathies** – Julie A. Khoury, M.D.
- 6:30 **Post-Test**
- 6:45 **Adjourn**

Wednesday, January 10, 2018

- 7:15 a.m. **Continental Breakfast**
7:45 **Pre-Test**
8:00 **Essentials of Sleep Neurophysiology** – Michael H. Silber, M.B., Ch.B.
9:00 **Movement Disorder Neurophysiology** – John N. Caviness, M.D.
10:00 **Refreshment Break**
10:15 **Autonomic Disorders** – Julie A. Khoury, M.D.
11:15 **Lunch**
11:45 **Lunch and Learn: Visual and Brainstem Evoked Potentials** – Jonathan L. Carter, M.D.
12:30 **Somatosensory Evoked Potentials** – Ernest (Matt) M. Hoffman, D.O., Ph.D.
1:15 **Intraoperative Monitoring Spinal/Cranial/Peripheral** – Iryna M. Muzyka, M.D.
2:00 **Neurophysiology of Balance** – Jamie M. Bogle, Au.D., Ph.D.
2:45 **EMG Billing and Coding** – Julie A. Khoury, M.D.
3:30 **Ultrasound as a Complement to Electrodiagnosis** – James C. Watson, M.D.
4:30 **Ultrasonography Demonstration** – James C. Watson, M.D. and Eric J. Sorenson, M.D.
5:30 **Adjourn**

Thursday, January 11, 2018

- 7:15 a.m. **Continental Breakfast**
7:55 **Welcome Announcements**
8:00 **Pre-Test**
8:15 **Nuts and Bolts of EEG: Polarity, Montages** – Joseph F. Drazkowski, M.D.
8:45 **Adult EEG: Normal/Normal Variants** – Joseph I. Sirven, M.D.
9:30 **Adult EEG: Epileptiform Activity and Seizures** – Jeffrey W. Britton, M.D.
10:15 **Refreshment Break**
10:30 **Adult EEG: Coma and Encephalopathy and Brain Death** – Elson So, M.D.
11:15 **EEG Misadventures** – William O. Tatum, D.O.
Noon **Lunch**
1:00 **Skills 1: Basic Approach to EEG Interpretation and Reports** – Scott D. Spritzer, D.O.
1:45 **Skills 2: EEG Artifact Challenge** – Matthew T. Hoerth, M.D.
2:30 **Skills 3: EEG Quiz: Epileptiform or Not?** – William O. Tatum, D.O.
3:15 **Refreshment Break**
3:30 **EEG in Status Epilepticus** – Katherine H. Noe, M.D., Ph.D.
4:15 **EEG Billing and Coding** – Jeffrey W. Britton, M.D.
4:45 **Adjourn**

Friday, January 12, 2018

- 7:15 a.m. **Continental Breakfast**
8:00 **Pediatric EEG: Normal/Normal Variants** – Katherine C. Nickels, M.D.
8:45 **Pediatric EEG: Abnormal/Epileptiform** – Raj D. Sheth, M.D.
9:30 **Prolonged EEG Recordings: Ambulatory and ICU** – Amy Z. Crepeau, M.D.
10:15 **Refreshment Break**
10:30 **Long-term Video EEG Monitoring** – Gregory D. Cascino, M.D.
11:15 **Intracranial EEG** – Amy Z. Crepeau, M.D.
Noon **Lunch**
1:00 **Use of EEG in the OR and Angio Suite: Intraoperative Monitoring (IOM)/ Electrocorticography (ECOG) / Wada Test** – Matthew T. Hoerth, M.D.
1:45 **Challenging EEG Cases: Adults** – Joseph F. Drazkowski, M.D.
2:45 **Refreshment Break**
3:00 **Challenging EEG Cases: Pediatrics** – Katherine C. Nickels, M.D.
4:00 **Post-Test**
4:15 **Adjourn**



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Scottsdale, Arizona 85259

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