Mayo Clinic
Electromyography (EMG),
Electroencephalography (EEG),
and Neurophysiology in Clinical Practice

March 8-14, 2009
Amelia Island Plantation
Amelia Island, Florida

Reasons to attend:
• In-depth update of clinical applications for electromyography (EMG) and electroencephalography (EEG)
• Review of clinical applications of evoked potentials, autonomic testing, intraoperative monitoring, and evaluation of sleep disorders
• Innovative teaching approaches, including interactive NCS / EMG demonstration sessions and EEG reading sessions
• Interactive, multimedia approach to learning EMG waveform recognition
• Expert faculty from the Mayo Clinic College of Medicine

For more information
Call: 800-462-9633 or 904-953-7114
or visit us at: www.mayo.edu/cme/
E-mail: cme-jax@mayo.edu
Course Description
This course is designed as a review of basic concepts of nerve conduction studies, needle EMG, EEG, evoked potentials, intraoperative monitoring, and autonomic and sleep studies. Techniques, interpretation, and the electrodiagnostic approaches to clinical disorders will be emphasized. The focus is on clinical correlation of various neurophysiologic tests used for the evaluation of patients with peripheral nerve and neuromuscular disorders, epilepsy, and sleep disorders. The program format includes lectures, practical demonstrations, videos, group discussions and workshops, for optimal learning. Participants will have the opportunity to observe EMG techniques on normal subjects in the laboratory, and directly interact with the faculty during these workshops. A syllabus will be provided to participants. Presentations will be made by members of the staff of Mayo Clinic and faculty of the Mayo Clinic College of Medicine from the Departments of Neurology in Jacksonville, Florida, Rochester, Minnesota, and Scottsdale, Arizona.

Course Learning Objectives
Upon completion of this program, participants should be able to:
• Develop a logical approach to the use of standard clinical electrophysiological techniques in the evaluation of common and uncommon neuromuscular disorders encountered in clinical practice.
• Explain the basic concepts of clinical neurophysiology.
• Interpret the findings and clinical significance of abnormalities on nerve conduction studies.
• Interpret the clinical significance of EMG waveforms on needle examination.
• Identify technical pitfalls associated with EEG and the normal and variant patterns of pediatric and adult patients.
• Interpret the findings and clinical significance of abnormalities on EEG studies.
• Integrate the various clinical neurophysiology studies in the evaluation of patients with disorders of the central nervous system.

Intended Audience
This course is intended for neurologists and physiatrists interested in the basics of clinical EMG, EEG, and neurophysiology. Attendance at this Mayo course does not indicate or guarantee competence or proficiency in the performance of any procedures that may be discussed or taught in this course.

Credit
College of Medicine, Mayo Clinic is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

College of Medicine, Mayo Clinic designates this educational activity for a maximum of 51.5 AMA PRA Category 1 Credits™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

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.
Educational Grants
This course is supported, in part, by educational grants from multiple industry sponsors in accordance with ACCME Standards. At the time of this printing, a complete listing of commercial supporters was not available. Appropriate acknowledgment will be given to all supporters at the time of the meeting.

Registration
To register online, visit http://www.mayo.edu/cme/, or you can complete the attached registration form and return by mail or fax. The registration fee includes tuition, comprehensive course syllabus, continental breakfasts, break refreshments, and lunch. Although it is not Mayo School of CME policy to limit the number of registrants for a course, conference room facilities may necessitate closing of enrollment; therefore, early registration is advised. A letter of confirmation will be sent upon receipt of payment and completed registration form. Please present the confirmation letter when checking in at the meeting registration desk.

Cancellation Policy
If you cancel your participation in this course, your registration fee, less a $75 administrative fee, will be refunded when written notification is received by Mayo School of CME on or before February 22, 2009 via fax#: (904) 953-2954. No refunds will be made after February 22, 2009. Mayo School of CME reserves the right to cancel or postpone any course due to unforeseen circumstances. In the unlikely event Mayo School of CME must cancel or postpone this course, Mayo School of CME will refund the registration fee, but is not responsible for any related costs, charges, or expenses to participants, including fees assessed by airline/travel/lodging agencies.

Location
Located on the beach at Amelia Island, Florida, just 35 minutes from Jacksonville International Airport, this AAA-Four Diamond resort features over 700 guest accommodations settled in 1,250 acres of pristine coastal wilderness. The conference center with its bright, airy rooms offers perfect space to facilitate learning and socializing. You can play golf on 36 holes designed by Pete Dye and Tom Fazio, which cover acres of oceanfront and tidal marshes. Tennis at Amelia offers 23 Har-Tru courts laid out in a club like setting. Sportfishing, swimming, seven miles of nature trails for walking and jogging, and horseback riding in the surf are just some of the activities available for guests. “Kids Camp Amelia” boasts enthusiastic counselors for all-day activities, tennis or golf clinics, arts and crafts, water activities or just for a parent’s night out for dinner. All recreational activities can be scheduled directly through Amelia Island Plantation by calling (888) 261-6161 or (904) 261-6161.

Lodging Accommodations
A block of rooms has been reserved at the Amelia Island Plantation, the beautiful oceanfront hotel, at a special rate of $217 plus tax per night until February 14, 2009, or until the room block is filled. Reservations made after this date will be confirmed on a space/rate available basis. In addition, Amelia Island Plantation charges a resort service fee of $10.00 per person, per day, which includes all staff gratuities, high-speed internet access, housekeeping gratuities, unlimited on property shuttle transportation, self parking, unlimited use of health and fitness center, 1 hour of tennis court usage, 1 bucket of range balls, meeting concierge staff, in-room coffee service and 24/7 public safety staff. Children under 15 will stay complimentary with no resort fee. Check-in time is after 4:00 p.m. and check-out time is before 11:00 a.m. You may call the hotel direct at (904) 261-6161 or toll free at (888) 261-6161 for reservations. Please identify yourself as a course participant at the Mayo Clinic EMG/EEG conference.
Mayo Clinic  
Electromyography (EMG), Electroencephalography (EEG),  
and Neurophysiology in Clinical Practice  
March 8 – 14, 2009

Mail form and payment to:  
Mayo School of Continuing Medical Education  
Telephone: 800-462-9633  
4500 San Pablo Road, Davis 172W  
Jacksonville, FL 32224  
Office: 904-953-7114  
Fax: 904-953-2954  
ATTN: Registrar EMG/EEG  
Email: cme-jax@mayo.edu  
Web: www.mayo.edu/cme

Please print or type all information. You may reproduce this form for multiple registrations or register online.

First Name  M.I.  Last Name

Degree  MD  PhD  DO  PA  NP  Other

Mailing Address

City  State  Zip

Telephone  FAX

Institution  Medical Specialty

Email

Check here if you have any special accommodations or dietary needs. Please indicate your needs here:

Registration and Payment (U.S. funds only)
Three options are offered for registration:

Option 1: Electromyography in Clinical Practice  
Sunday, March 8 through Thursday, March 12, 2009  $825

Option 2: Electroencephalography  
Friday, March 13 – through Saturday, March 14, 2009  $500

Option 3: Electromyography (EMG), Electroencephalography (EEG), and Neurophysiology in Clinical Practice  
Sunday, March 8 through Saturday, March 14, 2009  $975

Total Payment Enclosed:  $

Payment Method:
Check Enclosed (make checks payable to Mayo Clinic)  Credit Card: Visa  MasterCard  Discover

Card Number:
Expires (Mo/Yr):

Signature  Date
Faculty Disclosure

As a provider accredited by ACCME, College of Medicine, Mayo Clinic (Mayo School of CME) must ensure balance, independence, objectivity and scientific rigor in its educational activities. Course director(s), planning committee, faculty, and all others who are in a position to control the content of this educational activity are required to disclose all relevant financial relationships with any commercial interest related to the subject matter of the educational activity. Safeguards against commercial bias have been put in place. Faculty also will disclose any off-label and/or investigational use of pharmaceuticals or instruments discussed in their presentation. Disclosure of this information will be published in course materials so those participants in the activity may formulate their own judgments regarding the presentation.
Sunday, March 8, 2009
(EMG)
7:00 a.m.  Registration & Continental Breakfast
7:50  Welcome and Introduction
  Devon I. Rubin, M.D.
8:00  Physiology and Electrophysiologic Correlates of
      Nerve Pathology
  P. James B. Dyck, M.D.
8:45  Physiology and Electrophysiologic Correlates of
      Muscle Pathology
  Elliot L. Dimberg, M.D.
9:30  Break
10:00  Nerve Conduction Studies: Basics
  Brian A. Crum, M.D.
10:45  Uncommon Motor NCS, including F waves and H reflexes
  Ruple S. Laughlin, M.D.
11:30  Uncommon Sensory NCS – Technique and Utility
  Brian A. Crum, M.D.
12:30  Lunch
1:30  Neuromuscular Junction Physiology and Repetitive
      Stimulation Technique
  Brent P. Goodman, M.D.
2:30  Nerve Conduction Studies: Pitfalls and Technical Problems
  Devon I. Rubin, M.D.
3:30  Adjourn

Monday, March 9, 2009
(EMG)
7:00 a.m.  Continental Breakfast
7:30  Quiz
8:00 - 9:15  Workshops I – Nerve Conduction Studies
  NCS for Novices
  Common Upper Extremity
  Uncommon Upper Extremity I
  Lower Extremity NCS
9:30 - 10:45  Workshops II – Nerve Conduction Studies
  Common Upper Extremity
  Uncommon Upper Extremity II
  Proximal (shoulder girdle) NCS
  Repetitive Stimulation
11:00 – 12:15  Workshops III – Nerve Conduction Studies
  Upper Extremity
  Lower Extremity
  Repetitive Stimulation
  Cranial Reflexes
12:30 – 1:30  Lunch
1:30  Needle Examination Technique
  Devon I. Rubin, M.D.
2:15  Examination of Unusual Muscles
  Eric J. Sorenson, M.D.
## Tuesday, March 10, 2009  
*(EMG Approaches to Common Disorders)*

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>7:00 a.m.</td>
<td>Continental Breakfast</td>
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<tr>
<td>7:30</td>
<td>Quiz</td>
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<tr>
<td>8:00</td>
<td>Approach to Carpal Tunnel Syndrome and Other Median Neuropathies</td>
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<tr>
<td></td>
<td><em>James C. Watson, M.D.</em></td>
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<td>8:45</td>
<td>Approach to Ulnar Neuropathy</td>
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<td><em>Benn E. Smith, M.D.</em></td>
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<td>9:30</td>
<td>Break</td>
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<tr>
<td>9:45</td>
<td>Other Mononeuropathies of the Upper Limb</td>
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<td><em>Jeffrey A. Strommen, M.D.</em></td>
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<td>10:45</td>
<td>Mononeuropathies of the Lower Limb</td>
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<td><em>Kevin B. Boylan, M.D.</em></td>
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<td>11:45</td>
<td>Evaluation of Radiculopathies</td>
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<td><em>Jeffrey A. Strommen, M.D.</em></td>
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<tr>
<td>12:30</td>
<td>Lunch</td>
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<tr>
<td>1:30</td>
<td>Workshops I – Needle EMG</td>
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<td></td>
<td>Needle EMG for Novices</td>
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<td>Common Upper Extremity</td>
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<td>Common Lower Extremity</td>
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<td>Uncommon Upper Extremity</td>
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<td>2:30</td>
<td>Workshops II – Needle EMG</td>
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<tr>
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<td>Common Upper Extremity</td>
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<td>Common Lower Extremity</td>
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<td>Uncommon Upper Extremity</td>
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<td>Uncommon Lower Extremity</td>
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<td>3:30</td>
<td>Workshops III – Needle EMG</td>
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<tr>
<td></td>
<td>Upper Extremity</td>
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<td>Lower Extremity</td>
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<td>Quantitative EMG</td>
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<td>Single Fiber EMG</td>
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<td>4:30</td>
<td>Adjourn</td>
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## Wednesday, March 11, 2009  
*(EMG approaches to Uncommon Disorders)*

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>7:00 a.m.</td>
<td>Continental Breakfast</td>
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<tr>
<td>7:30</td>
<td>Quiz</td>
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<tr>
<td>8:00</td>
<td>Cranial Neuropathies</td>
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<td></td>
<td><em>Kathleen D. Kennelly, M.D., Ph.D.</em></td>
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<td>8:45</td>
<td>Brachial Plexopathy</td>
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<td></td>
<td><em>Devon I. Rubin, M.D.</em></td>
</tr>
</tbody>
</table>
9:30 Break
9:45 Evaluation of Peripheral Neuropathies  
  *Ruple S. Laughlin, M.D.*
10:45 Neuromuscular Junction Disorders  
  *C. Michel Harper, M.D.*
12:00 Lunch
1:00 Motor Neuron Diseases  
  *Eric J. Sorenson, M.D.*
2:00 Muscle Diseases  
  *Elliot L. Dimberg, M.D.*
3:00 Break
3:15 Crafting an Appropriate EMG Report  
  *Benn E. Smith, M.D.*
4:00 Case Discussions  
  Faculty
5:00 Adjourn

**Thursday, March 12, 2009**  
(*Evoked Potentials, Sleep, Autonomic, and Intraoperative Monitoring*)

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>7:30</td>
<td>Continental Breakfast</td>
</tr>
</tbody>
</table>
| 8:00  | IOM – Cranial/Spinal/Peripheral  
  *C. Michel Harper, M.D.* |
| 9:00  | Somatosensory Evoked Potentials  
  *James C. Watson, M.D.*  |
| 10:00 | Visual Evoked Potentials  
  *Jonathan L. Carter, M.D.* |
| 11:00 | Brainstem Auditory Evoked Potentials  
  *Jonathan L. Carter, M.D.*|
| 12:00 | Lunch                                                                 |
| 1:00  | Evaluation of Sleep Disorders  
  *Michael H. Silber, M.D.*  |
| 2:00  | Electrophysiologic Evaluation of Autonomic Disorders  
  *William P. Cheshire, M.D.* |
| 3:00  | Adjourn                                                               |

**Friday, March 13, 2009**  
(*EEG*)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:30</td>
<td>Continental Breakfast</td>
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</table>
| 8:00  | Physiologic Basis of EEG and Electrical Fields  
  *Gregory A. Worrell, M.D., Ph.D.* |
| 8:30  | Normal Adult EEG and Benign Variants  
  *Jeffrey W. Britton, M.D.*        |
| 9:20  | Normal Infant and Children's EEGs  
  *Barbara F. Westmoreland, M.D.*   |
| 10:10 | Break                                                                 |
| 10:35 | Abnormal EEGs in Children  
  *Katherine C. Nickels, M.D.*      |
| 11:20 | Artifacts in the EEG  
  *Jeffrey W. Britton, M.D.*        |
12:10  Lunch
1:10  EEG in Partial and Generalized Seizures  
    Jerry J. Shih, M.D.
1:55  EEG in Status Epilepticus  
    Joseph F. Drazkowski, M.D.
2:35  EEG Reading Session – You Make the Call  
    Faculty
3:15  Adjourn

Saturday, March 14, 2009
EEG Monitoring and Video EEG
7:30 a.m.  Continental Breakfast
8:00  Prolonged EEG and Ambulatory EEG  
    Gregory D. Cascino, M.D.
8:30  Video EEG for Spells and Seizures in Adults  
    Joseph F. Drazkowski, M.D.
9:30  Video-EEG for Spells and Seizures in Children  
    Raj Sheth, M.D.
10:30  Break
10:55  Intraoperative EEG Monitoring/Intracranial, Carotid, Amytal  
    Jerry J. Shih, M.D. and Richard S. Zimmerman, M.D.
12:00  Lunch
1:00  EEG in the ICU: Coma, Infections, and Encephalopathies  
    Elson L. So, M.D.
1:50  Electrical Stimulation and Seizure Control  
    Gregory A. Worrell, M.D., Ph.D.
2:30  Video-EEG Reading Session – You Make the Call  
    Faculty
3:15  Adjourn
Register Online Now