The 2015 meeting has numerous sessions focusing on the care and treatment of neuromuscular patients as well as a collaborative session with the Myasthenia Gravis Foundation of America.
Sierra Summit - The Sky is the Limit
The EMG system that scales with your needs.

ACCREDITED?
IS YOUR EDX LAB AANEM AANEM
EDX Laboratory Accreditation Program

American Association of Neuromuscular
& Electrodiagnostic Medicine

Sierra Summit - The Sky is the Limit
The EMG system that scales with your needs.

- From single office to extended laboratory
- From lightweight mobile to ergonomic workstation
- From stand-alone system to limitless networking
- From routine to the most advanced studies
- Select the hardware that you need: 2 to 12 recording channels, 1 or 2 electrical stimulators, auditory stimulator or visual stimulator
- Future proof with free lifetime software upgrades
- Outstanding service

THE AANEM EDX LABORATORY ACCREDITATION:
1. Demonstrates clinical excellence in EDX medicine
2. Proves a laboratory’s commitment to providing the highest quality health care and a safe environment for patients
3. Provides patients, referral sources, and payers with a credible measure to differentiate the laboratory’s quality of care

WHAT TYPES OF PRACTICES CAN APPLY FOR ACCREDITATION?
Accreditation is available to all types and sizes of practices based in the United States, including:
- Private Practices, Solo or Group Practices
- Independent Diagnostic Testing Facilities
- Hospital Based Practices
- Academic Institutions

Visit us online at www.cadwell.com or give us a call at 800-245-3001 for more information.

909 N. Kellogg St. · Kennewick, WA 99336
(800) 245-3001 · (509) 735-6481 ph · (509) 783-6503 fx

Join us on: www.cadwell.com · www.estore.cadwell.com
info@cadwell.com

909 N. Kellogg St. · Kennewick, WA 99336
(800) 245-3001 · (509) 735-6481 ph · (509) 783-6503 fx

Join us on: www.cadwell.com · www.estore.cadwell.com
info@cadwell.com

Sierra Summit - The Sky is the Limit
The EMG system that scales with your needs.
Colleagues,

It is my pleasure to invite you to the 62nd Annual Meeting of the American Association of Neuromuscular & Electrodiagnostic Medicine (AANEM), October 28-31, 2015, in Honolulu, HI. This event gathers around 900 neuromuscular medicine professionals annually for more than 100 basic and advanced sessions for specialists at any stage of their career.

I am often told that the AANEM Annual Meeting is special because it offers multi-specialty cross training in a setting that’s smaller and more intimate than some of the larger specialty meetings. The AANEM Annual Meeting brings together healthcare professionals interested in research, diagnosis, and clinical management of patients with muscle and nerve diseases. You will learn about cutting edge advances from the researchers themselves, and you will have the chance to advance your techniques through our hands-on workshops.

This meeting is a great value. General sessions on neuromuscular issues—included in every attendee’s general meeting registration—address issues such as: Genetic Issues in Neuromuscular Disease, EDX and Ultrasound Mononeuropathies, NM Update in Autoimmune Disorders, ALS: A Practical, Evidence Based Approach to Care, and much more. This year’s plenary centers around value, quality, and excellence in a healthcare system that’s constantly changing. It will be led by world-class speakers, including Stephen Beeson, MD, author of Practicing Excellence: A Physician’s Manual to Exceptional Health Care.

Bring your family along to enjoy all that Hawaii has to offer! I look forward to seeing you there.

Vincent Tranchitella, MD
2015 AANEM President

The AANEM Annual Meeting brings together healthcare professionals interested in research, diagnosis, and clinical management of patients with muscle and nerve diseases.

Educational session descriptions start here. Plan your meeting schedule now!

Learn more about this year’s social event- a rooftop Hawaiian Luau!
**Tips & Tools**

**for the Meeting**

**WI-FI:** You will be able to use your smartphone, tablet, and/or laptop throughout the convention center thanks to complimentary Wi-Fi.

**TWITTER:** Follow us at @AANEMorg. Share your meeting experience with others using #AANEM

**PICTURES:** AANEM takes photos during the meeting for use in future publications. Also, note that personal camera and video equipment is not allowed in the annual meeting sessions nor exhibit hall.

**YOUTUBE:** Find educational, promotional, and annual meeting videos at: youtube.com/theAANEM

**EMAIL:** AANEM will send timely email announcements throughout the meeting. Make sure to provide us with an up-to-date email address upon registration.

**ATTIRE:** AANEM encourages all attendees to dress casually and comfortably for the meeting. Hawaiian shirts and flip-flops are welcome here!

---

Information is accurate as of April 15, 2015. For additional updates, visit www.aanem.org/meeting.
The AANEM is the only association that brings together physicians in neurology, neuromuscular medicine, and physiatry, as well as technologists, researchers, and collaborators, combining the specialties in a way that no other group does.

Neuromuscular Highlights

AANEM has multiple sessions focusing on the care and treatment of neuromuscular (NM) patients every day of the meeting. Here are a few that may interest you:

- Plenary: The Value of Quality
- 2015 Challenging NM and EDX Cases
- Updates in NM Disorders including CIDP, ALS, and iatrogenic, autoimmune, neuromuscular transmission, and hyperexcitability disorders
- Genetic Issues in NM Disease
- NM Complications of Infection and Vaccination
- Palliative Care of NM Disorders
- Antibodies and Biomarkers in NM Disease
- NM Ultrasound

See the schedule beginning on page 14 for more information.

Abbreviations Used Throughout this Brochure

AANEM: American Association of Neuromuscular & Electrodiagnostic Medicine
ABMS: American Board of Medical Specialties
ABPN: American Board of Psychiatry & Neurology
ALS: Amyotrophic lateral sclerosis
CIDP: Chronic inflammatory demyelinating polyneuropathy
CK: Creatine Kinase
CNP: Clinical Neurophysiology
CTS: Carpal tunnel syndrome
EDX: Electrodiagnostic
EMG: Electromyography
GAA: Guillain-Barré syndrome
GBS: Acid Alpha Glucosidase
HRDB: Heart rate variation during deep breathing
IOM: Intraoperative monitoring
MG: Myasthenia gravis
MGFA: Myasthenia Gravis Foundation of America
MND: Motor neuron disorder/disease
MSK: Musculoskeletal
MUAP: Motor unit action potential
MUNE: Motor unit number estimates
NCS: Nerve conduction study
NM: Neuromuscular
NMDS: Neuromuscular disorders
NMJ: Neuromuscular junction
PMR: Physical medicine and rehabilitation
PNS: Peripheral Nerve Society
Q-SART: Quantitative sudomotor axon reflex test
RNS: Repetitive nerve stimulation
SEP: Somatosensory evoked potential
SFEMG: Single-fiber electromyography
SIG: Special interest group
SSR: Sympathetic skin response
TOS: Thoracic outlet syndrome
TST: Thermoregulatory sweat test
TTS: Tarsal tunnel syndrome
US: Ultrasound

www.aanem.org/meeting
AANEM membership connects you to other dedicated professionals committed to the advancement of neuromuscular, musculoskeletal, and electrodiagnostic medicine.

The AANEM will provide you with the education, advocacy, practice standards, and tools you need to succeed.

Don’t go it alone.

More CME Credits for Your Money

Your CME funds go further at the AANEM Annual Meeting. Included in the general meeting registration, attendees have access to: 12 courses, eight symposia, eight special interest groups, and two educational networking events.

*These sessions offer a total of 33.5 CME credits, which is less than $18 per credit. Now that’s a great value!*

www.aanem.org/join
Registration

Online registration is the preferred method and allows you to view “real time” session availability. Register at www.aanem.org/meeting

Mail the included insert to:
AANEM
2621 Superior Drive NW
Rochester, MN 55901
*Confirmation will be sent to you within two weeks of receipt. Allow more time if you are an overseas registrant.

Fax the included insert to:
507.288.1225
*Confirmation will be sent to you within two weeks of receipt. Allow more time if you are an overseas registrant.

On-Site:
Tuesday 6:00–9:00 PM
Wednesday 7:00 AM–6:00 PM
Thursday 7:00 AM–6:00 PM
Friday 7:00 AM–4:00 PM
Saturday 7:00 AM–12:00 PM

Early Bird Registration
Until July 22, 2015

<table>
<thead>
<tr>
<th></th>
<th>AANEM Members</th>
<th>Nonmembers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician</td>
<td>$600</td>
<td>$850</td>
</tr>
<tr>
<td>Junior, Technologist, Collaborator, Researcher</td>
<td>$350</td>
<td>$500</td>
</tr>
</tbody>
</table>

*Prices listed are for full registration at the discounted, early bird rate.

Cancellation/Refund Policy:
• Prior to July 22: full refund
• July 23-September 9: full refund less a $100 cancellation fee
• After September 9: no refunds
On-site cancellation of individual sessions with limited enrollment will be refunded at 50% of purchase price. The ticket must be returned to the registration desk to receive a refund.

Payment
All fees must be paid in U.S. dollars drawn on a U.S. bank. Full payment by check or credit card is required. To receive member rates, your 2015 dues must be current. If they are not, nonmember meeting rates will be charged.

Join the AANEM to Save on Registration Fees
The AANEM is the only membership organization designed to address the needs of all NM and EDX healthcare providers by bringing together physicians, researchers, technologists, and collaborators who specialize in these areas of medicine.

Join now to receive discounted registration fees and many other benefits.
www.aanem.org/join

“I am a member because this is an awesome organization where I can network with people I trained with and have access to experts in the field. I feel like I’m getting very cutting edge information that I can take back to my practice.”
- Dr. Rina C. Davis
New York Spine and Wellness Center

www.aanem.org/meeting
All About Honolulu

Honolulu has it all. This is the home of some of Hawaii’s most historic places from Iolani Palace, the Kawaiahao Church, and the Hawaiian Mission Houses Historic Site to iconic landmarks like the Aloha Tower, the King Kamehameha I Statue, the Duke Kahanamoku Statue, and the historic Hawaii Theatre. From the nightlife, live music and fine dining of Waikiki to the art galleries and underground bars of the Chinatown arts district, Honolulu is also Hawaii’s hot spot for arts, culture, and entertainment. Whether you’re looking for Hawaii’s finest museums, regional cuisine chefs, the best attractions and shopping, or just some fun things to do, you’ll find it all in Honolulu.

TRAVEL & ACCOMMODATIONS

1 MEETING LOCATION
Hawaii Convention Center
1801 Kalakaua Avenue,
Honolulu, HI 96815

ACCOMMODATIONS
Hilton Hawaiian Village
2005 Kalia Road, Honolulu, HI 96815
Book your accommodations by September 26, 2015, for discounted rates:

- Resort View Room $219
- Ocean View Room $259

Reserve your accommodations by September 26, 2015, for discounted rates. Visit www.aanem.org/getting-to-hawaii for more information. If you prefer, you may call Central Reservations directly at 800-HILTONS (445-8667).

Note: Calling Hilton Hawaiian Village directly will not allow you to secure the official meeting rate.

FLIGHTS
Travel Leaders has negotiated a discount with Delta Airlines. For more information, contact Laurie at 800.533.2012 or laurie@tvlleaders.com.

FUN FOR ATTENDEES AND GUESTS

WAIKIKI AQUARIUM
Visit the aquarium on Wednesday, October 28, at 3:00 PM for Afternoons at the Aquarium. Great for families, this interactive learning activity includes a critter encounter or a marine science craft. Free with admission.
www.waikikiaquarium.org

HONOLULU ZOO
The zoo is 42 acres and home to 905 different animals from the tropics. Komodo Dragons, orangutans, elephants, primates, birds, reptiles, amphibians, and a variety of African animals can be seen daily. Be sure to see the wildest place in Waikiki!
www.honoluluzoo.org

LUXURY ROW
www.luxuryrow.com
Luxury Row offers world class shopping at one of the finest collections of luxury brands in the world, with more than 111,000 sq.ft. of international retailers.
Honolulu, Waikiki, and the famed Diamond Head Crater will have a different perspective of O’ahu as you take in there is no better way to end your day than on this evening.

**Honolulu City Lights Cocktail Cruise**

- **Wednesday, October 28** • 4:45-7:30 PM
- **$165 per person (15 people max)**

Cycle your way through the best bars of Waikiki. Start with a classic mai tai at check-in, then make your way to the Hard Rock Café where you will have a choice of spinach artichoke dip, rockin’ wings, bruschetta, or nachopaloaooa. Then you will move on to Waikiki’s oldest mai tai bar for a delicious tropical cocktail before continuing on to Kelley O’Neil’s where you will have a drink and choice of classic Irish pub fare with a Hawaiian twist, including Dublin sliders, potato skins, onion rings, or popcorn chicken. Participants must be 21 or older and at least five-feet tall.

**Sail & Snorkel**

- **Thursday, October 29** • 8:30-11:30 AM
- **$145 per person (48 people max); $110 per child (ages up to 11)**

Board the Spirit of Aloha to make a splash. Sit back and enjoy a cruise along the scenic south shores of Honolulu and Waikiki. Dive in and snorkel with tropical fish, sea turtles, and even dolphins in the warm and clear waters of Hawaii’s famed Waikiki Beach. After discovering Honolulu’s vast underwater marine life, you will set off towards O’ahu’s iconic Diamond Head for a relaxing sail while enjoying a delicious deli-style buffet lunch.

**Valley of the Rainbows**

- **Thursday, October 29** • 12:00-4:00 PM
- **$115 per person (74 people max)**

First, visit Pu‘u ‘Uala-ka’a, located 1048 feet above Waikiki for a picnic lunch, and take in the breathtaking panoramic view of the O’ahu coastline – you can often see an anuenue (Hawaiian for rainbow) in the Valley of Rainbows far below. Next, walk through the lush rainforest at the enchanting Valley of the Rainbows. Within the 200-acre botanical garden at the Lyon Arboretum, you will find 5,000 species of plants, including some of the planet’s rarest. The tour includes a 1.5-mile guided hike that covers the Valley’s mythological and historical significance.

**Zombie Pub Crawl**

- **Friday, October 30** • 6:30 PM-1:15 AM
- **$170 per person (110 people max)**

Spend an evening walking, dancing, and drinking with the dead as part of this Waikiki Pub Crawl. Start the night with a complete transformation. Upon arrival at O’Toole’s Irish Pub in Honolulu, you will grab a drink and turn into human zombies compliments of a talented team of makeup artists. Then, the crawl of the walking dead moves to either Hank’s Café for another drink or Dragon Upstairs for some live jazz music. Stop at JJ Dolan’s for pizza and another drink, the Downbeat Lounge for live music, and the nightclub next door for dancing.

**Pearl Harbor Tour**

- **Saturday, October 31** • Estimated 8:00 AM-4:00 PM
- **$165 per person (50 people max)**

The “Date of Infamy” that propelled America into the conflict with Japan took place on Oahu on the early morning hours of December 7, 1941. The USS Arizona and 1,177 of her crew were among the first casualties of the Pacific War. The USS Arizona Memorial, which is built over the sunken wreckage of the battleship, serves as a reminder of their sacrifice and commitment. The tour starts with a brief film followed by a narrated boat ride to the memorial and a one-hour guided tour of the battleship, “Mighty Mo.” Afterwards, you will enjoy a casual lunch at a local restaurant.

**DIAMOND HEAD CRATER ADVENTURE**

- **Friday, October 30 and Saturday, October 31 (choose one)**
  - **9:30 AM-12:30 PM** • **$80 per person (24 people max each day)**

Trek up the world-famous Diamond Head Crater. Formed about 300,000 years ago during a single explosive eruption, this landmark has become an inextricable part of the Waikiki skyline. It is a must-see destination for any visitor to Hawaii. You will hike up the side of the crater, a relatively quick and manageable hike for all ages. Once at the top, hikers can view all of Honolulu.

**CYCLE WAIKIKI**

- **Friday, October 30** • 12:30-3:45 PM
- **$120 per person (30 people max)**

Pedal your way through Waikiki and see the city like you have never seen it before in this fun-filled bike tour. During your journey, you will pass Queen’s Beach, the Waikiki Aquarium, the Honolulu Zoo, Diamond Head Crater, Kapioalani Park, and Duke’s Lagoon. You will also travel a bike path which runs right along the waterfront. Children under 4’8” are required to ride in one of the trailers.

All prices include round-trip ground transportation, admission charges, taxes, and gratuities. Comfortable shoes and clothing are recommended. While every effort will be made to accommodate tour requests, minimum numbers must be met for a tour to operate. In the event that a tour minimum is not met and a tour must be canceled, AANEM will refund the full payment.
Overview of Session Types

**PLENARY SESSION**
The plenary session is intended for a large audience and has multiple invited speakers that address the focused meeting topic. This year, the topic is *Value of Quality*. It will be held on Thursday and Friday mornings and is included in general meeting registration.

**COURSES**
Courses are designed for a larger audience and often include presentations with video and multimedia. They are held on Wednesday, Thursday, and Friday and included in general meeting registration.

**SPECIAL INTEREST GROUPS (SIG)**
SIGs vary in size depending on interest in the particular topic. They will be held on Wednesday and Saturday and are included in general meeting registration.

**SYMPOSIA**
Symposia sessions vary in size and focus on cutting edge and current topics in NM and EDX medicine. They are included in general meeting registration.

**POSTER SESSIONS**
Medical research is presented by physicians beginning Thursday morning through Saturday morning. Poster authors will be available on Friday and Saturday mornings to discuss their research during Coffee with the Authors. These session are included in general meeting registration.

**ASK THE EXPERT**
Ask the Expert sessions allow you to pose questions to experts in the field and discuss them with a small group of no more than 21 participants. They are held on Thursday and Friday mornings.

**SMALL GROUP DEMONSTRATIONS**
These sessions are demonstrations, similar to workshops, but are meant for approximately 25-50 attendees and are held on Wednesday and Saturday.

**WORKSHOPS**
Workshops are small group sessions (6-10 participants) designed for hands-on learning and led by an expert in the field. Typically, there is a subject that workshop participants gather around while the expert teaches a technique or concept. Workshops are held throughout the day on Wednesday and Saturday.

**SESSIONS WITH A BURST**
are included WITH YOUR REGISTRATION.

---

**AANEM CME Programming:** All CME sessions that are offered as part of the official AANEM Annual Meeting program are developed and implemented solely by the AANEM Annual Meeting education planning committees and the AANEM staff. Industry has no role in selecting program topics, faculty, and directors or in planning program content for the sessions offered by the AANEM. Industry influence or promotion on slides or computer-based presentations is prohibited, and presenters are asked to avoid any use of brand names. All presenters must disclose in writing any relationships to industry that relate to the topic being discussed. Any faculty who refuses to disclose will be disqualified from involvement in the CME activity. If there is a conflict, the AANEM has a mechanism to identify and resolve all conflicts of interest before the educational activity is delivered to learners. Disclosures are published in the AANEM Meeting Guide. Presenters are required to state explicitly that they understand and will adhere to the AANEM guidelines. Industry partners that provide educational grants also must sign agreements stating they will adhere to AANEM, ACCME, and AMA guidelines.
EXHIBIT HALL RECEPTION
Thursday, October 29, 5:30-6:30 PM
Hawaii Convention Center Exhibit Hall
Socialize with peers and exhibitors while enjoying hors d’oeuvres, wine, and refreshments.  
*Included with meeting registration*

TECHNOLOGIST BREAKFAST TRIVIA
Thursday, October 29, 7:00-8:15 AM  1.25 CEU
Come join your fellow technologists for breakfast and get your mind going with some NCS Jeopardy to start the day. Light breakfast included, pre-registration required, limited seating available. Teresa Spiegelberg, CNCT, R.NCS.T, R.EEG.T, B.S.  
*Included with meeting registration*

RESIDENT & FELLOW BREAKFAST TRIVIA
Friday, October 30, 7:00-8:15 AM
Meet other residents and fellows for breakfast and get your mind going with some trivia-style education. Light breakfast included, pre-registration required, limited seating available.  
*Included with meeting registration*

MEETUP & MINGLE
Informal networking sessions will be held for the following groups at various times throughout the meeting. Locations will be publicized in the on-site meeting guide, and participants will be able to purchase their own food and beverage. Pre-registration is not required. These are pay-on-your-own events. Groups include:
- Residents & Fellows
- Training Program Directors
- Small Private Practitioners
- Physicians in Early Practice
- International Physicians
- Technologists

EXHIBIT HALL HOURS
Thursday: 10:00 AM - 6:30 PM  
Friday: 10:00 AM - 4:30 PM

ABSTRACT AWARD PRESENTATION
President Vincent Tranchitella, MD, will present the award certificates to the recipients of the Golseth Young Investigator Award, Best Abstract Award, and Best Abstract Runner-Up Award at the end of the plenary session on Thursday, October 29. Oral presentations of these abstracts takes place during the Abstract Award Presentations on Wednesday, October 28, at 10:30 AM.

COFFEE WITH THE AUTHORS
Authors will be available to discuss their posters at the following times:
- Posters 1-127: Friday, October 30, 7:00-8:30 AM  
- Posters 128-254: Saturday, October 31, 7:00-8:30 AM  
  *1.5 CME/CEU*

POSTER VIEWING
All posters will be on display beginning Thursday, October 29, at 7:00 AM through 9:00 AM on Saturday, October 31.

To highlight the research presented in the President’s Research Initiative Awards, president Vincent Tranchitella, MD, will moderate a discussion in the poster area with the award recipients explaining their research on Thursday morning at 7:00 AM. The topic for this year’s award is “Value of an Accurate Diagnosis.” This discussion concludes at 8:15 AM, and the plenary begins at 8:30 AM.
Stephen C. Beeson, MD, medical director for Studer Group, is a nationally recognized speaker and author who provides tools for engaging and training physicians for hundreds of medical groups and hospitals throughout the country. In September 2006, Dr. Beeson released his book, Practicing Excellence: A Physician's Manual to Exceptional Health Care. This national best seller articulates a strategic, prescriptive “how-to” approach to improve physician performance in quality and service and train physicians to drive organizational success. In 2009, Dr. Beeson released his second book, Engaging Physicians: A Manual to Physician Partnership, which takes system leaders on a journey to physician enrollment in organizational change efforts. In addition, Dr. Beeson founded the Physician Effectiveness Project at PracticingExcellence.com, an online learning solution designed to engage physicians and drive the metrics that define high-value healthcare organizations.

Dr. Beeson is a board-certified family medicine physician who practiced with California’s top ranked Sharp Rees-Stealy Medical Group for 18 years. In 2001, Sharp HealthCare leadership chose Dr. Beeson to serve as the Physician Director for the Sharp Experience. San Diego County Medical Society voted Dr. Beeson as one of San Diego’s best physicians for eight consecutive years. Recently, Dr. Beeson was a recipient of the Center of Recognized Excellence Award for Individual Service Excellence, and in 2007, Sharp HealthCare was the recipient of the prestigious Malcolm Baldrige Quality Award for organizational performance.

Timothy R. Dillingham, MD, MS, is professor and chair of the University of Pennsylvania’s physical medicine and rehabilitation (PMR) department and chief medical officer for the Pennsylvania Institute for Rehabilitation Medicine. Previously, Dr. Dillingham held PMR positions at Walter Reed Army Medical Center, Johns Hopkins University, and the Medical College of Wisconsin in Milwaukee, where he served as chair. Dr. Dillingham completed his medical degree, internship, and residency in rehabilitation medicine, and master’s degree in gait biomechanics from the University of Washington in Seattle. He is board certified in PMR and EDX medicine.

Dr. Dillingham’s research interests include EDX medicine, prosthetic engineering, and rehabilitation health services use and outcomes. He has received funding from Veteran’s Affairs and the National Institutes of Health for his investigative work over the past 17 years.

Dr. Dillingham is an active AANEM member, serving as board member and 2010-11 president, research committee chair, and ABEM board examiner. He received AANEM’s Distinguished Researcher Award in 2010. Currently, Dr. Dillingham chairs the Normative Data Taskforce.

Gregory Carter, MD, is medical director of St. Luke’s Rehabilitation Institute in Spokane, WA. His clinical and research interests focus on finding better ways to evaluate and treat patients with neuromuscular disorders, with an emphasis on quality of life, disease burden, and chronic pain. In 2012, Dr. Carter received the Distinguished Researcher Award from the AANEM and currently is a member of the board. He is past recipient of the Best Research Paper Published by a Physiatrist Award from the American Academy of Physical Medicine Rehabilitation and the Excellence in Research Writing Award from the Association of Academic Physiatrists. He has co-authored nearly 200 peer-reviewed papers and is a senior associate editor for the journal Muscle & Nerve.

Dr. Carter graduated from Loyola University of Chicago, Stritch School of Medicine. He completed a physical medicine and rehabilitation residency and neuromuscular disease research fellowship at the University of California, Davis, where he also earned a master’s degree in physiology. Following that he was a MayDay Pain Fellow at the University of Washington School of Medicine, where he has held a clinical faculty appointment since 1994.

Lois Margaret Nora, MD, JD, MBA, is president and chief executive officer of the American Board of Medical Specialties (ABMS). ABMS is a not-for-profit organization that supports its 24 medical specialty member boards in developing and implementing educational and professional standards to certify physician specialists and encourage lifelong learning and assessment. Before ABMS, Dr. Nora served as interim president and dean of The Commonwealth Medical College, president and dean of medicine at Northeast Ohio Medical University, and associate dean and professor of neurology at the University of Kentucky College of Medicine and Rush Medical College. She is board certified in neurology.

Dr. Nora’s scholarly work focuses on issues in medical education, particularly the student environment, and issues at the intersection of law and medicine. Her honors include the American Medical Women’s Association President’s Recognition Award, the AAMC Group on Educational Affairs Merrel Flair Award in Medical Education, The Phillips Medal of Public Service from the Ohio University College of Osteopathic Medicine, and the 2010 Northeast Ohio Medical University College of Pharmacy Dean’s Leadership Award, among others.

Dr. Nora is a long time AANEM member, having joined the organization in 1986. She has served on many AANEM committees including chair of the Professional Practice Committee, secretary/treasurer (1999-2002) of the AANEM board, and President of AANEM (2003-2004).
Clifton L. Gooch, MD, completed medical school and residency in neurology at Baylor College of Medicine, followed by a neuromuscular disease and electromyography fellowship at Duke University. He served as director of Baylor’s neurology residency training program, Houston VA Medical Center EMG Laboratory, Columbia University Neuromuscular Physiology Laboratory, Columbia Neuropathy Research Center, and chief of the EMG laboratory at New York Presbyterian Hospital. Since 2008, he is professor and chair of neurology and director of the USF Neuroscience Collaborative at the University of South Florida.

Dr. Gooch’s scientific research focuses on developing and testing experimental therapy for ALS and other neurodegenerative and neuropathic disorders; the trajectory of motor neuron deterioration and compensation in ALS; and the mechanisms and features of neuronal injury due to autoimmune disease, trauma, toxins, and diabetes. Dr. Gooch’s administrative experience includes his service on the AANEM Board of Directors, member of Executive Council of the Association of University Professors of Neurology, Accreditation Council of the United Council of Neurological Specialties, and American Neurological Association Strategic Planning Task Force. His executive experience includes serving on the Boards of Columbia Medical Associates, USF Faculty Practice Group, and USF Office of Clinical Research. Dr. Gooch has a special interest in the preservation of specialty care and academic medical missions in the era of health care reform. He has served on advisory committees for both the NIH and FDA, as well as on congressional panels advising the federal government regarding national research strategies, health system policy, and drug development and regulation.

Carlayne Jackson, MD, is a graduate of Texas A&M University where she received a Bachelor of Science degree in chemical engineering. She obtained her medical degree at the University of Texas Health Science Center at San Antonio (UTHSCSA) where she subsequently completed her neurology residency training and clinical neurophysiology fellowship.

Dr. Jackson serves as medical director for the South Texas ALS Association Center of Excellence and the South Texas MDA ALS Research Center. She is a member of the Western ALS Study Group, Northeast ALS Research Group, the Muscle Study Group, and the National ALS Research Group. She has participated in over 50 multi-center clinical trials in the areas of ALS, muscular dystrophy, and myasthenia gravis.

Support the AANEM Foundation’s NEW Initiatives

AANEM Foundation Silent Auction Thursday, October 29 10:00 AM-6:30 PM

The AANEM Foundation is currently accepting donations for its 14th annual silent auction. As always, one hundred percent of the proceeds will support the Foundation’s research and education initiatives, including new research programs with the Muscular Dystrophy Association and other academic research programs. The partnerships give the AANEM Foundation an unprecedented ability to identify research projects that fit the Foundation’s mission to improve the lives of people living with muscle and nerve diseases.

Popular auction donations include iPads, cameras, or other electronic devices, jewelry, and vacation get-aways. The final hour will take place during the Exhibit Hall Reception, so come prepared to bid!

Visit www.aanemfoundation.org/donations.aspx for more information and to donate.
<table>
<thead>
<tr>
<th>AM</th>
<th>PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>REGISTRATION: 7:00 AM-6:00 PM</td>
<td></td>
</tr>
<tr>
<td>POSTERS: CLOSED</td>
<td></td>
</tr>
<tr>
<td>EXHIBIT HALL: CLOSED</td>
<td></td>
</tr>
</tbody>
</table>

**Wednesday, October 14**

### Small Group Demonstration

**Multimedia Approach to EMG Waveform Analysis (W33A-B)**
3.5 CME • BASIC • 8:00 AM-12:00 PM
(1) Identify the patterns of firing of different types of EMG waveforms, (2) identify the characteristics of a variety of normal and abnormal spontaneous waveforms, (3) recognize normal and abnormal patterns of recruitment of MUAPs, and (4) recognize and understand the significance of the changes in morphology of MUAPs in diseases. Includes audience participation and videos of EMG waveforms.

**Workshops**

*See Pages 24-26 for Workshop Descriptions*

1.75 CME • 8:00-9:45 AM • BASIC

#### Autonomic Testing Using EMG Equipment (W02A)

- Benn E. Smith, MD

**EMG Muscle ID (W09A)**

- Daniel L. Menkes, MD

**EMG Needle Basics (W10A)**

- Atul T. Patel, MD

**Lumbar Radiculopathy Plexopathy (W46A)**

- Lawrence R. Robinson, MD

**Managing Sleep Disordered Breathing in NMDs (W03A)**

- Clark W. Pinyan, MD, MPH

**NM US (W18A)**

- Francis O. Walker, MD

**Office-Based Injection Procedures (W20A)**

- Michael D. Stubblefield, MD

**Repetitive Nerve Stimulation (W27A)**

- VettaiKoramakav Venanarayanan, MD, FRCPc

### Symposia

#### MGFA: Myasthenia Gravis Foundation of America Symposium

ADVANCED • 8:00 AM-12:00 PM

The MGFA Medical/Scientific Advisory Board presents a scientific session highlighting research in the area of MG and myasthenic disorders. This session is the premier annual event around the U.S. and world related to the pathogenesis, immunology, diagnosis, and treatment of MG and related disorders of the NM junction. Included in the program will be leaders in MG research from the scientific and clinical areas.

- Jeffrey T. Guptill, MD

#### Antibodies and Biomarkers in NM Disease

1.75 CME • ADVANCED • 8:30-10:15 AM

(1) Discuss the use of antibody testing to diagnose autoimmune myopathies, (2) review the roles of antibodies in NM junction disorders, and (3) explain the roles of MRI in diagnosing myopathies.

- Jau-Shin Lou, MD, PhD, MBA

Honolulu means “place of shelter” in the Hawaiian language.
2015 Challenging NM and EDX Cases
3.0 CME • 8:30 AM-12:00 PM
Acquire skills to apply and refine the process of diagnostic formulation in clinical neurophysiology and improve patient care. This symposium relies on attendees to provide challenging cases. Email your cases to Dr. Katirji before August 15, bashar.katirji@uhhospitals.org. Selected cases will receive notification in September.

Bashar Katirji, MD

WORKSHOPS

See Pages 24-26 for Workshop Descriptions

1.75 CME • 10:15 AM-12:00 PM • BASIC

Autonomic Testing Using EMG Equipment (W02B)
- Benn E. Smith, MD

EMG Muscle ID (W09B)
- Daniel L. Menkes, MD

NM US (W18B)
- Francis O. Walker, MD

Gait Disorders in NM Disease (W41B)
- James Richardson, MD

Lumbar Radiculopathy Plexopathy (W46B)
- Lawrence R. Robinson, MD

Myopathies: EDX Approach (W55B)
- Jafar Kafaie, MD, PhD

NCS Pitfalls (W21B)
- Bassam A. Bassam, MD

Office-Based Injection Procedures (W20B)
- Michael D. Stubblefield, MD

Repetitive Nerve Stimulation (W27B)
- Vettrainorakornak Vedarayanan, MD, FRCPC

Ulnar Techniques (W32B)
- William W. Campbell, MD

Intraoperative Monitoring (W06C-D)
3.5 CME • BASIC • 1:30-5:00 PM
Discuss the indications, utility, and limitations of somatosensory, motor, and brain stem evoked potentials, EEG, EMG, and NCSs as monitors of brain stem, spinal cord, cranial nerve, and peripheral nerve function during posterior fossa, spinal, peripheral, and vascular surgery.
- Jaime R. Lopez, MD

Small Group Demonstration T

TOURS: (see page 9)
Waikiki Party Bike
4:45-7:30 PM

Social Event Requires Ticket
NM US (W18C)
  Michael S. Cartwright, MD

Physical Exam Upper Extremity (W42C)
  William W. Campbell, MD

WORKSHOPS
See Pages 24-26 for Workshop Descriptions

1.75 CME • 1:30-3:15 PM  ADVANCED

EMG Evaluation of Tremor (W17C)
  Francis O. Walker, MD

Measuring Jitter With Concentric Electrodes (W07C)
  Donald B. Sanders, MD

Most Reliable Techniques for CTS EDX (W53C)
  William S. Pease, MD

Needle EMG Exam of the Foot (W35C)
  Tracy A. Park, MD

Advanced Autonomic Testing (W50C)
  Amanda Peltier, MD

MSK Upper Extremity (W60C)
  Jeffrey A. Strakowski, MD

NCS Uncommon (W23C)
  Eric J. Sorenson, MD

US Lower Extremity Nerves and Muscles (W61C)
  Steven J. Shook, MD

1.75 CME • 1:30-3:15 PM  MULTI-LEVEL

SFEMG Basic/Advanced (W31C)
  James M. Gilchrist, MD

COURSES

3.25 CME • 1:45-5:30 PM  MULTI-LEVEL

Basics With the Experts
  (1) Discuss the basics of NCS technique and the common patterns of abnormality encountered in routine studies, (2) describe the basics of needle EMG including normal and abnormal patterns of resting and voluntary activity, and (3) design and interpret EDX studies appropriate for a series of patients that might be referred to a “real world” EMG lab.
  John C. Kincaid, MD

Hyperexcitable Membranes - Myotonia, Myokymia, and Fasciculations
  (1) Discuss spectrum of findings from hyper excitable membranes including cramps, fasciculations, myokymia, and neuromyotonia. (2) review disorders associated with these findings, including clinical features, and the role of EDX in assisting in their identification.
  Laurie Gutmann, MD

SPECIAL INTEREST GROUP

EMG Reports
  1.75 CME • 1:45-3:30 PM  MULTI-LEVEL
  Improve patient care by providing a concise interpretation of EMG data and assessment of the patient’s clinical significance for the referring physician.
  Winfried A. Raabe, MD

SYMPOSIUM

Updates in Neuromuscular Transmission Disorders
  1.75 CME • 1:45-3:30 PM  ADVANCED
  (1) Discuss clinical trials of 3,4-DAP in LEMS, (2) describe the role of 3,4-DAP for treatment of patients with disorders of neuromuscular transmission, (3) discuss the results of two recently completed clinical trials of 3,4-DAP for treatment of Lambert Eaton Myasthenic Syndrome, (4) discuss the implications of these trials on the future availability of 3,4 DAP in the U.S, (5) report on the new MGFA guidelines for the treatment of Myasthenia Gravis.
  William J. Litchy, MD
See Pages 24-26 for Workshop Descriptions

1.75 CME • 3:45-5:30 PM  BASIC

**Cervical Radiculopathy/Brachial Plexopathy** (W45D)
- Channarayapatna R. Sridhara, MD

**Entrapment Lower Limb** (W13D)
- Andrew H. Dubin, MD, MS

**NM US** (W18D)
- Michael S. Cartwright, MD

**EMG Report Writing** (W26D)
- Michelle L. Arnold, MD

**Myopathies: EDX Approach** (W55D)
- Jafar Kafaie, MD, PhD

**Short Segment NCS** (W12D)
- William W. Campbell, MD

**Wheelchair Essentials in NM Disorders** (W25D)
- Anthony E. Chiodo, MD

1.75 CME • 3:45-5:30 PM  ADVANCED

**Advanced Autonomic Testing** (W50D)
- Amanda C. Peltier, MD

**EMG Evaluation of Tremor** (W17D)
- Francis O. Walker, MD

**Measuring Jitter With Concentric Electrodes** (W07D)
- Donald B. Sanders, MD

**Most Reliable Techniques for CTS EDX** (W53D)
- William S. Pease, MD

**NCS Uncommon** (W23D)
- Eric J. Sorenson, MD

---

**Special Interest Group**

**Ethics in NM & EDX Medicine**
1.75 CME • 3:45-5:30 PM  MULTI-LEVEL
(1) Study real cases that illustrate common ethical problems, allowing physicians and technicians to better recognize ethical issues in their own cases, (2) discuss use of the AANEM Ethical Guidelines in NM and EDX Medicine, (3) identify features of a case that distinguish it from similar cases, (4) review when exceptions to guidelines are justified, and (5) discuss an approach to solving ethical dilemmas in clinical medicine, concentrating on the problem, medical facts, concerns/values/preferences of the clinicians and patients, ethical issues, ethical guidelines at stake, and practical considerations that need to be addressed.

- David A. Simpson, DO, MS
- Naomi A. Abel, MD

---

**President’s Reception**

**President’s Reception**
Wednesday, October 28, 5:45-7:00 PM
Hilton Hawaiian Village
Included with meeting registration

The President’s Reception is the official kickoff event of the meeting each year. Socialize with peers and exhibitors while enjoying hors d’oeuvres, wine, and refreshments.
**Thursday, October 29**

**REGISTRATION:**
7:00 AM - 6:00 PM

**POSTERS:**
7:00 AM - 6:30 PM

**EXHIBIT HALL:**
10:00 AM - 6:30 PM

---

**ASK THE EXPERTS**

**1.25 CME • 7:00-8:15 AM • MULTI-LEVEL**

---

**Botulinum Toxin for Pain (R02T)**

(1) Cite painful conditions that have been treated with botulinum toxin, (2) review literature support and limitations for treatment of painful conditions using botulinum toxin, (3) summarize techniques that other participants in the roundtable are using for treatment of pain, (4) explain experiences using botulinum toxin for the treatment of pain, and (5) utilize botulinum toxin to manage patients with pain.

*Atul Patel, MD*

---

**Brachial Plexopathies (R03T)**

(1) Review the anatomy of the brachial plexus, (2) review how the sensory NCS are applied first to localize the lesion to a particular region of the brachial plexus (i.e., root vs trunk vs division vs cord vs terminal branch), (3) review how the motor NCS and the needle EMG study are used to further characterize the lesion (e.g., pathology, severity, rate of progression), and apply this approach to actual cases.

*Mark A. Ferrante, MD*

---

**Cervical Spondylosis & Myelopathy (R06T)**

(1) Review the clinical presentation and make up of patients with Cervical Spondylosis & Myelopathy, (2) explain the role of EDX in the differential workup of these patients, (3) discuss the multidisciplinary management of patients with cervical myelopathy.

*Anthony E. Chiodo, MD*

---

**Cranial Nerves (R01T)**

(1) Describe the basic physiology which underlies the impulse propagation along the nerve axons and generation of muscle action potentials, (2) outline the current approach in evaluating neuropathies affecting the accessory, trigeminal, and facial nerves, (3) review features of NCS abnormalities found in disorders affecting these nerves, (4) recognize EDX techniques used for this evaluation, and (5) discuss the merit and demerit of commonly used methods and the technical pitfalls that may lead to an erroneous interpretation of the acquired results.

*Jun Kimura, MD*

---

**ICD-10 Coding for EDX/NMD (R07T)**

(1) Discuss basic ICD-10 coding concepts, documentation requirements and pertinent examples, (2) explain the basics of EDX and NM CPT coding, and (3) appealing denials.

*Carrie Winter, RHIA*

---

**Radiculopathy (R09T)**

(1) Discuss the framework for assessing for radiculopathy, (2) explain the optimal examination for radiculopathy that minimizes pain and insures high diagnostic accuracy, and (3) list the limitations of needle EMG.

*Timothy Dillingham, MD*

---

**CTS (R12T)**

(1) Develop a diagnostic strategy for optimally diagnosing CTS and (2) discuss how to use electrodiagnostic data to establish a prognosis for CTS.

*Lawrence R. Robinson, MD*

---

**MND and Its Mimics (R10T)**

(1) Identify NM disorders that present with painless weakness and mimic MNDs, (2) distinguish the clinical features of various MNDs (e.g., ALS, monomelic amyotrophy, Kennedy’s disease) from one another, and (3) select and interpret appropriate EDX, laboratory, and imaging studies to properly diagnose patients with MNDs and their mimics.

*Zachary Simmons, MD*

---

**Getting Started With NM US (R11T)**

(1) Explain how NM US is incorporated into an EDX laboratory, (2) discuss NM conditions in which US can improve the diagnosis and treatment, and (3) review the general aspects of billing for NM US.

*Francis O. Walker, MD*

---

**Peripheral Neuropathy (R04T)**

(1) Identify the most common presentations of peripheral neuropathies and develop a differential diagnosis, (2) distinguish acquired demyelinating disorders from axonal neuropathies, (3) identify the most common etiologies of peripheral neuropathies and appropriate testing for each, and (4) select medications used for management of peripheral neuropathy symptoms based on appropriate use.

*Amanda C. Peltier, MD*

---

**Small Fiber Neuropathy (R08T)**

(1) Identify the range of clinical presentations associated with small fiber neuropathy, and (2) develop an approach to diagnosis and management, including the use of skin biopsies.

*David S. Saperstein, MD*

---

**Technologist BREAKFAST TRIVIA**

*Carrie Winter, RHIA*

**Thursday, October 29**

7:00-8:15 AM

1.25 CEU

Come join your fellow technologists for breakfast and get your mind going with some NCS Jeopardy to start the day. Light breakfast included, pre-registration required.
EDX and Ultrasound Focal Neuropathies
3.25 CME • 8:30 AM-12:00 PM  BASIC
(1) Review the capabilities of high frequency US to image the peripheral nervous system. (2) review the important components of the EDX evaluation for assessment of focal neuropathies. (3) review potential contributions of US and EDX for assessment of focal neuropathies including the relative strengths and weaknesses of each. (4) discuss case examples of challenging focal neuropathies with improved management decisions provided by the information gained from the use of both US and EDX techniques.

Jeffrey A. Strakowski, MD

The Value of Quality
2.5 CME • 8:30 AM-12:00 PM  ADVANCED
(1) Describe why and how quality measures are being utilized to monitor physician practices, (2) identify how quality measures can be applied to NM and EDX medicine practices, (3) describe how evidence based medicine has been applied to develop normative data for NCSs, and how to use this data in your practice, (4) utilize the American Board of Medical Specialties measures for physician competency, quality, and achievement of life-long learning objectives, and describe how this may change in the future, and (5) relate how quality measures and evidence based guidelines have been utilized to develop best practices for treatment of NM diseases, including muscular dystrophy and ALS.

Jeffrey A. Strakowski, MD

Intraoperative Neurophysiological Monitoring of Spinal Cord Function
1.75 CME • 1:45-3:30 PM  ADVANCED
(1) Describe intraoperative modalities (SSEP, MEPs, D-Wave, spinal evoked potentials, free-run and stimulated EMG) used for spinal cord monitoring, (2) identify benefits and limitations of the intraoperative modalities, (3) discuss the alarm criteria and courses of action to address changes, (4) review systemic, technical factors and pitfalls in interpreting of IOM findings, and (5) demonstrate current guidelines for spinal cord IOM.

Vita G. Kesner, MD, PhD

NM Complications of Infection and Vaccination
1.75 CME • 3:45-5:30 PM  ADVANCED
(1) Explain the mechanisms by which vaccines provide immunity, and how this may impact immune-mediated NM disease, (2) discuss published data regarding the association of particular vaccines with NM disorders in order to make evidence based recommendations for patients, (3) explain the association between infections and peripheral nervous system (PNS) disorders, NM junction disorder, and myopathies, (4) discuss the current recommendations regarding the diagnosis and treatment of PNS infections including the NM junction and the muscle, and (5) review general rehabilitation principles for the sequelae of these disorders.

Nizar Souayah, MD
### Friday

<table>
<thead>
<tr>
<th>AM</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>PM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REGISTRATION:</strong></td>
<td>7:00 AM-4:00 PM</td>
<td><strong>POSTERS:</strong></td>
<td>7:00 AM-6:30 PM</td>
<td><strong>EXHIBIT HALL:</strong></td>
<td>10:00 AM-4:30 PM</td>
<td><strong>ASK THE EXPERTS</strong></td>
</tr>
<tr>
<td><strong>COURSE</strong></td>
<td><strong>PLENARY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### ASK THE EXPERTS

**1.25 CME • 7:00-8:15 AM • MULTI-LEVEL**

**Autonomic Neuropathy (R26F)**
1. Identify the most common presentations of autonomic neuropathy and develop a differential diagnosis,
2. identify the most common etiologies of autonomic neuropathy and appropriate testing for each, and
3. select medications used for management of autonomic neuropathy based on appropriate use.

*By Amanda C. Peltier, MD*

**EDX of the Foot (R28F)**
1. Perform proper EDX evaluation of the foot,
2. assess the differential diagnosis and different types of focal neuropathies,
3. compare the differential diagnosis in tarsal tunnel syndrome versus peripheral neuropathies,
4. assess the role of needle EMG, and
5. evaluate when further workup is clinically warranted.

*By David R. Del Toro, MD*

**Fasciculations, Myotonia, Myokymia (R21F)**
1. Define fasciculations, myotonia, and myokymia,
2. explain the physiological basis for these spontaneous phenomena,
3. distinguish the discharges from one another,
4. list the anatomical sites at which these discharges are generated,
5. discuss the diseases and disorders with which these phenomena are associated and their clinical significance, and
6. describe available therapies.

*By Ludwig Gutmann, MD*

**NM Emergencies (R27F)**
1. Discuss how to recognize common NM emergencies, and the strategies for instituting prompt intervention and
2. describe the therapeutic and management issues pertaining to NM emergencies.

*By William S. David, MD, PhD*

**Neuropathic Pain (R30F)**
1. Provide an evidence-based approach to selecting medications to treat neuropathic pain,
2. Explain the advantages and disadvantages of each of the common approaches to managing neuropathic pain,
3. Discuss the nonpharmacologic strategies for dealing with neuropathic pain,
4. Outline the principles used to decide whether a topical preparation might be a good therapeutic choice for neuropathic pain.

*By Benn E. Smith, MD*

**How to Incorporate Genetic Testing into Practice (R25F)**
Acquire skills to give an algorithmic approach to ordering genetic tests for patients with suspected hereditary NM disorders.

*By Anthony A. Amato, MD*

**Orthoses in NM Disease (R29F)**
Discuss evidence for and recommended indications for (1) specific lower extremity orthoses, including need for plantar flexion stability,
(2) specific upper extremity orthoses, and (3) cervical and thoracic spinal orthoses in NM disease.

*By Erik R. Ensrud, MD*

**Lumbar Stenosis (R31F)**
1. Explain the confusion between the anatomical term “stenosis” and the disease called spinal stenosis,
2. discuss why standard imaging is not useful in positively diagnosing clinical stenosis,
3. create a neurological and MSK differential diagnosis for patients whose complaints mimic stenosis, and
4. outline the critical role of EDX, especially paraspinal mapping, in the diagnosis of clinical lumbar stenosis.

*By Anthony E. Chiodo, MD*

**Pelvic Floor Dysfunction (R23F)**
1. Explain the importance of the history and physical in understanding pelvic floor dysfunction,
2. recognize the masqueraders of pelvic pain and pelvic floor dysfunction,
3. discuss the limitations of EDX in the evaluation of pelvic floor dysfunction in the context of the history and physical exam.

*By Andrew H. Dubin, MD, MS*

**Post Traumatic/Surgical EDX Evaluation (R22F)**
1. Explain which electrophysiological parameters are best to use for EDX following nerve surgery,
2. demonstrate the course of electrophysiological findings after surgery, and
3. discuss the limitations of EDX in the evaluation of pelvic floor dysfunction after surgery.

*By Mark A. Ross, MD*

**Practice Management Pearls (R24F)**
1. Explain how to develop a successful EMG practice,
2. identify the requisites and strategies of success,
3. illustrate how and why to market your practice,
4. describe the challenges physicians are facing in the current environment, and
5. cite practical pearls of EMG practice.

*By Peter A. Grant, MD*

### COURSE

**Principles of Nerve Conduction Studies and Needle EMG**
3 CME • 8:30 AM-12:00 PM • BBasic
1. Review the foundational knowledge required to understand NCS and needle EMG,
2. review the measurements made during the NCS and the Needle EMG,
3. review what the measurements signify,
4. review how disease affects the measurements,
5. review...
the problems associated with NCS performance and how to troubleshoot them. (6) correlate the NCS with the needle EMG.

---

**NM Update in Iatrogenic Disorders**

(1) Recognize and evaluate post-surgical neuropathies, hereditary brachial plexus neuropathy (with surgical or parturition exacerbation), statin associated myopathy, chemotherapy induced polyneuropathy (2) treatment and prognosis of iatrogenic nerve injury and rehab treatment reconstruction options, and (3) quickly assess and answer questions about common and uncommon clinical NM scenarios pertinent to the above topics.

---

**The Value of Quality**

2.5 CME • 8:30 AM-12:00 PM • ADVANCED

(1) Describe why and how quality measures are being utilized to monitor physician practices, (2) identify how quality measures can be applied to NM and EDX medicine practices, (3) describe how evidence-based medicine has been applied to develop normative data for NCSs, and how to use this data in your practice, (4) utilize the American Board of Medical Specialties measures for physician competency, quality, and achievement of life-long learning objectives, and describe how this may change in the future, and (5) relate how quality measures and evidence based guidelines have been utilized to develop best practices for treatment of NM diseases, including MD and ALS.

---

**Integrative Medicine in Neuromuscular Disease**

1.75 CME • 1:45-3:30 PM • ADVANCED

(1) Define integrative medicine and why it is important in Neuromuscular disease, (2) review the evidence pertaining to neurologic complications of rapid weight loss and nutritional deficiency in common neuromuscular diseases including peripheral neuropathy and motor neuron disease, (3) define the role of exercise in neuro muscular diseases and how to incorporate as treatment, (4) discuss alternative and complementary therapies for carpal tunnel syndrome, and (5) review the current evidence for alternative medicine modalities to treat carpal tunnel syndrome including magnet therapy, yoga, and acupuncture.

---

**Brachial Plexopathies: EDX & Imaging Evaluation**

1.75 CME • 3:45-5:30 PM • ADVANCED

1) Describe the presentation and diagnosis of brachial plexopathies from autoimmune disorders, genetic disorders, infectious diseases and Parsonage Turner Syndrome, (2) describe the presentation and diagnosis of neoplastic and radiation induced brachial plexopathies, (3) design an EDX diagnostic approach for brachial plexopathies and determine the timing for testing, (4) discuss how EDX helps guide the surgical and non-surgical options and demonstrate recovery, (5) discuss the role of EDX in determining proper nerve donors and recipients, (6) describe the appropriate indications for and value of imaging including US, MRI, and CT myelograms, (7) review the cutting edge surgical options, including nerve transfers and nerve re-construction for restoration of function, and (8) prescribe an appropriate program for rehabilitation that includes NM re-education.

---

**From Cuticle to Clavicle: A Collaborative Approach**

(1) Arrive at the differential diagnosis of MSK problems affecting the forearm, elbow, and shoulder, (2) describe the anatomy and clinical examination relevant to these disorders, (3) explain the diagnostic approach to these disorders, (4) compare and contrast the pathophysiology and treatment strategies for these disorders, and (5) define the value of the integration of these disorders into the EDX medicine consultation. This course is structured as an interactive experience with questions and discussion.
A popular meal in Honolulu, the Hawaiian Plate Lunch, includes pork, chicken, or beef, with rice and macaroni salad.

Saturday

REGISTRATION: 7:00 AM-12:00 PM
POSTERS: 7:00-9:00 AM
EXHIBIT HALL: CLOSED

Electrodiagnostic • Neuromuscular • Musculoskeletal • Academic/Practice • Social Event • 🍽️ Requires Ticket

**WORKSHOPS**

See Pages 24-26 for Workshop Descriptions

**NCS Workshop (W62S1)**
3.5 CME • 8:00 AM-12:00 PM • MULTI-LEVEL
Ann Little, MD  Sue Nalepa, CNCT, R.NCS.T  Jim Teener, MD
Gary Gallagher, MD  Andy Dubin, MD  Janet James, CNCT, R. EEG T., R. NCS T.  Heidi Scott, CNCT, R.EEG/EP T., CNIM

**Chemodenervation (W01M1)**
3.5 CME • 8:00 AM-12:00 PM • ADVANCED
Observe and discuss patient treatment and EDX techniques involved in administering botulinum toxin for cervical, facial, oromandibular, and limb dystonia, as well as spasticity. An initial didactic session will discuss key issues regarding dystonia and spasticity, therapeutic use of the available botulinum toxins, electrophysiologic characteristics of dystonic firing patterns, chemodenervation techniques, and relevant anatomy. Participants rotate through four demonstration sessions that will focus on facial dystonia, cervical dystonia, limb/oromandibular dystonia, and spasticity. Acquire skills to treat patients with dystonia and spasticity using chemodenervating agents.

Janice M. Massey, MD  Joshua P. Alpers, MD  Atul T. Patel, MD  Zaeem A. Siddiqi, MD, PhD

**WORKSHOPS**

See Pages 24-26 for Workshop Descriptions

**US MSK Lower Extremity (W57AS)**
Jeffrey A. Strakowski, MD

**US Guidance for Neurotoxins (W59AS)**
Michael C. Munin, MD

**SYMPOSIUM**

Atypical Presentations of Chronic Inflammatory Demyelinating Polyneuropathy
1.75 CME • 8:30-10:15 AM • ADVANCED
(1) Recognize atypical (nonclassic) presentations of chronic inflammatory demyelinating polyneuropathy (CIDP), (2) identify autoantibodies associated with these disorders that aid in their diagnosis and management, and (3) formulate appropriate treatment algorithms, including the employment of newer immunomodulatory therapies such as rituximab, for treating these forms of peripheral neuropathy.

Michael D. Weiss, MD

**SPECIAL INTEREST GROUPS**

**Autonomic Disorders in Your Practice**
1.75 CME • 8:30-10:15 AM • ADVANCED
(1) Identify the role of non-invasive autonomic testing, (2) identify technique of one or more tests of Sweating (QSART, TST, QST, SSR), (3) identify technique of one or more tests of cardiovascular function (HRDB, Valsalva maneuver, and Tilt table testing), (4) recognize the principles of contact heat evoked potential stimulation, (5) identify one or more human disease states in which CHEPS may prove useful in documenting spinothermal pathway dysfunction, (6) identify technique and value of skin biopsy in small fiber neuropathy, (7) review diagnostic criteria for orthostatic intolerance, (8) establish an approach to the evaluation of neurogenic orthostatic hypotension, and (9) discuss treatment principles in the management of orthostatic intolerance and neurogenic orthostatic hypotension.

Jasvinder P. Chowla, MBBS, MD, MBA

**Developing Education in NM and EDX**
1.75 CME • 8:30-10:15 AM • MULTI-LEVEL
(1) Share knowledge and expertise for educational program improvement, (2) share knowledge and expertise for career development in education, and (3) provide a network for clinician educators to develop and carry out educational research.

Dianna Quan, MD

**TOURS** (see page 9)

**Diamond Head Crater Adventure**
9:30 AM-12:30 PM

**Pearl Harbor Tour**
8:00 AM-4:00 PM
Hawaiian Luau Experience

Located at the Hilton Hawaiian Village, home of Waikiki’s only outdoor luau. The luau features hula performers and a diverse array of Hawaii’s culinary influences in an incredible rooftop setting. Enjoy exotic flavors and locally sourced ingredients. Come mingle and enjoy the perfect ending to a successful meeting.

COST: $125 per person
Includes dinner, wine or beer, and entertainment

Diabetic Neuropathy

1.75 CME • 8:30-10:15 AM  MULTI-LEVEL
(1) Describe the possible roles of population screening in diabetic neuropathy, (2) discuss if myelinated nerves are still relevant in diabetic neuropathy, and (3) review the spectrum of small fiber neuropathy and the roles of skin biopsy.

Jau-Shin Lou, MD, PhD, MBA

WORKSHOPS

See Pages 24-26 for Workshop Descriptions

1.75 CME  10:15 AM-12:00 PM  ADVANCED

US MSK Lower Extremity (W57BS)
Jeffrey A. Strakowski, MD

US Guidance for Neurotoxins (W59BS)
Michael C. Munin, MD

SPECIAL INTEREST GROUPS

1.75 CME • 10:30 AM-12:15 PM  MULTI-LEVEL

Instrumentation
Discuss (1) basic electronic circuits including Ohms’ law and properties of alternating current, (2) electrodes and electrode types, (3) amplifiers, (4) filters, (5) analog to digital conversion, (6) averaging and signal to noise ratio, (7) displays, (8) stimulators and stimulator properties, (9) interference, and (10) electrical safety.

James Lewis, CNCT, R.NCS.T  Sanjeev Nandedkar, PhD

Palliative Care: Plans for End-of-Life ALS
(1) Discuss the true meaning of palliative care, (2) describe the role of the NM specialist in palliative care for ALS patients, (3) review symptomatic management, and (4) define hospice.

Scott A. Vota, DO

Quality Issues and Fraud & Abuse
(1) Construct quality treatment programs, (2) identify clinical practices based on the medical literature, (3) select appropriate billing codes, (4) describe how to establish and maintain a quality assurance program, and (5) explain what insurance companies are doing proactively to combat EMG fraud and abuse.

Adam Seidner, MD, MPH
Integrating EMGs and Ultrasound in Sports Injuries
(W38C)
(1) Describe the symptoms and expected physical exam for an injured athlete with a sprained ankle and a peroneal nerve stretch injury, (2) list the neurodiagnostic findings expected in a pitcher with neurogenic TOS, and (3) cite the differential diagnosis in a gymnast with pain and weakness in her right shoulder.

Lumbar Radiculopathy Plexopathy
(W46A/B/C)
(1) Establish a clinical and EDX approach to disorders affecting the lumbosacral roots and plexus, and (2) identify and distinguish findings between lumbar radiculopathies versus disorders affecting the lumbosacral plexus.

Managing Sleep Disordered Breathing in NMDs
(W03A)
(1) Discuss and demonstrate evaluation of sleep apnea and related disorders in a NM clinic, (2) gain hands-on experience with the range of treatments available for NM sleep disorders, including CPAP, BiPAP, noninvasive ventilators, and diaphragmatic pacers, and (3) gain understanding of: physiology; indications for use; equipment and interfaces; programming and data collection; and insurance and coding issues for these disorders.

Myopathies: EDX Approach
(W55B/C/D)
(1) Discuss and interpret myopathic features on EDX studies including distinctive features, (2) explain the EDX features that differentiate myopathic from neuropathic processes, (3) determine muscle selection criteria during EMG studies for myopathies, and (4) explain the different types of myopathies and learn how EDX studies and other testing aid in making the diagnosis.

NCS Pitfalls
(W21B)
(1) Identify common instrumentation, physiologic, and operator errors, (2) alter recording electrode montages and use the instrument’s filters to help optimize the recording of motor and sensory potentials, and (3) minimize stimulus artifact interference with waveform recording.

NM US
(W18A/B/C/D)
(1) Obtain images with transverse and longitudinal transducer positions, (2) describe how to manipulate basic US instrumentation to include focal depth, Doppler flow, and transducer frequency, (3) describe how muscle, nerve, and tendon appear with US, and (4) discuss the principle of anisotropy.
Office-Based Injection Procedures

(1) Describe the principles underlying the safe and effective performance of office-based procedures; (2) identify contraindications to select office-based injection procedures, identify appropriate patients, prepare and instruct them on what to expect during and after a given procedure; (3) describe and demonstrate commonly performed office-based injection procedures, including trigger-point injections, shoulder and knee injections, bursal injections, carpal tunnel injections, and botulinum toxin injections for migraine and cervical dystonia; and (4) become aware of the complications that may result from office-based injection procedures, how to minimize the chance of complications, and manage complications if they arise.

Physical Exam Upper Extremity

Review anatomy of the upper extremity as it relates to neurological and musculoskeletal complaints. Review physical exam techniques helpful in determining a diagnosis, especially in distinguishing musculoskeletal from neurological pathology. Acquire skills to: (1) utilize common physical exam techniques for assessment of the shoulder, elbow, wrist, and hand (2) discuss how physical exam findings distinguish these conditions from radiculopathy and common entrapment syndromes, and (3) discuss some initial exercises and therapy approaches.

Repetitive Nerve Stimulation

(1) Perform RNS to shoulder, upper arm, hand, and facial muscles, and (2) discuss sequential examination for detecting NM transmission defects, such as artifacts.

Short Segment NCS

(1) Explain the sources of experimental error in NCS, (2) compute the trade off between experimental error and lesion detection, (3) discuss the difference between inching and short segment incremental studies (SSIS), (4) demonstrate across elbow ulnar nerve SSIS technique, and (5) show across wrist median nerve SSIS technique.

Skin Biopsy Technique and Applications

(1) Review the development of skin biopsy as a clinical technique, (2) review its current applications and limitations in clinical practice, and (3) discuss the technique involved in obtaining skin specimens to increase providers’ comfort level in performing this billable procedure in their own office.

Ulnar Techniques

Perform (1) antidromic ulnar digital sensory responses, (2) motor NCS to hypothenar, deep ulnar-innervated musculature, (3) stimulation/recording techniques for dorsal ulnar cutaneous, first dorsal interosseous, and medial antebrachial cutaneous, and (4) mid-palm and inching techniques.

Wheelchair Essentials in NM Disorders

(1) Clarify criteria for a power mobility device, (2) illuminate documentation requirements for a power mobility device, (3) explore functional requirements for different power mobility devices, and (4) generate a comprehensive power mobility device prescription.

Advanced Autonomic Testing

Familiarize participants with three quantitative tests of autonomic function using specialized equipment designed for autonomic reflex function testing: (1) sudomotor testing, (2) cardiovagal testing with heart-rate response to deep breathing, and (3) Valsalva maneuver testing to evaluate cardiovagal and adrenergic function.

Chemical Neurolysis with Phenol

(1) Recognize the indications for phenol injection, (2) describe the techniques of nerve and motor point blocks with phenol, and (3) summarize localization procedures for several relevant nerves.

Cranial NCS and EMG Testing

Familiarize participants with neurophysiological testing of the cranial nerves, including the performance of (1) blink reflexes with both electrical and mechanical stimuli, (2) seventh NCSs, and (3) eleventh nerve testing. EMG of key muscles that complement the cranial NCS also will be discussed.

EMG Evaluation of Tremor

(1) Discuss single and multiple channel recording techniques for tremor, (2) compare and contrast the usefulness of needle versus surface EMG in conducting tremor analyses, and (3) recognize common tremor patterns seen in Parkinson’s disease, essential tremor, dystonia, and orthostatic tremor.

EMG Laryngeal

Develop skills in the clinical and EDX evaluation of vocal cord dysfunction, including (1) perform specific EDX testing of the larynx and (2) discuss how to evaluate which tests to perform on patients presenting with hoarseness and laryngeal dysfunction.

EMG Respiratory

Focus on EDX techniques that enable a more accurate diagnosis of NM respiratory failure, including (1) perform phrenic NCSs, (2) utilize techniques for safe needle EMG of the diaphragm, and (3) localize and perform needle EMG of chest wall muscles, which are helpful in the diagnosis of respiratory failure.

Continued on next page
Measuring Jitter With Concentric Electrodes

(W07C/D)
(1) Demonstrate how jitter can be estimated using concentric electrodes and (2) identify machine settings and limitations. Must be familiar with the basic concepts of SFEMG.

Most Reliable Techniques for CTS EDX

(W53C/D)
(1) Perform the NCS techniques required for the CTS Sensory Index, (2) design an EDX study for a patient with possible CTS, and (3) recite the most common pitfalls in EDX testing for CTS.

US Guidance for Neurotoxins

(W59AS/BS)
(1) Discuss the pros and cons of using in-plane and out-of-plane US views to guide needle placement, (2) compare and contrast the use of EMG needle guidance, nerve stimulation, and US for identifying neurotoxin targets in patients, (3) identify common targets for needle-guided injections using US, and (4) list the technical challenges of using US for needle guidance.

US Lower Extremity Nerves and Muscles

(W61C/D)
(1) Explain optimal transducer frequencies for imaging lower extremity nerves, (2) identify the tibial nerve at the ankle and knee, the fibular nerve at the knee, and the sciatic and sural nerves using US, (3) describe the branching patterns of tibial, fibular, and sural nerves in the lower extremities, and (4) list expected findings of nerve entrapment as may be seen on US and findings in structures other than nerve that may be significant.

US Upper Extremity Nerves and Plexus

(W58A/B)
(1) Explain the optimal transducer frequency for imaging upper extremity nerves, (2) identify the median nerve at the wrist, ulnar nerve at the elbow, and brachial plexus using US, (3) describe normal median nerve mobility and the appearance of ulnar nerve dislocation on real-time US, and (4) list the findings of nerve entrapment as may be seen on US and findings in structures other than nerve that may be relevant.

US MsK Lower Extremity

(W57AS/BS)
(1) Explain which transducer frequencies are optimal for imaging upper extremity joints in adults, (2) provide a differential diagnosis of joint pain in the upper extremity, (3) identify key landmarks in upper extremity joints using US, and (4) describe the pathologic changes of tendon rupture, tear, and inflammation.

US MsK Upper Extremity

(W60C/D)
(1) Explain which transducer frequencies are optimal for imaging upper extremity joints in adults, (2) provide a differential diagnosis of joint pain in the upper extremity, (3) identify key landmarks in upper extremity joints using US, and (4) describe the pathologic changes of tendon rupture, tear, and inflammation.

MUAP Quantitation

(W16A/B/B2)
Familiarize participants with qualitative analysis of MUAP features in a clinical setting, including (1) measure amplitude, duration, and firing rate, and (2) perform different methods of analysis by manual, trigger/delay, and automated methods. Basic skills in needle electrode examination are assumed.

MUNE Techniques

(W15A)
Familiarize participants with techniques developed to perform MUNE. Acquire skills to (1) identify the original manual incremental stimulation technique and (2) describe and discuss multiple point stimulation, statistical technique, spike triggered averaging, and decomposition-enhanced spike-triggered averaging.

NCS Uncommon

(W23C/D)
(1) Place stimulating and recording electrodes for optimal recordings of uncommon nerves, (2) adjust the stimulation intensity and duration, and (3) adjust machine settings for appropriate recordings.

Needle EMG Exam of the Foot

(W35C/D)
Discuss (1) the anatomy of the tibial and deep peroneal nerve branches in the foot, (2) the potential entrapment sites for these nerve branches, (3) the anatomic basis for needle placement, (4) special considerations for the technique in each muscle, and (5) how to develop a meaningful interpretation of findings.

Honolulu is home to multiple botanical gardens, which boast beautiful and unique flora.
Meeting OBJECTIVES
After attending this activity, attendees will:

• Enhance their ability to obtain a comprehensive patient history and examination; improve their ability to develop a differential diagnosis and direct appropriate diagnostic work-ups; and assess rehabilitation potential for patients with neuromuscular and musculoskeletal diseases. (Patient care)

• Develop technical skills necessary to perform neurologic, EDX, and rehabilitative procedures; identify and describe important EDX, biopsy, genetic, radiological, and ultrasound findings; develop awareness about the side effects of drug therapies and their management; and understand updated information on the genetic basis of neuromuscular disorders and their treatment. (Medical knowledge, Practiced Based Learning)

• Improve ability to communicate with and educate patients, families, and members of the healthcare team; develop awareness of ethical and biomedical legal issues related to patient care; enhance awareness of patient confidentiality issues as they relate to patient care; demonstrate professionalism in clinical, research, and academic practice; and demonstrate skills in end-of-life care and withdrawal of support. (Interpersonal communication skills, Professionalism)

• Develop awareness of cost effectiveness of diagnostic studies and treatments and resource limitations in health care; identify and access supportive healthcare services and mechanisms that improve patient care and patient quality of life. (Systems-based practice)

The 2015 annual meeting will focus on improving patient care, medical knowledge, interpersonal communication, professionalism, and systems-based practices in the following areas: quality, neuropathies, updates in neuromuscular disorders including CIDP, ALS, hyperexcitable membranes, iatrogenic and autoimmune disorders, challenging electrodiagnostic cases, palliative care, genetics, infection, ultrasound and musculoskeletal disorders.

Accreditation STATEMENTS
The AANEM is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. The AANEM designates this educational activity for a maximum of 33.5 AMA PRA Category 1 Credits™ and a maximum of 33 AANEM continuing education units (CEU). Individuals should only claim credit commensurate with the extent of their participation in the activity. Continuing Professional Development (CPD) events developed by accredited CPD physician organizations recognized by the Accreditation Council for Continuing Medicine Education are deemed to be Accredited Group Learning Activities (Section 1) as defined by the Maintenance of Certification Program of The Royal College of Physicians and Surgeons of Canada. The American Society of Electroneurodiagnostic Technologists (ASET) has granted ASET Continuing Education (ACE) credits for this program. Such crediting, however, should not be construed by program participants as an endorsement of any type of instruments or supplies mentioned or involved in these presentations.

Disclaimer STATEMENT
If applicable, presenters at this conference will disclose any conflicts of interest or their intention to discuss off-label use in the official Program Book and at the beginning of their presentations in accordance with ACCME standards and FDA requirements.

ABPN & ABPMR APPROVAL
The ABPN and ABPMR have reviewed the 2015 AANEM Annual Meeting and have approved this program as part of a comprehensive CME program, which is mandated by the ABMS as a necessary component of MOC.

Sources: 50states.com, Wikipedia.com, MentalFloss.com, HonoluluZoo.org, luxuryrow.com, movoto.com
Icons: The Noun Project: Aleksandr Novolokov, Frederick Allen, Kristina, Oliver Guin, Michael Thompson, Nithin Viswanathan
Photo Credits: Brede Exhibition Services, Hawaii Tourism Authority

Exhibit Hall Reception
Thursday, October 29, 5:30-6:30 PM
Hawaii Convention Center Exhibit Hall
Included with meeting registration
Socialize with peers and exhibitors while enjoying hors d’oeuvres, wine, and refreshments.

Networking Reception
for First-Time Attendees & New Members
Thursday, October 29, 5:15-5:45 PM
By invitation only
First-time attendees and new members are invited to meet, mingle, and network with colleagues and members of the AANEM Board of Directors, committee chairs, and others active in the association prior to the exhibit hall social. Join us for a glass of wine and conversation.

You’re presented with unique situations everyday.

We’ll help you solve the puzzle.

» Browse our ETHICS library at aanem.org/ethics for expert advice and free member CME.